Animal Services Building Renovation

RFQ# 20-04-016

Specifications

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END OF SECTION
00010

SECTION 01 0100
SUMMARY OF WORK

PART 1 GENERAL

1.01 DESCRIPTION

A. The Work to be performed under this Contract shall consist of furnishing all labor, materials, tools, equipment and incidentals and performing all Work required to construct complete in place and ready to operate:

1. Sitework including, but not limited to, demolition an/or removal of some existing site and building structures, installation of new asphalt paving and concrete walks, storm drainage grading, piping and structures, chain link fencing, sanitary septic systems, tree management, and erosion control.
2. Building renovation and one story additions, including but not limited to, new cat quarantine, lab, office and incinerator of approximately 927 SF, new dog quarantine/isolation kennels of approximately 672 SF, plus related covered walks, and interior renovations to existing lobby and entry area of approximately 819 SF. Building will be concrete slab on grade with shallow foundations, load bearing masonry exterior walls with stucco type finish, metal stud and dry wall interior walls, wood truss roof system and insulation with composition shingles and water drainage, ceiling, wall, and floor finishes, doors and windows, millwork, HVAC, plumbing, and electrical.

B. All Work described above shall be performed as shown on the Drawings and as specified.

1.02 PROJECT LOCATION

The equipment and materials to be furnished will be installed at the locations shown on the Drawings.

1.03 QUANTITIES

The Owner reserves the right to alter the quantities of work to be performed or to extend or shorten the improvements at any time when and as found necessary, and the Contractor shall perform the work as altered, increased or decreased. Payment for such increased or decreased quantity will be made in accordance with the Instructions to Bidders. No allowance will be made for any change in anticipated profits nor shall such changes be considered as waiving or invalidating any conditions or provisions of the Contract and Bond.

1.04 PARTIAL OWNER OCCUPANCY

The existing facilities to which these improvements are being made will continue operation during the period of construction.

END OF SECTION
01 0100

SECTION 01 2100
CASH ALLOWANCES

PART 1 - GENERAL

1.1 DESCRIPTION:

A. Work included: To provide adequate budget and bonding to cover items not precisely determined by the Owner prior to bidding, allow within the proposed Contract Sum the amounts described below.

B. Related work:

1. Other provisions concerning Cash Allowances also may be stated in other Sections of these Specifications.

1.2 ALLOWANCES

END OF SECTION
01 2100

SECTION 01 4216

DEFINITIONS

PART 1 GENERAL

1.1 SUMMARY

A. This section supplements the definitions contained in the General Conditions.

B. Other definitions are included in individual specification sections.

1.2 DEFINITIONS

A. Furnish: To supply, deliver, unload, and inspect for damage.

B. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, start up, and make ready for use.

C. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.

D. Provide: To furnish and install.

E. Supply: Same as Furnish.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

01 4216

SECTION 01 1000
ALTERNATIVES

PART 1 - GENERAL

1.1 DESCRIPTION:

A. Work included: Provide alternative prices as described in this Section.

B. Related work:
1. Some of the items mentioned in this Section are described further in pertinent other Sections of these Specifications.

C. Procedures:
1. Provide alternative bids to be added to or deducted from the amount of the Base Bid if the corresponding change in scope is accepted by the Owner.
2. Include within the alternative bid prices all costs, including materials, installations, and fees.
3. Show the proposed alternative amounts on a separate sheet breakdown form the bid.

1.2 SPECIFIC ALTERNATIVES:

A.

END OF SECTION
01 1000

SECTION 02 0500
DEMOLITION AND ALTERATIONS

PART 1 - GENERAL

1.01 DESCRIPTION:

A. Demolition and alterations of existing facilities as indicated on drawings, as specified and directed by Architect.

1.02 QUALITY ASSURANCE:

A. Accomplish demolition and removal of existing construction, utilities, equipment, and appurtenances without damaging integrity of existing structures, equipment, and appurtenances that are to remain.

B. Store equipment to be salvaged for relocation where directed by Architect, and if necessary, protect from damage during work.

C. Repair or remove items that are damaged. Repair and installation of damaged items at no additional compensation and to condition at least equal to that which existed prior to start of Work.

D. Exercise all necessary precautions for fire prevention. Acceptable fire extinguisher made available at all times in areas where demolition work by burning torches is being done.

E. Provide protection of persons and property throughout progress of work. Proceed in such manner as to minimize spread of dust and flying particles and to provide safe working conditions for personnel.

F. Maintain circulation of traffic within area at all times during demolition operations.

G. Walk site with Design Team and Owner representative to verify extent of demolition before abandoning or removing any existing structures, materials, equipment and appurtenances.

H. Arrange with and perform work required by utility companies and municipal departments for discontinuance or interruption of utility services due to demolition work.

1.03 SUBMITTALS: Submit demolition plan to Architect for review, describing proposed sequence, methods, and equipment for demolition and disposal.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.01 REFERENCES:

A. Provide two reference points for each survey marker and monument removed, if any, establish by a licensed civil engineer or land surveyor and record locations and designations of survey markers and monuments prior to removal.

B. Store removed markers and monuments during demolition work, and replace upon completion or work. Reestablish survey markers and monuments in conformance with recorded reference points. Forward letter to Architect verifying reestablishment of survey markers and monuments, signed by licensed civil engineer or land surveyor.

3.02 DEMOLITION:

A. Confine apparatus, storage of material, demolition work, new construction, and operations of workmen to areas that will not interfere with continued use and operation of entire facility. Provide and maintain lights, barriers, and temporary passageways for free and safe access.

B. Cap or plug with brick and mortar, as indicated, pipes and other conduits abandoned due to demolition.

3.03 SALVAGE:

A. Materials, equipment, and appurtenances removed, that are not designated by the Owner for relocation, became property of Contractor and hauled from site and disposed of at no additional compensation.

END OF SECTION
05 5000

SECTION 03 3000
CAST-IN-PLACE CONCRETE
(ALSO SEE STRUCTURAL DRAWINGS)

PART 1 GENERAL

1.01 REFERENCES:

Reference specifications shall be a part of these specifications the same if fully written herein and shall constitute minimum requirements for structural concrete, unless modified herein.

A. American Concrete Institute "ACI Building Code Requirements for Structural Concrete" (ACI 318-08).

B. American Concrete Institute "ACI Specifications for Structural Concrete" (ACI 301-05)

C. American Society Institute for Testing and Materials (ASTM) specifications referred to by serial designation and latest year of adoption or revision.

1.02 QUALITY ASSURANCE:

Concrete shall be designed, mixed, handled, placed, protected, cured, tested, and evaluated in accordance with these specifications and the latest ASTM standards applicable.

1.03 SUBMITTALS:

A. Submittals:
   1. Fully complete and for all materials provided.

B. Submit for review: Concrete mix design for each class of concrete, grout mix design, and concrete reinforcement shop drawings.

PART 2 PRODUCTS

2.01 CONCRETE:

Concrete shall be ready-mixed and shall have natural sand fine aggregate and normal weight coarse aggregates conforming to ASTM C33, Type I Portland Cement conforming to ASTM C150, and shall have a minimum 28 day compressive strength of 3000 psi. For concrete exposed to freezing and thawing or deicing chemicals, entrain air to produce total air content of 5% plus or minus 1%. Use normal weight concrete for all concrete unless noted otherwise.

2.02 GROUT:

Non-shrink grout specified for use under column base plates or beam bearing plates shall conform to Corps of Engineers Specification CRD-C 621. Minimum 28-day compressive strength shall be 5000 psi.

2.03 REINFORCEMENT:

A. Concrete reinforcement bars shall conform to ASTM A615, Grade 60. Bars shall not be welded or heated unless indicated on the contract documents. Detailing of reinforcement shall be in accordance with ACI 315-99. Bar development and lap splice lengths shall be in accordance with ACI 318. Prior to placing concrete, all reinforcing steel shall be free of rust scale, or any foreign material.

B. Weld Wire Fabric (WWF) shall be supplied in flat sheets and shall conform to ASTM A 185.

2.04 VAPOR BARRIER:

Provide a vapor barrier under all new building concrete slab on grade. Vapor barrier material shall be Moistop by St Regis. Provide 15 mil polyethylene under all building slabs.

PART 3 EXECUTION

3.01 CONCRETE MIXES:

A. Concrete work shall conform to all requirements of ACI 301-05 Specifications for Structural Concrete for Buildings, except as modified herein. Mix designs shall be submitted for review only with acceptance being based on tests. Any of the methods of proportioning contained in ACI 301 and ACI 318 are acceptable. Concrete shall not contain calcium chloride. Concrete shall be produced to have a slump of 4” or less if consolidation is to be by vibration. Concrete shall be produced to have a slump of 5” or less if consolidation is to be by methods other than vibration. A tolerance of 1” above the maximum indicated shall be allowed for 1 in 5 consecutive batches tested. Concrete sampling and testing shall be performed according to the requirements in ACI 318.

3.02 CONCRETE MIXING & DELIVERY:

Ready-mixed concrete shall be mixed and delivered in accordance with the requirements of “Standard Specification for Ready-Mixed Concrete” (ASTM C94).

3.03 HOT WEATHER CONCRETING:

Provide adequate methods of lowering temperature of concrete ingredients so that the temperature of concrete does not exceed 90 degrees F. when placed. Follow recommendations of ACI 305 “Hot Weather Concreting”.

3.04 COLD WEATHER CONCRETING:

Protect fresh concrete from freezing and maintain temperatures above designated minimums to allow proper curing of the concrete. Cold weather is defined as a period when the expected daily mean temperature (degrees Fahrenheit) is below 40 degrees for more than 3 successive days. Follow recommendations of ACI 306 “Cold Weather Concreting” to ensure durable concrete.

3.05 FLATWORK FINISHES:

A. Interior floor slabs shall be screeded to proper level, floated, and troweled to a level and flat finish, level along walls and from corner to corner. Floor Flatness and Levelness shall achieve F_F = 50 and F_L=33. Apply liquid curing and hardening compound as manufactured by W. R. Grace or W. R. Meadows in all areas not to receive a finish floor material.

B. Exterior slabs, steps, walks, and other surfaces shall be screeded to the proper level or slope, floated and troweled to a level and flat finish, after troweling, exterior surfaces shall be given a light broom finish transverse with long dimension. All surfaces shall slope to drain without puddles or standing water. Use edger on all joints and edges. Floor Flatness and Levelness shall achieve F_F=25 and F_L=17

C. Floors shall receive a hard steel-troweled finish unless noted otherwise.

3.06 CONCRETE CURING:

Exposed surfaces of concrete shall be protected from premature drying and against rain. Curing may be accomplished by (1) curing compound, or (2) water ponding, continuous spray or seep hoses or (3) moisture retaining coverings. Curing procedures shall be maintained to keep the concrete moist for a least 7 days after placement. Locations of curing compound shall coordinate on any slabs in the buildings including kennels; as curing compound could interfere with floor finishes.

3.07 TESTING:

A. Concrete inspection and testing services shall be made by an independent testing laboratory selected by the Owner. All tests, cylinders, and transportation shall be made by testing laboratory personnel. Single copies of all reports shall be sent to Owner, Architect, Contractor, and Concrete Producer.

B. Two slump tests shall be performed in accordance with ASTM C 143 at time of making cylinders for strength tests. Slump in excess of design slump shall be cause to reject concrete represented by slump test.

C. Concrete strength shall be evaluated and accepted in accordance with ACI 318. For each class of concrete prepare one set of 4 cylinders for each 50 cubic yards or fraction thereof. Each strength test shall be the average of the strengths of two cylinders. If 42 day test is below the required 28-day strength, concrete core tests shall be made at Contractor's expense. Test one cylinder at 7 days, 2 cylinders at 28 days and hold one cylinder in reserve in case of low strength to be tested at 42 days.

D. Results for all concrete compressive strength tests shall be available on the job site for review by the inspector.

END OF SECTION
03 3000

SECTION 03 1520
TERMITE CONTROL

PART 1 - GENERAL

1.1 SUMMARY:

A. This Section includes soil treatment for termite control at new construction.

1.2 SUBMITTALS:

A. General: Submit the following according to Conditions of Contract and Division 1 Specification Sections.

B. Product data and application instructions which indicate toxicants to be used, composition by percentage, dilution schedule, and intended application rate.

C. Certification that products used comply with U.S. Environmental Protection Agency (EPA) regulations for termiticides.

D. In Project Record Documents: Accurately record moisture content of soil before treatment, date and rate of application, areas of application, diary of meter readings and corresponding soil coverage.

E. Warranty: Submit manufacturer warranty with forms completed in Owners name and registered with manufacturer.

1.3 QUALITY ASSURANCE:

A. In addition to requirements of these specifications, comply with manufacturer's instructions and recommendations for preparing substrate and application.

B. Engage a professional pest control operator with a minimum of 5 years documented experience who is licensed according to regulations of governing authorities to apply soil treatment solution.

C. Use only termiticides that bear a federal registration number of the EPA and are approved by local authorities having jurisdiction.

D. Conform to applicable codes for application requirements, application licensing, authority to use toxicant chemicals, and in accordance with EPA regulations.

1.4 JOB CONDITIONS:

A. Restrictions: Do not apply soil treatment solution until excavating, filling, and grading operations are completed, except as otherwise required in construction operations.

B. To ensure penetration, do not apply soil treatment to frozen or excessively wet soils or during inclement weather. Comply with handling and application instructions of the soil toxicant manufacturer.

1.5 WARRANTY:

A. Warranty:
1. Submit written warranty signed by soil treatment applicator and Contractor certifying that applied chemical toxicant treatment will prevent infestation of subterranean termites.
   a. State that application was made at concentration, rates, and methods as specified.
   b. State that if subterranean termite activity is discovered during warranty period, Contractor will retreat soil and repair damage caused by termite infestation at no additional cost to Owner.
2. Cover against invasion or propagation of subterranean termites, damage to building or building contents caused by termites; repairs to building or building contents so caused.
3. Provide for inspection Work annually; report in writing to designated Owner personnel.
4. Warranty Period: 5 years.

B. The warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver products in manufacturer's original unopened containers with labels intact, identifying Product and manufacturer, application instructions, and EPA federal registration number.

B. Do not store Products on site. Deliver Products to site at time of application.

PART 2 - PRODUCTS

2.1 SOIL TREATMENT SOLUTION:

A. EPA and local authority having jurisdiction approved chemical toxicant; water based emulsion, uniform composition, with synthetic dye to permit visual identification of treated soil, bearing Federal registration number of the EPA.
1. Do not use fuel oil as diluent.

B. Specifically formulated to prevent infestation by termites.

C. Solution containing one of the following chemical elements and concentrations:
1. Imidacloprid: 0.5 percent in water emulsion.
   a. Premise 2, by Bayer.

2. Section 01630 – Product Requirements: Product options and substitutions. Substitutions: Permitted.

D. Dilute with water to concentration level recommended by manufacturer.

E. Other solutions may be used as recommended by Applicator if approved for intended application by local authorities having jurisdiction. Use only soil treatment solutions that are not harmful to plants.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verifications of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
1. Verify the soil surfaces are unfrozen, sufficiently dry to absorb toxicant, ready to receive treatment.
2. Verify final grading is complete.

B. Report in writing to Owner's Representative prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.

C. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the Owner.

3.2 PREPARATION

A. Remove foreign matter, loosen, rake, and level soil to be tested, except previously compacted areas under slabs and foundations.

3.3 APPLICATION

A. Apply toxicant within 12 hours before installation of vapor retardant under slab-on-grade.

B. Apply toxicant to soil at the following rates, using metered applicator:
1. Under Floor Slabs-On-Grade:
   a. Soil or Unwashed Gravel: 1 gallon per 10 square feet.
   b. Washed Gravel or Other Course Absorbent Material: 1-1/2 gallons per 10 square feet.
2. Both Sides of Foundation Wall:
   a. Concrete: 4 gallons per 10 lineal feet, to depth of 12 inches.
   b. Masonry: 4 gallons per 10 lineal feet for each foot of foundation depth.
3. 2 gallons per lineal foot at foundation penetrations.

C. Exterior Foundation: 4 gallons per 10 lineal feet of trench along outside edge of building.
   1. Dig trench 6 inches to 8 inches wide along outside of foundation to minimum depth of 12 inches and apply toxicant.
   2. Mix toxicant with soil as it is being backfilled.

D. Apply toxicant as a coarse spray; provide uniform distribution.

E. Post signs in areas of application to warn workers that toxicant has been applied to soil. Remove signs after areas are covered by other construction.

F. Reapply toxicant to areas disturbed by subsequent excavation, landscape grading, or other construction activities occurring after initial toxicant application.

3.3 CONSTRUCTION

A. Coordinate application of toxicant at foundation perimeter with finish grading and landscaping work; avoid disturbance of treated soil.

3.4 FIELD QUALITY CONTROL

A. Inspect and test soil areas where toxicant was applied to determine the presence of any remaining termites before covering with subsequent construction.

B. Reapply toxicant to areas where inspection or testing identifies the presence of termites. Use same toxicant as for original treatment.

END OF SECTION
02 2810

SECTION 04 2000
UNIT MASONRY
(ALSO SEE STRUCTURAL DRAWINGS)

PART 1 GENERAL

1.01 SUBMITTALS:

1. Fully complete and submit for all materials provided.

A. Manufacturer's data: Submit copies of manufacturer's product specifications and instructions for each manufactured product, in accordance with Contract Conditions.

B. Samples: Submit five (5) actual CMU in accordance with General Conditions. Samples shall indicate maximum range of color, texture, and size. Colors per Color Schedule.

