SECTION 09 21 16
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

B. Acoustic insulation.

C. Cementitious backing board.

D. Gypsum wallboard.

E. Joint treatment and accessories.

F. Water-resistive barrier over exterior wall sheathing.

1.02 RELATED REQUIREMENTS

A. Section 05 40 00 - Cold-Formed Metal Framing: Structural steel stud framing.

B. Section 06 10 00 - Rough Carpentry: Wood blocking product and execution requirements.

C. Section 07 21 00 - Thermal Insulation: Acoustic insulation.

D. Section 07 25 00 - Weather Barriers: Water-resistive barrier over sheathing.

E. Section 07 92 00 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.

1.03 REFERENCE STANDARDS

A. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units; 2010 (Reaffirmed 2016).

B. ANSI A118.9 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 1999 (Reaffirmed 2016).

C. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2017.

D. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2012.

E. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2015.

F. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2018b.

G. ASTM C1325 - Specification for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units; 2014.

H. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014.

I. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2012.

J. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009.

K. ASTM E413 - Classification for Rating Sound Insulation; 2010.

L. GA-216 - Application and Finishing of Gypsum Panel Products; 2016.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data on gypsum board, accessories, and joint finishing system.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

B. Interior Partitions, where insulation is provided within interior partitions: Provide completed assemblies with the following characteristics:
   1. Acoustic Attenuation: STC of 45-49 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

C. Fire-Resistance-Rated Assemblies: Provide completed assemblies with the following characteristics:
   1. Fire-Resistance-Rated Partitions: As indicated in drawings..

2.02 BOARD MATERIALS

A. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
      a. Mold resistant board is required at all locations.
   3. Thickness:
      a. Vertical Surfaces: 5/8 inch.
      b. Ceilings: 5/8 inch.
   4. Mold Resistant Paper Faced Products:
      a. USG Corporation; USG Sheetrock Brand EcoSmart Panels Mold Tough Firecode X: www.usg.com/#sle.

B. Backing Board For Wet Areas:
   1. Application: Surfaces behind wall tile.
   2. ANSI Cement-Based Board: Non-gypsum-based; aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces complying with ANSI A118.9 or ASTM C1325.
      a. Thickness: 5/8 inch.

2.03 GYPSUM WALLBOARD ACCESSORIES

A. Insulation for interior partitions (Acoustic Insulation): ASTM C665; preformed glass fiber, friction fit type, unfaced. Thickness: 2 inch.

B. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
   1. Paper Tape: 2 inch wide, creased paper tape for joints and corners, except as otherwise indicated.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.

B. Blocking: Install blocking for support of:
   1. Framed openings.
   2. Wall-mounted cabinets.
   3. Plumbing fixtures.
   4. Toilet accessories.
   5. Wall-mounted door hardware.

6. Where indicated on drawings

3.03 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

B. Acoustic Sealant: Install in accordance with manufacturer's instructions.

3.04 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Fire-Resistance-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

C. Cementitious Backing Board: Install over steel framing members and plywood substrate where indicated, in accordance with ANSI A108.11 and manufacturer's instructions.

3.05 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.

B. Corner Beads: Install at external corners, using longest practical lengths.

C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.06 JOINT TREATMENT

A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
   2. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.

B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch.

3.07 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

SECTION 09 20 00

PLASTER & LATH RESTORATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes restoration of plaster walls and ceilings including, but not limited to:

1. Application of three-part lime & gypsum plasters over split wood lath, sawn wood lath and/or metal lath.
   a) Includes preparation of existing wood lath.
   b) Includes installation of new sawn wood lath.
   c) Includes installation of new metal lath.

2. Repair, stabilization and restoration of conventional three-part lime & gypsum plasters over wood and metal lath, including areas adjacent to specified removals that were damaged during construction. These may include:
   a) Reattachment of existing plaster to lath with plaster washers.
   b) Installation of fiberglass reinforcing mesh over existing plaster.
   c) Application of finish plaster where missing or damaged over sound base coat plasters.
   d) Preparation and filling of cracks in plaster.
   e) Application of lime & gypsum veneer plasters over repaired & stabilized substrates.
3. Refer to Drawings. Room 103 Ceiling in the Manor Hall is *excluded* from the contract.

B. ***NOTE: The Work of this Section requires special skills. Qualifications for mechanics are identified in Part 1.4 below.***

1.2 RELATED SECTIONS:

A. Section 02 10 00 – Selective Demolition, Removals and Salvage.
B. Section 06 40 00 – Architectural Woodwork

1.3 SUBMITTALS

A. Qualifications Data: Submit evidence of installer's qualifications in accordance with the requirements specified in the Quality Assurance article.

B. Product Data: Manufacturers' published technical data for each product to be used in work of this Section including recommendations for application and use, test reports and certificates verifying that product complies with specified requirements, and Material Safety Data Sheets (MSDS).

1. Plaster Materials. Include manufacturer's instructions for mixing, applying and curing plaster materials.
2. Pre-Package Plaster Mixes.
3. Wire lath

C. Samples:
1. Fiber Reinforcement: One-half pound. Place sample in re-sealable plastic bag.
2. Sand: 8-ounce sample in re-sealable bag.

1.4 QUALITY ASSURANCE

A. The Contractor for the Work of this Section shall be regularly engaged in the restoration of historic plasters, including flat and molded plaster.

B. Installer's Qualifications: Engage only highly skilled plasterers with at least five (5) years satisfactory experience in historic plaster restoration, including work on at least two (2) projects involving mixing and applying conventional three-coat lime and gypsum plasters, and restoration of ornamental plaster.
1. In the acceptance or rejection of the Work of this Section, no allowance will be made for lack of skill on the part of any worker.

1.5 QUALITY CONTROL

A. Packaged Products:
1. Deliver materials to the site in the manufacturer's original, sealed containers. Do not deliver materials that have exceeded the manufacturer's recommended shelf life or have been subjected to other adverse conditions (freezing or excessive moisture/humidity).
2. Comply with the manufacturer's recommendations for storing and protecting materials.

B. Bulk Aggregate and Raw Materials:
1. Store materials in a suitable manner to prevent contamination with soil, debris, or other deleterious materials.

C. Source of Materials: Obtain materials for plaster restoration from a single source for each type of material required to ensure a match in quality.

1.6 PROJECT CONDITIONS

A. Temperature Requirements:
1. Do not mix or place plaster when the surface or ambient air temperature is less than 55 degrees F.
2. Maintain space temperature between 55 and 85 degrees F. during curing period.
3. Do not use frozen materials or materials that are mixed or coated with frost or ice.

B. Lead Containing Paint
   1. Perform all work that disturbs lead-containing paint in compliance with applicable OSHA regulations, including Lead in Construction and hazard Communication Standard (Title 29, Sections 1926.62 and 1910.1200, respectively, Code of Federal regulations, OSHA, US Department of Labor) and with all other applicable federal, state and local laws and regulations for removal, handling, containerization, transportation and disposal of lead-containing material.
   2. Dispose of lead-containing paint chips and other residue as hazardous waste in compliance with federal, state and local laws and regulations: New York State Department of Environmental Conservation (NYSDEC), Title 6, Part 364 and parts 370-374; and US Department of Transportation, 49CFR parts 173, 178 and 179.
   3. Lead containing paint is present on existing plaster surfaces. It is strongly advised that prior to executing plaster restoration work under this section, that plaster removals and surface preparations be completed in accordance with Sections 01 73 00 and 09 90 00 prior to plastering work.
   4. Refer also to Section 02 83 00 Lead-Based Paint Removal.

PART 2 - PRODUCTS

2.1 LIME & GYPSUM PLASTERS

A. Materials – Constituent Components:
   1. Lime: Hydrated ASTM C 207, Type S.
   2. Lime, Autoclaved (Finishing Hydrated) ASTM C206, Type S
   3. Lime Putty, ASTM C 1489, Type S
   4. Lime, Natural Hydraulic (NHL2, NHL3.5 for base coat over metal lath only), ASTM C 207
   4. Gypsum Plaster, regular, ASTM C28
   5. Gauging Plaster, ASTM C28
   6. Keene's Cement, ASTM C61
   7. Sand: Clean, well graded sharp sand free of loam, silt, soluble salts, organic matter, or other deleterious substances meeting the chemical and physical requirements of ASTM C35.
   8. Water: Clean, potable and free of excessive minerals or compounds detrimental to mortars and masonry units.
   9. Reinforcing Fiber:
      a. Cattle, Ox, horse or goat hair.
      b. Alkali resistant glass fiber
      c. Hemp fibers
   10. Admixtures: None permitted.

B. Materials – Pre-Packaged Products:
   1. Base Coat Plasters (Scratch and Brown Coats):
      a. Wood Fiber Base Coat Gypsum Plaster, ASTM C28.
      b. Add sand per manufacturer's recommendations. Sand Aggregate: ASTM C 35

c. Limeworks.us Ecologic Plaster course sanded grade (G), or
d. U.S. Heritage Group, Inc. Lime Plaster NHL 3.5 Medium Sand,
e. Or approved equal.

2. Finish Plaster: A premixed finish plaster or mixture of gauging plaster and lime, ASTM C587 with the following:
   a. Gauging Plaster: ASTM C 28, 1200 psi (min.) compressive strength.
   b. Lime: Special finishing hydrated type; ASTM C 206, Type S
3. Finish Plaster: Premixed finish plaster manufacturers:
   a. Limeworks.us Ecologic Plaster Topcoat
   b. U.S. Heritage Group, Inc. Lime Putty Plaster, Type L
   c. Or approved equal.

C. Plaster Mix Ratios: Walls & Ceilings for field-mixed applications.
NOTE: Mix ratios below are given as a general guideline. Qualified plaster mechanics may slightly adjust mix ratios as needed for appropriate workability and setting time.

1. Scratch Coat:
   a. Lime putty 1: 2.5 sand by volume, plus fiber (basement, damp locations and direct-to masonry applications), or
   b. Gypsum Plaster 1: 2 sand by volume, plus fiber, or
   c. Natural Hydraulic Lime (NHL3.5) 1:2.5 sand, plus fiber
2. Brown (Float) Coat:
   a. Lime Putty 1:3 sand by volume (basement & damp locations), or
   b. Gypsum Plaster 1:2 sand by volume, or
   c. Natural Hydraulic Lime (NHL2) 1:2.5 sand
3. Finish Coat:
   a. Lime Putty 3:1 Gauging Plaster by volume.
4. Veneer Plaster (One, or Two-coat applications)
   a. First Coat (Base Coat): pre-Packaged Base Coat Plaster.
   b. Second Coat (Finish Coat) - Lime Putty 3:1 Gauging Plaster by volume.
   c. Single Finish Coat applications - Lime Putty 3:1 Gauging Plaster by volume.

C. Pre-Packaged Complete Plaster Products

1. Scratch Coat on Wood or metal lath: LimeWorks Ecologic Plaster, Course Sanded Grade (G) or Ecologic Mortar, or U.S. Heritage Group Lime Plaster NHL 3.5 with Medium Sand, plus field-added fiber
2. Scratch Coat on metal lath only: Wood fiber lightweight base coat gypsum plaster, US Gypsum “Structolite” or approved equal.
3. Brown Coat: US Gypsum “Structolite” or approved equal.
4. Brown Coat: LimeWorks Ecologic Plaster, Course Sanded Grade (G) or Ecologic Mortar, or U.S. Heritage Group Lime Plaster NHL 3.5 with medium sand

5. Finish Coat: LimeWorks Ecologic Plaster Topcoat (XF) Extra Fine Sanded or U.S. Heritage Group Lime Putty Plaster, Type L
6. Finish Coat: US Gypsum Diamond Veneer Finish Plaster

2.2 LATH (NEW)

A. Wood lath: white pine, spruce, fir or any suitable softwood, kiln-dried, approximately 5/16" x 1-1/2" in 4' lengths.
   1. Nails for wood lath: 3d blued lathing nails.

B. Metal lath: Unimast galvanized self-furring diamond mesh lath, 3.4 lbs./sy
   1. Screws for metal lath: 1-1/4" Type S-12 Bugle head , galvanized or stainless steel, or as recommended by lath manufacturer.

2.3 MISCELLANEOUS MATERIALS

A. Plaster Washers: 1-inch diameter perforated steel discs designed to mechanically fasten finish plaster to lath or framing.
B. Screws: Stainless steel, galvanized or coated drywall screws; minimum 1-5/8 inch long.
C. Plaster Bonding Agent: Polyvinyl acetate (PVA) adhesive, ASTM C 63, or polyvinyl acetate homopolymer chemical concrete bonding agent.
   1. Larsen Plaster-Weld or approved equal.
D. Fiberglass Mesh: 4 x 5 mm or 5 x 5 mm mesh, approximately 75g/sq m, alkali resistant, self-adhering, or approved equal.
E. Fiberglass Mesh tape: same as above, 2-inches wide for application at joints in gypsum board plaster base.

PART 3 - EXECUTION

3.1 PROTECTION

A. Cover and protect adjacent surfaces from contact with plastering materials and water with suitable drop cloths, membranes, barriers or other protective devices.
B. Protect wood floors from damage by tools, ladders and scaffolding.
C. Protect plaster ceiling medallions from damage.

3.2 PREPARATION

A. Examination: Prior to removal of plaster, examine all areas scheduled for repair, restoration or stabilization. Identify any discrepancies and report them to the Director's Representative prior to executing preparation work.

B. Secure loose areas of existing plaster to framing and/or lath with screws and perforated plaster washers.
   1. Plaster washers shall be set flush with existing finish plaster. Use power tools will appropriately sized spade bits to remove finish plaster to accept plaster washers.

C. Remove dead plaster (where base coats have separated from lath), avoiding damage to plaster that is to remain and/or be secured by plaster washers.

D. Cut back edge of finish plaster on adjoining surfaces so that joint between the base and finish coats will be offset.

E. Where areas are to receive new base coat plaster, remove sufficient lath to clean debris. Remove all dirt and debris from within ceiling cavity.

F. Where previously removed, install wood lath. Secure lath to framing with blued or galvanized nails or screws.
   1. Pre-wet wood lath at least 24 hours before applying plaster base coat and again immediately (or within two hours) before applying plaster. Wood lath should be damp but not saturated.
   2. Install lath with 3/8-inch gap between lath strips.

F. Install metal lath where previously removed. In some cases, metal lath was installed over existing wood lath.

G. Protect existing plaster to remain. Where adjacent flat plaster is to be removed, cut flat plaster using rotary grinders or power cutting tools to score and cut plaster with minimal vibration.

