

INVITATION TO BIDS

**531 S. Donovan Street Phase 2
Solicitation No. 5060**

**ADDENDUM NO. 1
Issue Date: Monday, April 23, 2018**

This Addendum No. 1, containing the following revisions, additions, deletions and/or clarifications, is hereby made a part of the Contract Documents for the above-named project. Bidders shall take this Addendum into consideration when preparing and submitting their response to this solicitation. Receipt of this Addendum shall be acknowledged by inserting its number in the space provided in Section 00300 Bid Form. Failure to do so may deem the proposer as non-responsive.

The following are attached to, and hereby made part of this Addendum No. 1:

- Technical Specifications
 - Project Manual For a General Construction Contract

END OF ADDENDUM NO. 1

PROJECT MANUAL
FOR A GENERAL CONSTRUCTION CONTRACT

Seattle Housing Authority
Fire Damage Repairs Phase II

531 S Donovan Street, Seattle WA



CONSTRUCTION SET
January 12, 2018

SEATTLE HOUSING AUTHORITY
531 S DONOVAN STREET PHASE II

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SEATTLE HOUSING AUTHORITY
531 S DONOVAN STREET PHASE II

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SECTION 06 10 00

ROUGH CARPENTRY

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes structural floor, wall, and roof framing; floor, wall, and roof sheathing; preservative treatment of wood; fire retardant treatment of wood; miscellaneous framing and sheathing; and concealed wood blocking for support of toilet and bath accessories, wall cabinets, and wood trim.
- B. Related Sections:
 - 1. Section 06 20 00 - Finish Carpentry.
 - 2. General Structural Notes on the drawings.

1.2 REFERENCES

- A. American National Standards Institute:
 - 1. ANSI A135.4 - Basic Hardboard.
 - 2. ANSI A208.1 - Mat-Formed Wood Particleboard.
- B. American Wood-Preservers' Association:
 - 1. AWWA C1 - All Timber Products - Preservative Treatment by Pressure Process.
 - 2. AWWA C20 - Structural Lumber - Fire-Retardant Treatment by Pressure Processes.
- C. ASTM International:
 - 1. ASTM E84 - Test Method for Surface Burning Characteristics of Building Materials.
 - 2. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 3. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
- D. National Fire Protection Association: NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.
- E. National Institute of Standards and Technology: NIST PS 20 - American Softwood Lumber Standard.
- F. National Lumber Grades Authority: NLGA - Standard Grading Rules for Canadian Lumber.
- G. Northeastern Lumber Manufacturers Association: NELMA - Standard Grading Rules for Northeastern Lumber.
- H. The Redwood Inspection Service: RIS - Standard Specifications for Grades of California Redwood Lumber.
- I. Southern Pine Inspection Bureau: SPIB - Standard Grading Rules for Southern Pine Lumber.
- J. Underwriters Laboratories Inc.: UL 723 - Tests for Surface Burning Characteristics of Building Materials.

- K. West Coast Lumber Inspection Bureau: WCLIB - Standard Grading Rules for West Coast Lumber.
- L. Western Wood Products Association: WWPA G-5 - Western Lumber Grading Rules.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit technical data on wood preservative materials, and application instructions.
- C. Moisture Readings: submit three copies of moisture content readings for framing materials enclosed in walls and roof framing.
- D. VOC Limits: Include manufacturer's literature for each adhesive, coating and sealant used in this Section identifying VOC limits and chemical components. All adhesives must conform to the South Coast Air Quality Management District Rule 1168 and all sealants must conform to Bay Area Air Quality Management District – Regulation 8, Rule 51.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with the following:
 - 1. Lumber Grading Agency: Certified by NIST PS 20.
 - 2. Wood Structural Panel Grading Agency: Certified by EWA - The Engineered Wood Association.
- B. Surface Burning Characteristics: Fire Retardant Treated Materials: Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84.
- C. Apply label from agency approved by authority having jurisdiction to identify each fire retardant treated material.
- D. Moisture Content: take moisture readings of lumber and plywood prior to enclosure in wall and ceiling assemblies. See paragraphs 2.1.B and 2.1.C.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Protect framing and sheathing materials from excessive exposure to moisture. Provide for air circulation around stacks and under coverings.

PART 2 PRODUCTS

2.1 LUMBER MATERIALS

- A. Lumber Grading Rules: WCLIB. Refer to the General Structural Notes on the drawings.
- B. Beam, joist, purlin and stiffener roof framing: Refer to the General Structural Notes, 19% maximum moisture content.
- C. Studding, plates, and misc. light framing: Refer to the General Structural Notes, 19% maximum moisture content.

- D. Tropical woods will **not** be accepted unless FSC-certified.

2.2 SHEATHING AND UNDERLAYMENT MATERIALS

- A. Refer to the General Structural Notes on the drawings.
- B. Oriented strand board (OSB) and particleboard shall not be used.

2.3 BLOCKING FOR GRAB BARS AND TOILET ACCESSORIES

- A. Solid lumber nominal 2 inches thick or structural wood panel.

2.4 ACCESSORIES

- A. Fasteners and Anchors:
 - 1. As listed in the General Structural Notes on the drawings.
 - 2. Fasteners: Hot dipped or Electro galvanized steel for high humidity, Z-Max or other special coating for treated wood locations, unfinished steel elsewhere.
 - 3. Anchors: Toggle bolt type for anchorage to hollow masonry. Expansion shield and lag bolt type for anchorage to solid masonry or concrete. Bolt or ballistic fastener for anchorages to steel.
- B. Structural Framing Connectors: refer to the General Structural Notes on the drawings.
- C. Sheathing Glue: EWA AFG-01, waterproof of water base, air cure type, cartridge dispensed.
- D. Building Paper: refer to Section 07 27 00 - Air Barriers and Water-Resistive Barriers.

2.5 FACTORY WOOD TREATMENT

- A. Wood or Plywood: Water borne preservative treatment for lumber and plywood in conditions not subject to soil, weather, and/or continuous water contact to be sodium borate treatment, AWPA C31 for lumber and C9 for plywood.
- B. Wood exposed to soil, weather and/or water: ACQ (Alkaline Copper Quat) or CA (Copper Azole) water borne preservative by Chemical Specialties, Inc. or alternate manufacturer approved by the Architect of arsenic and/or chromium free wood preservative. Recommended retention of 0.25 lb./cu. ft. for above ground applications, and 0.042 lb./cu. ft. for ground or concrete contact.
- C. Moisture Content After Treatment: Kiln dried (KDAT).
 - 1. Lumber: Maximum 19 percent.
 - 2. Structural Panels: Maximum 15 percent.

PART 3 EXECUTION

3.1 FRAMING

- A. Set structural members level and plumb, in correct position.
- B. Make provisions for erection loads, and for sufficient temporary bracing to maintain structure safe, plumb, and in alignment until completion of erection and installation of permanent bracing.

- C. Place horizontal members, crown side up.
- D. Construct load bearing framing and curb members full length without splices.
- E. Double members at openings as noted in the General Structural Notes on the drawings. Space short studs over and under opening to stud spacing.
- F. Construct double joist headers at floor and ceiling openings and under wall stud partitions parallel to floor joists. Frame rigidly into joists.
- G. Place sill gasket directly on concrete foundation. Puncture gasket clean and fit tight to protruding foundation anchor bolts.
- H. Coordinate installation of plywood decking, glue laminated structural units, and wood joists/stiffeners.
- I. Curb roof openings except where prefabricated curbs are provided. Construct curb members of solid wood sections. Form corners by alternating and lapping side members.
- J. Coordinate curb installation with installation of decking and support of deck openings.

3.2 SHEATHING

- A. Install sheathing perpendicular to framing members, with ends staggered over firm bearing. On sloped surfaces, lay sheathing with tongue upwards.
- B. Engage plywood tongue and groove edges. Allow expansion space at edges and ends.
- C. Attach sheathing with adhesive and fasteners per the General Structural Notes on the drawings.
- D. Provide solid wood blocking at edges of sheets between supporting framing members.
- E. Cut roof sheathing to accommodate roof drains and flanges.

3.3 BLOCKING FOR TOILET ACCESSORIES, SHELVING, AND HANDRAILS

- A. Install blocking for toilet accessories at all connection points and as noted on the Drawings.

3.4 QUALITY ASSURANCE

- A. Special Inspection: Refer to the General Structural Notes on the drawings for inspection of structural wood shear walls and attachments comprising the seismic force resisting system.
- B. Protect installed rough carpentry from weather and mold. If mold is observed on rough carpentry, clean the wood with detergent and water and heavy-duty scrubbing. Then sanitize the wood with one-half to 1 cup of chlorine bleach per gallon of water.

3.5 JOBSITE WASTE REDUCTION

- A. Implement cut lists, prepare accurate materials lists, and implement jobsite efficiencies to reduce jobsite waste.

3.6 SITE APPLIED WOOD TREATMENT

- A. Brush-apply two coats of preservative treatment on pressure-treated wood subject to site-sawn cuts.
- B. Allow preservative to dry prior to erecting members.

3.7 TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Framing Members: $\frac{1}{4}$ " from indicated position, maximum.
- C. Surface Flatness of Floor: $\frac{1}{4}$ " in 10 feet maximum, and $\frac{1}{2}$ " in 30 feet maximum.

3.6 WASTE MANAGEMENT

- A. Separate waste in accordance with the Waste Management Plan.

END OF SECTION

SECTION 06 20 00

FINISH CARPENTRY

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Interior finish carpentry items: standing and running wood trim, moldings, and finish hardware installation.
 - 2. Exterior finish carpentry items: wood trim at exterior openings.
 - 3. Plastic laminate wall coverings included in Section 09 72 00.
- B. It is an intent of this Project that non-toxic and low-VOC products be used for this project, and that all interior paints, coatings, adhesives and sealants meet specified requirements.
- C. Related Sections:
 - 1. Section 06 10 00 - Rough Carpentry.
 - 2. Section 08 14 16 - Flush Wood Doors.
 - 3. Section 08 71 00 - Door Hardware.
 - 4. Section 09 72 00 - Wall Coverings.
 - 5. Section 09 90 00 - Painting and Coating.
 - 6. Section 12 35 30 - Residential Casework.

1.2 REFERENCES

- A. American National Standards Institute:
 - 1. ANSI A135.4 - Basic Hardboard.
 - 2. ANSI A156.9 - Cabinet Hardware.
 - 3. ANSI A208.1 - Mat-Formed Wood Particleboard.
- B. APA-The Engineered Wood Association: APA/EWA PS 1 - Voluntary Product Standard for Construction and Industrial Plywood.
- C. ASTM International:
 - 1. ASTM C1036 - Standard Specification for Flat Glass.
 - 2. ASTM C1048 - Standard Specification for Heat-Treated Flat Glass-Kind HS, Kind FT Coated and Uncoated Glass.
 - 3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- D. Architectural Woodwork Institute: AWI - Quality Standards Illustrated.
- E. American Wood-Preservers' Association: AWPA C1 - All Timber Products - Preservative Treatment by Pressure Process.
- F. Federal Specification Unit: FS A-A-1936 - Adhesive, Contact, Neoprene Rubber.
- G. Hardwood Plywood and Veneer Association: HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood.
- H. National Institute of Standards and Technology: NIST PS 20 - American Softwood Lumber Standard.
- I. National Electrical Manufacturers Association: NEMA LD 3 - High Pressure Decorative Laminates.

- J. National Fire Protection Association:
 - 1. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.
 - 2. NFPA 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth.
- K. Underwriters Laboratories Inc.: UL 723 - Tests for Surface Burning Characteristics of Building Materials.
- L. Window and Door Manufacturers Association: WDMA I.S.4 - Water-Repellent Treatment for Millwork.
- M. Woodwork Institute: WI - Manual of Millwork.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
- C. Product Data:
 - 1. Submit data on fire retardant treatment materials and application instructions.
 - 2. Submit data on attachment hardware, and finish hardware.
 - 3. Submit data on low-VOC content for adhesive products.
- D. VOC Limits: Include manufacturer's literature for each adhesive, coating and sealant used in this Section identifying VOC limits and chemical components. All adhesives must conform to the South Coast Air Quality Management District Rule 1168 and all sealants must conform to Bay Area Air Quality Management District – Regulation 8, Rule 51.

1.4 QUALITY ASSURANCE

- A. Perform work in accordance with AWI (Architectural Woodwork Institute), Custom Grade for opaque/painted finishes, and Premium Grade for transparent finishes.
- B. Surface Burning Characteristics: Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84.

1.5 QUALIFICATIONS

Fabricator: Company or individual specializing in fabricating Products specified in this section with minimum three years documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Protect work from moisture damage.

1.7 FIELD MEASUREMENTS

Verify field measurements prior to fabrication.

1.8 SEQUENCING

Sequence work to ensure utility connections are achieved in orderly and expeditious manner.

1.9 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate work with installation of associated and adjacent components.

PART 2 PRODUCTS

2.1 GENERAL

- A. Moisture content of finish woods not more than **9%** when delivered to the building.
- B. Surface quality of the wood: Contractor shall take care in selecting the best face and edge of each piece, and consider its use and location. Materials shall have no visible milling or planing marks.

2.2 MATERIALS

- A. All materials and assemblies are to be in accordance with reference AWI Manual "Premium Grade" for transparent finished items and "Custom Grade" for opaque (painted) finished items except as otherwise modified. Tropical woods will **not** be accepted unless FSC-Certified.
- B. Surface quality of the wood: The contractor should take care in selecting the best face and edge of each piece of wood and consider its particular use and location. Materials shall have no milling or planing marks.
- C. Finish Lumber and Milled Section:
 - 1. Paint Grade: Hemlock – firm, uniform, closed grain or approved (Poplar is not acceptable). Profiles as indicated.
 - 2. Finish: Per Section 09 90 00.
 - 3. Window sill at all locations: 3/4" solid surface material per Section 12 36 61.
 - 4. Door Casing: 2 1/4" x 1/2"
 - 5. Handrails: 1-1/4" min. to 1-1/2" max. diameter, clear Hemlock "C" and better in stairwells. Clear finish by Section 09 90 00.
- D. Adhesive for woods:
 - 1. Interior woodwork: Low-VOC FS MMM-A-125C, Type II, water and mold resistant. Use ASTM D 3110 dry-use type for laminated and finger-jointed members, certified in accordance with ASTM C557 and complying with required VOC regulations, water-based contact cement and water-based construction adhesive.
 - 2. Exterior finish woodwork: ANSI/HPMA HP 1983, Type I, air cure waterproof type. Use ASTM D 3110 wet-use type for laminated and finger-jointed members.

2.3 ACCESSORIES

- A. FABRICATION Fasteners: Of type and smallest size appropriate per AWI to suit application as required by the Building Code or as approved by the Architect. All rough hardware subject to moisture to be hot-dipped galvanized.
- B. Wood Filler: Oil base, low VOC, tinted to match surface finish color.

2.4 FABRICATION

- A. Fabricate to AWI Custom or Premium standards per Quality Assurance provisions above.
- B. Shop assemble work for delivery to site, permitting passage through building openings.
- C. When necessary to cut and fit on site, fabricate materials with ample allowance for cutting. Furnish trim for scribing and site cutting.
- D. Workmanship to be "First-Class Workmanship"
 - 1. Finish exposed surfaces smooth, free from tool and machine marks.
 - 2. Use concealed fastening wherever possible.
 - 3. Kerf backs of members more than 5" wide, or more than 1" net thickness.
 - 4. Joints: Make tight and form to conceal shrinkage, as far as possible.
- E. Fitting and Adjustment: Regardless of tolerances specified for individual components, forming proportions of working assemblies, make final fitting and adjustments as required.

2.5 SHOP FINISHING

- A. Sand work smooth and set exposed fasteners.
- B. Apply wood filler in exposed fastener indentations.
- C. On items to receive transparent finishes, use wood filler matching surrounding surfaces and of types recommended for applied finishes.
- D. Finish work in accordance with Section 09 90 00 for transparent and opaque finishes as noted on the drawings.
- E. Seal, and finish exposed to view surfaces.
- F. Seal internal surfaces and semi-concealed surfaces.
- G. Prime paint or seal surfaces in contact with cementitious materials.

2.6 MISCELLANEOUS

- A. Handrail brackets: Brushed stainless steel finish with two woods screws in each bracket, match finish of bracket.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

- B. Verify adequacy of backing and support framing.
- C. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.
- D. Prior to installation, verify that wood trim has reached equilibrium moisture content with the air in the building.