C. Job Mock-up:

1. Lay 6'-0" long x 6'-0" high sample wall panel CMU, accessories, anchors, and mortar.

2. Orient panel facing south.

3. Indicate the following characteristics:
   a. Bonding
   b. Joint Tooling and Mortar Color
   c. Color and Texture
   d. Workmanship

4. Prepare panel at least 14 days prior to beginning masonry work. Should panel be disapproved, prepare additional panel until approved by Architect.

5. Maintain panel throughout work as standard for masonry work. Do not destroy panel until directed by Architect.

1.02 Quality Assurance:

A. Standard practice requirements and recommendations of the Portland Cement Association's "Concrete Masonry Handbook", current edition.

1.03 Job Conditions:

A. Environmentalrequirements:

1. Lay no masonry when temperature of surrounding air has dropped below 45 F., unless it is rising and at no time when it has dropped below 40 F., except by written permission from Architect.

2. When masonry work is authorized during temperatures below 40 F., but above freezing, mortar shall be provided at temperature between 70 and 100 F. Maintain air temperature above 40 F. on both sides of masonry for at least 72 hours after laying.

B. Protection of work:

1. During erection, keep walls dry by covering at end of each day or shutdown period with a waterproof membrane; anchored and overhanging each side of wall at least 2'-0".

2. Remove misplaced mortar or grout immediately.

3. Exercise care to prevent embedment of mortar in exposed face of brick.

4. Protect door jambs and corners from damage during construction.

5. Protect sill, ledges and offsets from mortar droppings.

6. Protect finish of adjacent materials from staining.

7. Protect lower sections from mud splatter.

1.04 Allowable Tolerances:

A. Maximum variation from plumb:

1. In lines and surfaces of walls

a. 1/4" in 10'-0".

b. 1/2" in total height of wall.

B. Maximum variation from level:

1. In lines of sill, lintels, horizontal grooves or other conspicuous lines:

a. 1/4" in any bay or in 20"-0" maximum.

b. 1/2" in total course.

PART 2 PRODUCTS

2.01 MORTAR AND GROUT MATERIALS:

A. Masonry Cement: ASTM C91

B. Portland Cement: ASTM C150, Type I natural color, non-staining.

C. Hydrated Lime: ASTM C207, Type S.

D. Aggregate: ASTM C144 or ASTM C404, natural washed sand. Select sand to match characteristics and color.

E. Water Reducing and Plasticizing Admixture products:

1. Lambert Corporation, Mortartite.

2. Master Builders Company, Omicron Mortarproofing.

3. Sonneborn-Contech, Inc.., Trimix.

F. Water: Clean, potable, free from deleterious amounts of alkalies, acids and organic materials.

G. Mortar color not required.

2.02 MASONRY JOINT REINFORCEMENT:

A. Acceptable manufacturers:

1. AA Wire Products Co.

2. Dur-O-Wal, Inc.

3. Heckmann Building Products, Inc.

4. Hohmann and Barnard, Inc.

B. Masonry joint reinforcing shall be truss type.

1. Fabricate from cold drawn wire meeting ASTM-A82.

2. Longitudinal rods shall be 9 gauge deformed wires with a minimum 9 gauge cross wires welded to form triangular pattern. Wire finish shall be galvanized.

3. Width of reinforcing shall be 2" less than wall width, including any veneer.

4. Provide reinforcing in 10' sections, with prefabricated corners and tees as required.

2.03 CONCRETE MASONRY UNITS:

A. Hollow load bearing units:
1. Meeting ASTM C-90, Grade N-1.
2. Nominal face dimensions: 8" x 16".

B. Exterior wall units be Standard grey. Walls shall have bullnose units on outside corners.

C. Special shapes: Provide where required for lintels, corners, jambs, sash, control joints, headers, bonding, and other conditions.

PART 3 EXECUTION:

3.01 MORTAR AND GROUT MIXING:

A. Mixing:

1. Mix mortar and grout in power-driven, drum-type batch mixer.

2. Add mortar admix to mortar mix per manufacturer's printed instructions.

3. Mix minimum of five minutes after addition of all materials.

4. Completely empty drum before recharging for next batch.

B. Proportions:

1. Type "S" mortar: Proportion materials by volume in accord with ASTM C-270 as follows:

a. One part masonry cement to 2 part Portland DD Cement to aggregate proportioned at not less DD than 2-1/4 nor more than three (3) times the DD volumes of cement used: or

b. One part Portland Cement and 2to 1/4 parts hydrated lime to aggregate proportioned at not less than 2-1/4 nor more than three (3) times the combined volume of cement and lime used.

C. Placing materials:

1. Retemper mortar as necessary to keep plastic. Use no mortar after setting has begun or after 2-1/2 hours of initial mixing.

3.02 REINFORCING INSTALLATION:

A. Install masonry joint reinforcing in masonry walls at 16" o.c. vertically.

B. Lap side rods 6" minimum at splices.

3.03 INSTALLATION OF MASONRY UNITS:

A. Use Type S mortar in all below grade load bearing and concrete masonry unit walls.

B. Workmanship: Install no cracked, broken, or chipped units exceeding ASTM allowances.

1. Use abrasive power saws to cut brick and block. Avoid slivers less than 2" wide.

2. Lay plumb, true to line and with level courses spaced within allowable tolerances specified.

3. Lay exposed masonry in running bond pattern and center head joints in every course.

4. Stop off horizontal run by racking back in each course; toothing is not permitted.

5. Adjust units to final position while mortar is soft and plastic.

6. If units are displaced after mortar has stiffened, remove, clean joints and units of mortar and relay with fresh mortar.

7. Cutting and patching of finish masonry to accommodate work of other trades shall be done so as not to mar appearance of finished surface.

8. Adjust shelf angles to keep work level and at proper elevation.

9. When joining fresh masonry to set or partially set masonry, remove loose brick and mortar and clean and dampen exposed surface of set masonry prior to laying fresh masonry.

10. Coordinate build-in items as work progresses. Fill in around items solidly.

11. Bond each course at corners and intersections. Bond into or anchor to adjacent construction with metal anchors spaced 2 feet apart.

12. Use solid units where voids in hollow units would be visible.

C. Mortar beds:

1. Lay hollow concrete masonry units with full mortar coverage on horizontal and vertical face shell.

2. Do not pound corners or jambs to fit stretcher units after setting in place.

3. Where adjustment to corners or jambs must be made after mortar has started to set, remove mortar and replace with fresh mortar.

4. If it is necessary to move a unit after it has once been set in place, the unit shall be removed from the wall, cleaned and set in fresh mortar.

5. Lintels, capping units, and all bearing plates set by the mason shall be set

D. Joints:

1. Mortar joints shall be straight, clean and uniform in thickness except for minor variations required to maintain bond and locate returns. All exposed joints shall be tooled concave joints made with a non- staining tool.

2. Flush cut all unexposed joints.

3. Control joints - Deep clean of all mortar and debris. Joints shall be 3/8" wide. Caulk as specified in Section 07920. Locate control joints in accord with printed recommendations in the Concrete Masonry Handbook, by the Portland Cement Association and as indicated on the drawings.

E. Sealant Joints: Retain 1/2" deep x 1/4" wide sealant joint around outside perimeter of exterior doors, window frames, and other wall openings.

F. Pointing: Cut out defective mortar joints and holes in exposed work. Repoint with mortar.

G. Dry cleaning: Brush masonry surface with stiff bristle brush after mortar has set. Do not allow mortar droppings to harden on exposed surfaces.

3.04 JOINTS AND BOND:

A. CMU shall be laid in bond to match existing, joints and shall match existing for similar conditions.[1a]

END OF SECTION
04 2000

SECTION 05 5000
MISCELLANEOUS (ALSO SEE STRUCTURAL DRAWINGS)

PART 1 GENERAL

1.01 DEFINITION:

A. Metal fabrications include items made from iron and steel shapes, plates, bars, strips, tubes, pipes and castings which are not a part of structural steel or other metal systems specified elsewhere.

1.02 SUBMITTALS:

A. Submittals:

1. Fully complete and submit for all materials provided.

B. Shop drawings: Indicate sizes, shapes, fabrication, and installation details for metal fabrication items.

1.03 QUALITY CRITERIA:

A. Allowable tolerances:

Machine, field, and shop assemble mechanical joints to fit with ± 1/32". Install free-standing items to ± 14" of correct position. Sizes of each element of an assembly shall be correct within 1/8"; total size of a free-standing assembly shall be correct with 1/2".

B. Industry standards:

Comply with the provisions of the following standards and specifications, except as otherwise specified:

1. American Institute of Steel Construction (AISC) "Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings"; and including the "Commentary of the AISC Specifications", current edition.
2. American Welding Society (AWS) Standard D1.0, current edition.
3. Qualifications for welding work: Qualify welding processes and welding operators in accord with AWS "Standard Qualification Procedure".

PART 2 PRODUCTS

2.01 GENERAL:

A. Materials shall be free from defects impairing strength, durability or appearance; having structural properties to sustain or withstand strains and stresses to which subjected. Exposed surfaces throughout project shall have the same inherent texture and color for like locations. Fastenings shall be non-staining and concealed, except as indicated on approved shop drawings.

B. Fastenings which must be exposed shall be of same materials, color, and finish as material to which applied, shall be countersunk and finished flush. Exposed welds shall be ground smooth to form a neat uniform fillet without weakening base metal. Unexposed welds shall have slag removed before applying shop coating. Molded, bent, or shaped members shall be formed with clean, shape arises, without dents,

scratches, cracks, and other defects. Provide anchors, bolts, shims, and accessory items for building into and fastening to adjacent work.

2.02 STRUCTURAL MATERIALS:

A. Wide flange structural members: Meeting ASTM A992.

B. Structural steel angles, channels, plates, and bars: ASTM A36. C.

Other steel: Mild steel.

2.03 LOOSE STEEL LINTELS:

A. Provide loose structural steel lintels for openings and recesses in masonry walls and partitions as shown.

B. Galvanize loose lintels to be installed in exterior walls.

2.04 MISCELLANEOUS STEEL:

A. Provide miscellaneous steel framing and supports which are not a part of a structural steel framework, as required to complete work.

2.05 PAINTING AND PROTECTIVE COATING:

A. Ferrous metal, except galvanized surfaces, shall be cleaned and given one shop coat of lead and chromate-free primer. Anchors that are built into masonry shall be coated with asphalt paint unless specified or noted otherwise. Where hot-dip galvanized or zinc-coated metal is specified or shown, it shall not be shop primed unless specifically required.

B. Galvanized surfaces for which a shop coat of paint is specified shall be chemically treated to produce a bond for the paint. Except for bolts and nuts, all galvanizing shall be done after fabrication.

2.06 FABRICATION:

A. Fabricate work in shops with adequate machinery to produce the items as described herein.

PART 3 EXECUTION

3.01 INSTALLATION:

A. Secure items in accord with approved shop drawings, plumb, level and true to line within 1/8" in 10'-0". Touch-up primer on ferrous metal prior to installation; isolate non-ferrous metals from dissimilar materials with coating of heavy-bodied asphaltic paint.

B. Leave miscellaneous metal items ready to receive finish, where applicable, in accord with Painting Section.

END OF SECTION
05 5000

SECTION 06010
LUMBER (ALSO SEE STRUCTURAL DRAWINGS)

PART 1 GENERAL

1.01 QUALITY ASSURANCE:

A. Materials required for work under this section shall be suitable for intent and purpose specified. Sizes shown are nominal, actual sizes shall conform to PS 20-70. All lumber shall be S4S unless otherwise specified. Materials shall contain no added urea formaldehyde resins.

B. Standards: All materials of this Section shall comply with pertinent provisions of the following:

1. Southern Pine: "Standard Grading Rules for Southern Pine Lumber", 2002 edition, by Southern Pine Inspection Bureau; and Southern Forest Products Association. Comply with Doc PS 20

2. Spruce Pine Fir: Applicable standards West Coast Lumber Inspection Bureau, Standard Grading Rules for Canadian Lumber, a related agency, Certified by Board of Review of the American Lumber Standards Committee.

3. Plywood: Standards of the American Plywood Association and U.S. Product Standard Doc PS-1) for construction and industrial plywood.

4. Rough Hardware: Specification for "Structural Steel Buildings" by American Institute of Steel Construction.

5. Building Paper: Federal Specification UU-B-790a.

6. Wood Preservative: Standard P-5 of the American Wood Preservers Institute.

7. Fire Retardant Treated Wood (FRT): Shall meet requirements of SBCC and FHA MPS #2600 with FR-S rating less than 25 in accord with ASTM E-84, NFPA 255 or UL723.

8. Composite Wood Products: Including decking and sheathing to be free of added urea formaldehyde.

9. Particle Board: Shall meet requirements of ANSI A20, mat-formed Standard for wood particle board, and the National Particleboard Association, Type 2, Density A (high density) and Class 2. Particleboard to be free of added urea formaldehyde.

10. Steel Connectors: Simpson Strong-Tie

1.02 PRODUCT HANDLING:

Protect lumber materials before, during, and after delivery to the job site, and protect the installed work and materials of all other trades. Deliver the materials to the job site and store all in a safe area, out of the way of traffic, and shored up off the ground surface. Identify all framing lumber as to grades and store all grades separately from their grades. Protect all metal products with adequate weatherproof outer wrappings. Use extreme care in the off loading of lumber to prevent damage, splitting, and breaking of materials.

1.03 Submittals:

A. Submittals:

1. Fully complete and submit for all materials provided.

2. All composite wood and agrifiber products shall contain no added urea formaldehyde.

PART 2 PRODUCTS

2.01 GRADE STAMPS:

A. Plywood: Identify all plywood as to species, grade, and glue type by the stamp of the American Plywood Association.

B. Other: Identify all other materials of this Section by the appropriate stamp of the agency listed in the reference standards, or by such other means as are approved in advance by the Architect.

2.02 MATERIALS:

All materials of this Section, unless specifically noted otherwise or approved in advance by the Architect, shall meet or exceed the following:

Item	Description
Framing members not pressure treated	Southern Pine No. 2, 19% max moisture content
Members noted to be pressure treated unless noted:	Southern Pine No.2, Pressure Treated
Members noted to be fire retardant treated:	Southern Pine No. 2, Fire Retardant Treated
Wood nailers attached to steel beams	Southern Pine No. 2, 19% max moisture content
Blocking	Southern Pine, No.2

Roof Sheathing with barrier (use this sheathing unless specifically noted otherwise)	5/8” sheathing equal to Louisiana Pacific radiant Tech Shield; seal all edges; use aluminum ply clips on roof.
Sheathing	5/8" APA Rated Exterior sheathing, 40/20, Exposure1. Seal all edges. Use aluminum ply clips on roof. Support at 24” max
Other Plywood Exterior Use:	APA A-C Exterior, 11/32" soffits (or as noted on drawings), seal all edges.
Interior Shelving and Interior Use:	APA B-C Interior, 3/4" except APA A-B Interior 3/4" Other at shelving and exposed locations, or as noted.
Finish and Trim:	White Pine, C & Better or equal Fir, finger jointed if opaque coating is used.
Wood Preservatives: (Pressure Treated)	Water born preservatives in accord with AWPI-LP- 2. KD to 15%, all surfaces clean and paintable.
Wood Preservatives: (Open Tank Method)	In accordance with Fed. Spec. TT-W-572, all surfaces clean and paintable.
Insulating Sheathing:	See insulation specifications.
Steel Hardware:	ASTM-7 or A-36 (Use galvanized at exterior locations).
Machine Hardware:	ASTM A-307
Lag Bolts:	Federal Specifications FF-B-561.
Nails:	Common and finish (except as noted), Federal Specification FF-N-1-1 (Use hot dipped galvanized at exterior locations).
Steel Connectors:	All connectors for wood construction shall be by Simpson Strong Tie Company, Inc. unless noted otherwise. The following shall be standard practice unless noted otherwise: joist hangers, beam hangers, post bases, post caps, strap tie hold downs, strap ties between floors, seismic and hurricane ties at roof, girder tie downs.

PART 3 EXECUTION:

3.01 DELIVERIES:

Stockpile all materials sufficiently in advance of need to ensure their availability in a timely manner for this Work. Make as many trips to the factory or job site as are necessary to deliver all materials of this Section in a timely manner to ensure orderly progress of the total Work.

3.02 COMPLIANCE:

Do not permit materials not complying with the provisions of this Section of these Specifications to be brought onto or to be stored at the job site; immediately remove from the job site all non-complying materials and replace them with materials meeting the requirements of this Section.

END OF SECTION
06 0100

SECTION 06 1000
ROUGH CARPENTRY
(ALSO SEE STRUCTURAL DRAWINGS)

PART 1 GENERAL

1.01 QUALITY ASSURANCE:

Qualifications of workmen: Provide sufficient skilled workmen and supervisors who shall be present at all times during execution of this portion of the Work and who shall be thoroughly familiar with the type of construction involved and the materials and techniques specified. In the acceptance or rejection of rough carpentry, no allowance will be made for lack of skill on the part of the workmen.

1.02 PRODUCT HANDLING:

Store all materials in such a manner as to ensure proper ventilation and drainage and to protect against damage and the weather. Keep all material clearly identified with all grade marks legible; keep all damaged material clearly identified as damaged, and separately store to prevent its inadvertent use. Do not allow installation of damaged or otherwise non-complying material. Use all means necessary to protect the installed work and materials of all other trades.

1.03 SUBMITTALS:

A. Submittals:

1. Fully complete and submit for all materials provided.

PART 2 PRODUCTS

2.01 SEE SECTION 06010 - LUMBER

PART 3 EXECUTION

3.01 WORKMANSHIP:

A. General: All carpentry shall produce joints true, tight, and well nailed with all members assembled in accordance with the Drawings and with all regulations.

