SECTION 02 41 19
SELECTIVE DEMOLITION

1.**- GENERAL**

1.1. SECTION INCLUDES

A. Selective Building Demolition:
   1. Selective demolition of interior partitions, systems, and building components designated to be removed.
   2. Selective demolition of exterior facade, structures, and components designated to be removed.
   3. Protection of portions of building adjacent to or affected by selective demolition.
   4. Removal of abandoned utilities and wiring systems.
   5. Notification to Owner of schedule of shut-off of utilities which serve occupied spaces.
   6. Pollution control during selective demolition, including noise control.
   7. Removal and legal disposal of materials.
   8. Protection of designated site improvements and adjacent construction.
   9. Salvage of designated items.
   10. Interruption, capping or removal of utilities as applicable.

B. Hazardous Materials:

   1. Removed as a part of this contract.

   2. See separate ACM report for scope of work.

1.2. SUBMITTALS

A. Schedule: Submit for approval selective demolition schedule, including schedule and methods for capping utilities to be abandoned and maintaining existing utility service.

1.3. QUALITY ASSURANCE

A. Codes and Regulations: Comply with governing codes and regulations. Use experienced workers.

1.4. PRE-INSTALLATION MEETINGS

A. Convene minimum two weeks prior to starting work of this section.

1.5. **SEQUENCING**

A. Immediate areas of work will not be occupied during selective demolition. The public, including children, may occupy adjacent areas.

B. No responsibility for buildings and structures to be demolished will be assumed by the Owner.

C. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

2.- EXECUTION

2.1. SELECTIVE DEMOLITION

A. Demolition Operations: Do not damage building elements and improvements indicated to remain. Items of salvage value, not included on schedule of salvage items to be returned to Owner, shall be removed from structure. Storage or sale of items at project site is prohibited.

B. Utilities: Locate, identify, disconnect, and seal or cap off utilities in buildings to be demolished.

C. Shoring and Bracing: Provide and maintain interior and exterior shoring and bracing.

D. Occupied Spaces: Do not close or obstruct streets, walks, drives or other occupied or used spaces or facilities without the written permission of the Owner and the authorities having jurisdiction. Do not interrupt utilities serving occupied or used facilities without the written permission of the Owner and authorities having jurisdiction. If necessary, provide temporary utilities.

E. Operations: Cease operations if public safety or remaining structures are endangered. Perform temporary corrective measures until operations can be continued properly.

F. Security: Provide adequate protection against accidental trespassing. Secure project after work hours.

G. Restoration: Restore finishes of patched areas.

2.2. SCHEDULE

A. According to architectural drawings A-001.00

B. According to Mechanical drawings

C. Upper Level: Items to be remove:
- Remove interior partition
- remove existing framed GWB ceiling as required for pipe run
- remove existing overhead ceiling door assembly
- remove existing louver and associated plenum
- core-drill holes in slab for pipes, coordinate with MEP documents

Items for Protection During Demolition and Construction:
- Adjacent construction: seal existing door dust proof
- Fabric lining for protection under existing porch (Glenview Mansion)

1. Items to be Salvaged for Reinstallation: none.

2. Items to be Salvaged for Delivery to Owner: none.

3. Utilities Requiring Interruption, Capping, or Removal:
- Electric.
- Heat.
- Water

END OF SECTION

SECTION 08 11 00
METAL DOORS AND FRAMES

1.**GENERAL**

1.1. SECTION INCLUDES

A. Flush insulated Steel Doors

1.2. SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's standard details and catalog data indicating compliance with referenced standards, and manufacturer's installation instructions.

C. Certificates:
1. Manufacturer's certification that products comply with referenced standards.
2. Evidence of manufacturer's membership in the Steel Door Institute.

D. Shop Drawings: Door, frame, and hardware schedule in accordance with SDI 111D. Show types, quantities, dimensions, specified performance, and design criteria, materials and similar data for each opening required.
1. Indicate frame configuration, anchor types and spacing, location of cutouts for hardware, reinforcement, to ensure doors and frames are properly prepared and coordinated to receive hardware.
2. Indicate door elevations, internal reinforcement, closure method, and cutouts for glass lights and louvers.

1.3. QUALITY ASSURANCE

A. Supplier: A direct account of the manufacturer who has on permanent staff, an Architectural Hardware Consultant (AHC), a Certified Door Consultant (CDC) or an Architectural Openings Consultant (AOC), who will be available to consult with the Architect and Contractor regarding matters affecting the door and frame openings.

B. Fire Rated Doors and Frames: Underwriters' Laboratories and Warnock Hersey, labeled fire doors and frames:
1. Label fire doors and frames in accordance with Underwriters Laboratories standard UL10C Positive Pressure Fire Tests of Door Assemblies.
2. Construct and install doors and frames to comply with current issue of NFPA 80.
3. Manufacture Underwriters' Laboratories labeled doors and frames under the UL Follow Up Service (FUS) and in strict compliance to UL procedures, and provide the degree of fire protection, heat transmission and panic loading capability indicated by the opening class.
4. Manufacture Intertek Testing Services / Warnock Hersey labeled doors and frames under the ITS/WH factory inspection program and in strict compliance to ITS/WH procedures, and provide the degree of fire protection capability indicated by the opening class
5. Manufacture FM labeled doors and frames under the FM factory inspection program and in strict compliance to FM procedures, and provide the degree of fire protection, heat transmission and panic loading capability indicated by the opening class.
6. Affix a physical label or approved marking to each fire door or fire door frame, at an

authorized facility as evidence of compliance with procedures of the labeling agency. Label embossment is not permitted.

7. Conform to applicable codes for fire ratings. It is the intent of this specification that hardware and its application comply or exceed the standards for labeled openings. In case of conflict between types required for fire protection, furnish type required by NFPA and UL.
8. Fire door assemblies in exit enclosures and exit passageways; maximum transmitted temperature end point rating of not more than 250 degrees F (121 degrees C) above ambient at the end of 30 minutes of the standard fire test exposure.

C. Manufacturer Qualifications: Member of the Steel Door Institute.

D. Installer: Minimum five years documented experience installing products specified this Section.

1.4. DELIVERY, STORAGE, AND HANDLING

A. Handle, store and protect products in accordance with the manufacturers printed instructions and ANSI/SDI A250.10 and NAAMM/HMMA 840.

B. Store doors vertically in a dry area, under a proper vented cover. Place on 4 inch (102 mm) high wood sills to prevent rust or damage. Provide 1/4-inch (6 mm) space between doors to promote air circulation.

C. Store frames in an upright position with heads uppermost under cover. Place on 4 inch (102 mm) high wood sills to prevent rust and damage. Store assembled frames five units maximum in a stack with 2 inch (51 mm) space between frames to promote air circulation.

D. Do not use non-vented plastic or canvas shelters to prevent rust or damage.

E. Should wrappers become wet, remove immediately

1.5. COORDINATION

A. Coordinate Work with other directly affected sections involving manufacture or fabrication of internal cutouts and reinforcement for door hardware, electric devices and recessed items.

B. Coordinate Work with frame opening construction, door and hardware installation.

C. Sequence installation to accommodate required door hardware.

D. Verify field dimensions for factory assembled frames prior to fabrication

2. PRODUCTS

2.1. MANUFACTURERS

A. Acceptable Manufacturer: Steelcraft an Allegion Brand, which is located at: 11819 N. Pennsylvania St.; Carmel, IN 46032; Toll Free Tel: 877-578-1247; Email:contactus@allegion.com; Web:us.allegion.com/brands/steelcraft/Pages/default.aspx

B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00

2.2. DOORS

A. General: Construct exterior/interior doors to the following designs and gages:
   1. Exterior Doors: Zinc-Iron Alloy-Coated galvannealed steel, ASTM A 653, Class A60:
      a. Thickness:
         1) 16 gage (1.3 mm).
      b. Include galvannealed components and internal reinforcements with galvannealed doors.
      c. Close tops of exterior swing-out doors to eliminate moisture penetration.
      d. Galvannealed steel top caps are permitted
   2. Interior Doors: Cold-rolled steel, ASTM A 1008/A 1008M:
      a. Thickness:
         1) 18 gage (1 mm)
   3. Include galvannealed components and internal reinforcements.
   4. Prime Finish Doors: Clean, phosphatize and factory prime painted doors indicated on Door Schedule as HM.
   5. Glass moldings and stops:
      a. Fabricate from 24 gage (0.5 mm) steel conforming to:
         1) Interior openings ASTM designation A 366 cold rolled steel.
         2) Exterior openings ASTM designation A 924 Zinc-Iron Alloy-Coated galvannealed steel with a zinc coating of 0.06 ounces per square foot (A60) for exterior openings.
      b. Install trim into the door as a four sided welded assembly with mitered, reinforced and welded corners.
      c. Trim: identical on both sides of the door
      d. Exposed fasteners are not permitted
      e. Labeled and non-labeled doors: use the same trim
      f. Acceptable mounting methods:
         1) Fit into a formed area of the door face, not extending beyond the door face, and interlocking into the recessed area
         2) Cap the cutout not extend more than 1/16 inch (1.6 mm) from the door face
   6. Hardware Reinforcements:
      a. Hinge reinforcements for full mortise hinges: minimum 7 gage (4.7 mm).
      b. Lock reinforcements: minimum 16 gage (1.3 mm).
      c. Closer reinforcements: minimum 14 gage (1.7 mm) steel, 20-inch (508 mm) long.
      d. Galvannealed doors: include galvannealed hardware reinforcements.
      e. Projection welded hinge and lock reinforcements to the edge of the door.
      f. Provided adequate reinforcements for other hardware as required.

B. Full Flush Doors:
   1. Acceptable Product: Steelcraft L Series
      a. Performance:
         1) Physical performance: 5 million cycles per ANSI A250.4.
         2) Sound attenuation (gasketed)
            - Polystyrene core, 25 STC.

