Size:	Grade:
1 inch boards	"Construction"
2x4 studs, sills, plates, etc.	No. 2 or better
Other framing lumber, 2 x 4 up to 4 x 12	No. 2 or better
Beams 5 inches and over in least dimension	No. 1 or better
Post & Columns 5 inches and over in least dimension	Select Structural
Miscellaneous blocking, bridging, etc.	"Construction"
Sill plate	Redwood # 1 Foundation Grade
All other framing lumber not noted	No. 1

2. Plywood Sheathing: Structural 1, Douglas Fir plywood complying with "Product Standard PS-1-95, issued by U.S. Department of Commerce, grade marked by Douglas Fir Plywood Association or grade marked and stamped "Teco Tested Douglas Fir Plywood" or "Pittsburgh Testing Laboratory Analysis Inspection", thickness as indicated on drawings. Furnish in 48" x 96" sheets. Grade C.D., Exterior glue all locations except as noted otherwise on Drawings -- "C" face where exposed.

3. Fire Retardant: Chemically treated and pressure impregnated; capable of providing a maximum flame spread/fuel contribution/smoke development rating of 25; Provide UL approved identification on fire resistant treated materials.

C. Fasteners:

1. Timber Connectors: Manufactured from galvanized steel conforming to ASTM A525, ASTM A526 and ASTM A527. Plate material shall conform to ASTM A36.

2. Power driven pins shall conform to the designated manufacturers production specifications.

3. Screws: Standard domestic manufacture, bright steel. Galvanized for exterior use. Brass, bronze, aluminum or stainless when used to fasten items made of those metals.

4. Galvanizing shall be performed by the hot dip process after fabrication in as large sections as practicable.

5. Common Nails: Commercial Standard, 16d unless otherwise specified. Galvanized for exterior work.

6. Threaded Nails: "Screw-Tite", "Stronghold", or equal, either spiral-thread or annular-grooved; "Common" type for framing; "underlay floor nails" for plywood underlayment over sub-flooring; "sinker" type for plywood sub-flooring and risers.

7. Bolts: Standard mild steel square head machine bolts with square nuts and malleable iron or steel plate washers or carriage bolts with square nuts and cut washers as indicated. Bolts, nuts and washers wholly or partially exposed on exterior shall be galvanized. Conform to ASTM A307 and A325-F.

8. Steel Plates and Angles: ASTM A-36, galvanized after fabrication except at stage of building #300 use corrosion preventive primer.

9. Lag Screws, Shear plates, Split Ring Connectors: As per National Forest Products Association, "National Design Specification for Stress-Grade Lumber and its Fastenings."

10. Framing Anchors, Joist Hangers, Etc.: As made by Simpson Company, or similar devices as approved by Architect, as indicated on Drawings.

11. Miscellaneous Clips, Steel Assemblies: As per ASTM A-36.

12. Glue to meet APA A-FG-01 Specifications.

13. Washers: malleable round plain iron washers by Industrial thread Products (800) 976-BOLT. Paint to match stain finish of Trellis. Conform to ASTM A307 and A325.

D. Wood Backing and Nailing Strips:

1. Provide all wood backing, furring or blocking indicated or required for proper installation and attachment of Work of other trades. Form lumber that has been cleaned and is in sound condition may be used, unless other material is indicated.

2. Provide wood stripping where indicated for attachment of finish materials to wood surfaces.

E. Sheathing Paper: Shall be 15-pound asphalt impregnated building paper.

1. Install sheathing paper on exterior wall sheathing, lay horizontally starting at bottom; lap edges and ends 6" and extend back of window casings and other finish work.

2. Provide two layers at all locations over plywood sheathing.

F. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Do not proceed until unsatisfactory conditions are corrected.

D. Beginning of installation means acceptance of conditions.

3.02 PREPARATION

A. Supervision: Perform rough carpentry work under the direction of a capable, experienced foreman. Cooperate with other tradesmen doing work. Carefully plan and layout work of construction.

B. Cutting: Under this Section, have skilled mechanics do cutting and framing of wooden members required to accommodate structural members, routing of piping, conduit, ducts and installation of mechanical, electrical, or other apparatus or equipment. Cutting must be approved by the Architect and as indicated on the structural drawings.

C. Framing: Provide necessary shoring, bracing, or temporary structural units as required. Accurately saw-cut lumber and timber framing and fit into respective positions and securely nail, spike, lag screw, or bolt together as indicated, or specified.

D. Nailing: Conform to nailing schedule in the UBC and California Code Amendments 1995 except as shown on drawings. Follow more stringent requirements in each case.

E. Storage: Store in dry, ventilated, covered location. Re-dry any wet lumber to maximum specified moisture content before installing.

F. Coordinate work with related trades to prevent undue delay in job progress.

G. Provide materials in sufficient quantities on job site to complete work and to accommodate minor unforeseen changes and additions in the scope of work.

3.03 INSTALLATION

A. General: Provide framing as shown and specified. Accurately cut and fit members; securely nail, bolt or anchor together as shown in such a manner to produce rigid substantial construction free of squeaks or other defects.

B. Rough Framing: Fit closely; set accurately to required lines and levels and secure rigidly in place. Set horizontal and inclined members with crown edge up. Do not cut, notch or bore structural members without specific approval, except for not more than one-fifth the depth of the member. Reinforce cut members as directed. Bolt, nail and spike thoroughly with not less than sizes and quantities indicated. Structural members shall provide full contact at all bearing surfaces.

1. Studs: Make exterior and separation walls of nominal 2x6 studs, 16 inches on center and remaining partition walls of 2x4 studs at 16" o.c. or as required, to be larger to accommodate mechanical or electrical equipment, piping and fixtures or the fixtures or equipment of any other trade. Unless otherwise indicated, all panels, valve covers, cleanouts, devices, access doors, recessed cabinet boxes, etc. shall be mounted flush with the adjacent wall surface. When any such item is of a depth where it is not practical to use solid studding to the full thickness of the wall, the wall shall be furred. When furring is required it shall extend the full width of the room on the wall in which it occurs and from floor to roof or ceiling joists. The studs comprising all interior partitions and the wall material affixed to them shall extend from floor to ceiling joist framing except as otherwise indicated.

2. Top plates in bearing partitions shall be doubled and lapped at each intersection with walls or partitions. Stagger joints in upper and lower members of top plate not less than 4 feet. Exception: where headers require top chords to be cut out, ties are required according to Plan.

3. Provide blocking not less than 2 inches in nominal thickness of same width as studs as shown on Drawings.

4. Frame corners solid where stud walls or partitions meet, or as indicated on Drawings.

C. Nailing: Drive nails not closer together than 1/2 their length unless driven in drilled holes, nor closer to edge of member than 1/4 its length; drill holes slightly smaller than nail diameters when necessary to prevent splitting. Penetrate second or farther member not less than 1/2 length of nail.

D. Bolts and Nuts: American Standard with malleable or cut steel washers under heads and nuts except where bearing on steel plates or other steel attachments. Clamp members together and bore holes of same diameter as bolts, true to line, drive bolts in place and draw nuts up tight. Immediately prior to enclosing with finish or, if left exposed, and upon completion of other work, draw bolts tight again.

E. Connectors: Types shown and where not shown, of types most suitable for substantial concealed construction. Nail per manufacturer's recommendations.

F. Grounds: Provide and set wood grounds at points where trim occurs and where shown. Douglas Fir S1S, thickness and location required. Set plumb or level and true-to-line. Securely nail to wood backing at each stud or bearing.

G. Nailing, Strips and Plates: Provide and securely fasten in place wood nailing strips, plates, blocking, etc., indicated or required to complete work. Bolt nailing strips in connection with metal work as indicated.

H. Wood Backing: Provide wood backing to receive electrical fixtures and equipment, bases, cabinets, door stops and plates and other fixed equipment, as required to complete the work, securely nailed to frame work. Provide backing at 7'-6" typical in all classroom areas.

I. Install all fasteners and supports as required on the Drawings as specified herein.

***** END OF SECTION *****

SECTION 06200

FINISH CARPENTRY

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract requirements and Division 1, General Conditions apply to this section.

1.02 SCOPE OF WORK

Supply and install complete Finish Carpentry Work as shown on Drawings and as specified herein. Provide hardware and attachment accessories as required for a complete and proper installation.

1.03 SHOP DRAWINGS

Per General Conditions, submit shop drawings of millwork at full size or large scale showing sizes, materials, grain run, methods of construction, connection to adjacent members and installation. Indicate all backing members for installations and all hardware.

1.04 MEASUREMENTS

Verify all dimensions shown on Drawings by taking field measurements; proper fit and attachment of all parts is required.

1.05 QUALITY CONTROL

Following standards apply to Work of this Section except where more stringent requirements are specified herein:

1. Architectural Woodwork Institute "Quality Standards".
2. Western Wood Products Association Manual.
3. American Wood Preservers Association Specifications.

1.06 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.07 SUBMITTALS

In accordance with Article 5 of the General Conditions.

PART 2 -- PRODUCTS

2.01 MATERIALS

A. Douglas Fir: West Coast Lumber Inspection Bureau "Standard Grading and Dressing Rules" and Western Wood Products Association, graded "C" and better, flat grain grade marked by WCLIB or WWPA.

B. Douglas Fir Plywood: U.S. Product Standard PS-1, American Plywood Association, grade trademarked "C-D", plugged, exterior glue, sanded.

C. Blocking, Furring, etc.: Standard Grade Western White Pine, Construction grade Douglas Fir or other equally sound softwood, as graded by WCLIB or WWPA.

D. Softwood Lumber: PS 20; custom grade in accordance with AWI maximum moisture content of 6%; of quality capable of transparent finish.

E. Hardwood Lumber: FS MM-L-736; custom grade in accordance with AWI; maximum moisture content of 6% of quality capable of transparent finish.

2.02 ACCESSORIES

A. Nails, bolts, nuts, washers, blind fasteners, lags and screws, size and type to suit application.

B. Wood Filler: oil base, tinted to match surface finish color.

C. Shelf Standards and Rests: Knape and Vogt #255 & #256 for recessed application. Provide two hold down clips for each shelf in the slot above

D. Closet Hanger Bars and Supports: Knape and Vogt #770, #660, #734, #735, and #1195. Provide intermediate support of spans over 6'-0".

2.03 SHOP TREATMENT OF WOOD MATERIALS

A. Shop pressure treat wood materials requiring UL fire rating or preservations.

Provide UL approved identification on fire retardant treated material.

B. Wood Preservative (PT type) Wolmanized, Pressure Treated Lumber, manufactured by Osmose Wood Products or approved equal.

C. Fire Retardant (FR-S Type) chemically treated, and pressure impregnated, capable of providing a maximum rating of 25; manufactured by Demose Wood Products. Dricon FRT or approved equal.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Do not proceed until unsatisfactory conditions are corrected.

D. Beginning of installation means acceptance of conditions.

E. Verify that surfaces and openings are ready to receive work and field measurements are as shown on Shop Drawings and instructed by the fabricator.

F. Verify that mechanical, electrical, and building items affecting work of this Section are placed and ready to receive this work.

3.02 PRIMING

Back paint all wood surfaces inaccessible and unexposed after installation before delivery with an approved linseed oil and aluminum primer.

1. Prime coat all unfinished metal parts.

2. Prime paint surfaces of items or assemblies to be in contact with cementitious materials.

3.03 FINISH CARPENTRY INSTALLATION

A. Use only hot dip galvanized or aluminum finish or casting nails. Set nails for putty stopping in surface members. Hammer marks not acceptable on any exposed finished surface and may be cause rejection of Work by Architect.

B. Make all end splices exposed in finished members bevel splices and not square butted. Install members in as long lengths as possible.

C. Install Work to details shown, plumb, level and to line and securely anchored per AWI custom quality standard. Make scribes where required accurate. Miter corners of trim.

D. Provide and install other miscellaneous millwork items and related Work required to complete Work of this Section.

E. Prepare all woodwork installed hereunder by cleaning and sanding as required to receive finishes specified in Section "Painting and Finishing".

F. Install all doors and frames; finish hardware and bathroom accessories per manufacturer's recommendation.

G. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth and site finish.

***** END OF SECTION *****

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SECTION 06410

CUSTOM CASEWORK

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract requirements and Division 1, General Conditions apply to this section.

1.02 SCOPE OF WORK

A. Furnish all: labor, materials, equipment and services necessary and/or reasonably incidental to the proper execution of cabinetwork, including hardware as shown on Drawings and specified herein.

B. Work includes counters, shelving, countertops and cabinetry.

1.03 STANDARDS OF WORKMANSHIP

Quality of millwork and fabrication shall conform to:

1. Woodwork Institute of California (WIC)
2. National Kitchen Cabinet Association (NKCA)
3. American Woodworkers Institute (AWI)

1.04 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.05 SUBMITTALS

A. In accordance with Article 5 of the General Conditions.

B. Submit:

1. Submit Shop Drawings, include materials, component profiles, fastening methods and schedule of finishes.
2. Submit samples of finishes.

1.06 WARRANTY

Contractor Guarantee: Contractor guarantees the work covered by the specification against all defects in material and workmanship for a period of not less than two (2) years from the date the Owner records Notice of Completion.

PART 2 -- PRODUCTS

2.01 MATERIALS

A. Softwood plywood: PS-1 graded per AWI. Application: 3/4" for cabinets -- plastic laminated.

B. Plastic Laminate: high pressure laminated plastic conforming to NEMA LP-3, 0.50" thickness for tops, and 0.028" thickness for vertical surfaces.

1. All splashes shall be 4" high; provide end splashes with sq. bottom joints.
2. Interiors: Low Pressure Melamine.
3. Backing Sheet: LD-3-BK 20 backing grade undecorated plastic laminate.

C. Wood particleboard: Per AWI standard, composed of wood chips, made with waterproof resin binders, sanded faces, application 3/4" for countertops.

D. Hardboard: PS-58: pressed wood fiber with resin binder, tempered grade, smooth two sides for drawer bottoms.

E. Hardwood Lumber: Grade in accordance with AWI; maximum moisture content of 6%; application.

F. Plastic Edge Trim: Same as face finish -- plastic laminate.

G. Adhesive - Type II adhesive -- an approved thermosetting-on-contact adhesive.

H. Doors and drawer fronts shall be 3/4" plywood with edges veneered or plastic laminate finish.

I. Hardware: Cabinet hardware shall be concealed self-closing hinges, drawer slide, shelf-standards and clips as manufactured by Blum, Knape & Voigt.

J. Drawer Slides for Drawers 24" wide or less: 100 pound load rated, full extension, ball bearing. Accuride 3832.

Drawer Slides for File, Paper Storage and Heavy Duty Drawers 42" wide or less: 150 pound load rated, over travel extension, ball bearing. Accuride 4034.

2.02 FABRICATION

A. Assemble casework in Shop for delivery to site in units easily handled and to permit passage through building openings.

B. Apply plastic laminate finish in full-uninterrupted sheets consistent with manufactured sizes. Make corners and joints hairline. Locate counter butt joints minimum 2' from sink cutouts.

C. Mechanically fasten splash backs to countertops with steel brackets 16" o.c.

D. Countertop edges and splashes to have radius corners.

E. Outside corners of force standing desks to be radiused per plans.

F. Apply laminated backing sheet to reverse side of plastic laminate finish surfaces.

G. Provide cutouts for plumbing fixtures, inserts, appliances, outlet boxes and other fixtures and fittings. Verify locations of cutouts from on-site dimensions. Seal contact surface cut edges.

H. On items to receive transparent finishes, use wood filler that match surrounding surfaces. Apply wood filler in exposed nail and screw indentations. Sand work smooth.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Do not proceed until unsatisfactory conditions are corrected.

D. Beginning of installation means acceptance of conditions.

E. Verify that surfaces and openings are ready to receive work and field measurements are as shown on Shop Drawings and instructed by the fabricator. Verify dimensions for work of other trades incorporated into the casework.

F. Verify that mechanical, electrical, and other building items affecting work of this Section are placed and ready to receive this work.

3.02 INSTALLATION

A. All parts shall be precision machined to close tolerances, accurately fitted and assembled with appropriate fastening and adhesives required to produce first quality fixtures, square, true, plumb and level.

B. Carefully scribe casework that is against other building materials, leaving gaps of 1/32" maximum. Do not use additional overlay trim for this purpose.

C. Anchor securely to wall and floor with all anchorage devices required. Coordinate to allow anchorage devices to be set with other work as applicable. Provide temporary protection over finish work as required during construction to protect the work from damage.

D. Installation shall be complete including continuous bases. All work shall be installed by skilled workmen under the control and supervision of personnel trained in the handling and installation of this cabinetwork and equipment.

E. Install and adjust cabinet hardware to correct operations.

***** END OF SECTION *****

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SECTION 06600

PLASTIC SURFACING MATERIALS

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract requirements and Division 1, General Conditions apply to this section.

1.02 DESCRIPTION

Provide factory-finished Surface Materials, and similar items where shown on the drawings, as specified herein, and as needed for a complete and proper installation. Work may include, but is not limited to:

1. Standard Decorative Laminates.
2. Solid Surfacing.
3. Marker Board Laminate.

1.03 REFERENCES

A. ASTM D 638 - Standard Test Method for Tensile Properties of Plastics.

B. ASTM G 21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.

C. ISO 4586-2 - High Pressure Decorative Laminates; International Organization for Standardization.

1.04 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.05 SUBMITTALS

A. In accordance with Article 5 of the General Conditions.

B. Samples:

1. Selection Samples: Submit actual samples of surfacing materials to illustrate full range of colors, patterns, and finishes available.
2. Verification Samples: Submit two samples, each 12 inches square, illustrating each selected surfacing material in specified color, pattern, and finish.

C. Manufacturer's Instructions:

1. Submit manufacturer's printed installation instructions for each product.
2. Submit manufacturer's Safety Data Sheets (M.S.D.S.) for each adhesive.

PART 2 -- PRODUCTS

2.01 MANUFACTURERS

Acceptable Products: Wilsonart International, Dupont Corian, Avonite, LG Hi-Macs, or approved equal.

2.02 STANDARD DECORATIVE LAMINATES

A. Acceptable Products: Wilsonart Laminate, Formica, Pionite, Nevamar, or approved equal.

B. Product Description: Decorative surface papers, impregnated with melamine resins, bonded under heat and pressure to kraft papers impregnated with phenolic resins.

C. Standard Decorative Laminate – General Purpose Type: having the following physical characteristics:

1. Sheet thickness: 0.048-inch (1.219 mm) plus/minus 0.005-inch (0.127 mm).

2. Exceeding performance requirements of NEMA LD 3-1995 Grade HGS.

3. Surface burning characteristics in accordance with ASTM E 84; unbonded: Flame spread 55; Smoke developed 30.

4. Patterns and Finishes: Selected from manufacturer's full range of available selections, as selected and approved by Architect.

2.03 SOLID SURFACING MATERIAL

A. Acceptable Product: Wilsonart Gibraltar Solid Surfacing, Type 051, or approved equal.

B. Product Description: Homogenous sheet material composed of acrylic resins, fire-retardant filler materials, and coloring agents.

1. Nominal sheet thickness: 0.50 inch (13 mm).

2. Surface burning characteristics in accordance with ASTM E 84: Flame spread less than 25; Smoke developed less than 25.

3. Liquid Absorption, ISO 4586-2, for 1/2-inch material thickness: 0.4 percent after 2 hours boiling water.

C. Izod Impact, ASTM D 256, Method A: 0.2 foot pounds per inch.

1. Tensile Modulus, ASTM D 638 Nominal: 1.7 million pounds per square inch.

2. Thermal Expansion, ASTM D 696: 0.000019-inch per inch per degree F, maximum.

3. Hardness, ASTM D 2583, Barcol Impressor: 59.

4. Flexural Modulus, ASTM D 790: 1.6 million pounds per square inch.

5. Deflection Temperature under load, ASTM D 648: 90 degrees C.

6. Stain Resistance: ANSI Z124.6 modified, Method 3.4: No effect.

7. Boiling Water Resistance, NEMA LD 3-1995, Method 3.5: No effect.

8. High Temperature Resistance: NEMA LD 3-1995, Method 3.6: No effect.

9. Radiant Heat Resistance: NEMA LD 3-1995, Method 3.10: No effect.

10. Light Resistance: NEMA LD 3-1995, Method 3.3: No effect.

11. Ball Impact Resistance, NEMA LD 3-1995, Method 3.8, one half pound ball, unsupported: 125 inches.

12. Specific Gravity: 0.977 ounces per cubic inch (1.69 grams per cubic centimeter).

13. Approximate weight: 4.2 pounds per square foot (20.5 kg/square m).

14. Weatherability: ASTM D 2565: Pass.

15. Fungus Resistance, ASTM G 21: Pass.

16. Bacterial Resistance, ASTM G 22: Pass.

17. Pittsburgh Protocol Toxicity: 66.9 grams.

18. Patterns and Finishes: Selected from manufacturer's full range of available selections, selected and approved by Architect.

19. Impact Resistance NEMA LD3-1995 (1/2 lb. Ball) SSV bonded to substrate*** Method 3.08 modified. 125" (No Failure)

20. Tensile Toughness ASTM D 638. 21 (in. – lb./in. ^{3})

21. Tensile Modulus ASTM D 638 Nominal. 1.7 x 10^{-5} lb./in.^{3}

22. Density 1.60 gram/cm^3

23. Approximate weight 4.2 lbs./ft^2

24. Pittsburgh Protocol Toxicity = 30 grams range

2.04 MARKER BOARD LAMINATES

A. Acceptable Product: Wilsonart Marker Board Laminate or approved equal.

B. Product Description: Overlay saturated with melamine resins and decorative surface papers, impregnated with melamine resins, bonded under heat and pressure to kraft papers impregnated with phenolic resins.