B. Selection of lumber pieces: Carefully select all members; select individual pieces so that knots and obvious defects will not interfere with placing bolts or proper nailing or making proper connections. Cut out and discard all defects which will render a piece unable to serve its intended function; lumber may be rejected by the Architect, whether or not it has been installed, for excessive warp, twist, bow, crook, mildew, fungus, or mold, as well as for improper cutting and fitting.

3.02 TREATED LUMBER:

A. Use only treated lumber for all wood bucks and nailing grounds, in, or in contact with, concrete or masonry or as noted.

B. Use fire resistive lumber in areas noted on the drawings.

3.03 BLOCKING:

A. Blocking: Install all blocking required to support all items of finish, shelving, appliances, accessories, and other built-in items.

3.04 INSTALLATION OF PLYWOOD SHEATHING AND RADIANT BARRIER SHEATHING:

A. Placement: Place all plywood with face grain perpendicular to wood framing or trusses, except where otherwise specifically shown on the drawings. Fasten with fasteners as recommended by APA directly to wood framing or trusses. Center joints accurately over supports; unless otherwise specifically shown on the drawings, stagger the end joints of plywood panels to achieve a minimum of continuity of joints. Use clips on roof sheathing. Seal all edges of exposed plywood. Cutting and patching of individual pieces will not be permitted. Follow current written recommendations of APA.

B. Protection of plywood: Protect all plywood from moisture by use of waterproof coverings until the plywood has in turn been covered with the next succeeding component or finish.

C. Install Radiant Barrier Sheathing in strict accordance with manufacturer's written instructions.

3.05 FASTENING:

A. Nailing: Use only common wire nails or spikes of dimension shown on the Nailing Schedule, except where otherwise specifically noted on the Drawings or approved Shop Drawings. For conditions not covered in the Nailing Schedule, provide penetration into the piece receiving the point on not less than 2 the length of the nail or spike provided, however, that 16d nails may be used to connect two pieces of two inch (nominal) thickness. Do all nailing without splitting wood, preboring as required; replace all split members.

B. Bolting: Drill holes 1/16 inch larger in diameter than the bolts being used; drill straight and true from one side only. Bolt threads must not bear on wood; use washers under all nuts.

C. Screws: For lag-screws and wood-screws, pre-bore holes same diameter as root of thread; enlarge holes to shank diameter for length of shank. Screw, do not drive, all lag-screws and wood-screws.

3.6 NAILING SCHEDULE:

Requirements of current International Building Code shall govern.

3.07 CLEANING UP:

Keep the premises in a neat, safe, and orderly condition at all times during execution of this portion of the work; free from accumulation of sawdust, cut-ends, and debris. Broom clean.

END OF SECTION
06 1000

SECTION 06 1730
TIMBER TRUSSES (ALSO SEE STRUCTURAL DRAWINGS)

PART 1 GENERAL

1.01 RELATED DOCUMENTS: REFERENCES:

Reference specifications shall be a part of these specifications the same if fully written herein and shall constitute minimum requirements for timber trusses, unless modified herein. Abbreviations used: WTCA = Wood Truss Council of America, TPI = Truss Plate Institute

A. WTCA.1999. Commentary for Permanent Bracing of Metal Plate Connected Wood Trusses.

B. Truss Plate Institute. 2002. National Design Standard for Metal Plate Connected Wood Truss Construction, Commentary and Appendices. ANSI/TPI 1-2002.

C. Truss Plate Institute. 1991. Commentary and Recommendations for Handling, Installing, and Bracing Metal Plate Connected Wood Trusses, HIB-91.

D. Truss Plate Institute.1989. Recommended Design Specification for Temporary Bracing of metal Plated Connected Wood Trusses. DSB-89.

E. National Design Specification (NDS) for Wood Construction with Commentary and Supplement: Design Values for Wood Construction 2005 Edition, as published by the American Forest and Paper Association, Inc. (AFPA)

1.02 SUBMITTALS:

A. Submittals:

1. Fully complete and submit for all materials provided.

2. All composite wood and agrifiber products shall contain no added urea formaldehyde.

B. Shop Drawings: Indicate species, sizes and grades of lumber, roof pitch and span connectors, truss camber and spacing for each truss type. Shop drawings shall bear the seal and signature of a Professional Engineer registered in which the project is located, and the review/approval of the General Contractor Shop drawings will not be reviewed by the Structural Engineer without these stamps.

C. Shop drawings shall conform to all Architectural design criteria including correct geometries for ceilings, overhangs and roof contours.

D. Certification: A statement from the truss manufacturer will be required, either on the shop drawings or in a separate letter, certifying that the trusses have been designed and manufactured in accordance with applicable codes and the contract documents.

E. Fabrication shall not begin until shop drawings have been reviewed by the Contractor, Engineer, and Architect.

1.03 QUALITY CRITERIA:

A. Grading rules of the following associations apply to materials furnished under this section:

1. Southern Pine Inspection Bureau (SPIB)

2. West Coast Lumber Inspection Bureau (WCLB)

3. Western Wood Products Association (WWPA)

All shall comply with DOC PS.20.

B. Grade Marks: Identify all lumber by official grade marks. Grade stamp shall contain symbol of grading agency, mill number or name, grade of lumber, species or species grouping or combination designation, rules under which graded, where applicable, and condition of seasoning at the time of manufacture.

C. Design Qualifications: Truss design shall be sufficient to withstand loadings due to all applicable requirements of the International Building Code and the references listed above. Trusses shall be designed for the minimum loads shown on the contract documents.

1.04 Roof trusses shall be designed by the truss designer working as an agent of the truss manufacturer. The truss designer shall be responsible for the structural design of the trusses in accordance with design criteria and standards cited in these specifications and the General Notes on the drawings. Truss designer shall be solely responsible for the design performance of the truss design. Trusses shall be designed to bear on the supporting structure as shown in the drawings. Temporary and permanent bracing shall be provided per the BCSI material stated below.

1.05 Truss designer shall be a professional engineer registered in the state of the location of the project. All truss submittals shall be sealed, signed and dated by the truss designer.

1.06 Trusses shall be spaced at 24” on center unless noted otherwise. Truss designer may space floor trusses closer where required for strength and serviceability. Open web roof trusses shall be designed for the design loads shown, and shop drawings shall be submitted for approval. Trusses shall not be fabricated until shop drawings have been approved.

1.07 Truss designer shall provide maximum downward and uplift loads from all members and shall specify appropriate Simpson connectors to support all such loads. Truss manufacturer shall supply all the Simpson connectors designed by truss designer. They shall include connectors between trusses and bearing plates, between trusses and supporting trusses and straps holding down truss girders and jack trusses.

1.08 All truss shop drawings and final installation drawings shall include the jobsite safety information package (B1 thru B4) of the 2006 edition of Building Component Safety Information BCSI-Guide to good practice for handling, installing, restraining and bracing of metal plate connected wood trusses (by WTCA). All guidelines in these documents shall be followed, including all temporary and permanent bracing specifications.

1.09 Truss Manufacturer shall have at least five years experience in manufacturing wood trusses.

PART 2 PRODUCTS

2.01 MATERIALS:

Lumber Species and Grades: As specified by the Truss Designer. Species and grades must be listed in the National Design Specification for Wood Construction.

2.02 FABRICATION

A. Fabricate trusses in accordance with the approved shop drawings and design computations.

B. Fabricate trusses in a permanent facility devoted primarily to truss fabrication.

C. Each truss shall carry the permanently affixed stamp of the fabricator indicating truss identification number with reference to shop and setting drawings.

D. Trusses at gables, outside walls, and other area receiving siding or sheathing must be provided with members or blocking at 16" on center maximum.

PART 3 EXECUTION:

3.01 INSTALLATION

A. Handle, transport, install and brace trusses in conformance with the reference standards given, especially Jobsite Safety Information Packages B1 thru B4 by BCSI.

B. Set trusses at centers indicated on drawings, bearing as shown on the structural drawings. Provide temporary bracing to hold truss in position. The Contractor is responsible for adequate temporary truss bracing to prevent damage to trusses or structure during construction.

C. Restrict construction loads on roof surfaces to prevent overstressing of truss members.

D. Tie down every truss and truss girder using the specified anchoring products in accordance with manufacturer's recommendations.

END OF SECTION
06 1730

SECTION 06 2000
FINISH CARPENTRY

PART 1 GENERAL

1.01 RELATED DOCUMENTS:

1.02 QUALITY ASSURANCE:

Qualifications of workmen: For actual cutting and fitting of trim and finish material, use only journeyman finish carpenters who are thoroughly trained and experienced in the skills required, who are completely familiar with the materials involved and the manufacturer's recommended methods of installation, and who are thoroughly familiar with the requirements of the Work. In the acceptance or rejection of finish carpentry, no allowance will be made for lack of skill on the part of workmen.

1.03 PRODUCT HANDLING:

Use all means necessary to protect the materials of this Section before, during and after installation and to protect the installed work and materials of all other trades.

1.04 SUBMITTALS:

A. Submittals:

1. Fully complete and submit for all materials provided.

PART 2 PRODUCTS

2.01 SEE SECTION 06010 - LUMBER

PART 3 EXECUTION:

3.01 SURFACE CONDITIONS:

Inspection: Prior to all work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence and that finish carpentry may be completed in strict accordance with the original design and all pertinent codes and regulations. In the event of discrepancy, immediately notify the Architect and do not proceed until all such discrepancies have been fully resolved.

3.02 WORKMANSHIP:

A. General: All finish carpentry shall produce joints true, tight, and well nailed with all members assembled in accordance with the Drawings.

B. Jointing: Make all joints to conceal shrinkage; miter all exterior corners; cope all interior corners; miter or scarf all end-to- end joints. Install all trim in pieces as long as possible, jointing only where solid support is obtained.

C. Fastening: Install all items straight, true, level, plumb, and firmly anchored in place; where blocking or backing is required, coordination as necessary with other trades to ensure placement of all required backing and blocking in a timely manner. Nail trim with finish nails of proper dimension to hold the member firmly in place without splitting the wood. Nail all exterior boards and trim with galvanized nails, making all joints to exclude water and setting in waterproof glue or caulk. On exposed finish work, set all nails for putty. Screw, do not drive, all wood screws except that screws may be stared by driving and then screwed home.

3.03 INSTALLATION OF OTHER ITEMS:

Install all other items in strict accordance with the Drawings anchoring firmly in place at the prescribed location, straight, plumb, level, and anchored to permit no movement.

3.04 FINISHING:

Sandpaper all finished wood surfaces thoroughly to produce a uniformly smooth surface, always sanding in the direction of the grain, except do not sand wood which is designed to be left rough; no coarse grained sandpaper mark, hammer mark, or other imperfection will be accepted.

END OF SECTION
06 2000

SECTION 06 4020
INTERIOR ARCHITECTURAL WOODWORK

PART 1 GENERAL

1.01 RELATED DOCUMENTS:

Description: This section includes cabinets (casework) and cabinet tops (countertops). See drawings for colors.

1.02 SUBMITTALS:

A. Submittals:

Product data for each type of product and process specified in this section and incorporated into items of architectural woodwork during fabrication, finishing, and installation.

B. Shop drawings showing location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.

C. Samples for initial selection purposes of the following in the form of manufacturer's color charts consisting of actual units or sections of units showing full range of colors, textures, and patterns available for each type of material indicated.

1. Plastic laminate.

D. Samples for verification purposes of the following:

1. Laminate clad panel products, 8-1/2 inches by 11 inches for each type, color, pattern, and surface finish, with separate samples of unfaced panel product used for core.
2. Corner pieces as follows:
Cabinet front frame joints between stiles and rail as well as exposed end pieces, 18 inches high by 18 inches wide by 6 inches deep.
3. Exposed cabinet hardware, one unit of each type and finish.

E. Product certificates signed by woodwork manufacturer certifying that products comply with specified requirements.

1.03 QUALITY ASSURANCE:

A. Manufacturer Qualifications: Firm experienced in successfully producing architectural woodwork similar to that indicated for this Project, with sufficient production capacity to produce required units without causing delay in the Work.

B. Single-Source Manufacturing and Installation Responsibility: Engage a qualified manufacturer to assume undivided responsibility for woodwork specified in this section, including fabrication, finishing and installation.

C. Installer Qualifications: Arrange for installation of architectural woodwork by a firm that can demonstrate successful experience in installing architectural woodwork items similar in type and quality to those required for this project.

D. AWI Quality Standard: Comply with applicable requirements of sixth edition of "Architectural Woodwork Quality Standards" published by the Architectural Woodwork Institute (AWI) except as otherwise indicated.

1.04 DELIVERY, STORAGE, AND HANDLING:

A. Protect woodwork during transit, delivery, storage, and handling to prevent damage, soilage, and deterioration.

B. Do not deliver woodwork until painting, wet work, grinding, and similar operations that could damage, soil, or deteriorate wood work have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas whose environmental conditions meet requirements specified in "Project Conditions."

1.05 PROJECT CONDITIONS:

A. Environmental Conditions: Obtain and comply with Woodwork Manufacturer's and Installer's coordinated advice for optimum temperature and humidity conditions for woodwork during its storage and installation. Do not install woodwork until these conditions have been attained and stabilized so that woodwork is within plus or minus 1.0 percent of optimum moisture content from date of installation through remainder of construction period.

B. Field Measurements: Where woodwork is indicated to befitted to other construction, check actual dimensions of other construction by accurate field measurements before manufacturing woodwork; show recorded measurements on final shop drawings. Coordinate manufacturing schedule with construction progress to avoid delay of work.

1. Where field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with manufacture of woodwork without field measurements. Coordinate other construction to ensure that actual dimensions correspond to guaranteed dimensions.

PART 2 PRODUCTS

2.01 HIGH PRESSURE DECORATIVE LAMINATE MANUFACTURERS:

A. WilsonArt or Equal

2.02 MATERIALS:

A. General: Provide materials that comply with requirements of the AWI woodworking standard for each type of woodwork and quality grade indicated and, where the following products are part of woodwork, with requirements of the referenced product standards, that apply to product characteristics indicated:

1. Hardboard: ANSI/AHA A135.4.
2. High Pressure Laminate: NEMA LD 3.
3. Medium Density Fiberboard: ANSI A208.2.
4. Particleboard: ANSI A208.1.
5. Softwood Plywood: PS 1.
6. Formaldehyde Emission Levels: Comply with formaldehyde emission requirements of each voluntary standard referenced below:

a. Particleboard: NPA 8.
b. Medium Density Fiberboard: NPA 9.
c. Hardwood Plywood: HPMA FE.

B. Miscellaneous wood trim: see drawings.

2.03 FABRICATION, GENERAL:

A. Wood Moisture Content: Comply with requirements of referenced quality standard for moisture content of lumber in relation to relative humidity conditions existing during time of fabrication and in installation areas.

B. Fabricate woodwork to dimensions, profiles, and details indicated. Ease edges to radius indicated for the following:

1. Corners of cabinets and edges of solid wood (lumber) members less than one (1) inch in nominal thickness: 1/16 inch.
2. Edges of rails and similar members more than one (1) inch in nominal thickness: 1/8 inch.

C. Complete fabrication, including assembly, finishing, and hardware application, before shipment to project site to maximum extent possible. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

D. Factory-cut openings, to maximum extent possible, to receive hardware, appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Smooth edges of cutouts and, where located in countertops and similar exposures, seal edges of cutouts with a water resistant coating.

2.04 PLASTIC LAMINATE CABINETS:

A. Quality Standard: Comply with AWI Section 400 and its Division 400B for High Pressure Laminate and Thermostet Decorative Laminate.

B. Grade: Custom

C. AWI Type of Cabinet Construction: Flush overlay.

D. Provide dust panels above compartments and drawers except where located directly under tops.

2.05 CABINET HARDWARE AND ACCESSORY MATERIALS:

A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets, except for items specified in Division 8 Section "Finish Hardware."

B. Cabinet Hardware Schedule:

1. Door pivot hinges shall be Grass #1200 or approved equal.
2. Drawer metal slides shall be Grass 75# test or approved equal.
3. Pulls shall be Stanley #4484, Epco #MC-402, or Trimco 562, aluminum 4".
4. Locker locks shall be K & V #986, National Lock #C8133, or approved equal.

C. Hardware Standard: Comply with ANSI/BHMA A 156.9 "American National Standard for Cabinet Hardware" for items indicated by reference to BHMA numbers or referenced to this standard.

D. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with ANSI/BHMA A 156.18 for BHMA code number indicated.

1. Match Finish Hardware noted on Drawings.

E. For concealed hardware provide manufacturer's standard finish that complies with product class requirements of ANSI/BHMA A156.9.

2.06 ARCHITECTURAL CABINET TOPS (COUNTERTOPS):

A. Quality Standard: Comply with AWI Section 400 and its Division 400C.

B. High pressure decorative laminate complying with the following:

1. Grade: Custom.
2. Laminate Cladding for Horizontal Surface: High pressure decorative laminate as follows:
   a. Grade: GP-50 (0.050-inch nominal thickness).
3. Edge Treatment: Same as laminate cladding on horizontal surfaces.

Note: Provide integral splash and rolled front edge.

A. Screws: **2.07 FASTENERS AND ANCHORS:**

Select material, type, size, and finish required for each use. Comply with FS FF-S-111 for applicable requirements.

1. For metal framing supports, provide screws as recommended by metal framing manufacturer.

B. Nails: Select material, type, size, and finish required for each use. Comply with FS FF-N-105 for applicable requirements.

C. Anchors: Select material, type, size, and finish required by each substrate for secure anchorage. Provide nonferrous metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed steel or lead expansion bolt devices for drilled-in-place anchors. Furnish inserts and anchors, as required, to be set into concrete or masonry work for subsequent woodwork anchorage.