3) Thermal performance (gasketed), ASTM C1363.
   - Polystyrene core, 0.48 U-factor
4) Thermal performance (gasketed), ASTM C236.
   - Polystyrene core, 0.263 U-factor

2. Door Thickness: 1-3/4 inches (45 mm).
3. Door faces reinforced and sound deadened as follows:
   a. Polystyrene Core: Full 1-3/4 inches (45 mm) thick rigid polystyrene, adhered to inside of door faces and polystyrene core with waterproof adhesive for bond strength and rust prevention.
4. Vertical edge seams: Provide doors with continuous vertical mechanical inter-locking joints at lock and hinge edges. Finish edges as follows
   a. Filled Vertical Edges (F): Continuous vertical mechanical interlocking joints with internal epoxy seal; edge seams epoxy filled and ground smooth.
5. Bevel hinge and lock door edges 1/8 inch (3 mm) in 2 inches (50 mm). Square edges on hinge and/or lock stiles are not acceptable.
6. Reinforce top and bottom of doors with galvannealed 14 gage (1.7 mm), welded to both panels.
7. Glazing Bead: Formed steel sheet or snap-in Dezigner trim.
8. Fire Rating: Supply door units bearing Labels for fire ratings indicated in Door Schedule for the locations indicated.

C. Temperature Rise Doors:
   1. Acceptable Product: Steelcraft T-Series Doors.
   2. Door Thickness: 1-3/4 inches (45 mm).
   3. Mineral Fiber Core: Full 1-3/4 inches (45 mm) mineral fiber core material designed to comply with the 250 degrees F (121 degrees C) maximum temperature rise rating.
   4. Vertical edge seams: Provide doors with continuous vertical mechanical inter-locking joints at lock and hinge edges. Finish edges as follows:
      a. Filled Vertical Edges (F): Continuous vertical mechanical interlocking joints with internal epoxy seal; edge seams epoxy filled and ground smooth.
   5. Bevel hinge and lock door edges 1/8 inch (3 mm) in 2 inches (50 mm). Square edges on hinge and/or lock stiles are not acceptable.
   6. Reinforce top and bottom of doors with galvannealed 14 gage (1.7 mm), welded to both panels.
   7. Fire Rating: Supply door units bearing Labels for fire ratings indicated in Door Schedule for the locations indicated.

2.3. ACCESSORIES

A. Anchors: Manufacturer's standard framing anchors, specified in manufacturer's printed installation instructions for project conditions.

B. Astragals for pairs of doors: Manufacturer's standard for labeled and non-labeled openings.

C. Door Bottom:
   1. Acceptable Product: Steelcraft Fas-Seal Door Bottom.
   2. Characteristics: Electrometric, continuous strip, screw-attached to recessed bottom door channel for concealed installation; double-sealing; acceptable for fire-rated doors up to 3 hour rating.

D. Plaster Guards: Same material as door frame, minimum 24 gage (0.5 mm) minimum; provide for all strike boxes.

E. Silencers: Resilient rubber, Inserted type, three per strike jamb for single openings and two per head for paired openings. Stick-on silencers shall not be permitted except on hollow metal framing systems.

F. Glazing: Specified in Section 08 80 00.
G.

2.4. FINISHES

A. Chemical Treatment: Treat steel surfaces to promote paint adhesion.

B. Factory Prime Finish: Meet requirements of ANSI A 250.10.

3. EXECUTION

3.1. EXAMINATION

A. Verify that project conditions are acceptable before beginning installation of frames.
   1. Verify that completed openings to receive knock-down wrap-around frames are of correct size and thickness.
   2. Verify that completed concrete or masonry openings to receive butt type frames are of correct size.

B. Do not begin installation until conditions have been properly prepared.

C. Correct unacceptable conditions before proceeding with installation.

3.2. INSTALLATION

A. Install doors and frames in accordance with manufacturer's printed installation instructions and with Steel Door Institute's recommended erection instructions for steel frames ANSI A250.11 and NAAMM/HMMA 840.

B. Fire Doors and Frames: Install in accordance with ANSI/NFPA 80.

C. Glaze and seal exterior transom, sidelight and window frames in accordance with HMMA-820 TN03.

D. Apply hardware in accordance with hardware manufacturers' instructions and Section 08710 of these Specifications. Install hardware with only factory-provided fasteners. Install silencers. Adjust door installation to provide uniform clearance at head and jambs, to achieve maximum operational effectiveness and appearance.

3.3. ADJUST AND CLEAN

A. Adjust doors for proper operation, free from binding or other defects.

B. Clean and restore soiled surfaces. Remove scraps and debris and leave site in a clean condition.

C. Prime Coat Touch-Up: Immediately after erection, sand smooth rusted or damaged areas of prime coat, and apply touch-up of compatible air-drying primer.

3.4. PROTECTION

A. Protect installed products and finished surfaces from damage during construction.

END OF SECTION

SECTION 08 41 13
ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

1.- GENERAL

1.1. RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2. DEFINITIONS

A. Definitions: For fenestration industry standard terminology and definitions refer to American Architectural Manufactures Association (AAMA) – AAMA Glossary (AAMA AG).

1.3. PERFORMANCE REQUIREMENTS

A. General Performance: Aluminum-framed entrance system shall withstand the effects of the following performance requirements without failure due to defective manufacture, fabrication, installation, or other defects in construction.

1.4. SUBMITTALS

A. Product Data: Include construction details, material descriptions, and fabrication methods, dimensions of individual components and profiles, hardware, finishes, and installation instructions for each type of aluminum-framed entrance door indicated.
   1. Recycled Content:
      a. Provide documentation that aluminum has a minimum of 50% mixed pre- and post-consumer recycled content with a sample document illustrating project specific information that will be provided after product shipment
      b. Once product has shipped, provide project specific recycled content information, including:
         i. Indicate recycled content; indicate percentage of pre- and post-consumer recycled content per unit of product.
         ii. Indicate relative dollar value of recycled content product to total dollar value of product included in project.
         iii. Indicate location recovery of recycled content.
         iv. Indicate location of manufacturing facility.

B. Shop Drawings: Include plans, elevations, sections, details, hardware, and attachments to other work, operational clearances and installation details

C. Samples for Initial Selection: For units with factory-applied color finishes including samples of hardware and accessories involving color selection.

D. Samples for Verification: For aluminum-framed entrances and components required.

E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency for each type of aluminum-framed entrance doors.

F. Fabrication Sample: Corner sample consisting of a door stile and rail, of full-size components and showing details of the following:
   1. Joinery, including welds.
   2. Glazing.

G. Other Action Submittals:
   1. Entrance Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of

entrance door hardware

1.5. QUALITY ASSURANCE

A. Installer Qualifications: An installer which has had successful experience with installation of the same or similar units required for the project and other projects of similar size and scope.
B. Manufacturer Qualifications: A manufacturer capable of fabricating aluminum-framed entrance doors and storefronts that meet or exceed performance requirements indicated and of documenting this performance by inclusion of test reports, and calculations.
C. Source Limitations: Obtain aluminum-framed entrance doors through one source from a single manufacturer.
D. Product Options: Drawings indicate size, profiles, and dimensional requirements of aluminum-framed entrance doors and are based on the specific system indicated. Refer to Division 01 Section "Product Requirements". Do not modify size and dimensional requirements.
    1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.
E. Mockups: Not required
F. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination".

1.6. PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of aluminum-framed entrance door openings by field measurements before fabrication and indicate field measurements on Shop Drawings.

1.7. WARRANTY

A. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty.
    1. Warranty Period: Two (2) years from Date of Substantial Completion of the project.

2.- PRODUCTS

2.1. MANUFACTURERS

A. Basis-of-Design Product:
    1. Kawneer Company Inc.

B. Substitution Acceptance: Acceptance will be in written form, either as an addendum or modification, and documented by a formal change order signed by the Owner and Contractor.

2.2. MATERIALS

A. Aluminum Extrusions: Alloy and temper recommended by aluminum-framed entrance door manufacturer for strength, corrosion resistance, and application of required finish and not less than 0.125" wall thickness at any location for the main frame and door leaf members.
    1. Recycled Content: Shall have a minimum of 50% mixed pre- and post-consumer recycled content.
        a. Indicate recycled content; indicate percentage of pre-consumer and post-consumer recycled content per unit of product.

b. Indicate relative dollar value of recycled content product to total dollar value of product included in project.
c. Indicate location recovery of recycled content.
d. Indicate location of manufacturing facility.

B. Fasteners: Aluminum, nonmagnetic stainless steel or other materials to be non-corrosive and compatible with aluminum-framed entrance door members, trim hardware, anchors, and other components.
C. Anchors, Clips, and Accessories: Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.
D. Reinforcing Members: Aluminum, nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.
E. Weather Seals: Provide weather stripping with integral barrier fin or fins of semi-rigid, polypropylene sheet or polypropylene-coated material. Comply with AAMA 701/702.

2.3. STOREFRONT FRAMING SYSTEM

A. Storefront Entrance Framing:
1. Trifab™ VG 451T. (double glazing/thermally broken)
B. Non-Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.
C. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials. Where exposed shall be stainless steel.
D. Perimeter Anchors: When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.
E. Packing, Shipping, Handling and Unloading: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
F. Storage and Protection: Store materials protected from exposure to harmful weather conditions. Handle storefront material and components to avoid damage. Protect storefront material against damage from elements, construction activities, and other hazards before, during and after storefront installation.

2.4. GLAZING

A. Glazing: Low-E double pane Insulated Glass
B. Glazing Gaskets: Manufacturer's standard compression types; replaceable, extruded EPDM rubber.
C. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.

2.5. HARDWARE: see 8 on A-006.00.

2.6. FABRICATION

A. Fabricate aluminum-framed entrance doors in sizes indicated. Include a complete system for assembling components and anchoring doors.
B. Fabricate aluminum-framed entrance doors that are reglazable without dismantling perimeter framing.
1. Door corner construction shall consist of mechanical clip fastening, SIGMA deep penetration plug welds and 1-1/8" (29 mm) long fillet welds inside and outside of all four corners. Glazing stops shall be hook-in type with EPDM glazing gaskets reinforced with non-stretchable cord.

2. Accurately fit and secure joints and corners. Make joints hairline in appearance.
3. Prepare components with internal reinforcement for door hardware.
4. Arrange fasteners and attachments to conceal from view.

C. Weather-stripping: Provide weather-stripping locked into extruded grooves in door panels or frames as indicated on manufacture's drawings and details.

2.7. ALUMINUM FINISHES

A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
B. Factory Finishing:
   1. Kawneer Permanodic™ AA-M10C21A31, AAMA 611, Architectural Class II Clear Anodic Coating (Color #17 Clear) (Standard).