3.2 INSTALLATION

- A. Install work in accordance with AWI Custom and Premium quality standard as noted in Quality Assurance provisions above.
- B. Install wood trim using full-length trim stock. Use the fewest pieces of trim possible in any run.
- C. Set and secure materials and components in place, plumb and level.
- D. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.
- E. Install interior wood trim with nails at 16 inches on center. Set nail heads and follow with putty to flush with surface. Carefully select the color of the putty to match the background color of the wood. Where wood color varies, select a putty color, or add stain to the putty, to match the wood color. It is not acceptable to use one putty color for all areas if the wood color varies.
- F. If material is damaged, replace with new wood trim stock.
- G. Preparation For Site Finishing (opaque):
 - 1. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.
 - 2. Site Finishing: Refer to Section 09 90 00.
 - 3. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

3.3 INSTALLATION OF WORK FROM OTHER SECTIONS

- A. Installation of interior solid core doors: For all pre-hung or field-hung solid core wood doors, the following special procedure shall apply. It is required that all screws on the top hinge penetrate the wall framing behind the door frame. Replace the screws pre-packaged with the hinge with flat head screws, same finish as the pre-packaged screws, with sufficient length to penetrate into the wall framing. This is required to prevent the settling of the door away from the frame at this hinge.
- B. Installation of work from other Sections: Install all items provided in other Sections and not specifically installed by other trades. Conform to finish carpentry installation requirements specified in this Section. Items to be installed include but are not limited to those items listed in "Related Work".
1. Install finish hardware specified in Section 08 71 00. Installation by skilled mechanics. Conform to hardware manufacturer's instructions, and to Code requirements.
 2. Adjust moveable parts to operate smoothly at time of acceptance. Make further adjustments as necessary during warranty period.
 3. Replace hardware that has been damaged during installation.
 4. Make mortises accurately to exactly receive hardware. Depth of mortises to be such that hardware is flush with finished surface.
 5. Place doorstops and holders to allow maximum swing. Doors not to contact anything by stop.
 6. Placement: locate hardware on doors as noted in Section 08 71 00.
 7. After hardware installation, clean all surfaces of mortar, paint and other contaminants. Lubricate moving parts, or replace parts with cannot be lubricated and do not function properly.

3.4 ERECTION TOLERANCES

- A. Maximum Variation from Indicated Position: 1/16 inch.
- B. Maximum Offset from Alignment with Abutting Materials: 1/32 inch.

END OF SECTION

SECTION 07 18 00
TRAFFIC COATINGS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Section includes the recoating of a deck with an acrylic deck coating.
- B. Related Sections:
 - 1. Section 06 10 00 – Rough Carpentry – Sheathing.

1.2 DELIVERY, STORAGE, AND HANDLING

- A. Store all coating materials in the original unopened containers at 50F - 80F until the coatings are ready for use.
- B. Follow the special handling or storage requirements of the manufacturer for cold weather, hot weather, etc.
- C. Safety: Refer to all applicable data, including, but not limited to MSDS, PDS, product labels, specific instructions for specific personal protection requirements.
- D. Ventilation: Provide adequate ventilation to prevent the accumulation of hazardous fumes during application.
- E. Environmental requirements: Proceed with work of this section only when existing and forecasted weather conditions will permit the application to be performed in accordance with the manufacturer's recommendations.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Gaco Western, LLC; www.gaco.com.
- B. Substitutions: Section 01 60 00 - Product Requirements

2.2 MATERIALS

- A. Cleaner: GacoFlex GacoWash Concentrated Cleaner
- B. Primer: GacoFlex E-5320 Primer
- C. Coating: GacoFlex A-38 Acrylic

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that the substrate is ready to receive the work; the surface is clean, dry and free of surface contaminants that could affect the bond.
- B. Strip existing decking with Xylene or Toulene as needed to provide a bond to substrate.
- C. Verify with architect, general contractor and manufacture that substrate conditions are acceptable to receive waterproofing application.

3.2 PREPARATION

- A. Sweep or blow all dirt and dust from the roof surface. Wash the deck with GacoWash and rinse thoroughly with clean water. Do not allow the cleaning solution to dry before rinsing.
- B. Fill voids and seal joints with a smooth bead of sealant.
- C. Mask off adjoining surfaces not to receive acrylic coating.
- D. Biological Control: If there are any areas of algae, mildew or fungus that show stain on the coating, treat these areas with a chlorine water solution, followed by a clear water rinse. (This treatment can be done using a commercially available chlorine compound available from swimming pool supply houses. Concentration of the chlorine solution should be five times that recommended for normal treatment of swimming pool.)
- E. Loose Coating: Remove all loose coating back to a firmly adhered area. Terminate neatly without frayed edges. Sanding to a featheredge will make it easier to hide the repair spot.
- F. Flashing: Inspect edges and surfaces of existing flashing and repair these areas as necessary.
- G. Drying: After washing and cleaning deck, allow surface to dry 24 hours before applying any coating. (Note: Drying depends on weather conditions such as temperature, humidity and air movement. The above drying times assume good weather (70F) daytime temperature and no rain.) Conditions of lower temperature and rain will require a longer period for drying.

3.3 INSTALLATION

- A. Primer: Apply one coat of GacoFlex E-5320 Primer by roller at the rate of one gallon per 300 square feet. Allow 2 to 12 hours drying time. For maximum solvent resistance, see drying time directed in Gaco Western's General Instructions GW-2-2. Drying times vary depending on weather conditions such as temperature, humidity and air movement.

- B. Top Coats and Texture: Apply two texture top coats each consisting of $\frac{3}{4}$ gallon (2.84 L) of GacoFlex A-38 Acrylic Coating and $\frac{3}{4}$ pound or 2 cups (.34kg) GacoShell 40/60 Granules per 100 sq. ft. Thoroughly blend GacoShell 40/60 Granules into the coating before applying.
- C. Allow the first coat to dry until firm enough to walk on but no more than 72 hours before applying second coat. If left longer than 72 hours, deck must be cleaned with GacoFlex D-09 Wash rinsed thoroughly and allowed to dry completely before proceeding.
- D. Best results are achieved by applying texture coats in parallel overlapping roller passes, i.e., North-South or East-West. This will result in a pleasing uniform texture which is easy to clean. Allow 48 hours before deck is put into use.
- E. For best appearance, deck coating should be washed as needed to remove natural soil accumulation. This is best done using GacoFlex D-09 Wash. Wash and water rinse. For general cleaning and maintenance, mix as required up to 9 parts water to one part D-09. This procedure will maintain natural color during many years of service.

END OF SECTION

SECTION 07 21 13
BOARD INSULATION

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes rigid board insulation at window and door headers in thicknesses as indicated on the drawings.
- B. Related Sections:
 - 1. Section 07 21 16 - Blanket Insulation.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
 - 2. ASTM C612 - Standard Specification for Mineral Fiber Block and Board Thermal Insulation.
 - 3. ASTM C1289 - Standard Specification for Faced Rigid Cellular Thermal Insulation Board.
 - 4. ASTM D2842 - Standard Test Method for Water Absorption of Rigid Cellular Plastics.
 - 5. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. National Fire Protection Association: NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.
- C. Underwriters Laboratories Inc.: UL 723 - Tests for Surface Burning Characteristics of Building Materials.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on product characteristics, performance criteria, limitations, and adhesives.
- C. Manufacturer's Installation Instructions: Submit special environmental conditions required for installation.

PART 2 PRODUCTS

2.1 RIGID BOARD INSULATION AT WINDOW AND DOOR HEADERS

- A. Listed manufacturer: The Dow Chemical Company, Styrofoam Brand Square Edge Insulation
- B. Other manufacturers if an available product is equal to above:
 - 1. Tenneco Foam Products.
 - 2. Owens Corning
 - 3. UC Industries/Owens Corning.
 - 4. Johns-Manville.

5. Certaineed Corporation.
6. Celotex Corporation.
7. Substitutions: Section 01 25 13 – Product Substitution Procedures.

2.2 ACCESSORIES

- A. Adhesive: Gun grade, mastic type, compatible with insulation and substrate and as recommended by the insulation manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify conditions are ready to receive insulation.

3.2 INSTALLATION – RIGID INSULATION AT WINDOW AND DOOR HEADERS

- A. General: In all cases, follow manufacturer's directions and recommendations suiting conditions of installation. Install thickness/r-value as indicated.

3.3 PROTECTION OF INSTALLED CONSTRUCTION

- A. Section 01 70 00 - Execution and Closeout Requirements: Protecting installed construction.
- B. Do not permit damage to insulation prior to covering.

END OF SECTION

SECTION 07 21 16
BLANKET INSULATION

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes batt insulation in exterior wall and floor assemblies, for filling perimeter window and door shim spaces, as well as interior acoustical insulation in wall assemblies.
- B. Related Sections:
 - 1. Section 07 21 13 - Board Insulation.
 - 2. Section 07 26 00 - Vapor Barriers and Vapor Retarders.
 - 3. Section 07 27 00 - Water-Resistive Barriers.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
 - 2. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 3. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
 - 4. ASTM E970 - Standard Test Method for Critical Radiant Flux of Exposed Attic Floor Insulation Using a Radiant Heat Energy Source.
- B. National Fire Protection Association: NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.
- C. Underwriters Laboratories Inc.: UL 723 - Tests for Surface Burning Characteristics of Building Materials.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on product characteristics, performance criteria, and limitations.

1.4 QUALITY ASSURANCE

- A. Insulation Installed in Concealed Locations Surface Burning Characteristics:
 - 1. Batt Insulation: Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84.

1.5 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate the Work with Section 07 26 00 for installation of vapor retarder.

PART 2 PRODUCTS

2.1 BATT INSULATION

- A. Listed Manufacturer: CertainTeed Corporation, kraft faced fiberglass batts.
- B. Other Manufacturers:
 - 1. Knauf Insulation.
 - 2. Johns Manville.
 - 3. Owens Corning.
 - 4. Guardian Fiberglass, Inc.
 - 5. Celotex Corporation.
 - 6. Substitutions: Section 01 25 13 – Product Substitution Procedures.

2.2 COMPONENTS

- A. Acoustic Batt Wall and Ceiling Insulation:
 - 1. Facing: unfaced.
 - 2. Thickness: as indicated on the drawings.
 - 3. Flame Spread: maximum 25 per ASTM E 84.
 - 4. Smoke developed: maximum 50 per ASTM E 84.
 - 5. Urea-formaldehyde free.
- B. Thermal Batt Insulation: ASTM C665; preformed glass or mineral fiber blanket; friction fit, conforming to the following:
 - 1. Thermal Resistance for exterior wall assemblies: R-21 blankets or as otherwise indicated on the drawings.
 - 2. Facing: kraft faced.
 - 3. Flame Spread: maximum 25 per ASTM E 84.
 - 4. Smoke developed: maximum 50 per ASTM E 84.
 - 5. Urea-formaldehyde free.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify substrate, adjacent materials, and framing is dry and ready to receive insulation.

3.2 INSTALLATION

- A. Install in exterior wall spaces without gaps or voids. Do not compress insulation.
- B. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
- C. Fit insulation tight in spaces and tight to exterior side of mechanical and electrical services within plane of insulation.
- D. Coordinate Work of this section with installation of vapor retarder specified in Section 07 26 00.

END OF SECTION

SECTION 07 27 00

WATER-RESISTIVE BARRIERS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Provides weather-resistive barriers including sealing joints and protrusions through membranes, with accessories as required for complete installation.

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's literature for each type of membrane.
- B. Samples: Submit samples of each type of material. Quality Assurance/Control Submittals: Submit either test reports or manufacturer's certificates indicating materials comply with specified requirements.

PART 2 - PRODUCTS

2.01 MANUFACTURER

- A. Fortifiber® Building Systems Group, 1-800-773-4777.
- B. Substitutions: Comply with provisions of Division 1.

2.02 MATERIALS

- A. Vapor Permeable Weather-Resistive Barriers: Single layer 1-Ply asphalt saturated kraft Grade D breather type sheathing paper.
 - 1. Product: Fortifiber® / Jumbo Tex®
 - 2. Reference Standard; Federal Specification UU-B-790a, Type 1, Grade D, Style 2.
 - 3. Moisture Vapor Transmission: 35 grams minimum; ASTM E 96.
 - 4. Water Resistance: 20 minutes (classic); ASTM D 779, 10 minutes FoamTex, ASTM D 779.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Ensure items which pass through membrane are properly and rigidly installed, substrate is free of projections and irregularities which may be detrimental to proper installation of membrane.

3.02 INSTALLATION

- A. Apply membrane in accordance with manufacturer's recommendations, laid smooth without folds or bunches of material.
 - 1. Seam Overlap: As recommended by membrane manufacturer for specific membrane material and application indicated.
 - 2. Sealing: Seal edges and items projecting through vapor retarders and vapor barriers.

- B. Inspect and repair membrane prior to application of finish material over membrane; tape tears, perforations and similar damage.

END OF SECTION

SECTION 07 62 00
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 DESCRIPTION

- A. Work includes new metal flashings at roof transitions, draining edges, saddle flashings, base of wall, mechanical curbs and sleepers, and as otherwise required for a complete, weatherproof installation.

1.2 RELATED SECTIONS

- A. Division 1 - General Requirements
- B. Section 06 10 00 - Rough Carpentry and Sheathing
- C. Section 07 31 13 - Asphalt Shingles, Roof Accessories, Roof Edge Drainage

1.3 REFERENCES

- A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- B. SMACNA, Architectural Sheet Metal Manual, Latest Edition.

1.4 SUBMITTALS

- A. Product data, Sheet Metal: Submit the name of the manufacturer, specification numbers, color samples for exposed products, and product names of all materials proposed for use in the work. Include in submittal installation instructions, shop drawings, and general recommendations for each principal product required. Include data substantiating that the materials comply with requirements.

PART 2 MATERIALS

2.1 Sheet Metals

- A. Counterflashing, and Skirt Flashings: Prefinished galvanized sheet steel, 24 gauge unless otherwise noted. Use 20 gage minimum for clips. All reglet to be S-lock. Finish to be Kynar 500 (PVF₂), color as directed by Owner, as selected from standard color chart.
- B. Sarnaclad: A 24 gauge, G90 galvanized metal sheet with a 20 mil (0.5 mm) unsupported Sarnafil membrane laminated on one side.
- C. Fasteners: Nails shall be hot-dip galvanized for galvanized steel. Bolts, nuts, power driven fasteners, screws, washers, etc., shall be hot-dip galvanized or stainless steel. Screws shall be a high-dome, neoprene gasketed, hex head type, or incorporate a washer with a laminated neoprene gasket. Exposed screws to have prefinished heads of color matching the coping metal.
- D. Masonry Fasteners: Provide expandable fasteners for use in masonry substrates; 3/16" Rawl Drive Pins, Rawl Zamac Hammer-Screw, or Rawl Nailin fasteners.

E. Gutters:

1. 24 gauge minimum, free floating gutter system, formed in continuous 50' lengths, suspended without penetrating gutter by gutter cleat system, and in profile "J" and size as indicated, or approved. Provide with Kynar finish.
2. Gutter Accessories: Provide as required for complete system including the following:
 - a. Stand-offs: Fabricate of same gauge and finish as gutter to hold gutter off square cut fascias.
 - b. Spacer Straps: 18 gauge, 1 inch wide, installed at 3'-0" oc.
 - c. Gutter Cleats: Provide in same gauge and finish as gutter. 4" minimum support width. Attach 24" o.c. maximum. Downspout strainers: profiled to suit gutter and downspouts, SMACNA Plate 24, Fig D, or approved.
 - d. Anchorage and Fasteners: Type as recommended by SMACNA.
 - e. Expansion Joints: Provide expansion joints and covers 50 feet o.c. maximum in accordance with SMACNA Manual Plate 6. Provide exposed splice plates and expansion joint covers. Sections of less than 50' shall be without joints. Verify there are separate downspouts for each 50 foot section of gutter.

F. Sealants:

1. Polyurethane sealant, Sikaflex 1a, Chem-Calk 900, or Vulkem 921.
2. Sealant in Contact with Asphalt Based Roofing: ChemLink M1.
3. Butyl Sealant: Gun grade butyl sealant, Chem-Calk 300 or project approved.
4. Butyl Tape Sealant: 1-inch as manufactured by Schnee Morehead or project approved.

PART 3 FABRICATION / INSTALLATION

3.1 GENERAL

- A. Examine the substrate and the conditions under which the work is to be performed, and do not proceed until unsatisfactory conditions have been corrected. Surfaces to receive sheet metal are to be clean, even, smooth, dry, and free from defects and projections that might adversely affect the application. Verify slope prior to installation. Remove all mechanical units as required for access to curbs. Reinstall as required. Comply with SMACNA recommendations.
- B. Work shall be accurately formed to sizes, shapes, and dimensions indicated with all angles and lines in true alignment. All work shall be straight, sharp, and erected plumb and level in proper plane without bulges or waves. Conform to standards of SMACNA.
- C. Fabricate all items in maximum length and keep the number of joints to a minimum.
- D. Typical sheet metal laps shall be a minimum 4 inches and sealed with two continuous beads of approved sealant.
- E. Provide mechanical sheet metal closure caps, fully sealed, at typical flashing ends.
- F. When no detail direction is provided in the contract documents for an existing roofing related condition, the contractor shall bring such transitions to the attention of the Owner and Consultant.

- G. Cooperate with other trades in installation of work. Deliver items to be installed by others in time to avoid delay of project.
- H. Make proper allowances for expansion and contraction of materials in all work.

3.2 SHEET METAL FLASHING

- A. Eave Flashing:
 - 1. Fabricate with a 3/4-inch hemmed edge and dimensions as shown on drawings.
 - 2. Fasten with galvanized nail fasteners at 3 inches on center.
- B. Transition Flashings: 24 gauge soldered stainless steel, shop fabricated with 4 inch minimum flanges and to match dimensions and conditions depicted on plans.