H. Cracks:
   1. Small Cracks, 1/32” to 3/32” wide: Score cracks using sharp pointed hand tools, cut to form an inverted “V”, patched plaster to key into and bond with old plaster. Pre-wet plaster before filling cracks with finish plaster or joint compound.
   2. Large cracks, 1/8”and wider or where offset of 1/8” or more occurs: May require removal of plaster down to wood lath in an area 4” to 6” wide. Cut back edge of finish plaster on adjoining surfaces so that joint between the base and finish coats will be offset. Clean out old plaster from wood lath. Re-secure loose lath. Pre-wet lath at least 4 hours prior to patching with base coat plaster.
   3. Apply finish plaster smooth and level with adjacent intact finish. Where slightly over-built, sand smooth with adjacent surfaces.

I. Loss of Finish Plaster:
   1. Where finish plaster has separated from base coats, but base coats are intact, remove loose finish plaster and fill minor losses in base coats.
   2. Apply bonding agent to exposed base coat.
   3. Apply finish plaster smooth and level adjacent intact finish. Where slightly over-built, sand smooth with adjacent surfaces.

J. Bonding Agent:

1. Apply plaster bonding agent to existing plaster in areas to receive veneer or skim coat plaster, prior to application of fiberglass mesh.
2. Apply plaster bonding agent to existing base coat plaster where finish coat plaster is to be patched or filled.

K. Fiberglass Mesh
1. Install self-adhering fiberglass mesh sheet material over entire surfaces of stabilized plaster where required to coat with veneer plaster. Use stainless steel staples to hold mesh in place if needed.
2. Install fiberglass mesh tape at all joints in gypsum board plaster base.

3.3 APPLYING PLASTER

A. Mix plaster materials according to manufacturers printed instructions.
1. Measure materials by known volume or weight; do not measure by shovel.
2. Add fiber reinforcement at the manufacturer's recommended ratio.
3. Use only the minimum amount of water necessary to produce plaster with a workable consistency.
4. Prepare plaster in quantities that can be placed within one hour of mixing. Do not remix plaster that has begun to set.
5. When using hydrated lime, allow to pre-soak overnight to produce a workable lime putty.

B. Apply base coats (scratch and brown coats) in uniform thicknesses as required to replicate original work except where otherwise noted. Score surfaces in accordance with best practices to achieve good bond between coats.
1. Apply Scratch (base) coat with sufficient pressure to form keys and mechanically bond to lath.
2. Allow initial base coat to cure adequately before applying brown coat.
3. Apply Brown (second) coat ,built out to within 3/16” to 1/8” of finish surface. Leave brown coat rough.
4. Allow Brown coat to cure adequately before applying finish coat

C. Apply veneer plaster base coat (for two-coat veneer applications) in uniform thickness with rough surface, approximately 3/16” to 1/4”, or within 1/8” of finish surface.
1. Apply after installation of bonding agent, fiberglass mesh or mesh tape.
2. Allow base coat to cure adequately before applying finish coat.

D. Apply finish coat flush with surrounding surface or to original levels.
1. Provide smooth trowel finish.
2. Where areas of veneer coat plaster are adjacent to three coat plaster system on the same wall or ceiling, complete finish coat at the same time to provide a uniform, seamless finish.

3. Apply after application of bonding agent and fiberglass mesh in single coat veneer applications).

E. Cure plaster finish in accordance with best practices to achieve a durable, hard and smooth surface free of cracks, spalls, voids or other defects.
   1. Repair cracks, spalls, voids and other defects in the finished surface.

3.4 CLEANING AND PROTECTION

A. Remove debris, temporary protection and enclosures as needed to clean for other work.
B. Cleaning: Promptly remove plaster from door and window frames, wood base molding, wood floors and other surfaces which are not to be plastered.
C. Protect plaster that is not to be altered or repaired. Protect plaster ceiling medallion(s).

END OF SECTION

SECTION 09 24 00

STUCCO RESTORATION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section Includes:
   1. Repair of two-coat and three-coat historic exterior plaster work (stucco).
      a. Replacement of deteriorated and delaminating plaster
      b. Patching cracks in plaster

1.03 RELATED SECTIONS

A. Section 01 35 00 – Special Procedures – Historic Preservation
B. Section 04 90 00 – Masonry Restoration
C Section 09 90 00 – Painting

1.04 REFERENCES

A. American Society for Testing and Materials
   1. ASTM C25 – Test Methods for Chemical Analysis of Limestone, Quicklime and Hydrated Lime.
   2. ASTM C91 – Standard Specification for Masonry Cement.
   3. ASTM C109 – Test Method for Compressive Strength of Hydraulic Cement Mortars.
   4. ASTM C141 / C141M – Standard Specification for Hydrated Hydraulic Lime for Structural Purposes.
   5. ASTM C144 – Standard Specification - Aggregate for Masonry Mortar.
   6. ASTM C926 – Standard Specification for Application of Portland Cement-Based Plaster.
   7. ASTM C979 – Standard Specification for Pigments for Integrally Colored Concrete.

B. European Standards
   1. EN 459-1 Building Lime – Part 1: Definitions, Specifications and Conformity Criteria
   2. EN 459-2 Building Lime – Part 2: Test Methods
   3. EN 459-3 Building Lime – Part 3: Conformity Evaluation

1.05 SEQUENCING AND SCHEDULING

A. Perform historic plaster repairs in the following sequence, which includes work specified in this and other Sections:
   1. Remove all applied coatings in accordance with Section 09 90 00 Painting

2. Dismantle existing surface-mounted objects and hardware that overlie plaster surfaces except items indicated to remain in place. Tag items with location identification and protect.
3. Verify that temporary protections have been installed.
4. Examine condition of plaster surfaces; remove loose or delaminated sections.
5. Clean plaster surface to the extent required.
6. Repair and replace plaster, matching existing texture and tooling, tightly adhered surface on which to apply finishes.
6. Cure repaired surfaces and allow them to dry for proper finishing.
7. Apply specified coatings per Section 09 90 00 Painting.
8. Reinstall dismantled surface-mounted objects and hardware unless otherwise indicated.

1.06 SUBMITTALS

A. Product Data: For each type of product, including plaster materials and lath.
B. Mock-ups: For site-prepared finish coat and for each texture as required, to match adjacent.

1.07 QUALITY ASSURANCE

A. Historic Treatment Specialist Qualifications: A qualified historic plastering/stucco specialist with expertise in matching and performing the types of historic stucco repairs required. Experience only in installing and repairing new plasterwork, veneer plaster, or gypsum board is insufficient experience for historic treatment work.
B. Mockups: Prepare mockups of processes for stucco repair and reconstruction work to demonstrate aesthetic effects and to set quality standards for materials and execution and for fabrication and installation.
   1. Build mockups for each substrate and finish texture indicated for plastering, including accessories.
      a. Locate mockups on existing surfaces where directed by Director's Representative, and in locations that enable viewing under same conditions as the completed work.
   2. Mock-up shall include one repair area selected by Director's Representative. Include at least the following:
      a. Patch and texture area that matches adjacent sound material.
      b. Repair 4 linear foot of cracked stucco ("bagging" mix application).
   3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
   4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Store materials inside under cover and keep them dry and protected against damage from weather, moisture, direct sunlight, surface contamination, corrosion, construction traffic, and other causes.

1.09 FIELD CONDITIONS

A. Comply with ASTM C 926 requirements.
B. Exterior Plasterwork:
   1. Apply and cure plaster to prevent plaster drying out during curing period. Use procedures required by climatic conditions, including moist curing, providing coverings, and providing barriers to deflect sunlight and wind.
   2. Apply plaster when ambient temperature is greater than 40 deg F, and will remain above 40 deg F for at least 72 hours after application.
   3. NHL Lime plasters must be kept above 40 deg F or freezing for three weeks after application.
   4. Protect plaster coats from freezing for not less than 48 hours after set of plaster coat has occurred.

PART 2 – PRODUCTS

2.01 PLASTER MATERIALS

A. Pre-Mixed Natural Hydraulic Lime Plaster (NHL 3.5) Mix, mill-mixed aggregates and proprietary ingredients, provide one of the following, or approved equal:
   1. US Heritage Group, Chicago, Illinois, (773)-286-2100,
      a. Medium Sand Mix for Base Coat(s): 1 part NHL and 2.8 parts sand
      b. Fine Sand mix for Finish Coat: 1 part NHL and 2.8 parts sand
      c. NOTE: Contractors option to use Fine Sand Mix for both coats. Verify decision with Director's Representative.
   2. Limeworks.US, Telford, PA 18969 – Two-part NHL stucco application, including
      a. Ecologic TACKCOAT (basecoat) and
      b. Ecologic TOPCOAT Course-sanded grade (C), or Fine-sanded grade (F) as needed to match existing texture.
B. Natural Hydraulic Lime (NHL) 3.5: Product must fulfill all requirements of EN-459 and ASTM C-141
C. Plaster Aggregates:
   1. Base Coats: Natural or Manufactured Sharp Sand with at least 4 grades forming a substantial part of the sand and no more than 3% of particles smaller than grade #200 (0.075mm).

2. Finish Coat: Natural or Manufactured Sharp Sand with at least 4 grades forming a substantial part of the sand and no more than 3% of particles smaller than grade #200 (0.075mm).
3. Bagging Mix to fill cracks: Whibco of New Jersey, Inc. extra fine yellow filter Sand, with at least 99% passing #40 screen, or approved equal

D. Pre-Mixed Plaster for "Bagging" Cracks
1. Heritage Hydraulic Lime Plaster-Stucco NHL3.5 with extra fine aggregate , US Heritage Group, Chicago, IL
2. Limeworks.US, Ecologic TOPCOAT XF Exterior with extra fine sand.

2.02 PLASTER MIXES (Where Pre-Packaged Materials Are Not Used)

A. Scratch Coat: 1 part NHL 3.5 and 3 parts of sand, proportioned by volume.
1. Fiber Reinforcement: add fiber to scratch coat if applied to wood lath.

B. Brown Coats: 1 part NHL 3.5 and 3 parts of sand, proportioned by volume.
C. Finish Coat: 1 part NHL 3.5 and 3 parts of sand, proportioned by volume.
D. Bagging Mix (filling cracks up to 1/8" wide): 1 part NHL 3.5 and 2-1/2 parts extra fine sand, mixed to "yogurt" consistency to fill cracks.
E. Mix only as much plaster as can be used prior to initial set
F. Mix materials dry, to uniform color and consistency, before adding water

2.03 MISCELLANEOUS MATERIALS

A. Water for Mixing and Finishing Plaster: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.
B. Fiber for Base Coat:
1. Hemp fibers, 1/2 inch (13 mm) long, free of contaminants, as manufactured by US Heritage Group, Chicago, Illinois, (773)-286-2100, or
2. ½ inch nominal length glass fibers meeting requirements of ASTM C1116

C. Fasteners: Use stainless steel screws for concealed anchors.

PART 3 – EXECUTION

3.01 TREATMENT OF HISTORIC STUCCO, GENERAL

A. Historic Treatment Appearance Standard: Completed work is to have a uniform appearance as viewed by Director's Representative from building exterior at 10 feet away from surface.
B. General: In treating historic plaster, disturb it as minimally as possible and as follows unless otherwise indicated:
1. Dismantle loose, damaged, delaminated or deteriorated plaster, lath, and support systems that cannot be repaired.
2. Verify extent of plaster deterioration before commencing work. Consult Director's Representative on types and extent of required work.
3. Verify that substrate surface conditions are suitable for repairs.

4. Replace lost details in new, wet-applied plaster that replicate existing textures at adjacent sound materials.
5 Repaired stucco shall match tooling, including scribed lines.
6. Retain outlines in stucco of porches that were previously removed.
7. Leave repaired plasterwork in proper condition for painting or applying other finishes as indicated.
8. Install temporary protective measures to protect historic surfaces that shall be treated later.

3.02 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for substrate and environmental conditions, installation tolerances, and other conditions affecting performance of the Work.
   1. Sound (lightly tap) existing plaster to detect hollow or detached finish plaster.
   2. If existing substrates cannot be prepared to an acceptable condition for stucco repair work, notify Director's Representative in writing.
   3. Notify Director's Representative of undocumented detrimental conditions including cracks, bulges, loose backup, rotted wood, rusted metal, and other deteriorated items. Determine extent of deteriorated stucco prior to removal.

B. Begin historic plastering work only after unsatisfactory conditions have been corrected.

3.03 PREPARATION

A. Prepare smooth, solid substrates for plaster according to ASTM C 926.
B. Mix all materials according to manufacturer's written specifications.

3.04 PREPARATION FOR PLASTERING/ STUCCO

A. Protect adjacent work from soiling, spattering, moisture deterioration, and other harmful effects caused by plastering.
B. Substrates: Prepare according to plaster manufacturer's written instructions and as follows:
   1. Remove any loose mortar or deteriorated masonry material.
   2. Clean surfaces to remove dust, loose particles, grease, oil, incompatible curing compounds, form-release agents, and other foreign matter and deposits that could impair bond with plaster.
   3. Remove ridges and protrusions greater than 1/4 inch and fill depressions greater than 1/2 inch with patching (base coat) material. Allow to set and dry.
C. DO NOT use wire brushes to prep stucco or substrates. Ferrous metal brushes leave residue that will rust and stain through finishes.

3.05 STUCCO REMOVAL AND REPLACEMENT

A. Remove damaged stucco down to sound stucco or masonry substrate, along straight edges that lie over supports, without damaging surrounding plasterwork. The area to be patched should be squared off with a butt joint, using a cold chisel, a hatchet, a

diamond blade saw, or a masonry bit. An irregular shape will blend the patched area better, and new stucco should not overlap the existing.

B. Maintain lath and supporting members in an undamaged condition so far as practicable. Dismantle damaged lath and supports that cannot be repaired or resecured and replace with new work of same type.

C. Notify the Director's Representative of undocumented detrimental conditions including cracks, bulges, loose backup, rotted wood, rusted metal, and other deteriorated items.

D. Do not deviate more than plus or minus 1/8 inch in 10 feet from a true plane in finished plaster surfaces, as measured by a 10-foot straightedge placed on surface.

E. Clean substrate surfaces to remove grease, waxes, oils, waterborne staining, debris, and other foreign matter and deposits that could impair bond with repair material. Remove all plant growth.

F. Wet exposed substrate before plaster application. Keep substrate damp to the touch but without visible water droplets. Water application should be done the day before the application of the base coat with the last application just before the base coat starts.