3.- EXECUTION

3.1. EXAMINATION

A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work. Verify rough opening dimensions, levelness of sill plate and operational clearances. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure a coordinated installation.
   1. Masonry Surfaces: Visibly dry and free of excess mortar, sand, and other construction debris.
   2. Wood Frame Walls: Dry, clean, sound, well nailed, free of voids, and without offsets at joints. Ensure that nail heads are driven flush with surfaces in opening and within 3 inches (76.2 mm) of opening.
   3. Metal Surfaces: Dry; clean; free of grease, oil, dirt, rust, corrosion, and welding slag; without sharp edges or offsets at joints.
   4. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2. INSTALLATION

A. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing aluminum-framed entrance doors, hardware, accessories, and other components.
B. Install aluminum-framed entrance doors level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.
C. Set sill threshold in bed of sealant, as indicated, for weather tight construction.
D. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

3.3. FIELD QUALITY CONTROL

A. Manufacturer's Field Services: Upon Owner's written request, provide periodic site visit by manufacturer's field service representative

3.4. ADJUSTING, CLEANING, AND PROTECTION

A. Clean aluminum surfaces immediately after installing aluminum-framed entrance doors. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances
B. Clean glass immediately after installation. Comply with glass manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels, and clean surfaces.

C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

END OF SECTION

SECTION 09 21 16
GYPSUM BOARD ASSEMBLIES

1.- GENERAL

1.1. SUMMARY

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

B. This Section includes the following:

1. Interior gypsum wallboard.

2. Exterior gypsum board panels.

3. Gypsum board tile backers.

4. Gypsum board sheathing.

5. Non-load-bearing steel framing.

1.2. SUBMITTALS

A. Product Data: For each product indicated.

1.3. QUALITY ASSURANCE

A. Sound Transmission Characteristics: For gypsum board assemblies with STC ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.

2.- PRODUCTS

2.1. MANUFACTURERS

A. In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the products specified.

2. Products: Subject to compliance with requirements, provide one of the products specified.

2.2. STEEL FRAMING

A. Steel Framing, General: Comply with ASTM C 754 for conditions indicated.

1. Steel Sheet Components: Metal complying with ASTM C 645 requirements.

a. Protective Coating: Interior Applications: ASTM A 653/A 653M, G40 (Z120), hot-dip

galvanized zinc coating.

B. Suspended Ceiling and Soffit Framing:

1. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft t temper, 0.0625-inch- (1.59-mm-) diameter wire, or double strand of 0.0475 inch- (1.21-mm) diameter wire.

2. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.162-inch (4.12-mm) diameter.

3. Carrying Channels: Cold-rolled, commercial-steel sheet with a base metal thickness of 0.0538 inch (1.37 mm), a minimum 1/2-inch- (12.7-mm-) wide flange, and in depth indicated.

4. Furring Channels (Furring Members):

a. Cold Rolled Channels: 0.0538-inch (1.37-mm) bare steel thickness, with minimum 1/2-inch- (12.7-mm-) wide f flange, 3/4 inch (19.1 mm) deep.

b. Hat-Shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch (22.2 mm) deep with a minimum Base Metal Thickness of 0.0179 inch (0.45 mm).

C. Grid Suspension System for Interior Ceilings: ASTM C 645, direct-hung system composed of main beams and cross-f furring members that interlock.

1. Available Products:

a. Armstrong World Industries, Inc.; Furring Systems/Drywall

b. Chicago Metallic Corporation.

c. USG Interiors, Inc.; Drywall Suspension System.

D. Partition and Soffit Framing:

1. Steel Studs and Runners: ASTM C 645, in depth indicated.

a. Minimum Base Metal Thickness: 0.0312 inch (0.79 mm) at toilet room walls and 0.0179 inch (0.45 mm) elsewhere

2. Deep-Leg Deflection Track: ASTM C 645 top runner with 2-inch-(50.8-mm-) deep flanges

3. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.

a. Minimum Base Metal Thickness: 0.0312 inch (0.79 mm)

4. Hat-Shaped, Rigid Furring Channels: ASTM C 645, in depth indicated.

a. Minimum Base Metal Thickness: 0.0179 inch (0.45 mm)

5. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates

2.3. PANEL PRODUCTS

A. Panel Size, General: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated

B. Gypsum Wallboard: ASTM C 36.

1. Regular Type: In thickness indicated and with long edges tapered.

2. Type X: In thickness indicated and with long edges tapered

a. Location: Where required for fire-resistance-rated assembly

C. Exterior Gypsum Panels for Ceilings and Soffits: **[NOT USED]**

1. Exterior Gypsum Soffit Board: ASTM C 931/C 931M, with core type and in thickness indicated and with manufacturer's standard edges.

2. Glass-Mat Gypsum Sheathing Board: ASTM C 1177/C 1177M, with core type and in thickness indicated.

a. Product: G-P Gypsum Corp; Dens-Glass Gold.

D. Tile Backing Panels:

1. Water-Resistant Gypsum Backing Board: ASTM C 630/C 630M, with core type and in thickness indicated.

2.4. TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Corner bead: Use at outside corners, unless otherwise indicated.

2. LC-Bead: Use at exposed panel edges.

3. L-Bead: Use where indicated.

4. U-Bead: Use where indicated.

5. Expansion (Control) Joint: Use where indicated.

2.5. JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475.

B. Joint Tape: Paper.

C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.

2. Embedding and First Coat: For embedding tape and first coat on joints, flanges of trim accessories, and fasteners, use setting-type taping compound.

a. Use setting-type compound for installing paper-faced metal trim accessories.

3. Fill Coat: For second coat, use setting-type, sandable topping compound.

4. Finish Coat: For third coat, use drying-type, all-purpose compound.

5. Skim Coat: For final coat of Level 5 finish, use drying-type, all-purpose compound.

2.6. AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.

B. Acoustical Sealant for Exposed and Concealed Joints: Non-sag, paintable, non-staining, latex sealant complying with ASTM C 834 that effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

1. Available Products:

a. Pecora Corp.; AC-20 FTR Acoustical and Insulation Sealant.

C. United States Gypsum Co.; SHEETROCK Acoustical Sealant.
Acoustical Sealant for Concealed Joints: Nondrying, non-hardening, non-skinning, non-staining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce airborne sound transmission.

1. Available Products:

a. Ohio Sealants, Inc.; Pro-Series SC-170 Rubber Base Sound Sealant.

b. Pecora Corp.; BA-98.

c. Tremco, Inc.; Tremco Acoustical Sealant.

D. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.

1. Use screws complying with ASTM C 954 f or fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.

E. Isolation Strip at Exterior Walls:

1. Asphalt-Saturated Organic Felt: ASTM D 226, Type I (No. 15 asphalt felt), non-perforated.

2. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch (3.2 mm) thick, in width to suit steel stud size.

F. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.

1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly

3.- EXECUTION

3.1. NON-LOAD-BEARING STEEL FRAMING INSTALLATION

A. General: Comply with ASTM C 754, and ASTM C 840 requirements that apply to framing installation.

B. Suspended Ceiling and Soffit Framing:

1. Suspend ceiling hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.

2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with the location of hangers required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by

referenced standards.

3. Attach hangers to structural members. Do not support ceilings from or attach hangers to permanent metal forms, steel deck tabs, steel roof decks, ducts, pipes, or conduit.

4. Wire-tie or clip furring channels to supports, as required to comply with requirements for assemblies indicated.

5. Grid Suspension System: Attach perimeter wall track or angle where grid suspension system meets vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.

C. Partition and Soffit Framing:

1. Where studs are installed directly against exterior walls, install isolation strip between studs and wall.

2. Extend partition framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing over frames for doors and openings and frame around ducts penetrating partitions above ceiling to provide support for gypsum board.

3. Frame door openings to comply with GA-600 and with gypsum board manufacturer's applicable written recommendations, unless otherwise indicated. Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.

   a. Install two studs at each jamb, unless otherwise indicated.

   b. Extend jamb studs through suspended ceilings and attach to underside of floor or roof structure above.

D. Polyethylene Vapor Retarder: Install to comply with requirements specified in Division 7 Section "Building Insulation."

3.2. PANEL PRODUCT INSTALLATION

A. Gypsum Board: Comply with ASTM C 840 and GA-216.

1. Space screws a maximum of 12 inches (304.8 mm) o.c. for vertical applications

2. Space fasteners in panels that are tile substrates a maximum of 8 inches (203.2 mm) o.c.

3. On ceilings, apply gypsum panels before wall/partition board application to the greatest extent possible and at right angles to framing, unless otherwise indicated.

4. On partitions/walls, apply gypsum panels vertically (parallel to framing), unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end

joints.

a. Stagger abutting end joints not less than one framing member in alternate courses of board.

b. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly

5. Single-Layer Fastening Methods: Apply gypsum panels to supports with steel drill screws.

6. Multilayer Fastening Methods: Fasten base layers and face layers separately to supports with screws.

B. Exterior Ceilings and Soffits: Apply exterior gypsum panels perpendicular to supports, with end joints staggered and located over supports.

1. Fasten with corrosion-resistant screws.

3.3. FINISHING

A. Installing Trim Accessories: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

B. Finishing Gypsum Board Panels: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surf ace defects, and elsewhere as required to prepare gypsum board surf aces for decoration.

1. Prefill open joints and damaged surface areas.

2. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.

3. Glass-Mat, Water-Resistant Backing Panels: Finish according to manufacturer's written instructions.

C. Gypsum Board Finish Levels: Finish panels to levels indicated below, according to ASTM C 840, for locations indicated

1. Level 1– Concealed Locations: Embed tape at joints in ceiling plenum areas, concealed areas, and where indicated, unless a higher level of finish is required for fire-resistance-rated assemblies and sound-rated assemblies.

2. Level 4– Typical Exposed Locations: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges at panel surfaces that will be exposed to view, unless otherwise indicated.

3. Level 5– Display Walls: Embed tape and apply separate first, fill, and finish coats of

joint compound to tape, fasteners, and trim flanges, and apply skim coat of joint compound over entire surface where indicated.