3.3 GUTTERS

- A. Install 24 gauge minimum, free floating gutter system, formed in continuous 50' lengths, suspended without penetrating gutter by gutter cleat system, and in profile "J" and size as indicated, or approved. Provide with Kynar finish.
- B. Gutter Accessories: Install as required for complete system including the following:
 - 1. Stand-offs: Fabricate of same gauge and finish as gutter to hold gutter off square cut fascias.
 - 2. Spacer Straps: 18 gauge, 1 inch wide, installed at 3'-0" oc.
 - 3. Gutter Cleats: Install in same gauge and finish as gutter. 4" minimum support width. Attach 24" o.c. maximum. Downspout strainers: profiled to suit gutter and downspouts, SMACNA Plate 24, Fig D, or approved.
 - 4. Anchorage and Fasteners: Type as recommended by SMACNA.
 - 5. Expansion Joints: Install expansion joints and covers 50 feet o.c. maximum in accordance with SMACNA Manual Plate 6. Provide exposed splice plates and expansion joint covers. Sections of less than 50' shall be without joints. Verify there are separate downspouts for each 50 foot section of gutter.

END OF SECTION

SECTION 07 65 00
FLEXIBLE FLASHINGS

PART 1 — GENERAL

1.1 SUMMARY

- A. Work includes but is not limited to flexible membrane flashings installed at metal flashings, door and window openings, and at other exterior locations where detailed to eliminate water infiltration. Also included is membrane waterproofing installed at coping and flashing areas subject to sustained high temperatures under normal conditions of use.
- B. Related Sections:
 - 1. Section 06 10 00 – Rough Carpentry.
 - 2. Section 07 31 13 – Asphalt Shingles, Roof Accessories, Roof Edge Drainage.
 - 3. Section 07 27 00 – Water-Resistive Barriers.
 - 4. Section 07 62 00 – Flashing and Sheet Metal.
 - 5. Section 08 16 00 – Steel Doors
 - 5. Section 08 53 00 – Plastic (PVC) Windows.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - ASTM D 412 – Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubber and Thermoplastic Elastomers-Tension.
 - ASTM D 570 – Standard Test Method for Water Absorption of Plastics.
 - ASTM D 779 – Standard Test Method for Water Resistance of Paper, Paper Board and Other Sheet Materials by the Dry Indicator Method.
 - ASTM D 828 – Tensile Properties of Paper and Paperboard Using Constant-Rate-of-Elongation Apparatus.
 - ASTM D 903 – Standard Test Method for Peel of Stripping Strength of Adhesive Bonds.
 - ASTM D 1004 – Standard Test Method for Initial Tear Resistance of Plastic Film and Sheeting.
 - ASTM D1876 – Standard Test Method for Peel Resistance of Adhesives (T-Peel Test).
 - ASTM D 1938 – Standard Test Method for Tear-Propagation Resistance of Plastic Film and Thin Sheeting by a Single-Tear Method.
 - ASTM D 1970 – Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
 - ASTM D 3767 – Standard Practice for Rubber-Measurement of Dimensions.
 - ASTM E 96 – Standard Test Methods for Water Vapor Transmission of Materials.
 - ASTM E 2112 – Standard Practice for Installation of Exterior Windows, Doors and Skylights.
- B. National Roofing Contractor's Association (NRCA): - the NRCA Waterproofing and Damproofing Manual.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures.
- B. Manufacturer's product literature for each product type, including specification data showing compliance with performance criteria listed.
- C. Manufacturer's written installation instructions. Required to be on file in Contractor's field office during period of installation.
- D. Samples: submit 6"x6" sample of each product type, or other size necessary to show manufacturer's standard product stamp on the sample.
- E. VOC Limits: Include manufacturer's literature for each adhesive, coating and sealant installed inside the weather resistive barrier (WRB) used in this Section identifying VOC limits and chemical components.

1.4 QUALITY ASSURANCE

- A. Product Manufacturer: Company specializing in waterproof sheet membranes with minimum 3 years experience.
- B. Applicator: Company or individual specializing in performing work of this Section with minimum 3 years experience.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements.
- B. Deliver in original labeled packages.
- C. Store in clean dry place. Maintain ambient temperatures within limits recommended by the manufacturer before and during application and until liquid or mastic accessories have cured.
- D. Handle carefully to avoid damage to product.

1.6 WARRANTY

- A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.
- B. Furnish five-year manufacturer warranty for waterproofing failing to resist penetration of water.
- C. For warranty repair work, remove and replace materials concealing waterproofing.

PART 2 — PRODUCTS

2.1 FLEXIBLE FLASHING

- A. Listed manufacturer and product: Grace Construction Products, Vycor V40 Weather Barrier Strips.
- B. Other manufacturers:
 - 1. International Building Components, Inc., WaterBlock WFM-40, Waterproof Flashing Membrane.
 - 2. Henry Company, Blueskin SA, Self-Adhesive Air/Vapor Barrier Membrane.
 - 3. Substitutions: Section 01 25 13 – Product Substitution Procedures.

- C. High-Temp membrane products: Grace Ultra: 30 to 40 mil thick, cold-applied self-adhering membrane for use in application under metal flashings and copings where high in-service temperatures are normal for long periods of time.
- D. Properties:
 - 1. 40-mil thick self-sealing and self-healing, fully adhered flexible flashing. Cold applied.
 - 2. Rubberized asphalt integrally bonded to a high-density, cross-laminated polyethylene film, compatible with most fully cured polyurethanes, silicone, and coal tar sealant and dampproofing materials.
 - 3. Meets the requirements of weather resistive barriers as defined in Federal Spec UU-B-790a, Grade A.
 - 4. Provide in 9" minimum width strips for application around window and door openings, and other flashing areas.
 - 5. Tensile strength: 800 psi minimum per ASTM D-412.
 - 6. Elongation: 200% minimum, ultimate failure per ASTM D-412.
 - 7. Permeance: 0.5 perm maximum per ASTM E-96.
 - 8. Water absorption: 0.1% maximum per ASTM D-570.
- E. Surface conditioner, by manufacturer of membrane product, for conditioning of wall surface prior to the application of flashing sheets. Refer to manufacturer's printed instructions for specific substrate materials or environmental conditions requiring application of surface conditioner.

2.2 MECHANICAL AND ELECTRICAL PENETRATIONS

- A. Manufacturer: Quickflash Weatherproofing Products, Inc., Las Vegas, NV.
- B. Products: High-grade polyethylene (HDPE and LDPE) and rubber flashing panels for miscellaneous plumbing, HVAC and electrical wall penetrations, with no-caulk friction seals, non-conductive and non-corrosive. Select from P-Series panels for plumbing penetrations, and E-Series panels for electrical penetrations depending upon the size of the pipe/conduit.

PART 3 — EXECUTION

3.1 INSPECTION

- A. Verify installation conditions as satisfactory to receive work of this section. Do not install until any unsatisfactory conditions are corrected. Beginning work constitutes acceptance of conditions as satisfactory.

3.2 INSTALLATION

- A. In general, strictly comply with manufacturer's written installation instructions for all proprietary products.
- B. Carefully and accurately lay out, cut, fit, and install to detail.
- C. Install products weather-fashion, facilitating the passage of water or moisture toward drainage paths or weep holes as detailed.
- D. Refer to detailed application sequence shown on the drawings.
- E. Surface to receive flashing must be smooth, clean, dry, and free of voids, spalls, loose substrates, and protrusions. Clean the substrate by wiping with a clean dry cloth or brush.

3.3 INSTALLATION OF FLEXIBLE FLASHING STRIPS

- A. Comply with the installation sequence shown on the drawings.
- B. Observe environmental limitations of the manufacturer. Apply strip flashings in fair weather when the air, surface and membrane temperatures are 40 degrees F or higher. Apply covering materials at 40 degrees F or higher.
- C. Apply surface conditioner in strict compliance with the manufacturer's written instructions.
- D. Cut flashing into easily handled lengths. Peel release paper from roll to expose adhesive surface and carefully position flashing against substrate. Press firmly into place with a steel hand roller, fully adhering the flashing to the substrate to prevent water migrating under the flashing. Overlap adjacent pieces 3" minimum and roll overlap with the roller.
- E. Install a flexible flashing strip behind all attachments to the building where a fastener will penetrate the weather-resistant barrier. This includes attachments for masonry veneer ties, fasteners for rigid insulation, clips or channels for metal panels or siding products, and the like. Strip shall be large enough to project outside the base dimension of the fastened object, or if the object is linear the strip shall be continuous for the entire length and width of the object.
- F. Apply at all inside and outside corners over the water-resistive barrier, under trim products.
- G. If wrinkles or fishmouths develop, follow manufacturer's recommendations for cutting and remedying. Alternately, remove and reapply a new strip.
- H. Do not leave flashing strips permanently exposed to sunlight. Do not exceed the maximum recommended exposure time stated by the manufacturer.
- I. Protect the flashing from damage after installation. Cover to protect from exposure to sunlight, according to the manufacturer's stated time limit.

3.4 INSTALLATION ON HIGH-TEMP MEMBRANES

- A. In all cases, follow manufacturer's printed instructions.
- B. Roll out membrane. Minimize wrinkles and bubbles.
- C. Remove release paper layer. Roll out on substrate with mechanical roller to encourage full contact bond.
- D. Lap sides and ends.
- E. Overlap edges and ends minimum 3 inches. Weather lap joints on sloped substrate in direction of drainage. Seal joints and seams.

3.5 FIELD QUALITY CONTROL

- A. Verify that proper dimensions for vertical and horizontal laps have been observed.
- B. Cover any product that remains exposed to sunlight within the time limitations required by the manufacturer.
- C. Remedy any flashings that have become dislodged during the work, or have become loose from the substrate material or dog-eared at corners.

END OF SECTION

SECTION 07 90 00

JOINT PROTECTION

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes sealants and joint backing, and accessories.
- B. Related Sections:
 - 1. Section 07 27 00 - Water-Resistive Barriers.
 - 2. Section 08 53 00 – Plastic (PVC) Windows.
 - 3. Section 08 91 00 - Louvers.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM C834 - Standard Specification for Latex Sealants.
 - 2. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
 - 3. ASTM C1193 - Standard Guide for Use of Joint Sealants.
 - 4. ASTM D1667 - Standard Specification for Flexible Cellular Materials-Vinyl Chloride Polymers and Copolymers (Closed-Cell Foam).

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Products Data: Submit data indicating sealant chemical characteristics, performance criteria, substrate preparation, limitations, and color availability.
- C. Manufacturer's Installation Instructions: Submit special procedures, surface preparation, and perimeter conditions requiring special attention.
- D. Warranty: Include coverage for installed sealants and accessories failing to achieve watertight seal, exhibit loss of adhesion or cohesion, and sealants that do not cure.

1.4 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum five years experience.
- B. Applicator: Company or individual specializing in performing Work of this section with minimum three years experience.

1.5 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 - Product Requirements.
- B. Maintain temperature and humidity recommended by sealant manufacturer during and after installation.

1.6 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate Work with sections referencing this section.

PART 2 PRODUCTS

2.1 JOINT SEALERS

- A. Manufacturers:
 - 1. Tremco Commercial Sealants and Waterproofing.
 - 2. Dow Corning Corp.
 - 3. GE Silicones.
 - 4. Pecora Corp.
 - 5. Sika Corp.
 - 6. Substitutions: Section 01 25 13 – Product Substitution Procedures.
- B. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.
- C. Stain Characteristics: Provide elastomeric joint sealant products that are non-staining to porous substrates and have undergone testing according to ASTM C1248 and have not stained porous substrate materials indicated for this project.
- D. Color: White or clear.
- E. VOC Limits: Refer to Section 01 81 13.
- F. Products Description:
 - 1. High Performance General Purpose Exterior Nontraffic Sealant: Polyurethane; ASTM C920, Grade NS, Class 25, Uses M, G, and A; single component.
 - a. Applications: Use for:
 - 1) Control, expansion, and soft joints in masonry.
 - 2) Joints between concrete and other materials.
 - 3) Joints between metal frames and other materials.
 - 4) Other exterior nontraffic joints for which no other sealant is indicated.
 - 2. General Purpose Traffic Bearing Sealant: Polyurethane; ASTM C920, Grade P, Class 25, Use T; single component.
 - a. Applications: Use for exterior and interior pedestrian and vehicular traffic bearing joints.
 - 3. Exterior General Purpose Nontraffic Sealant: Silicone ultra-low modulus; ASTM C 920, Type S, Grade NS, Use NT; joint movement range 100% in extension and 50% in compression.
 - a. Applications: Joints in concrete, masonry, metals, metal door and metal window frames.
 - 4. Exterior between laps of Water-Resistant Barrier: Refer to Section 07 27 00.
 - 5. Exterior Compressible Gasket Expansion Joint Sealer: ASTM D2628, hollow neoprene (polychloroprene) compression gasket.
 - a. Size and Shape: As indicated on Drawings.
 - b. Applications: Use for exterior wall expansion joints.
 - 6. Exterior Metal Lap Joint Sealant: Butyl or polyisobutylene, non-drying, non-skinning, non-curing.

- a. Applications: Use for concealed sealant bead in sheet metal work and concealed sealant bead in siding overlaps.
7. General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C834, single component, paintable.
 - a. Applications: Use for interior wall and ceiling control joints, joints between door and window frames and wall surfaces, and other interior joints for which no other type of sealant is indicated.
8. Low-VOC Interior Sealant: Acrylic urethane, Low-VOC, single component, paintable, permanently flexible, mold and mildew resistant.
 - a. Applications: Use for interior air seal joints around windows and doors.
 - b. OSI GreenSeries Acrylic Urethane or approved equal.
9. Wet Areas Sealant: White silicone; ASTM C920, Uses M and A; single component, mildew resistant.
 - a. Applications: Use for joints between plumbing fixtures and floor and wall surfaces, and joints between kitchen and bathroom or toilet room counter tops and wall surfaces.

2.2 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Joint Backing: Round foam rod compatible with sealant; ASTM D1056, sponge or expanded rubber or D1667, closed cell PVC, type acceptable to sealant manufacturer; oversized 30 to 50 percent larger than joint width.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify substrate surfaces and joint openings are ready to receive work.
- C. Verify joint backing and release tapes are compatible with sealant.

3.2 PREPARATION

- A. Remove loose materials and foreign matter impairing adhesion of sealant.
- B. Clean and prime joints per manufacturer's requirements.
- C. Perform preparation in accordance with ASTM C1193.
- D. Protect elements surrounding Work of this section from damage or disfiguration.

3.3 INSTALLATION

- A. Perform installation in accordance with ASTM C1193.

- B. Measure joint dimensions and size joint backers to achieve the following, unless otherwise indicated, or otherwise recommended by the sealant manufacturer:
 - 1. Width/depth ratio of 2: 1.
 - 2. Neck dimension no greater than 1/2 of joint width.
 - 3. Surface bond area on each side not less than 75 percent of joint width.
- C. Install bond breaker where joint backing is not used.
- D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- E. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- F. Tool joints concave.
- G. Sanded joints in masonry work: After sealant has been placed in joint, and prior to skinning of sealant surface, broadcast fine sand onto the sealant surface to mimic adjacent mortar joints. Use only if joint is exposed to view in the finished work.
- H. Precompressed Foam Sealant: Do not stretch; avoid joints except at corners, ends, and intersections; install with face 1/8 to 1/4 inch below adjoining surface.
- I. Compression Gaskets: Avoid joints except at ends, corners, and intersections; seal joints with adhesive; install with face 1/8 to 1/4 inch below adjoining surface.

3.4 WASTE MANAGEMENT

- A. Separate waste in accordance with the Waste Management Plan. Refer to Section 01 74 19 for specific requirements.

3.5 CLEANING

- A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.
- B. Clean adjacent soiled surfaces.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

- A. Section 01 70 00 - Execution and Closeout Requirements: Protecting installed construction.
- B. Protect sealants until cured.

3.7 AIR SEAL LOCATIONS

- A. Joints around fenestration and door jambs;
- B. Junctions between wall and foundations, between walls at building corners, between walls and structural floors or roofs, and between walls and roof or wall panels;
- C. Openings at penetrations of utility services through roofs, walls and floors;
- D. Site-built fenestration and doors;
- E. Building assemblies used as ducts or plenums;
- F. Joint, seams and penetrations of vapor retarders;
- G. All other openings in the building envelope;
- H. Seal at recessed light fixtures;

- I. Seal at electrical panels, electrical boxes, data boxes;
- J. Seal drywall at the intersection of the drywall and top/bottom plate;
- K. Seal penetrations through the top and bottom plates from plumbing, wiring, and ducts;
- L. Caulk interior window jambs;
- M. Fill rough opening of windows and doors with backer rod and caulk;
- N. Caulk at window and door trim to drywall;
- O. Seal at the junction between the ceiling and walls.

END OF SECTION

SECTION 08 14 16
FLUSH WOOD DOORS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes flush wood doors and wood frames; flush and flush glazed configuration with louvers as scheduled; fire rated and non-rated as scheduled.
- B. Related Sections:
 - 1. Section 06 20 00 – Finish Carpentry.
 - 2. Section 08 16 00 – Steel Doors.
 - 3. Section 08 71 00 – Door Hardware.
 - 4. Section 09 90 00 – Painting and Coating.

