SECTION 090190.52 - MAINTENANCE REPAINTING

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
   * + 1. SUMMARY
          1. Section includes maintenance repainting as follows:

Removing existing paint.

Patching substrates.

Repainting[**, including staining and varnishing of wood**].

* + - * 1. Work under this Contract shall also include, but not necessarily be limited to:

Moisture testing of substrates.

Surface preparation of substrates as required for acceptance of paint, including cleaning, small crack repair, patching, caulking, and making good surfaces and areas to the limits defined under MPI Repainting Manual Preparation requirements.

Specific pre-treatments noted herein or specified in the MPI Repainting Manual.

Sealing / priming surfaces for repainting in accordance with MPI Repainting Manual requirements.

Provision of safe and adequate ventilation as required over and above temporary ventilation supplied by others, where toxic and/or volatile / flammable materials are being used.

* + - * 1. Related Requirements:

Retain subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

Section 040110 "Masonry Cleaning" for cleaning and removing paint from masonry.

Section 099114 "Exterior Painting," Section 099123 "Interior Painting," Section 099300 "Staining and Transparent Finishing," and Section 099600 "High-Performance Coatings" for Paint materials and systems for new construction.

* + - * 1. Refer to drawings and schedules (e.g., Finish Schedule) for type, location and extent of exterior and interior repainting required, and include all touch-ups necessary to complete work shown, scheduled or specified.
      1. REFERENCES
         1. Master Painters Institute Inc., MPI Maintenance Repainting Manual. www.specifypaint.us..
      2. DEFINITIONS

Retain terms that remain after this Section has been edited for a project.

Definitions of gloss levels in first seven paragraphs below are from MPI's "Maintenance Repainting Manual" (hereafter, the "MPI Manual").

* + - * 1. Gloss Level 1 (Matte or Flat): Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D523.
        2. Gloss Level 2: (Velvet) Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.
        3. Gloss Level 3 (Eggshell): 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.
        4. Gloss Level 4 (Satin): 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523.
        5. Gloss Level 5 (Semi-Gloss): 35 to 70 units at 60 degrees, according to ASTM D523.
        6. Gloss Level 6 (Gloss): 70 to 85 units at 60 degrees, according to ASTM D523.
        7. Gloss Level 7 (High Gloss): More than 85 units at 60 degrees, according to ASTM D523.

Power washing is suitable for soft stone (Sandstone, Limestone, Softwood), to remove loose surface contaminants, dirt, etc. and rinsing chemical treatment residue.

* + - * 1. Power Washing: 100 to 600 psi at 6 inches.

Pressure washing is suitable for wood, soft stone, and brick to remove loose paint flakes, dirt, efflorescence, etc.

* + - * 1. Pressure Washing: 600 to 1,500 psi at 6 inches.

High pressure washing is suitable for concrete masonry, stone, brick, and concrete to remove loose paint, adherent dirt, heavy efflorescence, etc.

* + - * 1. High Pressure Washing: 1,500 to 4,000 psi at 6 to 12 inches.

Hydro blasting is suitable for concrete and hard stone to remove moderately adhered paint and surface contaminants.

* + - * 1. Hydro Blasting: 4,000 to 10,000 psi.

Jet blasting is only suitable for metals and is equal to SSPC-SP-12.

* + - * 1. Jet Blasting: 10,000 + psi.
      1. PREINSTALLATION MEETINGS

Retain "Preinstallation Conference" paragraph below if Work of this Section is extensive or complex enough to justify a conference.

* + - * 1. Preinstallation Conference: Conduct conference at Project site.

If needed, insert list of conference participants.

* + - 1. SEQUENCING AND SCHEDULING

Paragraph below is an example only; revise to suit Project. Insert other sequences for different areas of building or types of work if needed.

* + - * 1. Perform maintenance repainting in the following sequence, which includes work specified in this and other Sections:

Retain subparagraphs below and insert others if required; revise to suit Project. If adjacent materials are to be replaced, consider inserting them in sequence to ensure that existing and new materials are not damaged by the work.