G. Wet remaining plaster abutting the replacement plaster before installing new plasterwork.

H. Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground unless otherwise indicated

I. Provide plaster surfaces that are ready to receive field-applied finishes indicated.

J. The number and thickness of stucco coats used in the repair should shall depend on the depth of removed deteriorated stucco, so that no single coat of new stucco exceeds 3/8" thick. In some areas, this may require three (3) coats, including a scratch coat, brown coat and finish coat.

1. After thoroughly dampening the substrate, the first, base coat should be applied to the substrate, in a thickness that corresponds to the original, or generally between 5/16" to 3/8". The base coat should be scratched or cross-hatched with a comb to provide a key to hold the second coat. Allow 3-5 days, for each coat to dry before the next coat can be applied.
2. The second, or finish, coat should be no less than 3/16" to 1/4", so that thickness of the two coats does generally not exceed 5/8". This finish coat is applied after the previous coat has initially set. If this is not feasible, the base coat should be thoroughly dampened when the finish coat is applied later. The finish coat should be worked to match the texture of the original stucco. Allow 3-5 days for base coat to dry before the finish coat is applied.

K. Preparation for "bagging" cracks: Score out cracks with a serrated blade knife or hand tool to remove paint residue or debris that would interfere with bind between existing stucco and bagging mix. Use compressed air to remove debris.

3.06 STUCCO APPLICATION

A. Provide plaster surfaces that are ready to receive field-applied finishes to match adjacent.

B. Walls: Base-Coat Mix: For base coat, for two-coat plasterwork and having 3/8-inch thickness on wood substrate.

1. Materials
   a. Pre-mixed NHL plaster mix, in medium sand size, or custom-mixed using specified constituent materials in Part 2.02.
   b. Hemp Fiber, provided at 1# per 3 cf of plaster mix, or glass fiber
   c. DO NOT ADD CEMENT.
2. Application
   a. Add just enough water to pre-mixed product to obtain desired workability.
   b. Scour back and key base coat once the material has taken its initial set and is thumbprint hard.
3. Curing and Protection
   a. Cover with plastic sheeting to protect from frost, heavy rain, strong winds and direct sun for a minimum of 72 hours after application.
   b. Dampen surface a minimum of three times per day, morning, noon and night for the first 3 days after application using a fine mist of water to initiate carbonation.
   c. Additional misting is required if temperatures exceed 90 degrees F or if direct sunlight is affecting the surface temperature of the wall.
   d. Check for shrinkage cracks during the first 24 hours. Material can be reworked up to 24 hours after initial application. If necessary, lightly mist with water and dampen the relevant area to allow the water to penetrate the material. Scour back and re-key.
   e. Do not apply finish coat until 48 hours has passed and the base coat is adequately firm.
   f. Dampen surface before applying finish coat.

C. Walls; Finish-Coat Mix: For finish coat, for two-coat plasterwork, and having no less than 3/16-inch thickness over base coat.
1. Materials
   a. Pre-mixed NHL plaster mix, in medium or fine sand size, as determined by the plasterer to provide workability and texture to match adjacent, or mix constituent components as indicated in Part 2.02.
   b. DO NOT ADD CEMENT.
2. Application
   a. Apply finish coat to damp base coat surface using trowel.
   b. Apply firmly not to exceed ¼” (6 mm) in thickness. Make sure to add just enough water to obtain the desired workability. Too much water in the finish coat can cause a higher risk of shrinkage cracks. Remix and apply.
   c. To create a smooth lightly textured surface, use a wooden float in circular motions after the material is thumbprint hard.
3. Curing and Protection
   a. Cover with plastic sheeting to protect from frost, heavy rain, strong winds and direct sun for a minimum of 72 hours after application.
   b. Dampen surface a minimum of three times per day for the first 3 days after application using a fine mist of water to initiate carbonation.

Additional misting is required if temperatures exceed 90 degrees F or if direct sunlight is affecting the surface temperature of the wall.

c. Check for shrinkage cracks during the first 24 hours, if necessary, lightly mist with water and dampen the relevant area allow the water to penetrate the material then refinish. This material can be reworked up to 24 hours after initial application.

d. Do not apply latex or acrylic coating until finish coat has cured completely, approximately 4 weeks.

3.07 STUCCO REPAIRS

A. Repair or replace work to eliminate cracks, dents, blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.

3.08 REPAIRING SMALL CRACKS IN STUCCO

A. General: Fill small cracks (1/32-inch wide to 1/8-inch wide) in stucco with bagging mix.
   1. Cracks under 1/32-inch in width are expected to be filled with mineral coating and do not require patching.
   2. Cracks at intersections between dissimilar materials (e.g. stucco to wood) shall be filled with sealant (see 07 90 00 Joint Sealants).
   3. Cracks over 1/8-inch wide shall be treated as stucco patching and may require multiple coats of stucco (i.e. scratch and finish coat), depending on depth.

B. Preparation: Clean surface of cracks free of dirt and debris by brushing with stiff fiber bristle brush followed by clean, oil-free compressed air. Wet substrate thoroughly and allow it to dry slightly.

C. Application: Apply bagging mix with, putty knife, brush or squeegee and work well into cracks. Wipe excess from surface using rough burlap or other rough cloth.

D. Surface Cleaning: Remove excess patching material from stucco surface using clean water and sponges.

E. Rubbing Surface to Remove Excess Material: After stucco has thoroughly dried, rub with carborundum blocks to remove excess material to expose original stucco surface profile and texture.

3.09 PAINTING

A. Do not apply coatings within three (3) weeks of finish stucco coat installation. Allow NHL plaster to cure adequately before application.

3.10 CLEANING AND PROTECTION

A. Remove temporary protection and enclosure of other work after plastering is complete. Promptly remove plaster from door frames, windows, and other surfaces not indicated to be plastered. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged during plastering.

B. Correct damage to other historic surfaces and to new work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an

undamaged condition.

C. Remove temporary protection and enclosure of other work.

END OF SECTION

SECTION 09 30 00
TILING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Tile for floor applications.

B. Tile for wall applications.

C. Stone thresholds.

D. Porcelain trim.

1.02 RELATED REQUIREMENTS

A. Section 07 92 00 - Joint Sealants: Sealing joints between tile work and adjacent construction and fixtures.

B. Section 09 21 16 - Gypsum Board Assemblies: Tile backer board.

1.03 REFERENCE STANDARDS

A. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar; 2014.

B. ANSI A108.1b - American National Standard Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).

C. ANSI A108.1c - Specifications for Contractors Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Bed with Dry-Set or Latex-Portland Cement; 1999 (Reaffirmed 2010).

D. ANSI A108.2 - American National Standard General Requirements: Materials, Environmental and Workmanship; 2019.

E. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile-Setting Epoxy Adhesive; 2009 (Revised).

F. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).

G. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy; 1999 (Reaffirmed 2010).

H. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout; 1999 (Reaffirmed 2010).

I. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout; 1999 (Reaffirmed 2010).

J. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 1999 (Reaffirmed 2010).

K. ANSI A108.12 - American National Standard for Installation of Ceramic Tile with EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).

L. ANSI A108.13 - American National Standard for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone; 2005 (Reaffirmed 2010).

M. ANSI A108.19 - American National Standard Specifications for Interior Installation of Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs by the Thin-Bed Method Bonded with Modified Dry-Set Cement Mortar or Improved Modified Dry-Set Cement Mortar; 2017.

N. ANSI A118.4 - American National Standard Specifications for Modified Dry-Set Cement Mortar; 2012 (Revised).

O. ANSI A118.7 - American National Standard Specifications for High Performance Cement Grouts for Tile Installation; 2010 (Reaffirmed 2016).

P. ANSI A118.10 - American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes For Thin-Set Ceramic Tile And Dimension Stone Installation; 2014.

Q. ANSI A118.11 - American National Standard Specifications for EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).

R. ANSI A137.1 - American National Standard Specifications for Ceramic Tile; 2012.

S. ASTM C373 - Standard Test Methods for Determination of Water Absorption and Associated Properties by Vacuum Method for Pressed Ceramic Tiles and Glass Tiles and Boil Method for Extruded Ceramic Tiles and Non-tile Fired Ceramic Whiteware Products; 2018.

T. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2019.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by affected installers.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.

C. Samples: Mount tile and apply grout on two plywood panels, minimum 18 by 18 inches in size illustrating pattern, color variations, and grout joint size variations.

1.06 QUALITY ASSURANCE

1.07 MOCK-UP

A. See Section 01 40 00 - Quality Requirements, for general requirements for mock-up.

B. Construct tile mock-up where indicated on drawings, incorporating all components specified for the location.
   1. Minimum size of mock-up is indicated on drawings.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.09 FIELD CONDITIONS

A. Maintain ambient and substrate temperature above 50 degrees F and below 100 degrees F during installation and curing of setting materials.

PART 2 PRODUCTS

2.01 TILE

A. Manufacturers: All products by the same manufacturer.
   1. Dal-Tile Corporation: www.daltile.com/#sle.
   2. Or approved equal.

B. Porcelain Tile, Type Floor (PFT) and Wall (PWT) - Field Tile: ANSI A137.1, standard grade.
   1. Moisture Absorption: 0 to 0.5 percent as tested in accordance with ASTM C373.
   2. Size: 6 by 6 inch, nominal.
   3. Thickness: 5/16 inch.
   4. Surface Finish: Matte.

5. Color(s): To be selected by Director's Representative from manufacturer's standard range.
6. Trim Units: Matching bullnose, double bullnose, cove base, cove, and cove base outcorner shapes in sizes coordinated with field tile.
7. Products:
   a. Dal-Tile Corporation; Continental Slate: www.daltile.com/#sle.
   b. Or approved equal.

C. Porcelain Tile, Type Floor (PFT) and Wall (PWT) - Accent Tile: ANSI A137.1, standard grade.
1. Moisture Absorption: 0 to 0.5 percent as tested in accordance with ASTM C373.
2. Size: 3 by 3 inch, nominal.
3. Thickness: 5/16 inch.
4. Surface Finish: Matte.
5. Color(s): To be selected by Director's Representative from manufacturer's standard range.
6. Products:
   a. Dal-Tile Corporation; Continental Slate: www.daltile.com/#sle.
   b. Or approved equal

2.02 TRIM AND ACCESSORIES

A. Porcelain Trim: Matching bullnose, double bullnose, cove base, cove, and cove base outcorner porcelain shapes in sizes coordinated with field tile.
1. Applications:
   a. Open Edges: Bullnose.
   b. Inside Corners: Jointed.
   c. Floor to Wall Joints: Cove base.
2. Manufacturers: Same as for tile.

B. TS-1 - Thresholds: 5 inches wide by full width of wall or frame opening; beveled edge on one long edge; without holes, cracks, or open seams.
1. Thickness: 1 inch.
2. Material: Marble, honed finish.
3. Color and Pattern: As selected by Director's Representative from manufacturer's standard colors..
4. Applications:
   a. At doorways where tile terminates and as inidicated on drawings.

2.03 SETTING MATERIALS

A. Provide setting and grout materials from same manufacturer.

B. Manufacturers:
1. LATICRETE International, Inc: www.laticrete.com/#sle.
2. Substitutions: See Division 01..

C. Latex-Portland Cement Mortar Bond Coat: ANSI A118.4.

D. Mortar Bond Coat For Exterior Glue Plywood: ANSI A118.11.
1. Applications: Use this type of bond coat where thin-set installation is indicated over plywood.
2. Products:
   a. LATICRETE International, Inc; LATICRETE 254 Platinum: www.laticrete.com/#sle.

E. Mortar Bed Materials: Pre-packaged mix of Portland cement, sand, latex additive, and water.
1. Products:
   a. LATICRETE International, Inc; LATICRETE 3701 Fortified Mortar Bed: www.laticrete.com/#sle.

2.04 GROUTS

A. Provide setting and grout materials from same manufacturer.

B. High Performance Polymer Modified Grout: ANSI A118.7 polymer modified cement grout.
   1. Applications: Use this type of grout where indicated and where no other type of grout is indicated.
   2. Use sanded grout for joints 1/8 inch wide and larger; use unsanded grout for joints less than 1/8 inch wide.
   3. Color(s): As selected by Director's Representative from manufacturer's full line.
   4. Products:
      a. LATICRETE International, Inc; LATICRETE PERMACOLOR Grout: www.laticrete.com/#sle.

2.05 MAINTENANCE MATERIALS

A. Grout Release: Temporary, water-soluble pre-grout coating.

2.06 ACCESSORY MATERIALS

A. Waterproofing Membrane at Floors: Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10.
   1. Fluid or Trowel Applied Type:
      a. Material: Synthetic rubber.
      b. Products:
         1) LATICRETE International, Inc; LATICRETE HYDRO BAN: www.laticrete.com/#sle.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that subfloor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.

3.02 PREPARATION

A. Protect surrounding work from damage.

B. Vacuum clean surfaces and damp clean.

C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.

3.03 INSTALLATION - GENERAL

A. Install tile, thresholds, and stair treads and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.19 , manufacturer's instructions, and TCNA (HB) recommendations.

B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.

C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.

D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.

E. Form internal angles square and external angles bullnosed.

F. Install thresholds where indicated.

G. Sound tile after setting. Replace hollow sounding units.

H. Keep control and expansion joints free of mortar, grout, and adhesive.

I. Prior to grouting, allow installation to completely cure; minimum of 48 hours.

J. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.

K. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding.

3.04 INSTALLATION - FLOORS - THIN-SET METHODS

A. Over wood substrates, install in accordance with TCNA (HB) Method F142, with standard grout, unless otherwise indicated.

3.05 INSTALLATION - FLOORS - MORTAR BED METHODS

A. Over wood substrates, install in accordance with TCNA (HB) Method F141, with standard grout, unless otherwise indicated.

B. Cleavage Membrane: Lap edges and ends.

C. Waterproofing Membrane: Install as recommended by manufacturer and as specified in the section in which the product is specified.

D. Mortar Bed Thickness: 5/8 inch, unless otherwise indicated.

3.06 INSTALLATION - WALL TILE

A. Over metal studs without backer install in accordance with TCNA (HB) Method W241, mortar bed, with membrane where indicated.