PART 3 EXECUTION:

3.01 INSTALLATION

PREPARATION:

A. Condition woodwork to average prevailing humidity conditions in installation areas before installing.

B. Deliver concrete inserts and similar anchoring devices to be built into substrates well in

advance of time substrates are to be built.

C. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including back priming and removal of packing.

3.02 INSTALLATION:

A. Quality Standard: Install woodwork to comply with AWI Section 1700 for same grade specified in Part 2 of this section for type of woodwork involved.

B. Install woodwork plumb, level, true, and straight with no distortions. Shim as required with concealed shims. Install to a tolerance of 1/8 inch in 8'-0" for plumb and level (including tops) and with no variations in flushness of adjoining surfaces.

C. Scribe and cut woodwork to fit adjoining work and refinish cut surfaces or repair damaged finish at cuts.

D. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation. Except where prefinished matching fastener heads are required, use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork and matching final finish where transparent finish is indicated.

E. Cabinets: Install without distortions that doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete the installation of hardware and accessory items as indicated.

F. Tops: Anchor securely to base units and other support systems as indicated.

3.03 ADJUSTMENT AND CLEANING:

A. Repair damaged and defective woodwork where possible to eliminate defects functionally and visually; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.

B. Clean, lubricate, and adjust hardware.

3.04 PROTECTION:

Provide final protection and maintain conditions, in a manner acceptable to manufacturer and installer, that ensures that woodwork is being without damage or deterioration at time of Substantial Completion.

END OF SECTION
06 4020

SECTION 07210
BUILDING INSULATION

PART 1 GENERAL

1.01 DESCRIPTION:

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

1.02 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, certify by letter that insulation has been installed in accordance with these specifications.

1.03 SUBMITTALS:

A. Submittals:

1. Fully complete and submit for all materials provided.

B. Product Data: Manufacturer's specifications and other data to prove compliance with the specified requirements.

PART 2 PRODUCTS

2.01 MATERIALS:

A. Provide the following building insulation where shown on the Drawings or otherwise noted.

1. Kraft-faced (vapor perm 1.0 or less) glass fiber batts with an insulation-only value as noted, by Owens Corning or equal, with overlapping tabs to assure constant vapor barrier. Note: where insulation facing is not in substantial contact with drywall, class a facings shall be used.

2. 3 1/2" thick unfaced glass fiber sound isolating batts by Owens Corning or equal.

3. Foamed-in place-masonry insulation shall be Core-Fill 500 or equal.

4. Rigid board extruded polystyrene insulation equal to Styrofoam provided continuously on exterior walls, R-value as shown on drawings.

2.02 OTHER MATERIALS:

A. 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 INSTALLATION

A. 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.

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

C. Install the of 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 approved by the Architect, anchoring all components firmly into position.

D. Kraft vapor barrier tabs shall be lapped over studs to maintain barrier; seams in stud cavities shall be taped. Barrier to be to interior side of building.

E. Install foamed-in-place masonry insulation in accord with manufacturers written instructions.

F. Install rigid board insulation, coordinating with structural support, with joints tightly butted and taped, and in accord with manufacturers written instructions.

END OF SECTION
07 2100

SECTION 07 2500
WEATHER BARRIERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Liquid weather barrier and accessories.

1.02 SUBMITTALS

A. Product Data: Provide data on material characteristics.

B. Shop Drawings: Provide drawings of special joint conditions.

C. Manufacturer's Installation Instructions: Indicate preparation.

D. ABAA Installer Qualification: Submit documentation of current contractor accreditation and current installer certification. Keep copies of all contractor accreditation and installer certification on site during and after installation. Present on-site documentation upon request.

1.03 QUALITY ASSURANCE

A. Air Barrier Association of America (ABAA) Quality Assurance Program (QAP); www.airbarrier.org/sle:

1. Installer Qualification: Use accredited contractor, certified installers, evaluated materials, and third-party field quality control audit.

1.07 MOCK-UP

A. Install air barrier, vapor retarder, and water-resistive barrier materials in mock-up to be located in field.

1.08 FIELD CONDITIONS

A. Maintain temperature and humidity recommended by the materials manufacturers before, during and after installation.

PART 2 PRODUCTS

2.01 WEATHER BARRIER ASSEMBLIES

A. Liquid membrane Air/Vapor and Liquid Moisture Barrier.

B. Shall be W.R. Meadows AirShield LSR Liquid Membrane air/vapor and Liquid Moisture Barrier.

2.05 ACCESSORIES

A. Sealants, Tapes, and Accessories for Sealing Weather Barrier and Sealing Weather Barrier to Adjacent Substrates and Flexible Flashing. As specified or as recommended by weather barrier manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces and conditions are ready to accept the work of this section.

3.02 PREPARATION

A. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.

3.03 INSTALLATION

A. Install materials in accordance with manufacturer's instructions.

B. Prepare substrate in manner recommended by coating manufacturer; treat joints in substrate and between dissimilar materials as recommended by manufacturer.

C. Use flashing to seal to adjacent construction and to bridge joints.

D. Openings and Penetrations in Exterior Weather Barriers:

1. Install flashing over sills, covering entire sill frame member, extending at least 5 inches onto weather barrier and at least 6 inches up jambs; mechanically fasten stretched edges.
2. At openings to be filled with frames having nailing flanges, seal head and jamb flanges using a continuous bead of sealant compressed by flange and cover flanges with at least 4 inches wide; do not seal sill flange.
3. At openings to be filled with non-flanged frames, seal weather barrier to all sides of opening framing, using flashing at least 9 inches wide, covering entire depth of framing.
4. At head of openings, install flashing under weather barrier extending at least 2 inches beyond face of jambs; seal weather barrier to flashing.
5. At interior face of openings, seal gap between window/door frame and rough framing, using joint sealant over backer rod.
6. Service and Other Penetrations: Form flashing around penetrating item and seal to weather barrier surface.

3.04 FIELD QUALITY CONTROL

A. Take digital photographs of each portion of the installation prior to covering up.

3.05 PROTECTION

A. Do not leave materials exposed to weather longer than recommended by manufacturer.

END OF SECTION
07 2500

SECTION 07 4210
ALUMINUM SIDING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Aluminum siding and trim.

1.02 SUBMITTALS

A. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.

B. Samples: Provide samples in colors to match existing siding, not less than 12 inches in length.

C. Color Samples: Provide samples of manufacturer's entire color line for selection.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Not less than three years of experience with products specified.

1.06 DELIVERY, STORAGE, AND HANDLING

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

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. PlyGem/Mastic
B. Quality Aluminum Products
C. Substitutions: Equal products after obtaining approval.

2.02 MATERIALS

A. Horizontal Aluminum Siding Type. Mastic.com Endurance in Double 5” Dutch Lap Texture and color to match existing.
B. Aluminum Soffit Type.

1. Acceptable Product: Mastic.com Envoy Lanced in 4” wide pattern with “V” groove. Texture and color to match existing.

C. Accessories: Provide coordinating accessories made of same material as required for complete and proper installation whether or not specifically shown on the drawings.

1. Color: Match existing trim.
2. Length:
   a. Corner Posts: 10 feet, minimum.
   b. Other Trim: 12.5 feet, minimum.
3. Profiles: Provide types as indicated on drawings and to match existing dimensions.

4. Starter Strip:
5. J-Channel Trim:
6. Corner Posts:
7. T-Channel Trim:
8. Window and Door Surround:
9. Other Linear Trim: As required.

G. Fasteners: As recommended by manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine substrate conditions before beginning installation; verify dimensions and acceptability of substrate.
B. Verify that weather barrier has been installed over substrate completely and correctly.
C. Do not proceed with installation until unacceptable conditions have been corrected.
D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 INSTALLATION

A. Install siding, soffit, and trim in accordance with manufacturer's printed installation instructions.
B. Attach securely to framing, not sheathing, with horizontal components true to level and vertical components true to plumb, providing a weather resistant installation.
C. Clean dirt from surface of installed products, using mild soap and water.

3.03 PROTECTION

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

END OF SECTION
07 4633

SECTION 07600
FLASHING AND SHEET METAL

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Flashings and counterflashings, gutters and downspouts, and fabricated sheet metal items.

2. Sheet metal accessories.

B. Related Work: The Contract Documents, as defined in Section 01110 – Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.

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

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM B209 – Standard Specification for Aluminum and Aluminum- Alloy Sheet and Plate.

B. Federal Specifications (FS):

1. FS TT-C-494 – Coating Compound, Bituminous, Solvent Type, Acid Resistant.

1.03 SUBMITTALS

A. Submittals:

1. Fully complete and submit for all materials provided.

2. Manufacturer’s written statement on the following:

a. Recycled content of the product
b. Product manufacturing location
c. Source/origin of raw materials of the product

3. Provide MSDS (Material Safety Data Sheets) for all adhesives, sealants, paints and coatings applied on site and estimated volume of quantity required for construction based on contractor’s estimate or actual usage.

B. Section 01340 – Submittals

1. Shop Drawings: Include material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

1.04 QUALITY ASSURANCE:

A. Qualifications:

1. Fabricator: Company specializing in manufacturing Products specified with minimum of 5 years documented experience.

2. Installer: Company specializing in performing the Work of this Section with minimum of 5 years documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING:

A. Refer to Sections 01610 and 01611

B. Stack material to prevent twisting, banding, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

C. Prevent contact with materials which may cause discoloration or staining.

PART 2 PRODUCTS

2.01 MATERIALS

A. Aluminum Sheet: ASTM B209, 3003 alloy, H14 temper; 0.025 inch thick, mill finish.

B. Pre-Finished Aluminum Sheet: ASTM B209, 3003 alloy, H14 temper; 0.025 or 0.032 inch thick where indicated on the drawings, finish shop pre-coated with PVDF (polyvinylidene fluoride) coating; color as indicated on Color schedule.

2.02 ACCESSORIES

A. Fasteners: Aluminum

B. Protective Backing Paint: FS TT-C-494, Bituminous

C. Sealant: Specified in Section 07920.

D. Downspout Connector: Fernco, Inc., Model UDSC-6C.

2.03 FABRICATION

A. Form sections true to shape, accurate in size, and free from distortion or defects.

B. Fabricate cleats of same material as sheet, interlocking with sheet.

C. Form pieces in longest possible lengths.

D. Hem exposed edges on underside ½: miter seam corners.

E. Form material with flat lock seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

F. Tin edges of copper sheet to be soldered. Solder shop formed metal joints. After soldering, remove flux. Wipe and wash solder joints clean. Weather seal joints.

G. Fabricate gutters to profile and size indicated on Drawings.

H. Fabricate downspouts to profile and size indicated on Drawings.

I. Fabricate accessories in profile and size to suit gutters and Downspouts.

1. Anchorage Devices: Type recommended by fabricator.

2. Gutter Supports: Brackets.

3. Downspout Supports: Straps.

J. Seal metal joints.

2.04 FACTORY FINISHING

A. PVDF (polyvinlyidene fluoride)coating: Multiple coat, thermally cured, fluoropolymer system conforming to AAMA 605.2.

B. Primer Coat: Finish concealed side of metal sheets with primer compatible with finish system, as recommended by finish system manufacturer.

PART 3 EXECUTION:

3.1 EXAMINATION

A. Execution Requirements: Verification of existing conditions before starting work.

B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required and ready to receive Work.

1. Verify roof openings, curbs, pipes, sleeves, ducts and vents through roof are solidly set, reglets in place, and nailing strips located.

2. Verify roofing termination and base flashings are in place, sealed, and secure.

C. Report in writing to Engineer prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.

D. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the Owner.

3.2 PREPARATION

A. Install starter and edge strips, and cleats before starting installation.

B. Install surface mounted reglets true to lines and level. Seal top of reglets with sealant.

C. Paint concealed metal surfaces with protective backing paint to A minimum dry file thickness of 15 mil.

3.3 INSTALLATION

A. Secure flashings in place using concealed fasteners.

B. Apply plastic cement compound between metal flashings and felt flashings.

C. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.

D. Seal metal joints watertight.

END OF SECTION
07 6000

SECTION 07 6100
PREFORMED METAL ROOFING

PART 1 - GENERAL

1.1 DESCRIPTION:

A. Work described in this section includes preformed structural standing mechanically seamed metal roofing system for use over open purlins and/or solid sheathing complete with clips, perimeter and penetration flashing, closures, gutters, downspouts, sealants, accessories, all valleys, hips, ridges, eaves, corners, rakes, attaching devices, and related.

1.2 SUBMITTALS:

A. Shop drawings: Show roofing system with flashings and accessories in plan and elevation; sections and details. Include metal thickness' and finishes, panel lengths, joining details, anchorage details, flashings and special fabrication provisions for termination and penetrations; thermal expansion provisions and special supports. Indicate relationships with adjacent and interfacing work.

B. Product data: Include manufacturer's detailed material and system description, sealant and closure installation instructions, engineering performance data and finish specifications.

C. Design test reports:

1. Submit certified test reports from a testing laboratory that bear the stamp of a registered engineer to show compliance with specified performance criteria.
2. Tests shall have been made for identical systems within the ranges of specified performance criteria.
3. Empirical calculations for roof performance shall only be acceptable for positive loads.
4. Indicate fastener types and spacings and provide fastener pullout values.:
5. Submit results indicating compliance with minimum requirements of the following performance tests:
   a. Air Infiltration STM E-1680-95.
   b. Water Infiltration ASTM E-1646-95.
   c. Wind Uplift – U.L.90.
6. Submit calculations with registered engineer seal, verifying roof panel and attachment method resists wind pressures imposed on it pursuant to applicable building codes.

D. Samples:

1. Submit sample of panel section, at least 6" x 6" showing seam profile and also a sample of color selected.
2. Submit sample of panel clip.

1.3 DELIVERY, STORAGE, AND HANDLING:

A. Manufacturer's responsibility:

1. Protect components during fabrication and packing from mechanical abuse, stains, discoloration, and corrosion.
2. Provide protective interleaving between contact areas of exposed surfaces to prevent abrasion during shipment, storage, and handling.

B. Installer's responsibility:

1. Store materials off ground providing for drainage; under cover providing for air circulation; and protected from wind movement, foreign material contamination, mechanical damage, cement, lime or other corrosive substances.
2. Handle materials to prevent damage to surfaces, edges and ends of roofing sheets and sheet metal items. Damaged material shall be rejected and removed from the site.
3. Protect panels from wind-related damages.
4. Inspect materials upon delivery. Reject and remove physically damaged or marred material from project site.
5. Panels with strippable film must not be stored in the open, exposed to the sun.

1.4 JOB CONDITIONS:

A. Determine that work of other trades will not hamper or conflict with necessary fabrication and storage requirements for preformed metal roofing system.

B. Protection:

1. Provide protection or avoid traffic on completed roof surfaces.
2. Do not overload roof with stored materials.
3. Support no roof-mounted equipment directly on roofing system.

C. Ascertain that work of other trades which penetrates the roof or is to be made watertight by the roof is in place and approved prior to installation of roofing.

1.5 QUALITY CRITERIA:

A. Applicable standards:

1. American Iron and Steel Institute (AISI):
   1986 Specification for the Design of Cold-Formed Steel Structural Members.
2. American Society for Testing and Materials (ASTM):
   A792-96 Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.

   B209-96 Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

   A653-96 Specification for Steel Sheet Zinc-coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanized) by the Hot-Dip Process.

E283-93 Test Method for Rate of Air Leakage through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.

E1592-95 Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference.

E331-86 Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Pressure Difference.

3. Sheet Metal and Air Conditioning Contractors National Association (SMACNA):
   1993 Architectural Sheet Metal Manual, 5th edition.
4. Underwriters' Laboratories (UL):
   Standard UL - 580 Tests for Wind-Uplift Resistance of Roof Assemblies.
   Standard UL - 263 Tests for Fire Resistance.
   Standard UL - 790 Class A Fire Rating.

B. Fabricator/Installer qualifications:

1. Fabricator/Installer shall be trained and approved by system manufacturer with trained supervisory personnel observing and directing work.
2. If required, fabricator/installer shall submit work experience and evidence of adequate financial responsibility. Architect reserves the right to inspect fabrication facilities in determining qualifications.

C. Applicable erection tolerances: Maximum variation from true planes or lines: 1/4" in 20'-0"; 3/8" in 40'-0" or more.

1.6 DESIGN AND PERFORMANCE CRITERIA:

A. Thermal movement:

1. Completed metal roofing and flashing system shall be capable of withstanding expansion and contraction of components caused by changes in temperature without buckling, producing excess stress on structure, anchors or fasteners, or reducing performance ability.
2. Interface between panel and clip shall provide for minimum three inches of thermal movement in each direction along the longitudinal direction.
3. Location of metal roofing rigid connector shall be designed per job conditions by roof system manufacturer.

B. Uniform wind load capacity:

1. Installed roof system shall withstand positive and negative design wind loading pressures complying with: Current edition International Building Code.

2. Capacity shall be determined using pleated airbag method in accordance with ASTM E 1592, testing of sheet metal roof panels as follows:
   (7.1) Roof test specimens shall be either full length or representative of the main body of the roof, free from edge restraint or perimeter attachments, continuous over one or more supports, and containing at least five panel modules for standing seam roof.
   (7.1.2) No attachments shall be permitted at sides or end perimeter other than those that occur uniformly throughout roof. Side and end seals shall be flexible and in no way restrain crosswise distortion of panels.
   (7.2.1) Panels and accessories shall be production materials of same type and thickness proposed for use on project.
3. Installed roof system shall carry positive uniform design loads with a maximum system deflection of L/180 as measured at the rib (web) of the panel.

C. Underwriters' Laboratories, Inc., (UL) wind uplift resistance classification: Roof assembly shall be classified as Class UL90, as defined by UL 580.