C. Marker Board Laminate - Horizontal Grade Type: Type 136.

1. Sheet thickness: 0.050-inch plus/minus 0.005-inch (1.27 plus/minus 0.127 mm).

2. Exceeding performance requirements of NEMA LD 3-1995 Grade HGS.

3. Surface burning characteristics in accordance with ASTM E 84; unbonded: Flame spread 40; Smoke developed 115.

D. Marker Board Laminate - Vertical Grade Type: Type 336.

1. Sheet thickness: 0.030-inch plus/minus 0.003-inch (0.762 plus/minus 0.076 mm).

2. Exceeding performance requirements of NEMA LD 3-1995 Grade VGP.

3. Surface burning characteristics in accordance with ASTM E 84; unbonded: Flame spread 40; Smoke developed 70.

4. Colors: Selected from manufacturer's full range of available selections, as selected and approved by Architect.

E. Marker Board Laminate - Fire-Rated Type: Type 636.

1. Sheet thickness: 0.050-inch plus/minus 0.005-inch (1.27 plus/minus 0.127 mm).

2. Exceeding performance requirements of NEMA LD 3-1995 Grade HGF.

3. Surface burning characteristics in accordance with ASTM E 84; unbonded: Flame spread 25; Smoke developed 110.

4. Color: Selected from manufacturer's full range of available selections, as selected and approved by Architect.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Do not proceed until unsatisfactory conditions are corrected.

D. Beginning of installation means acceptance of conditions.

3.02 PREPARATION

Surface preparation: Precondition surfacing materials and surfaces to receive surfacing materials in accordance with manufacturer's printed installation instructions.

3.03 APPLICATION

Install materials in accordance with manufacturer's printed instructions.

***** END OF SECTION *****

SECTION 07120

WATERPROOFING AND DAMPROOFING

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract requirements and Division 1, General Conditions apply to this section.

1.02 SCOPE OF WORK

Work included: Provide and install membrane waterproofing where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

1.03 QUALITY ASSURANCE

A. This Contractor shall examine all surfaces before commencing work to see that they are in proper condition to receive his work. All surfaces shall be dry, smooth and clean. The Contractor shall immediately notify the Architect, in writing, of any defective work by others that might prevent him from properly performing his work in a first-class manner in accordance with these Specifications. He shall not proceed with any work until such defects are remedied and work approved by the Architect. This Contractor shall apply his work during normal working hours so that the project manager may have the opportunity to oversee the actual operation.

B. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

C. The Contractor shall see that all sleeves, metal work, flashings and counter flashings, to be furnished and/or installed under other divisions of the Specifications, are properly installed and assume full responsibility for the water-tightness of all such work.

D. Guarantee: Written guarantee is required from the applicator, guaranteeing this work against defective workmanship for a period of two years from date which the Owner records the Notice of Completion.

E. Certification: Upon completion, issue to the Architect a Certificate of Inspection and Compliance indicating that the completed work meets all the requirements of these Specifications and the manufacturer's printed instructions.

1.04 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.05 SUBMITTALS

A. In accordance with Article 5 of the General Conditions.

B. Product data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:

1. Materials list of items proposed to be provided under this Section;

2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;

3. Manufacturer's recommended installation procedures which, when accepted by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the work.

C. Provide approved written guarantee per system specified; refer to Application Specification of manufacturer.

PART 2 -- PRODUCTS

2.01 MATERIALS

A. Membrane or membrane assemblies for concrete walls behind berms shall be such as to provide a watertight condition for the life of the building and shall be a waterproofing Contractor approved by the manufacturer as manufactured by W.R. GRACE & CO. System shall apply Bituthene Waterproofing System 3000.

1. Bituthene 3000 Waterproofing Membrane is a factory-made composite product with a minimum thickness of 60 mils (1.5 mm). It consists of 56 mils (1.4 mm) of rubberized asphalt and 4 mils (0.1 mm) of cross-laminated polyethylene film. Bituthene 3000 is supplied in rolls 36" (0.9m) wide and 60' (18.3 m) long. The rubberized asphalt is covered with release paper that is removed during installation. The membrane is self-adhesive and cold applied. No special adhesive or equipment is necessary to form laps.

2. Physical Properties - Bituthene Liquid Membrane LM-3000:

Property:	Typical Value:	Test Method:
Solids Content	100%	ASTM D-1644
Elongation	250%	ASTM D-412
Peel Adhesion	5 lb./inch width	See footnote 1
Pliability (180° bend over 1" mandrel)	Unaffected at -25°F	ASTM D-146
Hydrostatic head	75 ft. min.	See footnote 2

Footnotes:

1. Liquid Membrane is applied to dry concrete blocks and cured for 7 days. Membrane is then peeled from the concrete blocks at a 90° angle.

2. Hydrostatic head tests are performed by applying liquid membrane on primed concrete, then sealing the waterproofed concrete to a pressure chamber. Water is introduced under pressure equivalent to 75 head feet.

3. Elastomeric membrane 3000 and 3100:

Property:	Typical Value:	Test Method:
Color	Dark gray-black	
Pliability (180° bend over 1" mandrel)	Unaffected at -25°F (-32°C)	ASTM D-146
Tensile strength: membrane	250 (psi) minimum	ASTM D-412
Tensile strength: film	4000 (psi) minimum	ASTM D-412 (Die C) modified
Elongation - ultimate failure of rubberized asphalt (%)	300 minimum	ASTM D-412 (Die C) modified
Cycling over crack	No effect after 100 cycles at 15°F (-26°C)	See footnote 1
Cycle over 1" joint	No effect after 1000 cycles at 15°F (-26°C)	See footnote 1
Puncture resistance-Bituthene Membrane (lb.)(stretched by blunt object)	40 minimum	ASTM E154
Puncture resistance: Polyethylene film	250 minimum (in. oz. tear)	ASTM D781 (Impact from sharp object)
Peel Adhesion	(Lb./in. width)	

Property:	Typical Value:	Test Method:
Resistance to hydrostatic head	150 ft. of water minimum	See footnote 2
Exposure to fungi in soil 16 wks	Unaffected	GSA-PBS 07111
Permeance-perms	0.1 Maximum 0.2 (Grains/sq.ft./in.Hg)	ASTM E-96 Method B
Water Absorption: 72 hrs	0.25 maximum (% By weight)	ASTM D-1228

Footnotes:

1. Membrane is applied across two primed blocks with no separation between blocks. At -15°F. blocks are pulled apart to 1/4", then returned to original position. Cycle is repeated 100 times. For joint cycling, the blocks are double covered with membrane, separated by 1", then cycled at -15°F between 3/4" and 1 1/4" a minimum of 1000 cycles.
2. Hydrostatic head tests are performed by applying membrane on primed concrete, then sealing the waterproofed concrete to a pressure chamber. Water is introduced to 150 head feet.

B. Bituthene Primer P-3000 is a rubber-based primer in solvent specifically formulated to provide good initial adhesion and excellent permanent adhesion of Bituthene Waterproofing Membranes.

C. Bituthene Elastomeric Mastic EM-3000 is rubberized asphalt base mastic.

D. Bituthene Liquid Membrane LM-3000 is a two-component, elastomeric cold-applied mastic grade material.

E. Bituthene Protection Board PB-3000 is lightweight, expanded polystyrene having a nominal density of 1.0 lb./cu. ft.

Bituthene PB-3000 shall have the following physical properties:

Property:	Typical Value:	Test Method:
Nominal Density	1.0 lb./cu. ft.	
Thermal Conductivity K factor (BTU/Hr./Sq. Ft./F.In.)	.24 @ 40°F .26 @ 75°F	ASTM C-177
Thermal Resistance (R-Value)	1" thickness = 4 3/4" thickness = 3	ASTM C-177

F. Bituthene Protection Board Adhesive PBA-3000 is a fast drying, rubber-based cement.

G. All materials shall be furnished by the manufacturer whose specification is used to the extent of his standard and/or stock materials. Materials unable to be furnished by the manufacturer shall meet his reference specification requirements.

1. Contractor shall furnish a statement signed by the manufacturer or his authorized representative that the materials to be supplied are proper for the use indicated and that the manufacturer is in agreement with the Contractor's use of these material systems as they are applicable to this installation.
2. All materials shall be delivered to the site in the original unbroken manufacturer's wrapping material with the original labels thereon.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Do not proceed until unsatisfactory conditions are corrected.

D. Beginning of installation means acceptance of conditions.

3.02 PREPARATION

A. Verify that surfaces are solid, free of frozen matter, loose particles, cracks, pits, rough projections, and foreign matter detrimental to adhesion and application of waterproofing.

B. Do not apply waterproofing to damp, frozen, dirty, dusty, or deck surfaces unacceptable to manufacturer.

C. The surface shall be inspected by a representative of the coatings manufacturer and by the waterproofing Contractor. A written notice to the prime Contractor shall be provided to indicate any substrate deficiencies that must be corrected prior to application of the waterproofing coatings. The start of the application work shall not commence until acceptance of the surface by the waterproofing Contractor and the representative of the manufacturer.

D. Surface preparation: A smooth monolithic concrete surface is required. A broom surface is not acceptable. The concrete surface shall be dry, frost free, clean and cured a minimum of seven days prior to the application. The primer and membrane surface shall be free of voids, spalled areas, sharp projections, loose aggregate, and form release agents. Concrete curing compounds containing oil, wax or pigments shall not be used. Form release agents shall be the self-dissipating type that will not transfer to the concrete. Any surface defects such as cracks, holes or cavities shall be filled and finished flush with a Portland cement grout or concrete. Top surfaces of projecting ledges, below grade, except footings, shall be finished to a steep bevel with Portland cement mortar. Smooth concrete block walls shall be protected with membranes by striking off joints flush with surface.

3.03 INSTALLATION

A. Foundation Walls and Vertical Surfaces

1. General: The membrane, when in place, must withstand a minimum static ground water pressure of 150 feet (46 m).

2. Priming: Application of primer shall be limited to what can be covered by Bituthene Waterproofing Membrane in a given workday. Primed areas not covered by membrane during the workday will be re-primed. Apply primer by spray, roller or brush at a rate of 250-350 square feet per gallon. Roller should be a natural material such as lamb's wool, having a nap of approximately one inch. Primer shall be applied to a clean, dry, frost-free and dust-free surface. Sufficient primer must be used on the dry surface to condition it to a dust-free state suitable for the application of Bituthene Waterproofing Membranes. Coverage of primer will vary due to the texture and porosity of the surface to receive the primer.

   Bituthene Primer P-3000 should not be applied below 40°F (5°C) on vertical surfaces. At temperatures below 40°F (5°C), Bituthene P-3100 Primer must be used and it may be used up to 90°F (32°C). Allow P-3000 to dry one hour or until tack-free. Allow P-3100 to dry 30 minutes.

3. Membrane Installation: Apply Bituthene Waterproofing Membrane vertically in sections of 8 feet in length or less. On higher walls apply two or more sections with the upper overlapping the lower by at least 2-1/2" (64 mm). Press all membrane in place with heavy hand pressure or rollers during application. Two piles of Bituthene Membrane are recommended for below grade or earth shelter applications on any wood surfaces.

4. Sealing Edges: Bituthene Waterproofing Membrane shall be applied over the edge of the slab or over the top of the foundation or parapet wall. If the membranes are

terminated on the vertical surface, a reglet or counter flashing may be used or the membrane may be terminated directly on the vertical surface by pressing very firmly to the wall. Press the edges with a metal or hardwood tool such as a hammer or knife handle. Apply a troweled bead of Bituthene EM-3000 to all vertical and horizontal terminations. Bituthene Liquid Membrane LM-3000 can be used as an alternative method.

5. Sealing Seams: All edges and seams must be overlapped at least 2-1/2" (64 mm). Apply succeeding sheets with a minimum 2-1/2" (64 mm) overlap and stagger end laps. Roll or press the entire membrane firmly and completely as soon as possible. Patch misaligned or inadequately lapped seams with Bituthene Membrane. Slit any fish mouths, overlap the flaps, and repair with a patch of Bituthene and press or roll in place. The edges of the patch shall be sealed with a troweling of EM-3000. Laps within 12" (300 mm) of all corners shall be sealed with a troweling of EM-3000.

6. Corner Forming: Outside corners must be free of sharp edges. Inside corners should receive a fillet formed with Liquid Membrane LM-3000, latex modified cement mortar (such as Daraweld C mixed with cement mortar) or epoxy mortar. Do not use fiber or wood cants. One of two methods may be used for treating corners:

   a. Apply Bituthene Liquid Membrane LM-3000 six inches (150 mm) in each direction from the corner and form a fillet with a minimum 3/4" (19 mm) face.

   b. Install an 11" (280 mm) minimum strip of Bituthene membrane centered on the corner. Install Bituthene Membrane over the treated inside and outside corners.

7. Protection of Membrane: The Bituthene Protection System shall be used on foundation walls and vertical surfaces subject to damage from other trades.

B. Horizontal Surfaces

1. Priming: Application of primer shall be limited to what can be covered with Bituthene Waterproofing Membrane in a given workday. Primed areas not covered by membrane during the workday shall be re-primed. Apply by spray, roller or brush at a rate of 250 to 350 square feet per gallon. Roller should be a natural material such as lamb's wool, having a nap of approximately one inch (25 mm). Primer shall be applied to a clean, dry, frost-free and dust-free surface. Rollers should be dipped into pans to avoid pouring primer directly on the deck and creating puddles. Sufficient primer must be used to condition the surface to a dry, dust-free stale suitable for the application of Bituthene Waterproofing Membranes. Coverage of primer will vary due to the texture and porosity of the surface to receive the primer.

   Bituthene P-3000 Primer should not be applied below 25°F (-4°C) on horizontal surfaces.

2. Membrane Installation: Bituthene Waterproofing Membrane shall be applied to the primed surface starting at the low point. Successive sheets should overlap preceding ones by 2-1/2" (64 mm). Two plies of Bituthene Membrane are recommended for below grade or earth shelter applications on any wood surfaces. All membrane shall be firmly rolled as soon as possible to minimize bubbles. Roller shall be a linoleum roller or standard water filled garden roller less than 30" (760 mm) wide, weighing approximately 75 pounds (34 kg) when filled. Cover the face of the roller with a resilient material such as 1/2" (13 mm) plastic foam or two wraps of indoor-outdoor carpet to allow the membrane to fully contact the primed substrate. Apply a double layer of Bituthene Membrane around posts or projections at least 6" (150 mm) in all directions and seal all terminations with Bituthene EM-3000. At drains, apply a bead of EM-3000 over a double layer of membrane under clamping

rings. Apply EM-3000 at all terminations and at all "T" joints at the end of each workday.

An alternate method is to apply Bituthene Liquid Membrane LM-3000 around posts and protrusions, overlapping the sheet membrane a minimum of 2" (50 mm). At drains, apply LM-3000 from the center of the drain out to the sheet membrane overlapping it by a minimum of 2" (50 mm).

3. Sealing Edges: Bituthene Waterproofing Membrane shall be turned up on surrounding walls and terminated into a reglet or under counter flashing, or the membrane may be terminated directly on the vertical surface by pressing very firmly to the wall. Press edges with a metal or hardwood tool such as a hammer or knife handle. Apply a troweled bead of Bituthene Em-003000 to all vertical and horizontal terminations.

4. Sealing Seams: All edges and end seams must be overlapped at least 2-1/2" (64 mm). Apply succeeding sheets with a minimum 2-1/2" (64 mm) overlap and stagger end laps. Roll the entire membrane firmly and completely as soon as possible. Patch misaligned or inadequately lapped seams with Bituthene Waterproofing Membrane. Slit any fishmouths, overlap the flaps, and repair with a patch and press or roll in place. The edges of the patch shall be sealed with a troweling of EM-3000. Laps within 12" (300 mm) of all corners shall be sealed with a troweling of EM-3000.

5. Corner Forming: Outside corners must be free of sharp edges. Inside corners should receive a fillet formed with Liquid Membrane LM-3000, latex modified cement mortar (such as Daraweld C mixed with cement mortar) or epoxy mortar. Do not use fiber or wood cants. One of two methods may be used for treating corners:

   a. Apply Bituthene Liquid Membrane LM-3000 6" (150 mm) in each direction from the corner and form a fillet with a minimum 3/4" (19 mm) face.

   b. Install an 11" (280 mm) minimum strip of Bituthene Membrane centered on the corner. Install Bituthene waterproofing membrane over the treated inside and outside corners.

6. Testing of horizontal waterproofing shall be by flooding the entire waterproofed area with a minimum 2" (50 mm) head of water for 24 hours. Mark any leaks and repair when the membrane is dry. Before flood testing, ascertain from the structural engineer that the structure will withstand the dead load of the water.

7. Protection of Membrane: After testing the horizontal surfaces and allowing for the membrane to dry, apply the Bituthene Protection System to the entire horizontal surface.

*****END OF SECTION*****

SECTION 07210

THERMAL INSULATION

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract requirements and Division 1, General Conditions apply to this section.

1.02 SCOPE OF WORK

A. Furnish and install Thermal Insulation indicated on the Drawings and as specified herein.

B. The principal items of work include:

1. Thermal Insulation within roof.
2. Thermal Insulation within exterior walls.
3. Thermal Insulation within interior walls.

1.03 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Upon completion of this portion of the Work, complete and post a certificate of insulation compliance in accordance with pertinent requirements of governmental agencies having jurisdiction.

1.04 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.05 SUBMITTALS

A. In accordance with Article 5 of the General Conditions.

B. Product data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:

1. Materials list of items to be provided under this Section.
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
3. Manufacturer's recommended installation procedures which, when accepted by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the work.

1.06 GUARANTEE

Contractor Guarantee: Contractor guarantees the work covered by this specification against all defects in material and workmanship for a period of not less than two (2) years from the date the Owner records Notice of Completion.

PART 2 -- PRODUCTS

2.01 MATERIALS

A. Provide thermal insulation as indicated on Drawings. All insulation shall be inorganic glass fiber insulation. Insulation shall comply with ASTM Testing Standards. Fire Hazard

Classification, Flame Spread Index, Smoke Developed Index, Combustibility, and Fire Endurance Ratings as required by Code.

B. Insulation shall be as manufactured by Certain-Teed, Johns-Manville, Owens-Corning, or approved equal.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Do not proceed until unsatisfactory conditions are corrected.

D. Beginning of installation means acceptance of conditions.

3.02 PREPARATION

A. Verify adjacent materials are dry and ready to receive installation.

B. Verify mechanical and electrical services within walls have been installed and tested.

3.03 INSPECTION

A. Before any installation is started, determine that the other work is suitable to receive insulation.

B. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

C. Remove or protect against projections in construction framing that may damage or prevent proper insulation.

3.04 INSTALLATION

A. All work shall be performed by licensed applicators, shall comply with the recommendations of the manufacturer and the National Association of Insulation Manufacturers.

B. Install insulation with factory applied membrane facing warm side of building spaces. Lap ends and side flanges of membrane over and between framing numbers. Secure in place. Tape seal butt ends and lapped side flanges. Tape seal tears or cuts in membrane.

C. Trim insulation neatly to fit spaces. Use batts free of damage. Install batt insulation, in wall spaces without gaps or voids.

D. Install Insulation in all indicated walls from floor to underside of roof. Secure insulation with 19-gage wire or 1" wide, 20 gage steel strips. Architect shall approve all insulation details, including methods of fastening, before commencement of the work.

3.05 CLEAN UP AND DISPOSAL

At frequent intervals during and again upon completion of work, remove from building and working premises tools and equipment, surplus materials, all rubbish and debris of whatever nature not caused by other trades, and leave the work in a clean, orderly and acceptable condition approved by the Architect.

***** END OF SECTION *****

SECTION 07220

ROOF AND DECK INSULATION

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract requirements and Division 1, General Conditions apply to this section.

1.02 DESCRIPTION

A. Work included: Provide roof and deck insulation where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to, Special Conditions, and Sections in Division 1 of these Specifications.

2. Roofing.

1.03 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. In addition to complying with all pertinent codes and regulations of governmental agencies having jurisdiction, comply with the following:

1. Roof and deck insulation shall be FM approved and U. L. Classified.

2. Conform to Federal Specifications HH-1-1972/Gen, HH-1-1972/1, 2.

3. Meet California Quality Standards Registry Number CA-7006 (UT).

1.04 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.05 SUBMITTALS

In accordance with the Article 5 of the General Conditions.

PART 2 -- PRODUCTS

2.01 MATERIALS

A. Insulation System:

1. Provide tapered and non-tapered expanded polystyrene thermal roof insulation in flutes of metal roof decks with the following physical properties:

Property:	ASTM Test Method:	Specification:
- Nom. Density LB/FT^3		2.0
Thermal Resistance/R-Value (1 inch thickness)	C177/C518	4.76 at 40° F 4.35 at 75° F
Compressive resistance	D1621	25 (minimum psi)
Density	C303/D1622	1.80 (min. lb./ft.^{3})

Property:	ASTM Test Method:	Specification:
Flexural strength - Transverse	C203	55-75 (minimum psi)
Water absorption by volume	C272	< 2%
Water vapor permeability	E96	0.60-2.0 Maximum (perm-inch)
Dimensional stability	D2126	< 2% (% Linear change, max.)
Flame spread	E84	< 25

2. Acceptable manufactures - subject to compliance with requirements, provide products of one of the following:

   a. Cello Foam Type IX (800) 241-3634.

   b. Atlas ACFoam-II (800) 477-1476.

   c. NRG Barriers: PSI-25 (800) 343-1285.

   d. Or approved equal.

B. Fastener System:

1. Provide a roof insulation fastener system for use in fastening insulation to steel decks. System shall be Factory Mutual approved for I-90 rating. Use manufacturer's recommendations as submitted and approved. Fastening shall be similar to:

2. Deck screws for metal deck applications shall be #12 gage and made of case-hardened carbon steel with gimlet point and Perma-Seal coated.