1.2 REFERENCES

- A. American National Standards Institute: ANSI A135.4 - Basic Hardboard.
- B. ASTM International: ASTM E413 - Standard Classification for Rating Sound Insulation.
- C. Architectural Woodwork Institute: AWI - Quality Standards Illustrated.
- D. Hardwood Plywood and Veneer Association: HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood.
- E. Intertek Testing Services (Warnock Hersey Listed): WH - Certification Listings.
- F. National Electrical Manufacturers Association: NEMA LD 3 - High Pressure Decorative Laminates.
- G. Building Code: UBC Standard 7-2 - Fire Tests of Door Assemblies.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Illustrate door opening criteria, elevations, sizes, types, swings, undercuts required, special beveling, special blocking for hardware, factory machining criteria, factory finishing criteria, identify cutouts for glazing and louvers.
- C. Product Data: Submit information on door core materials and construction, and on veneer species, type and characteristics.
- D. Samples: Architect shall review sample door on site to be incorporated into building construction.
- E. VOC Limits: Include manufacturer's literature for each adhesive, coating and sealant used in this Section identifying VOC limits and chemical components. All adhesives must conform to the South Coast Air Quality Management District Rule 1168 and all sealants must conform to Bay Area Air Quality Management District – Regulation 8, Rule 51.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with AWI Quality Standard Section 1300, Custom Grade for opaque/painted finishes, Premium Grade for transparent finishes.
- B. Finish doors in accordance with AWI Quality Standard Section 1500.
- C. Fire Rated Door and Panel Construction: Conform to NFPA 252.
- D. Installed Fire Rated Door and Panel Assembly: Conform to NFPA 80 for fire rated class as indicated on Drawings.
- E. Smoke and Draft Control Doors: Tested in accordance with UL 1784. Air Leakage: Maximum 3.0 cfm/sf of door opening with 0.10 inch water gage pressure differential.
- F. Attach label from agency approved by authority having jurisdiction to identify each fire rated door.

1.5 QUALIFICATIONS

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

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Package, deliver and store doors in accordance with AWI Section 1300.
- C. Accept doors on site in manufacturer's packaging. Inspect for damage.
- D. 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 when stored more than one week. Break seal on site to permit ventilation.

1.7 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate Work with door opening construction, door frame and door hardware installation.

1.8 WARRANTY

- A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.
- B. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.
- C. Furnish manufacturer's "Life of Installation" warranty for interior and exterior doors.

PART 2 PRODUCTS

2.1 FLUSH WOOD DOORS

- A. Manufacturers:

1. Jeld-Wen, Inc., Doorcraft Series.
 2. Lynden Door, LD 1000 SHC-5, and LD 2000 PC-5.
 3. Marshfield Door systems (Weyerhaeuser).
 4. Simpson Door.
 5. Substitutions: Section 01 25 13 – Product Substitution Procedures.
- B. Product Description: solid core and particleboard core flush wood doors as scheduled; wood veneer facing material; fire rated and non-rated types; flush design; with and without louvers; factory pre-fit; shop finished, transparent finished.
1. Flush Interior Doors: 1-3/4" solid core or 1-3/8" particleboard core according to the door schedule, five-ply construction, fire rated as indicated on Drawings.
- C. Finish: Transparent finish typical.
- 2.2 WOOD FRAMES
- A. Solid Wood Frames: Nominal 1 inch thick solid Hemlock, 1HPA Standard Grade, transparent finish.
- B. Mill to size and configuration shown on the drawings. In single or double rabbet profile, allow dimension/clearance at the face of the stop for the installation of smoke gasketing.
- 2.3 WOOD DOOR COMPONENTS
- A. Solid Core Doors, Non-Rated: AWI Section 1300, Type PC – Agricultural fiber particleboard, no added urea formaldehyde.
- B. Solid Core, Fire Rated: AWI Section 1300, rating as noted on the schedule.
- C. Face Veneer: AWI Premium quality wood, WDMA "A" Grade, transparent finish.
1. Solid and Particleboard Core doors: rotary-cut, book matching White Birch.
- D. Cross Banding Behind Laminate Finish: manufacturer's standard construction.
- E. Facing Adhesive: Type I - waterproof.
- F. All components formaldehyde-free.
- 2.4 ACCESSORIES
- A. Wood Louvers:
1. Material and Finish: Same as noted above.
 2. Louver Blade: Stock shape.
- 2.5 FABRICATION
- A. Fabricate doors in accordance with AWI Quality Standards requirements.
- B. Furnish lock blocks at lock for hardware reinforcement.
- C. Vertical Exposed Edge of Stiles: Of compatible species as veneer facing for transparent finish.
- D. Fit door edge trim to edge of stiles after applying veneer facing.
- E. Bond edge banding to cores.

- F. Factory machine doors for finish hardware in accordance with hardware requirements and dimensions. Do not machine for surface hardware. Furnish solid blocking for through bolted hardware.
- G. Factory fit doors for frame opening dimensions identified on shop drawings.
- H. Cut and configure exterior door edge to receive recessed weather stripping devices.
- I. Provide edge clearances in accordance with AWI 1300.

2.6 SHOP FINISHING

- A. Finish work in accordance with AWI - Section 1500 Factory Finishing; Premium Quality, Transparent Type. Factory finish doors and frames in accordance with approved sample.
- B. Seal door top edge with clear sealer to match door facing.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify 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.

3.2 INSTALLATION

- A. Install doors in accordance with AWI Quality Standards requirements.
- B. Refer to Section 06 20 00 - Finish Carpentry for additional installation requirements, including special installation requirements for all pre-hung or field-hung solid core doors.
- C. Refer to Section 08 71 00 - Door Hardware for finish hardware requirements.
- D. Trim non-rated door width by cutting equally on both jamb edges.
- E. Trim door height by cutting bottom edges to maximum of 3/4 inch. Trim fire door height at bottom edge only, in accordance with fire rating requirements.
- F. Machine cut doors for hardware installation.
- G. Install door louvers plumb and level.
- H. Coordinate installation of glass and glazing specified in Section 08 80 00.

3.3 INSTALLATION TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Conform to AWI requirements for fit and clearance tolerances.
- C. Conform to AWI Section 1300 requirements for maximum diagonal distortion.

3.4 ADJUSTING

- A. Section 01 70 00 - Execution and Closeout Requirements: Testing, adjusting, and balancing.

- B. Adjust door for smooth and balanced door movement.
- C. Adjust closer for full closure.

END OF SECTION

SECTION 08 16 00

STEEL DOORS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes steel entrance doors and associated glazing.
- B. Related Sections:
 - 1. Section 06 10 00 – Rough Carpentry.
 - 2. Section 08 14 16 – Flush Wood Doors.
 - 3. Section 08 71 00 – Door Hardware.
 - 4. Section 09 90 00 – Painting and Coating.

1.2 REFERENCES

- A. American Architectural Manufacturer Association (AAMA):
 - 1. AAMA 1304 - Voluntary Specification for Forced Entry Resistance of Side-Hinged Door Systems.
 - 2. AAMA 506; Voluntary Specifications for Hurricane and Impact and Cycle Testing of Fenestration Products.
- B. ASTM International (ASTM):
 - 1. ASTM E283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Doors Under Specified Pressure Differences Across the Specimen.
 - 2. ASTM E330 - Standard Test Method for Structural Performance of Exterior Doors by Uniform Static Pressure Difference.
 - 3. ASTM E331 - Standard Test Method for Water Penetration of Exterior Doors by Uniform Static Air Pressure Difference.
 - 4. ASTM E547; Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Submit shop drawings indicating details of construction, flashings and relationship with adjacent construction.
- D. Samples: Architect shall review sample door on site to be incorporated into building construction.

1.4 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum 5 years' experience.

- B. Installer Qualifications: Minimum 2 years installing similar assemblies.
- C. Certifications: NAMI certification label indicating assemblies meet the design requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store assembly materials and components in manufacturer's original, unopened, undamaged containers with identification labels intact.
 - 1. Protect from damage and exposure to direct sunlight during storage.
 - 2. Store in a dry, well-ventilated area off the floor.
 - 3. During storage, do not remove paper or cardboard placed between products for shipment.
 - 4. Store in a humidity and temperature controlled facility. Recommended conditions: 30 to 50 percent relative humidity and 50 to 90 degrees F (10 to 32 degrees C).
- B. Handling: Handle with clean hands and equipment. Lift and carry the products when moving them. Do not drag across one another.
- C. Maintain environmental conditions; temperature, humidity, and ventilation, within limits recommended by manufacturer for optimum results. Install only in vertical walls and when conditions are dry. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.6 WARRANTY

- A. Manufacturer's Standard Warranty: Assemblies will be free from defects in materials and workmanship from the date of manufacture for the time periods indicated below:
 - 1. Door Slab: 10 Years.
 - 2. Door System: 10 Years.
 - 3. Auralast Frame: Lifetime.
 - 4. Steel Frame: See manufacturers separate warranty.

PART 2 PRODUCTS

2.1 STEEL ENTRANCE DOORS

- A. Manufacturers:
 - 1. Jeld-Wen, Inc.; Contours Series.
 - 2. Milliken Millwork; Majestic Series.
 - 3. Substitutions: Section 01 25 13 – Product Substitution Procedures.
- B. Product Description: Pre-primed galvanized steel skinned door 0.0195 in thickness with insulated polystyrene core and glass insert per door schedule.
- C. Fire Rating: 20 minutes or per door schedule.
- D. Finish: Primed, ready to paint per 09 90 00.
- E. NFRC Requirements: U=0.29.

2.2 PREHUNG HARDWOOD DOOR SYSTEMS

- A. Profile: Single Door.
- B. Jamb:

1. Material: Solid pine wood treated in accordance with WDMA I.S.4.
 2. Profile: Rabbeted.
 3. Width: 6-9/16 in.
- C. Casing: Brickmould.
- D. Hinges: Solid brass concealed-bearing.
1. Finish: Satin Nickel.
- E. Sills: Aluminum.

2.3 GLAZING

- A. Door Glazing:
1. Clear Glass: Clear Low-E.

2.4 CONSTRUCTION ACCESSORIES

- A. Flashing: Refer to Section 07 62 00 - Flashing and Sheet Metal and 07 65 00 Flexible Flashings.
- B. Sealants: Refer to Section 07 90 00 - Joint Protection.
- C. Sealants: Manufacturer recommended sealants to maintain watertight conditions.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Inspect doors prior to installation. Verify doors are suitable for installation
- B. Inspect rough opening for compliance with door manufacturer recommendations. Verify rough opening conditions are within recommended tolerances.

3.2 INSTALLATION

- A. Install doors in accordance with manufacturer's installation guidelines and recommendations.
- B. Install Jamb Assembly:
1. Caulk sill along outside edge and 1/2 in (13 mm) in from edge of subfloor.
 2. Set door unit into center of opening and tack in place.
 3. Shim hinge then latch side jambs straight. Inspect jamb for square, level and plumb.
 4. Shim and fasten top of unit.
 5. Fasten hinge side jamb to studs.
 6. Verify door opens freely and weatherstrip meets door evenly.
 7. Verify door sweep contacts threshold evenly.
 8. Fasten latch side jamb to studs.
- C. Caulk outside perimeter of door unit between brickmold and wall face, along front side of threshold, and between jamb sides and threshold.

3.3 PROTECTION

- A. Protect installed doors from damage.

END OF SECTION

SECTION 08 53 00

PLASTIC (PVC) WINDOWS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes factory fabricated tubular extruded plastic (PVC) windows with fixed and operating sash, factory glazed, with operating hardware and insect screens.
- B. Schedule of windows: refer to the drawings.
- C. Section includes detailed instructions for installation and testing of flanged windows.
- D. The Owner has established sustainability goals for this project, and this Section contains specific information and requirements for compliance. Refer to Section 01 81 13 for specific requirements.
- E. Related Sections:
 - 1. Section 06 10 00 - Rough Carpentry: Window Trim.
 - 2. Section 07 27 00 - Water-Resistive Barriers.
 - 3. Section 07 62 00 -Flashing and Sheet Metal
 - 4. Section 07 65 00 - Flexible Flashings.

1.2 REFERENCES

- A. American Architectural Manufacturers Association:
 - 1. AAMA 101 - Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors.
 - 2. AAMA 303 - Voluntary Specification for Poly (Vinyl Chloride) (PVC) Exterior Profile Extrusions.
 - 3. AAMA 613 - Voluntary Performance Requirements for Test Procedures for Organic Coatings on Plastic Profiles.
 - 4. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections.
 - 5. AAMA/I.S.2/A440-08 – AAMA Gold Label Program: North American Certification Program for Mass Manufactured Products (Harmonized CSA and 101 ANS).
- B. ASTM International:
 - 1. ASTM C1036 - Specification for Flat Glass.
 - 2. ASTM D3656 - Standard Specification for Insect Screening and Louver Cloth Woven from Vinyl-Coated Glass Yarns.
 - 3. ASTM D4726 - Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Exterior-Profile Extrusions Used for Assembled Windows and Doors.
 - 4. ASTM E2112-07 - Standard practice for Installation of Exterior Windows, Doors and Skylights.
 - 5. ASTM F588-07 – Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact.
- C. Glass Association of North America: GANA - Glazing Manual.

- D. National Fenestration Rating Council Incorporated: NFRC 100 - Procedures for Determining Fenestration Product U-Factors.

1.3 SYSTEM DESCRIPTION

- A. Windows: Extruded tubular plastic (PVC) sections, factory fabricated, vision glass, integral nailing flange, related flashings, anchorage and attachment devices.
- B. Configuration: Conform to AAMA 101 Designations for fixed and operating sash designs shown on the drawings.

1.4 PERFORMANCE REQUIREMENTS

- A. Deflection: Limit member deflection to 1/175 of longer dimension with full recovery of glazing materials.
- B. Thermal Resistance of Assembly: U-Value of 0.29 or better when measured in accordance with NFRC 100. Solar Heat Gain Coefficient (SHGC) of 0.23 or better.
- C. Condensation Resistance Factor: CRF of not less than [45] [50] when measured in accordance with AAMA 1503.
- D. System Internal Drainage: Drain water entering joints, condensation occurring in glazing channels, and migrating moisture occurring within system, to exterior by weep drainage network.
- E. Thermal Movement: Design sections to permit movement caused by thermal expansion and contraction of plastic to suit glass, infill, and perimeter opening construction.

1.5 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Window Schedule to indicate:
 - 1. Manufacturer
 - 2. Model number
 - 3. Operation
 - 4. U-factor
 - 5. SHGF value
 - 6. CR or CRF value
 - 7. Size
 - 8. Frame Color
 - 9. Glazing type
 - 10. CPD Number
- C. Shop Drawings: Submit window schedule indicating each unit size, rough-opening dimensions, framed opening tolerances, affected related work, and installation requirements.
- D. Product Data: Submit component dimensions, anchorage and fasteners, glass, internal drainage, and typical details.
- E. Samples: Submit samples illustrating window frame color.
- F. Manufacturer's Certificates: Certify Product performance ratings by independent third party such as AAMA, CAWM, or NFRC as meeting or exceeding specified requirements.

- G. Energy compliance labels: refer to paragraph 3.5 below.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with the following:
 - 1. Fabricate window assemblies in accordance with AAMA 101 for types of windows required.
 - 2. Insulated Glass: Fabricate insulated glass units in accordance with GANA (formerly FGMA) Glazing Manual.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing commercial windows with minimum three years experience.
- B. Installer: Company specializing in installation of commercial windows with minimum three years experience, and approved by manufacturer.

1.8 DELIVERY, STORAGE, AND PROTECTION

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Deliver to site in manufacturer's original unopened containers and packaging, with labels clearly identifying manufacturer and product name.
- C. Protect finished surfaces with wrapping and/or boxing. Do not use adhesive papers or sprayed coatings that bond when exposed to sunlight or weather.
- D. Jig, brace, and box window frame assemblies for transport to minimize flexing of members and to minimize flexing of joints.

1.9 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 - Product Requirements.
- B. Do not install window units when ambient temperature is above or below manufacturer's stated limits. Maintain this temperature range during and after installation of sealants.

1.10 WARRANTY

- A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.
- B. Furnish five-year manufacturer warranty for insulated glass units from seal failure, interpane dusting or misting, and replacement of same.
- C. Furnish five-year manufacturer warranty for degradation of plastic color finish.

PART 2 PRODUCTS

2.1 TUBULAR WINDOWS

- A. Listed Manufacturer: VPI Windows, Spokane, WA.
- B. Other Acceptable Manufacturers:
 - 1. Jeld Wen Premium Vinyl Series.
 - 2. Milgard Montecito Series.

3. Substitutions: Section 01 25 13 – Product Substitution Procedures.

- C. Product Description: VPI Synergy Series, extruded tubular plastic (PVC) window frames with welded corner construction. Configurations of fixed and operable sash as scheduled on the drawings.

2.2 COMPONENTS

- A. Frame: Extruded multi-chambered PVC frame with integral ultra-violet degradation resistance, continuous integral nailing fin; nominal depth 3 inches; nominal wall thickness 0.050 to 0.080 inches; corners mitered and heat welded. Color: White.
- B. Energy conservation requirements: per Window Schedule on the Drawings.
- C. Hardware: Sash lock: Lever handle with cam lock. Install at factory.
- D. Sills: Tubular; sloped for positive wash; one-piece full width of opening.
- E. Operable Sash Weather Stripping: Manufacturer's standard; permanently resilient, profiled to effect weather seal.
- F. Insect Screen Frame: manufacturer's standard frame of rectangular sections; nominal size similar to operable glazed unit.
- G. Insect Screens: ASTM D3656, Class 2, 18 by 14 mesh, gray color.

2.3 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's standard.
- B. Limit Stops: Manufacturer's standard.