END OF SECTION

SECTION 09910

COMMERCIAL PAINTING

1.GENERAL

1.1. SECTION INCLUDES

A. Interior and exterior painting, including surface preparation for projects in the United States.

1.2. RELATED SECTIONS

A. Section 05500 - Metal Fabrications.

B. Section 06200 - Finish Carpentry.

C. Section 06400 - Architectural Woodwork.

1.3. REFERENCES

A. Green Seal Standard GS-11; May 20, 1993.

B. US Green Building Council, (USGBC) - Green Seal standards for LEED paint credits.

C. Occupational Safety and Health Act (OSHA) - Safety Standards.

D. American National Standards Institute (ANSI) - Performance Standards.

E. Paint Decorating Contractors of America (PDCA) - Application Standard.

F. National Paint and Coatings Association (NPCA) - Gloss Standard.

G. American Society for Testing Materials (ASTM) - Testing Methods.

H. Master Paint Institute (MPI #) - Established paint categories and standards.

I. Ozone Transmission Commission (OTC) - Established levels of Volatile Organic Compounds.

J. SCAQMD 1168 - South Coast Air Quality Management District Rule #1168; October 3, 2003.

K. SSPC (PM1) - Steel Structures Painting Manual, Vol. 1, Good Painting Practice; Society for Protective Coatings; 1993, Third Edition.

L. SSPC (PM2) - Steel Structures Painting Manual, Vol. 2, Systems and Specifications; Society for Protective Coatings; 1995, Seventh Edition.

M. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

1.4. DEFINITIONS

A. Commercial as used in this Section refers to a product well suited for a commercial application.

B. DFT as used in this Section refers to the Dry Film Thickness of the coating.

C. Enamel refers to any acrylic or alkyd (oil) base paint which dries leaving an eggshell, pearl, satin, semi-gloss or high gloss enamel finish.

D. DTM as used in this Section refers to paint that is applied Direct To Metal.

E. LEED as used in this Section refers to Leadership in Energy and Environmental Design. Products listed meet LEED criteria for environmentally safe interior primers, paints and coatings.

F. OTC as used in this Section refers to the Ozone Transmission Commission. OTC has established the following VOC levels for the Northeastern United States. Products shall meet the following OTC limits for VOC's.
1. Interior flat paints: 100 grams per liter or less, per gallon.
2. Interior enamels: 150 grams per liter or less, per gallon.
3. Interior stains: 250 grams per liter or less, per gallon.
4. Interior primers: 200 grams per liter or less, per gallon.
5. Rust preventive coatings: 400 grams per liter or less, per gallon.
6. Dry fog coatings: 400 grams per liter or less, per gallon.
7. Floor coatings: 250 grams per liter or less, per gallon.

G. Premium as used in this Section refers to the best quality product "top of the line".

H. VOC as used in this Section refers to Volatile Organic Compounds found in primers, paints, sealers and stains. The level of VOCs appears after each product listed in the Schedule in grams per liter (g/L).

I. Paints are available in a wide range of sheens or glosses, as measured by a gloss meter from a 60 and/or 85 degree angle from vertical, as a percentage of the amount of light that is reflected. The following terms are used to describe the gloss of our products. The list below is provided for general guidance; refer to the technical data sheet for the actual gloss/sheen level for each product.
1. Flat - Less than 5 Percent.
2. Eggshell - 5 - 20 Percent.
3. Satin - 20 - 35 Percent.
4. Semi-Gloss - 30 - 65 Percent.
5. Gloss - Over 65 Percent.

1.5. SUBMITTALS

A. Provide submittals prior to commencement of work, allowing 10 days for approval prior to scheduled procurement.

B. Product Data: Provide a complete list of all products to be used, with the following information for each:
1. Manufacturer's name, product name and/or catalog number, and general product category.
2. Cross-reference to specified paint system(s) that the product is to be used in; include description of each system.

C. Samples: Submit three paper samples, 5 inches by 7 inches (127mm x 178mm) in size, illustrating selected colors for each color and system selected with specified coats cascaded.

D. Manufacturer's Instructions: Indicate special surface preparation procedures.

E. Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and

coated surfaces.

1.6. QUALITY ASSURANCE

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

B. Installer Qualifications: All products listed in this section are to be applied by a Painting Contractor with a minimum of five years demonstrated experience in surface preparation and field application of the same type and scope as specified.

C. 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. Approved mock-up areas will serve as the standard for remaining Work.
   4. Refinish mock-up area as required to produce acceptable Work.

1.7. DELIVERY, STORAGE, AND HANDLING

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

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

C. Disposal:
   1. Never pour leftover coating down any sink or drain. Use up material on the job or seal can and store safely for future use.
   2. Do not incinerate closed containers.
   3. For specific disposal or recycle guidelines, contact the local waste management agency or district. Recycle whenever possible.

1.8. 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 recommended limits.

1.9. WARRANTY

A. Inspection of all surfaces to be coated must be done by the manufacturer's representative to insure proper preparation prior to application. All thinners, fillers, primers and finish coatings shall be from the same manufacturer to support a product warranty. Products other than those submitted shall be accompanied by a letter stating its fitness for use and compatibility.

B. At project closeout, provide to the Owner or owner's representative an executed copy of the Manufacturer's standard form outlining the terms and conditions of and any exclusions to their Limited Warranty against Manufacturing Defect.

1.10. EXTRA MATERIALS

A. At project closeout, supply the Owner or owner's representative one gallon of each product for touch-up purposes. Cans shall be clearly marked with color name, number and type of paint.

B. At project closeout, provide the color mixture name and code to the Owner or owner's representative for accurate future color matching.

2.PRODUCTS

2.1. MANUFACTURERS

A. Acceptable Manufacturer: Benjamin Moore and Co., which is located at: 101 Paragon Dr ; Montvale, NJ 07645; Toll Free Tel: 866-708-9181; Email: info@benjaminmoore.com; Web:www.benjaminmoore.com

B. Requests for Substitutions: to be reviewed by Owner and Architect.

2.2. MATERIALS - GENERAL

A. Volatile Organic Compound (VOC) Content:
1. Provide coatings that comply with the most stringent requirements specified in the following:
a. 40 CFR 59, Subpart D-National Volatile Organic Compound Emission Standards for Architectural Coatings.
b. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

B. Compatibility: Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

2.3. MIXING AND TINTING

A. Except where specifically noted in this section, all paint shall be ready-mixed and pre-tinted. Agitate all paint prior to and during application to ensure uniform color, gloss, and consistency.

B. Thinner addition shall not exceed manufacturer's printed recommendations. Do not use kerosene or other organic solvents to thin water-based paints.

2.4. INTERIOR PAINT SYSTEMS- UNITED STATES

A. CONCRETE - (Walls and Ceilings, Poured Concrete, Precast Concrete, Unglazed Brick, Cement Board, Tilt-Up, Cast-In-Place) including PLASTER - (Walls, Ceilings).
1. Latex Systems:
a. Gloss Finish High Performance:
1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97 g/L), MPI # 3, LEED 2009.
2. 2nd Coat: Benjamin Moore Ultra Spec D.T.M. Acrylic Gloss Enamel HP28 (142 g/L), MPI # 114, X-Green 114, 154, X-Green 154, 164, LEED 2009, LEED V4.
3. 3rd Coat: Benjamin Moore Ultra Spec D.T.M. Acrylic Gloss Enamel HP28 (142 g/L), MPI # 114, X-Green 114, 154, X-Green 154, 164, LEED 2009, LEED V4.
b. Semi-Gloss Finish:
1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97 g/L), MPI # 3, LEED 2009.
2. 2nd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Gloss N540

(0 g/L), MPI # 54, X-Green 54, 147, X-Green 147, 141, X-Green 141, LEED 2009, LEED V4.

3. 3rd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Gloss N540 (0 g/L), MPI # 54, X-Green 54, 147, X-Green 147, 141, X-Green 141, LEED 2009, LEED V4.

c. Semi-Gloss Finish:
   1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97 g/L), MPI # 3, LEED 2009.
   2. 2nd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Gloss N540 (0 g/L), MPI # 54, X-Green 54, 147, 147 X-Green, 141, X-Green 141, LEED 2009, LEED V4, CHPS Certified.
   3. 3rd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Gloss N540 (0 g/L), MPI # 54, X-Green 54, 147, X-Green 147, 141, X-Green 141, LEED 2009, LEED V4, CHPS Certified.

d. Semi-Gloss Finish High Performance
   1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97 g/L), MPI # 3, LEED 2009.
   2. 2nd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Gloss N540 (0 g/L), MPI # 54, X-Green 54, 147, X-Green 147, 141, X-Green 141, LEED 2009, LEED V4, CHPS Certified.
   3. 3rd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Gloss N540 (0 g/L), MPI # 54, X-Green 54, 147, X-Green 147, 141, X-Green 141, LEED 2009, LEED V4, CHPS Certified.

e. Eggshell/ Satin Finish:
   1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97 g/L), MPI # 3, LEED 2009.
   2. 2nd Coat: Benjamin Moore Ultra Spec 500 Latex Eggshell N538 (0 g/L), MPI # 52, X-Green 52, 145, X-Green 145, 139, X-Green 139, LEED 2009, LEED V4, CHPS Certified.
   3. 3rd Coat: Benjamin Moore Ultra Spec 500 Latex Eggshell N538 (0 g/ L), MPI # 52, X-Green 52, 145, X-Green 145, 139, X-Green 139, LEED 2009, LEED V4, CHPS Certified.

f. Low Sheen Finish:
   1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97 g/L), MPI # 3, LEED 2009.
   2. 2nd Coat: Benjamin Moore Ultra Spec 500 Interior Low Sheen N537 (0 g/L), MPI # 44, X-Green 44, 144, X-Green 144, LEED 2009, LEED V4, CHPS Certified.
   3. 3rd Coat: Benjamin Moore Ultra Spec 500 Interior Low Sheen N537 (0 g/L), MPI # 44, X-Green 44, 144, X-Green 144, LEED 2009, LEED V4, CHPS Certified.

g. Flat Finish:
   1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97 g/L), MPI # 3, LEED 2009.
   2. 2nd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Flat N536 (0 g/L), MPI # 53, X-Green 53, 143, X-Green 143, LEED 2009, LEED V4, CHPS Certified.
   3. 3rd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Flat N536 (0 g/L), MPI # 53, X-Green 53, 143, X-Green 143, LEED 2009, LEED V4, CHPS Certified.

2. Alkyd System:
   a. Gloss Finish (Water Base)
      1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97 g/L), MPI # 3, LEED 2009.