3. Stress plates shall be high-density polyethylene, 3-1/4" diameter, or G-90 galvanized steel, 3" square.

4. Acceptable Products: Rawl Deck Screw, and Rawl Stress Plates as manufactured by Rawlplug Company, Inc., New Rochelle, NY, or equal products of other manufacturers.

2.02 OTHER MATERIALS

Provide other materials not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the acceptance of the Architect.

PART 3 -- EXECUTION

3.01 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Remove or protect against projections in construction framing which may damage or prevent proper insulation.

D. Before roof insulation application is started, remove trash, debris, oil, water, moisture and contaminates which may affect the attachment of the insulation to the surface. All depressions, holes, deformations, etc. shall be made smooth prior to the roof insulation application.

E. The deck shall be sufficiently rigid to support the roofers and mechanical equipment without deflection that will strain or rupture any of the roofing components or deform the deck.

F. Treated wood insulation stops, the same thickness as the insulation, shall be mechanically fastened at the edges of the deck and around all projection and openings through the deck.

G. Do not proceed until unsatisfactory conditions are corrected.

H. Beginning of installation means acceptance of conditions.

3.02 INSTALLATION

Install the work of this Section in strict accordance with the original design, requirements of governmental agencies having jurisdiction, and the manufacturer's recommended installation procedures as accepted by the Architect, anchoring all components firmly into position.

1. Deck screws shall penetrate metal deck a minimum of 1/2 inch.

2. Provide a minimum of one (1) fastener per 3 linear foot of surface area.

3. Cut insulation to fill flutes of metal deck prior to installation of roofing.

3.03 CLEANING

Remove trash and debris from the roof insulation surface prior to the application of the roofing membrane.

3.04 PROTECTION

A. Installed insulation shall not be left exposed to the weather. It shall be covered and waterproofed at once.

B. All exposed edges left at the end of a day's work shall be temporarily sealed by lapping roofing membrane over the exposed edge of the insulation and sealing it in place. Remove this membrane seal when work resumes. Installed insulation that becomes wet and/or damaged shall be removed and replaced with solid and dry materials.

C. Protect installed insulation and membrane from roof traffic damage and/or abuse by using surface protection such as plywood in areas where heavy and/or repeated traffic is anticipated both during and after installation.

***** END OF SECTION *****

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SECTION 07900

CAULKING AND SEALANTS

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.

1.02 DESCRIPTION

Work included: Throughout the work, seal and caulk joints where shown on the Drawings and elsewhere as required to provide a positive barrier against passage of moisture and passage of air.

1.03 QUALITY ASSURANCE

A. Conform to Sealant and Waterproofers Institute requirements for materials and installation.

B. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

C. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

D. Warranty: Provide written warranty for all caulking and sealants against all defects of material or application for a period of five (5) years after date of acceptance. All failures that may occur within this period due to defective application or materials shall, upon written notification of such failures, be repaired or replaced with proper materials and labor as accepted by the Architect, at no additional cost to the Owner.

1.04 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.05 SUBMITTALS

A. In accordance with Article 5 of the General Conditions.

B. Product data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:

1. List of items that will be provided under this Section.

2. Manufacturer's Data: catalog cuts, dimensioned drawings, and other data needed to prove compliance with the specified requirements.

3. Manufacturer's recommended installation procedures which, when accepted by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.06 WARRANTY

A. The guarantee specified herein shall include warranties against leakage, hardening, cracking, crumbling, melting, running, shrinking or staining adjacent surfaces.

B. Contractor Guarantee: Contractor guarantees the work covered by this specification against all defects in material and workmanship for a period of not less than five (5) years from the date of Substantial Completion.

PART 2 -- PRODUCTS

2.01 SEALANTS

A. Except as specifically otherwise accepted by the Architect, use only the types of sealants described as follows:

1. One component polyurethane sealant, moisture curing, low modulus, FS TT-S-0023OC, Type II, Class A, ASTM-C-920, Class 25, for vertical and horizontal joints in connection with all building materials. Do not use in traffic areas. Minimum ¼" joint; maximum 1-1/4" x 3/8"d.

   a. Dymonic by Tremco

   b. Sonolastic NP1 by Sonneborn

   c. Or approved equal

2. One-part silicone sealant, moisture curing, low modulus, FS TT-S-0023OC, Type II, Class A, FS TT-S-001543A, Class A, for vertical and horizontal joints in connection with aluminum, glass and concrete materials which require greater movement capabilities. Do not use in traffic areas. Minimum joint ¼" x 3/16"d; maximum1" x ½"d.

   a. Spectrum 1 by Tremco

   b. Omniseal by Sonneborn

   c. Dow Corning 790

   d. Or approved equal

3. One-part silicone sealant, medium modulus, neutral cure, FS S-0023OC, Type II, Class A, FS TT-S-001543A, Type II, Class A, ASTM C920, Class 25, for vertical and horizontal joints in connection with non-porous surfaces such as aluminum, glass, tile, laminated plastic and concrete. Do not use in traffic areas.

   a. Spectrum 2 by Tremco

   b. Omni Plus by Sonneborn

   c. Dow Corning 795

   d. Construction 1200 by GE

   e. Or approved equal

4. Multi-Component polyurethane sealant, FS TT-S-00227E, Type I, Class A, ASTM C920 for horizontal joints in traffic areas. Minimum 3/8" wide, depth to be 3/8" to ½" - use primer.

   a. THC-900/901 by Tremco

   b. Chem. Caulk 950 by Bostick

   c. Or approved equal

5. One-part translucent silicone sealant, low modulus, moisture curing, FS TT-S-0023OC, Type II, Class A, FS TT-S-001543A, Type II, Class A, for vertical joints in connection with butt glazing.

   a. 895 Silicone by Pecora

   b. Silglaze N by GE

   c. Or approved equal

6. One-part mildew resistant silicone sealant meeting requirements of FDA Regulation 21 CFR 177.2600, for vertical and horizontal joints in connection with non-porous applications as sealing around bathroom fixtures, shower-tub enclosures, sinks and urinals.

   a. Dow Corning 786

   b. Sanitary 1700 by GE

   c. Or approved equal

7. One-part siliconized acrylic latex polymer caulk, ASTM C834-76, for interior horizontal and vertical joints in connection with window and door buck perimeters, interior wall surfaces, etc.

   a. AC-20 by Pecora

   b. Acrylic Latex by Tremco

   c. Or approved equal

8. Roof Penetrations: Use asphalt mastic conforming to ASTM D491.

9. For other services, provide products especially formulated for the proposed use and accepted in advance by the Architect.

B. Colors:

1. The Architect will select Colors for each sealant installation to match adjacent finishes from a standard color list normally available from the specified manufacturers.

2. Should a matching standard color not be available from the accepted manufacturer except at additional charge, the Contractor shall provide such colors at no additional cost to the Owner.

3. In concealed installations, and in partially or fully exposed installations where so accepted by the Architect, use standard gray or black sealant.

2.02 PRIMERS

Use only those primers that are: non-staining, have been tested for durability on the surfaces to be sealed, and are specifically recommended for this installation by the manufacturer of the sealant used.

2.03 BACKUP MATERIALS

A. Use only those backup materials that are specifically recommended for this installation by the manufacturer of the sealant used, which are non-absorbent, and which are non-staining.

B. Acceptable types include:

1. Closed-cell resilient urethane or polyvinyl chloride foam;

2. Closed-cell polyethylene foam;

3. Closed-cell sponge of vinyl or rubber;

4. Polychloroprene tubes or beads;

5. Polyisobutylene extrusions;

6. Oil-less dry jute.

C. Preformed support strips for ceramic tile control joint and expansion joint work: Use polyisobutylene or polychloroprene rubber.

2.04 BOND-PREVENTATIVE MATERIALS

Use only one of the following as best suited for the application, and as recommended by the manufacturer of the sealant used:

1. Polyethylene tape, pressure-sensitive adhesive, with the adhesive required only to hold tape to the construction materials as indicated;
2. Aluminum foil complying with MIL-A-148E;
3. Wax paper complying with Fed. Spec. UU-P-270.

2.05 JOINT PACKING

Shall be installed in all joints to receive sealant. Material shall be a resilient type such as closed cell PVC foam or as recommended by the manufacturer. Oakum or other types of absorptive materials shall not be used as packing material.

2.06 OTHER MATERIALS

A. For masking around joints, provide masking tape complying with Fed. Spec. UU-T-106c.

B. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the acceptance of the Architect.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Do not proceed until unsatisfactory conditions are corrected.

D. Beginning of installation means acceptance of conditions.

3.02 PREPARATION

A. Concrete and ceramic tile surfaces:

1. Install only on surfaces that are dry, sound, and well brushed, wiping free from dust.
2. At open joints, remove dust by mechanically blown compressed air if so required.
3. Use solvent to remove oil and grease, wiping the surfaces with clean rags.
4. Where surfaces have been treated, remove the surface treatment by sandblasting or wire brushing.
5. Remove laitance and mortar from joint cavities.
6. Where backstop is required, insert the approved backup material into the joint cavity to the depth needed.

B. Steel surfaces:

1. Steel surfaces in contact with sealant:
   a. Sandblast as required to achieve acceptable surface for bonding.
   b. If sandblasting is not practical, or would damage adjacent finish, scrape the metal or wire brush to remove mill scale.
   c. Use solvent to remove oil and grease, wiping the surfaces with clean rags.

2. Remove protective coatings on steel by sandblasting or by using a solvent that leaves no residue.

C. Aluminum surfaces:

1. Remove temporary protective coatings, dirt, oil, and grease.

2. When masking tape is used for protective cover, remove the tape just prior to applying the sealant.

3. Use only such solvents to remove protective coatings as are recommended for that purpose by the manufacturer of the aluminum work, and which are non-staining.

3.03 INSTALLATION OF BACKUP MATERIAL

A. Use only the backup material recommended by the manufacturer of the sealant used, and accepted by the Architect for the particular installation, compressing the backup material 25% to 50% to achieve a positive and secure fit.

B. When using backup of tub or rod stock, avoid lengthwise stretching of the material. Do not twist or braid hose or rod backup stock.

C. Interior and exterior joints where no backing has been provided or which is in excess of 3/4" deep shall be packed by this subcontractor with fiberglass or a suitable joint filler to reduce the depth to 1/2" maximum. Maximum movement: the width of the joint shall be at least four times its maximum movement.

3.04 PRIMING

A. Use only the primer recommended by the manufacturer of the sealant, and accepted by the Architect for the particular installation, applying in strict accordance with the manufacturer's recommendations as accepted by the Architect.

B. The priming of joints shall be by brush to reach all surfaces to which compound will be applied. Primer shall be provided on masonry, concrete and wood surfaces as recommended by sealant manufacturer. Primer shall not be applied to surfaces that will be exposed after caulking is completed.

3.05 BOND-BREAKER INSTALLATION

Provide an approved bond-breaker where recommended by the manufacturer of the sealant, and where directed by the Architect, adhering strictly to the installation recommendations as accepted by the Architect.

3.06 INSTALLATION OF SEALANTS

A. Prior to start of installation in each joint, verify the joint type according to details on the Drawings, or as otherwise directed by the Architect, and verify that the required proportion of width of joint to depth of joint has been secured.

B. Equipment:

1. Apply sealant under pressure with power-actuated or hand gun, or by other appropriate means.

2. Use guns with nozzle of proper size, and providing sufficient pressure to completely fill the joints as designed.

C. Thoroughly and complete mask joints where the appearance of sealant on adjacent surfaces would be objectionable.

D. Install the sealant in strict accordance with the manufacturer's recommendations as accepted by the Architect, thoroughly filling joints to the recommended depth.

E. Tool joints to the profile shown on the Drawings, or as otherwise required if such profiles are not shown on the Drawings.

F. Cleaning up:

1. Remove masking tape immediately after joints have been tooled.

2. Clean adjacent surfaces free from sealant as the installation progresses, using solvent or cleaning agent recommended by the manufacturer of the sealant used.

3. The excess material shall be cleaned from the surfaces adjacent to the joint, following the caulking operation and the top of the compound deposit shall be left with a smooth even finish. No material is permitted on the exposed face of aluminum sections.

***** END OF SECTION *****

SECTION 08100

METAL DOORS AND FRAMES

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.

1.02 DESCRIPTION

Work included: Provide metal doors and metal door frames which are not specifically described in other Sections of these Specifications, where shown on the Drawings, as specified herein, and as needed for a complete and proper installation. All the requirements of the Contract Documents apply to this Section.

1.03 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Unless specifically otherwise accepted by the Architect, provide all products of this Section from a single manufacturer.

C. In addition to complying with pertinent codes and regulations of governmental agencies having jurisdiction, comply with:

1. SDI Grade II for Heavy Duty metal doors (Steel Door Institute).

2. HMMA Standard CHM-1-74 (Hollow Metal Manufacturers Association).

1.04 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.05 SUBMITTALS

A. In accordance with Article 5 of the General Conditions.

B. Product data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:

1. List of items that will be provided under this Section.

2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.

3. Shop Drawings showing details of each frame type, elevations of door designs, details of openings, and details of construction, installation, and anchorage.

4. Manufacturer's recommended installation procedures which, when accepted by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

PART 2 -- PRODUCTS

2.01 MATERIALS

Doors and Frames shall be made of commercial quality, level cold rolled steel conforming to ASTM A-366, Latest Edition, and free of scale, pitting, or other surface defects. Face sheets and frames of exterior doors shall be zinc coated.

2.02 METAL DOORS

A. Type and design: Provide full-flush polystyrene insulated design, in dimensions and types shown on the Drawings, labeled or non-labeled as indicated on the Door Schedule in the Drawings, in 16 gage for interior doors and 16 gage for exterior doors, properly reinforced. SDI-111A shall be used as the standard for all frame details.

B. Finish: Pre-clean and shop prime each door with rust inhibitive primer for finish painting which will be performed at the job site. Cleaning shall include a phosphate treatment for paint adhesion and all exposed surfaces shall have a rust inhibiting primer.

C. Acceptable products:

1. Steel Craft Type L Series typically. Type B where security door called out on Drawings, gage of door to be increased to 14.

2. Republic, DB Series typically. Security doors called out on plans to be increased to 14-gauge.

3. Or approved equal.

D. Clearances: Provide single swing doors with not more than 1/8" clearance at jambs and heads, not more than ¼" clearance at meeting edges of pairs of doors (1/8" on fire doors) and not more than ¾" clearance at the bottom. Provide door bottom per hardware specifications. All clearance dimensions are nominal and subject to a tolerance of + 1/32". Lock edges of the door shall be designed to provide proper operating clearance conforming to dimensions noted above.

2.03 METAL FRAMES

A. Type and design: Provide frames of the types and dimensions shown on the Drawings, labeled or non-labeled as indicated on the Schedule and Types in the Drawings, in 16 gage for interior and exterior frames, properly reinforced. SDI-111A shall be used as the standard for all frame details.

B. Finish: Pre-clean and shop prime each door with rust inhibitive primer for finish painting which will be performed at the job site. Cleaning shall include a phosphate treatment for paint adhesion and all exposed surfaces shall have a rust inhibiting primer.

C. Acceptable manufacturers: See Paragraph 2.02-C above.

D. Welded Frames. Secure headers and jambs at the corners either by internal welding of faces or by welded splice plates. Also secure joints at jambs and headers at the rabbet either by tack welding on the inside of the profile or by mechanical interlock. Form neat line joints at faces of frames at junction of head and jamb.

E. Frame Anchors:

1. Wall Conditions. Provide frames with a minimum of three anchors per jamb as required for the adjoining wall construction. Provide anchors of not less than 18 gage steel or 3/16" diameter wire adjustable.

2. Floor Anchors. Provide all frames with minimum 18 gage anchors for attachment to the floor.

2.04 DOOR LOUVERS

A. Fire-Rated Louver: Each fire-rated louver shall have the listing mark of Underwriter's Laboratories Inc. affixed to louver assembly.

All louvers in fire-rated doors shall be Model FLDL-UL, 16 gage cold rolled steel with stainless steel operating springs, as manufactured by Anemostat Products, Carson, California, or equal products of other manufacturers when accepted in advance by the Architect. Louvers shall be sight-proof per SDI-111C.

B. Fixed-Blade Louver

1. All fixed blade louvers shall be Model FDLS, 18 gage cold rolled steel with mitered and welded frames and countersunk mounting holes, as manufactured by Anemostat Products, or equal products of other manufacturers when accepted in advance by the Architect. Louvers shall be sight-proof per SDI-111C.

2. Provide insect screen where louver occurs in exterior door.

C. Finish

Finish shall be factory painted in color selected by the Architect.

2.05 FINISH HARDWARE

Secure templates from the finish hardware supplier, and accurately install, or make provision for, all finish hardware at the factory.

2.06 INSULATION

Provide polystyrene foam insulation core typically and at all 12" high horizontal mullions and sills. Insulation shall have a minimum R factor of 7.7.

2.07 GLAZING

Non-removable glazing stops shall occur on the outside of exterior doors and the secure side of interior doors. Glazing beads on the inside of glass and louver panels shall be removable. Miter of butt join beads at corners. Glazing beads may be either screw-on or snap-on type. Glazing systems shall be a minimum of 20-gage steel or .040" aluminum.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Do not proceed until unsatisfactory conditions are corrected.

D. Beginning of installation means acceptance of conditions.

3.02 FABRICATION

A. Doors:

1. All doors shall be of types and sizes on the drawings, and shall be fully welded seamless construction with no visible seams or joints on their faces or vertical edges. Doors shall be strong, rigid and neat in appearance, free from warpage or buckle. Corner bends shall be true and straight and of minimum radius for the gauge of metal used.

2. Door faces shall be joined at their vertical edges by a continuous weld extending the full height of the door. All such welds shall be ground, filled and dressed smooth to make them invisible and provide a smooth flush surface.

3. Top and bottom edges shall be closed with a continuous recessed 16 gauge steel channel extending the full width and spot welded to both faces. Exterior doors shall have an additional flush closing channel at the top edge. Opening shall be provided in the bottom closer for escape of entrapped moisture.

4. Vertical edges of single acting swing doors shall be beveled 1/8" in 2".

5. Doors shall be mortised, reinforced, drilled and tapped at the factory for fully template hardware only. Where surface mounted hardware is to be applied, doors

shall have reinforcing plates only, with drilling and tapping to be done in the field. Minimum gauge of hardware reinforcing shall be as follows:

a. Hinge: 7-gauge

b. Lock, flush bolts, concealed holders, and for all surface-mounted hardware: 12-gauge.

6. Allow 1/8" clearance between doors and frame at top rail and at lock and hinge stiles. At floors allow 1/2" clearance. At thresholds and curbs allow 1/4" clearance unless otherwise detailed.

7. The Face sheets of Exterior and Security doors shall be stiffened by continuous vertical formed steel sections occupying the full thickness of the interior space between door faces. These stiffeners shall be not less than 20 gauge, spaced not more than 6" apart and securely attached to both face sheets by spot welds not more than 4" o.c. Spaces between stiffeners shall be sound deadened and insulated the full height of the door with an inorganic non-combustible batt-type material.

B. Frames:

1. All door and louver frames shall be strong and rigid, neat in appearance, square, true and free of defects, warp and buckle. Molded members shall be clean cut, straight and of uniform profile and back-bends shall be as detailed.

2. Corner joints shall have all contact edges closed tight, with trim faces and stops mitered and continuously welded. All welds shall be ground, filled and dressed smooth to make them invisible and provide a smooth flush surface.

3. Hardware reinforcement shall be same as specified for door, with hinge and pivot reinforcement 1-1/2" x 10" minimum size.

4. Unit frames for installation in stud partitions shall be provided with steel anchors of suitable design for welding to steel studs. Anchors shall be not less than 16-gauge and shall be securely welded inside each jamb. Anchors are to be spaced at 24" on center.

5. Provide floor anchor of 14-gauge steel securely welded inside each jamb with two holes provided for floor anchorage.

6. Dust cover boxes of not less than 26-gauge shall be provided at all hardware mortises on frames to be set in masonry or drywall partitions. All frames shall be provided with a steel spreader attached to the feet of both jambs to serve as a brace during shipping and handling.

C. Finish: Finish shall consist of the following items:

1. Thoroughly clean all metal of rust, oil, and grease after fabrication.

2. Bonderize all metal with bonderite solution.

3. Baked-on coat of primer after bonderizing.

4. Additional coat of primer prior to shipping.

D. Labeled Doors and Frames: Labeled doors and frames shall be provided for those openings requiring fire protection ratings, as scheduled on the drawings. Such doors and frames shall be constructed as tested by the Underwriter's Laboratories, Inc., and shall bear their label for the required rating. Provide additional frame accessories as required to maintain the fire protection ratings once the frames are installed in the openings.

3.03 FIELD MEASUREMENTS

Verify all opening dimensions in the field prior to fabrication and assembly of frames.

3.04 INSTALLATION

Placing frames:

1. Where practicable, place frames prior to construction of enclosing walls and ceilings.
2. Set frames accurately into position, plumbed, aligned and braced securely until permanent anchors are set.
3. After wall construction is completed, remove temporary braces and spreaders, leaving surfaces smooth and undamaged.
4. At in-place wood stud construction, set frames and secure to adjacent construction with #12 self-tapping flathead wood screws and zee clips.
5. At in-place metal stud construction, set frames and weld anchorage devices to adjacent construction.
6. When installed in prepared openings in concrete construction, provide sealant between frame and concrete.

3.05 ADJUST AND CLEAN

A. Final adjustments:

1. Check and readjust operating finish hardware items in hollow metal work just prior to final inspection.
2. Leave work in complete and proper operating condition.
3. Remove defective work and replace with work complying with the specified requirements.

B. Immediately after erection, sand smooth all rusted and damaged areas of prime coat, and apply touch-up of compatible air-drying primer.

***** END OF SECTION *****

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SECTION 08200

WOOD DOORS AND FRAMES

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.