2.4 FABRICATION

- A. Fabricate framing, integral fin, mullions and sash members with fusion welded corners and joints, in rigid jig. Supplement frame sections with internal reinforcement where required for structural rigidity. Standard weep drains in sill sections.
- B. Form T-bar joined units at the factory, with internal steel reinforcement as necessary to meet performance standards.
- C. Form sills in one piece. Slope sills to drain to the exterior.
- D. Form snap-in glass stops, closure molds, weather stops, and flashings for tight fit into window frame section. Include weep drains in sill stops, manufacturer's standard.
- E. Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.
- F. Arrange fasteners to be concealed from view.
- G. Permit internal drainage weep holes and channels to migrate moisture to exterior. Furnish internal drainage of glazing spaces to exterior through weep holes.
- H. Assemble insect screen frame, miter and reinforced frame corners. Fit mesh taut into frame and secure. Fit frame with four spring loaded steel pin retainers, or as otherwise standard with the manufacturer.
- I. Weatherstrip operable units.

- J. Factory glaze window units.

2.5 FINISHES

- A. Exterior surfaces: White.
- B. Interior Surfaces: Same as exterior.
- C. Screens: Frame color to match exterior frame color, with light-colored screening.
- D. Pull Handles, Locks, and Exposed Hardware: Baked enamel color as selected by Architect from standard color choices (Adobe).

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify wall openings and adjoining air and vapor seal materials are ready to receive Work of this Section. Refer to step-by-step procedure for wrapping rough openings shown on the drawings.
- C. Verify that window units are sized as required to provide an open perimeter shim space of not less than 1/4" nor more than 1/2" in any location, or as otherwise required by the manufacturer.
- D. Prior to installation, examine each window unit to assure that it is not damaged in any way. Do not install units that are damaged.

3.2 INSTALLATION

- A. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.
- B. Align window plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent Work.
- C. Just prior to installation, apply a generous bead of sealant under the head and jamb nailing flanges. Do not apply sealant to sill nailing flange.
- D. Insert and center window in opening, adjust as needed to assure unit is completely plumb, level and straight. Operate ventilation sash to assure it operates properly. Fasten unit as shown on the drawings. Do not fasten the head flange except as noted below.
- E. For units exceeding 24" width, fasten head flange with fasteners placed through washers approximately 3/8" above tops of nail flanges so that washers hold the flange tight to the sheathing while allowing differential header deflection without imposing building loads to the window.
- F. Insert plastic shims under the sill flange to promote water drainage under the sill frame. Follow manufacturer's instructions for placement of flange fasteners at the jamb flange and at the sill flange.
- G. Proceed with perimeter flashing installation as shown on the drawings.

- H. Provide thermal isolation where components penetrate or disrupt building insulation. Install backer rod and sealant in shim spaces at perimeter of assembly to maintain continuity of thermal barrier. Refer to drawing details.
- I. Coordinate attachment and seal of perimeter air and vapor retarder materials.
- J. Adjust hardware for smooth operation and secure weathertight closure.

3.3 ERECTION TOLERANCES

- A. ADJUSTING Section 01 40 00 - Quality Requirements: Tolerances.
- B. Maximum Variation from Level or Plumb: 1/16 inches every 3 ft non-cumulative or 1/8 inches per 10 ft, whichever is less.

3.4 REMOVING ENERGY-PERFORMANCE LABELS

- A. Remove energy-performance labels from window glass only after the Building Inspector has reviewed and approved the installation.
- B. Carefully remove labels, and provide the General Contractor with three undamaged labels from each separate window type (fixed, single-hung, casement, etc.) for the Project Manual to be provided to the Owner.

3.5 CLEANING

- A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.
- B. Remove protective material from pre-finished surfaces.
- C. Wash surfaces by method recommended and acceptable to sealant and window manufacturer; rinse and wipe surfaces clean.
- D. Remove excess sealant by moderate use of mineral spirits or other solvent acceptable to sealant manufacturer.

END OF SECTION

SECTION 08 71 00

DOOR HARDWARE

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes hardware for wood and steel doors.
 - 1. Provide complete finish hardware and suitable fastenings in accordance with drawings, schedules, and specifications.
 - 2. Provide door gaskets, including weather stripping and seals, and thresholds.
 - 3. Provide items not specifically mentioned but required to complete the work, matching quality and finish of the specified item.
- B. Related Sections:
 - 1. Section 06 20 00 - Finish Carpentry.
 - 2. Section 08 14 16 - Flush Wood Doors.
 - 3. Section 08 11 15 - Hollow Metal Doors and Frames.

1.2 REFERENCES

- A. American National Standards Institute:
 - 1. ANSI A156 - Complete Set of 24 BHMA Standards (A156 Series) with Binder.
- B. Builders Hardware Manufacturers Association: BHMA Directory of Certified Products.

1.3 SUBMITTALS

- A. Product data including manufacturers' technical product data for each item of door hardware installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
- B. Templates for doors, frames, and other work specified to be factory prepared for the installation of door hardware. Check shop drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

1.4 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.
- B. Operation and Maintenance Data: Submit data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
- C. Keys: Deliver with identifying tags to Owner.
- D. Special Tools: The contractor is to provide to the owner two sets of any special tools shipped with the finish hardware products required for maintenance and installation. Deliver to owner at completions of work.

1.5 QUALITY ASSURANCE

- A. Single Source Responsibility: Obtain each type of hardware (latch and lock sets, hinges, closers, etc.) from a single manufacturer.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum five years documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Package hardware items individually with necessary fasteners, instructions, and installation templates, when necessary; label and identify each package with door opening code to match hardware schedule.

1.8 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate Work with other directly affected sections involving manufacture or fabrication of internal reinforcement for door hardware and recessed items. Provide templates or actual hardware as required to ensure proper preparation of doors and frames.

1.9 WARRANTY

- A. Furnish manufacturer's standard warranty for all products.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Provide products listed in in sufficient quantities to complete the job requirements. Items by Alternate Manufacturers may be submitted subject to the acceptance of the architect that they meet the specified requirements.

HARDWARE	SPECIFIED MANUFACTURER
1. Butts & Hinges:	IVES (IV)
2. Mortise locks:	Schlage (SC)
3. Cylindrical Locks	Schlage (SC)
4. Passage Hardware	Schlage (SC)

- B. Any item occurring in the Hardware Schedule but not listed in this section shall be furnished as shown in the schedule unless otherwise approved by the Architect.

2.02 HARDWARE FINISH

- A. Finish of locksets, and nonferrous hinges shall be Bright Brass (605).

2.03 HINGES

- A. Type: As scheduled.
- B. Size: 3'0" wide and under – 4-1/2" x 4-1/2".
- C. Quantity: 3 each up to and including 90" in height.

2.04 LOCKSETS

- A. Design Levon
- B. Backset: 2 3/4"
- C. Locksets and latch sets shall be furnished with curved lip strikes having sufficient strike lip to protect trim.
- D. Cylindrical locksets: All cylindrical locksets and latch sets shall be the product of one manufacturer with function as indicated in the hardware groups. Locksets and latch sets shall be Grade 1 or Grade 2 as indicated below and shall be U.L. listed for use on fire doors.

2.05 KEYING

- A. Key Quantities: 2 each Master Keys.

2.11 STOPS

- A. Provide proper size stop for door width.

2.13 GASKET AND THRESHOLD

- A. As specified on hardware schedule.
- B. Provide material of proper size and configuration for the specified opening.

PART 3 - EXECUTION

3.01 HARDWARE INSTALLATION

- A. Set units level, plumb, and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- B. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.
- C. Set thresholds for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant complying with requirements specified in Division 7 Section "Joint Sealers".
- D. Weatherstripping and Seals: Comply with manufacturer's instructions and recommendations to the extent installation requirements are not otherwise indicated.
- E. Contractor to provide adequate backing in walls for wall mounted items, i.e. wall stops.

3.02 ADJUSTING, CLEANING AND DEMONSTRATING:

- A. Adjust and check each operating item of hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate freely and smoothly or as intended for the application made. Where hardware is installed more than one month prior to the acceptance or occupancy of a space or area, the installer is to return to the installation during the week prior to the acceptance or occupancy and make a final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Clean any adjacent surfaces soiled by hardware operation.

3.03 HARDWARE GROUPS

- A. Refer to door schedule and related information concerning the following hardware groups. Quantities indicated in any instance are for supplier convenience only and are not guaranteed.
- B. Hardware Group Listings

Hardware Group 1 (D01)

3	EA	Hinge
1	EA	Cylindrical Lock (AL53PDSAT605)
1	EA	Dead Bolt (B560 -605)
1	EA	Wall Stop
1	EA	Threshold
1	EA	Gasketing
1	EA	Viewport
1	EA	Sweep

Hardware Group 2 (D02)

3	EA	Hinge
1	EA	Wall Stop
1	EA	Privacy Lock (A40SLEV605)

Hardware Group 3 (D03/D04/D05/D09)

3	EA	Hinge
1	EA	Passage Lock (A10SLEV605) Privacy Lock at Bath (A40SLEV605)
1	EA	Wall Stop as required

Hardware Group 4 (D06/D08)

3	EA	Hinge
1	EA	Cylindrical Lock (AL53PDSAT605)
1	EA	Dead Bolt (B560 -605)
1	EA	Wall Stop
1	EA	Threshold
1	EA	Gasketing
1	EA	Sweep

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Hardware Group 5 (D10)

1 EA Bypass Closet Door Track

Hardware Group 6 (D11)

1 EA Pocket Door Hardware

1 EA Privacy Lock (990-605)

END OF SECTION

SECTION 08 90 00

LOUVERS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes fixed louvers, frames and accessories.
- B. Related Sections:
 - 1. Section 07 46 00 – Fiber Cement Siding
 - 2. Section 07 90 00 - Joint Protection.
 - 3. Section 09 90 00 - Painting and Coating.

1.2 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data describing design characteristics, maximum, design free area, materials and finishes.
- C. Color Charts: Submit manufacturers standard colors for selection.

1.3 QUALIFICATIONS

Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years experience.

1.4 FIELD MEASUREMENTS

Verify field measurements prior to purchase.

1.5 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

1.6 WARRANTY

- A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.
- B. Furnish manufacturer warranty for louvers. Include coverage for degradation of factory-applied finish.

PART 2 PRODUCTS

2.1 WALL LOUVERS

- A. Manufacturers:
 - 1. Builders Edge or approved equal.
- B. Louver Construction: 2-piece molded PVC.
- C. Louver Panel Thickness: Nominal 2 inches deep.
- D. Louver Blade Design: Sloped to drain to the exterior.

- E. Insect Screen: fiberglass mesh, set in frame, manufacturer's standard and compatible with louver material.

2.2 ACCESSORIES

- A. Fasteners and Anchors: Aluminum or stainless steel type, manufacturer's standard.
- B. Sealants: type specified in Section 07 90 00.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify prepared openings and flashings are ready to receive Work and opening dimensions are as indicated.

3.2 INSTALLATION

- A. Install louvers level and plumb.
- B. Align louver assembly to ensure moisture shed from flashings and diversion of moisture to exterior.
- C. Secure louvers in opening with concealed fasteners.
- D. Install perimeter sealant per Section 07 90 00.

3.3 CLEANING

- A. Strip protective finish coverings. Clean surfaces and components.

END OF SECTION

SECTION 09 21 16

GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes gypsum board and joint treatment and textured finish.
- B. Related Sections:
 - 1. Section 06 10 00 - Rough Carpentry.
 - 2. Section 07 21 16 - Blanket Insulation.
 - 3. Section 12 36 61 - Solid Surface Countertops and Wall Surfaces.
 - 4. Section 10 28 00 - Toilet, Bath and Laundry Accessories.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM C1396 - Specification for Gypsum Board.
 - 2. ASTM C475 - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
 - 3. ASTM C514 - Standard Specification for Nails for the Application of Gypsum Board.
 - 4. ASTM C557 - Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing.
 - 5. ASTM C630/C630M - Standard Specification for Water-Resistant Gypsum Backing Board.
 - 6. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
- B. Gypsum Association:
 - 1. GA 214 - Recommended Levels of Gypsum Board Finish.
 - 2. GA 216 - Application and Finishing of Gypsum Board.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on gypsum board, joint materials, fasteners, surface texturing products.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with GA-214 and GA-216.

1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years experience.
- B. Installer: Company specializing in performing Work of this section with minimum three years experience.

PART 2 PRODUCTS

2.1 GYPSUM BOARD ASSEMBLIES

- A. Acceptable Manufacturers:
1. USG Corporation
 2. Celotex Building Products.
 3. G-P Gypsum Corp.
 4. National Gypsum Co.

2.2 COMPONENTS

- A. Gypsum Board Materials:
1. Standard Gypsum Board: ASTM C36; 1/2 and 5/8 inch thick, maximum available length in place; ends square cut, tapered edges, non-paper faced.
 2. Fire Rated Gypsum Board: ASTM C36; fire resistive type, UL or WH rated; 5/8 inch thick, maximum available length in place; ends square cut, tapered edges, non-paper faced.
 3. Moisture Resistant Interior Gypsum Board, wall and ceiling applications: ASTM C630; 5/8 inch thick, maximum available length in place; ends square cut, tapered edges. USG Fiberock Brand Aqua-Tough Gypsum Interior Panels or approved equal, non-paper faced.

2.3 ACCESSORIES

- A. Acoustic Insulation: ASTM C665; Refer to Section 07 21 16.
- B. Acoustic Sealant: Non-hardening, non-skinning, for use in conjunction with gypsum board.
- C. Trim Accessories: Provide manufacturer's standard hot-dipped galvanized ASTM C 840 steel beaded units with nailing flanges for concealment in joint compound.
1. Corner beads: Metal, or metal and paper combination.
 2. L-type and J-type trim beads, for flush joint compound use.
 3. Special shapes shown on the drawings.
- D. Joint Materials: ASTM C475; reinforcing tape, joint compound, adhesive, and water.
- E. Textured Finish Materials: Latex based texturing material, manufactured by National Gypsum Co., Gold Bond Building Products, U.S. Gypsum Company.
- F. Paint Primer: refer to Section 09 90 00.
- G. Fasteners: ASTM C1002, Type W for wood framing.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify site conditions are ready to receive work.
- C. Verify wood framing moisture content is 19% or lower.

3.2 INSTALLATION

- A. Acoustic Accessories Installation:
 - 1. Place acoustic insulation in partitions tight within spaces, around cut openings, behind and around electrical and mechanical items within or behind partitions, and tight to items passing through partitions.
 - 2. Install acoustic sealant at gypsum board perimeter.
 - a. Seal penetrations of partitions by conduit, pipe, duct work, rough-in boxes, and the like.
- B. Gypsum Board Installation:
 - 1. Install gypsum board in accordance with GA-216 and GA-600.
 - 2. Erect single layer board horizontal, with ends and edges occurring over firm bearing.
 - 3. Erect single or double layer fire rated gypsum board as directed in the drawings, with edges and ends occurring over firm bearing.
 - 4. Use nails or screws when fastening gypsum board to wood furring or framing. Staples may not be used.
 - 5. Treat cut edges and holes in moisture resistant gypsum board and exterior gypsum soffit board with sealant.
 - 6. Place corner beads at external corners. Use longest practical length.
- C. Installation in bathrooms: install moisture-resistant interior gypsum board at all wall and ceiling surfaces.
- D. Joint Treatment:
 - 1. Finish in accordance NWCB Level 4 finish.
 - 2. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 - 3. Feather coats on to adjoining surfaces so that camber is maximum 1/32 inch.
 - 4. Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile.
- E. Finish: Level 3 finish; apply to all walls and ceilings except those walls scheduled for wall covering.

3.3 ERECTION TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from Flat Surface: 1/8" in 10 ft.

END OF SECTION

SECTION 09 65 00

RESILIENT FLOORING AND BASE

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes vinyl composition tiles; resilient flooring sheet products; resilient base; and accessories.
- B. Related Sections:
 - 1. Section 06 10 00 – Rough Carpentry – Sheathing Underlayment.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM E662 - Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
 - 2. ASTM F1066 - Standard Specification for Vinyl Composition Floor Tile.
 - 3. ASTM F1303 - Standard Specification for Sheet Vinyl Floor Covering with Backing.
 - 4. ASTM F1344 - Standard Specification for Rubber Floor Tile.
 - 5. ASTM F1861 - Standard Specification for Resilient Wall Base.
- B. Federal Specification Unit:
 - 1. FS L-F-475 - Floor Covering Vinyl, Surface (Tile and Roll), with Backing.
 - 2. FS RR-T-650 - Treads, Metallic and Nonmetallic, Skid Resistant.
- C. National Fire Protection Association: NFPA 253 - Standard Method of Test for Critical Radiant Flux for Floor Covering Systems Using a Radiant Heat Energy Source.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate seaming plan, custom patterns and inlay designs indicated on the Drawings.
- C. Product Data: Submit data describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions. Include standard line of product for Architect's selection/confirmation of colors.
- D. Samples: Submit two sets of manufacturer's complete set of color samples for Architect's selection/confirmation of colors.
- E. Submit certification from manufacturer stating the percentage of recycled content material, identifying post-consumer and post-industrial contents.
- F. Submit certification from manufacturer verifying the location of the manufacturer, including full address and phone number, and list of materials harvested, extracted or recovered within 500 miles of the project site.
- G. Provide Scientific Certification System's FloorScore certification compliance documentation.