2. 2nd Coat: Benjamin Moore Advance Waterborne Interior Alkyd High Gloss N794 (48 g/L), MPI # 157, X-Green 157, LEED 2009, LEED V4.
3. 3rd Coat: Benjamin Moore Advance Waterborne Interior Alkyd High Gloss N794 (48 g/L), MPI # 157, X-Green 157, LEED 2009, LEED V4.

b. Semi-Gloss Finish (Water Base):
1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97 g/L), MPI # 3, LEED 2009.
2. 2nd Coat: Benjamin Moore Advance Waterborne Interior Alkyd Semi-Gloss 793 (48 g/L), LEED 2009, LEED V4, CHPS Certified.
3. 3rd Coat: Benjamin Moore Advance Waterborne Interior Alkyd Semi-Gloss 793 (48 g/L), LEED 2009, LEED V4, CHPS Certified.

c. Eggshell Finish (Water Base):
1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97g/L), MPI # 3, LEED 2009.
2. 2nd Coat: Benjamin Moore Advance Waterborne Interior Alkyd Satin 792 (48 g/L), LEED 2009, LEED V4, CHPS Certified.
3. 3rd Coat: Benjamin Moore Advance Waterborne Interior Alkyd Satin 792 (48 g/L), LEED 2009, LEED V4, CHPS Certified.

3. Epoxy Systems (Water Base):

a. Gloss Finish:
1. 1st Coat: Corotech 100% Solid Epoxy Pre-Primer V155 (6 g/L), LEED 2009.
2. 2nd Coat: Corotech Waterborne Amine Epoxy V440 (206 g/L).
3. 3rd Coat: Corotech Waterborne Amine Epoxy V440 (206 g/L).

b. Gloss Finish
1. 1st Coat: Corotech 100% Solid Epoxy Pre-Primer V155 (6 g/L), LEED 2009.
2. 2nd Coat: Corotech Acrylic Epoxy V450 (168 g/L).
3. 3rd Coat: Corotech Acrylic Epoxy V450 (168 g/L).

c. Semi-Gloss Finish:
1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97g/L), MPI # 3, LEED 2009.
2. 2nd Coat: Corotech Pre-Catalyzed Waterborne Epoxy Semi-Gloss V341 (71 g/L), LEED 2009.
3. 3rd Coat: Corotech Pre-Catalyzed Waterborne Epoxy Semi-Gloss V341 (71 g/L), LEED 2009.

d. Eggshell Finish
1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97 g/L), MPI # 3, LEED 2009.
2. 2nd Coat: Corotech Pre-Catalyzed Waterborne Epoxy Eggshell V342 (73 g/L), MPI # 151, LEED 2009.
3. 3rd Coat: Corotech Pre-Catalyzed Waterborne Epoxy Eggshell V342 (73 g/L), MPI # 151, LEED 2009.

B. METAL: Aluminum, Galvanized.

1. Latex Systems:

a. Semi-Gloss Finish High Performance:
1. 1st Coat: Benjamin Moore Super Spec® HP Acrylic Metal Primer P04 (47 g/L), MPI # 107, X-Green 107, 134, LEED 2009, CHPS Certified.
2. 2nd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Gloss N540 (0 g/L), MPI # 54, X-Green 54, 147, X-Green 147, 141, X-Green 141,

LEED 2009, LEED V4.

3. 3rd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Gloss N540 (0 g/L), MPI # 54, X-Green 54, 147, X-Green 147, 141, X-Green 141, LEED 2009, LEED V4.

b. Gloss Finish High Performance:
   1. 1st Coat: Benjamin Moore Super Spec® HP Acrylic Metal Primer P04 (47 g/L), MPI # 107, X-Green 107, 134, LEED 2009, CHPS Certified.
   2. 2nd Coat: Benjamin Moore Ultra Spec D.T.M. Acrylic Gloss Enamel HP28 (142 g/L), MPI # 114, X-Green 114, 154, X-Green 154, 164, LEED 2009, LEED V4.
   3. 3rd Coat: Benjamin Moore Ultra Spec D.T.M. Acrylic Gloss Enamel HP28 (142 g/L), MPI # 114, X-Green 114, 154, X-Green 154, 164, LEED 2009, LEED V4.

c. Satin Finish:
   1. 1st Coat: Benjamin Moore Super Spec® HP Acrylic Metal Primer P04 (47 g/L), MPI # 107, X-Green 107, 134, LEED 2009, CHPS Certified.
   2. 2nd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Semi-Gloss N539 (0 g/L), MPI # 43, X-Green 43, 146, X-Green 146, 140, X-Green 140, LEED 2009, LEED V4, CHPS Certified.
   3. 3rd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Semi-Gloss N539 (0 g/L), MPI # 43, X-Green 43, 146, X-Green 146, 140, X-Green 140, LEED 2009, LEED V4, CHPS Certified.

d. Semi-Gloss High Performance:
   1. 1st Coat: Benjamin Moore Super Spec® HP Acrylic Metal Primer P04 (47 g/L), MPI # 107, X-Green 107, 134, LEED 2009, CHPS Certified.
   2. 2nd Coat: Benjamin Moore Ultra Spec HP D.T.M. Acrylic Semi-Gloss Enamel, HP29 (147 g/L), MPI # 141, X-Green 141, 153, X-Green 153, LEED 2009, LEED V4.
   3. 3rd Coat: Benjamin Moore Ultra Spec HP D.T.M. Acrylic Semi-Gloss Enamel, HP29 (147 g/L), MPI # 141, X-Green 141, 153, X-Green 153, LEED 2009, LEED V4.

e. Eggshell Finish:
   1. 1st Coat: Benjamin Moore Super Spec® HP Acrylic Metal Primer P04 (47 g/L), MPI # 107, X-Green 107, 134, LEED 2009, CHPS Certified.
   2. 2nd Coat: Benjamin Moore Ultra Spec 500 Latex Eggshell N538 (0 g/L), MPI # 52, X-Green 52, 145, X-Green 145, 139, X-Green 139, LEED 2009, LEED V4, CHPS Certified.
   3. 3rd Coat: Benjamin Moore Ultra Spec 500 Latex Eggshell N538 (0 g/L), MPI # 52, X-Green 52, 145, X-Green 145, 139, X-Green 139, LEED 2009, LEED V4, CHPS Certified.

f. Low Sheen Finish:
   1. 1st Coat: Benjamin Moore Super Spec® HP Acrylic Metal Primer P04 (47 g/L), MPI # 107, X-Green 107, 134, LEED 2009, CHPS Certified.
   2. 2nd Coat: Benjamin Moore Ultra Spec 500 Interior Low Sheen N537 (0 g/L), MPI # 44, X-Green 44, 144, X-Green 144, LEED 2009, LEED V4, CHPS Certified.
   3. 3rd Coat: Benjamin Moore Ultra Spec 500 Interior Low Sheen N537 (0 g/L), MPI # 44, X-Green 44, 144, X-Green 144, LEED 2009, LEED V4, CHPS Certified.

g. Flat Finish:
    1. 1st Coat: Benjamin Moore Super Spec® HP Acrylic Metal Primer P04 (47 g/L), MPI # 107, X-Green 107, 134, LEED 2009, CHPS Certified.
    2. 2nd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Flat N536 (0 g/L), MPI # 53, X-Green 53, 143, X-Green 143, LEED 2009, LEED V4, CHPS Certified.
    3. 3rd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Flat N536 (0 g/L), MPI # 53, X-Green 53, 143, X-Green 143, LEED 2009, LEED V4, CHPS Certified.

h. Flat Finish:
    1. 1st Coat: Benjamin Moore Super Spec® HP Acrylic Metal Primer P04 (47 g/L), MPI # 107, X-Green 107, 134, LEED 2009, CHPS Certified.
    2. 2nd Coat: Benjamin Moore Natura Waterborne Interior Flat Finish 512 (0 g/L), MPI # 53, X-Green 53, 143, X-Green 143, LEED 2009, LEED V4, CHPS Certified.
    3. 3rd Coat: Benjamin Moore Natura Waterborne Interior Flat Finish 512 (0 g/L), MPI # 53, X-Green 53, 143, X-Green 143, LEED 2009, LEED V4, CHPS Certified.

2. Alkyd System:
    a. Gloss Finish Waterborne Alkyd:
        1. 1st Coat: Benjamin Moore Super Spec® HP Acrylic Metal Primer P04 (47 g/L), MPI # 107, X-Green 107, 134, LEED 2009, CHPS Certified.
        2. 2nd Coat: Benjamin Moore Advance Waterborne Interior Alkyd High Gloss N794 (48 g/L), MPI # 157, X-Green 157, LEED 2009, LEED V4.
        3. 3rd Coat: Benjamin Moore Advance Waterborne Interior Alkyd High Gloss N794 (48 g/L), MPI # 157, X-Green 157, LEED 2009, LEED V4.
    b. Semi-Gloss Finish Waterborne Alkyd:
        1. 1st Coat: Benjamin Moore Super Spec® HP Acrylic Metal Primer P04 (47 g/L), MPI # 107, X-Green 107, 134, LEED 2009, CHPS Certified.
        2. 2nd Coat: Benjamin Moore Advance Waterborne Interior Alkyd Semi-Gloss 793 (48 g/L), LEED 2009, LEED V4, CHPS Certified.
        3. 3rd Coat: Benjamin Moore Advance Waterborne Interior Alkyd Semi-Gloss 793 (48 g/L), LEED 2009, LEED V4, CHPS Certified.

3. Epoxy System (Water Base):
    a. Gloss Finish:
        1. 1st Coat: Corotech Acrylic Metal Primer V110 (199 g/L), LEED Credit.
        2. 2nd Coat: Corotech Acrylic Epoxy V450 (168 g/L).
        3. 3rd Coat: Corotech Acrylic Epoxy V450 (168 g/L).
    b. Gloss Finish:
        1. 1st Coat: Corotech Acrylic Metal Primer V110 (199 g/L), LEED Credit.
        2. 2nd Coat: Corotech Waterborne Urethane Gloss V540 (10 g/L), LEED Credit.
        3. 3rd: Coat: Corotech Waterborne Urethane Gloss V540 (10 g/L), LEED Credit.
    c. Semi-Gloss Finish:
        1. 1st Coat: Corotech Acrylic Metal Primer V110 (199 g/L), LEED

Credit.
2. 2nd Coat: Corotech Acrylic Epoxy V450 (168 g/L).
3. 3rd Coat: Corotech Acrylic Epoxy V450 (168 g/L).

d. Eggshell/Low Luster Finish:
1. 1st Coat: Corotech Acrylic Metal Primer V110 (199 g/L), LEED Credit.
2. 2nd Coat: Corotech Pre-Catalyzed Waterborne Epoxy Eggshell V342 (73 g/L), MPI # 151, LEED 2009.
3. 3rd Coat: Corotech Pre-Catalyzed Waterborne Epoxy Eggshell V342 (73 g/L), MPI # 151, LEED 2009.