1.02 SCOPE OF WORK

All of the requirements of the Contract Document apply to this Section. Furnish materials and perform labor required to execute this work as indicated on the drawings, as specified and as necessary to comply with the Contract Documents, as follows:

1. Solid and Hollow Core wood doors: fire-rated and non-rated per schedule.
2. Shop Drawings.
3. Samples.

1.03 QUALITY ASSURANCE

A. Provide a written guarantee in approved form that all defective materials or workmanship reported within a period of two (2) years after final acceptance will be promptly repaired or replaced to the Owner's satisfaction. Cover the following items specifically.

1. Delamination in any degree.
2. Warp or twist of 1/4" or more.
3. Telegraphing of core unit through face veneer to cause surface variation of 1/100" in any 3" span.
4. Any defect that may affect performance or appearance.

B. Provide materials and workmanship conforming to the Wood Work Institute of California. Provide "Certified Compliance" grade stamp on every doors - Premium grade. Shop Drawings shall bear the WIC Certified Compliance Label on the first page of each set of Drawings.

1.04 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.05 SUBMITTALS

A. In accordance with Article 5 of the General Conditions.

B. Product data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:

1. List of items that will be provided under this Section;
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
3. Shop Drawings showing details of each frame type, elevations of door designs, details of openings, and details of construction, installation, and anchorage.
4. Manufacturer's recommended installation procedures which, when accepted by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.
5. Samples, approximately 4" x 4" in size, of each of the proposed door face materials.

1.06 PRODUCT HANDLING

A. Delivery:

1. Deliver doors to site after plaster and cement are dry, and after the building has reached average prevailing relative humidity for its locality.

2. Deliver doors in manufacturer's original containers, clearly marked with manufacturer's name, brand name, size, thickness, and identifying symbol on its cover.

B. Storage:

1. Stack flat on 2" x 4" lumber, laid 12" from ends and across center.

2. Under bottom door and over top of stack, provide plywood or corrugated cardboard to protect door surfaces.

3. Store doors in area where there will be no great variations in heat, dryness, and humidity.

C. Lift and carry doors into position. Do not drag doors across one another.

PART 2 -- PRODUCTS

2.01 DOORS:

A. See Door Schedule for Types

B. Solid Core Doors:

1. 1-3/4" thick stave lumber core. Mineral core for 60 to 90 minute rated doors. Core complied with commercial std. LS-236.

2. Top and edge bands: Match face veneer.

3. BTM band: Hard or soft wood.

4. Glue: Use CS 35 Type II for bonding core, use Type 1 (fully waterproof) for all other work. Exterior doors to have only Type 1 adhesives used.

5. Finish:

a. Stain Finish: plain-sliced veneer with book-matched grain for transparent finish for interior doors only. See drawings for veneer and stain type. Use red oak veneer with a transparent finish if none is indicated on the drawings.

b. Paint Finish: medium density hardboard overlay for smooth paint finish. See Drawing for paint type or types.

C. Hollow Core Doors:

1. Cellular core include lock blocks, top and bottom rails.

2. Edge bands: match face veneer.

3. Face veneer: rotary cut red oak veneer matched grain for transparent finish.

4. Glue: Use CS35 Type II for bonding core, use Type I for all other work.

D. Solid Wood Stile and Rail Doors:

1. Top rail and stiles shall be minimum of 4-1/2" thickness with 9-1/2" minimum bottom rail on interior doors: exterior doors shall have 5-3/8" overall width with an 11-3/8" minimum bottom rail.

2. Doors shall be assembled with mortise and tenon or doweled joints. All adhesives shall be Type I exterior glue.

3. Glazing shall be safety glazing bedded in sealant squeezed out on both sides and secured in place with wood glazing beads or gasket.

4. Hardwood doors shall be veneered with rotary cut red oak and shall have all exposed edges veneered with matched grain.

E. Plastic Laminated Wood Doors:

1. Interior construction shall be the same as for Solid Core Wood Door.

2. On both faces except for Solid Wood Stile and Rail Doors, provide 1/8" thick "Dor-Surf", No. 117, manufactured by Wilsonart Division of Ralph Wilson Plastics, or an Architect approved equal:

a. See Drawings for colors and patterns.

b. If none are indicated, Architect will select from standard colors and patterns of the accepted manufacturer as a part of the Submittals.

3. On both vertical edges, provide matching laminated plastic.

4. On tops and bottoms of doors, provide a positive sealer applied after completion of machining and fitting.

5. Where transoms occur above doors, provide same type, design thickness, construction and label as door. Bottom edge of transom shall also receive matching laminated plastic finish.

F. Manufacturers:

1. Solid Core and Hollow Core Doors:

a. Weyerhaeuser (800) 869-3667

b. Or approved equal.

2. Solid Wood doors

a. Sun-Dor-Co (316) 284-0044

b. Or approved equal.

3. Fire-Rated Doors and Frames

a. Shall be a U. L. rated assembly.

2.02 DOOR LOUVER

A. Fire Rated Louver

1. All louvers in fire rated doors shall be Model FLDL-UL, 16 gage cold rolled steel with stainless steel operating springs, as manufactured by Anemostat Products, Carson, California. (213) 775-7441, or approved equal.

2. Each fire rated louver shall have the listing mark of Underwriter's Laboratories Inc. affixed to louver assembly.

B. Fixed Blade Louver

1. All fixed blade louvers shall be: Model CHDL-2F, 18-gauge cold rolled steel with mitered and welded frames and countersunk mounting holes, as manufactured by Anemostat Products or approved equal.

2. Provide insect screen where louver occurs in exterior door.

C. Finish

1. Finish shall be factory painted in color selected by the Architect.

2.03 VISION FRAME

A. Fire Rated Doors:

1. Vision frames for fire rated doors shall be FGS-75 with veneer to match door finish and 3/16" clear Firelite as manufactured by Anemostat Products, Carson, California in accordance with the standards set forth by NFPA-80 and bear the listing mark of Underwriter's Laboratories, Inc. or approved equal.

2. Provide sizes and designs shown on the Drawings.

B. Unlabeled Doors: Provide Model FGS-75 or 38, as applicable, as manufactured by Anemostat Products in sizes and designs shown on the Drawings.

C. All vision frames shall be constructed of 18-gage cold rolled steel and shall have mitered and welded corners with countersunk mounting holes.

D. Finish: Finish shall be factory painted in color selected by the Architect.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Do not proceed until unsatisfactory conditions are corrected.

D. Beginning of installation means acceptance of conditions.

3.02 PREPARATION

A. Verify dimensions and surfaces are ready to receive work of this Section.

B. Beginning of work signifies acceptance of surface by installer.

3.03 INSTALLATION

A. Fitting and machining doors:

1. Using measurements obtained in the field from installed frames, machine the doors at the factory to fit the prescribed frames with proper clearance at top, bottom, and vertical edges.

2. Adjust for smooth and balanced door movement. Replace or re-hang doors which are hinge-bound and do not swing or operate freely.

3. Install in accordance with ANSI/AWMA requirements.

B. Install frames level and plumb - shim as required.

C. Receive and retain custody of finish hardware, if included, of these Specifications for the work of this Section and in accordance with ANSI/AWMA requirements.

3.04 ADJUST AND CLEAN

Upon completion of the installation, inspect each component.

1. Verify that each item has been fabricated and installed in accordance with the specified requirements.

2. Make necessary adjustments.

3. Touch-up as necessary to make surface blemishes permanently invisible to the unaided eye.

***** END OF SECTION *****

SECTION 08700

PRE-FINISHED STEEL DOOR FRAMES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: This Section specifies knocked down, site assembled, prefinished metal, non-fire rated and fire-rated frames for:

1. Doors.
2. Sidelights.
3. Borrowed lights.
4. Transoms.
5. Access doors.

1.02 REFERENCES

A. Reference Standards:

1. American Architectural Manufacturers Association (AAMA) - AAMA 611Voluntary Standards for Anodized Architectural Aluminum.
2. ASTM International (ASTM):
   a. ASTM A366 Standard Specification for Commercial Steel (CS) Sheet, Carbon (0.15 Maximum Percent) Cold-Rolled.
   b. ASTM A879 Standard Specification for Steel Sheet, Zinc Coated by the Electrolytic Process for Applications Requiring Designation of the Coating Mass on Each Surface
   c. ASTM B221 Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles and Tubes.
   d. ASTM B455 Standard Specification for Copper-Zinc-Lead Alloy (Leaded-Brass) Extruded Shapes.
3. National Fire Protection Association (NFPA):
   a. NFPA 80 Standard for Fire Doors and Other Opening Protectives.
   b. NFPA 252 Standard Methods of Fire Tests of Door Assemblies.
4. Underwriters Laboratories, Inc. (UL):
   a. UL 10B Fire Test of Door Assemblies.
   b. UL 10C Positive Pressure Fire Tests of Door Assemblies.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate work of this Section with work of other trades for proper time and sequence to avoid construction delays.

B. Sequencing: Sequence work of this section in accordance with manufacturer's written recommendations for sequencing construction operations.

1.04 ACTION SUBMITTALS

A. General: Submit listed submittals in accordance with Contract Conditions.

B. Product Data: Submit specified products as follows:

1. Manufacturer's product data, including manufacturer's SPEC-DATA product sheet.
2. Manufacturer's installation instructions.
3. Catalog pages illustrating products to be incorporated into project.
4. Material Safety Data Sheets (MSDS).

C. Shop Drawings: Indicate information on shop drawings as follows:

1. Frame elevations.

2. Details of frame anchorage.
3. Details of reinforcements.
4. Rough opening requirements.
5. Locations of hardware embosses.
6. Finishes.

D. Samples: Submit as follows:

Frame samples illustrating each finish specified.

1.05 INFORMATION SUBMITTALS

A. General: Submit listed submittals in accordance with Contract Conditions.

B. Test and Evaluation Reports:

Certified test reports showing compliance with specified performance characteristics and physical properties.

1.06 DELIVERY, STORAGE & HANDLING

A. Delivery and Acceptance Requirements:

1. Deliver material in accordance manufacturer's written instructions.
2. Deliver materials in manufacturer's original packaging with identification labels intact and in sizes to suit project.

B. Storage and Handling Requirements:

Store materials protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.

C. Packaging Waste Management:

1. Separate waste materials for reuse and recycling.
2. Remove packaging materials from site and dispose of at appropriate recycling facilities.
3. Collect and separate for disposal paper plastic polystyrene corrugated cardboard packaging material in appropriate onsite bins for recycling.
4. Fold metal and plastic banding, flatten and place in designated area for recycling.
5. Remove:

Pallets from site.

1.07 WARRANTY

A. Warranty: Refer to Contract Conditions for project warranty provisions.

B. Manufacturer's Warranty: Submit for Owner's acceptance manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and does not limit, other rights Owner may have under other Contract Documents.

PART 2 PRODUCTS

2.01 MANUFACTURER:

A. Timely Industries, 10241 Norris Avenue, Pacoima, CA 91331-2218; Telephone: 800-247-6242; Fax: 818-492-3530; E-mail: sales@timelyframes.com; Website: www.timelyframes.com, or approved equal.

1. Single Source Responsibility: Provide all frames from single manufacturer.
2. Substitution Limitations:

Substitutions: In accordance Article 5 of the General Conditions.

2.02 FRAMES:

A. Frame Material:

1. Cold rolled steel to ASTM A366.
2. Electro-galvanized, cold-rolled steel to ASTM A879.

B. Frame Throat Opening: As indicated on drawings.

C. Size: As indicated on drawings.

D. Frame Profile:

1. "S" Series: Standard 0.9 mm (20 gauge) thick.
2. "C" Series: 1.2 mm (18 gauge) thick.
    a. Rabbet profile: [Unequal] [Equal] [Single].
3. "CK" Series: 1.2 mm (18 gauge) thick, with kerf for door seal/gasket.
4. "A" Series: 1.2 mm (18 gauge) thick; adjustable.
5. "E" Series: 0.9 mm (20 gauge) thick.
    a. Material: Type 304 brushed stainless steel.
6. "P" Series: 1.2 mm (18 gauge) thick; for pocket door trim only.

E. Side Light Frame: 1.2 mm (18 gauge).

F. Frame Casings:

1. TA-08: Standard Steel with 1/4 inch (6 mm) reveal; corner alignment clips.
    a. Material: Cold-rolled steel to ASTM A366 OR Electro-galvanized steel to ASTM A879.
    b. Rosettes: TA-21 floral design OR TA-22 Saturn design.
2. TA-30 Colonial Style Steel with 1/4 inch (6 mm) reveal; corner alignment clips.
    a. Material: Cold-rolled steel to ASTM A366 OR Electro-galvanized steel to ASTM A879.
    b. Rosettes: TA-33 floral design OR TA-34 Saturn design.
3. TA-23 Aluminum conforming to ASTM B221, with 1/4 inch (6 mm) reveal; corner alignment clips.
    a. Finish: Prefinished OR Clear anodized.
4. TA-28 Aluminum conforming to ASTM B221, with 1 3/4 inch (44 mm) full face profile; corner alignment clips.
    a. Finish: Prefinished OR Clear anodized.
5. TA-35 PVC (Cellular polyvinyl chloride) with 1/8 inch (6 mm) reveal.

G. Regulatory Requirements:

    a. In accordance with Regulatory Requirements.
    b. Fire-rated Frame Construction: Conform to ASTM E152, NFPA 252 and UL 10B and 10C.
    c. Installed Frame Assembly: Conform to NFPA 80.

H. Compatibility:

    Ensure components and materials are compatible with specified accessories and adjacent materials.

I. Fabrication:

1. Cut, notch and fabricate frames at manufacturer's facility. For fire-rated and exterior openings, provide kerf at stop for installation of smoke gasket or weatherstrip.
2. For fire-rated opening, affix [physical label to prefinished frame] [embossed label to primed frame].
3. Provide minimum 14 gauge hinge reinforcement plate, tapped for machine screws supplied with hinges. Mechanically attach hinge plate to hinge emboss on frame.
4. Casing Clips: Fabricate frames with factory applied, heat treated clips to prevent deflection in the clip upon application or removal of casing. Attachment clips may not be of same material as frame.
5. Provide notches and tabs or stops (or both) for positive alignment of frame parts at all corners.
6. Notch mullions to provide tight joints.
7. Provide manufacturer's standard mullion brackets for positive connection of frame and mullion parts.
8. Provide manufacturer's standard steel glass stop, factory cut to exact length. Provide a hole for

installation screw within 2 inches of each end of stop piece at fire-rated glazed openings.

9. Provide insert channel full width of light for sidelight and borrowed light frames installed on finish floor. Provide full width head channel for ceiling height units.
10. Provide fixed type transom bars with same profiles as jamb and head.
11. Prepare frames for ASA 4 7/8 inch (124 mm) strikes, where required. Provide minimum 1/4 inch (6.35 mm) depth of threads in factory tapped screw holes.
12. Provide TA-46 smoke gasket on all prefinished, CK series frames. Install with factory mitered corners to provide a seal.
13. Provide corner alignment clips.

J. Finishes:

1. Steel, Colonial Steel and Galvanized Steel: Polyurethane-based, 3-coat paint system OR Electrostatically-applied water-based paint system.
   a. Standard Color(s): Alumatone (SC108) OR Autumn Brown (SC102) OR Black (SC103) OR Browntone (SC101) OR Primer Electro Galvanized OR Stone Grey (SC106) OR Western White (SC107).
   b. Custom Color(s): Match frames to custom color as selected.
2. Stainless Steel: #430 Bright (ES204) OR #4 Brushed 304 (ES206).
3. Aluminum: Polyester baked enamel, Alumatone (SC108) OR Clear anodized, AAMA 611 AA-M12C22A41, Class I coating.
4. Brass: Bright Solid Brass (ES201) OR Bright Plated Brass (ES202).

2.03 ACCESSORIES

A. Frame Reinforcements for Site Installation: Manufacturer's standard reinforcements for hardware.

B. Glass Stops: TA-14 removable rolled steel, shape, butted ends. Pre-punch and countersink for flathead tek screws. Provide stop with fastener location not more than 2 inches from end for all fire-rated glazed openings.

C. Adjustable strikes: Emboss frames for TA-1 strike for cylindrical lock. Provide TA-1 strike in finish compatible with hardware finish.

D. Weatherstrip/Smoke Gasket: TA-46 (QDS500) 90 minute rated gasket for kerfed frames. Provide prefinished frames with factory installed TA-46. All pieces factory mitered to assure perfect corner alignment. Color to match Timely standard frame colors.

E. Silencers: TA-5 vinyl, clear stick-on type.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Verify that conditions of substrates previously installed under other sections or contracts are acceptable for product installation in accordance with manufacturer=s instructions prior to door frame installation.

1. Inform Architect of unacceptable conditions immediately upon discovery.
2. Proceed with installation only after unacceptable conditions have been remedied.

3.02 INSTALLATION

A. Coordinate installation of door frame.

B. Coordinate frame work with work of other trades for proper time and sequence to avoid construction delays.

C. Install frame in accordance with manufacturer's instructions.

D. Install frame plumb and level.

E. Accurately fit, align, securely fasten and install free from distortion or defects.

3.03 CLEANING

A. Perform cleanup.

B. Upon completion, remove surplus materials, rubbish, tools and equipment.

C. Waste Management:

1. Collect recyclable waste and dispose of or recycle field-generated construction waste created during demolition, construction or final cleaning.

2. Remove recycling containers and bins from site.

3.04 PROTECTION

A. Protect installed product from damage during construction.

B. Repair damage to adjacent materials caused by door frame installation.

*****END OF SECTION*****

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SECTION 08800

GLAZING

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.

1.02 SCOPE OF WORK

All of the requirements of the Contract Documents apply to this Section.

1.03 REFERENCES

A. SIGMA No. 64-7-2 -- Specification for Sealed Insulating Glass Units.

B. FGMA -- Glazing Manual, Glazing Sealing Systems Manual.

1.04 QUALITY ASSURANCE

Conform to Flat Glass Marketing Association (FGMA) for glazing installation methods.

1.05 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.06 SUBMITTALS

A. In accordance with Article 5 of the General Conditions.

B. Provide structural, physical and environmental characteristics, size limitations, and special handling or installation requirements.

C. Provide data on glazing sealant. Identify colors available.

D. Submit two samples, illustrating glass unit and coloration.

1.07 GUARANTEE

A. Contractor shall guarantee the work covered by this specification against all defects in material and workmanship for a period of not less than two (2) years.

B. Include coverage of sealed glass units from seal failure, interpane dusting or misting, and replacement.

PART 2 -- PRODUCTS

2.01 ACCEPTABLE GLASS MANUFACTURERS

A. Insulated, Laminated, and Spandrel Glass: PPG Industries, Inc.

B. Security Glazing: Nippon Electric Glass Company (800) 426-0279.

C. Clear Fire-Rated Window Glazing: Pyrobel by Interedge (877) 376-3343.

D. Clear Fire-Rated Door/Sidelight Glazing: PyroEdge or Pyrobel by Interedge (877) 376-3343.

E. Or approved equal.

2.02 GLASS MATERIALS (As indicated on the Window Schedule):

A. General: Exposed "tong" marks are not acceptable.

B. Interior Tempered Glass: Clear, Tempered ¼" thick. Grade B (tempered), Style I (uncoated), Type I (float or plate).

C. Insulated Glass Units: Double pane ¼" units with edge seal; interpane ½" space purged with dry hermetic air; total unit thickness of 1 inch. Tempered as required by Code and indicated on drawings. Tinting as indicated on Window Schedule - tinted on inside of outer layer only. PPG Solarban 60 (2) or (3) or equal low e coating. Performance values based on tinted product selected.

D. Interior Wired Glass: 1/4" clear wire glass.

E. Interior laminated glazing - one way: Two pieces of 1/8" clear float glass, tempered as required by code, laminated with .030 in. polyvinyl butyl plastic interlayer conforming to 16CFR 1201 Category II for one-way glazing.

F. Security Glazing: 11/16" thick, glazing assembly consisting of two outer lights of 1/8" clear chemically strengthened glass with a core of two 1/8" polycarbonate sheets laminated with four inter-layers of .50 inch thick urethane.

G. Ballistic Glazing:

15/16" thick glazing assembly certified for level-A ballistics consisting of two outer lights of 1/8" clear chemically strengthened glass with a core of two 1/8" and 1/4" polycarbonate sheets laminated with four inter-layers of .50-inch thick urethane.

H. Clear Fire Glazing: Model as required for required Fire-Rated Assembly.

2.03 GLAZING COMPOUNDS

A. Glazing Compound: Modified oil type, non-hardening, knife grade consistency.

B. Butyl Sealant: Single component; Shore-A hardness of 10-20; black color; non-skinning.

C. Acrylic Sealant: Single component, solvent curing, cured Shore hardness, non-bleeding.

D. Silicone Sealant: Single component, non-bleeding, non-staining; Capable of water immersion without loss of properties.

2.04 GLAZING ACCESSORIES

A. Setting Blocks: Neoprene; 80-90 Shore A durometer hardness; 4 inch minimum long x 1/4 inch thick.

B. Spacer Shims: Neoprene; 40-50 Shore A durometer hardness; 4 inch long on 18 inch centers for wet-glazed systems.

C. Glazing Clips: Manufacturer's standard type.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the area and conditions under which work of this Section will be performed.

B. Coordinate work with other trades as needed to assure that proper substrate are provided to receive work of this Section.

C. Verify surfaces of glazing channels or recesses are clean, square in plane, free of obstructions, and ready for work of this Section.

D. Verify weep holes in exterior frame are provided.

E. Correct conditions detrimental to timely and proper completion of the Work.

F. Do not proceed until unsatisfactory conditions are corrected.

G. Beginning of installation means acceptance of conditions.

3.02 PREPARATION

A. Clean contact surfaces with solvent and wipe dry.

B. Seal porous glazing channels or recesses.

3.03 EXTERIOR WET METHOD (SEALANT AND SEALANT)

A. Place setting blocks at 1/4 points and install glass pane.

B. Install removable stops with pane centered in space by inserting spacer shims both sides at 18-inch intervals, 1/4 inch below sightline.