Dismantle existing surface-mounted objects and hardware except items indicated to remain in place. Tag items with location identification and protect.

Verify that temporary protections have been installed.

Examine condition of surfaces to be painted.

Remove existing paint to the degree required for each substrate and surface condition of existing paint.

Apply paint system.

Reinstall dismantled surface-mounted objects and hardware unless otherwise indicated.

* + - 1. SUBMITTALS
         1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
         2. Manufacturer’s installation instructions shall be provided along with product data.
         3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
         4. Painting Schedule: Cross-referenced Painting Schedule listing all exterior and interior substrates to be painted and specified finish paint type designation; product name and manufacturer, recommended primers and product numbers, and finish paint color designation for each substrate to be painted.

Designate exterior substrates by building name and number, substrate to be painted and surface location.

Designate interior substrates by building name and number, floor, room name and number, and surface to be painted.

* + - * 1. Product Data: For each type of product.

Include recommendations for product application and use.

Include test data substantiating that products comply with requirements.

Manufacturer’s standard colors in the form of actual fan decks.

* + - * 1. Sustainable Design Submittals:
        2. Samples: For each type of paint system and each pattern, color, and gloss; in sizes indicated below.

Include stepped Samples defining each separate coat, including fillers and primers. Resubmit until each required sheen, color, and texture is achieved.

Retain first subparagraph below if citing color codes of Munsell color or Plochere color systems. See the Evaluations.

Include a list of materials for each coat of each Sample.

Label each Sample for location and application.

Retain "Sample Size" subparagraph below if retaining first option in "Samples" paragraph above; revise to suit Project.

Sample Size:

Painted Surfaces: 4-by-8-inch Samples for each color and material, on hardboard.

Stained or Natural Wood: 12-by-12-inch Samples of natural- or stained-wood finish, on representative surfaces.

See "Writing Guide" Article in the Evaluations for discussion of first subparagraph below.

Printout of current "MPI Approved Products List" for each MPI-product category specified in paint systems, with the proposed product highlighted.

VOC content.

* + - * 1. Contractor’s Qualifications: Submit documentation demonstrating compliance with requirements in Quality Assurance Article.
        2. Certification of Volatile Organic Compounds: Submit certified list demonstrating compliance requirements in Quality Assurance Article.

Retain "Preconstruction Test Reports" paragraph below if specifying preconstruction testing in "Preconstruction Testing" Article as Contractor's responsibility.

* + - * 1. Preconstruction Test Reports: For cleaning materials, [**paint removers**] [**and**] [**paint coatings and systems**].
      1. QUALITY ASSURANCE
         1. Volatile Organic Compounds (VOCs) Regulatory Requirements: Chapter III of Title 6 of the official compilation of Codes, Rules and Regulations of the State of New York (Title 6 NYCRR), Part 205 Architectural Surface Coatings.

Certificate of Compliance: List of each paint product to be delivered and installed. List shall include written certification stating that each paint product listed complies with the VOC regulatory requirements in effect at the time of job site delivery and installation.

* + - * 1. Contractor shall have a minimum of five (5) years proven satisfactory experience and shall show proof before commencement of work that he will maintain a qualified crew of painters throughout the duration of the work. When requested by the Director’s Representative, Contractor shall provide a list of the last three comparable repainting jobs including, name, location, specifying authority / project manager, start / completion dates and value of the work.
        2. All materials, preparation and workmanship shall conform to the standards contained in the latest edition of the Master Painters Institute (MPI) Maintenance and Repainting Manual (herein referred to as the MPI Repainting Manual).

Retain required mockups in "Mockups" paragraph below; insert others to suit Project. Test areas that were prepared or are required as part of a separate contract to evaluate maintenance repainting materials and processes are not mockups. In some regions, the term "benchmark sample" is used for painted finishes in lieu of "mockup."