C. METAL - (Structural Steel Columns, Joists, Trusses, Beams, Miscellaneous and Ornamental Iron, Structural Iron, Ferrous Metal)

1. Latex Systems:

a. Gloss Finish High Performance:
1. 1st Coat: Corotech Acrylic Metal Primer V110 (199 g/L), LEED Credit.
2. 2nd Coat: Corotech Acrylic DTM Enamel Gloss V330 (199 g/L), MPI # 154, 164, LEED 2009, LEED V4.
3. 3rd Coat: Corotech Acrylic DTM Enamel Gloss V330 (199 g/L), MPI # 154, 164, LEED 2009, LEED V4.

b. Semi-Gloss Finish:
1. 1st Coat: Corotech Acrylic Metal Primer V110 (199 g/L), LEED Credit.
2. 2nd Coat: Corotech Acrylic DTM Enamel Semi-Gloss V331 (204 g/L), MPI # 153.
3. 3rd Coat: Corotech Acrylic DTM Enamel Semi-Gloss V331 (204 g/L), MPI # 153.

c. Semi-Gloss Finish High Performance:
1. 1st Coat: Corotech Acrylic Metal Primer V110 (199 g/L), LEED Credit.
2. 2nd Coat: Corotech Pre-Catalyzed Waterborne Epoxy Semi-Gloss V341 (71 g/L), LEED 2009.
3. 3rd Coat Corotech Pre-Catalyzed Waterborne Epoxy Semi-Gloss V341 (71 g/L), LEED 2009.

d. Eggshell Finish High Performance:
1. 1st Coat: Corotech Acrylic Metal Primer V110 (199 g/L), LEED Credit.
2. 2nd Coat: Corotech Pre-Catalyzed Waterborne Epoxy Eggshell V342 (73 g/L), MPI # 151, LEED 2009.
3. 3rd Coat: Corotech Pre-Catalyzed Waterborne Epoxy Eggshell V342 (73 g/L), MPI # 151, LEED 2009.

e. Low Sheen Finish:
1. 1st Coat: Benjamin Moore Super Spec® HP Acrylic Metal Primer P04 (47 g/L), MPI # 107, X-Green 107, 134, LEED 2009, CHPS Certified.
2. 2nd Coat: Benjamin Moore Ultra Spec 500 Interior Low Sheen N537 (0g/L), MPI # 44, X-Green 44, 144, X-Green 144, LEED 2009, LEED V4, CHPS Certified.
3. 3rd Coat: Benjamin Moore Ultra Spec 500 Interior Low Sheen N537 (0g/L), MPI # 44, X-Green 44, 144, X-Green 144, LEED 2009, LEED V4, CHPS Certified.

f. Flat Finish:
1. 1st Coat: Benjamin Moore Super Spec® HP Acrylic Metal Primer

P04 (47 g/L), MPI # 107, X-Green 107, 134, LEED 2009, CHPS Certified.
2. 2nd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Flat N536 (0 g/L), MPI # 53, X-Green 53, 143, X-Green 143, LEED 2009, LEED V4, CHPS Certified.
3. 3rd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Flat N536 (0 g/L), MPI # 53, X-Green 53, 143, X-Green 143, LEED 2009, LEED V4, CHPS Certified.

2. Alkyd System:
   a. Gloss Finish Waterborne Alkyd:
      1. 1st Coat: Benjamin Moore Super Spec® HP Alkyd Metal Primer P06 (323 g/L), MPI # 79.
      2. 2nd Coat: Benjamin Moore Advance Waterborne Interior Alkyd High Gloss N794 (48 g/L), MPI # 157, X-Green 157, LEED 2009, LEED V4.
      3. 3rd Coat: Benjamin Moore Advance Waterborne Interior Alkyd High Gloss N794 (48 g/L), MPI # 157, X-Green 157, LEED 2009, LEED V4.
   b. Semi-Gloss Finish Waterborne Alkyd:
      1. 1st Coat: Benjamin Moore Super Spec® HP Alkyd Metal Primer P06 (323 g/L), MPI # 79.
      2. 2nd Coat: Benjamin Moore Advance Waterborne Interior Alkyd Semi-Gloss 793 (48 g/L), LEED 2009, LEED V4, CHPS Certified.
      3. 3rd Coat: Benjamin Moore Advance Waterborne Interior Alkyd Semi-Gloss 793 (48 g/L), LEED 2009, LEED V4, CHPS Certified.
3. Epoxy System (Water Base):
   a. Gloss Finish:
      1. 1st Coat: Corotech Acrylic Metal Primer V110 (199 g/L), LEED Credit.
      2. 2nd Coat: Corotech Acrylic Epoxy V450 (168 g/L).
      3. 3rd Coat: Corotech Acrylic Epoxy V450 (168 g/L).
   b. Semi-Gloss Finish:
      1. 1st Coat: Corotech Acrylic Metal Primer V110 (199 g/L), LEED Credit.
      2. 2nd Coat: Corotech Acrylic Epoxy V450 (168 g/L).
      3. 3rd Coat: Corotech Acrylic Epoxy V450 (168 g/L).
   c. Eggshell Finish:
      1. 1st Coat: Corotech Acrylic Metal Primer V110 (199 g/L), LEED Credit.
      2. 2nd Coat: Corotech Pre-Catalyzed Waterborne Epoxy Eggshell V342 (73 g/L), MPI # 151, LEED 2009.
      3. 3rd Coat: Corotech Pre-Catalyzed Waterborne Epoxy Eggshell V342 (73 g/L), MPI # 151, LEED 2009.
4. Urethane System (Water Base):
   a. Gloss Finish:
      1. 1st Coat: Corotech Acrylic Metal Primer V110 (199 g/L), LEED Credit.
      2. 2nd Coat: Corotech Waterborne Urethane Gloss V540 (10 g/L), LEED Credit.
      3. 3rd Coat: Corotech Waterborne Urethane Gloss V540 (10 g/L), LEED Credit.

D. WOOD - (Walls, Ceilings, Doors, Trim):
   1. Latex Systems:

a. Gloss Finish:
    1. 1st Coat: Benjamin Moore Fresh Start Multi-Purpose Primer N023 (44 g/L), MPI # 6, 17, X-Green 17, 39, 137, X-Green 137, LEED Credit, CHPS Certified.
    2. 2nd Coat: Coronado Rust Scat Waterborne Acrylic Gloss 80 (224 g/L), MPI # 114, 154, LEED Credit.
    3. 3rd Coat: Coronado Rust Scat Waterborne Acrylic Gloss 80 (224 g/L), MPI # 114, 154, LEED Credit.
b. Semi - Gloss Finish:
    1. 1st Coat: Benjamin Moore Fresh Start Multi-Purpose Primer N023 (44 g/L), MPI # 6, 17, X-Green 17, 39, 137, X-Green 137, LEED Credit, CHPS Certified.
    2. 2nd Coat: Coronado Rust Scat Waterborne Acrylic Semi-Gloss 90 (134 g/L), MPI # 153, LEED Credit.
    3. 3rd Coat: Coronado Rust Scat Waterborne Acrylic Semi-Gloss 90 (134 g/L), MPI # 153, LEED Credit.
c. Eggshell / Satin Finish:
    1. 1st Coat: Benjamin Moore Fresh Start Multi-Purpose Primer N023 (44 g/L), MPI # 6, 17, X-Green 17, 39, 137, X-Green 137, LEED Credit, CHPS Certified.
    2. 2nd Coat: Benjamin Moore Waterborne Satin Impervo N314 (137 g/L), MPI # 43, LEED Credit.
    3. 3rd Coat: Benjamin Moore Waterborne Satin Impervo N314 (137 g/L), MPI # 43, LEED Credit.
d. Flat Finish:
    1. 1st Coat: Benjamin Moore Fresh Start Multi-Purpose Primer N023 (44 g/L), MPI # 6, 17, X-Green 17, 39, 137, X-Green 137, LEED Credit, CHPS Certified.
    2. 2nd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Flat N536 (0 g/L), MPI # 53, X-Green 53, 143, X-Green 143, LEED 2009, LEED V4, CHPS Certified.
    3. 3rd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Flat N536 (0 g/L), MPI # 53, X-Green 53, 143, X-Green 143, LEED 2009, LEED V4, CHPS Certified.

E. DRYWALL - (Walls, Ceilings, Gypsum Board and similar items)
1. Latex Systems:
    a. Satin Finish:
        1. 1st Coat: Benjamin Moore Ultra Spec 500 Interior Latex Primer N534 (0 g/L), MPI # 50, X-Green 50, 149, X-Green 149, LEED 2009, LEED V4, CHPS Certified.
        2. 2nd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Semi-Gloss N539 (0 g/L), MPI # 43, X-Green 43, 146, X-Green 146, 140, X-Green 140, LEED 2009, LEED V4, CHPS Certified
        3. 3rd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Semi-Gloss N539 (0 g/L), MPI # 43, X-Green 43, 146, X-Green 146, 140, X-Green 140, LEED 2009, LEED V4, CHPS Certified
    b. Semi-Gloss System:
        1. 1st Coat: Benjamin Moore Eco Spec WB Primer N372 (0 g/L) MPI # 50, X-Green 50, 149, X-Green 149, LEED V4 CHPS Certified.
        2. 2nd Coat: Benjamin Moore Eco Spec WB Semi-Gloss N376 (0 g/L) MPI # 54, X-Green 54, LEED V4, CHPS Certified.
        3. 3rd Coat: Benjamin Moore Eco Spec WB Semi-Gloss N376 (0 g/L) MPI # 54, X-Green 54, LEED V4, CHPS Certified.