D. Underwriters' Laboratories, Inc., (UL), fire resistance P ratings for roof assemblies. Underwriters' Laboratories, Inc., (UL), Class A fire rating per UL 790.

E. Static pressure air infiltration: Completed roof system shall have maximum of .0036 cfm/sq. ft. air infiltration with 20 psf air pressure differential per ASTM E283.

F. Static pressure water infiltration: Completed roof system shall have no water leakage when exposed to rain at the rate of 5 gal./hr./sq. ft. with 20.0 psf air pressure differential per ASTM E331.

G. Capacities for gauge, span or loading other than those tested may be determined by interpolation of test results within the range of test data. Extrapolation for conditions outside test range are not acceptable.

1.7 WARRANTIES:

A. Endorse and forward to Architect the following warranties:

1. Manufacturer's standard 20 year finish warranty covering checking, crazing, peeling, chalking, fading, or adhesion.
2. The contractor shall warrant for twenty years (20) from the date of substantial completion of the Work related to this section, that the Work is not defective in workmanship or material, and that the roof will be adequate to prevent leaks. This warranty shall be provided in the first two (2) years by the Contractor/Roof Installer, and the remaining eighteen (18) years of the roof system manufacturer. No pro-ration and no dollar limit on warranty.
3. Warranties shall commence on date of substantial completion.

PART 2 - PRODUCTS

2.1 METAL ROOFING SYSTEM:

A. Basis for Specification: Berridge Zee-lock Structural Standing Seam Roof System as manufactured by Berridge Manufacturing Co., Houston, Texas.
Other acceptable manufacturers, subject to full compliance with specification requirements, shall be approved in advance.

Provide manufacturer's literature; certification of testing in accordance with specification requirements; sample warranties; list of five (5) similar projects in size and scope of work. No substitutions will be permitted after the bid date of this project.

B. Sheet Materials:

1. Prefinished Metal shall be Hot-Dipped Galvanized – ASTM A446-85 Grade C G90 Coating A525-86 24 Gauge core steel or prefinished 24 or 22 Gauge Galvalume – ASTM 792-86 AZ-55.
2. Unfinished Metal shall be Grade C Galvalume ASTM A792-86, AZ55, “Satin Finish”.
3. Finish shall be full strength Kynar 500 Fluoropolymer coating, applied by the manufacturer on a continuous coil coating line, with a top side dry film thickness of 0.70 to 0.90 mil over 0.25 to 0.35 mil prime coat, to provide a total dry film thickness of 0.95 to 1.25 mil. Bottom side shall be coated with primer with a dry film thickness of 0.25 mil. Finish shall conform to all tests for adhesion, flexibility, and longevity as specified by the Kynar 500 finish supplier.
4. Strippable film shall be applied to the top side of the painted coil to protect the finish during fabrication, shipping and field handling. This strippable film must be removed before installation.

C. Accessories Materials:

1. Anchor Clips
2. Fasteners: Concealed stainless steel with washers where required.
3. Sealant: Shall be (concealed) Bostich Chem Caulk butyl sealant or equal and (exposed) General Electric Silglaze II 2800. Colors as selected.
4. Vinyl Weatherseal Insert.
5. Miscellaneous as required for complete installation.

2.2 FABRICATION:

A. All exposed adjacent flashing shall be of the same material and finish as the roof panels.

B. Hem all exposed edges of flashing on underside, 1/2 inch.

C. Fabricate roofing and related sheet metal work in accord with approved shop drawings and applicable standards.

2.3 BERRIDGE ZEE-LOCK STANDING SEAL PANEL

A. 2” high vertical legs shall be spaced at 16” on-center and shall have no exposed fasteners.

B. Panels shall be site-formed with the Berridge Model SP-21-X Portable Roll Former in continuous lengths from ridge to eave.

C. Continuous Zee Rib shall be 1-3/8” wide and 2-1/8” in height. Rib shall be connected to purlin with two #12-14 x 1” self-Drilling/tapping fasteners or Zee Clips spaced at 3’-0”.

D. Optional Vinyl Weatherseal *U.S> Patent 5135825) shall be Factory-installed over Continuous Zee Rib.

E. Sidelap shall be mechanically seamed with a powered seamer.

F. When required, panel assembly to bear Underwriters Laboratories Label UL90, pursuant to Construction No. 312 for open framing Conditions, either uninsulated or with blanket insulation or Const. No. 403 over solid substrate and applicable Fire Ratings.

G. Certification shall be submitted, based on independent testing Laboratory, indicating no measurable water penetration or air Leakage through the system when tested in accordance with ASTM E-1680 and E-1646.

2.4 UNDERLAYMENT:

A. Verify #30 unperforated asphalt saturated roofing felt underlayment has been installed over solid sheathing and fastened in place.

B. One (1) layer of #30 asphalt roofing felt paper for roof slopes of 3:12 and up, two (2) layers for roof slopes of 1:12 – 3:12 in moderate climate s(check with Berridge).

C. Grace Ice & Water Shield 40 mil underlayment to be used on roof area and slopes including at all roof perimeters, valleys, gables, ridges, and penetrations.

D. Ensure felt installed horizontally, starting at eave to ridge with a 6: minimum over lap and 18” endlaps.

E. Ensure that all nail heads are totally flush with the substrate. Nails shall be galvanized roofing nails with Berridge Coated Felt Caps.

3.00 EXECUTION

3.1 PREPARATION:

A. Inspection: Examine the alignment and placement of the building structure and substrate. Correct any objectionable warp, waves or buckles in the substrate before proceeding with installation of the preformed metal roofing.

B. Pre-roofing Conference: Prior to beginning metal roofing work, a pre-roofing conference shall be held to review work to be accomplished.

1. Contractor, metal roofing subcontractor, metal roofing system manufacturer's representative and all other subcontractors who have equipment penetrating roof or whose work involves access to roof shall be present.
2. Contractor shall notify Architect and other attending parties at least three (3) days prior to time for conference.

3.2 ROOFING AND FLASHING INSTALLATION:

A. Install roofing and flashings in accordance with approved shop drawings and manufacturer's product data, within specified erection tolerances.

B. Isolate dissimilar metals and masonry or concrete from metals with bituminous coating. Use gasketed fasteners where required to prevent corrosive action between fastener, substrate, and panels.

C. Limit exposed fasteners to extent indicated on shop drawings.

D. Anchorage shall allow for temperature expansion/contraction movement without stress or elongation of panels, clips, or anchors. Attach clips to structural substrate using fasteners of size and spacing as determined by manufacturer's design analysis to resist specified uplift and thermal movement forces.

E. Seal laps and joints in accordance with roofing system manufacturer's product data.

F. Coordinate flashing and sheet metal work to provide weather tight conditions at roof terminations. Fabricate and install in accordance with standards of SMACNA Manual.

G. Provide for temperature expansion/contraction movement of panels at roof penetrations and roof mounted equipment in accordance with system manufacturer's product data and design calculations.

H. Installed system shall be true to line and plane and free of dents and physical defects with a minimum of oil canning.

I. Form joints in linear sheet metal to allow for 1/4" minimum expansion at 20'0" o.c.

maximum and 8'-0" from corners.

J. At joints in linear sheet metal items, set sheet metal items in two 1/4" beads of butyl sealant. Extend sealant over all metal surfaces. Mate components for positive seal. Allow no sealant to migrate onto exposed surfaces.

K. Remove damaged work and replace with new, undamaged components.

L. Touch-up exposed fasteners using paint furnished by roofing panel manufacturer and matching exposed panel surface finish.

M. Clean exposed surfaces of roofing and accessories after completion of installation. Leave in clean condition at date of substantial completion. Touch-up minor abrasions and scratches in finish.

N. Field Inspection of installed panel roof system by Metal Panel Manufacturer Factory-Approved/Authorized inspector will be required for the twenty (20) Year Limited Weather tightness Warranty. Minimum of two (2) inspections by the Factory Inspector will be required with written reports of these inspections.

O. Comply with manufacturers standard instructions and conform to standards set forth in the Architectural Sheet Metal Manual published by SMACNA, in order to achieve a watertight installation.

P. Install panes in such a manner that horizontal lines are true and level and vertical lines are plumb.

Q. Install started and edge trip before installing roof panels.

R. Remove protective strippable film prior to installation of roof panels.

S. Attach panels using manufacturer’s standard clips and fasteners, spaced in accordance with approved shop drawings.

T. Install sealants for preformed roofing panels as approved on shop drawings. Do not allow panels or trim to come into contact with dissimilar materials.

U. Do not allow traffic on completed roof. If required, provide cushioned walk boards.

V. Protect installed roof panels and trim from damage caused by adjacent construction until completion of installation.

3.3 DAMAGED MATERIAL:

A. Upon determination of responsibility, repair or replace damaged metal panel and trim to the satisfaction of the Architect and Owner.

END OF SECTION
07 6100

SECTION 07 9200
JOINT SEALANTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS:

QUALITY ASSURANCE:

Installation of caulking shall be performed only be workmen thoroughly skilled and specifically trained in the techniques of caulking and who are completely familiar with the current, latest published recommendations of the manufacturer of the caulking material being used. Indication of lack of skill on the part of caulking installers shall be sufficient grounds for the Architect to reject installed caulking and to require its immediate removal and complete re-caulking at no additional cost to the Owner.

1.02 PRODUCT HANDLING:

Use all means necessary to protect caulking materials before, during, and after installation and to protect the installed work and materials of all other trades. Deliver and store packaged materials in original sealed containers until ready for use. Store all caulking materials and equipment under conditions recommended by its manufacturer. Do not use materials stored for a period of time exceeding the maximum recommended shelf-life on the material.

1.03 SUBMITTALS:

A. Submittals: Submit all materials used. Provide standard colors for selection.

PART 2 PRODUCTS

2.01 CAULKING EQUIPMENT:

All caulking equipment shall be only such equipment as is specifically recommended by the manufacturer of the caulking material being installed.

2.02 CAULKING MATERIALS:

A. Sealing Compound (for general exterior applications): Dow 790 Series Silicone Building Sealant.

B. Caulking Compound (for general interior application): Federal Specification TT-C-598C, Type I or Type II.

C. Sealing Compound (for wet areas including all baths, toilet rooms, kitchen, mechanical, laundry): Federal Specification TT-S-1543A, Class B, non-yellowing, mildew resistant.

D. Primer: As recommended by manufacturer of caulking or sealant.

E. Color: Sealants used with exterior walls shall match color of coatings. Color of other exterior sealants shall be neutral in color and as approved by the Architect. Interior caulking shall be white unless specified otherwise.

F. All materials shall comply with the requirements of the South Coast Air Quality Management District (SCAQMD) Rule #1168. VOC limits shall not exceed 250 g/L.

PART 3 EXECUTION:

3.01 SURFACE CONDITIONS:

Prior to all work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence. Verify that caulking may be installed in accordance with the manufacturer's recommendations. In the event of discrepancy immediately notify the Architect and do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.02 LOCATIONS OF MATERIAL:

A. Use silicone sealing compound for exterior applications.

1. Use for following locations:

a. Joints and recesses formed where frames and subsills of windows, doors, louvers, vents and the like adjoin masonry, concrete or metal frames. Use sealing compound at both exterior and interior surfaces of exterior wall penetration.

b. Joints or recesses on exterior of building (including locations not specifically shown or specified) where sealing is required to prevent infiltration of water, moisture and wind into building construction.

c. Bottoms of exterior doorway frames.

d. Where sealant is indicated on drawings except where sealing compounds for horizontal joints and high temperature applications are specifically required.

B. Use caulking compound complying with Federal Specifications TT-C-598, Type I or II for the following interior applications:

1. Openings 1/4" and less between walls and partitions and adjacent casework, shelving, built-in or surface mounted equipment, plumbing.

2. Where caulking is indicated on drawings.

3. Other interior locations where small voids between materials require filling and/or painting.

4. Use a non-yellowing, mildew resistant sealing compound complying with Federal Specification TT-S-1543, for sealing between kitchen equipment, receptors (except prefabricated shower stalls) service sinks and adjoining wall finish.

3.03 PREPARATION:

Exterior joints to receive sealant shall have the following dimensional requirements:

A. At widths up to 1/2", depth shall be equal to width.

B. At width over 1/2", depth shall be 2 the width.

Provide filler materials, required to form joint of proper depth for sealing, of a material approved by manufacturer of sealing compounds as being compatible with primer and sealing compound used. Use filler 1/3 to 2 wider and joint width so sufficient pressure is exerted by filler to provide substantial resistance to displacement.

A Sealant shall bond only to two opposing surfaces. A "bond breaker" strip approved by manufacturer of sealing compound shall be used as a release material between sealant and base surface of joint where space for back-up does not exist. Similar "bond breaker" strips shall be employed between sealant and supporting back-up materials to prevent restriction of sealants as movement occurs.

Immediately before installing compound, apply primer to sides of joints wherever required by compound manufacturer's printed instructions. Use brush or other approved means that will reach all parts of joints.

Joints to receive caulking or sealant shall be dry and cleaned free of all extraneous matter such as mortar, dirt, debris, oil, and dust and the like. Masonry or concrete materials surrounding joints to receive sealant shall be completely dry. Remove all paint and protective coatings from surfaces of the joints before applying caulking or sealant compounds.

3.04 APPLICATIONS:

Apply caulking and sealing compounds in strict accordance with manufacturer's printed instructions. Avoid dripping or smearing compound on adjacent surfaces. Fill joints solidly with compound and tool. Finish compound smooth and flush unless joint is otherwise detailed.

3.05 CLEANING:

After filling and finishing joints, remove masking tape. Remove droppings and smearing of compound before the compound cures by cleaning with solvent recommended by manufacturer of compound.

END OF SECTION
07 9200

PART 1 GENERAL

1.01 GENERAL:

Work under this section comprises of furnishing and installing hollow metal frames for doors, windows and hollow metal doors and panels.

1.02 REFERENCES:

References specified in this section subject to compliance as directed:

A. ASTM-E152 Fire tests of door assemblies.

B. ASTM-A525 Specification for steel sheet, Zinc coated (galvanized by the hot dip process).

C. ANSI/SDI-100 Recommended specifications for standard steel doors and frames.

D. ANSI/SDI-110 Performance test procedures for steel door frames and anchors.

E. NFPA-80-1990 Standard for Fire Doors and Windows.

F. NFPA-101-1991 Life Safety Code.

G. ANSI-151.1 Test procedure and acceptance criteria for physical endurance.

H. ANSI-A224.1-1980 Test procedure and acceptance criteria for prime painted steel surfaces for steel doors and frames.

I. S.D.I.-107-78 "Hardware on Steel Doors (reinforcement-application)".

J. International Building Code (IBC) current edition.

1.03 SUBMITTALS:

A. Submittals:

1. Fully complete and for all materials provided.

B. Shop Drawings: Indicate door and frame elevations and sections, materials, gages and finishes, fabrication and erection details, locations of finish hardware by dimension and locations/details of all openings and louvers submit six (6) copies each to contractor-architect for approval. Do not proceed with any fabrication until all details are approved.

C. Certification of Compliance: Submit any information necessary to indicate compliance to any or all of these specifications as requested.

D. Submit any samples necessary as required by architect.

1.04 QUALITY ASSURANCE:

A. Certification of label construction: For components exceeding Underwriters Laboratories, Inc. (UL) - furnish inspection certificate stating that component construction conforms to UL rating requirements only if architect is aware of such a limitation and has allowed the non labeled unit.

B. Hollow metal supplier shall be a qualified direct distributor of products to be furnished. In addition the distributor shall have in their regular employment an A.H.C./C.D.C. or person of equivalent experience who shall be made available to at reasonable times to consult with the architect regarding any matters affecting the door and frame openings.

1.05 DELIVERY, STORAGE, AND HANDLING:

A. Delivery doors and frames cardboard wrapped, crated, palatized or otherwise protected during transit and site storage.

B. Contractor to inspect doors and frames upon delivery for damage. Minor damages may be repaired provided refinished items are equal in all respects to new work and acceptance to the architect; otherwise remove and replace damaged items as directed.

C. Store doors and frames at the building site in a dry secure place. Place units on minimum 4" high wood blocking. Avoid use of non-vented plastic or canvas shelters which could create a humidity chamber. If cardboard wrapper on door becomes wet, remove carton immediately. Provide 1/4-inch spaces between stacked doors to promote air circulation.

1.06 SEQUENCING AND SCHEDULING:

Deliver all doors and frames to the job site in a timely manner so as not to delay progress of other trades. Contractor to let purchase orders to frame, door and hardware suppliers early so as not to interfere with normal quoted delivery of materials.

1.07 WARRANTY:

A. All hollow metal doors and frames shall be supplied with a one (1) year warranty against defects in materials and workmanship.

PART 2 PRODUCTS

2.01 MANUFACTURERS:

Acceptable manufacturers (providing the products supplied comply with this specification).

A. Ceco Corp., Oakbrook, Illinois
B. Curries Co., Mason City, Iowa
C. Steelcraft Manufacturing Co., Cincinnati, Ohio
D. D&D Specialties, Union, South Carolina

2.02 MATERIALS:

A. Steel requirements, all doors and frames to be manufactured of commercial quality, stretcher leveled flatness, cold rolled steel per A.S.T.M.-A366 and A-568 general requirements or galvanized to A-60 minimum coating weight standard. Internal reinforcing may be manufactured of hot rolled pickled and oiled steel per A.S.T.M.-A569.

B. Coating materials:

1. Primer-Use manufacturer's standard rust inhibiting primer conforming to A.N.S.I.-A-224.1-1980.

C. Core materials:

1. Non-labeled doors or labeled doors, polystyrene foam core-self extinguishing, non-toxic in case of fire, or 20 Ga. interlocking stiffeners extending vertically full height of door-spaced not more than six inches (6") o.c. welded to door faces.
2. Fire labeled doors shall be a mineral fiber core.