* + - * 1. Mockups: Prepare mockups of maintenance repainting processes for each type of coating system and substrate indicated and each color and finish required to demonstrate aesthetic effects and to set quality standards for materials and execution. Duplicate appearance of approved Sample submittals.

Locate mockups [**on existing surfaces where directed by Director’s Representative**] [**in locations that enable viewing under same conditions as the completed Work**].

Surface-Preparation Mockups: On existing surfaces using applicable specified methods of cleaning and other surface preparation, provide mockup sample of at least 100 sq. ft..

Coating Mockups: Two surfaces of at least 100 sq. ft. to represent surfaces and conditions for application of each type of coating system under same conditions as the completed Work.

Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Director’s Representative specifically approves such deviations in writing.

Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

* + - * 1. Compatibility of Paint Materials: Primers and intermediate paints shall be products manufactured or recommended by the finish paint manufacturer.
      1. REGULATORY REQUIREMENTS
         1. Conform to work place safety regulations for storage, mixing, application and disposal of all paint related materials to requirements of those authorities having jurisdiction.
         2. To reduce the amount of contaminants entering waterways, sanitary / storm drain systems or into the ground the following procedures shall be strictly adhered to:

Retain cleaning water for water based materials to allow sediments to be filtered out. In no case shall equipment be cleaned using free draining water.

Retain cleaners, thinners, solvents and excess paint and place in designated containers and ensure proper disposal.

Return solvent and oil-soaked rags used during painting operations for contaminant recovery, proper disposal, or appropriate cleaning and laundering.

Dispose of contaminants in an approved legal manner in accordance with hazardous waste regulations.

Empty paint cans are to be dry prior to disposal or recycling (where available).

Close and seal tightly partly used cans of materials including sealant and adhesive containers and store protected in well ventilated fire safe area at moderate temperature.

* + - 1. PRECONSTRUCTION TESTING

Retain this article for preconstruction testing. Revise article based on Designer of Record's knowledge of the building's materials and experience with similar work. Usually test cleaning materials, paint removers, and paint-coating compatibility before preparing the Specifications, and delete this article. Project-specific preconstruction testing can be expensive but may be the best means of proving that performance requirements are met.

* + - * 1. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing of cleaning materials, [**paint removers**] [**and**] [**compatibility of paint coatings and systems**] for each[**indicated**] type of painted surface.

Use test areas as indicated and representative of proposed materials and existing construction.

Propose changes to materials and methods to suit Project.

* + - 1. DELIVERY, STORAGE, AND HANDLING
         1. Deliver painting materials in sealed, original labeled containers bearing manufacturer's name, brand name, type of paint or coating and color designation, standard compliance, materials content as well as mixing and/or reducing and application requirements.
         2. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.

Maintain containers in clean condition, free of foreign materials and residue.

Remove rags and waste daily.

* + - * 1. Where toxic and/or volatile / explosive / flammable materials are being used, provide adequate fireproof storage lockers and take necessary precautions and post adequate warnings (e.g. no smoking) as required.
        2. Take necessary precautionary and safety measures to prevent fire hazards and spontaneous combustion and to protect the environment from hazard spills. Materials that constitute a fire hazard (paints, solvents, drop clothes, etc.) to be stored in suitable closed and rated containers or removed from the site on a daily basis.

If necessary, insert special requirements for fire protection, heating, ventilation, and other conditions for storage areas on-site.

* + - 1. FIELD CONDITIONS

Generally, retain this article; revise to suit Project.

* + - * 1. Weather Limitations: Proceed with maintenance repainting only when existing and forecasted weather conditions are within the environmental limits set by each manufacturer's written instructions and specified requirements.

Revise first two paragraphs below for unique requirements of paint materials and to suit Project.

* + - * 1. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
        2. Do not apply paint in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer for surface preparation and during paint application and drying periods.