C. Fill gap between pane and stops with sealant to depth equal to bite of frame on pane, but not more than 3/8 inch below sightline.

D. Apply sealant to uniform line, flush with sightline. Tool or wipe sealant surface with solvent for smooth appearance. Security Glazing to be sealed with security sealant as recommended by manufacturer.

E. Drain or weep the sill of each opening to the outdoors at three points using 3/8-inch diameter weep holes or the equivalent.

3.04 INTERIOR COMBINATION METHOD (TAPE AND SEALANT)

A. Cut glazing tape to length and install against permanent stops, project 1/16 inch above sightline.

B. Place setting blocks at 1/4 points.

C. Rest glass on setting blocks and push against tape to ensure full contact at perimeter of pane.

D. Install: removable stops, spacer shims between glass, and applied stops at 18-inch intervals 1/4 inch below sightline.

E. Fill gap between pane and applied stop with sealant to depth equal to bite of frame on pane to uniform and level line.

F. Trim protruding tape edge.

3.05 INTERIOR WET METHOD (COMPOUND AND COMPOUND)

A. Install glass resting on setting blocks. Install applied stop and center pane by use of spacer shims at 18-inch centers, kept 1/4 inch below sightline.

B. Locate and secure glass pane using glaziers' clips.

C. Fill gaps between pane and stops with glazing compound until flush with sightline.

3.06 CLEANING

A. After installation, mark pane with an "X" by using plastic tape or removable paste.

B. Remove glazing materials from finish surfaces.

C. Remove labels after work is completed.

D. Clean glass with solvent and normal wash. Final cleaning and polishing shall be done prior to final inspection.

E. Remove and replace broken, scratched, chipped or otherwise defective glass with new materials and leave the entire installation in a neat, clean, and acceptable condition.

***** END OF SECTION *****

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SECTION 09200

LATH AND PLASTER

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.

1.02 SCOPE OF WORK

Supply and install all Lath and Plaster Work as shown on the Drawings and as specified herein, for a complete and proper installation.

1.03 REFERENCE STANDARDS

Comply with all applicable requirements of the California Lathing and Plastering Contractor's Association "Reference Specifications" except where more stringent requirements are indicated herein or in local building codes.

1.04 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.05 SUBMITTALS

A. In accordance with Article 5 of the General Conditions.

B. Submit Product Data and color samples and manufacturers application data.

C. Make (2) samples, at least one-foot square, of selected specified plaster system.

1.06 QUALITY ASSURANCE

A. In all Work under this Section, coordinate with all other trades whose work connects with, is affected or concealed by lathing and plastering. Before proceeding, make certain all required inspections have been made. Do all cutting and patching required to accommodate the work of other trades.

B. Inspect surfaces to receive lath and plaster before starting Work and do not start until surfaces are acceptable. Starting Work under this Section implies acceptance of surfaces.

1.07 DELIVERY AND STORAGE

Deliver all manufactured materials in original packages bearing manufacturer's name and brand. Use only one brand of each material throughout job. Store materials in dry areas.

PART 2 -- PRODUCTS

2.01 LATH

Paperbacked Lath: K-Lath Corporation: "Aqua K-Lath", or as approved by Architect, 16 gauge wires spaced 1-1/2 inches o.c. vertically and welded to 16 gauge wires spaced 2 inches o.c. horizontally, with perforated Kraft paper to insure plaster embedment and Type I Class B waterproof building paper laminated to back side.

2.02 ACCESSORIES

A. Corner Bead: #1X Type, Keene or equal, expanded metal flanges integral with nose bead of solid metal, galvanized.

B. Corner Lath: As specified for expanded metal, three (3) inch legs bent to a 105-degree corner, - "Cornemaster #30" by Keene, or equal.

C. Casing Beads: #66 Type, Western, or equal, expanded metal flange, galvanized, depth as required by plaster thickness, weighing approximately 200# per 1000 lineal feet for 3/4-inch and 7/8-inch types.

D. Expansion Joints: #15 by Keene or equal. Cut lath passing under expansion joints. Install where indicated on Drawings, with the following minimum conditions:

1. No length should be greater than 18 feet in either direction
2. No panel shall exceed a maximum of 144 square-feet for vertical applications.
3. No panel shall exceed a maximum of 100 square-feet for horizontal, curved or angular sections.
4. No length-to-width ratio should exceed 2.5 to 1 in any given panel.

E. Bonding Agent: As recommended for application over smooth monolithic concrete shells. Concrete shells shall be cleaned with bonding agent applied prior to plastering interior.

F. Wire: Soft, annealed, galvanized steel, 8-gauge for hangers, 16-gauge for channel ties and 18-gauge for lath ties.

G. Nails: Concrete nails, case hardened steel, 3/4 inch long.

H. Weep Screed: by Keene or equal. 1-1/4" ground, galvanized.

I. Building Paper: 15#, asphalt impregnated.

J. Miscellaneous Items: Furnish all miscellaneous components not specified herein but shown on the Drawings and any other items required to complete the installation.

K. Water: Clean and free of deleterious matter.

2.03 PORTLAND CEMENT PLASTER

A. Portland Cement: Conforming to ASTM C-150, Type 1.

B. Sand for Cement Plaster: Conforming to ASA A42.2.

C. Hydrated Lime: Conforming to ASTM C-206, Type S.

D. Quick Lime: Conforming to ASTM C-5.

E. Exterior Cement Plaster:

1. Scratch Coat: One part Portland Cement, four (4) parts sand and hydrated lime equal to 25% volume of cement.
2. Brown Coat: One part Portland Cement, five parts sand and hydrated lime equal to 25% of the volume of cement.
3. Finish Coat: Portland Cement-Lime: one part standard Portland Cement, not more than 1/2 part dry hydrated lime (or an equivalent amount of lime putty) and not more than one part #20 mesh, and one part #16 mesh silica sand. Submit finish sample(s) for Architect's approval.
4. Thickness: 7/8 inch thick, measured from back of lath.
5. Finish coat to contain integral color. Submit samples to Architect for approval based upon colors indicated on Drawings.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and condition under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Do not proceed until unsatisfactory conditions are corrected.

D. Beginning of installation means acceptance of conditions.

3.02 GENERAL

A. Coordinate work with other trades as needed to assure that proper substrate are provided to receive work of this Section.

B. Provide ventilation to properly dry plaster during and subsequent to application. In glazed areas, accomplish by keeping windows open sufficiently to provide air circulation; in enclosed areas lacing normal ventilation, mechanically remove moisture-laden air.

3.03 LATHING

A. Apply lath with long dimension at right angles to supports; lap side and ends as recommended by manufacturer. Stagger vertical laps. Make no vertical joints at any corner; bend lath around all corners, internal and external.

B. Attach lath to studs by fasteners at spacings required by local building codes. All attachments to be corrosion resistant.

C. Install all accessories to plumb, true and level lines, and backing plates as located by the trade furnishing these items.

D. Install beads, corner laths, control joints, reglets, screeds, and like items, using single lengths wherever possible. Provide corner beads at all exterior corners shown, mitering or coping as required, and fastening at six (6) inches o.c., both sides. Provide casing beads wherever interior plaster angles are shown and wherever one or both abutting surfaces are metal lathed, except corner laths are not required where metal lath is continuous around corner at junctions of walls, or where ceiling lath turns down a wall. Tie outer edges only to adjoining lath at six (6) inches o.c. or stub nail to any concrete. Install access panels supplied by other trades.

E. Start installation at bottom of wall, working up and from right to left. Apply lath with long dimension at right angles to supports; lap sides and ends as recommended by manufacturer. Stagger vertical laps. Make no vertical joints at any corner; bend lath around all corners, internal and external.

F. Attach lath to metal and/or wood studs by means of tie wire and nails respectively at spacings as required by Local Building Codes. All attachments shall be corrosion resistant.

G. Install corner beads at all external corners. Use single length except where standard length is not sufficient. Miter or cope as required; fasten with tie wire at six (6) inches o.c., both sides.

H. Install at interior angles and sheer one or both abutting surfaces are metal lath. Corner laths are not required where metal lath is continued around corner at junction of walls and where ceiling lath turns down wall unless otherwise noted on drawings. The outer edges only to adjoining lath at six (6) inches o.c., or stub nail to concrete.

3.04 PLASTERING

A. Do not apply plaster below 55 degrees F temperature. Apply no plaster to frosty surfaces. Dampen any surfaces on which suction must be reduced with fog-spray. Maintain all screeds plumb and true.

B. Except when had mixing small batches is approved, use approved mechanical mixers. Clean mixers, mixing boxes and tools after mixing each batch. Thoroughly mix with water

until uniform in color and consistency. Retempering not permitted. Discard plaster, which has begun to stiffen. Mix in strict accordance with manufacturer's printed directions.

C. Except in the case of specifically formulated plasters, which require only water added job site, proportion by volume as specified.

D. Scratch coat: Apply with sufficient material and pressure to shove material through metal lath and form a good key; 3/8 inch minimum thickness, score in horizontal direction with metal scorer with clipped teeth to provide good mechanical key for second coat. Dampen concrete and concrete block surfaces to reduce suction prior to application.

E. Brown coat: Apply not sooner than 48 hours after application of scratch coat; properly dampen scratch coat; apply sufficient pressure to force plaster into scratches and build out to within 1/8 inch to screeds; for, float and darby to true, plumb surfaces and corners; leave rough for finish coat.

F. Curing: Keep Brown coat moist for at least 48 hours; commence moistening as soon as plaster has hardened sufficiently so to prevent injury; apply water in a fine fog spray; avoid soaking; curing shall proceed over holidays, Saturdays and Sundays if necessary. If atmospheric conditions are hot and dry, curing time shall be extended as necessary at no additional cost to Owner. Allow plaster base coats to cure for a minimum of fourteen (14) days before applying finish coat.

G. Finish coats Apply to partially dry base coat, or to a thoroughly dry base coat that has been evenly wetted by brushing or spraying; avoid use of excessive water. Trowel all finish surfaces of plaster to perfectly true and even surface without scratches, ridges, voids, cracks, etc. Fill fissures or breaks in brown coat and existing plaster before application of finish coat. Make coats uniform in thickness with average thickness about 1/8 inch; minimum thickness anywhere: 1/16 inch.

3.05 CLEANING AND PATCHING

A. A clean floor of droppings immediately after each coat is applied. At any exterior locations, remove droppings or splashes from all concrete, masonry or other finish surfaces.

B. Patch after all other Work, except painting, has been completed. Cut out damaged or broken plaster to straight lines with clean, sharp edges. Cut out cracks to width of at least one (1) inch. Fill areas to be patched with base materials, and then give a finish coat of same material as adjoining plaster. Patched areas shall match adjoining work in finish and texture. Joining shall be flush and smooth so joints between patch and existing plaster are not noticeable.

C. At completion of Work, remove excess plaster from beads, screeds, etc., and leave Work clean and ready for painting. Promptly remove plaster, rubbish, surplus material, scaffolding and other equipment from job site. Leave areas broom clean.

***** END OF SECTION *****

SECTION 09250

GYPSUM BOARD SYSTEMS

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.

1.02 SCOPE OF WORK

All of the requirements of the Contract Documents apply to this Section.

1.03 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.04 SUBMITTALS

A. In accordance with Article 5 of the General Conditions.

B. Product data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:

1. List of items to be provided under this Section.

2. Manufacturer's Specifications and other data needed to prove compliance with the specified requirements.

3. Manufacturer's recommended installation procedures which, when accepted by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

C. Mock-ups:

1. At an area on the site where accepted by the Architect, provide mock-up panels as follows:

a. Make each mock-up panel approximately 4'-0" high and 4'-0" long.

b. Provide one mock-up panel for each variation of panels.

c. The mock-up panels may be part of the Work, and may be incorporated into the finished Work, when so accepted in advance by the Architect.

2. If the mock-up panels are not permitted to be part of the finished Work, completely demolish and remove them from the job site upon completion and acceptance of the other work of this Section.

1.05 DELIVERY AND STORAGE

Deliver all manufactured materials in original packages bearing manufacturer's name and brand. Use only one brand of each material throughout job. Store materials off ground and cover against weather. Remove any damaged materials from the site.

1.06 QUALITY ASSURANCE

A. Comply with all applicable requirements of "American Standard Specifications for the Application and Finishing of Gypsum Wallboard", by the America Standards Association, except where more stringent requirements are called for herein, in local Codes or by manufacturer of wallboard. Do all cutting and patching required to accommodate work of other trades.

B. Maintain temperature of drywalled spaces in range of 55 to 90 degrees F until building is entirely closed and ventilated to eliminate excessive moisture.

C. All work herein requires coordination with trades who's Work connects with, is affected or concealed by drywall. Before proceeding with drywall Work, make certain all required inspections have been made.

D. Inspect surfaces to receive drywall before starting Work and do not start until surfaces are acceptable. Starting Work under this Section implies acceptance of surfaces.

PART 2 -- PRODUCTS

2.01 WALLBOARD MATERIALS

A. Gypsum Board: Conforming to ASTM C-36: 5/8" thick, maximum permissible length, ends square cut, tapered and beveled edges.

B. Fire resistive gypsum board: Type X at all interior conditions: 5/8 inch thick x 4 feet wide. Use moisture resistant type X where used in interior wet conditions (ASTM C79).

C. Moisture-resistant Gypsum Board, conform to ASTM C630, 5/8" thick, maximum permissible length.

D. Exterior Cement Board: Concrete glass-fiber reinforced, ½" thick prefabricated panel, consisting of aggregate and Portland cement reinforced with vinyl coated woven glass fiber mesh embedded in both surfaces. Durock Tile Backer Board by USG or approved equal.

2.02 WALLBOARD ACCESSORIES

A. Trim and Edging: 26 gauge, electro-galvanized steel, with knurled surfaces for bedding cement. Provide angle corner pieces with 1-1/4 inch legs at all external corners and channel type metal trim pieces as detailed at all gypsum board edges meeting dissimilar materials. 136#/1000 l.f.

B. Screws: KW self-tapping sheet metal screws, blued steel, counter sunk Phillips heads, of lengths as required to accommodate thickness of drywall construction, for metal framing attachments.

C. Expansion joints: Conspec Systems, Inc. model FWF and FWFC as applicable in field locations. Extruded clear aluminum with continuous gasket.

D. Adhesive: Manufacturer's recommended adhesive for drywall/masonry condition.

2.03 FINISHES

A. Typical walls and/or ceilings to be painted are to receive a medium stipple (orange peel) textured finish as approved by the Architect. Texture to be applied mechanically by this subcontractor.

B. Sand textured walls shall have white play or plaster sand added into the mud prior to application. The application shall be troweled to simulate a smooth plaster finish.

C. A sample of 4' x 4' is to be prepared of each texture for the Architect's approval prior to application.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Do not proceed until unsatisfactory conditions are corrected.

D. Beginning of installation means acceptance of conditions.

3.02 INSTALLATION

A. If framing members are out to alignment, bowed or warped, correct to make true surfaces before application of gypsum board. Make finish walls or ceilings plumb and level without ridges, bows or warps.

B. Apply boards with long dimension perpendicular to framing members with all abutting ends and edges over supports. Neatly fit and stagger all end joints. Make joints occur on different studs at opposite sides of partition. Cut and fit neatly around all outlets and switches. Space fasteners 8 inches o.c. along vertical edges, and 12 inches o.c. of midpoints, 3/8 inch from edge of board. Fasten boards to backings specified (unless noted as shear walls).

C. Erection technique shall result in plumb and straight surfaces with no waves or buckles, free of unevenness at joints.

D. Joints wider than 1/8 inch will be cause for rejection of board surface by Architect.

E. Provide all backing, furring, stripping, or blocking indicated or required for installation and attachment of Work of all other trades. Cut and frame all openings required by other trades. Structural members shall not be cut, notched or drilled except as shown or noted on Drawings.

3.03 TAPING AND FINISHING

A. Mix joint and finishing compounds per manufacturer's directions.

B. Center tape over joint and embed in uniform layer of joint compound of sufficient width and depth to provide firm and complete bond. Apply skim coat while embedding tape.

C. Treat angles with reinforcing tape folded to conform to adjacent surfaces and straight true angles.

D. Allow compound to thoroughly dry for at least 24 hours.

E. Over joint compound and tape, apply coat of finishing compound. Spread evenly and feather out beyond edge of board. After first finishing coat is thoroughly dry (at least 24 hours), cover with second coat with edges feathered out slightly beyond preceding coat.

F. Give all dimples at fastener heads and all marred spots on surface of board one coat joint compound and two coats finishing compound, applied as each coat is applied to joints.

G. Install metal corner reinforcement at all external corners. Conceal flanges of metal reinforcement with at least two coats compound. When completed, compound shall extend approximately 8 inches to 10 inches on each side of metal nosing.

H. After each application of joint or finishing compound has dried, lightly sand all joints. Leave all board and treated areas uniformly smooth and ready for texturing and painting.

3.04 SCHEDULE

A. Provide fire-rated gypsum board at all firewalls and shafts as indicated on Drawings and required by code.

B. Provide water resistant gypsum board at all bermed walls, plumbing walls - full height, and walls to receive tile finish.

3.05 CLEAN UP

A. In addition to other requirements for cleaning, use necessary care to prevent scattering gypsum wallboard scraps and dust and to prevent tracking gypsum and joint finishing compound onto floor surfaces.

B. At completion of each segment of installation in a room or space, promptly pick up and remove from the working area all scrap, debris and surplus material of the Section.

***** END OF SECTION *****

SECTION 09300

TILEWORK

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.

1.02 DESCRIPTION

Furnish materials and perform labor required to execute this work as indicated on the drawings, as specified and as necessary to comply with the Contract Documents, including, but not limited to ceramic floor, base and wall tile and installation of stone tiles for floor. All the requirements of the Contract Documents apply to this Section.

1.03 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods for proper performance of the work of this Section.

B. Comply with recommendations of the Ceramic Tile Institute and the Tile Council of America.

C. Field Conditions: Verify drawing dimensions with actual field conditions. Inspect related work and adjacent surfaces. Meet with Owner and Architect prior to start of installation to review all requirements. Report to the Architect all conditions, which prevent proper execution of this work.

D. Environmental Conditions:

1. Maintain temperature at 50 degrees F. minimum during tilework and for seven (7) days after completion. Do not apply to frozen surfaces.

2. Vent temporary heaters to outside to avoid carbon dioxide damage to new tilework.

3. Provide adequate lighting for work and walking on newly tiled floors.

4. Use kneeling boards for work and walking on newly tiled floors.

5. Provide shade for all tile, materials and work area on exterior applications as required to prevent rapid evaporation caused by excessive heat.

1.04 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.05 SUBMITTALS

A, In accordance with Article 5 of the General Conditions.

B. Product data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:

1. List of items to be provided under this Section.

2. Manufacturer's Specifications, catalog cuts, and other data needed to prove compliance with the specified requirements of tile, sealants, grout, trim, fasteners, adhesives and sealers.

3. Samples of each type, class, and color of ceramic tile required, not less than 12" square, mounted on plywood or hardboard backing, and grouted as specified.

Sample shall include border pattern.

1.06 PRODUCT HANDLING

Blend all tile at factory and again on site to achieve an even color throughout to the Architect's approval.

1.07 CLOSE-OUT

A. Provide maintenance instructions and product for one cleaning of project subsequent to closeout.

B. Furnish written guarantee covering workmanship and materials for one (1) year after acceptance of the buildings.

PART 2 -- PRODUCTS

2.01 CERAMIC TILE

A. Provide ceramic tile and accessories complying with Tile Council of America Specifications 137.1, in colors and patterns selected by the Architect from standard colors and patterns of the accepted manufacturers.

B. Material:

1. Furnish: size(s), color(s), pattern(s) and shape(s) as indicated on the drawings.

2. Provide standard accessory shapes as required and as accepted by Architect.

3. Use appropriate trim shapes to conform to drawings.

4. Metal trims shall have a clear anodized finish – protected as to resist discoloration from adhesives and grouts.

C. Floor Tile: Provide coefficient of friction not less than 0.60 when tested in accordance with ASTM F489, ASTM F609, and the National Bureau of Standards Technical Note 895 at floor tile.

D. Extra Stock: Supply 2% of each type of tile used in clean marked cartons for Owner.

2.02 SETTING MATERIALS

A. Comply with pertinent recommendations contained in the Tile Council of America "Handbook for Ceramic Tile Installation".

B. Dry set mortar:

1. Provide a commercially prepared mixture of Portland Cement, sand, and additives imparting water retentivity, for use as a leveling / bond coat for setting interior tile floors and all exterior mortar beds.

2. Comply with ANSI A118.1, except where specifically indicated on the Drawings or directed in advance by the Architect, provide conductive dry-set mortar complying with ANSI A118.2.

3. Provide acrylic latex additive formulated for use with dry set mortar.

4. Acceptable products:

a. S-759 Thin Set Mortar for floors, S-763 Thin Set for Walls and S-800 Setting Acrylic Latex Additive, as manufactured by Summitville Tiles, Inc., Summitville, Ohio 43962.

b. Or approved equal.

C. Organic Adhesive: TCA A136.1 Type 1, AO 1700; thin set bond for walls.

D. Epoxy Adhesive: TCA AO 4000 AAR-11, ANSI 118.3 Epoxy resign and epoxy hardener

E. Special tile setting mortars will be considered by the Architect when complete technical data is submitted in advance.

F. Mortar system for thin set bond type for interior floors. Typical in all potentially wet areas such as restrooms.

2.03 GROUT

A. Comply with pertinent recommendations contained in the Tile Council of America "Handbook for Ceramic Tile Installation" in colors selected by the Architect from standard colors available from the accepted manufacturers.