D. Hollow metal glass lights shall be fabricated of not less than 18 ga. galvanized steel frames, having no overlapping moldings on door faces. Provide ANEMOSTAT frames. Provide tempered glass per Section 08800 and where scheduled.

E. All labeled fire door assemblies shall be Category A which has been classified and listed in accordance with UL10C or NFPA 252 with the neutral pressure plane at 40” above the floor. A physical label shall be permanently affixed to the fire door at an authorized facility. All fire rated doors in exit enclosures shall also carry a temperature rise label of no more than 450 degrees Fahrenheit. All fire doors in corridors or smoke enclosures shall also meet the requirements of UL1784 and shall bear the supplemental “S” Label.

2.03 FABRICATION:

A. General:

1. Fabricate all doors and frames in accordance with S.D.I.-100-1991 except where more stringent requirements are specified.
2. Supply only doors and frames manufactured by one (1) of the acceptable manufacturers listed in this specification or as approved in advance. All products supplied shall be from one (1) manufacturer only.

B. Doors:

1. Classification: S.D.I.-Grade II Model 2 (or Grade 3, or Model I) – seamless design.
2. Face sheets: Minimum of 18 ga. cold rolled steel for interior and 16 ga. for exterior.
3. Vertical lock edges beveled 1/8” in 2”-seamless construction by continuously welding the door faces at the factory. Partial welding and filling of door edges is not acceptable.
4. Top and bottom channels are to be not less than 16 ga. flush or inverted; welded to the face sheets. Close tops of doors flush by the addition of steel top channel fillers if necessary. Weld such top channels into the door so that they are not removable.
5. Astragals: Where called for shall be flat security type of ‘Z’ as called for in the

drawings or specifications.

6. All doors must conform to A.N.S.I.-A-151.1 level ‘A’ criteria and be tested to 1,000,000 operating cycles. Certification of Level ‘A’ doors is to be submitted with approval drawings by the distributor. Do not bid or supply any type or gage of door not having been tested and passed this criteria.
7. Galvanize exterior and interior doors.

C. Frames:

1. Construction: 16 ga. galvanized at interior locations, 14 ga. galvanized at exterior installations.

2. All frames in masonry construction are to be face welded and ground smooth, and reprimed unless otherwise noted. Provide temporary shipping bars to help protect from damage during transit and handling. Temporary spreaders are to be removed before setting frames. All welds on frames, transoms, and/or sidelights are to be flush with neatly mitered or butted material cuts. All exterior frames are to be welded, interior frames in wood studs shall be KD except where not permitted by label requirements.[1]

D. Frame Anchors:

1. Wall anchors for frame attachment to masonry construction; all anchors built into exterior or masonry walls are to be galvanized. Masonry anchors, adjustable, flat, corrugated or perforated 'T' shaped anchors with leg not less than two inches (2") wide by ten inches (10" long or masonry "wire" type not less than 3/16" diameter.
2. All frame jamb anchors are to be provided; one (1) each jamb per two feet six inches (2'-6") of frame height or fraction thereof.
3. Floor anchors: Angle clip type, 16 ga. minimum, to receive two (2) fasteners per jamb, welded to the bottom of each jamb.
4. In place masonry or concrete; 3/8" countersunk flat head stove bolt and expansion shields, spaced six inches (6") from top and bottom of frame and at two feet zero inches (2'-0") O.C. maximum between. Weld pipe spacers or other type of spacers per manufacturers std. design in back of frame soffit to protect frame profile during tightening of bolts and anchors.

E. Preparation for Hardware:

1. Reinforcement: Reinforce components for hardware installation in accord with S.D.I.107. All lock and closer reinforcements shall be "box" type. All hinge reinforcing on doors is to be channel type, continuous from top to bottom of door welded to face sheets.
2. Punch single leaf frames to receive three (3) silencers; double leaf frames to receive one (1) silencer per leaf at head.
3. Factor prepared hardware locations shall be in accord with "Recommended locations for builders' hardware to standard steel doors and frames" as adopted by The Steel Door Institute.
4. Supply welded in mortar guards at all hardware cutouts in frames built into masonry or to be grouted in full.

PART 3 EXECUTION

3.01 EXECUTION:

A. Set all frames in accord with S.D.I. 105.

B. Set welded frames in position prior to beginning partition work. Brace frames until permanent anchors are set.

C. Set anchors for frames as work progresses. Install anchors at hinge and strike levels.

D. Use temporary setting spreaders at all locations and use of intermediate spreaders to assure of proper door clearances and header braces for grouted frames is required.

E. Install frames in prepared openings in concrete and masonry walls using countersunk bolts and expansion shields.

F. Install all fire rated frames in accord with requirements of N.F.P.A.-80.

3.02 DOOR INSTALLATION:

A. Install hollow metal doors in frames using hardware specified in Section 08710 Finish Hardware.

B. Clearances at edge of doors:

1. Between door and frame at head and jambs: 1/8"
2. At meeting edges pairs of doors and at mullions: 1/8"
3. At transom panels, without transom bars: 1/8"
4. At sills without thresholds: 5/8" maximum above finish floor
5. At sills with thresholds: 1/8" above threshold

3.03 ADJUSTMENT AND CLEANING:

A. Remove dirt and excess sealants, mortar, or glazing compounds from exposed surfaces.

B. Adjust moving parts for smooth operation. Use shims if necessary to allow for proper closing.

C. Fill all dents, holes, etc. with metal filler and sand smooth and flush with adjacent surfaces. Paint to match finish.

END OF SECTION
08 1000

SECTION 08 8000
GLASS AND GLAZING

PART 1 GENERAL

1.01 QUALITY ASSURANCE:

A. Provide safety glass (tempered, laminated) complying with requirements of ANSI Z97.1 - American National Standard for Glazing Materials Used in Buildings -- Safety Performance Specifications and Method of Test.

B. Label each piece of glass designating type and thickness of glass. Do not remove label prior to installation.

C. Permanently identify each unit of tempered g l a s s . Etch or ceramic fire identification on glass; identification shall be visible when unit is glazed.

D. Warranty: Provide manufacturer's standard 10 year warranty, including include replacement of sealed glass units exhibiting seal failure, interpane dusting or misting.

1.02 DESIGN AND PERFORMANCE REQUIREMENTS:

A. Watertight and airtight installation of each piece of glass is required. Each installation must withstand normal temperature changes, wind loading, impact loading (for operating doors)without failure of any kind including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glazing materials, and other defects in work.

PART 2 PRODUCTS

2.01 GLASS:

A. Shall be manufactured by Pilkington or approved equal.

B. Tempered glass: Federal Specification DD-G-1403B & Am-1, kind Ft, condition 1, type 1, class 1, 1/4" thick for installation in doors and side lights, per code requirements, and where noted, Pilkington Grey on exterior lites, and clear on interior lites.

C. Insulated Glass: 1" with 1/4" thick lights and 1/2" airspace, use tinted Pilkington Optifloat Grey tint glass on outboard lite and Pilkington Energy Advantage Low·E glass on inboard lite with coating on #3 surface.

2.02 SETTING MATERIALS:

A. Glazing accessories: Furnish as required to provide a complete installation, including glazing points, clips, shims, angles, beads, setting blocks, and spacer strips.

PART 3 EXECUTION

3.01 INSTALLATION:

A. General: Determine glass sizes by job site measurements. Leave labels on glass until installation is approved. Lock doors and movable sash until glazing compound is set. Install glass in labeled doors in accordance with NFPA Standard No. 80.

B. Glass settings: Glass may be shop or field installed. Use methods, materials, and clearances recommended in the FGMA Glazing Manual. After installation has been accepted, remove all labels, clean all glass surfaces, and maintain in clean and undamaged condition.

C. Remove and replace glass which is broken, chipped, cracked, abraded or damaged during construction period.

3.02 PROTECTION:

A. Protect glass surfaces and edges at all times during the construction period. Keep glass free from contamination by materials capable of staining glass.

END OF SECTION
08 8000

SECTION 09 2600
GYPSUM WALLBOARD SYSTEM

PART 1 GENERAL

1.01 DESCRIPTION:

A. Work included: Provide gypsum drywall and accessories where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

1.02 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.

1.03 SUBMITTALS:

A. Submittals:

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 approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

C. Provide shop drawing for access stair.

1.04 PRODUCT HANDLING:

A. Comply with pertinent provisions of Section 01640.

PART 2 PRODUCTS

2.01 GYPSUM WALLBOARD:

A. General:

1. Provide gypsum wallboard complying with Fed Spec SS-L-30D, in 48" widths and in such lengths as will result in a minimum of joints.
2. Fire-retardant wallboard: Provide type III, grade X, class 1, 5/8" thick, tapered edge, for all wall locations unless noted otherwise.
3. Water-resistant wallboard: Provide type VII, grade W or X as required, class 2, 5/8" thick except as may be shown otherwise on the Drawings, tapered edge, at toilet, janitors, and miscellaneous wet areas.
4. Wallboard at bottom of trusses: 5/8" thick, sag resistant, not required to be fire rated unless noted.
5. Tile backer: 5/8” Durock or equal.

6. Drywall soffits and kennel ceilings shall be 5/8” exterior soffit board type X where

required.

2.02 METAL TRIM:

A. Form from zinc-coated steel not lighter than 26 gage, complying with Fed Spec QQ-S-775, type I, class d or e.

B. Casing beads:

1. Provide channel-shapes with an exposed wing, and with a concealed wing not less than 7/8" wide.
2. The exposed wing may be covered with paper cemented to the metal, but shall be suitable for joint treatment.

C. Corner beads: Provide angle shapes with wings not less than 7/8" wide and perforated for nailing and joint treatment, or with combination metal and paper wings bonded together, not less than 1-1/4" wide and suitable for joint treatment.

2.03 JOINTING SYSTEM:

A. Provide a jointing system, including reinforcing tape and compound, designed as a system to be used together and as recommended for this use by the manufacturer of the gypsum wallboard approved for use on this Work.

B. Jointing compound may be used for finishing if so recommended by its manufacturer.

2.04 FASTENING DEVICES:

A. For fastening gypsum wallboard in place on metal channels, use flat-head screws, shouldered, specially designed for use with power-driven tools, not less than 1" long, with self-tapping threads and self-drilling points.

B. For fastening gypsum wallboard in place on wood, use 1- 1/4" type W bugle-head screws, of the length required by governmental agencies having jurisdiction.

2.05 EXPANSION JOINTS:

A. Provide expansion joints as indicated, and any location where drywall run exceeds 30’ in length. Joints to be as recommended by manufacturer.

2.06 ACCESS DOORS:

A. Provide flush access doors for drywall surfaces, Model KDW by Karp Associates, Inc. or architect approved equal, size as required to access related work.

2.07 OTHER MATERIALS:

A. 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 SURFACE CONDITIONS:

A. 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.

3.02 INSTALLATION:

A. General:

1. Install the gypsum wallboard in accordance with the Drawings and with the separate boards in moderate contact but not forced into place.
2. At internal and external corners, conceal the cut edges of the boards by the overlapping covered edges of the abutting boards.
3. Stagger the boards so that corners of any four boards will not meet at a common point except in vertical corners.

B. Ceilings:

1. Install the gypsum wallboard to ceilings with the long dimension of the wallboard at right angles to the supporting members.

C. Walls:

1. Install the gypsum wallboard to studs at right angles to the furring or framing members.
2. Make end joints, where required, over framing or furring members.

D. Attaching:

1. Drive the specified screws with clutch-controlled power screwdrivers, spacing the screws 12" on centers at ceilings and 16" on centers at walls.
2. Where framing members are spaced 24" apart on walls, space screws 12" on centers.
3. Attach double layers in accordance with the pertinent codes and the manufacturer's recommendations as approved by the Architect.
4. Attach to wood as required by governmental agencies having jurisdiction.

E. Access doors:

1. By careful coordination with the Drawings and with the trades involved, install the specified access doors where required.
2. Anchor firmly into position, and align properly to achieve an installation flush with the finished surface.

3.03 FINISH CLASS:

A. Finish Classes (refer to U.S. Gypsum Construction Handbook, current edition).

1. Level 4 finish will generally be used throughout, except as noted below.

2. Level 1 at areas noted in handbook (i.e. above ceilings, attics, normally

concealed from view).

3. Level 2 at substrates for tile.

3.04 JOINT TREATMENT:

A. General:

1. Inspect areas to be joint treated, verifying that the gypsum wallboard fits snugly against supporting framework.
2. In areas where joint treatment and compound finishing will be performed, maintain a temperature of not less than 55 degrees for 24 hours prior to commencing the treatment, and until joint and finishing compounds have dried.
3. Apply the joint treatment and finishing compound by machine or hand tool.
4. Provide a minimum drying time of 24 hours between coats, with additional drying time in poorly ventilated areas.

B. Embedding compounds:

1. Apply to gypsum wallboard joints and fastener heads in a thin uniform layer.
2. Spread the compound not less than 3" wide at joints, center the reinforcing tape in the joint, and embed the tape in the compound. Then spread a thin layer of compound over the tape.
3. After this treatment has dried, apply a second coat of embedding compound to joints and fastener heads, spreading in a thin uniform coat to not less than 6" wide at joints, and feather edged.
4. Sandpaper between coats as required.
5. When thoroughly dry, sandpaper to eliminate ridges and high points.

C. Finishing compounds:

1. After embedding compound is thoroughly dry and has been completely sanded, apply a coat of finishing compound to joints and fastener heads.
2. Feather the finishing compound to not less than 12" wide.
3. When thoroughly dry, sandpaper to obtain a uniformly smooth surface, taking care to not scuff the paper surface of the wallboard.

3.05 CORNER TREATMENT:

A. Internal corners: Treat as specified for joints, except fold the reinforcing tape lengthwise through the middle and fit neatly into the corner.

B. External corners:

1. Install the specified corner bead, fitting neatly over the corner and securing with the same type fasteners used for installing the wallboard.
2. Space the fasteners approximately 6" on centers, and drive through the wallboard into the framing or furring member.
3. After the corner bead has been secured into position, treat the corner with joint compound and reinforcing tape as specified for joints, feathering the joint compound out from 8" to 10" on each side of the corner.

3.06 OTHER METAL TRIM:

A. General:

1. The Drawings do not purport to show all locations and requirements for metal trim.
2. Carefully study the Drawings and the installation, and provide all metal trim normally recommended by the manufacturer of the gypsum wallboard approved for use in this Work.

3.07 CLEANING 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 this Section.

END OF SECTION
09 2600

SECTION 09 6500
RESILIENT BASE

PART 1 GENERAL

1.01 DESCRIPTION:

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

1.02 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.

1.03 SUBMITTALS:

B. Product data: Within 60 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. Samples of each item, color, and pattern available in the specified grades from the proposed manufacturers.
4. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.04 EXTRA STOCK:

A. Deliver to the Owner for his use in future modifications an extra stock of approximately 10% of each color and pattern in each floor tile material installed
under this Section, packaging each type of material separately, distinctly marked, and adequately protected against deterioration.

PART 2 PRODUCTS

2.01 MATERIALS, GENERAL:

A. Provide colors and patterns as selected by the Architect from standard colors and patterns of the approved manufacturer in the specified type, generally as indicated on the color schedule.

B. Adhesives:

1. Provide waterproof and stabilized type adhesive as recommended by the manufacturer of the material being installed.
2. Asphalt emulsions and other non-waterproof adhesives will not be acceptable.
3. Adhesives shall meet the requirements of the South Coast Air Quality Management District (SCAQMD) Rule #1168. VOC limits shall not exceed 60g/L.

2.02 RESILIENT MATERIALS:

A. Topset resilient base:

1. Where shown on the Drawings, provide topset rubber cove base, 4" high, .80" gauge, in rolls, conforming with Federal Specification SS-W-40a, Type 1, with preformed interior and exterior corners. Provide adhesive as recommended by the base manufacturer.
2. Acceptable products of Roppe Rubber Corporation, Burke Rubber Company, B.F. Goodrich Company, and equal products of other manufacturers when approved in advance by the Architect.

2.03 OTHER MATERIALS:

A. 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 SURFACE CONDITIONS:

A. 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.

3.02 INSTALLATION:

A. General:

1. Install materials only after finishing operations, including painting, have been completed and after permanent heating system is operating.

B. Installing base:

1. Install base in strict accordance with manufacturer's written instructions in lengths as long as practical.
2. Use factory-preformed exterior corners, and factory-preformed interior corners.

3.03 CLEANING AND PROTECTING:

A. Remove excess adhesive and other blemishes from exposed surfaces, using neutral cleaner recommended by the manufacturer of the resilient materials.

END OF SECTION
09 6500

SECTION 09 9000
PAINTING

PART 1 GENERAL

1.01 DESCRIPTION:

A. Work included: Paint and finish the new exterior and interior exposed surfaces as specified herein, and as needed for a complete and proper installation. Repaint all existing exterior painted surfaces.

- All paint, coatings and primers applied to interior walls and ceilings should not exceed the VOC limit established in Green Seal Standard – GS-11.
- Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates should meet - Green Seal Standard – GS-03.

B. Related work:

1. Existing interior areas not in new construction shall not be painted except for surfaces in renovated areas.
2. Priming or priming and finishing of certain surfaces may be specified to be factory-performed or installer-performed under pertinent other Sections.

C. Work not included:

1. Unless otherwise indicated, painting is not required on surfaces in concealed areas and inaccessible areas such as furred spaces, foundation spaces, utility tunnels, pipe spaces, and duct shafts.
2. Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze, and similar finished materials will not require painting under this Section except as may be so specified.
3. Do not paint moving parts of operating units; mechanical or electrical parts such as valve operators; linkages; sensing devices; and motor shafts, unless otherwise indicated.
4. Do not paint over required labels or equipment identification, performance rating, name, or nomenclature plates.
5. Do not paint concrete which has been sandblasted.