1.4 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

- B. Operation and Maintenance Data: Submit maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.5 QUALITY ASSURANCE

- A. Surface Burning Characteristics:
 - 1. Floor Finishes and Stair Coverings: Class I, minimum 0.45 watts/sq cm, or Class II, minimum 0.22 watts/sq cm when tested in accordance with NFPA 253.
 - 2. Base Material: Class I, minimum 0.45 watts/sq cm when tested in accordance with NFPA 253.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years experience.
- B. Installer: Company specializing in performing Work of this section, and certified Forbo Installer, with minimum five years experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Protect roll materials from damage by storing in a method consistent with manufacturer's instructions.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 - Product Requirements.
- B. Maintain temperature in storage area between 55 degrees F and 90 degrees F, or as otherwise required by the manufacturer.
- C. Store materials for not less than 48 hours prior to installation in area of installation at temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

1.9 EXTRA MATERIALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Spare parts and maintenance products.
- B. Furnish 50 sq ft of flooring, 20 lineal feet of base, and two each of riser cover and tread cover of installed stair materials of each type and color specified.

PART 2 PRODUCTS

2.1 SHEET FLOORING - Linoluem

- A. Listed Manufacturer and Product: Forbo Linoleum, Inc., Real Authentic series sheet marmoleum, with Topshield Performance.
- B. Other Manufacturers, only accepted if products are bio-based:
 - 1. Armstrong World Industries, Inc.
 - 2. Mannington Commercial.

3. Substitutions: Section 01 25 13 – Product Substitution Procedures.
- C. Performance Characteristics:
1. Meets or exceeds ASTM F2034 for linoleum flooring.
 2. Incorporation of a bacteriostat in the exposed surface to protect against fungal activity.
 3. Meet slip resistance of ADA requirements when tested according to ASTM D2047.
 4. Fire resistance: Smoke density 450 or less when tested in accordance with ASTM E662 and NFPA 258.
 5. Critical radiant flux: Class 1 according to ASTM E648 and NFPA 253.
 6. Impact sound reduction: 6 db.
 7. Roll width: 79 inches.
 8. Gauge: 1/10", 2.5 mm.
 9. Heat welded seams.
 10. SCS FloorScore certification
 11. Five-year warranty.
 12. Up to two (2) colors: as selected by Architect from the manufacturer's standard line.

2.2 SHEET FLOORING – Vinyl

- A. Listed Manufacturer and Product:
1. Tarkett "Fiber Floor Footnotes"
 2. Substitutions: Section 01 60 00 - Product Requirements.
- B. Vinyl Sheet with Backing: ASTM F1303, Class C, Type 1, Grade 1, color and pattern through surface wear thickness.
1. Meet flexibility and indentation resistance requirements of ASTM F1303.
 2. Meet chemical resistance requirements of ASTM F925.
 3. Vinyl Wear Thickness: 20 mil minimum.
 4. Total Thickness: 0.085-inch (2.0 mm) minimum.
 5. Heat welded seams.
 6. Warranty: 20-year residential limited warranty.
 7. Color: Blue Grey 58003.

2.3 VINYL PLANK FLOORING

- A. Acceptable Manufacturers:
1. Mannington "Adura"
 2. Armstrong "Arbor Art"
 3. Substitutions: Section 01 60 00 – Product Requirements
- B. Vinyl Plank:
1. Size: 6 x 48 inch.
 2. Thickness: .125 inch.
 3. Warranty: 5-year product warranty.
 4. Pattern, Color(s): Selected by the Architect from the full line.
 5. Installation Adhesive: Per manufacturer.
 6. Locations: Install in location indicated on plans.

2.4 RESILIENT BASE

- A. Manufacturers:

- 1.
 2. Burke Industries Inc.
 3. Substitutions: Section 01 60 00 – Product Requirements.
- B. Base: ASTM F1861 Rubber; top set coved, solid color throughout.
1. Height: 4-inch high.
 2. Finish: Satin.
 3. Length: Roll.
 4. Rubber reducer strips at all edges of resilient flooring.
 5. Colors: 201 Chocolate.

2.5 ACCESSORIES

- A. Subfloor Filler: Cementitious or premix latex, type recommended by adhesive material manufacturer and flooring manufacturer, Low-VOC.
- B. Primers and Adhesives: Waterproof, Low-VOC, types recommended by flooring manufacturer.
- C. Moldings and Edge Strips: Same material as flooring, unless otherwise indicated.
- D. Sheet Flooring Vinyl Welding Rod: Solid vinyl bead produced by manufacturer of vinyl flooring for heat welding seams, in color matching field color.
- E. Filler for Coved Base: manufacturer's standard.
- F. Transition strips between VCT, resilient sheet flooring, and/or carpet: Roppe, or other listed manufactures. Color selected by architect.
- G. Sealer and Wax: Types recommended by flooring manufacturer rated for high-traffic areas. (2) coats minimum installed.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.
- B. An adhesive bond test shall be performed and passed prior to beginning installations.

3.2 PREPARATION

- A. Remove sub-floor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with sub-floor filler to achieve smooth, flat, hard surface. Note that some manufacturers require only Portland cement based patching and leveling materials be used for their products.
- B. Prohibit traffic until filler is cured.
- C. Clean substrate.
- D. Apply primer as required to prevent "bleed-thru" or interference with adhesion by substances that cannot be removed. Apply primer to surfaces required by the manufacturer.

3.3 INSTALLATION - SHEET FLOORING

- A. Lay flooring with joints and seams parallel to longer room dimensions, to produce minimum number of seams. Lay out seams to avoid widths less than 1/3 of roll width; match patterns carefully at seams.
- B. Double cut sheet; provide heat-welded seams.
- C. Where floor finishes are different on opposite sides of door, terminate flooring under centerline of door.
- D. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated. Secure resilient strips by adhesive.
- E. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.
- F. Install flooring into the flange of floor drains. If flange-type drain is not installed, butt flooring to edge of drain and seal interface with same sealant used at other joints.
- G. Install flooring in recessed floor access covers. Maintain floor pattern.
- H. At movable partitions, install flooring under partitions without interrupting floor pattern.
- I. Install feature strips and floor markings where indicated. Fit joints tightly.

3.4 INSTALLATION - LVT:

- A. Cement directly to substrate in accordance with manufacturer's standard specifications and referenced trade standard.
- B. Prepare seams per manufacturer's instructions.

3.5 INSTALLATION - BASE

- A. Fit joints tightly and make vertical. Install roll stock, and maintain minimum dimension of 18 inches between joints.
- B. Miter internal corners.
- C. Install base on solid backing. Bond tightly to wall and floor surfaces.
- D. Scribe and fit to door frames and other interruptions.

3.6 CLEANING

- A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.
- B. Remove excess adhesive from floor, base, and wall surfaces without damage.
- C. Clean, seal, and maintain resilient flooring products.

3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Section 01 70 00 - Execution and Closeout Requirements: Protecting installed construction.
- B. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

SECTION 09 68 16
SHEET CARPETING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Sheet carpet over pad as indicated by the drawings.
- B. Related Sections:
 - 1. Section 06 10 00 - Rough Carpentry.
 - 2. Section 09 65 00 - Resilient Flooring and Base.

1.2 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.
- C. Samples: Submit two samples 4 x 4 inch in size illustrating color and pattern.
- D. Manufacturer's Installation Instructions: Submit special procedures, perimeter conditions and conditions requiring special attention.

1.3 QUALITY ASSURANCE

- A. Surface Burning Characteristics:
 - 1. Floor Finishes: Comply with the following:
 - a. Class I, ASTM E-648.
- B. Qualifications:
 - 1. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years' experience.
 - 2. Installer: Company specializing in performing work of this section with minimum three years' experience.

1.4 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 - Product Requirements.
- B. Store materials in area of installation for 48 hours prior to installation.
- C. Maintain minimum 70 degrees F ambient temperature for three days prior to, during and 24 hours after installation, or as required by the manufacturer.
- D. Ventilate installation area during installation and for three days after installation.

1.5 WARRANTY

- A. Provide Owner with written manufacturer's warranty covering the following:
1. Warranty to be "non-prorate, full replacement warranty, including all labor".
 2. Warranty to include:
 - a. 10 years on surface wear.
 - b. 10 years on backing delimitation.
 - c. 10 years on seam construction.
 - d. 10 years on color fastness upon exposure to light and other atmospheric contaminants.

PART 2 PRODUCTS

2.1 RESIDENTIAL CARPET

- A. Listed Manufacturer:
1. Basis of Design – Bolyu Oxford III.
 2. Substitutions accepted, see Section 01 60 00 - Product Requirements.
- B. Carpet:
1. Manufacturer: Bolyu, or approved equal.
 2. Style: Oxford III
 3. Color: 8702 – Amber Sand.
 4. Description: Solution dyed pattern loop nylon.
 5. Primary Backing Material: 100% synthetic.
 6. Total Weight: 28 oz/sq yd.
 7. Location: As identified on Drawings.
- C. Carpet Pad
1. Basis of Design style name: Shaw Premium Touch (111PD)
Alt: Mohawk Guardian Cushion
 2. Substitutions accepted, see Section 01 60 00 - Product Requirements.
 3. Description: Waterproof foam pad
 4. Thickness: 7/16"

2.2 ACCESSORIES

- A. Sub-Floor Filler: Cementitious Type recommended by flooring material manufacturer.
- B. Moldings and Edge Strips: Rubber or vinyl, color selected by Architect.
- C. Seam Adhesive: Recommended by manufacturer.
- D. Contact Adhesive: Recommended by carpet manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify floor surfaces are smooth and flat within industry tolerances and are ready to receive work.

3.2 PREPARATION

- A. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with sub-floor filler.
- B. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.
- C. Vacuum clean substrate.

3.3 INSTALLATION

- A. Install carpet in accordance with CRI 104.
- B. Verify carpet match before cutting to ensure minimal variation between dye lots.
- C. Lay out carpet and locate seams in accordance with CRI 104 section 6:
 - 1. Locate seams in area of least traffic, out of areas of pivoting traffic, and parallel to main traffic.
 - 2. Do not locate seams perpendicular through door openings.
 - 3. Align run of pile in same direction as anticipated traffic and in same direction on adjacent pieces.
 - 4. Locate change of color or pattern between rooms under door centerline.
 - 5. Provide monolithic color, pattern, and texture match within each contiguous area.
- D. Install carpet tight and flat on subfloor, well fastened at edges, with uniform appearance.
- E. Make cuts straight, true, and unfrayed. Apply seam adhesive to cut edges of woven carpet immediately.
- F. Trim carpet neatly at walls and around interruptions.
- G. Stretch-in Installations: CRI 104 Section 12.
 - 1. Use stretch in installation at all residential units with carpet.
 - 2. Install 1" tackstrip. Pins must not protrude through carpet. Avoid installing tackstrip across door openings.
 - 3. Install carpet cushion in the longest continuous lengths possible, with cushion seams placed at right angles to carpet seams. Trim flush with the inside of tackstrip and fasten to floor with staples.
 - 4. Follow manufacturer recommendations for seaming.
 - 5. Power stretch carpet and hook onto tackstrip.
- H. Direct Glue-Down Installation: CRI 104 Section 9.

1. Use glue down installation at all common areas with carpet.
 2. Apply contact adhesive to floor uniformly at rate recommended by manufacturer. After sufficient open time, press carpet into adhesive.
 3. Apply seam adhesive. Lay adjoining piece with seam straight, not overlapped or peaked, and free of gaps.
 4. Roll with appropriate roller for complete contact of adhesive to carpet backing.
 5. Following seaming, hook carpet onto tackless strip at one edge, power stretch, and hook firmly at other edges. Follow manufacturer's recommendations for method and amount of stretch.
- I. Installation On Stairs - Direct Glue-Down Method: CRI 104 Section 13.
1. Stair nosing must be rounded to 1 inch (radius) to allow carpet contact with nosing.
 2. Use one piece of carpet for each tread and riser below. Apply seam adhesive to cut edges.
 3. Install carpet with pile direction in length of stair.
 4. Adhere carpet tight to stair treads and risers.

3.4 CLEANING

- A. Remove excess adhesive without damage, from floor, base, and wall surfaces.
- B. Clean and vacuum carpet surfaces.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

- A. Do not permit traffic over unprotected floor surface.
- B. Cover carpeting in traffic areas with protective non-staining building paper. Do not use plastic sheeting.

END OF SECTION

SECTION 09 72 00

WALL COVERINGS - ALTERNATE

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and installation of plastic laminate wall coverings for tub surrounds.
- B. Related Sections:
 - 1. Section 06 20 00 - Plastic Laminate Fabrications (countertops).
 - 2. Section 09 21 16 - Gypsum Board Assemblies.
 - 3. Section 09 90 00 - Painting and Coating.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials.
 - 2. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 3. ASTM F793 - Standard Classification of Wallcovering by Durability Characteristics.
- B. Federal Specification Unit: FS L-P-1040 - Plastic Sheets and Strips (Polyvinyl Fluoride).
- C. National Electrical Manufacturers Association: NEMA LD 3 - High Pressure Decorative Laminates.
- D. National Fire Protection Association:
 - 1. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.
 - 2. NFPA 265 - Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile Coverings on Full Height Panels and Walls.
- E. Underwriters Laboratories Inc.: UL 723 - Tests for Surface Burning Characteristics of Building Materials.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on covering and adhesive.
- C. Samples: submit two samples of selected color/texture, 8"x10" size of each selection.
- D. VOC Limits: Include manufacturer's literature for each adhesive, coating and sealant used in this Section identifying VOC limits and chemical components. All adhesives must conform to the South Coast Air Quality Management District Rule 1168 and all sealants must conform to Bay Area Air Quality Management District - Regulation 8, Rule 51.

1.4 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.
- B. Operation and Maintenance Data: Submit data on cleaning, touch-up, and repair of covered surfaces.

1.5 QUALITY ASSURANCE

- A. Surface Burning Characteristics:
 - 1. Textile Wall Coverings: Comply with one of the following:
 - a. Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84.
 - b. Comply with requirements of applicable code when tested in accordance with NFPA 265 Method A or Method B test protocols.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum five years experience.
- B. Installer: Company or individual specializing in performing work of this section with minimum three years experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Inspect materials on site to verify acceptance.
- C. Protect packaged adhesive from temperature cycling and extreme temperatures.
- D. Store goods consistent with manufacturer's instructions.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 - Product Requirements.
- B. Do not apply materials when surface and ambient temperatures are outside temperature ranges required by adhesive or vinyl covering product manufacturer.
- C. Maintain these conditions 24 hours before, during, and after installation of adhesive and covering.

PART II PRODUCTS

2.1 PLASTIC LAMINATE WALL COVERING

- A. Manufacturers:
 - 1. Wilsonart.
 - 2. Nevamar.
 - 3. Substitutions: Section 01 25 13 – Product Substitution Procedures.
- B. Wall Covering: High pressure plastic laminate, NEMA LD3, GP28 for vertical surfaces, pattern and colors selected by the Architect from the manufacturer's standard line. Tub surrounds shall be one piece with no seams and with an interior radius at corners no larger than 1/2".
- C. Adhesive: contact adhesive type recommended by covering manufacturer to suit application to substrate, water based contact type, Low-VOC.

- D. Termination Trim: PVC at edges, smooth finish, color selected by Architect.
- E. Substrate Filler: As recommended by adhesive and covering manufacturers; compatible with substrate, Low-VOC.
- F. Substrate Primer and Sealer: Alkyd enamel type.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify substrate surfaces are ready to receive work, and conform to requirements of covering manufacturer.
- C. Verify flatness tolerance of surfaces does not vary more than 1/8 inch in 10 feet, nor vary at rate greater than 1/16 inch/ft.

3.2 PREPARATION FOR PLASTIC LAMINATE WALL COVERING

- A. Fill cracks in substrate and smooth irregularities with filler; sand smooth.
- B. Surface Appurtenances: Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.
- C. Surfaces: Correct defects and clean surfaces which affect work of this section.
- D. Marks: Seal with shellac those which may bleed through surface finishes.
- E. If required by manufacturer, apply one coat of primer sealer to substrate surfaces. Allow to dry. Lightly sand smooth.
- F. Vacuum clean surfaces free of loose particles.

3.3 INSTALLATION OF PLASTIC LAMINATE WALL COVERING

- A. Apply adhesive to surface immediately prior to application of covering. Let contact adhesive set tack free.
- B. Razor trim edges on flat work table, changing blade often to prevent rough cut edges. Do not razor cut on gypsum board surfaces. Do not cut paper surface of gypsum board.
- C. Apply covering smooth, without wrinkles, gaps or overlaps. Eliminate air pockets and ensure full bond to substrate surface. Horizontal or vertical seams are not acceptable.
- D. Install termination trim.
- E. Remove excess adhesive while wet from edges. Wipe clean with dry cloth.

3.4 CLEANING

- A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.
- B. Clean coverings of excess adhesive, dust, dirt, and other contaminants.
- C. Reinstall wall plates and accessories removed prior to work of this section.

END OF SECTION

SECTION 09 90 00

PAINTING AND COATING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and field application of paints, stains, varnishes, and other coatings. Also included are shop applied transparent finishes for interior millwork, doors and frames.
- B. Related Sections:
 - 1. Section 06 20 00 - Finish Carpentry.
 - 2. Section 08 14 16 - Flush Wood Doors.
 - 3. Section 08 16 00 - Steel Doors.
 - 4. Section 09 21 16 - Gypsum Board Assemblies.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM D16 - Standard Terminology Relating to Paint, Varnish, Lacquer, and Related Products.
 - 2. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials.
 - 3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. National Fire Protection Association: NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.
- C. Painting and Decorating Contractors of America: PDCA - Architectural Painting Specification Manual.
- D. Underwriters Laboratories Inc.: UL 723 - Tests for Surface Burning Characteristics of Building Materials.
- E. Green Seal Standard GS-11
- F. Regulation 8 Rule 51 of the Bay Area Air Quality Management District

1.3 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this section.