3.07 CLEANING

A. Clean tile and grout surfaces.

END OF SECTION

SECTION 09 64 20

WOOD FLOOR RESTORATION

PART 1 - GENERAL

1.1 SUMMARY

A. General: Provide wood floor repair and refinishing in accordance with requirements of the Contract Documents.
   1. Existing wood floors consist of two types:
      a. Wide-board tongue & groove softwood (pine)
      b. Narrow board tongue & groove hardwood (oak)
   2. Wood floors were stained and previously finished with polyurethane, followed by multiple applications of acrylic floor finish, resulting in some areas of heavy build-up, particularly in low-traffic areas.
   3. **NOTE:** ***Wide board pine floors have a hand-planed finish that will be damaged by aggressive sanding, especially by drum sanders or floor buffing machines. Refer to Part 3, Execution for restrictions.***

B. Scope of Work includes but is not limited to:
   1. Repair of wood flooring
   2. Removal and or preparation of existing finishes from wood floors
   3. Finishing and Re-finishing of wood floors.

1.2 RELATED SECTIONS

A. Section 02 10 00 – Selective Demolition, Removal and Salvage
B. Section 06 31 00 – Wood Restoration Systems
C. Section 06 40 00 – Architectural Woodwork

1.3 REFERENCESS

A. Comply with applicable provisions of the following reference standards:
   1. American Society of Testing materials (ASTM).
   2. *Architectural Woodwork Quality Standards* by the Architectural Woodwork Institute (AWI), most recent edition.
   3. American Softwood Lumber Standard PS 20 by the U.S. Dept. of Commerce.
   4. National Wood Floor Association (NWFA) *Installation Guidelines*
   5. Wood Flooring Manufacturers' Association (NOFMA)

1.4 QUALITY ASSURANCE

A. The Contractor for the Work of this Section shall be regularly engaged in the restoration of historic wood flooring.

B. Restoration Specialist: Engage a skilled worker for the Work of this Section who is specially trained in the restoration of historic wood flooring and who has at least five (5) years experience in repair and re-finishing of historic wood floors.
   1. In acceptance of or rejection of work under this Section, no allowance will be made for workers' incompetence or lack of skill.

C. Mill & Producers Label: Lumber shall bear label indicating type, grade, mill and grading agency on unfinished surface or end.

1. In lieu of mill & producers label, supply affidavit from material supplier certifying grade, species and cut of milled lumber and molding products.

1.5 SUBMITTALS

A. Qualification Data: Submit qualification data for personnel specified in Quality Assurance article that demonstrates that the personnel have the capabilities and experience complying with requirements specified herein.

B. Product Literature: Manufacturers' published technical data for each product to be used in work of this Section including recommendations for application and use, test reports and certificates verifying that product complies with specified requirements, and Material Safety Data Sheets (MSDS):

C. Samples: Provide samples representative of dimensions, profiles and material of each element.
   1. Wood Flooring (replacement): One piece, minimum 6-inches long.

D. Shop Drawings
   1. Floorboard layout for documentation of floorboard removal (Room 203).
      a. Show number, dimensions (exposed width and length) of each floorboard.
      b. Submit on 8-1/2 x 11, scale 3/8" to ½" = 1' as needed.

E. Field Samples (Mock-Ups):
   1. Prepare field sample at a location designated by the Director's Representative. Do not proceed further with the Work of this Section until the field sample is approved.
      a. Engage the approved Restoration Specialist to prepare the field sample.
      b. Utilize only approved materials and methods and comply with product manufacturer's instructions and other requirements of this Section to prepare field sample.
   2. Approved field sample will be used as quality control standard for acceptance or rejection of the Work of this Section.
      a. Maintain and protect approved field sample from damage, deterioration or alteration for the duration of the Contract.
   3. Field Samples Required, One (1) at each floor type, wide board and narrow oak:
      a. Floor preparation – removal of finishes: 2' x 2' section
      b. Floor finishing: 2' x 2' section

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver materials in original unopened containers, bundles, or packaging labeled with manufacturer's name, brand name, item name, expiration date and instructions for use as applicable.

B. Store materials in compliance with manufacturer's recommendations for temperature and other conditions. Keep materials dry and under cover. Protect against exposure to weather.

1. Flooring bundles should be broken and loosely piled to acclimate the flooring to moisture conditions in the building for at least seven (7) days prior to installation.

C. Discard and remove from project site any materials damaged in handling or storage, any materials that have been subjected to conditions contrary to manufacturer's recommendations, and any materials whose maximum shelf life has expired. Replace with fresh materials.

1.7 PROJECT CONDITIONS

A. Safety: Use all necessary means to protect all persons, whether engaged in the work of this Section or not, from harm resulting from the work of this Section.

B. Protection: Use all necessary means to protect areas of wood not being restored and all other surfaces of building elements from damage, deterioration or staining caused by the work of this Section.

C. Retention of Existing Building Fabric: carefully remove, store, and reinstall all existing building fabric that must be removed to undertake wood floor restoration, except where Contract Documents indicate that element is to be modified or replaced.
1. Removal of existing wood floors for installation of electrical and security systems: Label and carefully remove floorboards without damage. Reinstall floorboards in original location and orientation.

D. Dimensions: Field measure dimensions where existing flooring is to be repaired or replaced. Contractor is responsible for all dimensions.

E. Environmental Conditions: Proceed with work of this Section only when existing and forecasted weather conditions permit work to be performed in accordance with manufacturer's or with requirements specified herein, whichever is more stringent.
1. Install flooring, and refinish flooring only when temperatures are between 60° F. and 80 °F, and relative humidity between 30% and 50% for at least 48 hours before and after the work.
2. Provide mechanical ventilation to exhaust fumes resulting from use of wood stripping and finishing products.

PART 2 - PRODUCTS

2.1 WOOD STRIP FLOORING (Room 205)

A. General: New wood flooring shall match existing material appearance, size and profile. Replace flooring where damaged as indicated on drawings.

B. Wood Flooring:
1. Species: Red Oak
2. Grade: Clear, Premium
3. Vertical Grain, or quarter or rift sawn to match existing
4 Machining: Tongue and Groove and End Machined (V-groove not permitted)

5 Thickness: 3/4”
6. Face: 2-1/2” wide exposure (2-3/4” total including tongue)
7. Lengths: Provide standard random lengths, complying with the applicable grading rules.
8. Seasoning: Kiln dried 8 to 12% moisture content.

C. Fasteners:
1. Comply with recommendations in NWFA *Installation Guidelines.*

2.2 WOOD FLOOR FINISH

A. Finish Removal
1. Acrylic coatings: Provide acrylic test kits as needed to determine presence of acrylic finishes
2. Palm-held oscillating or random orbital sanders with sandpaper, various gradations from 80 to 400 grit, “maroon” sanding pads, 0000 steel wool pads, as needed..
3. Mineral Spirits (Petroleum Paint Thinner): FS TT-T-291.
4. Lint-Free cotton cloth

B. Polyurethane, oil-based: Provide the following, or approved equal:
1. Varathane Premium Oil-based Clear Floor Finish, Gloss or Semi-gloss
2. Zar Oil-based Polyurethane Wood Finish, Gloss or Semi-gloss
3. Minwax Fast Drying Polyurethane, Gloss or Semi-gloss

OR

C. Oil-Modified Urethane:
1. Bona Emulsion Pro, Semi-gloss.

CI. PROHIBITED: Water-borne Urethanes, acrylic coatings, wax-based products.

2.3 MISCELLANEOUS MATERIALS

A. Wood Stains for touch-up: Minwax Wood Finish Oil-based Penetrating Stain
1. Stain for wide-board wood floors: Minwax #224 Special Walnut
2. Stain for narrow oak floor (Room 205): Minwax #2716 Dark Walnut

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine areas that have been identified for replacement of existing wood flooring. Review discrepancies in quantities or scope of work with the Director’s Representative before proceeding with work.

B. Following removal of deteriorated flooring, examine substrate to determine if repairs are required. Do not install new flooring to substrates that may impair the quality and performance of wood floor installation. Consult the Director’s Representative to determine appropriate action for repairs of substrate.

3.2 INSTALLATION

A. Removal of deteriorated flooring: Remove deteriorated sections of flooring back to sound wood.
1. Begin removal by cutting through the tongue of a deteriorated board.

2. Remove back to the nearest floor joist if attached directly to floor joists or as indicated below.
3. Remove so that new flooring will be installed with staggered end joints.
4. Where attached to subflooring, do not cut into subfloor more than 1/8" inch.
5. Avoid damage adjacent sound flooring.

B. Install new flooring in accordance with recommendations in National Wood Floor Association (NWFA) *Installation Guidelines* or Wood Flooring Manufacturers' Association (NOFMA) *Installation Manual*.
1. Blind nail finish floor on an angle, 10" to 12" o.c. to subflooring, or at each joist where applicable.
2. Face-nailing is permitted only where blind nailing is not possible. Countersink face nails slightly below the floor surface. Do not make hammer marks in floor surface.
3. Install without gaps between boards or at end joints greater than 1/32" wide.
4. Last board installed in an infill area may be installed with the tongue removed.
5. Sand edges of new boards to provide flush surface.

C. Temporary Removal and Reinstallation of Wide-board Pine Floors (Room 203). (See also Section 02 10 00 Selective Demolition, Removals and Salvage)
1. Label all floorboards to document location and orientation.
2. Remove and salvage brass screws for re-use.
3. Carefully lift out floorboards, avoid damage to tongue and groove on boards. Do not apply pressure directly to boards with pry-bars or other metal tools.
4. Protect floorboards from damage.
5. Place temporary walking planks for installation of electrical or security & fire protection wiring. Provide warning signs/tape to prevent access while floor is removed.
6. Reinstall floorboards in their original locations and orientations re-using existing holes and brass screws. Do NOT drill new holes.

3.3 RE-FINISHING

A. Preparation
1. Broom clean and vacuum floors prior to sanding and application of finishes.
2. Clean wood floors.
   a. Remove remaining carpet tiles and plywood flooring (Room 106)
   b. After vacuuming, *lightly* mop existing wood floors with a solution of soap and clean hot water. Do not soak floors. Remove any soap residue with lightly damped, clean cloths. Let floors dry thoroughly (at least 24 hours) before application of new finish.

B. Re-finishing Wide-Board Wood Floors (Rooms 101-105, 201-204).
1. Existing wood floors were coated with polyurethane floor finishes prior to application of acrylic coatings. They are extremely worn and scratched in some areas and heavily-built-up in low traffic areas. The purpose of preparation on wide-board floors is to remove surface layers of existing finishes without damage to the wood or hand-planed texture.

2. Use an electric palm-head oscillating or random orbital sander to remove acrylic coating proceeding from larger to finer grit sandpaper.
3. After removal of all acrylic coating, follow palm-held sander with “Maroon” synthetic buffing pads to prepare remaining polyurethane finish for acceptance of new polyurethane.
4. DO NOT remove surface of wood or use conventional sanding methods
5. Vacuum thoroughly.
6. Lightly rub wood stain into deeply gauged and scraped areas, and areas where bare wood is exposed until color matches. This may require dilution of the stain and several applications.
7. Apply three (3) coats of polyurethane, let dry at least 24 hours between coats.
    a. Provide adequate ventilation during application and drying.
8. Prevent traffic over varnished flooring for 72 hours.

C. Re-Finishing Narrow Oak Strip Flooring (**Room 205 - ONLY**).
1. Machine sand flooring to remove existing finish to bare wood. offsets and non-level conditions, free of ridges, cups, and sanding marks which would be visually noticeable after finishing.
2. However, do not over-sand and reduce thickness of wood flooring to the level that it impairs strength of tongue and groove connections. Note that wood flooring is approximately 5/8” thick.
3. Use three grades of sandpaper, ending with 400-grade. Vacuum clean and use tack cloth and immediately apply finish. Do not permit traffic on floor after sanding until finish is completed. Cover sanded floor with building paper to provide access during finishing.

D. Finish Application
1. General: follow manufacturer’s written instructions for finish application. Do not apply floor finishes until all plastering, gypsum drywall taping and finishing, and all interior painting is completed.

3.4 PROTECTION

A. Traffic: Areas shall be closed to traffic until finishes have cured sufficiently to sustain foot traffic as recommended by the manufacturer.
B. After curing of finishes, protect finished floors from construction traffic using rosin-sized paper, kraft paper, plastic barriers, protection board (“ramboard”), etc.
C. Vacuum clean as necessary to avoid damage by construction dust, tracked in dirt, etc.
D. Restore any areas damaged or marred by work of this contract.

END OF SECTION

SECTION 09 64 29
WOOD STRIP AND PLANK FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wood strip and plank flooring, nailed.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Wood overlay subfloor surface.

1.03 REFERENCE STANDARDS

A. NWFA (IG) - Installation Guidelines; Current Edition.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data for flooring.

C. Shop Drawings: Indicate floor joint pattern and termination details.

D. Samples: Submit two samples ___ by ___ inch in size illustrating floor finish, color, and sheen.

E. Installation Instructions: Indicate standard and special installation procedures.

F. Maintenance Data: Include maintenance procedures and recommended maintenance materials.

1.05 QUALITY ASSURANCE

A. Perform work of this section in accordance with NWFA (IG).

1.06 FIELD CONDITIONS

A. Do not install wood flooring until wet construction work is complete and ambient air at installation space has moisture content stabilized at maximum moisture content of 40 percent.

B. Provide heat, light, and ventilation prior to installation.

C. Store materials in area of installation for minimum period of 24 hours prior to installation.

D. Maintain minimum room temperature of 65 degrees F for a period of two days prior to delivery of materials to installation space, during installation, and after installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Hardwood Strip and Plank Flooring:
   1. Anderson Tuftex: www.andersontuftex.com/#sle.
   2. Armstrong World Industries, Inc: www.armstrong.com/#sle.
   3. Or approved equal.

2.02 MATERIALS

A. Wood Strip Flooring: Addition Floor Finish
   1. Species: Northern hard maple.
   2. Grade: First.
   3. Cut: Flat grain.
   4. Moisture Content: 7 to 9 percent.
   5. Actual Thickness: 3/4 inch.
   6. Actual Width: 3-1/2 inches.
   7. Edge: Tongue and Groove.
   8. End: End matched.

9. Length: Random, minimum of 9 inches.

B. Flooring Nails: Type recommended by flooring manufacturer.

2.03 ACCESSORIES

A. Wood Plugs: Round shape, 3/4 inch diameter by 1/8 inch thick, of same species as flooring.

B. Floor Finish: Polyurethane, 3 coats, to achieve satin sheen surface; type recommended by flooring manufacturer, or as indicated in Contract Documents.

C. Floor Stain: Minwax "Special Walnut" (#224) or approved equal.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting this work.

B. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

A. Prepare substrate to receive wood flooring in accordance with manufacturer's and NWFA instructions.

B. Broom clean substrate.

3.03 INSTALLATION

A. Sheathing Paper: Place over wood subfloor; lap edges and ends 2 inches, staple in place.

B. Underlayments: Install in accordance with underlayment manufacturer's instructions.

C. Wood Flooring:
1. Install in accordance with manufacturer's and NWFA instructions; predrill and blind nail to subfloor.
2. Lay flooring parallel to length of room areas. Verify alignment as work progresses.
3. Arrange flooring with end matched grain set flush and tight.
4. Terminate flooring at centerline of door openings where adjacent floor finish is dissimilar; provide divider strips and transition strips in accordance with flooring manufacturer's recommendations and as indicated.
5. Install edge strips at unprotected or exposed edges, and where flooring terminates.
6. Secure edge strips before installation of flooring with stainless steel screws.
7. Install flooring tight to floor access covers.
8. Provide expansion space at fixed walls and other interruptions as recommended by manufacturer, or as indicated in plans.

D. Install base at floor perimeter to cover expansion space in accordance with manufacturer's instructions. Miter inside and outside corners.

E. Finishing:
1. Mask off adjacent surfaces before beginning sanding.
2. Sand flooring to smooth even finish with no evidence of sander marks. Take precautions to contain dust. Remove dust by vacuum.
3. Apply first coat, allow to dry, then buff lightly with steel wool to remove irregularities. Vacuum clean and wipe with damp cloth before applying succeeding coat.
4. Lightly buff between coats with steel wool and vacuum clean before applying succeeding coat.
5. Apply last coat of finish.

3.04 CLEANING

A. Clean and polish floor surfaces in accordance with floor finish manufacturer's instructions.

3.05 PROTECTION

A. Prohibit traffic on floor finish for 48 hours after installation.

B. Place protective coverings over finished floors; do not remove coverings until Date of Substantial Completion.

END OF SECTION

SECTION 09 68 00
CARPET

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Carpet.

B. Carpet cushion.

1.02 RELATED SECTIONS

A. Section 03 30 00 - Cast-in-Place Concrete.

1.03 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

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

C. Verification Samples: For each finish product specified, two samples, representing actual product and finish.

D. Seaming Layout: Submit proposed seaming layout.

E. Extra Stock: Submit extra stock equal to 2% of total installed.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.

B. Installer Qualifications: Minimum 2 year experience installing similar products.

C. Performance: Fire performance meeting requirements of building code and local authorities.

D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
   1. Finish areas designated by Director's Representative.
   2. Do not proceed with remaining work until workmanship is approved by Director's Representative.
   3. Refinish mock-up area as required to produce acceptable work.

1.05 PRE-INSTALLATION MEETINGS

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

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.

B. Handling: Handle materials to avoid damage.

1.07 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.

1.08 SEQUENCING

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

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers:
   1. Carpet: RunRug USA, 3390 Rand Rd Ste D, South Plainfield, NJ 07080-1307 tel: 1-786-558-1554, web:www.runrug.com/
   2. Carpet Cushion - Non-Slip Rug Pad: American Fiber Cushion Inc, 207 Recycling Way, Dalton, GA 30722, tel: 706-217-1900, web: americanfibercushion.com

B. Or approved equal

2.02 MATERIALS

A. Carpet Material:
   1. Material: As selected by Director's Representative.
   2. Runner Width: 2'-8"
   3. Layout: As indicated on drawings.
   4. Installation Method: Tackless mounting with carpet cushion.
   5. Stair Runner Installation Method: Use minimal staples / small nails for tacking to preserve historic floors and prevent carpet from moving.
   6. Auxiliary Materials:
      a. Edge guards.
      b. Adhesives, cements and fasteners.
      c. Leveling compound.

B. Carpet Cushion - Non-Slip Rug Pad: Extreme Slide-Stop, Stark Hold
   1. Material: Post Industrial Recycled Synthetic Fibers with a Heavy Non-Skid rubber backing
   2. 30oz fiber weight / sq yard film fiber pad. 48 oz total weight per sq yard pad
   3. Thermally embossed line pattern on the synthetic fiber face for greater non-skid performance
   4. 100% post-industrial recycled synthetic fibers with a non-skid rubber backing, which creates a solid foudnation that prevents slipping and bunching up of area rugs.
   5. Green Label Certified thru the Carpet Research Institute. CC-851008 for air quality and a healthy home environment.

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. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

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

B. Comply with recommendations of Carpet and Rug Institute 'Specifier's Handbook'.

3.04 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 09 91 13
EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings apply to this Section.

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

1.2 SUMMARY

A. This Section includes the following:
   1. Exterior surface preparation and application of alkyd or acrylic finish paint systems on the following exterior wooden building elements, including all siding, standing and running wood trim.
      a. Wood siding and trim.
      b. Wood porches, including columns, pilasters, pedestal bases, entablatures, soffits, ceilings, railings and benches and related trim.
      c. Wood cornices, roof edge and eave trim
      d. Wood dormers, including siding, eave and cornice trim, wood tympanum, etc.
      e. Wood roof balustrade, including posts, railings, and balusters.
      f. Wood windows, window frames, windowsills, and wooden security bars
      g. Wood doors, door frames and thresholds
      h. Wood shutters
   2. Exterior surface preparation and painting of all ferrous hardware and ferrous window lintels.
   3. Exterior surface preparation and painting of stucco cornices.

B. Related Sections:
   1. Section 06 31 00 – Wood Restoration Systems
   2. Section 06 40 00 – Architectural Woodwork
   3. Section 07 90 00 – Joint Sealants.
   4. Section 08 20 00 – Wood Door Restoration
   5. Section 08 60 00 – Window Restoration.
   6. Section 09 91 23 – Interior Painting

1.3 DEFINITIONS

A. The word “paint” in this Section refers to sealers, primers, undercoats, enamels and other first, intermediate, or finish coatings.

B. The word “primer” in this Section refers to fillers, sealers, undercoats, and other first or intermediate coats beneath the last or finish coating.

C. The word “finish paint” in this Section refers to the last or final coat and previous coats of the same material or product directly beneath the last or final coat.

D. Finish Paint Systems: Finish paint and primers applied over the same substrate shall be considered a paint system of products manufactured or recommended by the finish coat manufacturer.
   1. Finish paint products shall meet or exceed specified minimum physical properties.

1.4 SUBMITTALS

A. Qualification Data: Submit qualifications of the painting contractor and supervising foreman to establish that they meet the requirements specified in the Quality Assurance article.
   1. Successful in-service performance is defined as being free of any peeling, blistering or other defect over 95% or more of the painted surfaces after a minimum of 5 years exposure.

B. Product Data: Each product listed.
   1. Provide the manufacturer's published technical data for each paint product or paint removal product. Include information on percent solids by weight and volume, solvent, vehicle, weight per gallon, gloss/reflectance data, recommended wet and dry film thickness, volatile organic compound (VOC) content in lbs/gallon, product use limitations and environmental restrictions, substrate surface preparation methods, directions and precautions for mixing and thinning, recommended application methods, square foot area coverage per gallon, storage instructions, and shelf-life expiration date.
   2. Provide the manufacturer's published technical data for each paint removal product, including directions and recommendations for use.
   3. Provide Material Safety Data Sheets (MSDS) for each paint and paint removal product.

C. Quality Control Submittals:
   1. Test Reports: Furnish certified test results from an independent testing laboratory, showing that products submitted comply with the specifications, when requested by the Director’s Representative
   2. Certificates: Furnish certificates of compliance required under Quality Control article.
   3. Color samples, on minimum 4” x 12” hardboard. Provide two sets of samples for each color, type and gloss of finish paint specified. The Director’s Representative will provide a standard manufacturer’s color number or name, or color samples for use in matching paint colors. After approval, one set of color samples will be returned to the Contractor.
      a. Color samples given to the Contractor for matching shall be returned to Parks in unaltered condition.
      b. Note that some colors require custom formulation of deep, saturated colors.

1.5 QUALITY ASSURANCE

A. General: Utilize workers who are experienced and skilled in the preparation of weathered and previously painted surfaces and in the application of the types of paint coatings required for this project. In the acceptance or rejection of the Work of this Section, no allowance will be given for lack of skill on the part of any worker.

B. Painting Contractor: The Contractor for the Work of this Section shall be regularly engaged in the preparation of weathered and previously painted wood, masonry and plaster surfaces for at least 5 years and possess a record of successful in-service performance.

C. Foreman: The Work of this Section shall be directly supervised by a foreman who has at least five years experience in preparing and painting exterior and interior surfaces and in supervising the preparation and painting of exterior and interior surfaces that have a successful record of in-service performance.
   1. The foreman shall read and become familiar with all of the requirements of this and all related Specification Sections.

1.6 QUALITY CONTROL

A. Regulatory Requirements: New York State Department of Environmental Conservation Rules and Regulations (Title 6 NYCRR), Part 205 - Architectural and Industrial Maintenance Coatings.
   1. Each paint product to be delivered and installed comply with the VOC regulatory requirements in effect at the time of job site delivery and installation.

B. Container Labels: Label each product container with paint manufacturer’s name, product name and number, color name and number, thinning and application instructions, date of manufacture, shelf-life expiration date, required surface preparations, recommended coverage per gallon, wet and dry film thickness, drying time, and clean up procedures.

C. Field Samples (Mock-Ups):
   1. Prepare field samples at locations designated by the Director’s Representative. Do not proceed further with the Work of this Section until field samples are approved.
   2. Field samples shall be prepared on actual substrates to be painted.
      a. Utilize workers that will be engaged for the Work of this Section to prepare field samples.
      b. Use approved materials and methods and comply with the paint manufacturer's instructions and other requirements of this Section to prepare the field samples.
   3. Approved field samples shall serve as a quality control standard for acceptance or rejection of the Work to be done under this Section.
      a. Protect approved field samples from damage, deterioration, or alteration for the duration of the Contract.

b. Approved field samples may be incorporated into the Work provided that they remain in good condition at time of Substantial Completion.

4. Each field sample must be inspected and approved at two stages:
   a. Upon completion of surface preparation (and paint removal).
   b. Upon completion of finish coat(s).
5. Field Samples Required:
   a. Woodwork: One complete window (double-hung sash and frame), exterior complete.
   b. Wood Cornice: Two (2) linear feet of complete cornice/entablature assembly.
   c. Ferrous Hardware: One set of shutter hinges.

D. Compatibility of Paint Materials: Primers and intermediate paints shall be products manufactured or recommended by the finish paint manufacturer.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to the Site in original, unopened containers and cartons bearing manufacturer's printed labels. Do not deliver products which have exceeded their shelf life, are in open or damaged containers or cartons, or are not properly labeled as specified.

B. Storage and Handling: Store products in a dry, well ventilated area in accordance with manufacturer's published product data sheets. Storage location shall have a minimum ambient air temperature of 45 degrees F.
1. Provide secure and weatherproof storage for all painting materials. Materials may not be stored in the facility's buildings.
2. Remove oily and solvent-soaked rags daily.
3. Take precautions to prevent spilling paints and solvents. Promptly clean-up any spillage with absorbent materials and dispose in accordance with regulations.
4. Store toxic, volatile and flammable materials in fire-proof cabinets and post warnings (e.g. no smoking).

1.8 PROJECT CONDITIONS

A. Environmental Requirements:
1. Ambient Air Temperature, Relative Humidity, and Surface Temperature: Comply with paint manufacturer's published product data sheet or other printed product instructions.
2. If paint manufacturer does not provide environmental requirements, comply with the following:
   a. Ambient Air Temperature: Between 50 degrees F and 90 degrees F.
   b. Relative Humidity: Below 85 percent.
   c. Surface Temperature: Within ambient air temperature range and at least 5 degrees F above the surface dewpoint temperature.
3. Maintain environmental requirements throughout the drying period.

B. Wood Moisture Content: Verify, through the use of calibrated wood moisture meters, that the moisture content of wood surfaces is within the limits recommended by the manufacturer of the finish paint systems and the requirements of specified herein. In the event of conflicting instructions or directions, the more stringent requirement shall apply.
   1. The maximum moisture content of wood to be painted shall not exceed 15%.

C. Do not paint the following items unless otherwise specified, noted or directed:
   1. Stone masonry except where lime wash coating is indicated on drawings.
   2. Brass and Bronze door and window hardware, unless previously painted.
   3. Lighting fixtures, fire alarms/horns, and similar devices.
   4. Copper gutters, downspouts and flashing

1.9 SCHEDULING AND COORDINATION

A. Schedule and coordinate work so as not to interfere with the work of other trades, to minimize exposure of bare wood to the weather and to prevent dust and debris resulting from the work of other trades from falling onto painted surfaces before they are tack free.

B. Coordinate surface preparation to prevent dust and debris from falling onto painted surfaces before they are tack free.

C. Schedule work such that paint coatings on adjoining surfaces can dry sufficiently to secure windows and doors before the end of each workday without affecting painted surfaces.

D. ***Coordinate surface preparation and paint removal work with woodwork restoration work. This may require work to be completed in phases.*** Coordinate protection requirements with other work to prevent dust and contamination from reaching other work areas.

E. Schedule preparation and painting of windows and doors with Historic Site Staff so that openings can be secured and/or monitored for security.

1.10 REGULATORY REQUIREMENTS

A. **Lead-Containing Paints**: Assume that all existing painted surfaces are coated with lead-containing paints. Handle, transport and dispose of lead-containing paint and residue in accordance with all applicable federal, state, and local laws and regulations including, but not limited to, the regulations referenced herein.
   1. OSHA Regulations, Title 29, CFR Section 1926.62: "Lead Exposure in Construction" and Title 29, CFR Section 1910.1200: "Hazard Communication Standard."
   2. US EPA Regulations, Title 40, CFR Part 262: "Standards Applicable to Generators of Hazardous Waste" and Part 263: "Standards Applicable to Transporters of Hazardous Waste."
   3. US DOT Regulations, Title 49 CFR Parts 172 thru 180 inclusive.
   4. NYS DEC Regulations, Title 6, Part 364, and parts 370-374.

B. Pollution Control: Take precautions to prevent contamination of waterways, storm water drainage systems and sanitary systems from paint materials, cleaners, paint removal products, thinners and solvents.
   1. Collect water used to clean water-based materials, allow sediments to settle and filter out. Do not dump sediments into drainage systems or onto the ground.
   2. Collect mineral spirits, petroleum, and other chemical solvent cleaners in suitable containers. Dispose of chemical cleaners in an approved legal manner and in accordance with hazardous waste regulations.
   3. Allow empty paint containers to dry before disposing or recycling.
   4. Close and tightly seal partially used containers of paint and chemical solvents.
   5. Where paint recycling is available, collect waste paint by type and deliver to recycling or collection facility.