D. Definitions:

1. "Paint," as used herein, means coating systems materials including primers, emulsions, epoxy, enamels, sealers, fillers, and other applied materials whether used as prime, intermediate, or finish coats.
2. Use the National Paint & Coatings Association (NPCA) standards for gloss levels. Using ASTM test method #D-523 the following gloss standards have been established. The following information can be found on product data sheets.

Flat	0-5	@60 degree meter
Eggshell	5 – 20	@60 degree meter
Satin	15 – 35	@60 degree meter
Semi-gloss	30 – 65	@60 degree meter
Gloss	over 65	@60 degree meter

1.02 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. Paint coordination:

1. Provide finish coats which are compatible with the prime coats actually used.
2. Review other Sections of these Specifications as required, verifying the prime coats to be used and assuring compatibility of the total coating system for the various substrata.
3. Upon request, furnish information on the characteristics of the specific finish materials to assure that compatible prime coats are used.
4. Provide barrier coats over noncompatible primers, or remove the primer and reprime as required.
5. Notify the Architect in writing of anticipated problems in using the specified coating systems over prime-coatings supplied under other Sections.
6. a. Primers, undercoat paint and finish coat paint materials shall be products of a single manufacturer unless otherwise specified.

   b Applicator qualifications: Applicator shall be approved by paint manufacturer in writing. Approval shall indicate the following:

   1. Manufacturer has instructed applicator in the installation of specified material.
   2. Delivery: Deliver materials to project site ready-mixed in original containers with labels intact; labels bearing manufacturer's name, paint type, color and recommended installation and reducing procedures. Paint material containers not displaying manufacturer's product identification will not be acceptable.

C. Storage and handling:

1. Store materials in a dry, well ventilated, covered location.
2. Maintain neat, clean conditions in storage area; remove rags and waste materials at end of each day's work.
3. Close containers at end of day's work. Leave no materials open.
4. Applicator has been engaged in satisfactory application of materials on project of similar scope for at least three years.

D. Standard of Quality:

1. Prior to production application of special coatings a "Standard of Quality" application shall be prepared for inspection and acceptance by the Architect. Said application shall be made on a representative area of the project with the approved coatings applied in accordance with this specification by the coatings applicator.

1.03 SUBMITTALS:

A. Submittals:

1. Manufacturer’s written statement on the following:

    a. Recycled content of the product and / or heat number.
    b. Product manufacturing location.
    c. Source/origin of raw materials of the product.

2. Provide MSDS (Material Safety Data Sheets) for all adhesives, sealants, paints and coatings applied on site and estimated volume of quantity required for construction based on contractor’s estimate or actual usage.

B. Comply with pertinent provisions of Section 01340.

C. 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.

D. Samples:

1. Following the selection of colors and sheens by the Architect, as described under "Color Schedules" in Part 2 of this Section, submit Samples for the Architect's review.

    a. Provide three Samples of each color and each sheen for each material on which the finish is specified to be applied.
    b. Except as otherwise directed by the Architect, make Samples approximately 8" x 10" in size.
    c. If so directed by the Architect, submit Samples during progress of the Work in the form of actual application of the approved materials on actual surfaces to be painted.

2. Revise and resubmit each Sample as requested until the required gloss, color, and texture is achieved. Such Samples, when approved, will become standards of color and finish for accepting or rejecting the work of this Section.
3. Do not commence finish painting until approved Samples are on file at the job site.

1.04 PRODUCT HANDLING:

A. Delivery: Deliver materials to project site ready-mixed in original containers with labels intact; labels bearing manufacturer's name, paint type, color and recommended installation and reducing procedures. Paint material containers not displaying manufacturer's product identification will not be acceptable.

B. Storage and handling:

1. Store materials in a dry, well ventilated, covered location.
2. Maintain neat, clean conditions in storage area; remove rags and waste materials at end of each day's work.

3. Close containers at end of day's work. Leave no materials open.

1.05 JOB CONDITIONS:

A. Do not apply solvent-thinned paints when the temperature of surfaces to be painted and the surrounding air temperatures are below 45 degrees F, unless otherwise permitted by the manufacturers' printed instructions as approved by the Architect.

B. Weather conditions:

1. Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85%; or to damp or wet surfaces, unless otherwise permitted by the manufacturers' printed instructions as approved by the Architect.
2. Applications may be continued during inclement weather only within the temperature limits specified by the paint manufacturer as being suitable for use during application and drying periods.

C. Environmental requirements:

1. Comply with manufacturer's recommendations as to environmental conditions under which materials may be applied.
2. Apply no materials in spaces where dust is being generated.
3. Do not apply paint to damp or wet substrates.

D. Protection: Cover finished work of other trades and surfaces not being painted concurrently and prefinished items.

E. Safety precautions:

1. Provide temporary fire protection equipment in materials storage area.
2. Prohibit smoking in storage area.

1.06 EXTRA STOCK:

A. Upon completion of the work of this Section, deliver to the Owner an extra stock equaling 10% of each color, type, and gloss of paint used in the Work, tightly sealing each container, and clearly labeling with contents and location where used.

PART 2 PRODUCTS

2.01 MANUFACTURERS:

A. Acceptable manufacturers; subject to compliance with specified requirements:

1. Sherwin-Williams Co.
2. Benjamin Moore Co.
3. ICI
4. Duron Paint Co.
5. PPG Industries
6. Key Resin[1]
7. Stonhard[1]

8. Prime Coat Coatings[1]

2.02 PAINT MATERIALS:

A. Acceptable materials:

1. The Painting Schedule in Part 3 of this Section is based, in general, on products of The Sherwin Williams Paint Company.
2. Equal products of other manufacturers approved in advance by the Architect, may be substituted in accordance with provisions of the Contract.
3. Where products are proposed other than those specified by name and number in the Painting Schedule, provide under the product data submittal required by Article 1.3 of this Section a new painting schedule compiled in the same format used for the Painting Schedule included in this Section.

B. Undercoats and thinners:

1. Provide undercoat paint produced by the same manufacturer as the finish coat.
2. Use only the thinners recommended by the paint manufacturer, and use only to the recommended limits.
3. Insofar as practicable, use undercoat, finish coat, and thinner material as parts of a unified system of paint finish.

2.03 COLOR SCHEDULES:

See Color Schedule and/or drawings for all colors and sheens.

2.04 APPLICATION EQUIPMENT:

A. For application of the approved paint, use only such equipment as is recommended for application of the particular paint by the manufacturer of the particular paint, and as approved by the Architect.

B. Prior to use of application equipment, verify that the proposed equipment is actually compatible with the material to be applied, and that integrity of the finish will not be jeopardized by use of the proposed equipment.

2.05 OTHER MATERIALS:

A. 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 SURFACE CONDITIONS:

A. 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.

B. Application of primers, paints, coatings or stains indicates acceptance by the contractor that surfaces were properly prepared according to manufacturers label directions and

written specifications.

3.02 MATERIALS PREPARATION:

A. General:

1. Mix and prepare paint materials in strict accordance with the manufacturers' recommendations as approved by the Architect.
2. When materials are not in use, store in tightly covered containers.
3. Maintain containers used in storage, mixing, and application of paint in a clean condition, free from foreign materials and residue.

B. Stirring:

1. Stir materials before application, producing a mixture of uniform density.
2. Do not stir into the material any film which may form on the surface, but remove the film and, if necessary, strain the material before using.

3.03 SURFACE PREPARATION:

A. General:

1. Perform preparation and cleaning procedures in strict accordance with the paint manufacturers' recommendations as approved by the Architect.
2. Remove removable items which are in place and are not scheduled to receive paint finish; or provide surface-applied protection prior to surface preparation and painting operations.
3. Following completion of painting in each space or area, reinstall the removed items by using workmen who are skilled in the necessary trades.
4. Clean each surface to be painted prior to applying paint of surface treatment.
5. Remove oil and grease with clean cloths and cleaning solvent of low toxicity and flash point in excess of 200 degrees F, prior to start of mechanical cleaning.
6. Schedule the cleaning and painting so that dust and other contaminants from the cleaning process will not fall onto wet newly painted surfaces.
7. Surfaces to receive finishes shall be dry and free of debris, oils, dust or other deleterious materials.
8. a. Treat mildewed surfaces with a solution of one quart hypochlorite bleach to a half cup of detergent to one gallon water. Rinse and allow to dry prior to painting.

   b. Lumber, Plywood and Veneered Wood Surfaces:

      1. Apply shellac, maximum two pounds cut to knots, pitch and resinous sapwood prior to application of the first coat of paint. For stained surfaces, treat knots, pitch, and resinous sapwood in accordance with stain manufacturer's recommendations.
      2. For surfaces to receive paint finish, fill nail holes, cracks, joints and defects with spackling compound. Apply after the first coat of paint.
      3. For surfaces to receive transparent finish, fill all nail holes, cracks and defects with wood filler matching finish color.
      4. Sand surfaces smooth using fine grit sandpaper. Dust to remove debris.

c. Gypsum Drywall: Fill narrow, shallow cracks and small holes with patching compound. Allow to dry and sand smooth without raising nap of wallboard paper.

d. Concrete:

1. Fill cracks, holes and irregularities with cement grout.
2. Remove laitance, oil, grease, dirt and debris from surfaces. Allow concrete to cure prior to paint application.

e. Concrete Unit Masonry: Rub to remove loose mortar and debris. Fill irregularities with cement grout.

f. Galvanized Metal: Wash with xylol to remove grease, oil and contaminants. Wipe dry with clean cloth.

g. Aluminum:

1. Sand or scrape to remove oxides.
2. Wash with xylol to remove grease, oil and contaminants. Wipe dry with clean cloth.

h. Ferrous Metals:

1. Wire brush or sandpaper to remove rust and mill scale.
2. Solvent clean with xylol to remove grease, oil and contaminants. Wipe dry with clean cloth.

i. Wood for Field Finishing:
1. Sand wood surfaces using hand block or vibrator sander with 120 to 180 grit sandpaper to remove handling marks, scuffs, scratches, raised grain and effects of moisture exposure to provide smooth surface for finishing.
2. Do not use steel wool.
3. Sand and finish.

3.04 PAINT APPLICATION:

A. General:

1. Touch up shop-applied prime coats which have been damaged, and Touch up bare areas prior to start of finish coats application.
2. Do not tint primers. Tint first finish coat 3/4 formula.
Apply second finish coat full formula.

a. Do not apply additional coats until the completed coat has been inspected and approved.

b. Only the inspected and approved coats of paint will be considered in determining the number of coats applied.

3. Sand and dust between coats to remove defects visible to the unaided eye from a distance of five feet.
4. On removable panels and hinged panels, paint the back sides to match the exposed sides.

B. Drying:

1. Allow sufficient drying time between coats, modifying the period as recommended by the material manufacturer to suit adverse weather conditions.
2. Consider oil-base and oleo-resinous solvent-type paint as dry for recoating when the paint feels firm, does not deform or feel sticky under moderate pressure of the thumb, and when the application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

C. Brush applications:

1. Brush out and work the brush coats onto the surface in an even film.
2. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, and other surface imperfections will not be acceptable.

D. Spray application:

1. Except as specifically otherwise approved by the Architect, confine spray application to metal framework and similar surfaces where hand brush work would be inferior.
2. Where spray application is used, apply each coat to provide the hiding.
3. Do not double back with spray equipment to build up film thickness of two coats in one pass.

E. For completed work, match the approved Samples as to texture, color, and coverage. Remove, refinish, or repaint work not in compliance with the specified requirements.

F. Miscellaneous surfaces and procedures:

1. Exposed mechanical items:

a. Finish electric panels, access doors, conduits, pipes, ducts, grilles, registers, vents, and items of similar nature to match the adjacent wall and ceiling surfaces, or as directed.

b. Paint visible duct surfaces behind vents, registers, and grilles flat black.

c. Wash metal with solvent, prime, and apply two coats of alkyd enamel.

2. Exposed pipe and duct insulation: no painting required.
3. Hardware: Paint prime coated hardware to match adjacent surfaces.
4. Wet areas:

a. In toilet rooms and contiguous areas, add an approved fungicide to paints.

b. For oil base paints, use 1% phenolmercuric or 4% tetrachlorophenol.

c. For water emulsion and glue size surfaces, use 4% sodium tetrachlorophenate.

G. Apply paint only when moisture content of surfaces is within manufacturer's recommended limits. Apply paint materials using clean brushes, rollers or spraying equipment.

H. Apply materials at rate recommended by the paint manufacturer for surface being painted, less ten percent for losses.

I. Comply with manufacturer's recommendations for drying time between coats.

J. Finish coats shall be smooth, free of brush marks, streaks, laps or pile-up of paint, skipped or missed areas.

K. Make edges of paint adjoining other materials or colors clean and sharp without overlapping.

L. Primer coats may be omitted for surfaces specified to receive factory applied primer if primer is compatible with finish coats. If factory applied primer coats are not compatible with finish coats, substitute a bond coat or other surface preparation measures as recommended by paint manufacturer for specified finish coats at no additional cost to Owner.

M. Where total of two-coat finish is specified, prime coat shall be tinted to approximate finish color.

N. Where portion of finish on drywall partition is damaged or unacceptable, refinish entire surface of partition.

O. Back-prime finish carpentry and millwork with material specified for prime coat, without runs on face. Finish cut edges prior to installation.

P. Paint inside of ductwork flat black for entire area visible through ceiling openings. Paint underside of ductwork and other above-ceiling items flat black for entire area visible through ceiling openings.

Q. Seal tops and bottoms of interior doors with prime coat only; side edges shall be finished same as faces.

R. Finish all edges of exterior doors same as faces.

S. Paint exposed piping and ductwork in occupied areas same as adjacent wall surfaces.

T. Paint exposed grilles and registers in public spaces.

U. Paint handrails, guardrails, bollards and miscellaneous metal fabrication items exposed to view in the finished structure.

V. Remove and protect hardware, accessories, device plates, lighting fixtures, factory finished work and similar items, or provide in-place protection prior to painting adjacent surfaces. Upon completion of each space, carefully replace all removed items.

3.05 PAINTING SCHEDULE:

A. Surfaces Not Requiring Painting except as noted below.

1. Pre-finished surfaces and items.
2. Concealed ductwork, conduit and piping, except as visible from completed spaces.
3. Concrete, block or drywall surfaces above finished ceilings.
4. Do not repaint existing construction not in renovated areas. Paint all existing exterior painted surfaces and existing interior area adjacent to new construction in the same space.

B. The quantities of coats specified are minimums. Contractor is responsible for application of any additional coats necessary to achieve required coverage and color uniformity.

C. Provide the following paint finishes. Use Sherwin Williams Paint Company or equivalent. Provide a complete list of materials to be used for approval prior to any purchase.

NOTE: Where existing painted finishes are to be painted prepare surfaces and spot prime as necessary. One finish coat is acceptable if coverage is adequate with no holidays.

NOTE: Verify and obtain approval of all colors and sheens and provide samples and submittals prior to delivering any paint products to the site.