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on finishing products.
- C. Samples:
 - 1. Submit two painted samples (draw-downs) illustrating selected colors for each color and system selected. Submit on illustration board stock 8x10 inch size.
 - 2. Submit two samples of wood door veneer with shop-applied transparent finish, illustrating wood grain, stain color and sheen. Refer to Section 08 14 00.

- D. Manufacturer's Installation Instructions: Submit special surface preparation procedures, substrate conditions requiring special attention.
- E. VOC Limits: Include manufacturer's literature for each adhesive, coating and sealant used in this Section identifying VOC limits and chemical components. All adhesives must conform to the South Coast Air Quality Management District Rule 1168 and all sealants must conform to Bay Area Air Quality Management District – Regulation 8, Rule 51. All interior paints and primers are required to be Green Seal certified under the current Green Seal Standards.

1.5 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.
- B. Operation and Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.

1.6 QUALITY ASSURANCE

- A. Surface Burning Characteristics: Fire Retardant Finishes: Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum five years experience.
- B. Applicators: Company specializing in performing work of this section with minimum three years experience.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- C. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- D. Paint Materials: Store at minimum ambient temperature of 45 degrees F and maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.9 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 - Product Requirements.
- B. Do not apply materials when surface and ambient temperatures are outside temperature ranges required by paint product manufacturer.
- C. Do not apply exterior coatings during rain or snow when relative humidity is outside humidity ranges, or moisture content of surfaces exceed those required by paint product manufacturer.
- D. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior, unless required otherwise by manufacturer's instructions.

- E. Minimum Application Temperature for varnish and other transparent finishes: 65 degrees F for interior or exterior, unless required otherwise by manufacturer's instructions.
- F. Provide lighting level of 80 ft candle measured mid-height at substrate surface.

1.10 SEQUENCING

- A. Section 01 10 00 – Summary: Work sequence.
- B. Sequence application to the following:
 - 1. Do not apply finish coats until paintable sealant is applied.
 - 2. Back prime wood trim before installation of trim.

1.11 EXTRA MATERIALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Spare parts and maintenance products.
- B. Supply minimum one gallon of each color, and type; store where directed. Alternately, supply unused portion of five-gallon container if exceeding one gallon.
- C. Label each container with color, type, texture, and room locations in addition to manufacturer's label.

PART 2 PRODUCTS

2.1 PAINTS AND COATINGS

- A. Manufacturers: Paint and Transparent Finishes.
 - 1. Benjamin Moore.
 - 2. Fuller-O'Brien.
 - 3. Pratt & Lambert.
 - 4. Sherwin Williams.
 - 5. The Glidden Co.
 - 6. Wood-Kote Products, Inc., Cascade Poly Kote (water-based polyurethane, interior applications).
 - 7. Substitutions: Section 01 25 13 – Product Substitution Procedures.

2.2 COMPONENTS

- A. Coatings: Ready mixed, except field-catalyzed coatings. Prepare coatings:
 - 1. To soft paste consistency, capable of being readily and uniformly dispersed to homogeneous coating.
 - 2. For good flow and brushing properties.
 - 3. Capable of drying or curing free of streaks or sags.
- B. Primer: Stain Blocking/Odor Blocking
- C. Low VOC content: Required for all interior applications.
- D. Vapor-Retarder requirements for primer and top-coats, exterior wall assemblies: products shall be vapor semi-permeable, ASHRAE Class II, 1.0 perm or less and greater than 0.1 perm. (Do not provide if spray foam insulation is installed at exterior walls.)

- E. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve finishes specified; commercial quality.
- F. Patching Materials: Latex filler, Low-VOC (GS 11).
- G. Fastener Head Cover Materials: Latex filler, Low-VOC (GS 11).

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify substrate conditions are ready to receive Work as instructed by product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report conditions capable of affecting proper application.
- D. Test shop applied primer for compatibility with subsequent cover materials.
- E. Measure moisture content of surfaces using electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Plaster and Gypsum Wallboard: 12 percent.
 - 2. Interior Wood: 15 percent, measured in accordance with ASTM D4442.
 - 3. Exterior Wood: 15 percent, measured in accordance with ASTM D4442.

3.2 PREPARATION

- A. Surface Appurtenances: Remove [or mask] electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.
- B. Surfaces: Correct defects and clean surfaces capable of affecting work of this section. Remove or repair existing coatings exhibiting surface defects.
- C. Marks: Seal with shellac those which may bleed through surface finishes.
- D. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- E. Gypsum Board Surfaces: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.
- F. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.
- G. Interior Wood Items Scheduled to Receive Paint Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.
- H. Interior Wood Items Scheduled to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats.
- I. Exterior Wood Scheduled to Receive Paint Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior paintable caulking compound after prime coat has been applied.

- J. Wood Doors Scheduled for Painting: Seal wood door top and bottom edge surfaces with tinted primer.
- K. Metal Doors Scheduled for Painting: Prime metal door top and bottom edge surfaces.

3.3 APPLICATION

- A. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- B. Apply each coat to uniform appearance. Apply each coat of paint slightly darker than preceding coat unless specified otherwise.
- C. Sand wood and metal surfaces lightly between coats to achieve required finish.
- D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- E. Where clear finishes are required, tint fillers to match wood. Work fillers into grain before set. Wipe excess from surface.
- F. Prime concealed surfaces (back-prime) of interior and exterior woodwork with primer paint.
- G. Prime concealed surfaces of interior wood surfaces scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with thinner.

3.4 PROTECTION

- A. Touch up surfaces damaged prior to hand over to owner.

3.5 SCHEDULE – SHOP PRIMED ITEMS FOR SITE FINISHING

- A. Metal Fabrications Section 05 50 00: Exposed surfaces of lintels, miscellaneous clips and fasteners.

3.6 SCHEDULE – EXTERIOR SURFACES

- A. Metal doors – Shop Primed:
 - 1. Touch-up with zinc rich primer.
 - 2. Two coats of alkyd enamel, semi-gloss.
- B. Exterior Siding – Stained by Smoke/Fire:
 - 1. Two coats stain blocking/odor blocking primer
 - 2. Two coats of latex, flat.
- C. Exterior Siding:
 - 1. One coat of primer sealer, alkyd.
 - 2. Two coats of latex, flat.

3.7 SCHEDULE – INTERIOR SURFACES

- A. Wood Framing – Stained by Smoke/Fire:
 - 1. Two coats stain blocking/odor blocking primer

- B. Wood - Painted:
 - 1. One coat of alkyd prime sealer.
 - 2. Two coats of latex enamel, semi-gloss.

- C. Wood – Transparent: Factory Finish
 - 1. Filler coat (for open grain wood only).
 - 2. One coat sealer.
 - 3. Three coats of water-based polyurethane, clear, stain. Aqua ZAR or Cascade PolyKote.

- D. Gypsum Board, exterior walls:
 - 1. Vapor permeability noted in paragraph 2.2.C.
 - 2. One coat of vapor-retarder primer sealer.
 - 3. Two coats of latex acrylic, eggshell.

- E. Gypsum Board Walls and Ceilings, not part of exterior wall assembly:
 - 1. One coat of vapor-barrier primer sealer, or one coat of vapor-retarder primer sealer.
 - 2. Two coats of latex acrylic, eggshell.

- F. Gypsum Board Walls and Ceilings, kitchens and bathrooms:
 - 1. One coat of vapor-barrier primer sealer, or one coat of vapor-retarder primer sealer.
 - 2. Two coats of latex acrylic, semi-gloss.

3.8 SCHEDULE - COLORS

- A. As directed by Architect or Owner in separate document and/or as noted on drawings, verify through submittal process.

END OF SECTION

SECTION 10 28 00

TOILET AND BATH ACCESSORIES

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes toilet room accessories; shower and tub accessories; and utility room accessories.
- B. Related Sections:
 - 1. Section 06 10 00 - Rough Carpentry.
 - 2. Section 08 80 00 - Glazing.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - 2. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 - 3. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 4. ASTM A666 - Standard Specification for Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
 - 5. ASTM B456 - Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium.
 - 6. ASTM C1036 - Standard Specification for Flat Glass.
- B. Federal Specification Unit: FS A-A-3002 - Mirrors, Glass.

1.3 SUBMITTALS

- A. Product Data: Submit data on accessories describing size, finish, and attachment methods.
- B. Manufacturer's Installation Instructions: Submit special procedures, conditions requiring special attention.

1.4 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate the Work with placement of internal wall reinforcement.

PART 2 PRODUCTS

2.1 TOILET AND BATH ACCESSORIES

- A. Listed Manufacturers: Bobrick Washroom Accessories, and American Specialties Inc.

2.2 COMPONENTS

- A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation. Grind welded joints smooth. Fabricate units made of metal sheet of seamless sheets, with flat surfaces.
- B. Mirror Glass: Refer to Section 08 80 00 unless a specific mirror is listed below.
- C. Adhesive: Silicone, waterproof.
- D. Fasteners, Screws, and Bolts: Stainless steel, tamper-proof.
- E. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.
- F. Finish: as noted below, all items factory finished ready for field installation.
- G. Refer to accessory schedule for specific room accessories. Refer to drawings for locations.

2.3 RESIDENTIAL BATHROOM ACCESSORIES (Typical residential unit bathroom)

- A. Toilet Paper Holder: (Bobrick B-6857) single-roll, surface mounted, satin stainless steel.
- B. Towel Bar: (Bobrick B-530) satin stainless steel, round tubular bar, rounded brackets, concealed mounting, lengths as shown on the drawings.
- C. Robe Hook: (Bobrick B-6727) satin stainless steel, concealed mounting.
- D. Shower curtain rod: (Bobrick B-6107) heavy-duty curtain rod with concealed mounting, satin stainless steel, adjustable for up to 72" length.
- E. Framed Mirrors: (Bobrick B-290) size shown on drawings, angle frame for wall attachment, satin stainless frame finish.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify exact location of accessories for installation.
- C. Verify field measurements are as indicated on product data.
- D. Verify that blocking has been installed in walls behind accessories.

3.2 PREPARATION

- A. Deliver inserts and rough-in frames to site for timely installation.
- B. Provide templates and rough-in measurements as required.

3.3 INSTALLATION

- A. Install plumb and level, securely and rigidly anchored to substrate.
- B. Mounting Heights and Locations: As indicated on Drawings. If location is not indicated, notify Architect for direction.
- C. Provide solid blocking behind bathroom accessories as notes on drawings.

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END OF SECTION

SECTION 11 31 00

APPLIANCES

PART 1 GENERAL

1.1 SUMMARY

- A. Work includes but is not limited to residential unit kitchens and common kitchens as shown on drawings, including all required miscellaneous parts and accessory items for complete installation.
- B. Related Sections:
 - 1. Section 12 35 30 - Residential Casework.
 - 2. Division 22 41 00 – Plumbing Fixtures.
 - 3. Division 23 34 00 – Exhaust Fans.
 - 3. Division 26 - Electrical.

1.2 SUBMITTALS

- A. Product data: Submit copies of manufacturer's product data, installation, and maintenance instructions for each appliance.
- B. Provide templates, instructions, and directions required to insure accurate location of utility rough-in and anchorage devices.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Carefully crate and insulate against marring, and other damage in transit.
- B. Acceptance at site: Carefully uncrate. Verify units in satisfactory condition.
- C. Store out of harm's way. Handle units carefully, prevent marring. Protect units at all times.

1.5 SERVICE AND WARRANTY

- A. Fully guarantee each unit against defects in function and appearance (not caused by abuse) for a period of two years minimum (or longer if standard with manufacturer) from date of Substantial Completion.
- B. Remove, reinstall new units, transport, furnish parts, labor and any other service or material necessary to correct defective units. All appliances are to be in perfect operating condition.
- C. Supplier to be in position to offer service contract after warranty expiration.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Listed Manufacturer: GE, unless otherwise noted.
- B. Other Manufacturers offering products which meet requirements are:
 - 1. Frigidaire.
 - 2. Sears (Kenmore).
 - 3. Whirlpool Home Appliances.
 - 4. White Westinghouse.

- C. Provide all product types from the same Manufacturer for consistency and uniformity.
- D. Submittal package shall indicate manufacturer's current model number if different than the model listed.
- E. Color: white unless otherwise indicated.

2.2 KITCHEN APPLIANCES

- A. Oven/Range: GE #RB525DHWW
 - 1. 30" wide free-standing electric range.
 - 2. Safe-T Element Cooking System: Pioneering Technology Corp., 220 Britannia Road East, Mississauga, Ontario, Canada, L4Z 1S6, (800) 433-6026
- B. Refrigerator/Freezer: GE #GTE16DTHWW
 - 1. top-freezer refrigerator.
 - 2. 15.5 cu.ft. capacity.
 - 3. Energy Star Qualified.
- C. Range hood: Broan F403001
 - 1. 30" wide.
 - 2. Two speed fan control.
- D. Dishwasher: GE #HDA2100HWW
 - 1. Provide power cord for plug in installation. Coordinate receptacle location with electrical.
- E. Garbage Disposal: ISE Badger #76037H
 - 1. Coordinate receptacle location with electrical.
 - 2. 1/2 horsepower.
- F. Washer: GE #GFWN1600JWW
 - 1. 4.3 Cu.Ft.
 - 2. Energy Star Qualified.
 - 3. Stackable.
- G. Dryer: GE # GFDN160EJWW
 - 1. 7.5 Cu.Ft.
 - 2. Electric dryer.
 - 3. Stackable.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Prior to all work of this section, carefully inspect work of all other trades and verify conditions as complete and satisfactory for appliance installation.
- B. Verify that equipment may be installed in accordance with original design and manufacturer's recommendations.

3.2 INSTALLATION, POSITION

- A. Install in accordance with all referenced regulation requirements and manufacturer's directions.
- B. Deliver self-supporting units to room.

- C. Set in location indicated, level, and properly align with casework and other fixtures.
- D. Secure as necessary.
- E. Check operation. Appliances are to be in perfect operating condition. Remove all packing, paper wrapping, etc. prior to operating each appliance.
- F. Arrange for and coordinate electrical and mechanical connections as applicable..

3.3 FIELD QUALITY CONTROL

- A. Remove, transport, reinstall, furnish parts, labor and any other service or material necessary to replace defective units.

3.4 ADJUSTMENTS AND CLEANING

- A. Adjust unit as required for proper operation.
- B. Leave installations clean; premises free from residue of work of this section.

3.5 PROTECTION OF INSTALLED WORK

- A. Protect installed units against damage and deterioration during remainder of construction period.

END OF SECTION

SECTION 12 20 00
WINDOW TREATMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Vertical blinds.
 - 2. All required miscellaneous parts and accessory items for complete installations.
- B. Related Sections:
 - 1. Section 08 53 00 - Plastic (PVC) Windows.

1.2 SUBMITTALS

- A. Product data: Submit copies of manufacturer's product data, performance data, installation, and maintenance instructions. Provide color chart or fabric samples as required for Architect's selection/confirmation of fabrics and colors.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver in protective wrappings.
- B. Acceptance at site: Carefully unwrap. Verify units in satisfactory condition.
- C. Store out of harm's way. Handle units carefully, prevent marring. Protect units at all times.

PART 2 PRODUCTS

2.1 VERTICAL BLINDS

- A. Listed manufacturer: Graber. Others meeting requirements: Hunter-Douglas, Levelor.
- B. Style: G-85 Dura-View Vertical Blinds
- C. Louvers: 3 1/2" vinyl slats with steel rotation chain.
- D. Headrail formed of steel or extruded aluminum. Operating mechanisms fully enclosed.
- E. Color: Selected by Architect. All shades shall be of one color. Headrail, bottom rails, cords, and braided ladder shall be color-coordinated to selection.
- F. Sizes shall be as recommended by manufacturer for condition of installation and field-measured openings. Size so that bottom of slats are 1/2" above window sill or floor. Field measure to confirm opening size prior to fabricating blinds.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.

3.2 INSTALLATION, POSITION

- A. In general, strictly comply with manufacturer's printed installation instructions.
- B. Set in location indicated, level, and properly aligned to operate freely. Secure as necessary.

3.3 ADJUSTMENTS AND CLEANING

- A. Check operation. Adjust unit as required for proper operation.
- B. Leave installations clean, and premises free from residue of work of this section.

3.4 PROTECTION OF INSTALLED WORK

- A. Protect installed units against damage and deterioration during remainder of construction period.

3.6 SCHEDULE OF LOCATIONS

- A. Vertical Blinds:
 - 1. All exterior windows except bathrooms.

END OF SECTION

SECTION 12 35 30
RESIDENTIAL CASEWORK

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Residential cabinets and cabinet hardware in residential units and in residential common spaces.
- B. Related Sections:
 - 1. Section 06 10 00 - Rough Carpentry.
 - 2. Section 06 20 00 - Finish Carpentry.
 - 3. Section 09 65 00 - Resilient Flooring.
 - 4. Section 12 36 61 – Solid Surface Countertops and Wall Surfaces.