PART 2 - PRODUCTS

2.1 PAINT MATERIALS

A. Material Compatibility: Provide primers and finish paints that are compatible with one another and formulated for use on the types of substrates, and in the conditions and exposures indicated, as demonstrated by manufacturer-based testing and experience.

B. Material Manufacturers: Provide manufacturer's best-quality, highest-grade finish paint systems. Furnish only the highest quality paint materials produced and distributed by a nationally recognized leader in the paint/coatings industry, as approved by the Architect. These include Benjamin Moore, California Paints, Pratt & Lambert, Bruning and Sikens/Akzo, or approved equal. Products listed under Part 2.2 are listed as a standard for quality, characterized by superior resistance to fading and mildew, high ratios of pigments and binders to solvents and fillers, superior opacity, hold-out, leveling ability and dry film thickness.

C. Mixing and Tinting: Paints shall be ready-mixed and pre-tinted. Re-mix paint materials prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment and color and gloss uniformity.

D. Colors: Provide colors as selected by the Director's Representative from among finish paint manufacturer's standard color charts, or custom colors matching samples provided by the Director’s Representative. Some colors are deep saturated tones. Assume that some colors must be custom tinted.

E. Thinners: Do not use thinners unless approved by the Director's Representative. Types of thinners are restricted to those that are approved by the paint manufacturer, and mixed according to the manufacturer's recommended limits.

2.2 FINISH PAINT SYSTEMS

A. Exterior Primer for Woodwork & Stucco: Acrylic Latex
   1. Benjamin Moore – Fresh Start Multi-Purpose Latex Primer (023)
   2. California Paint – Troubleshooter 100% Acrylic Latex Wood Primer (451)
   3. Pratt & Lambert – Interior/Exterior Multi-Purpose Waterborne Primer (P1001)

B. Exterior Primer for Woodwork (bare wood/spot priming): Alkyd
   1. Benjamin Moore – Fresh Start Exterior Wood Primer (094)
   2. California Paint – Troubleshooter Linseed Alkyd Oil Wood Primer (227)
   3. Pratt & Lambert – Interior/Exterior Multi-Surface Oil-Base Primer (P1100)

C. Direct-to-Metal Paint (Ferrous Hardware & Window Lintels)
   1. Benjamin Moore – Ultra Spec HP D.T.M. Acrylic Sem-gloss Enamel (HP29), or approved equal.

D. Exterior Paint for Woodwork: Acrylic Latex, Semigloss Enamel.
   1. Benjamin Moore – Regal Select Exterior (Moorglo) Soft Gloss Acrylic House Paint (096).
   2. California Paint – Fres-Coat Premium Exterior Paint – Semi-gloss (471)
   3. Pratt & Lambert – Accolade Exterior 100% Acrylic Waterborne - Semi-Gloss (Z4900 Series)

E. Exterior Paint for Stucco: Acrylic Latex, Low Luster or Eggshell
   1. Benjamin Moore – Regal Select (MoorGard) Exterior Low Lustre Acrylic house paint (103)
   2. California Paint – Fres-Coat Exterior 100% Acrylic Latex - Low Luster (455 series)
   3. Pratt & Lambert - Accolade Exterior Premium Paint & Primer – Eggshell (Z4500 Series)

2.3 PAINT REMOVAL SYSTEMS

A. Manufacturer: Subject to the requirements of this Section, provide chemical paste, gel or poultice-type paint and coatings removal systems that have a proven record of safe and effective removal of lead-based paints. Multiple products and applications may be required.
   1. **Use of products containing Methylene Chloride is strictly prohibited.**

B. Products – Solvent-Based:
   1. Peel-Away No. 7, by Dumond Chemicals, New York, NY, (www.peelaway.com).
   2. Back to Nature – BFS (II) by Dynacraft Industries, Inc., Englishtown, NJ (www.ibacktonature.com).
   3. Piranha 4 Safe Solvent Gel Paint Remover by Fiberlock Technologies, Andover, MD (www.fiberlock.com).

4. Citristrip by W.M. Barr & Co., Inc., Memphis, TN (www.citristrip.com).
5. or Approved Equal

C. Products – Alkaline Based:
1. Peel-Away No. 1, by Dumond Chemicals, New York, NY (www.peelaway.com).
2. Back to Nature – BTN-1 by Dynacraft Industries, Inc., Englishtown, NJ (www.ibacktonature.com).
3. Piranha 8 Alkaline Paste Paint Remover by Fiberlock Technologies, Andover, MD (www.fiberlock.com).

D. Accessories: Provide specialized neutralizers per manufacturers' recommendations. Provide manufacturers specialized laminated paper for poultice-type applications.

2.4 MISCELLANEOUS MATERIALS

A. Turpentine: ASTM D13.

B. Mineral Spirits (Petroleum Paint Thinner): FS TT-T-291.

C. Wood Filler: Use only epoxy wood fillers as identified in Sections 063100 for the repair of deteriorated wood. Do not use any commercial ready-to-use wood fillers or "wood putty" except for filling nail holes. The use of any wood filler for nail holes is limited to products specifically formulated for exterior use.

D. Mildew and Mold Removal: Use D/2 Architectural Biocide (D/2 Biological Solutions, Inc., www.d2bio.com) a non-toxic liquid for removal of biological deposits, or approved equal. Use of chlorine-based bleach products is prohibited.

E. General Cleaning: Use only products manufactured or recommended by finish paint manufacturer.

PART 3 - EXECUTION

3.1 COORDINATION

A. Repair damaged or deteriorated surfaces prior to commencing general surface preparation except where otherwise noted. Refer to Sections 06 40 00 and 08 60 00 for specific requirements.

B. Schedule surface preparation to minimize exposure of bare substrates.

C. Elements that are removed for preparation and painting must be tagged and protected from damage, theft or deterioration and kept on the premises.
1. Tag window sash, storm windows and window shutters with number shown on Drawings.
2. Remove associated hardware and store in a plastic bag, labeled with the opening number.

3. Reinstall items removed after completing any required repairs, surface preparation and painting.

3.2 PROTECTION

A. Cover and protect adjacent surfaces not to be painted from airborne sanding particles, cleaning fluids, paint removers and paint spills using suitable drop cloths, barriers and other protective devices.
   1. Adjacent exterior surface protections include roofs, sheet metal flashing, stone and brick masonry.
   2. Adjacent interior surface protections include wood floors, floor coverings and window treatments (drapes, blinds, etc.).
   3. Cover and neatly mask lighting fixtures, cover plates, hardware and other devices that are not scheduled for painting and are not readily removable.
   4. Protect roof surfaces from traffic and damage from ladders, scaffolding, etc.

3.3 SURFACE PREPARATION

A. General: Prepare and clean surfaces to be painted in accordance with these specifications, and the paint or coating manufacturer's approved product data sheets and printed label instructions. In the event of conflicting instructions or directions, the more stringent requirements shall apply.
   1. Exterior Woodwork: Remove loose, flaking, alligatored and scaling paint manually. Use shaped scrapers to remove paint from curved or shaped surfaces. Do not gouge wood surfaces. Feather the edges of sound paint on wood surfaces so that edges of the existing paint are less pronounced and provide a sound base for new paint. Hand sand or use palm held oscillating sanders or random orbital sanders only. Do not use standard orbital sanders or drum sanders.
   3. Remove poorly adhered and deteriorated caulks and sealants.
      a. Clean and prime surfaces before applying new sealants.
   4. Lightly sand firmly adhered coatings to remove gloss. Sand edges of firmly adhered coatings to produce smooth, feathered edges. Do not leave scratches in surfaces that will be visible after applying finish paint.
   5. Thoroughly clean surfaces to remove all traces of dirt, soot, grease, mildew, chalkiness, stains and chemical residues.
      a. Cleaners: Use only approved products manufactured or recommended by finish paint manufacturer. Unless otherwise recommended by cleaner manufacturer, thoroughly rinse with clean water to remove surface contaminants and cleaner residue.
      b. Apply cleaner using hand-held wand applicator in accordance with product manufacturer's instructions. Remove soiling with nylon or natural (e.g. Tampico) bristle scrub brushes. Thoroughly rinse and remove all residues with clean water.
      d. Woodwork must thoroughly dry prior to paint application.
   7. ***No heat guns or torches are to be used on site; do not use wire brushes on woodwork or masonry.***

B. Exterior Wood Surfaces:
   1. After scraping, sanding and cleaning, sand raised grain and other surface imperfections smooth using medium- and fine-grit sandpaper. Sand parallel with the direction of grain. Clean sanded surfaces with mineral spirits or tack cloths.
   2. Sink protruding nail heads, spot prime and cover with wood filler. Sand smooth to adjacent undisturbed edges.
   3. Exterior woodwork: Do not use fillers to build up surface areas to provide a smooth and even appearance to exterior finish surfaces. Imperfections in the finish paint surface due to variations in paint layers and thicknesses in the existing substrate are expected and it is not the intent of the work to eliminate these imperfections.
   3. Touch-up bare spots with recommended primer.
   4. Seal knots, pitch streaks, sap spots, stains and graffiti with finish paint manufacturer's recommended primer/sealer.
   5. Prime or seal new wood prior to installation. Prime all fresh cuts and surfaces, including the under or back sides that may be concealed after installation.

C. Exterior Stucco Surfaces
   1. Prepare surfaces prior to repair or restoration of stucco to determine areas of loose or missing stucco and delamination of finish coat stucco from base coats.
   2. Remove loose, flaking, alligatored and scaling paint manually using scrapers and nylon bristle brushes. Do not use wire brushes on any masonry surfaces.
   3. Lightly sand firmly adhered coatings to remove gloss.
   4. Thoroughly clean surfaces to remove all traces of dirt, soot, grease, mildew, chalkiness, stains and chemical residues.
      a. Cleaners: Use only approved products manufactured or recommended by finish paint manufacturer. Unless otherwise recommended by cleaner manufacturer, thoroughly rinse with clean water to remove surface contaminants and cleaner residue.
      b. Apply cleaner using hand-held wand applicator in accordance with product manufacturer's instructions. Remove soiling with nylon bristle scrub brushes. Thoroughly rinse and remove all residues with clean water.
   5. Stucco be repaired/restored and cured ***for at least 30 days*** prior to application of primers and paint and must thoroughly dry prior to paint and primer application.

D. Ferrous Hardware
   1. Remove loose, flaking, alligatored and scaling paint manually.
   2. Remove surface rust with wire brushes. (Dremel-type rotary tools with brass brushes may be used to remove rust)
   3. Prime or paint immediately after rust removal.

3.4 EXAMINATION

A. Examine surfaces and substrates to be painted for compliance with contract documents, required environmental conditions, manufacturer's product data sheets, product label instructions and other written requirements.
   1. Do not begin applying paint without first verifying that surfaces and environmental conditions are acceptable for such work and that any earlier phase deficiencies and discrepancies have been properly corrected.
      a. The commencement of painting shall be interpreted to mean that the Contractor has determined that the surfaces and substrates are in satisfactory condition.

3.5 APPLICATION

A. Painting Material Preparations: Prepare painting materials in accordance with manufacturer's approved product data sheets and printed label instructions.
   1. Stir materials before and during application for a consistent mixture of density. Remove container surface paint films before stirring and mixing.
   2. Keep materials, containers and paint equipment free from skins, lumps and foreign matter. If necessary, strain paint before using.
   3. Slightly tint first opaque finish coat where primer and finish coats are the same color.
   4. Tinted primers may be used and are advised where dark or saturated finish colors are applied to aid in hiding. Primer must not be tinted the same color as finish paints.
   5. Do not thin paints unless allowed by paint manufacturer and directed to do so in writing within limits stated on approved product data sheets.

B. Environmental Conditions:
   1. Water-based Paints: Apply when surface temperature is between 50 degrees and 90 degrees Fahrenheit throughout the drying period.
   2. Other Paints: Apply when surface temperature is between 45 degrees and 95 degrees Fahrenheit throughout the drying period.
   3. Apply exterior paints during daylight hours free from rain, snow, fog and mist when ambient air conditions are more than 5 degrees above the surface dewpoint temperature and relative humidity less than 85 percent.
   4. Exterior Cold Weather Protection: Provide heated enclosures necessary to maintain specified temperature and relative humidity conditions during paint application and drying periods.
   5. Protect all newly repainted exterior surfaces from rain and snow, condensation, contamination, dust, and freezing temperatures until paint coatings are completely dry. Curing periods shall exceed the manufacture's recommended minimum requirements.

C. Apply approved paints where specified, or shown on the drawings, and to match approved field samples.
   1. Paint Applicators: **Use only brushes** except as noted below.
      a. Use of sprayers is not permitted.
      b. Application by roller: acceptable only if *immediately* brushed out. ***Roller textures on any surfaces are not acceptable***.
      b. Minimum wet and dry film thicknesses shall be as specified in paint manufacturers' product literature, regardless of application method or substrate.

D. Number of Coats:
   1. Apply 1 coat of primer and 2 coats of finish paint to all surfaces scheduled to be painted, unless otherwise indicated by manufacturer's recommendations
      a. Obtain approval of Director's Representative prior to applying consecutive coats of paint. No consideration will be given for paint layers that are covered over without prior inspection by the Director's Representative.
   2. If undercoats, stains or other defects show through final coat of paint, apply additional coats until paint film is uniform in color and appearance.
   3. Mineral Coatings: Follow manufacturer's recommendations for number of coats, with a minimum of two (2).

E. Scheduling: Apply first coat of paint as soon as practical after surface preparation and before the onset of any surface deterioration.
   1. Do not apply succeeding coats until the previous coat has fully cured, as recommended by the manufacturer.
      a. Lightly sand between coats of enamel paints.
   2. Schedule painting of doors, sash and frames early in the day to allow sufficient time for the paint film to dry before concluding the day's work.
      a. Schedule and coordinate access requirements to interior spaces with the Historic Site representative in accordance with Part 1 of this Section.

F. Doors and Frames:
   1. Paint top, bottom and side edges of doors the same as exterior faces.
   2. Paint edges of door frame to the inside corner of the frame stop.
   3. Do not allow doors and frames to touch until paint is thoroughly dry on both surfaces.