B. Latex Portland Cement Grout:

1. Provide a commercially prepared mixture of Portland cement and latex additives producing water-retentivity, and suitable for grouting all walls and floors subject to ordinary use.

2. Provide a product licensed by the Tile Council of America, and bearing that license symbol.

3. Acceptable products:

a. "S-700 Sanded Joint Filler" with "S-775 Grouting Acrylic Latex Additive", as manufactured by Summitville Tiles, Inc.

b. Equal products of other manufacturers when accepted in advance by the Architect.

C. Expansion Joint: Colors to be selected by Architect.

1. Provide expansion joint backing material as closed cell polyethylene foam weighing not less than 2.7 lbs. Per cubic foot and in dimension approximately 20% thicker than the width of the expansion joint in which used.

2. Expansion joints in floors shall be a two component polyurethane sealant with Shore-A hardness between 35-45. Use at perimeter of all stone flooring especially when adjoining other tilework.

D. At joints between floors and walls and at perimeter of metal doorframes, provide one-part silicone material.

2.04 PROTECTIVE MATERIALS

A. Neutral cleaner such as Hillyard Super Shine-All.

B. Grout release agents such as Klein Company Standard Grout Guard.

C. Sealer: Overall the finished work of this Section, provide a sealer, cleaner or water repellent coating and apply in strict accordance with the Manufacturer's recommendations.

D. Heavy-duty non-staining construction paper with compatible tape for securing it.

2.05 FLOORING TRANSITIONS

Manufacturer(s), Type(s), Location(s), Finishes(s), as indicated on drawings.

2.06 OTHER MATERIALS

Provide other materials, not specifically described but required for a complete and proper installation,

as selected by the Contractor subject to the acceptance of the Architect.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Do not proceed until unsatisfactory conditions are corrected.

D. Beginning of installation means acceptance of conditions.

3.02 PREPARATION

A. Coordinate work with other trades as needed to assure that proper substrate are provided to receive work of this Section.

B. Acceptability of Surfaces:

1. Before tiling, confirm variations of surface to be tiled fall within maximum variations shown below:

		Walls	Floors
1.	Cement Mortar Bed	1/4" in 8'	1/4" in 10'
2.	Epoxy Adhesive	1/8" in 8'	1/8" in 10"
3.	Organic Adhesive	1/8" in 8'	1/8" in 8"

2. Report all unacceptable surfaces to the Architect and do not tile such surfaces until they are leveled enough to meet above requirements. Leveling cost is included in this section.

3. Remove all adhesives for substrate for clean floor. Before tiling, be certain surfaces to be tiled are free from coating, curing membranes, oil, grease, wax, and dust. Scarify concrete substrate, which is hard steel trowel finished or pores filled with curing compound or other adhesive.

4. Verify that grounds anchors, plugs, recess frames, bucks, electrical work, mechanical work and similar items in or behind the tile have been installed before proceeding with the installation of the mortar bed or tile.

3.03 INSTALLATION

A. General:

1. Comply with ANSI A108.1, A108.5, A108.6 and A108.10 and the "Handbook for Ceramic Tile installation" of the Tile Council of America, except as otherwise directed by the Architect or specified herein.

2. Maintain minimum temperature limits and installation practices recommended by materials manufacturers.

B. Layout:

1. Determine locations of all movement joints before starting tilework.

2. Layout tile work and center tile fields both direction in each space or on each wall area.

3. Lay out all tilework so as to minimize cuts less than one-half tile in size.

4. Locate cuts in both walls and floors so as to be least conspicuous.

5. Provide uniform joint width.

6. Align all floor joints to give straight uniform grout lines, parallel with walls, base and trim.

7. Lay tile in grid pattern unless otherwise indicated on the Drawings or directed by the Architect.

8. Align the joints when adjoining tiles on floor, base, trim, and walls are the same size.

C. Install the work of this Section in accordance with the following Handbook procedure:

1. Floors interior -- No. F115 at porcelain / stone floors.

2. Floors exterior – No. F101.

3. Walls -- No. W242.

D. Limits of tile:

1. Extend tile into recesses and under equipment and fixtures to form a complete covering without interruptions. Omit behind full width mirrors above counter lavatories to allow smooth setting of mirror.

2. Terminate tile neatly at obstructions, edges, and corners, without disruption of pattern or joint alignment.

E. Provide expansion and control joints where shown on the Drawings, and where otherwise recommended by the "Handbook for Ceramic Tile Installation" of the Tile Council of America, but not less than:

1. 24'-0" to 36'-0" in each direction on interior.

2. 12'-0" to 16'-0" in each direction on exterior.

3. At all perimeter walls, building expansion joints and where tile abuts restraining surfaces such as walls, curbs, dissimilar floors, pipes, columns or where changes in backing materials occur.

4. Extend joints completely through the tile, mortar, mortar bed and reinforcing.

F. Install metal edge strips at all openings where floor tile abuts dissimilar materials and a threshold has not been called out. Grout solid all thresholds indicated adjacent to tilework.

G. Workmanship:

1. Supply first class workmanship in all tilework.

2. Use all products in strict accordance with recommendations and directions of manufacturer.

3. Proportion all mixes in accordance with latest ANSI Standard Specifications.

4. Be sure all tilework is free of grout film upon completion, conforming to ANSI A 108.5 sub-section A-4.3.4.7.

H. Provide tile surfaces clean and free from cracked, broken, chipped, unbonded, and otherwise defective units.

I. Provide required protection of tile surfaces to prevent damage and wear prior to acceptance of the Work by the Owner.

3.04 GROUTING

A. Allow tile to set for a minimum of 48 hours prior to grouting. Remove all spacers, ropes,

glue and foreign material prior to grouting.

B. Follow grout manufacturer's recommendations as to grouting procedures and precautions.

1. Force maximum amount of grout into joints in accordance with pertinent recommendations in ANSI 108.10.

2. Fill-in joints of cushion edged tile to depth of cushion; fill square edged tile flush with surface.

3. Provide hard finished grout which is smooth and without voids, pinholes or low spots.

C. Remove all grout haze, observing grout manufacturer's recommendations as to use of acid and chemical cleaners.

D. Use recommended sealant for perimeter grouting of stone tile to allow for movement of field.

E. Cleaning:

1. Upon completion of placing and grouting, clean the work of this Section in accordance with recommendations of the manufacturers of the materials used.

2. Protect metal surfaces, cast iron, and vitreous items from effects of acid cleaning.

3. Flush surfaces with clean water before and after cleaning.

4. Cure the joints by keeping damp until hardened, during which time all traffic is kept off newly tiled floor areas.

5. Protect grouted floors from drying out for at least three days with a layer of bituminous building paper lapped 4" and sealed against escape of moisture. Keep traffic off floor during this curing period.

3.05 PROTECTION

A. Apply sealer over all finished surfaces of work of this Section. Use in strict accordance with manufacturer's printed instructions.

B. Protection from Construction Dirt:

1. Apply to all clean, completed tile walls and floors a protective coat of neutral cleaner solution, 1 part cleaner to 1 part water.

2. In addition, cover all tile floors with heavy-duty, non-staining construction paper, masked in place.

3. Just before final acceptance of tilework, remove paper and rinse protective coat of neutral cleaner from all tile surfaces.

C. Protection from Traffic:

1. Prohibit all foot and wheel traffic from using newly tiled floors for at least 3 days, preferably 7 days.

2. Place large flat boards in walkways and wheel-ways for 7 days where use of newly tiled floors with cement type grout is unavoidable.

***** END OF SECTION *****

SECTION 09510

ACOUSTICAL CEILING SYSTEMS

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.

1.02 SCOPE OF WORK

Supply and install all Acoustical Ceiling Work as shown on Drawings and as specified herein. All the requirements of the Contract Documents apply to this Section.

1.03 SUBSTITUTIONS

Substitutions will be considered per Article of the General Conditions.

1.04 SUBMITTALS

A. In accordance with Article 5 of the General Conditions.

B. Submit complete layout of all systems including attachments, intersections of members and edge conditions.

C. Samples: submit 2 samples of each type of unit specified herein.

1.05 QUALITY ASSURANCE

A. Have applicators approved by manufacturer of material or system being installed.

B. Work hereunder requires coordination with trades who's Work connects with, is affected, or concealed by acoustical units. Before proceeding with Work, make certain all required inspections have been made.

C. Examine sub-surfaces to receive Work. Commencement of Work will be construed as acceptance of all sub-surfaces.

D. Comply with all applicable requirements of Acoustical Materials Association, Bulletin "Architectural Acoustical Materials".

1.06 DELIVERY AND STORAGE

Deliver all manufactured materials in original containers bearing manufacturer's name and brand. Use only one brand for each type of unit throughout job. Store materials within building in locations directed.

PART 2 -- PRODUCTS

2.01 GRID

A. Ceiling Suspension Materials: Comply with ASTM C635, as applicable to the type of suspension system required for the type of ceiling units indicated. Coordinate with other work supported by or penetrating through the ceilings.

B. Manufacturer, Type, Location, and Pattern: as indicated on the drawings.

C. Edge Mouldings: Manufacturer's standard channel moulding for edges and penetrations of ceiling, with a single flange of moulding exposed, white baked enamel finish, unless otherwise indicated.

2.02 ACOUSTICAL TILE

Manufacturer, Type, Location, and Pattern: as indicated on the drawings.

2.03 EXTRA STOCK

Order additional 3% of each type of acoustical unit specified, for maintenance use, at no additional cost to Owner. (One box minimum.)

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Do not proceed until unsatisfactory conditions are corrected.

D. Beginning of installation means acceptance of conditions.

3.02 INSTALLATION

A. Provide all materials and accessories for complete installation per Drawings and manufacturer's printed instructions and recommendations.

B. Install units to sub-surfaces from setout points and to pattern shown on Drawings. Verify location of Work of other trades so their items occur within a whole unit or at joints as shown.

C. Install units in place fitting snugly. Provide spacers or hold-down clips where shown or required.

D. After installation, clean any soiled surfaces. Replace any damaged units at no additional cost to the Owner.

E. Arrange acoustical units in the manner shown by reflected ceiling plans. Consult with Architect pertaining to any adjustments.

3.03 SUPPORT SYSTEMS FOR SUSPENDED CEILING

A. General: Ceilings shall not support material or building components other than grills, insulation batts or light fixtures. Duct work, plumbing and like work shall have its own support system and shall not use the ceiling system or suspension wires.

B. Vertical Support System: Suspension wires shall be a minimum of 12-gauge galvanized wire attached to the main runner at 4 ft. maximum spacing in both directions. Each wire shall be anchored to the structure above with a device capable of supporting a minimum of 75 pounds. Wires supporting fixtures shall be capable of supporting four times the fixture weight. Suspension wires shall not hang more than 1 in 6 out of plumb unless counter sloping wires are provided. Wires shall not attach to or bond around interfering material such as ductwork. Trapeze or equivalent devices shall be used where obstructions interfere with direct suspension.

C. Horizontal Support System: The lateral support system for ceilings shall be shown in detail shop Drawings. Provisions shall be made for possible deferential movement between ceilings and sidewalls. Terminal ends of each main and each cross runner shall be wire supported; wall trim angles shall not provide primary support for runners. Lateral support of ceilings shall not be provided by the angle trim and runner shall not be riveted to wall trim.

D. Light Fixture Support: All recessed or drop-in light fixtures shall be supported directly from the fixture housing to the structure above with a minimum of two 12 gauge wires; leveling

and positioning of fixture may be provided by the ceiling grid. Fixture support wires may be slightly loose to allow fixture to seat in heavy-duty grid system only.

E. Secure wire hangers by looping and wire tying either directly to structures or to inserts, eye-screws or other devices which are secure and appropriate for the substrate, and which will not deteriorate or fail with age or elevated temperatures.

3.04 CLEANING AND PROTECTION

A. Clean exposed surfaces of acoustical ceilings, including trim, edge mouldings and suspension members; comply with manufacturer's instructions for cleaning and touch-up of minor finish damage. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

B. The installer shall advise the Contractor of required protection for the acoustical ceilings, including temperature and humidity limitations and dust control, so that the Work will be without damage and deterioration at the time of acceptance by the Owner.

***** END OF SECTION *****

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SECTION 09650

RESILIENT FLOORING

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.

1.02 SCOPE OF WORK

Furnish all materials and perform labor required to execute this work as indicated on the drawings, as specified and as necessary to comply with the Contract Documents, including, but not limited to these major items:

1. Resilient tile flooring.
2. Floor substrate surface.
3. Rubber base.

1.03 REGULATORY REQUIREMENTS

Conform to applicable code for flame rating requirements of 75 or less in accordance with ASTM E84.

1.04 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.05 SUBMITTALS

A. Provide product data on specified products, describing physical and performance characteristics.

B. Submit two samples, illustrating color and pattern for each floor material or base, substituted for those indicated in the Drawings.

C. Submit manufacturer's installation instructions. When approved by the Architect, will become the basis for accepting or rejecting actual installation procedure used on the Work.

1.06 OPERATION AND MAINTENANCE DATA

Submit cleaning and maintenance data maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.07 ENVIRONMENTAL REQUIREMENTS

A. Store materials for three days prior to installation in area of installation to achieve temperature stability.

B. Maintain ambient temperature required by adhesive manufacturer three days prior to, during, and 24 hours after installation of materials.

1.08 EXTRA MATERIALS

Provide 5% of each pattern and color of flooring and of base specified.

PART 2 -- PRODUCTS

2.01 VINYL COMPOSITION TILE

Manufacturer(s), Type(s), Location(s), Color(s), and Pattern(s) as indicated on drawings.

2.02 SHEET VINYL

Manufacturer(s), Type(s), Location(s), Color(s), and Pattern(s) as indicated on drawings.

2.03 BASE MATERIALS

Manufacturer(s), Type(s), Location(s), Color(s), and Pattern(s) as indicated on drawings.

2.04 ACCESSORIES

A. Subfloor Filler: Latex cement underlayment as recommended by flooring material manufacturer.

B. Primers and Adhesives: Waterproof; types recommended by flooring manufacturer.

C. Sealer and Wax: Types recommended by flooring manufacturer.

D. Welding rod: Use same manufacturer as flooring manufacturer and install per manufacturer's instructions. Colors to be selected from standard colors. All flooring in medical procedure rooms and in restrooms shall be heat welded.

E. Provide other materials, not specifically described but required for a complete and proper installation as selected by the Contractor subject to the approval of the Architect.

2.05 FLOORING TRANSITIONS

Manufacturer(s), Type(s), Location(s), Finishes(s), as indicated on drawings.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Do not proceed until unsatisfactory conditions are corrected.

D. Verify that surfaces are smooth and flat with maximum variation of 1/8 inch in 10 ft. and are ready to receive work.

E. Verify concrete floors are dry to the maximum moisture content of 2.5% (two and one half percent); and exhibit negative alkalinity, carbonization, or dusting. Provide test results to indicate that the substrate meets moisture requirements prior to starting work. Higher moisture content will be as accepted by manufacturer in their written warranty.

F. Beginning of installation means acceptance of conditions.

3.02 PREPARATION

A. Remove sub-floor ridges and bumps. Fill low spots, cracks, joints, holes, and other defects with sub-floor filler.

B. Apply, trowel, and float filler to leave smooth, flat, hard surface.

C. Prohibit traffic from area until filler is cured.

D. Vacuum clean substrate.

E. Maintain the temperature of the space to receive the flooring and the materials to be installed at a minimum of 65 degrees F and maximum of 100 degrees F for at least 48 hours prior to, during, and 48 hours after installation. Maintain a minimum temperature of 55 degrees F thereafter.

F. Install flooring after all other trades, including painting, have been completed.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions, conventional full-spread system.

B. Spread only enough adhesive to permit installation of materials before initial set.

C. Set flooring in place; press with heavy roller to attain full adhesion.

D. Terminate flooring at centerline of door openings where adjacent floor finish is dissimilar.

E. Install edge strips at unprotected or exposed edges, and where flooring terminates.

F. Scribe flooring to walls, columns, permanent cabinets, floor outlets, and other appurtenances to produce tight joints.

3.04 INSTALLATION -- BASE MATERIAL

A. Fit joints tight and vertical. Maintain minimum measurement of 18 inches between joints.

B. Miter internal corners. At external corners, "V" cut back of base strip to 2/3 of thickness and fold.

C. Install base on solid backing. Bond tight to wall and floor surfaces.

D. Scribe and fit to doorframes and other interruptions.

3.05 PROTECTION

Prohibit traffic on floor finish for 48 hours after installation.

3.06 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean, seal, and wax floor and base surfaces in accordance with manufacturer's instructions.

***** END OF SECTION *****

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SECTION 09680

CARPET

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.

1.02 SCOPE OF WORK

Furnish all Materials and perform labor required to execute this work as indicated on the drawings, as specified and as necessary to comply with the Contract Documents, including, but not limited to, these major items:

1. Direct glue down carpet with backing.
2. Metal edge trim and backing for carpet coved wall base if indicated on the drawings.

1.03 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.04 SUBMITTALS

A. Provide product data on specified products, describing physical and performance characteristics: sizes, patterns, colors available, and method of installation.

B. Submit two samples illustrating color and pattern for each carpet material specified if substituting from color board.

C. Submit manufacturer's installation instructions. When approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on this Work.

1.05 OPERATION AND MAINTENANCE DATA

Submit operation and maintenance data maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning and shampooing.

1.06 ENVIRONMENTAL REQUIREMENTS

A. Store materials for three days prior to installation in area of installation to achieve temperature stability.

B. Maintain minimum 72 degrees F ambient temperature plus/minus 5 degrees with relative humidity not exceeding 65% three days prior to, during, and 72 hours after installation of materials.

1.07 CLOSE-OUT: EXTRA MATERIALS

Provide 5% of carpeting of each color specified.

PART 2 -- PRODUCTS

2.01 CARPET

Manufacturer(s), Type(s), Location(s), Color(s), and Pattern(s) as indicated on drawings.

2.02 FLOOR BASE

Manufacturer(s), Type(s), Location(s), Finishes(s), as indicated on drawings.

2.03 FLOORING TRANSITIONS

Manufacturer(s), Type(s), Location(s), Finishes(s), as indicated on drawings.

2.04 OTHER ACCESSORIES

A. Sub-Floor Filler: White premix latex; type recommended by carpet manufacturer.

B. Primers and Adhesives: Waterproof; of types recommended by carpet manufacturer.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Verify that substrate surfaces are smooth and flat with maximum variation of 1/8 inch in 10 ft. and are ready to receive work. Have all previous adhesives removed.

D. Verify concrete floors are dry to a maximum moisture content of 7 percent; and exhibit negative alkalinity, carbonization, or dusting. Provide test results to prove compliance prior to initiating installation.

E. Do not proceed until unsatisfactory conditions are corrected.

F. Beginning of installation means acceptance of conditions.

3.02 PREPARATION

A. Remove sub-floor ridges and bumps. Fill low spots, cracks, joints, holes, and other defects with sub-floor filler.

B. Apply, trowel, and float filler to leave smooth, flat, hard surface.

C. Prohibit traffic until filler is cured.

D. Vacuum floor surface.

3.03 INSTALLATION

A. Apply carpet and adhesive in accordance with manufacturers' instructions. Direct glue-down.

B. Lay out rolls of carpet.

C. Verify carpet match before cutting to ensure minimal variation between dye lots.

D. Locate seams in area of least traffic. Carpet shall be installed in full lengths wherever possible.

E. Fit seams straight, not crowded or peaked, free of gaps.

F. Lay carpet on floors with run of pile in same direction as anticipated traffic. Lay carpet so that seams perpendicular to a wall do not occur at door openings in that wall.

G. Do not change run of pile in any room where carpet is continuous through a wall opening into another room. Locate change of color or pattern between rooms under door centerline.

H. Cut and fit carpet around interruptions.

I. Fit carpet tight to intersection with vertical surfaces without gaps.

J. All seams shall be beaded and sealed with "seam sealer". The seam sealer shall be applied to the cut edge of the carpet at the level of the carpet backing.

K. No stretching will be permitted.

L. Unroll carpet face up and cut the lengths required with pile-lay runs in the same direction. Check starting wall for squareness and allow for off-square walls. Strike chalk line the entire length of area where seam falls.

M. Place two lengths in proper position for installing; trim salvage, and line up seam edge with chalk line. Lay carpet perfectly flat and tension free.

N. Roll both widths back 3' from seam area the entire length of carpet.

O. Spread adhesive from approximate center towards each end.

P. When sufficient floor area has been covered with adhesive, drop or roll first width into place. Apply coating of edge sealer to seam edge of first width. Follow this procedure on each succeeding width at seam. Drop or roll second width into position and fit the seam in tightly using knee-kicker if necessary. Brush or roll looseness and air bubbles away from seam.

Q. Fold or roll the remaining portion of the first width from the wall. Apply adhesive to the floor and drop or roll carpet into place.

R. Roll or fold back dry portion of second width towards seam; spread adhesive and place carpet 3' from where next seam will fall.

S. Brush or roll out looseness and air bubbles as carpet is put into place. Repeat above procedure on continuing widths. Trim carpet at wall using razor blade knife or suitable wall trimmer.

3.04 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean and vacuum carpet surfaces.

3.05 PROTECTION

A. Prohibit traffic from carpet areas for 24 hours after installation.

B. Cover with non-staining building paper, firmly fastened down to protect floor surfaces.

C. Near completion of the project, remove paper, clean and vacuum carpet.

***** END OF SECTION *****

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SECTION 09900

PAINTING

PARTS 1 -- GENERAL

1.01 SUMMARY:

A. Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.

B. Section Includes: Painting and finishing of all interior and exterior items and surfaces, unless otherwise indicated or listed under exclusions below:

1. Paint all exposed surfaces, except as otherwise indicated, whether or not colors are designated.

2. Include field painting of exposed exterior and interior structural steel, plumbing, mechanical and electrical work, except as indicated below.