* + - * 1. Perform no repainting work unless a minimum lighting level of 323 Lux (30-foot candles) is provided on surfaces to be repainted.
        2. Apply paint only to dry, clean, and adequately prepared surfaces in areas where dust is no longer generated by construction activities such that airborne particles will not affect the quality of finished surfaces.
        3. Test suspect surfaces (concrete, masonry, plaster and wood surfaces) for moisture and alkalinity as required. Conduct all moisture tests using a properly calibrated electronic moisture meter.
        4. The following items are not to be painted unless otherwise specified, noted or directed:

Exposed stainless steel, chrome, copper, bronze, brass, and aluminum.

Steel to be encased in cast-in-place concrete.

Top flanges of structural beams and girders in composite concrete-steel construction.

Factory prefinished items.

Exposed structural wood floor joists, subflooring, rafters, roof sheathing and other framing lumber.

Galvanized items not exposed in finished spaces.

* + - 1. MAINTENANCE MATERIALS
         1. Except as noted below, provide a minimum of 1 gallon of each type and color of paint from same production run (batch mix) used in unopened cans, properly labeled and identified for Director’s representative's later use in maintenance. Store where directed.

Paint Types EAL-1 and IAL-1: Four gallons, each type.

Paint Types EAL-2 and IAL-2: Two gallons, each type.

1. PRODUCTS

See Editing Instruction No. 1 in the Evaluations for cautions about named manufacturers and products.

* + - 1. PREPARATORY CLEANING MATERIALS

Retain materials in this article to suit Project and required cleaning methods. If local water is known to be unsuitable, consider informing Contractor of this in "Water" paragraph below. Hard or softened water may be unsuitable even though potable.

* + - * 1. Water: Potable.

Retain "Hot Water" paragraph below if heated water is required.

* + - * 1. Hot Water: Water heated to a temperature of 140 to 160 deg F.

Retain remaining paragraphs below to suit Project.

Revise "Detergent Solution" paragraph below for specific laundry detergent requirements if known. Detergent products vary in compositions.

* + - * 1. Detergent Solution: Solution prepared by mixing 2 cups of tetrasodium pyrophosphate (TSPP), 1/2 cup of laundry detergent that contains no ammonia, 5 quarts of 5 percent sodium hypochlorite bleach, and 15 quarts of warm water for every 5 gal. of solution required.
        2. Mildewcide: Commercial proprietary mildewcide or a job-mixed solution prepared by mixing 1/3 cup of household detergent that contains no ammonia, 1 quart of 5 percent sodium hypochlorite bleach, and 3 quarts of warm water.

Retain "Abrasives for Ferrous Metal Cleaning" or "Rust Remover" paragraph below, or both, for cleaning rusted iron and steel.

* + - * 1. Abrasives for Ferrous Metal Cleaning: Aluminum oxide paper, emery paper, fine steel wool, steel scrapers, and steel-wire brushes of various sizes.

Retain "Rust Remover" paragraph below if retaining chemical rust removal method in Part 3. Product below is commonly used to convert reddish-brown iron oxide into a water-soluble, black, iron phosphate compound that is easier to remove and resists further corrosion.

* + - * 1. Rust Remover: Manufacturer's standard phosphoric acid-based gel formulation, also called "naval jelly," for removing corrosion from iron and steel.
      1. PAINT REMOVERS

Retain one or more paint removers in this article to suit Project. Insert other types if required.

"Alkaline Paste Paint Remover" and "Covered or Skin-Forming Alkaline Paint Remover" paragraphs below describe caustic materials that require neutralizing afterwash. Do not use these products on aluminum; on wood, they may darken and raise grain.

* + - * 1. Alkaline Paste Paint Remover: Manufacturer's standard alkaline paste or gel formulation for removing paint from masonry, stone, wood, plaster, or metal as required to suit Project; and containing no methylene chloride.

[Products:](http://www.specagent.com/Lookup?ulid=9149) Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:

[American Building Restoration Products, Inc](http://www.specagent.com/Lookup?uid=123457008266).; 800 Brush Grade.