1.2 REFERENCES

- A. American National Standards Institute:
 - 1. ANSI A156.9 - Cabinet Hardware.
 - 2. ANSI A161.1 - Performance and Construction Standard for Kitchen and Vanity Cabinets.
- B. Kitchen Cabinet Manufacturers Association: KCMA - Directory of Certified Cabinet Manufacturers.
- C. Accessibility Standards as listed in the drawings.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal requirements.
- B. Shop Drawings: Indicate casework locations, scale plans, elevations, rough-in and anchor placement dimensions and tolerances, and clearances required. Provide drawings based on as-built room dimensions, and indicate any filler panel location and sizes required.
- C. Product Data: Submit component dimensions, configurations, construction details, joint details, and standard hardware.
- D. Finish Samples: Submit samples, minimum size 2 x 4 inches of each color of finish.
- E. Hardware Samples: Submit samples of door/drawer pull hardware for finish color approval.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with ANSI A161.1 and KCMA certification.
- B. Qualifications:
 - 1. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years' experience.

1.5 EXTRA MATERIALS

- A. Cabinet shelf clips: provide 10 extra clips for Owner's maintenance/replacement.

PART 2 PRODUCTS

2.1 CASEWORK

- A. Listed Manufacturer: Lanz Cabinets, Eugene, OR.
- B. Other Manufacturers:
 - 1. Tacoma Fixture Co., Tacoma, WA.
 - 2. Cabinets Northwest Corp., Auburn, WA.
 - 3. Substitutions: Section 01 60 00 - Product Requirements.

2.2 RESIDENTIAL CASEWORK COMPONENTS

- A. Style: Lanz Cabinets, Pacific Collection – Chetco II.
- B. Finish Material: Beech with Natural finish.
 - 1. Finished Surfaces: All exposed ends and sides shall have matching material and finish.
 - 2. Cabinets with adjacent removable cabinets or self-supporting appliances shall have an adjacent finished side to allow for removal.
 - 3. Ultra low VOC water-based spray stain and water-based high performance UV cured top coat finish.
- C. Cabinet Box: 5/8" formaldehyde-free particleboard. Melamine interior.
- D. Face Frames: 3/4" solid hardwood, glued and screw doweled.
- E. Counter Top: Refer to Section 12 36 61 – Solid Surface Countertops and Wall Surfaces.
- F. Door and Drawer Fronts: Melamine
- G. Shelves: 5/8" particleboard, urea-formaldehyde free, with white melamine laminate, edges banded with PVC edge, full depth adjustable by the use of plastic shelf clips.
- H. Drawer box: Sides from 1/2" NAUF particleboard, bottom from 1/4" particleboard, urea-formaldehyde free, with white melamine interior surface.
- I. Bolts, Nuts, Washers and Screws: Manufacturer's standard.

2.3 HARDWARE COMPONENTS

- A. Hardware: Manufacturer's standard.
- B. Drawer and Door Pulls: Loop-type ("wire") pulls, brushed stainless steel, blind screwed from the interior side of the door/drawer.
- C. Drawer Slides: 3/4 extension ball bearing side-mount with 75 lb. rating.
- D. Hinges: Salice concealed clip 110-degree self-closing hinge, adjustable, manufacturer's standard chrome finish.
- E. Door Bumpers: Resilient plastic with adhesive back; clear color; 5/16" diameter x 3/64".

2.4 FABRICATION

- A. Shop-assemble casework for delivery to site in units easily handled and to permit passage through building openings.
- B. Fabricate corners and joints without gaps or inaccessible spaces or areas where dirt or moisture could accumulate.

- C. Fabricate each unit rigid, not dependent on building structure adjacent units for rigidity.
- D. Form edges smooth. Form material for counter tops from continuous sheets.
- E. Provide cutouts for plumbing fixtures and appliances. Prime paint contact surfaces of cut edges.
- F. When necessary to cut and fit on site, furnish materials with ample allowance for cutting. Furnish trim for scribing and site cutting.
- G. Coordinate cabinet fabrication and installation to accommodate size and location of residential appliances as shown on Drawings. See Section 11 31 00.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify adequacy of support framing.

3.2 INSTALLATION

- A. Install casework, components and accessories. In general, strictly comply with manufacturer's printed installation instructions.
- B. Use anchoring devices to suit conditions and substrate materials encountered.
- C. Set casework items plumb and square, securely anchored to building structure.
- D. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Use filler strips; not additional overlay trim for this purpose.
- E. Close ends of units, back splashes, shelves and bases. Joints between units to be tight and flush.
- F. Refer to Section 12 36 61 for coordination with installations instructions for countertops.

3.3 ADJUSTING

- A. Adjust doors, drawers, hardware, fixtures, and other moving or operating parts to function smoothly.

3.4 CLEANING

- A. Clean casework, counters, shelves, and hardware.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

- A. Do not permit finished casework to be exposed to continued construction activity.

END OF SECTION

SECTION 12 36 61

SOLID SURFACE COUNTERTOPS AND WALL SURFACES

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Section includes cast plastic fabrications as scheduled at end of section.
- B. Related Sections:
 - 1. Section 06 10 00 - Rough Carpentry: Wood blocking and supports for countertops.
 - 2. Section 07 90 00 - Joint Protection: Perimeter sealant to adjacent construction.
 - 3. Section 12 35 30 - Residential Casework: Cabinets with cast plastic counter top and backsplash.
 - 4. Section 22 40 00 - Plumbing Fixtures

1.2 REFERENCES

- A. ASTM International:
- B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- C. South Coast Air Quality Management District:
 - 1. SCAQMD Rule 1168 - Adhesive and Sealant Applications.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Action Submittals:
 - 1. Shop Drawings: Indicate dimensions, thicknesses, required clearances, tolerances, materials, colors, finishes, fabrication details, field jointing, adjacent construction, methods of support, and anchorages.
 - 2. Product Data: Submit data on specified component products.
 - 3. Samples: Submit two samples representative of counter top, 3x3 inch in size illustrating color, texture, and finish.
- C. Closeout Submittals:
 - 1. Operation and Maintenance Data: Submit list of approved cleaning materials and procedures required; list of substances harmful to component materials. Include instructions for stain removal, surface and gloss restoration.

1.4 QUALITY ASSURANCE

- A. Field measure prior to fabrication.

- B. Qualifications:
 - 1. Fabricator and Installer: Company specializing in performing Work of this section with minimum three years' experience.

1.5 WARRANTY

- A. Ten year manufacturer's warranty on products.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver fabricated work in protective packing to minimize any potential damage to work prior to installation.
- B. Do not deliver any materials to the site until areas are ready to receive them for installation.
- C. Store all materials indoors in a dry area away from extreme temperatures and sunlight.
- D. Handle all solid surface fabricated material in such a way as to prevent damage to other finished surfaces.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. During and after installation of Work of this section, maintain same temperature and humidity conditions in building spaces as will occur after occupancy.

PART 2 PRODUCTS

2.1 PLASTIC FABRICATIONS

- A. Fabricators:
 - 1. Basix Solid Surface Fabrications; Poly-Acrylic Series.
 - 2. Substitutions: Section 01 60 00 - Product Requirements
- B. Color: Autumn BSS203.

2.2 COMPONENTS

- A. Cast, mineral-filled, homogeneous, non-porous, decorative surface alloy, comprised of polyester and acrylic components conforming to ISSFA-2-01.

2.3 FABRICATION

- A. Horizontal Surfaces: 1/2" solid surface countertop to size and shape, with square edge. Integral 4" backsplash and side splash when adjacent to wall.
- B. Vertical Surfaces: 1/4" solid surface material to 7'-0" above finished floor and full width of tub with interior butt joints. Material to be 1-piece per wall with no vertical or horizontal joints.

- C. Shape: Straight, slightly eased at top (1/4" radius), 1 1/4" thick finished edge at countertop.
- D. Cure components prior to shipment.

2.4 ACCESSORIES

- A. Sealants: 100% silicone and matched to sheet color.
- B. Adhesives: Rigid structural adhesive by manufacturer.
- C. Sink mounting hardware: provide hardware for mounting sinks per manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify surfaces are ready to receive materials. Cabinets are level and tops are smooth. Verify walls are smooth and have plumbing extensions installed.
- B. Verify joint preparation and affected dimensions are acceptable.

3.2 PREPARATION

- A. Provide anchoring devices for installation.
- B. Provide templates and rough-in measurements.

3.3 FABRICATION

- A. Fabrication shall be performed by an ISFA accredited fabricator or who has demonstrated proficiency in the types of work required by this project.
- B. Shop fabricate components to greatest extent practicable to sizes and shapes indicated, in accordance with approved shop drawings.
- C. Fabricate in one piece with shop-applied edges.
- D. Form seams between components, unless otherwise indicated, using solid surface manufacturer's standard seam adhesive. Adhesive shall be color coordinated to match solid surface material color and shall form inconspicuous seams.
- E. Provide cutouts for plumbing fittings and bath accessories as indicated on the drawings and as recommended by the equipment and solid surface manufacturer.
- F. Cut and finish component edges with clean, sharp returns. Route radii and contours to exact template sizes. Repair or reject defective or inaccurate work.

3.4 INSTALLATION

- A. Pre-fit finish material in place. Scribe material as required to provide proper fit with adjacent materials.
- B. Provide additional support for material seams in both horizontal and vertical locations.
- C. Separation/release paper shall be provided between all supports and seams to prevent direct adhering of finish material to substrate.
- D. Provide self-adhesive membrane in 6" wide strip at interior shower corners.
- E. Form field joints using manufacturer's recommended adhesive, with inconspicuous joints in finished work.
- F. Sink and bowl installation: Seal surface mount sinks/bowls to countertops using manufacturer's recommended sealant and mounting hardware.
- G. Provide backsplashes and side splashes where countertop intersects wall. Adhere backsplashes, and side splashes to countertops using manufacturer's recommended adhesive. Adhere shower walls with water resistant adhesive per manufacturer's recommendation.
- H. Do not over tighten connections which are in direct contact with or attached to solid surface fabrications

3.5 ERECTION TOLERANCES

- A. Maximum Variation From Indicated Dimension: 1/8 inch.

3.6 CLEANING

- A. Clean surfaces with manufacturer's recommended cleaning solutions prior to turn over to owner. Protect surfaces from damage until all components have been accepted by owner. Replace any damaged material prior to acceptance.

END OF SECTION

SECTION 22 41 00

RESIDENTIAL PLUMBING FIXTURES

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Section includes sinks, faucets, toilets, shower, and hot water tank that is specific to this project. Associated plumbing to fixtures shall meet or exceed 2015 Seattle Plumbing Code requirements and be comparable in quality to like projects in the area.
- B. Related Sections:
 - 1. Section 06 10 00 – Rough Carpentry
 - 2. Section 12 36 61 – Solid Surface Shower Enclosure.
 - 3. Section 22 00 00 – Common Work Results for Plumbing.
 - 4. Section 26 00 00 – Common Work Results for Electrical.

1.2 REFERENCES

- A. Underwriters Laboratories (UL)

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5 years' experience manufacturing similar equipment.
- B. Installer Qualifications: Minimum 2 years' experience installing similar equipment.

1.5 WARRANTY

- A. Provide manufacturer's standard warranty.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Kitchen Sink: Elkay Manufacturing; Dayton D23322-3.
- B. Kitchen Faucet: Moen; 67425, Chrome Finish.
- C. Lavatory Sink: American Standard; Rondalyn 0491.019 White.
- D. Lavatory Faucet: Moen; L64621, Chrome Finish.
- E. Shower/Tub Valve: Symmons; Origins Tub/Shower S-9602-P.
- F. Toilet, Seat, Tank, and Flush Valve: American Standard; Cadet 3 270BB.001, 373B.001, 4019.001N, 5320.110.
- G. Hot Water Tank – 52 Gallon: Rheem; 83VR52-2.
- H. Substitutions: Section 01 60 00 - Product Requirements

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until shower walls have been complete; counter tops have been installed; and bathroom flooring has been installed.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions with tight seals to prevent leaks. Test for proper operation and adjust until satisfactory results are obtained.
- B. Verify and install electrical system to hot water heater per manufacturer's instructions.

3.3 PROTECTION

- A. Protect installed products until completion of project and do not allow use by trades unless authorization from owner.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 23 34 00

EXHAUST FANS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Section includes bathroom ventilation fans and whole house fan.
- B. Related Sections:
 - 1. Section 06 10 00 – Rough Carpentry – Blocking for mounting of equipment.
 - 2. Section 23 00 00 – Common Work Results for Mechanical.
 - 3. Section 26 00 00 – Common Work Results for Electrical.

1.2 REFERENCES

- A. Home Ventilating Institute (HVI).
- B. Underwriters Laboratories (UL)

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5 years' experience manufacturing similar equipment.
- B. Installer Qualifications: Minimum 2 years' experience installing similar equipment.

1.5 WARRANTY

- A. Provide manufacturer's standard 3 year warranty.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Panasonic Eco Solutions North America.
- B. Substitutions: Section 01 60 00 - Product Requirements

2.2 EXHAUST FANS

- A. Basis of Design: WhisperFit EZ.
 - 1. Model: FV-08-11VF5 (Whole House Fan); FV-08-11-VFM5 (Bathroom Fan).
 - 2. Standards Compliance: Listed; UL and HVI.
 - 3. Ratings: Energy Star Rated.
 - 4. Maximum Sones: 1.2.
 - 5. CFM: Dual via switch 80 CFM or 110 CFM.
 - 6. Grille Color: White.
 - 7. Housing: Galvanized Steel – Rust Proof Epoxy and Polyester Resin Coating.
 - 8. Motion Sensor for Bathroom Exhaust Fan.

PART 3 EXECUTION

3.1 EXAMINATION

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

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions and in proper relationship with adjacent construction. Test for proper operation and adjust until satisfactory results are obtained.
- B. Grille shall be parallel to adjacent wall.
- C. Whole House Fan shall be set to run continuously at 80 CFM.
- D. Bathroom Fan with Sensor shall be set to run at 80 CFM.

3.3 PROTECTION

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

END OF SECTION

SECTION 23 83 00

WALL HEATERS AND THERMOSTATS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Section includes cove electric heaters and thermostats
- B. Related Sections:
 - 1. Section 06 10 00 – Rough Carpentry – Blocking for mounting of equipment.
 - 2. Section 26 00 00 – Common Work Results for Electrical.

1.2 REFERENCES

- A. CSA Group (CSA): CSA 22.2 No. 46 - Electric Air Heaters.
- B. Underwriters Laboratories (UL)
 - 1. UL 449 - Standard for Electric Heating Appliances
 - 2. UL 2021 - Standard for Fixed and Location-Dedicated Electric Room Heaters.
 - 3. UL 1042 - Standard for Electric Baseboard Heating Equipment.
 - 4. UL 1278 - Standard for Movable and Wall- or Ceiling-Hung Electric Room Heaters

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5 years' experience manufacturing similar equipment.
- B. Installer Qualifications: Minimum 2 years' experience installing similar equipment.

1.5 WARRANTY

- A. Provide manufacturer's standard one year limited warranty.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.

- B. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. King Electrical Manufacturing Co.
- B. Substitutions: Section 01 60 00 - Product Requirements

2.2 COVE HEATERS

- A. Basis of Design: KCV series cove heaters as manufactured by King Electrical Manufacturing Company.
 - 1. Model: _____. Radiant and convection heater.
 - 2. Standards Compliance: Listed; UL and ULC.
 - 3. Rating: 250 to 1,500 W at 120V.
 - 4. Rating: 450 to 1,800 W at 208 V.
 - 5. Enclosure: Extruded aluminum front panel with maximum cross section thickness of 0.962 in (24.4 mm).
 - a. Profile: Sawtooth; increasing radiating surface area.
 - b. Openings: Top and bottom for maximum convection.
 - c. Junction box: Both ends. 1/2 in (13 mm) knockouts on back and top.
 - d. Full length back case: 22 gauge electrogalvanized steel.
 - 6. Finish: Baked enamel.
 - 7. Elements: Ni-Chrome wire embedded in Magnesium Oxide powder enclosed and sealed in aluminum sheath.
 - a. Wattage Density: 150 watts per linear foot; approximate value.
 - 8. Color: White.
 - 9. Thermostat: Double pole, built in, right side wiring.
 - 10. Thermostat: Double pole, built in, left side wiring.

2.3 THERMOSTATS

- A. Basis of Design: K202E-TEMP 360, 2P Electronic Thermostat, 120, 208/240 V as manufactured by King Electrical Manufacturing Company.
 - 1. Standards Compliance: Listed ETL; USA and Canada.
 - 2. Fully vented cover allows air sensing in all directions.
 - 3. Temperature Range: 40 to 90 degree F (5 to 30 degrees C)
 - a. Electronic Sensing Accuracy: 1 degree F (0.55 degrees C).
 - 4. Temperature Lock limiter: Set maximum temperature of 75 degreesF (24 degreesC)
 - 5. 120 or 208/240VAC selectable by jumper, 16 A max (resistive).
 - 6. Max Power: 1920W at 120VAC (16A)
 - 7. Max Power: 3328W at 208VAC (16A)
 - 8. Double Pole line voltage (4 wire)

PART 3 EXECUTION

3.1 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.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions and in proper relationship with adjacent construction. Test for proper operation and adjust until satisfactory results are obtained.

3.4 PROTECTION

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

END OF SECTION