3. Paint exterior plaster where indicated on Drawings.

C. Work Included:

1. The intent and requirements of this section is that all work, items and surfaces which are normally painted and finished in a building of this type and quality, shall be so included in this contract, whether or not said work, item or surface is specifically called out and included in the schedules and notes on the drawings, or is, or is not, specifically mentioned in these specifications.

2. All the requirements of Division Zero and Division One apply to this Section.

D. The following general categories of work and items that are included under other sections, shall not be a part of this section:

1. Shop prime painting of structural and miscellaneous iron or steel.

2. Shop prime painting of hollow metal work.

3. Shop finished work and items.

4. Any drywall or plaster permanently concealed from view.

5. Any factory finished equipment and other materials with a complete factory applied finish.

6. Finish hardware except where primed for paint finish.

7. Any glass, plastics, floor tiles and sheet vinyl coved or vinyl top set bases.

8. Plumbing fixtures: Toilet room accessories.

9. Lighting fixtures except as noted on drawings or specified.

10. Any acoustical surfaces; unless otherwise specified.

D. The Room Finish Schedules indicated on the drawings, indicates the location of interior room surfaces to be painted or finished. The schedule indications are general and do not necessarily define the detail requirements. Include all detailed refinements and further instructions as may be given for the required complete finishing of all spaces and rooms.

1.02 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.03 SUBMITTALS:

A. Product Data: Submit complete manufacturer's descriptive literature and specifications in compliance with pertinent provisions of Article 5 of the General Conditions.

Materials List: Submit complete lists of materials proposed for use, giving the manufacturer's name, catalog number, and catalog cut for each item when applicable. When required, provide a list of paint and coating materials proposed for use, which equates such materials with the design-basis products specified.

B. Samples: In accordance with provisions of Article 5 of the General Conditions, submit, on 8-1/2 inch by 11 inch hardboard, samples of each color, gloss, texture and material selected by the Architect from standard colors available for the coatings required.

For natural and stained finishes, provide sample on each type and quality of wood used on the project.

C. Manufacturer's Instructions: Submit the manufacturer's current recommended methods of installation, including relevant limitations, safety and environmental cautions, application rates, and composition analysis.

1.04 QUALITY ASSURANCE:

A. Regulatory Requirements: Comply with applicable codes and regulations of governmental agencies having jurisdiction including those having jurisdiction over airborne emissions and industrial waste disposal. Where those requirements conflict with this Specification, comply with the more stringent provisions.

Regulatory changes may affect the formulation, availability, or use of specified coatings. Confirm availability of coatings to be used prior to job going out to bid and before start of painting project.

Comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA).

B. Field Sample: When and as directed by the Architect, apply one complete coating system for each color, gloss and texture required. When approved, the sample panel areas will be deemed incorporated into the Work and will serve as the standards by which the subsequent Work of this Section will be judged.

1.05 DELIVERY, STORAGE, AND HANDLING:

A. Storage and Protection: Use all means necessary to protect the materials of this Section before, during, and after installation.

B. Deliver materials to job site in new, original, and unopened containers bearing manufacturer's name and trade name. Store where directed in accordance with manufacturer's instructions.

1.06 PROJECT CONDITIONS:

Do not apply exterior materials during fog, rain or mist, or when inclement weather is expected within the dry time specified by the manufacturer. No exterior or interior painting shall be done until the surfaces are thoroughly dry and cured. Do not apply paint when temperature is below 50^{o} F. Avoid painting surfaces when exposed to direct sunlight.

PART 2 -- PRODUCTS

2.01 MANUFACTURERS:

Manufacturer's catalog names and number of paint types in this Section herein are based on products of Dunn-Edwards Corporation and is the standard of quality against which the Architect will judge equivalency. The quantity of titanium dioxide, the use of clays, aluminum silicate, talc

and the purity of acrylic materials are a few of the criteria which will be used by the Architect in determining equivalency of materials. Paints of other manufacturers to conform to materials listed and are approved by Architect.

2.02 MATERIALS:

A. Paints: Provide Ready-Mixed, except field catalyzed coatings. Pigments shall be fully ground maintaining soft paste consistency, capable of being readily and uniformly dispersed to complete homogeneous mixture. Paints shall have good flowing and brushing properties and be capable of drying or curing free of streaks and sags.

B. Accessory Materials: Linseed oil, shellac, solvents, and other materials not specified but required to achieve required finishes shall be of high quality and approved by manufacturer.

C. Colors shall be selected from color chip samples provided by manufacturer of paint system approved for use. Match approved samples for color, texture and coverage.

2.03 MIXES:

Mix, prepare, and store painting and finishing materials in accordance with manufacturer's directions.

PART 3 -- EXECUTION

3.01 EXAMINATION:

A. Examine the areas and conditions under which work of this Section will be performed.

B. Examine surfaces to be painted before beginning painting work. Work of other trades that has been left or installed in a condition not suitable to receive paint, stain, other specified finish shall be repaired or corrected by the applicable trade before painting. Painting of defective or unsuitable surface implies acceptance of the surfaces.

C. Beware of a condition known as "critical lighting". This condition causes shadows that accentuate even the slightest surface variations. A pigmented sealer will provide tooth for succeeding decorative coating, but "does not" equalize smoothness or surface texture. Any corrective action to gypsum board/drywall must be done by the drywall contractor prior to decorating.

D. Correct conditions detrimental to timely and proper completion of the Work.

E. Do not proceed until unsatisfactory conditions are corrected.

F. Beginning of installation means acceptance of conditions.

3.02 PROTECTION:

A. Protect previously installed work and materials, which may be affected by Work of this Section.

a. Protect prefinished surfaces, lawns, shrubbery and adjacent surfaces against paint and damage.

b. Furnish sufficient drop cloths, shields, and protective equipment to prevent spray or splatter from fouling surfaces not being painted.

c. Protect surfaces, equipment, and fixtures from damage resulting from use of fixed, movable and hanging scaffolding, planking, and staging.

B. Provide WET PAINT signs, barricades, and other devices required to protect newly finished surfaces. Remove temporary protective wrappings provided by others for protection of their work after completion of painting operations.

3.03 PREPARATION:

A. Perform preparation and cleaning procedures in strict accordance with coating manufacturer's instructions for each substrate condition.

B. Concrete and masonry surfaces shall be dry, clean, and free of dirt, efflorescence, encrustation, and other foreign matter. Glazed surfaces on concrete shall be roughened or etched to uniform texture.

C. Ferrous metal shall be cleaned of oil, grease, and foreign matter with solvent. Prime within 3 hours after preparation.

D. Sand and scrape metal to remove loose primer and rust.

E. Galvanized metal shall be chemically or solvent cleaned and then retreated with an etching-type solution if recommended by the finish manufacturer. Cleaned and retreated galvanized metal shall be primed the same day that cleaning has been performed.

F. Remove dust, grit and foreign matter from wood surfaces. Sand surfaces and dust clean. Spot coat knots, pitch streaks, and sappy section with pigmented stain sealer when surfaces are to be painted. Fill nail holes, cracks and other defects after priming and spot prime repairs when fully cured.

G. Remove hardware and accessories, machined surfaces, plates, lighting fixtures and similar items in place and not-to-be-finish painted, or provide surface-applied protection. Reinstall removed items upon completion of work in each area.

H. Existing surfaces to be recoated shall be thoroughly cleaned and deglossed by sanding or other means prior to painting. Patched and bare areas shall be spot primed with same primer as specified for new work.

I. Thoroughly backpaint all surfaces of exterior and interior finish lumber and millwork, including doors and window frames, trim, cabinetwork, etc., which will be concealed after installation. Backpaint items to be painted or enameled with the priming coat. Use a clear sealer for backpriming where transparent finish is required.

J. Bar and covered pipes, ducts, hangers, exposed steel and ironwork, and primed metal surfaces of equipment installed under mechanical and electrical work shall be cleaned prior to priming.

K. Preparation of other surfaces shall be performed following specific recommendations of the coatings manufacturer.

L. Bond breakers and curing agents must be removed and the surface cleaned before primers, sealers or finish paints can be applied.

M. All drywall surfaces must be completely dry and dust free before painting. Skim coated drywall must be sealed with an alkyd based sealer or a waterborne sealer recommended by the paint manufacturer for this surface. Use the appropriate light or medium tack masking tape.

3.04 APPLICATION:

A. Apply painting and finishing materials in accordance with the manufacturer's submittals, as approved. Use applicators and techniques best suited for the material and surfaces to which applied.

1. The number of coats specified is the minimum that shall be applied. Apply additional coats when undercoats, stains or other conditions show through final paint coat, until paint film is of uniform finish, color and appearance.

2. All undercoats shall be tinted slightly to approximate the color of the finish coat.

B. Apply each material at not less than the manufacturer's recommended spreading rate:

1. Provide a total dry film thickness of not less than 1.2 mils for each required coat.

C. Apply prime coat to surface, which is required to be painted or finished.

D. Finish exterior doors on tops, bottoms, and edges same as exterior faces, after fitting.

E. Sand lightly and dust clean between succeeding coats.

3.05 CLEANING, TOUCH-UP AND REFINISHING:

A. Carefully remove all spattering, spots and blemishes caused by work under this section from surfaces throughout the project.

B. Upon completion of painting work remove all rubbish, paint cans, and accumulated materials resulting from work in each space or room. All areas shall be left in a clean, orderly condition.

C. Runs, sags, misses, holidays, stains and other defects in the painted surfaces, including inadequate coverage and mil thickness shall be satisfactorily touched up, or refinished, or repainted as necessary.

3.06 FINISH SCHEDULE

A. Apply the following finishes to the surfaces specified and/or as on the finish schedule on the Drawings. Apply all materials in accordance with manufacturer's instructions on properly prepared surfaces and foundation coats. All intermediate undercoats must be tinted to approximate the final color.

Architect will issue a color schedule prior to start of painting to designate the various colors and locations required for the work.

B. Exterior Systems:

1. Stucco & Plaster

Flat – 100% Acrylic

First Coat	EFF-STOP, Acrylic Masonry Primer (W 709) OR SUPER-LOC Two Component Waterborne Epoxy Masonry Sealer (W 718)
Second Coat	EVERSHIELD, 100% Acrylic Exterior Masonry Finish (W 701V)
Third Coat	EVERSHIELD, 100% Acrylic Exterior Masonry Finish (W 701V)
OR	
Second Coat	ACRI-FLAT, Exterior 100% Acrylic Flat Finish (W 704V)
Third Coat	ACRI-FLAT, Exterior 100% Acrylic Flat Finish (W 704V)

2. Concrete Tilt-Up

Flat – 100% Acrylic

First Coat	EFF-STOP, Acrylic Masonry Primer/Sealer (W 709) OR SUPER-LOC Two Component Waterborne Epoxy Masonry Sealer (W 718)
Second Coat	EVERSHIELD, 100% Acrylic Exterior Masonry Finish (W 701V)
Third Coat	EVERSHIELD, 100% Acrylic Exterior Masonry Finish (W 701V)
OR	
Second Coat	ACRI-FLAT, Exterior 100% Acrylic Flat Finish (W 704V)
Third Coat	ACRI-FLAT, Exterior 100% Acrylic Flat Finish (W 704V)

3. Brick Masonry

Flat – 100% Acrylic

First Coat	EFF-STOP, Acrylic Masonry Primer/Sealer (W 709) OR SUPER-LOC, Two Component Waterborne Epoxy Masonry Sealer (W 718)
Second Coat	EVERSHIELD, 100% Acrylic Exterior Masonry Finish (W 701V)
Third Coat	EVERSHIELD, 100% Acrylic Exterior Masonry Finish (W 701V)
OR	
Second Coat	ACRI-FLAT, Exterior 100% Acrylic Flat Finish (W 704V)
Third Coat	ACRI-FLAT, Exterior 100% Acrylic Flat Finish (W 704V)

4. Concrete Block

a. Flat – 100% Acrylic

First Coat	BLOCFIL, Concrete Block Filler, Smooth (W 305)
Second Coat	EVERSHIELD, 100% Acrylic Exterior Masonry Finish (W 701V)
Third Coat	EVERSHIELD, 100% Acrylic Exterior Masonry Finish (W 701V)
OR	
Second Coat	ACRI-FLAT, Exterior 100% Acrylic Flat Finish (W 704V)
Third Coat	ACRI-FLAT, Exterior 100% Acrylic Flat Finish (W 704V)

b. Semi-Gloss – 100% Acrylic

First Coat	BLOCFIL, Concrete Block Filler, Smooth (W 305)
Second Coat	PERMASHEEN, 100% Acrylic Semi-Gloss Enamel (W 901V)
Third Coat	PERMASHEEN, 100% Acrylic Semi-Gloss Enamel (W 901V)

c. Gloss – 100% Acrylic

First Coat	BLOCFIL, Concrete Block Filler, Smooth (W 305)
Second Coat	PERMAGLOSS, 100% Acrylic Gloss Enamel (W 960V)
Third Coat	PERMAGLOSS, 100% Acrylic Gloss Enamel (W 960V)

d. High Gloss, High Performance – Acrylic/Urethane

First Coat	RUST-OLEUM SIERRA GRIPTEC S30 Primer
Second Coat	RUST-OLEUM SIERRA BEYOND Multi-Purpose Acrylic Enamel
Third Coat	RUST-OLEUM SIERRA BEYOND Multi-Purpose Acrylic Enamel

5. Ferrous Metal

a. Flat – Alkyd/Acrylic

First Coat	BLOC-RUST, Red Oxide Alkyd Rust Preventative Primer (43-4)
OR	CORROBAR, White Alkyd Rust Preventative Primer (43-5)
Second Coat	EVERSHIELD, 100% Acrylic Exterior Masonry Finish (W 701V)
Third Coat	EVERSHIELD, 100% Acrylic Exterior Masonry Finish (W 701V)

b. Semi-Gloss – Alkyd/Acrylic

First Coat	BLOC-RUST, Red Oxide Alkyd Rust Preventative Primer (43-4)
OR	CORROBAR, White Alkyd Rust Preventative Primer (43-5)
Second Coat	PERMASHEEN, Int/Ext. 100% Acrylic Semi-Gloss Enamel (W901V)
Third Coat	PERMASHEEN, Int/Ext. 100% Acrylic Semi-Gloss Enamel (W 901V)

c. Gloss – Alkyd/Acrylic

First Coat	BLOC-RUST, Red Oxide Alkyd Rust Preventative Primer (43-4)
OR	CORROBAR, White Alkyd Rust Preventative Primer (43-5)
Second Coat	PERMAGLOSS, 100% Acrylic Gloss Enamel (W960V)
Third Coat	PERMAGLOSS, 100% Acrylic Gloss Enamel (W960V)

d. Gloss – Rust Preventative Alkyd

First Coat	SYN-LUSTRO Rust-Preventative Acrylic Primer (W8)
Second Coat	SYN-LUSTRO Rust-Preventative Acrylic Gloss (W10)
Third Coat	SYN-LUSTRO Rust-Preventative Acrylic Gloss (W10)

e. Matte, Industrial High Performance – Inorganic Zinc/Epoxy/Acrylic

First Coat	CARBOLINE CARBOZINC 859 VOC
Second Coat	CARBOLINE CARBOGUARD 890 VOC
Third Coat	CARBOLINE CARBOCRYLIC 3359 MC

f. Matte, Industrial High Performance – Epoxy Primer/Epoxy/Acrylic

First Coat	CARBOLINE CARBOGUARD 890 VOC
Second Coat	CARBOLINE CARBOGUARD 890 VOC
Third Coat	CARBOLINE CARBOCRYLIC 3359 MC

g. High Gloss, Industrial High Performance – Inorganic Zinc/Epoxy/Urethane

First Coat	CARBOLINE CARBOZINC 859 VOC
Second Coat	CARBOLINE CARBOGUARD 890 VOC
Third Coat	CARBOLINE CARBOTHANE 134 VOC

h. High Gloss, Industrial High Performance – Epoxy Primer/Epoxy/Urethane

First Coat	CARBOLINE CARBOGUARD 890 VOC
Second Coat	CARBOLINE CARBOGUARD 890 VOC
Third Coat	CARBOLINE CARBOTHANE 134 VOC

6. Galvanized Metal

a. Flat – Alkyd/Acrylic

Pretreatment	GALVA-ETCH, Etching Liquid (GE 123)
First Coat	GALV-ALUM Epoxy Galvanized/Aluminum Metal Primer (43-7)
Second Coat	EVERSHIELD, 100% Acrylic Exterior Masonry Finish (W 701**V**)
Third Coat	EVERSHIELD, 100% Acrylic Exterior Masonry Finish (W 701**V**)

b. Semi-Gloss – Alkyd/Acrylic

Pretreatment	GALVA-ETCH, Etching Liquid (GE 123)
First Coat	GALV-ALUM Epoxy Galvanized/Aluminum Metal Primer (43-7)
Second Coat	PERMASHEEN, 100% Acrylic Semi-Gloss Enamel (W 901V)
Third Coat	PERMASHEEN, 100% Acrylic Semi-Gloss Enamel (W 901V)

c. Gloss – Alkyd/Acrylic

Pretreatment	GALVA-ETCH, Etching Liquid (GE 123)
First Coat	GALV-ALUM Epoxy Galvanized/Aluminum Metal Primer (43-7)
Second Coat	PERMAGLOSS, 100% Acrylic Gloss Enamel (W 960V)
Third Coat	PERMAGLOSS, 100% Acrylic Gloss Enamel (W 960V)

d. Gloss – Rust Preventative Alkyd

Pretreatment	GALVA-ETCH, Etching Liquid (GE 123)
First Coat	SYN-LUSTRO Rust-Preventative Acrylic Primer (W8)
Second Coat	SYN-LUSTRO Rust-Preventative Acrylic Gloss (W10)
Third Coat	SYN-LUSTRO Rust-Preventative Acrylic Gloss (W10)

e. Matte, Industrial High Performance – Epoxy Primer/Acrylic

First Coat	CARBOLINE CARBOGUIDE 890 VOC
Second Coat	CARBOLINE CARBOCRYLIC 3359 MC
Third Coat	CARBOLINE CARBOCRYLIC 3359 MC

f. High Gloss, Industrial High Performance – Epoxy Primer/Urethane

First Coat	CARBOLINE CRABOGUARD 890 VOC
Second Coat	CARBOLINE CARBOTHANE 134 VOC
Third Coat	CARBOLINE CARBOTHANE 134 VOC

7. Wood – Paint Finish

a. Semi-Gloss – Acrylic

First Coat	E-Z PRIME, Ext. 100% Acrylic Wood Primer (W 708)
Second Coat	PERMASHEEN, 100% Acrylic Semi-Gloss Enamel (W 901V)
Third Coat	PERMASHEEN, 100% Acrylic Semi-Gloss Enamel (W 901V)

b. Gloss – Acrylic

First Coat	E-Z PRIME, Ext. 100% Acrylic Wood Primer (W 708)
Second Coat	PERMAGLOSS, 100% Acrylic Gloss Enamel (W 960V)
Third Coat	PERMAGLOSS, 100% Acrylic Gloss Enamel (W 960V)

8. Wood – Stain Finish – Opaque:

Two Coats	ACRI-FLAT, Exterior 100% Acrylic Flat Finish (W 704V)

9. Wood – Stain Finish – Semi-Transparent:

One Coat	OKON Weather Pro Tinted (WPT-3)

C. Interior Systems:

1. Gypsum Board

a. Flat - Acrylic

First Coat	VINYLASTIC, Interior Pigmented Sealer (W 101)*
Second Coat	DECOVEL, Interior Velvet Flat Wall Finish (W 401V)
Third Coat	DECOVEL, Interior Velvet Flat Wall Finish (W 401V)

b. Low Sheen – Acrylic

First Coat	VINYLASTIC, Interior Pigmented Sealer (W 101V)*
Second Coat	SUPREMA, Latex Low Sheen Enamel (W411V)
Third Coat	SUPREMA, Latex Low Sheen Enamel (W411V)

c. Eggshell – Acrylic

First Coat	VINYLASTIC, Interior Pigmented Sealer (W 101V)*
Second Coat	DECOSHEEN, Acrylic Eggshell Enamel ((W 440V)
Third Coat	DECOSHEEN, Acrylic Eggshell Enamel ((W 440V)

d. Semi-Gloss - Acrylic

First Coat	VINYLASTIC, Interior Pigmented Sealer (W 101**V**)*
Second Coat	PERMASHEEN, Acrylic, Int. Semi-Gloss Enamel (W901V)
Third Coat	PERMASHEEN, Acrylic, Int. Semi-Gloss Enamel (W901V)

e. Gloss – Acrylic

First Coat	VINYLASTIC, Interior Pigmented Sealer (W 101**V**)*
Second Coat	PERMAGLOSS, Acrylic, Int. Gloss Enamel (W901V)
Third Coat	PERMAGLOSS, Acrylic, Int. Gloss Enamel (W901V)

f. Gloss– Industrial High Performance – Waterborne Epoxy

First Coat	RUST-OLEUM SIERRA S70 Industrial Epoxy Primer
Second Coat	RUST-OLEUM SIERRA S50 Industrial Epoxy Gloss Enamel
Third Coat	RUST-OLEUM SIERRA S50 Industrial Epoxy Gloss Enamel

g. High Gloss – Industrial High Performance – Waterborne Epoxy/Urethane

First Coat	CARBOLINE CARBOGUARD 890 VOC
Second Coat	CARBOLINE CARBOTHANE 134 VOC
Third Coat	CARBOLINE CARBOTHANE 134 VOC