D. Exterior:

1. Exterior Concrete (poured)/Precast/Stucco/Fiber-cement board

a. Prime: S-W: Loxon Exterior Acrylic Masonry Primer, A24W300 Series (<100 g/l voc)

b. First coat: S-W: A-100 Exterior Latex Flat, A6 Series (<50 g/l voc)
or S-W: A-100 Exterior Latex Satin, A82 Series (<50 g/l voc)
or S-W: A-100 Exterior Latex Gloss, A8 Series (<50 g/l voc)

c: Second coat: S-W: A-100 Exterior Latex Flat, A6 Series (<50 g/l voc)
or S-W: A-100 Exterior Latex Satin, A82 Series (<50 g/l voc)
or S-W: A-100 Exterior Latex Gloss, A8 Series (<50 g/l voc)

2. Exterior CMU

a. Filler: S-W: PrepRite Int / Ext Acrylic Block Filler, B25W25 (<50 g/l voc)

b. First coat: S-W: A-100 Exterior Latex Flat, A6 Series (<50 g/l voc)
or S-W: A-100 Exterior Latex Satin, A82 Series (<50 g/l voc)
or S-W: A-100 Exterior Latex Gloss, A8 Series (<50 g/l voc)

c: Second coat: S-W: A-100 Exterior Latex Flat, A6 Series (<50 g/l voc)
or S-W: A-100 Exterior Latex Satin, A82 Series (<50 g/l voc)
or S-W: A-100 Exterior Latex Gloss, A8 Series (<50 g/l voc)

3. Exterior metal, ferrous (including steel lintels):

Note: Touch-up imperfections in primed surface or apply prime coat.

a. Prime: S-W: Pro Industrial Pro-Cryl Universal Acrylic Metal Primer, B66-310 Series (<100 g/l voc)

b. First coat: S-W: DTM Acrylic Semi-Gloss Coating, B66-200 (<250 g/l voc)
or S-W: Pro Industrial Sher-Cryl HPA High Performance Acrylic Semi-Gloss, B66-350 (<200 g/l voc)

c. Second coat: S-W: DTM Acrylic Semi-Gloss Coating, B66-200 (<250 g/l voc)
or S-W: Pro Industrial Sher-Cryl HPA High Performance Acrylic Semi-Gloss, B66-350 (<200 g/l voc)

OR

a. Prime: S-W: Pro Industrial Pro-Cryl Universal Acrylic Metal Primer, B66-310 Series (<100 g/l voc)

b. First coat: S-W: DTM Acrylic Gloss Coating, B66-100 (<250 g/l voc)
or S-W: Pro Industrial Sher-Cryl HPA High Performance Acrylic Gloss, B66-300 (<200 g/l voc)

c. Second coat: S-W: DTM Acrylic Gloss Coating, B66-100 (<250 g/l voc)
or S-W: Pro Industrial Sher-Cryl HPA High Performance Acrylic Gloss, B66-300 (<200 g/l voc)

4. Exterior metal, non-ferrous/galvanized:

a. Prime: S-W: Pro Industrial Pro-Cryl Universal Acrylic Metal Primer, B66-310 Series

(<100 g/l voc)

b. First coat: S-W: DTM Acrylic Semi-Gloss Coating, B66-200 (<250 g/l voc)
or S-W: Pro Industrial Sher-Cryl HPA High Performance Acrylic Semi-Gloss, B66-350 (<200 g/l voc)

c. Second coat: S-W: DTM Acrylic Semi-Gloss Coating, B66-200 (<250 g/l voc)
or S-W: Pro Industrial Sher-Cryl HPA High Performance Acrylic Semi-Gloss, B66-350 (<200 g/l voc)

OR

a. Prime: S-W: Pro Industrial Pro-Cryl Universal Acrylic Metal Primer, B66-310 Series (<100 g/l voc)

b. First coat: S-W: DTM Acrylic Gloss Coating, B66-100 (<250 g/l voc)
or S-W: Pro Industrial Sher-Cryl HPA High Performance Acrylic Gloss, B66-300 (<200 g/l voc)

c. Second coat: S-W: DTM Acrylic Gloss Coating, B66-100 (<250 g/l voc)
or S-W: Pro Industrial Sher-Cryl HPA High Performance Acrylic Gloss, B66-300 (<200 g/l voc)

5. Exterior wood:

a. Prime: S-W: A-100 Acrylic Latex Primer, B42W41 (<100 g/l voc)

b. First coat: S-W: A-100 Exterior Latex Flat, A6 Series (<50 g/l voc)
or S-W: A-100 Exterior Latex Satin, A82 Series (<50 g/l voc)
or S-W: A-100 Exterior Latex Gloss, A8 Series (<50 g/l voc)

c: Second coat: S-W: A-100 Exterior Latex Flat, A6 Series (<50 g/l voc)
or S-W: A-100 Exterior Latex Satin, A82 Series (<50 g/l voc)
or S-W: A-100 Exterior Latex Gloss, A8 Series (<50 g/l voc)

E. Interior:

1. Interior Concrete (poured)/Precast/Stucco

a. Prime: S-W: PrepRite Masonry Primer, B28W300

(<100 g/l voc)

b. First coat: S-W: ProGreen 200 Interior Latex Flat, B30-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Satin, B20-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Semi-Gloss, B31-600 Series (<50 g/l voc)

c. Second coat: S-W: ProGreen 200 Interior Latex Flat, B30-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Satin, B20-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Semi-Gloss, B31-600 Series (<50 g/l voc)

2. Interior CMU

a. Prime: S-W: PrepRite Interior / Exterior Block Filler, B25W25 (<50 g/l voc)

b. First coat: S-W: ProGreen 200 Interior Latex Flat, B30-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Satin, B20-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Semi-Gloss, B31-600 Series (<50 g/l voc)

c. Second coat: S-W: ProGreen 200 Interior Latex Flat, B30-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Satin, B20-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Semi-Gloss, B31-600 Series (<50 g/l voc)

3. Interior Metal, ferrous:
Note: Touch-up imperfections in primed surface or apply prime coat.

a. Prime: S-W: Pro Industrial Pro-Cryl Universal Acrylic Metal Primer, B66-310 (<100 g/l voc)

b. First coat: S-W: ProGreen 200 Interior Latex Flat, B30-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Satin, B20-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Semi-Gloss, B31-600 Series (<50 g/l voc)

c. Second coat: S-W: ProGreen 200 Interior Latex Flat, B30-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Satin, B20-600 Series (<50 g/l voc)

or S-W: ProGreen 200 Interior Latex Semi-Gloss, B31-600 Series (<50 g/l voc)

4. Interior Metal, non-ferrous/galvanized:
Note: Touch-up imperfections in primed surface or apply prime coat.

a. Prime: S-W: Pro Industrial Pro-Cryl Universal Acrylic Metal Primer, B66-310 (<100 g/l voc)

b. First coat: S-W: ProGreen 200 Interior Latex Flat, B30-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Satin, B20-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Semi-Gloss, B31-600 Series (<50 g/l voc)

c. Second coat: S-W: ProGreen 200 Interior Latex Flat, B30-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Satin, B20-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Semi-Gloss, B31-600 Series (<50 g/l voc)

5. Interior Gypsum drywall:

a. Prime: S-W: PrepRite 200 Latex Wall Primer, B28W200 (<100 g/l voc)

a. First coat: S-W: ProGreen 200 Interior Latex Flat, B30-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Satin, B20-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Semi-Gloss, B31-600 Series (<50 g/l voc)

c. Second coat: S-W: ProGreen 200 Interior Latex Flat, B30-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Satin, B20-600 Series (<50 g/l voc)
or S-W: ProGreen 200 Interior Latex Semi-Gloss, B31-600 Series (<50 g/l voc)

6. Interior Wood (Painted)

a. Prime: S-W: PrepRite ProBlock Latex Primer / Sealer, B51W20 (<100 g/l voc)

b. First coat: S-W: ProClassic Waterborne Acrylic Satin, B20 Series (150 g/l voc)
or S-W: ProClassic Waterborne Acrylic S/Gloss, B31 Series (<150 g/l voc)

or S-W: ProClassic Waterborne Acrylic Gloss,

B21 Series (<150 g/l voc)

c. Second coat: S-W: ProClassic Waterborne Acrylic Satin, B20 Series (150 g/l voc)
or S-W: ProClassic Waterborne Acrylic S/Gloss, B31 Series (<150 g/l voc)
or S-W: ProClassic Waterborne Acrylic Gloss, B21 Series (<150 g/l voc)

7. Interior Wood (Stained)

a. Stain: S-W: MinWax 250 VOC Stain (<250 g/l voc)

b. First coat: S-W: WoodClassic WB Polyurethane, Satin A68F90 Series (<350 g/l voc)

c. Second coat: S-W: WoodClassic WB Polyurethane, Satin A68F90 Series (<350 g/l voc)

OR

a. Stain: S-W: MinWax 250 VOC Stain (<250 g/l voc)

b. First coat: S-W: WoodClassic WB Polyurethane, Gloss A68V91 Series (<350 g/l voc)

c. Second coat: S-W: WoodClassic WB Polyurethane, Gloss A68V91 Series (<350 g/l voc)

8. On concrete floors scheduled to be sealed, use:

a. First coat: curing/sealing compound complied with and applied according to ASTM-C309. (Note: First coat may be omitted here if applied during initial curing.)
b. Second coat: same as first.

F. SC (Specialty Coating) Kennels (both interior and exterior CMU walls, and concrete floors) and other as scheduled.[1]

1. Kennel CMU Walls and other noted SC

a. Prime: SW Concrete Block Filler Kemcati-coat HS
or Prime: SW Promar 200 at drywall

b. First Coat: SW Macropoxy 646 FC (fast cure) 10 mils dft minimum

c. Second Coat: SW Macropoxy 646 FC (fast cure) 10 mils dft minimum

2. Kennel Concrete Floors and others noted SC

a. First Coat: SW Macropoxy 646 FC (fast cure) 10 mils dft

minimum

b. Second Coat: SW Macropoxy 646 FC (fast cure) 10 mils dft minimum

3. Cove at wall floor intersection shall be coved with SW Armor Seal Crack Filler 2400653 with ½" radius.

4. Seal at all drain perimeters.

5. Extend cove base 6" up wall.

3.06 MAINTENANCE MATERIALS:

A. Furnish minimum one gallon of each paint color and finish used on project for Owner's maintenance use.

B. Properly identify each container with manufacturer, color name, product number, and color formula.

C. Store materials at location designated by the Owner.

END OF SECTION
09 9000

SECTION 09 9600
CONCRETE COATINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Epoxy Concrete Coatings and related.

1.02 SUBMITTALS

A. Submit under provisions of the contract.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.
   4. Maintenance Instructions.

C. Installer's Project References: List projects of similar type and scope completed successfully within the last three (3) years. Include project name and location, name of Architect, and type and quantity of material applied.

1.03 QUALITY ASSURANCE

A. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of three years experience.

B. Installer Qualifications: All products listed in this section are to be installed by a single installer with demonstrated experience in installing products of the same type and scope as specified.

C. Pre-installation Meeting: Convene a pre-installation meeting before start of Work. Require attendance of parties directly affecting work of this section, including Contractor, Architect, and Applicator. Review surface preparation, application, protection, and coordination with adjacent surfaces.

D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
   1. Mock-up areas designated by Architect.
   2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
   3. Refinish mock-up area as required to produce acceptable completed project.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation. Store materials in a clean, dry area indoors in accordance with manufacturer's instructions. Keep containers sealed until ready for use.

1.05 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits. Do not apply materials in wet weather.

1.06 WARRANTY

A. At project closeout, provide to Owner or Owners Representative an executed copy of the manufacturer's standard limited warranty against manufacturing defect, outlining its terms, conditions, and exclusions from coverage.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer: EPMAR Corporation

B. Contact Information: Kemiko NW; Tel: (503) 627-0111; Fax: (503) 627-0400; Email: jo@kemikostain.com Web: www.kemikostain.com.

C. Requests for substitutions will be considered in accordance with provisions of the contract.

2.02 CONCRETE COATINGS

A. Sta-Crete 3700: High-gloss, quick-dry, amine-cured, water-extended, epoxy coating.
   1. Dry Film Thickness: 2 to 3 mils.
   2. Solids (By Volume) - Clear and Pigmented: 50 percent.
   3. VOC: 95 g/L. Meets SCAQMD Rule 1113 through 2008.
   4. Abrasion Resistance, ASTM D 4060: 45 mg loss.
   5. Adhesion, ASTM D 4541: Greater than 700 pounds.
   6. Optical Density of Smoke Generation, ASTM E 662:
      a. Flaming Mode: 8.3 minutes maximum.
      b. Non-Flaming Mode: 20 minutes maximum.
   7. Direct Impact Resistance, ASTM D 2794: 50 inches per pound.
   8. Flexibility, 180 Degree Bend, 1/4-Inch Mandrel: Pass.
   9. Compressive Strength, ASTM C 579: 13,800 psi.
   10. Hardness, Shore D: 85.
   11. Color: Clear.
   12. Sheen: Satin.

2.03 PRIMER

A. Per manufacturers recommendation.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Protection: Protect surrounding surfaces not to receive polyurethane coating.

B. Prepare surfaces in accordance with manufacturer's instructions.

C. Concrete:

1. Remove dirt, dust, oil, grease, and other surface contaminants before abrasive surface preparation, acid etching, and water washing.
2. Ensure surfaces are cured, dry, and free from alkali stain and laitance.
3. Ensure concrete is a minimum of 28 days old.

3.03 INSTALLATION

A. Apply coating in accordance with manufacturer's instructions at locations indicated on the drawings.

B. Mix components and thin with water in accordance with manufacturer's instructions.

C. Do not use mixed materials beyond pot life limits.

D. Keep material containers closed when not in use to avoid contamination.

E. Use application equipment, tools, pressure settings, and techniques in accordance with manufacturer's instructions.

F. Apply primer in accordance with manufacturer's instructions.

G. Uniformly apply coating at spreading rate required to achieve specified dry film thickness.

H. Apply coating to be free of film characteristics and defects that would adversely affect performance or appearance.

3.04 PROTECTION

A. Protect surfaces from damage during construction.

B. Protect surfaces from foot traffic for a minimum of 24 hours.

END OF SECTION
09 9600

SECTION 12500
BLINDS

PART 1 GENERAL

1.01 DESCRIPTION:

Provide all labor, materials, and equipment to furnish blinds on all exterior windows, interior windows, and borrow lites except as noted below. Provide one (1) blind per each individual window lite and one (1) for each exterior window except as noted below.

1.02 QUALITY ASSURANCE:

Qualifications of installers: For actual fabrication and installation of blinds, use only personnel who are thoroughly trained and experienced in the skills required and who are completely familiar with the requirements of this Work.

1.03 SUBMITTALS:

A. Samples: Within 35 days after award of Contract, and before any materials are delivered to the job site, submit to the Architect a sample of the blinds, tracks, and accessories proposed to be furnished and installed with 3 copies of complete manufacturer's specifications.

1.04 PRODUCT HANDLING:

Protecting and replacement: Use all means necessary to protect blinds before, during, and after installation and to protect the installed work and materials of all other trades. In the event of damage, immediately make all repairs and replacements necessary for the approval of the Architect and at no additional cost to the Owner.

PART 2 PRODUCTS

2.01 BLINDS:

Blinds shall be one inch wide horizontal aluminum slats supported by braided ladders adjustable to any horizontal angle. System shall be Levelor Rivera 1" Dustguard or Hunter-Douglas 1" Decor Model CD80, or equal approved in advance. Colors shall be as selected by the Architect from the manufacturer's standard colors. **Install blinds inside of window frame. Provide one blind at each glazed opening where indicated on the drawings. (Do not span multiple openings)**

2.02 OTHER MATERIALS:

All other materials not specifically described but required for a complete and proper installation of blinds, shall be selected by the Contractor subject to the approval of the Architect.

PART 3 EXECUTION

3.01 SURFACE CONDITIONS:

A. Inspection: Prior to the installation of the work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence. Verify that blinds and tracks may be installed in accordance with the approved design. In the event of discrepancy,

immediately notify the Architect and do not proceed with installation until all discrepancies have been fully resolved.

3.02 FABRICATION:

A. General:

1. Verify all dimensions prior to fabrication.

2. Obtain all measurements at job site.

3.03 INSTALLATION:

Install all blinds in strict accordance with the manufacturer's specifications, completely level, properly lapping the edges of the opening where so required, and anchoring firmly for long life under hard use.

END OF SECTION
12 5000

SECTION 08 5113
ALUMINUM WINDOWS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Extruded aluminum windows, non-operable, with factory glazing.

1.02 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.

1.05 SUBMITTALS

A. Product Data: Provide component dimensions, information on glass and glazing, internal drainage details, and descriptions of hardware and accessories.

B. Shop Drawings: Indicate opening dimensions, elevations of different types, framed opening tolerances, method for achieving air and vapor barrier seal to adjacent construction, anchorage locations, and installation requirements.

C. Samples: Submit one sample, 12 by 12 inch in size illustrating typical corner construction, accessories, and finishes.

D. Submit one sample of operating hardware.

E. Grade Substantiation: Prior to submitting shop drawings or starting fabrication, submit one of the following showing compliance with specified grade:

1. Evidence of AAMA Certification.
2. Evidence of WDMA Certification.
3. Evidence of CSA Certification.

F. Test Reports: Prior to submitting shop drawings or starting fabrication, submit test report(s) by independent testing agency showing compliance with performance requirements in excess of those prescribed by specified grade.

G. Manufacturer's Installation Instructions: Include complete preparation, installation, and cleaning requirements.

1.06 QUALITY ASSURANCE

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

B. Installer Qualifications: Company specializing in performing work of type specified and with at least three years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of AAMA CW-10.

B. Protect finished surfaces with wrapping paper or strippable coating during installation. Do not use adhesive papers or sprayed coatings that bond to substrate when exposed to sunlight or weather.

1.08 FIELD CONDITIONS

A. Do not install sealants when ambient temperature is less than 40 degrees F.

B. Maintain this minimum temperature during and 24 hours after installation of sealants.

1.09 WARRANTY

A. Correct defective Work within a five year period after Date of Substantial Completion.

B. Provide five year manufacturer warranty against failure of glass seal on insulating glass units, including interpane dusting or misting. Include provision for replacement of failed units.

C. Provide five year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design: Milgard Picture Window in sizes and combinations shown on drawings. 920 Series, 2-1/2” deep, F-HC40, white frame, flush fin or flange as appropriate. Insulated glass, ASTM E774, Class “A” 1-inch thick, clear with sun coat low “E”. Factory glazed.

B. Substitutions: Equal acceptable if approved in advance.

2.02 WINDOWS

A. Aluminum Windows: Extruded aluminum frame, factory fabricated, factory finished, related flashings, and anchorage and attachment devices.

1. Frame Depth: 2-1/4 inches.
2. Provide units factory glazed.
3. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and secured; prepared to receive anchors; fasteners and attachments concealed from view; reinforced as required for operating hardware and imposed loads.
4. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing expected movement.
5. Movement: Accommodate movement between window and perimeter framing and deflection of lintel, without damage to components or deterioration of seals.
6. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.

7. Thermal Movement: Design to accommodate thermal movement caused by 180 degrees F surface temperature without buckling stress on glass, joint seal failure, damaging loads on structural elements, damaging loads on fasteners, reduction in performance or other detrimental effects.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that wall openings and adjoining air and vapor seal materials are ready to receive aluminum windows.

3.02 INSTALLATION

A. Install windows in accordance with manufacturer's instructions.

B. Install window assembly in accordance with AAMA/WDMA/CSA 101/I.S.2/A440.

C. Install windows in accordance with ASTM E2112.

D. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.

E. Align window plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work.

F. Install sill and sill end angles.

G. Set sill members and sill flashing in continuous bead of sealant.

H. Provide thermal isolation where components penetrate or disrupt building insulation. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

3.03 TOLERANCES

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

3.04 CLEANING

A. Remove protective material from factory finished aluminum surfaces.

B. Wash surfaces by method recommended and acceptable to window manufacturer; rinse and wipe surfaces clean.

3.07 SCHEDULE

A. See Drawings.

END OF SECTION
08 5113