G. Window Sash and Frames:
   1. Paint top and bottom edges of sash the same as exterior faces unless otherwise directed.
   2. Do not paint window components that are clearly not intended to be painted such as weatherstripping, sash cords and non-ferrous hardware.
   3. Do not allow paint to accumulate and dry between operable surfaces of sash and frames.

4. Apply paint on muntins and window frames 1/8” onto glass surface to provide a seal around window panes.
5. Storm Windows: Paint interior and exterior exposed surfaces. Edges may require sanding to assure proper fit. Do not force storm windows into place. Install storm windows until all surfaces are dried and cured. All storm windows shall be tagged to indicate opening number.

H. Unless otherwise noted, paint attached exterior electrical boxes, raceways and conduits with the same type and color paint as the surface to which they are attached.
1. Do not paint security or fire alarm devices.
2. Do not paint lighting fixtures.

I. Provide and maintain “Wet Paint” signs, temporary barriers and other protective devices necessary to protect prepared and freshly painted surfaces from damage until Work has been accepted.
1. No traffic shall be permitted on wooden porch decks for at least 7 days after final paint application, or as recommended by the manufacturer to allow adequate product curing.

3.6 PAINT SCHEDULE

A. Finish Paint Systems: Provide primers that are compatible with the type of finish paint systems specified in Part 2.2 of this Section and as follows:
1. ALL exterior woodwork, including trim, windows, doors, shutters, columns, railings, ceilings, etc., except items listed below: Exterior Acrylic Latex, Semi-Gloss.
2. Stucco, Brick and Stone masonry: Acrylic latex, satin, eggshell or low luster gloss (See Alternate #1 on Chimneys)
3. Exterior porch and floor decks, stair treads: Highest gloss level available for specified product.
4. Shutter hardware: paint with the same product and color as the shutter or trim to which item is attached.

B. Color Schedule: Retain existing color scheme. Colors given below are for Benjamin Moore products.

ITEM	COLOR NAME	COLOR NUMBER	SHEEN
Stucco	Linen White	PM-28	Low luster
Wood Cornices & Trim	Linen White	PM-28	Semi-gloss
Windows & Frames	Linen White	PM-28	Semi-gloss
Shutters	Linen White	PM-28	Semi-gloss
Doors & Frames	Linen White	PM-28	Semi-gloss
Porches (all elements)	Linen White	PM-28	Semi-gloss
Dormer siding & trim	Linen White	PM-28	Semi-gloss
Porch Ceilings	Linen White	PM-28	Semi-gloss
Ferrous Hardware	Black	TBD	High Gloss

3.7 FIELD QUALITY CONTROL

A. Schedule inspections and obtain approval from the Director's Representative for each step in the painting process including surface preparation and application of prime, intermediate and finish paints.

B. Finished surfaces that exhibit any of the following conditions or characteristics shall be grounds for rejection of the Work of this Section:
   1. Roller marks, streaks, laps, runs, sags, heavy stippling, hiding or shadowing by inefficient application methods, skipped or missed areas, and foreign materials in paint coatings.
   2. Evidence of poor coverage at edges, crevices, pockets and corners.
   3. Damage due to contact before paint is sufficiently dry or any other contributory cause.
   4. Damage due to application on a moist surface or caused by inadequate protect from the weather.
   5. Damage and/ or contamination of paint due to wind blown contaminates (dust, debris, etc.)

C. Work rejected by the Director’s Representative shall be redone at no cost to the State. Small effected areas may be touched up; large affected areas without sufficient dry film thickness of paint shall be repainted. Runs, drips or damaged paint shall be removed by scraper and sanded prior to application of paint.

3.8 CLEAN-UP

A. Remove painting materials, rags, rubbish and other discarded items from the work area at the end of each day.

B. Collect and properly dispose of paint chips, cleaning solvents and other materials resulting from preparation of previously painted surfaces.
   1. Collect and dispose of wash water and cleaning solvents in accordance with the requirements of Part 1 of this Section and applicable federal, state and local laws and regulations.
   2. Do not dump or dispose any materials on site.
   3. Prevent paint chips from mixing with or leaching into soil or mulch.

C. Promptly remove spattered paint by washing before paint film dries.
   1. Do NOT use razor blades to remove paint from glass surfaces unless authorized in writing by the Director's Representative.

3.9 FINAL ADJUSTING

A. Reinstall removed items after painting has been completed.
   1. Restore damaged items to a condition equal to or better than when removed. Replace damaged items that cannot be restored.

B. Touch up and restore damaged finish paints. Touch up and restoration paint coats are in addition to the number of specified finish paint coats.

C. Remove spilled, splashed, or spattered paint without marring, staining or damaging the surface. Restore damaged surfaces to the satisfaction of the Director's representative.

D. Remove temporary barriers, masking tape, and other protective coverings upon completion of painting, cleaning and restoration work.

END OF SECTION

SECTION 09 91 23
INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings apply to this Section.

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

1.2 SUMMARY

A. This Section includes the following:
   1. Interior surface preparation and application of acrylic finish paint systems on the following elements:
      a. Architectural Woodwork: standing and running wood trim, including, but not limited to baseboards, chair rails, cornices and entablatures, mantelpieces and overmantels, columns, and pilasters.
      b. Wood doors and door frames.
      c. Wood windows, window frames window seats and interior shutters
      d. Wood paneling and paneled walls.
      e. Wood stair components that are **currently** painted, including wood wainscots and stair stringers.
      f. Wood casework and built-in cabinets.
   2. Interior surface preparation and application of acrylic finish paint systems on plaster walls, ceilings and soffits
   3. Interior surface preparation and application of acrylic finish paint systems on new gypsum drywall walls, ceilings and soffits
   4. Interior surface preparation and application of stained and “varnished” transparent finishes on wood elements, limited to restoring gouges and scrapes on historic architectural woodwork.

B **This Section EXCLUDES the following areas:**
   1. Room 103 decorative plaster and papier mache’ ceiling

C. Related Sections:
   1. Section 06 31 00 – Wood Restoration Systems
   2. Section 06 40 00 – Architectural Woodwork
   3. Section 07 90 00 – Joint Sealants.
   4. Section 08 60 00 – Window Restoration.
   5. Section 09 91 13 – Exterior Painting

1.3 DEFINITIONS

A. The word “paint” in this Section refers to sealers, primers, undercoats, enamels and other first, intermediate, or finish coatings.

B. The word “primer” in this Section refers to fillers, sealers, undercoats, and other first or intermediate coats beneath the last or finish coating.

C. The word “finish paint” in this Section refers to the last or final coat and previous coats of the same material or product directly beneath the last or final coat.

D. Finish Paint Systems: Finish paint and primers applied over the same substrate shall be considered a paint system of products manufactured or recommended by the finish coat manufacturer.
   1. Finish paint products shall meet or exceed specified minimum physical properties.

1.4 SUBMITTALS

A. Qualification Data: Submit qualifications of the painting contractor and supervising foreman to establish that they meet the requirements specified in the Quality Assurance article.
   1. Successful in-service performance is defined as being free of any peeling, blistering or other defect over 95% or more of the painted surfaces after a minimum of 5 years exposure.

B. Product Data: Each product listed.
   1. Provide the manufacturer's published technical data for each paint product or paint removal product. Include information on percent solids by weight and volume, solvent, vehicle, weight per gallon, gloss/reflectance data, recommended wet and dry film thickness, volatile organic compound (VOC) content in lbs/gallon, product use limitations and environmental restrictions, substrate surface preparation methods, directions and precautions for mixing and thinning, recommended application methods, square foot area coverage per gallon, storage instructions, and shelf-life expiration date.
   2. Provide the manufacturer's published technical data for each paint removal product, including directions and recommendations for use.
   3. Provide Material Safety Data Sheets (MSDS) for each paint and paint removal product.

C. Quality Control Submittals:
   1. Test Reports: Furnish certified test results from an independent testing laboratory, showing that products submitted comply with the specifications, when requested by the Director’s Representative
   2. Certificates: Furnish certificates of compliance required under Quality Control article.
   3. Color samples, on minimum 4” x 12” hardboard. Provide two sets of samples for each color, type and gloss of finish paint specified. The

Director's Representative will provide a standard manufacturer's color number or name, or color samples for use in matching paint colors. After approval, one set of color samples will be returned to the Contractor.

a. Color samples given to the Contractor for matching shall be returned to Parks in unaltered condition.
b. Note that some colors require custom formulation of deep, saturated colors.

1.5 QUALITY ASSURANCE

A. General: Utilize workers who are experienced and skilled in the preparation of weathered and previously painted surfaces and in the application of the types of paint coatings required for this project. In the acceptance or rejection of the Work of this Section, no allowance will be given for lack of skill on the part of any worker.

B. Painting Contractor: The Contractor for the Work of this Section shall be regularly engaged in the preparation of weathered and previously painted wood, masonry and plaster surfaces for at least 5 years and possess a record of successful in-service performance.

C. Foreman: The Work of this Section shall be directly supervised by a foreman who has at least five years experience in preparing and painting exterior and interior surfaces and in supervising the preparation and painting of exterior and interior surfaces that have a successful record of in-service performance.
   1. The foreman shall read and become familiar with all of the requirements of this and all related Specification Sections.

1.6 QUALITY CONTROL

A. Regulatory Requirements: New York State Department of Environmental Conservation Rules and Regulations (Title 6 NYCRR), Part 205 - Architectural and Industrial Maintenance Coatings.
   1. Each paint product to be delivered and installed comply with the VOC regulatory requirements in effect at the time of job site delivery and installation.

B. Container Labels: Label each product container with paint manufacturer's name, product name and number, color name and number, thinning and application instructions, date of manufacture, shelf-life expiration date, required surface preparations, recommended coverage per gallon, wet and dry film thickness, drying time, and clean up procedures.

C. Field Samples (Mock-Ups):
   1. Prepare field samples at locations designated by the Director's Representative. Do not proceed further with the Work of this Section until field samples are approved.
   2. Field samples shall be prepared on actual substrates to be painted.
      a. Utilize workers that will be engaged for the Work of this Section to prepare field samples.

b. Use approved materials and methods, and comply with the paint manufacturer's instructions and other requirements of this Section to prepare the field samples.

3. Approved field samples shall serve as a quality control standard for acceptance or rejection of the Work to be done under this Section.
   a. Protect approved field samples from damage, deterioration or alteration for the duration of the Contract.
   b. Approved field samples may be incorporated into the Work provided that they remain in good condition at time of Substantial Completion.
4. Each field sample must be inspected and approved at two stages:
   a. Upon completion of surface preparation (and paint removal).
   b. Upon completion of finish coat(s).
5. Field Samples Required:
   a. Wood Overmantel: Two (2) square feet of decorative woodwork on an overmantel (double-hung sash and frame), exterior complete.
   b. Wood Cornice: Two (2) linear feet of complete cornice/entablature assembly.

D. Compatibility of Paint Materials: Primers and intermediate paints shall be products manufactured or recommended by the finish paint manufacturer.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to the Site in original, unopened containers and cartons bearing manufacturer’s printed labels. Do not deliver products which have exceeded their shelf life, are in open or damaged containers or cartons, or are not properly labeled as specified.

B. Storage and Handling: Store products in a dry, well ventilated area in accordance with manufacturer’s published product data sheets. Storage location shall have a minimum ambient air temperature of 45 degrees F.
   1. Provide secure and weatherproof storage for all painting materials. **Materials may not be stored in the facility's buildings.**
   2. Remove oily and solvent-soaked rags daily.
   3. Take precautions to prevent spilling paints and solvents. Promptly clean-up any spillage with absorbent materials and dispose in accordance with regulations.
   4. Store toxic, volatile and flammable materials in fire-proof cabinets and post warnings (e.g. no smoking). No not store in facilities buildings.

1.8 PROJECT CONDITIONS

A. Environmental Requirements:
   1. Ambient Air Temperature, Relative Humidity, and Surface Temperature: Comply with paint manufacturer’s published product data sheet or other printed product instructions.

2. If paint manufacturer does not provide environmental requirements, comply with the following:
   a. Ambient Air Temperature: Between 50 deg. F & 90 deg F.
   b. Relative Humidity: Below 85 percent.
   c. Surface Temperature: Within ambient air temperature range and at least 5 degrees F above the surface dewpoint temperature.
3. Maintain environmental requirements throughout the drying period.

B. Wood Moisture Content: Verify, through the use of calibrated wood moisture meters, that the moisture content of wood surfaces is within the limits recommended by the manufacturer of the finish paint systems and the requirements of specified herein. In the event of conflicting instructions or directions, the more stringent requirement shall apply.
1. The maximum moisture content of wood to be painted shall not exceed 15%.

C. Do not paint the following items unless otherwise specified, noted or directed:
1. Brass and Bronze door and window hardware, unless previously painted.
2. Lighting fixtures, fire alarms/horns, and similar devices.

1.9 SCHEDULING AND COORDINATION

A. Schedule and coordinate work so as not to interfere with the work of other trades, to minimize exposure of bare wood to the weather and to prevent dust and debris resulting from the work of other trades from falling onto painted surfaces before they are tack free.

B. Coordinate surface preparation to prevent dust and debris from falling onto painted surfaces before they are tack free.

C. Schedule work such that paint coatings on adjoining surfaces can dry sufficiently to secure windows and doors before the end of each workday without affecting painted surfaces.

D. ***Coordinate surface preparation and paint removal work with woodwork restoration work. This may require work to be completed in phases.*** Coordinate protection requirements with other work to prevent dust and contamination from reaching other work areas.

E. Schedule preparation and painting of windows and doors with Director's Representative so that openings can be secured and/or monitored for security.

1.10 REGULATORY REQUIREMENTS

A. **Lead-Containing Paints**: Assume that all existing painted surfaces are coated with lead-containing paints. Handle, transport and dispose of lead-containing paint and residue in accordance with all applicable federal, state, and local laws and regulations including, but not limited to, the regulations referenced herein.

1. OSHA Regulations, Title 29, CFR Section 1926.62: "Lead Exposure in Construction" and Title 29, CFR Section 1910.1200: "Hazard Communication Standard."
2. US EPA Regulations, Title 40, CFR Part 262: "Standards Applicable to Generators of Hazardous Waste" and Part 263: "Standards Applicable to Transporters of Hazardous Waste."
3. US DOT Regulations, Title 49 CFR Parts 172 thru 180 inclusive.
4. NYS DEC Regulations, Title 6, Part 364, and parts 370-374.