c. Eggshell / Satin System:
    1. 1st Coat: Benjamin Moore Ultra Spec 500 Interior Latex Primer N534 (0 g/L), MPI # 50, X-Green 50, 149, X-Green 149, LEED 2009, LEED V4, CHPS Certified.
    2. 2nd Coat: Benjamin Moore Ultra Spec 500 Latex Eggshell N538 (0 g/L), MPI # 52, X-Green 52, 145, X-Green 145, 139, X-Green 139, LEED 2009 LEED V4, CHPS Certified.
    3. 3rd Coat: Benjamin Moore Ultra Spec 500 Latex Eggshell N538 (0 g/L), MPI # 52, X-Green 52, 145, X-Green 145, 139, X-Green 139, LEED 2009, LEED V4, CHPS Certified.
d. Eggshell / Satin System:
    1. 1st Coat: Benjamin Moore Eco Spec WB Primer N372 (0 g/L) MPI # 50, X-Green 50, 149, X-Green 149, LEED V4 CHPS Certified.
    2. 2nd Coat: Benjamin Moore Eco Spec WB Eggshell N374 (0 g/L), MPI # 52, X-Green 52, 139, X-Green 139, X- Green 145, LEED V4, CHPS Certified.
    3. 3rd Coat: Benjamin Moore Eco Spec WB Eggshell N374 (0 g/L), MPI # 52, X-Green 52, 139, X-Green 139, X-Green 145, LEED V4, CHPS Certified.
e. Low Sheen System:
    1. 1st Coat: Benjamin Moore Ultra Spec 500 Interior Latex Primer N534 (0 g/L), MPI # 50, X-Green 50, 149, X-Green 149, LEED 2009, LEED V4, CHPS Certified.
    2. 2nd Coat: Benjamin Moore Ultra Spec 500 Interior Low Sheen N537 (0 g/L), MPI # 44, X-Green 44, 144, X-Green 144, LEED 2009, LEED V4, CHPS Certified.
    3. 3rd Coat: Benjamin Moore Ultra Spec 500 Interior Low Sheen N537 (0 g/L), MPI # 44, X-Green 44, 144, X-Green 144, LEED 2009, LEED V4, CHPS Certified.
f. Flat System
    1. 1st Coat: Benjamin Moore Ultra Spec 500 Interior Latex Primer N534 (0 g/L), MPI # 50, X-Green 50, 149, X-Green 149, LEED 2009, LEED V4, CHPS Certified.
    2. 2nd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Flat N536 (0 g/L), MPI # 53, X-Green 53, 143, X-Green 143, LEED 2009, LEED V4, CHPS Certified.
    3. 3rd Coat: Benjamin Moore Ultra Spec 500 Interior Latex Flat N536 (0 g/L), MPI # 53, X-Green 53, 143, X-Green 143, LEED 2009, LEED V4, CHPS Certified.
g. Flat System:
    1. 1st Coat: Benjamin Moore Eco Spec WB Primer N372 (0 g/L) MPI # 50, X-Green 50, 149, X-Green 149, LEED V4 CHPS Certified.
    2. 2nd Coat: Benjamin Moore Eco Spec WB Flat N373 (0 g/L), MPI # 53, X-Green 53, 143, X-Green 143, LEED V4.
    3. 3rd Coat: Benjamin Moore Eco Spec WB Flat N373 (0 g/L), MPI # 53, X-Green 53, 143, X-Green 143, LEED V4.

2. Epoxy System (Water Base):
    a. Gloss System:
        1. 1st Coat: Benjamin Moore Ultra Spec 500 Interior Latex Primer N534 (0 g/L), MPI # 50, X-Green 50, 149, X-Green 149, LEED 2009, LEED V4, CHPS Certified.
        2. 2nd Coat: Corotech Acrylic Epoxy V450 (168 g/L).
        3. 3rd Coat: Corotech Acrylic Epoxy V450 (168 g/L).
    b. Semi-Gloss System:

1. 1st Coat: Benjamin Moore Ultra Spec 500 Interior Latex Primer N534 (0 g/L), MPI # 50, X-Green 50, 149, X-Green 149, LEED 2009, LEED V4, CHPS Certified.
2. 2nd Coat: Corotech Acrylic Epoxy V450 (168 g/L).
3. 3rd Coat: Corotech Acrylic Epoxy V450 (168 g/L).

c. Semi-Gloss System:
1. 1st Coat: Benjamin Moore Ultra Spec 500 Interior Latex Primer N534 (0 g/L), MPI # 50, X-Green 50, 149, X-Green 149, LEED 2009, LEED V4, CHPS Certified.
2. 2nd Coat: Corotech Pre-Catalyzed Waterborne Epoxy Semi-Gloss V341 (71 g/L), LEED 2009.
3. 3rd Coat: Corotech Pre-Catalyzed Waterborne Epoxy Semi-Gloss V341 (71 g/L), LEED 2009.

d. Eggshell/Low Luster System:
1. 1st Coat: Benjamin Moore Ultra Spec 500 Interior Latex Primer N534 (0 g/L), MPI # 50, X-Green 50, 149, X-Green 149, LEED 2009, LEED V4, CHPS Certified.
2. 2nd Coat: Corotech Pre-Catalyzed Waterborne Epoxy Eggshell V342 (73 g/L), MPI # 151, LEED 2009.
3. 3rd Coat: Corotech Pre-Catalyzed Waterborne Epoxy Eggshell V342 (73 g/L), MPI # 151, LEED 2009.

F. Concrete - (Floors, non-vehicular):
1. Latex Systems:
a. Semi-Gloss System:
1. 1st Coat: Insl-X Tough Shield Floor and Patio TS-3 (167 g/L).
2. 2nd Coat: Insl-X Tough Shield Floor and Patio TS-3 (167 g/L).

b. Satin System:
1. 1st Coat: Insl-X Tough Shield Floor and Patio TS-3 (167 g/L).
2. 2nd Coat: Insl-X Tough Shield Floor and Patio TS-3 (167 g/L).

2.5. EXTERIOR PAINT SYSTEMS - UNITED STATES

A. CONCRETE (Cementitious Siding, Flexboard, Transite Board, Shingles (Non-Roof), Common Brick, Stucco, Tilt-up, Precast, and Poured-in-place Cement).
1. Latex Systems:
a. Gloss Finish:
1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97g/L), MPI # 3, LEED 2009.
2. 2nd Coat: Benjamin Moore Ben Waterborne Exterior Soft-Gloss 543 (45 g/L), MPI # 11.
3. 3rd Coat: Benjamin Moore Ben Waterborne Exterior Soft-Gloss 543 (45 g/L), MPI # 11.

b. Semi-Gloss Finish:
1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97g/L), MPI # 3, LEED 2009.
2. 2nd Coat: Benjamin Moore Regal Select Exterior High-Build Soft-Gloss N403 (43 g/L), MPI # 11, 311.
3. 3rd Coat: Benjamin Moore Regal Select Exterior High-Build Soft-Gloss N403 (43 g/L), MPI # 11, 311.

c. Satin Finish:
1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97g/L), MPI # 3, LEED 2009.
2. 2nd Coat: Benjamin Moore Ultra Spec EXT Satin N448 (46 g/L), MPI

15.
3. 3rd Coat: Benjamin Moore Ultra Spec EXT Satin N448 (46 g/L), MPI # 15.

d. Satin Finish:
1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97g/L), MPI # 3, LEED 2009.
2. 2nd Coat: Benjamin Moore Regal Select Exterior High-Build Low Lustre N401 (40 g/L), MPI # 15, 315.
3. 3rd Coat: Benjamin Moore Regal Select Exterior High-Build Low Lustre N401 (40 g/L), MPI # 15, 315.

e. Flat Finish:
1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97g/L), MPI # 3, LEED 2009.
2. 2nd Coat: Benjamin Moore ben Waterborne Exterior Flat 541 (44 g/L), MPI # 10.
3. 3rd Coat: Benjamin Moore ben Waterborne Exterior Flat 541 (44 g/L), MPI # 10.

f. Flat Finish:
1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97g/L), MPI # 3, LEED 2009.
2. 2nd Coat: Benjamin Moore Regal Select Exterior High-Build Flat Finish N400 (42 g/L) MPI # 10.
3. 3rd Coat: Benjamin Moore Regal Select Exterior High-Build Flat Finish N400 (42 g/L) MPI # 10.

g. High Build Coating:
1. 1st Coat: Coronado Texcrete WB Acrylic Masonry Waterproofer Smooth Finish 3194 (90 g/L), LEED Credit.

2. Elastomeric System: Not including cementitious siding, Flexboard, Transite board or shingles (non-roof).

a. Flat Finish:
1. 1st Coat: Benjamin Moore Super Spec® Interior/Exterior Acrylic High Build Masonry Primer N068 (97g/L), MPI # 3, LEED 2009.
2. 2nd Coat: Benjamin Moore Super Spec® Masonry 100% Acrylic Elastomeric Coating Flat 056 (99 g/L).
3. 3rd Coat: Benjamin Moore Super Spec® Masonry 100% Acrylic Elastomeric Coating Flat 056 (99 g/L).

B. CONCRETE: Concrete Floors (non-vehicular), Patios, Porches, Steps and Platforms.

1. Acrylic System Water-Based:

a. Floor Finish:
1. 1st Coat: Benjamin Moore Floor & Patio Latex Enamel Low Sheen N122 (45 g/L), LEED 2009.
2. 2nd Coat: Benjamin Moore Floor & Patio Latex Enamel Low Sheen N122 (45 g/L), LEED 2009.

C. METAL: Aluminum, Galvanized.

1. Latex Systems:

a. Gloss Finish:
1. 1st Coat: Benjamin Moore Ultra Spec EXT Gloss Finish N449 (46 g/L) MPI # 11.
2. 2nd Coat: Benjamin Moore Ultra Spec EXT Gloss Finish N449 (46 g/L) MPI # 11.

b. Gloss Finish- Early Moisture Resistant Finish
1. 1st Coat: Benjamin Moore Ultra Spec D.T.M. Acrylic Gloss Enamel

HP28 (142 g/L), MPI # 114, X-Green 114, 154, X-Green 154, 164, LEED 2009, LEED V4.
2. 2nd Coat: Benjamin Moore Ultra Spec D.T.M. Acrylic Gloss Enamel HP28 (142 g/L), MPI # 114, X-Green 114, 154, X-Green 154, 164, LEED 2009, LEED V4.

c. Semi-Gloss Finish:
1. 1st Coat: Benjamin Moore Ultra Spec HP Acrylic DTM Semi-Gloss Enamel HP29 (147 g/L), MPI # 141, X-Green 141, 153, X-Green 153, LEED 2009.
2. 2nd Coat: Benjamin Moore Ultra Spec HP Acrylic DTM Semi-Gloss Enamel HP29 (147 g/L), MPI # 141, X-Green 141, 153, X-Green 153, LEED 2009.

d. Satin Finish:
1. 1st Coat: Benjamin Moore Ultra Spec EXT Satin N448 (46 g/L), MPI # 15.
2. 2nd Coat: Benjamin Moore Ultra Spec EXT Satin N448 (46 g/L), MPI # 15.

e. Satin Finish- Early Moisture Resistant Finish:
1. 1st Coat: Benjamin Moore Regal Select Exterior High-Build Low Lustre N401 (40 g/L), MPI # 15, 315.
2. 2nd Coat: Benjamin Moore Regal Select Exterior High-Build Low Lustre N401 (40 g/L), MPI # 15, 315.

f. Flat Finish:
1. 1st Coat: Benjamin Moore Ultra Spec Exterior Flat Finish N447 (45 g/L), MPI # 10.
2. 2nd Coat: Benjamin Moore Ultra Spec Exterior Flat Finish N447 (45 g/L), MPI # 10.

g. Flat Finish- Early Moisture Resistant Finish:
1. 1st Coat: Benjamin Moore Regal Select Exterior High-Build Flat Finish N400 (42 g/L) MPI # 10.
2. 2nd Coat: Benjamin Moore Regal Select Exterior High-Build Flat Finish N400 (42 g/L) MPI # 10.