2. Concrete & Plaster:

a. Flat – Acrylic Copolymer

First Coat	SUPER-LOC, Two Component Waterborne Epoxy Sealer (W718)
OR	EFF-STOP, Acrylic Masonry Primer (W 709)
Second Coat	DECOVEL, Interior Velvet Flat Wall Finish (W 401V)
Third Coat	DECOVEL, Interior Velvet Flat Wall Finish (W 401V)

b. Low Sheen – Acrylic Copolymer

First Coat	SUPER-LOC, Two Component Waterborne Epoxy Sealer (W718)
OR	EFF-STOP, Acrylic Masonry Primer (W 709)
Second Coat	SUPREMA, Latex Low Sheen Enamel (W411V)
Third Coat	SUPREMA, Latex Low Gloss Enamel (W 411V)

c. Eggshell – 100% Acrylic

First Coat	SUPER-LOC, Two Component Waterborne Epoxy Sealer (W718)
OR	EFF-STOP, Acrylic Masonry Primer (W 709)
Second Coat	DECOSHEEN, Acrylic Eggshell Enamel ((W 440V)
Third Coat	DECOSHEEN, Acrylic Eggshell Enamel ((W 440V)

d. Semi-Gloss – 100% Acrylic

First Coat	SUPER-LOC, Two Component Waterborne Epoxy Sealer (W718)
OR	EFF-STOP, Acrylic Masonry Primer (W 709)
Second Coat	PERMASHEEN, Acrylic, Int. Semi-Gloss Enamel (W901V)
Third Coat	PERMASHEEN, Acrylic, Int. Semi-Gloss Enamel (W901V)

e. Gloss – 100% Acrylic

First Coat	SUPER-LOC, Two Component Waterborne Epoxy Sealer (W718)
OR	EFF-STOP, Acrylic Masonry Primer (W 709)
Second Coat	PERMAGLOSS, Acrylic, Int. Gloss Enamel (W960V)
Third Coat	PERMAGLOSS, Acrylic, Int. Gloss Enamel (W960V)

f. Gloss – Industrial High Performance - Waterborne Epoxy

First Coat	RUST-OLEUM SIERRA S70 Industrial Epoxy Primer
Second Coat	RUST-OLEUM SIERRA S50 Industrial Gloss Enamel
Third Coat	RUST-OLEUM SIERRA S50 Industrial Gloss Enamel

g. High Gloss- Industrial High Performance - Epoxy/Urethane

First Coat	CARBOLINE CARBOGUARD 890 VOC
Second Coat	CARBOLINE CARBOTHANE 134 VOC
Third Coat	CARBOLINE CARBOTHANE 134 VOC

3. Brick

a. Flat – Acrylic Copolymer

First Coat	EFF-STOP, Acrylic Masonry Primer (W 709)
Second Coat	DECOVEL, Interior Velvet Flat Wall Finish (W 401V)
Third Coat	DECOVEL, Interior Velvet Flat Wall Finish (W 401V)

b. Low Sheen – Acrylic Copolymer

First Coat	EFF-STOP, Acrylic Masonry Primer (W 709)
Second Coat	SUPREMA, Latex Low Sheen Enamel (W411V)
Third Coat	SUPREMA, Latex Low Sheen Enamel (W411V)

c. Eggshell – 100% Acrylic

First Coat	EFF-STOP, Acrylic Masonry Primer (W 709)
Second Coat	DECOSHEEN, Acrylic Eggshell Enamel ((W 440V)
Third Coat	DECOSHEEN, Acrylic Eggshell Enamel ((W 440V)

d. Semi-Gloss – 100% Acrylic

First Coat	EFF-STOP, Acrylic Masonry Primer (W 709)
Second Coat	PERMASHEEN, Acrylic, Int. Semi-Gloss Enamel (W901V)
Third Coat	PERMASHEEN, Acrylic, Int. Semi-Gloss Enamel (W901V)

e. Gloss – 100% Acrylic

First Coat	EFF-STOP, Acrylic Masonry Primer (W 709)
Second Coat	PERMAGLOSS, Acrylic, Int. Gloss Enamel (W960V)
Third Coat	PERMAGLOSS, Acrylic, Int. Gloss Enamel (W960V)

f. Gloss – Industrial High Performance - Waterborne Epoxy

First Coat	RUST-OLEUM SIERRA S70 Industrial Epoxy Primer
Second Coat	RUST-OLEUM SIERRA S50 Industrial Gloss Enamel
Third Coat	RUST-OLEUM SIERRA S50 Industrial Gloss Enamel

g. Gloss – Industrial High Performance - Waterborne Epoxy

First Coat	RUST-OLEUM SIERRA S70 Industrial Epoxy Primer
Second Coat	RUST-OLEUM SIERRA S50 Industrial Gloss Enamel
Third Coat	RUST-OLEUM SIERRA S50 Industrial Gloss Enamel

h. High Gloss- Industrial High Performance - Epoxy/Urethane

First Coat	CARBOLINE CARBOGUARD 890 VOC
Second Coat	CARBOLINE CARBOTHANE 134 VOC
Third Coat	CARCOLINE CARBOTHANE 134 VOC

4. Concrete Block

a. Flat – Acrylic Copolymer

First Coat	BLOCFIL, Concrete Block Filler, Smooth (W 305)
Second Coat	DECOVEL, Interior Velvet Flat Wall Finish (W 401V)
Third Coat	DECOVEL, Interior Velvet Flat Wall Finish (W 401V)

b. Low Sheen – Acrylic Copolymer

First Coat	BLOCFIL, Concrete Block Filler, Smooth (W 305)
Second Coat	SUPREMA, Latex Low Sheen Enamel (W411V)
Third Coat	SUPREMA, Latex Low Sheen Enamel (W411V)

c. Eggshell – 100% Acrylic

First Coat	BLOCFIL, Concrete Block Filler, Smooth (W 305)
Second Coat	DECOSHEEN, Acrylic Eggshell Enamel ((W 440V)
Third Coat	DECOSHEEN, Acrylic Eggshell Enamel ((W 440V)

d. Semi-Gloss – 100% Acrylic

First Coat	BLOCFIL, Concrete Block Filler, Smooth (W 305)
Second Coat	PERMASHEEN, Acrylic, Int. Semi-Gloss Enamel (W901V)
Third Coat	PERMASHEEN, Acrylic, Int. Semi-Gloss Enamel (W901V)

e. Gloss – 100% Acrylic

First Coat	BLOCFIL, Concrete Block Filler, Smooth (W 305)
Second Coat	PERMAGLOSS, Acrylic Int. Gloss Enamel (W960V)
Third Coat	PERMAGLOSS, Acrylic Int. Gloss Enamel (W960V)

f. Gloss – Industrial High Performance - Waterborne Epoxy

First Coat	BLOCFIL, Concrete Block Filler, Smooth (W 305)
Second Coat	RUST-OLEUM SIERRA S50 Industrial Epoxy Gloss Enamel
Third Coat	RUST-OLEUM SIERRA S50 Industrial Epoxy Gloss Enamel

g. High Gloss- Industrial High Performance – Acrylic/Urethane

First Coat	CARBOLINE SANITILE 100
Second Coat	CARBOLINE CARBOTHANE 134 VOC
Third Coat	CARBOLINE CARBOTHANE 134 VOC

5. Ferrous Metal

a. Flat – Acrylic Copolymer

First Coat	CORROBAR, White Alkyd Rust Preventative Primer (43-5)
Second Coat	DECOVEL, Interior Velvet Flat Wall Finish (W 401V)
Third Coat	DECOVEL, Interior Velvet Flat Wall Finish (W 401V)

b. Low Sheen – Alkyd/Acrylic Copolymer

First Coat	CORROBAR, White Alkyd Rust Preventative Primer (43-5)
Second Coat	SUPREMA, Int. Latex Low Sheen Enamel (W411V)
Third Coat	SUPREMA, Int. Latex Low Sheen Enamel (W411V)

c. Eggshell – Alkyd/100% Acrylic

First Coat	CORROBAR, White Alkyd Rust Preventative Primer (43-5)
Second Coat	DECOSHEEN, Int. Acrylic Eggshell Enamel ((W 440V)
Third Coat	DECOSHEEN, Int. Acrylic Eggshell Enamel ((W 440V)

d. Semi-Gloss – Alkyd/100% Acrylic

First Coat	CORROBAR, White Alkyd Rust Preventative Primer (43-5)
Second Coat	PERMASHEEN, Acrylic Semi-Gloss Enamel (W901V)
Third Coat	PERMASHEEN, Acrylic Semi-Gloss Enamel (W901V)

e. Semi-Gloss –Rust Preventative Alkyd

First Coat	SYN-LUSTRO W8 Rust-Preventative Acrylic Primer
Second Coat	SYN-LUSTRO, W9 Rust-Preventative Acrylic Semi-Gloss Enamel

Third Coat	SYN-LUSTRO, W9 Rust-Preventative Acrylic Semi-Gloss Enamel

f. Gloss – Alkyd/100% Acrylic

First Coat	CORROBAR, White Alkyd Rust Preventative Primer (43-5)
Second Coat	PERMAGLOSS, Acrylic Gloss Enamel (W960V)
Third Coat	PERMAGLOSS, Acrylic Gloss Enamel (W960V)

g. Gloss –Rust Preventative Alkyd

First Coat	SYN-LUSTRO W8 Rust-Preventative Acrylic Primer
Second Coat	SYN-LUSTRO, W10 Rust-Preventative Acrylic Gloss Enamel
Third Coat	SYN-LUSTRO, W10 Rust-Preventative Acrylic Gloss Enamel

h. Gloss – Industrial High Performance - Waterborne Epoxy

First Coat	RUST-OLEUM SIERRA S70 Industrial Epoxy Primer
Second Coat	RUST-OLEUM SIERRA S50 Industrial Epoxy Gloss Enamel
Third Coat	RUST-OLEUM SIERRA S50 Industrial Epoxy Gloss Enamel

i. High Gloss – Industrial High Performance - Epoxy/Urethane

First Coat	CARBOLINE CARBOGUARD 890 VOC
Second Coat	CARBOLINE CARBOTHANE 134 VOC
Third Coat	CARBOLINE CARBOTHANE 134 VOC

6. Wood – Paint Finish

a. Flat – Acrylic Copolymer

First Coat	UNIKOTE, Int. Acrylic Enamel Undercoater (W707)
Second Coat	DECOVEL, Interior Velvet Flat Wall Finish (W 401V)
Third Coat	DECOVEL, Interior Velvet Flat Wall Finish (W 401V)

b. Low Sheen – Alkyd/Acrylic Copolymer

First Coat	UNIKOTE, Int. Acrylic Enamel Undercoater (W707)
Second Coat	SUPREMA, Int. Latex Low Sheen Enamel (W411V)
Third Coat	SUPREMA, Int. Latex Low Sheen Enamel (W411V)

c. Eggshell – Alkyd/100% Acrylic

First Coat	UNIKOTE, Int. Acrylic Enamel Undercoater (W707)
Second Coat	DECOSHEEN, Int. Acrylic Eggshell Enamel ((W 440V)
Third Coat	DECOSHEEN, Int. Acrylic Eggshell Enamel ((W 440V)

d. Semi-Gloss – 100% Acrylic

First Coat	UNIKOTE, Int. Acrylic Enamel Undercoater (W707)
Second Coat	PERMASHEEN, Acrylic Semi-Gloss Enamel (W901V)
Third Coat	PERMASHEEN, Acrylic Semi-Gloss Enamel (W901V)

e. Semi-Gloss – Alkyd – Class A Fire Retardant

First Coat	SUPER U-365, Int. Alkyd Enamel Undercoater (E22-1V)
Second Coat	ARISTOGLO, Int. Alkyd Semi-Gloss Fire Retardant Enamel (74)**
Third Coat	ARISTOGLO, Int. Alkyd Semi-Gloss Fire Retardant Enamel (74)**

f. Gloss – 100% Acrylic

First Coat	UNIKOTE, Int. Acrylic Enamel Undercoater (W707)
Second Coat	PERMAGLOSS, Acrylic Gloss Enamel (W960V)
Third Coat	PERMAGLOSS, Acrylic Gloss Enamel (W960V)

7. Wood – Stain & Lacquer

a. Flat

First Coat	STAINSEAL, Interior Wiping Oil Stain V-YBQ
Filler	PASTE WOOD FILLER (PWF 2703)
Second Coat	550 CONTRACTORS EDGE High Solids Lacquer Sanding Sealer, Clear CE550PRO-SS
Third Coat	DECOLAC, High Solid Flat Lacquer, Clear N/A
Fourth Coat	DECOLAC, High Solid Flat Lacquer, Clear N/A

b. Semi-Gloss

First Coat	STAINSEAL, Interior Wiping Oil Stain V-YBQ
Filler	PASTE WOOD FILLER (PWF 2703)
Second Coat	550 CONTRACTORS EDGE High Solids Lacquer Sanding Sealer, Clear CE550PRO-SS
Third Coat	550 CONTRACTORS EDGE, High Solids Semi-Gloss Lacquer, Clear CE550PRO60
Fourth Coat	550 CONTRACTORS EDGE, High Solids Semi-Gloss Lacquer, Clear CE550PRO60

c. Gloss

First Coat OR	STAINSEAL, Interior Wiping Oil Stain V-YQB
Filler	PASTE WOOD FILLER (PWF 2703)
Second Coat	550 DECOLAC, High Solids Lacquer Sanding Sealer, Clear CE550PRO-SS
Third Coat	550 DECOLAC, High Solids Gloss Lacquer, Clear CE550PRO90
Fourth Coat	550 DECOLAC, High Solids Gloss Lacquer, Clear CE550PRO90

* Dunn-Edwards does not recommend VINYLASTIC, Interior Pigmented Sealer (W 101) on drywall where "Prep Coat", "First Coat", or other skim coat type materials have been applied. For enamel finishes, use WALLTONE, Flat Wall Finish (W 420) for the first coat. For flat finishes, use two coats of the flat finish material only.

**Yellowing of white and off-white alkyd enamels may occur because of government regulatory limits on solvent content. Substitution of latex enamels would avoid this problem, but may not provide comparable performance.

*****END OF SECTION*****

SECTION 10120

TACKBOARDS

PART 1 -- GENERAL

1.01 SUMMARY

Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.

1.02 SCOPE OF WORK

Supply and install all Tackboards, as shown on Drawings and as specified herein.

1.03 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.04 SUBMITTALS

Product data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:

1. Materials list of items to be provided under this Section.
2. Manufacturer's Specifications and other data needed to prove compliance with the specified requirements.
3. Manufacturer's recommended installation procedures which, when accepted by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.05 DELIVERY AND STORAGE

Deliver all manufactured materials in original packages bearing manufacturer's name and brand. Use only one brand of each material throughout job. Store materials off ground and cover against weather. Remove any damaged materials from the site.

1.06 WARRANTY

All panel and baffle materials provided and installed within the manufacturer's standards for installation shall be warranted for a period of one (1) year from date of sale against defects to material or specified performance.

PART 2 – PRODUCTS

2.01 MANUFACTURER & PRODUCT

Furnish: size(s), color(s), pattern(s) and shape(s) as indicated on the drawings.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Correct conditions detrimental to timely and proper completion of the Work.

C. Do not proceed until unsatisfactory conditions are corrected.

D. Beginning of installation means acceptance of conditions.

3.02 INSTALLATION

A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.

B. Install the work of this Section in strict accordance with the original design, the accepted Shop Drawings, pertinent requirements of governmental agencies having jurisdiction, and the manufacturer's recommended installation procedures as accepted by the Architect, anchoring all components firmly into position for long life under hard use.

C. The contractor shall furnish all labor, materials, services and equipment necessary for, and reasonably incidental to, the installation of the manufacturer. Panels as shown on drawings and as specified herein.

D. Coordinate with General Contractor overhead bracing and wall backing and blocking required for all partitions and grab bars.

***** END OF SECTION *****

SECTION 10350

FLAGPOLES

PART 1 -- GENERAL

1.01 WORK INCLUDED

A. Aluminum flagpoles.

B. Ground mount.

C. Halyards, accessories, and flag.

1.02 SYSTEM DESCRIPTION

A. Type: Ground set, fixed type.

B. Pole Design: Cone tapered

C. Nominal Height: Per Construction Drawings

D. Halyard: Internal type.

1.03 PERFORMANCE

Pole with Flag Flying: Resistant without permanent deformation, 90-miles/hr. wind velocity, non-resonant, safety design factor of 2.5.

1.04 QUALITY ASSURANCE

Design flagpole foundation, supports under direct supervision of a Professional Structural Engineer experienced in design of this work, registered in the state of California.

1.05 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.06 SUBMITTALS

A. Indicate on shop drawings, detailed dimensions, base attachment details, anchor requirements, and imposed loads.

B. Provide product data on pole, accessories, and configurations.

C. Submit manufacturer's installation instructions.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store and protect products.

B. Spiral wrap flagpole with protective covering and pack in protective shipping tubes or containers.

C. Protect flagpole and accessories on site from damage or moisture.

PART 2 -- PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. The Flag Factory.

B. Bartal International.

C. Or approved equal.

2.02 POLE MATERIALS

Aluminum: 6063 alloy, T6 temper. Dark bronze anodized.

2.03 COMPONENTS AND ACCESSORIES

A. Finial Ball: Gold tone, 6-inch diameter.

B. Truck Assembly: Cast aluminum or Stainless steel; revolving; stainless steel ball bearings, non-fouling.

C. Flag(s): Provided by Owner.

D. Halyard: 1/8-inch diameter stainless steel cable.

2.04 MOUNTING COMPONENTS

A. Pole Base Attachment: Sleeve with base cover.

B. Lightning Ground Rod and Cable: As recommended by manufacturer.

2.05 POLE FABRICATION

A. Outside Butt Diameter: 6 inches.

B. Outside Tip Diameter: 3-1/2 inches.

C. Nominal Thickness: 188 inches.

PART 3 -- EXECUTION

3.01 INSPECTION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Verify that concrete foundation is ready to receive work and dimensions are as indicated on shop drawings and instructed by the manufacturer.

C. Correct conditions detrimental to timely and proper completion of the Work.

D. Do not proceed until unsatisfactory conditions are corrected.

E. Beginning of installation means acceptance conditions.

3.02 PREPARATION

Coat metal sleeve surfaces below grade and surfaces in contact with dissimilar materials with asphaltic paint.

3.03 INSTALLATION

A. Install flagpole, base assembly, and fittings in accordance with manufacturer's instructions.

B. Electrically ground flagpole installation.

C. Install foundation plate and centering wedges for flagpoles base set in concrete base and fasten.

3.04 TOLERANCES

Maximum variation from plumb: One inch.

3.05 ADJUSTING AND CLEANING

A. Clean surfaces.

B. Adjust operating devices so that halyard and flag function smoothly.

***** END OF SECTION *****

SECTION 10400

IDENTIFYING DEVICES

PART 1 -- GENERAL

1.01 SCOPE OF WORK

A. Molded plastic signs.

B. Aluminum free-standing signs.

C. Aluminum channel letters.

1.02 RELATED WORK

A. Documents affecting this Work include: General Conditions, Special Conditions, and Sections of Division 1 of these Specifications.

B. Reinforced masonry systems: Monument signs.

C. Wood doors.

1.03 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.04 SUBMITTALS

A. Submit two samples illustrating full size sample sign, of type, style and color specified including method of attachment.

B. Submit manufacturer's installation instructions.

C. Include installation template and hardware.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Package signs, labeled in name groups.

B. Store adhesive tape at ambient room temperatures.

1.06 ENVIRONMENTAL REQUIREMENTS

Do not install signs when ambient temperature is below 70 degrees F. Maintain this minimum during and after installation of signs.

PART 2 -- PRODUCTS

2.01 MANUFACTURERS

A. Mohawk Sign Systems: Aluminum & Plastic Signs.

B. A.R.K. Ramos Architectural Signage Systems; Aluminum Channel Letter.

C. Or approved equal.

2.02 MATERIALS -- ALUMINUM CHANNEL LETTERS

A. Aluminum letters: 8", 7" and 2", Helvetica Medium.

B. Brackets: PPM-1 bracket sleeved stud.

1. Set in adhesive in masonry.

2. Attach to support in framed wall.

2.03 MATERIALS -- MOLDED PLASTIC SIGNING SYSTEM

A. 1/8" thick ES Plastic. Color to be selected by Architect.

B. Graphics to be vinyl die-cut. 3/4" Helvetica Medium caps.

C. Adhesive mounting.

D. All signs to have 1/2" Radius corners.

E. See Schedule for types.

2.04 MATERIALS -- ALUMINUM FREE-STANDING SIGN

A. Provide 1/8" thick aluminum sign, on 1-3/4" x 1-3/4" x 1/8" x 7' post; black duranodic aluminum tubing and sign.

B. Signs are to be 22" x 17" and 9" x 18" as shown on the Drawings.

C. Letters are to be vinyl die-cut. Test shall conform to access requirements of the CBC.

D. Color to be black anodized with white lettering.

E. Signs are to be sleeve mounted in concrete footings.

F. Signs shall be located per Drawing for Handicap Parking.

2.05 DEDICATION PLAQUE

A. 20" x 24" Bronze Dedication Plaque: text to be determined at a later date.

B. Plaque to have a raised perimeter band, flat-faced classic letters, leatherette (stipple) finish and rosette bolt heads.

C. Exact layout will be prepared by architect, mount in location as directed by architect.

2.06 ACCESSORIES

A. Mounting Hardware: Chrome screws; base sleeve and studs per manufacturer's recommendations.

B. Tape Mount: Double sided tape, permanent adhesive.

C. Adhesive: Silastic adhesive as recommended by manufacturer.

PART 3 -- EXECUTION

3.01 EXAMINATION

A. Examine the areas and conditions under which work of this Section will be performed.

B. Verify adequate support for Building Signs. Coordinate footings with other trades.

C. Correct conditions detrimental to timely and proper completion of the Work.

D. Do not proceed until unsatisfactory conditions are corrected.

E. Beginning of installation means acceptance of conditions.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install signs after doors and surfaces are finished, in locations indicated.

1. Furnish and install all anchorage devices required to install the item and its appurtenances complete. Provide anchorage in ample time when required to be built in by other trades.

2. All wall-mounted items shall be securely fastened to solid backing or blocking.