B. Pollution Control: Take precautions to prevent contamination of waterways, storm water drainage systems and sanitary systems from paint materials, cleaners, paint removal products, thinners and solvents.
1. Collect water used to clean water-based materials, allow sediments to settle and filter out. Do not dump sediments into drainage systems or onto the ground.
2. Collect mineral spirits, petroleum, and other chemical solvent cleaners in suitable containers. Dispose of chemical cleaners in an approved legal manner and in accordance with hazardous waste regulations.
3. Allow empty paint containers to dry before disposing or recycling.
4. Close and tightly seal partially used containers of paint and chemical solvents.
5. Where paint recycling is available, collect waste paint by type and deliver to recycling or collection facility.

PART 2 - PRODUCTS

2.1 PAINT MATERIALS

A. Material Compatibility: Provide primers and finish paints that are compatible with one another and formulated for use on the types of substrates, and in the conditions and exposures indicated, as demonstrated by manufacturer-based testing and experience.

B. Material Manufacturers: Provide manufacturer's best-quality, highest-grade finish paint systems. Furnish only the highest quality paint materials produced and distributed by a nationally recognized leader in the paint/coatings industry, as approved by the Architect. These include Benjamin Moore, California Paints, Pratt & Lambert, Bruning and Sikens/Akzo, or approved equal. Products listed under Part 2.2 are listed as a standard for quality, characterized by superior resistance to fading and mildew, high ratios of pigments and binders to solvents and fillers, superior opacity, hold-out, leveling ability and dry film thickness.

C. Mixing and Tinting: Paints shall be ready-mixed and pre-tinted. Re-mix paint materials prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment and color and gloss uniformity.

D. Colors: Provide colors as selected by the Director's Representative from among finish paint manufacturer's standard color charts, or custom colors matching samples provided by the Director’s Representative. Some colors are deep saturated tones. Assume that some colors must be custom tinted.

E. Thinners: Do not use thinners unless approved by the Director's Representative. Types of thinners are restricted to those that are approved by the paint manufacturer, and mixed according to the manufacturer's recommended limits.

2.2 FINISH PAINT SYSTEMS

A. Interior Primer for Woodwork & Plaster: Acrylic Latex (Primers may be omitted over existing paint where manufacturer's recommendations indicate finish coatings are self-priming)
   1. Benjamin Moore – Fresh Start Multi-Purpose Latex Primer (023)
   2. California Paint – Troubleshooter 100% Acrylic Latex Wood Primer (451)
   3. Pratt & Lambert – Interior/Exterior Multi-Purpose Waterborne Primer (P1001)

B. Interior Paint for Woodwork: Acrylic Latex, Semigloss Enamel.
   1. Benjamin Moore – Regal Select Interior Paint, Soft Gloss Acrylic Paint (551).
   2. California Paint – Fres-Coat Interior Paint & Primer, Semi-gloss (563)
   3. Pratt & Lambert – Accolade Premium Interior Paint and Primer - Semi-Gloss (Z4100 Series)

E. Interior Paint for Plaster and Gypsum Drywall - Walls: Acrylic Latex, Low Luster or Eggshell
   1. Benjamin Moore – Regal Select Interior Paint - Eggshell (549)
   2. California Paint – Fres-Coat Interior Paint & Primer - Eggshell (531 series)
   3. Pratt & Lambert - Accolade Interior Premium Paint & Primer –Velvet (Z4000 Series)

2.3 PAINT REMOVAL SYSTEMS (If Required)

A. Manufacturer: Subject to the requirements of this Section, provide chemical paste, gel or poultice-type paint and coatings removal systems that have a proven record of safe and effective removal of lead-based paints. Multiple products and applications may be required.
   1. **Use of products containing Methylene Chloride is strictly prohibited.**

B. Products – Solvent-Based:
   1. Peel-Away No. 7, by Dumond Chemicals, New York, NY, (www.peelaway.com).
   2. Back to Nature – BFS (II) by Dynacraft Industries, Inc., Englishtown, NJ (www.ibacktonature.com).
   3. Piranha 4 Safe Solvent Gel Paint Remover by Fiberlock Technologies, Andover, MD (www.fiberlock.com).
   4. Citristrip by W.M. Barr & Co., Inc., Memphis, TN (www.citristrip.com).
   5. or Approved Equal

C. Products – Alkaline Based:

1. Peel-Away No. 1, by Dumond Chemicals, New York, NY (www.peelaway.com).
2. Back to Nature – BTN-1 by Dynacraft Industries, Inc., Englishtown, NJ (www.ibacktonature.com).
3. Piranha 8 Alkaline Paste Paint Remover by Fiberlock Technologies, Andover, MD (www.fiberlock.com).

D. Accessories: Provide specialized neutralizers per manufacturers' recommendations. Provide manufacturers specialized laminated paper for poultice-type applications.

2.4 MISCELLANEOUS MATERIALS

A. Turpentine: ASTM D13.

B. Mineral Spirits (Petroleum Paint Thinner): FS TT-T-291.

C. Wood Filler: Use only epoxy wood fillers as identified in Sections 063100 for the repair of deteriorated wood. Do not use any commercial ready-to-use wood fillers or "wood putty" except for filling nail holes.

D. Wood Stain for Repairing gouges in natural/varnished architectural woodwork:

E. General Cleaning: Use only products manufactured or recommended by finish paint manufacturer.

PART 3 - EXECUTION

3.1 COORDINATION

A. Repair damaged or deteriorated surfaces prior to commencing general surface preparation except where otherwise noted. Refer to Sections 06 40 00 and 08 60 00 for specific requirements.

B. Schedule surface preparation to minimize exposure of bare substrates.

C. Elements that are removed for preparation and painting must be tagged and protected from damage, theft or deterioration and kept on the premises.
1. Tag window sash, storm windows and window shutters with number shown on Drawings.
2. Remove associated hardware and store in a plastic bag, labeled with the opening number.
3. Reinstall items removed after completing any required repairs, surface preparation and painting.

3.2 PROTECTION

A. Cover and protect adjacent surfaces not to be painted from airborne sanding particles, cleaning fluids, paint removers and paint spills using suitable drop cloths, barriers and other protective devices.
   1. Adjacent exterior surface protections include roofs, sheet metal flashing, stone and brick masonry.
   2. Adjacent interior surface protections include wood floors, floor coverings and window treatments (drapes, blinds, etc.).
   3. Cover and neatly mask lighting fixtures, cover plates, hardware and other devices that are not scheduled for painting and are not readily removable.

3.3 SURFACE PREPARATION

A. General: Prepare and clean surfaces to be painted in accordance with these specifications, and the paint or coating manufacturer's approved product data sheets and printed label instructions. In the event of conflicting instructions or directions, the more stringent requirements shall apply.
   1. Painted Woodwork: Remove loose, flaking, alligatored and scaling paint manually. Use shaped scrapers to remove paint from curved or shaped surfaces. Do not gouge wood surfaces. Feather the edges of sound paint on wood surfaces so that edges of the existing paint are less pronounced and provide a sound base for new paint. Hand sand or use palm held oscillating sanders or random orbital sanders only. Do not use standard orbital sanders or drum sanders.
   3. Remove poorly adhered and deteriorated caulks and sealants.
      a. Clean and prime surfaces before applying new sealants.
   4. Lightly sand firmly adhered coatings to remove gloss. Sand edges of firmly adhered coatings to produce smooth, feathered edges. Do not leave scratches in surfaces that will be visible after applying finish paint.
   5. Thoroughly clean surfaces to remove all traces of dirt, soot, grease, mildew, chalkiness, stains and chemical residues.
      a. Cleaners: Use only approved products manufactured or recommended by finish paint manufacturer. Unless otherwise recommended by cleaner manufacturer, thoroughly rinse with clean water to remove surface contaminants and cleaner residue.
      b. Apply cleaner using hand-held wand applicator in accordance with product manufacturer's instructions. Remove soiling with nylon or natural (e.g. Tampico) bristle scrub brushes. Thoroughly rinse and remove all residues with clean water.
      d. Woodwork must thoroughly dry prior to paint application.
   6. ***No heat guns or torches are to be used on site; do not use wire brushes on woodwork or masonry.***

B. Ferrous Hardware
   1. Remove loose, flaking, alligatored and scaling paint manually.
   2. Remove surface rust with wire brushes.
   3. Prime or paint immediately after rust removal.

3.4 EXAMINATION

A. Examine surfaces and substrates to be painted for compliance with contract documents, required environmental conditions, manufacturer's product data sheets, product label instructions and other written requirements.
   1. Do not begin applying paint without first verifying that surfaces and environmental conditions are acceptable for such work and that any earlier phase deficiencies and discrepancies have been properly corrected.
      a. The commencement of painting shall be interpreted to mean that the Contractor has determined that the surfaces and substrates are in satisfactory condition.

3.5 APPLICATION

A. Painting Material Preparations: Prepare painting materials in accordance with manufacturer's approved product data sheets and printed label instructions.
   1. Stir materials before and during application for a consistent mixture of density. Remove container surface paint films before stirring and mixing.
   2. Keep materials, containers, and paint equipment free from skins, lumps and foreign matter. If necessary, strain paint before using.
   3. Slightly tint first opaque finish coat where primer and finish coats are the same color.
   4. Tinted primers may be used and are advised where dark or saturated finish colors are applied to aid in hiding. Primer must not be tinted the same color as finish paints.
   5. Do not thin paints unless allowed by paint manufacturer and directed to do so in writing within limits stated on approved product data sheets.

B. Apply approved paints where specified, or shown on the drawings, and to match approved field samples.
   1. Paint Applicators: **Use only brushes** except as noted below.
      a. Use of sprayers is not permitted.
      b. Application by roller: acceptable only if *immediately* brushed out. ***Roller textures on any surfaces are not acceptable***.
      b. Minimum wet and dry film thicknesses shall be as specified in paint manufacturers' product literature, regardless of application method or substrate.

D. Number of Coats:
   1. Apply 1 coat of primer and 2 coats of finish paint to all surfaces scheduled to be painted, unless otherwise indicated by manufacturer's recommendations
      a. Obtain approval of Director's Representative prior to applying consecutive coats of paint. No consideration will be given for paint layers that are covered over without prior inspection by the Director's Representative.
   2. If undercoats, stains or other defects show through final coat of paint, apply additional coats until paint film is uniform in color and appearance.
   3. Mineral Coatings: Follow manufacturer's recommendations for number of coats, with a minimum of two (2).

E. Scheduling: Apply first coat of paint as soon as practical after surface preparation and before the onset of any surface deterioration.
   1. Do not apply succeeding coats until the previous coat has fully cured, as recommended by the manufacturer.
      a. Lightly sand between coats of enamel paints.
   2. Schedule painting of doors, sash and frames early in the day to allow sufficient time for the paint film to dry before concluding the day's work.
      a. Schedule and coordinate access requirements to interior spaces with the Historic Site representative in accordance with Part 1 of this Section.

F. Doors and Frames:
   1. Paint top, bottom and side edges of doors the same as exterior faces.
   2. Paint edges of door frame to the inside corner of the frame stop.
   3. Do not allow doors and frames to touch until paint is thoroughly dry on both surfaces.

G. Window Sash and Frames:
   1. Paint top and bottom edges of sash the same as exterior faces unless otherwise directed.
   2. Do not paint window components that are clearly not intended to be painted such as weatherstripping, sash cords and non-ferrous hardware.
   3. Do not allow paint to accumulate and dry between operable surfaces of sash and frames.
   4. Apply paint on muntins and window frames 1/8" onto glass surface to provide a seal around window panes.
   5. Storm Windows: Paint interior and exterior exposed surfaces. Edges may require sanding to assure proper fit. Do not force storm windows into place. Install storm windows until all surfaces are dried and cured. All storm windows shall be tagged to indicate opening number.

H. Unless otherwise noted, paint attached exterior electrical boxes, raceways and conduits with the same type and color paint as the surface to which they are attached.
   1. Do not paint security or fire alarm devices.
   2. Do not paint lighting fixtures.

I. Provide and maintain “Wet Paint” signs, temporary barriers and other protective devices necessary to protect prepared and freshly painted surfaces from damage until Work has been accepted.

3.6 PAINT SCHEDULE

A. Color Schedule to be provided by Director’s Representative.
   1. Paint Color Schedule to possibly include different colors for paneling, cornice, trim, and wall plaster in each room.

3.7 FIELD QUALITY CONTROL

A. Schedule inspections and obtain approval from the Director's Representative for each step in the painting process including surface preparation and application of prime, intermediate and finish paints.

B. Finished surfaces that exhibit any of the following conditions or characteristics shall be grounds for rejection of the Work of this Section:
   1. Roller marks, streaks, laps, runs, sags, heavy stippling, hiding or shadowing by inefficient application methods, skipped or missed areas, and foreign materials in paint coatings.
   2. Evidence of poor coverage at edges, crevices, pockets and corners.
   3. Damage due to contact before paint is sufficiently dry or any other contributory cause.
   4. Damage due to application on a moist surface or caused by inadequate protect from the weather.
   5. Damage and/ or contamination of paint due to contaminates (dust, debris, etc.)

C. Work rejected by the Director’s Representative shall be redone at no cost to the State. Small effected areas may be touched up; large affected areas without sufficient dry film thickness of paint shall be repainted. Runs, drips or damaged paint shall be removed by scraper and sanded prior to application of paint.

3.8 CLEAN-UP

A. Remove painting materials, rags, rubbish and other discarded items from the work area at the end of each day.

B. Collect and properly dispose of paint chips, cleaning solvents and other materials resulting from preparation of previously painted surfaces.

1. Collect and dispose of wash water and cleaning solvents in accordance with the requirements of Part 1 of this Section and applicable federal, state and local laws and regulations.
2. Do not dump or dispose any materials on site.
3. Prevent paint chips from mixing with or leaching into soil or mulch.

C. Promptly remove spattered paint by washing before paint film dries.
   1. Do NOT use razor blades to remove paint from glass surfaces unless authorized in writing by the Director's Representative.

3.9 FINAL ADJUSTING

A. Reinstall removed items after painting has been completed.
   1. Restore damaged items to a condition equal to or better than when removed. Replace damaged items that cannot be restored.

B. Touch up and restore damaged finish paints. Touch up and restoration paint coats are in addition to the number of specified finish paint coats.

C. Remove spilled, splashed, or spattered paint without marring, staining, or damaging the surface. Restore damaged surfaces to the satisfaction of the Director’s representative.

D. Remove temporary barriers, masking tape, and other protective coverings upon completion of painting, cleaning, and restoration work.

END OF SECTION