D. METAL: Misc. Iron, Ornamental Iron, Structural Iron and Steel, Ferrous Metal.
1. Latex Systems:

a. Gloss Finish
1. 1st Coat: Corotech Acrylic Metal Primer V110 (199 g/L), LEED Credit.
2. 2nd Coat: Benjamin Moore Ultra Spec EXT Gloss Finish N449 (46 g/L) MPI # 11.
3. 3rd Coat: Benjamin Moore Ultra Spec EXT Gloss Finish N449 (46 g/L) MPI # 11.

b. Semi-Gloss Finish
1. 1st Coat: Corotech Acrylic Metal Primer V110 (199 g/L), LEED Credit.
2. 2nd Coat: Benjamin Moore Ultra Spec HP D.T.M. Acrylic Semi-Gloss Enamel, HP29 (147 g/L), MPI # 141, X-Green 141, 153, X-Green 153, LEED 2009, LEED V4.
3. 3rd Coat: Benjamin Moore Ultra Spec HP D.T.M. Acrylic Semi-Gloss Enamel, HP29 (147 g/L), MPI # 141, X-Green 141, 153, X-Green 153, LEED 2009, LEED V4.EXECUTION

2.6. EXAMINATION

A. The Contractor shall review the product manufacturer's special instructions for surface preparation, application, temperature, re-coat times, and product limitations.

B. The Contractor shall review product health and safety precautions listed by the manufacturer.

C. The Contractor shall be responsible for enforcing on site health and safety requirements associated with the Work.

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

E. Ensure that surfaces to receive paint are dry immediately prior to application.

F. Ensure that moisture-retaining substrates to receive paint have moisture content within tolerances allowed by coating manufacturer. Where exceeding the following values, promptly notify Architect and obtain direction before beginning work.
   1. Concrete and Masonry: 3-5 percent. Allow new concrete to cure a minimum of 28 days.
   2. Exterior Wood: 17 percent.
   3. Interior Wood: 15 percent.
   4. Interior Finish Detail Woodwork, Including Trim, and Casework: 10 percent.
   5. Plaster and Gypsum: 15 percent.
   6. Concrete Slab-On-Grade: Perform calcium chloride test over 24 hour period or other acceptable test to manufacturer. Verify acceptable moisture transmission and pH levels.

G. Examine surfaces to receive coatings for surface imperfections and contaminants that could impair performance or appearance of coatings, including but not limited to, loose primer, rust, scale, oil, grease, mildew, algae, or fungus, stains or marks, cracks, indentations, or abrasions.

H. Correct conditions that could impair performance or appearance of coatings in accordance with specified surface preparation procedures before proceeding with coating application.

2.7. PREPARATION - GENERAL

A. Clean surfaces thoroughly prior to coating application.

B. Do not start work until surfaces to be finished are in proper condition to produce finished surfaces of uniform, satisfactory appearance.

C. Stains and Marks: Remove completely, if possible, using materials and methods recommended by coating manufacturer; cover stains and marks which cannot be completely removed with isolating primer or sealer recommended by coating manufacturer to prevent bleed-through.

D. Remove Mildew, Algae, and Fungus using materials and methods recommended by coating manufacturer.

E. Remove dust and loose particulate matter from surfaces to receive coatings immediately prior to coating application.

F. Remove or protect adjacent hardware, electrical equipment plates, mechanical grilles and louvers, lighting fixture trim, and other items not indicated to receive

coatings.

G. Move or protect equipment and fixtures adjacent to surfaces indicated to receive coatings to allow application of coatings.

H. Protect adjacent surfaces not indicated to receive coatings.

I. Prepare surfaces in accordance with manufacturer's instructions for specified coatings and indicated materials, using only methods and materials recommended by coating manufacturer.

2.8. SURFACE PREPARATION

A. Concrete and Concrete Masonry: Clean surfaces free of loose particles, sand, efflorescence, laitance, form oil, curing compounds, and other substances which could impair coating performance or appearance.

B. Concrete Floors: Remove contaminants which could impair coating performance or appearance. Verify moisture transmission and alkaline-acid balance recommended by coating manufacturer; mechanically abrade surface to achieve 80-100 grit medium-sandpaper texture.

C. Existing Coatings:
1. Remove surface irregularities by scraping or sanding to produce uniform substrate for coating application; apply one coat primer of type recommended by coating manufacturer for maximum coating adhesion.
2. If presence of lead in existing coatings is suspected, cease surface preparation and notify Architect immediately.

D. Gypsum Board: Repair cracks, holes and other surface defects with joint compound to produce surface flush with adjacent surfaces.

E. Masonry Surfaces - Restored: Remove loose particles, sand, efflorescence, laitance, cleaning compounds and other substances that could impair coating performance or appearance.

F. Metals - Aluminum, Mill-Finish: Clean and etch surfaces with a phosphoric acid-water solution or water based industrial cleaner. Flush with clean water and allow to dry, before applying primer coat.

G. Metals - Copper: Clean surfaces with pressurized steam, pressurized water, or solvent washing.

H. Metals - Ferrous, Unprimed: Remove rust or scale, if present, by wire brush cleaning, power tool cleaning, or sandblast cleaning; remove grease, oil, and other contaminants which could impair coating performance or appearance by solvent cleaning, with phosphoric-acid solution cleaning of welds, bolts and nuts; spot-prime repaired welds with specified primer.

I. Metals - Ferrous, Shop-Primed: Remove loose primer and rust, if present, by scraping and sanding, feathering edges of cleaned areas to produce uniform flat surface; solvent-clean surfaces and spot-prime bare metal with specified primer, feathering edges to produce uniform flat surface.

J. Metals - Galvanized Steel (not passivated): Clean with a water-based industrial strength cleaner, apply an adhesion promoter followed by a clean water rinse.

Alternately, wipe down surfaces using clean, lint-free cloths saturated with xylene or lacquer thinner; followed by wiping the surface dry using clean, lint-free cloths.

K. Metals - Galvanized Steel, Passivated: Clean with water-based industrial strength cleaner. After the surface has been prepared, apply recommended primer to a small area. Allow primer to cure for 7 days, and test adhesion using the "cross-hatch adhesion tape test" method in accordance with ASTM D 3359. If the adhesion of the primer is positive, proceed with a recommended coating system for galvanized metal.

L. Metals - Stainless Steel: Clean surfaces with pressurized steam, pressurized water, or water-based industrial cleaner.

M. Plaster: Repair cracks, holes and other surface defects as required to maintain proper surface adhesion. Apply patching plaster or Joint compound and sand to produce surface flush with adjacent undamaged surface. Allow a full cure prior to coating application as recommended by the patching compound manufacturer's recommendations.

N. Polyvinyl Chloride (PVC) Pipe: remove contaminants and markings with denatured alcohol scuff sand and wipe with solvent for maximum adhesion. Test adhesion before starting the job.

O. Fiberglass Doors - remove contaminants with cleaning solvent (alcohol) scuff sand and wipe. Test adhesion of primer before starting job.

P. Textiles - Insulated Coverings, Canvas or Cotton: Clean using high-pressure air and solvent of type recommended for material.

Q. Wood:
1. Seal knots, pitch streaks, and sap areas with sealer recommended by coating manufacturer; fill nail recesses and cracks with filler recommended by coating manufacturer; sand surfaces smooth.
2. Remove mill marks and ink stamped grade marks.
3. Apply primer coat to back of wood trim and paneling.

R. Wood Doors: Seal door tops and bottoms prior to finishing.

S. Wood Doors - Field-Glazed Frames and Sash: Prime or seal glazing channels prior to glazing.

2.9. APPLICATION - GENERAL

A. Application of primers, paints, stains or coatings, by the Contractor, will serve as acceptance that surfaces were properly prepared in accordance with the manufacturer's recommendation.

B. Apply each coat to uniform coating thickness in accordance with manufacturer's instructions, not exceeding manufacturer's specified maximum spread rate for indicated surface; thins, brush marks, roller marks, orange-peel, or other application imperfections are not permitted.

C. Allow manufacturer's specified drying time, and ensure correct coating adhesion, for each coat before applying next coat.

D. Inspect each coat before applying next coat; touch-up surface imperfections with

coating material, feathering, and sanding if required; touch-up areas to achieve flat, uniform surface without surface defects visible from 5 feet (1.5 m).

E. Remove dust and other foreign materials from substrate immediately prior to applying each coat.

F. Where paint application abuts other materials or other coating color, terminate coating with a clean sharp termination line without coating overlap.

G. Where color changes occur between adjoining spaces, through framed openings that are of same color as adjoining surfaces, change color at outside stop corner nearest to face of closed door.

H. Re-prepare and re-coat unsatisfactory finishes; refinish entire area to corners or other natural terminations.

2.10. CLEANING

A. Clean excess coating materials, and coating materials deposited on surfaces not indicated to receive coatings, as construction activities of this section progress; do not allow to dry.

B. Re-install hardware, electrical equipment plates, mechanical grilles and louvers, lighting fixture trim, and other items that have been removed to protect from contact with coatings.

C. Reconnect equipment adjacent to surfaces indicated to receive coatings.

D. Relocate to original position equipment and fixtures that have been moved to allow application of coatings.

E. Remove protective materials.

2.11. PROTECTION AND REPAIR

A. Protect completed coating applications from damage by subsequent construction activities until completion of painting project.

B. Touch-up coatings damaged by subsequent construction activities.

END OF SECTION