[Diedrich Technologies, Inc.; a Hohmann & Barnard company](http://www.specagent.com/Lookup?uid=123457008267); 606 Multi-Layer Paint Remover.

[EaCo Chem, Inc](http://www.specagent.com/Lookup?uid=123457008268).; Stripper Cream.

Approved equivalent.

* + - * 1. Covered or Skin-Forming Alkaline Paint Remover: Manufacturer's standard covered or skin-forming alkaline paste or gel formulation for removing paint from masonry, stone, wood, plaster, or metal as required to suit Project; and containing no methylene chloride.

[Products:](http://www.specagent.com/Lookup?ulid=9150) Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:

[American Building Restoration Products, Inc](http://www.specagent.com/Lookup?uid=123457008271).; Grip 'N Strip 800 Fast Acting.

[Dumond Chemicals, Inc](http://www.specagent.com/Lookup?uid=123457008273); Peel Away 1 System.

Approved equivalent.

Products in "Solvent-Type Paste Paint Remover" and "Low-Odor, Solvent-Type Paste Paint Remover" paragraphs below require water rinsing, which can be absorbed by porous substrates and promote corrosion on ferrous metals. Products in "Solvent-Type Paste Paint Remover" paragraph contain methylene chloride.

* + - * 1. Solvent-Type Paste Paint Remover: Manufacturer's standard water-rinseable, solvent-type paste or gel formulation for removing paint from masonry, stone, wood, plaster, or metal as required to suit Project.

[Products:](http://www.specagent.com/Lookup?ulid=9151) Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:

[Diedrich Technologies, Inc.; a Hohmann & Barnard company](http://www.specagent.com/Lookup?uid=123457008274); 505 Special Coatings Stripper.

[PROSOCO, Inc](http://www.specagent.com/Lookup?uid=123457008275); Sure Klean Fast Acting Stripper.

[Shore Corporation](http://www.specagent.com/Lookup?uid=123457008276); SB2200 Alka Strip.

Approved equivalent.

* + - * 1. Low-Odor, Solvent-Type Paste Paint Remover: Manufacturer's standard low-odor, water-rinsable, solvent-type paste, gel, or foamed emulsion formulation for removing paint from masonry, stone, wood, plaster, or metal as required to suit Project; and containing no methanol or methylene chloride.

[Products:](http://www.specagent.com/Lookup?ulid=9152) Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:

[American Building Restoration Products, Inc](http://www.specagent.com/Lookup?uid=123457008277).; ABR Citrus Paint Removers.

[Diedrich Technologies, Inc.; a Hohmann & Barnard company](http://www.specagent.com/Lookup?uid=123457118110); Envirestrip.

[Dumond Chemicals, Inc](http://www.specagent.com/Lookup?uid=123457008279); Smart Strip Pro.

[EaCo Chem, Inc](http://www.specagent.com/Lookup?uid=123457008280).; InStrip.

[PPG Paints](http://www.specagent.com/Lookup?uid=123457116532); PPG DuraPrep® Prep™ 200 Architectural Coating Remover.

[PROSOCO, Inc](http://www.specagent.com/Lookup?uid=123457008281); SafStrip.

Approved equivalent.

* + - * 1. Covered, Solvent-Type Paste Paint Remover: Manufacturer's standard, low-odor, covered, water-rinseable, solvent-type paste or gel formulation for removing paint from masonry, stone, wood, plaster, or metal as required to suit Project; and containing no methanol or methylene chloride.

[Products:](http://www.specagent.com/Lookup?ulid=9153) Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:

[Dumond Chemicals, Inc](http://www.specagent.com/Lookup?uid=123457008282); Peel Away 1 with paper covering.

[PROSOCO, Inc](http://www.specagent.com/Lookup?uid=123457008283); Safety Peel 1.

Approved equivalent.

Insert other types of products and systems such as abrasive dry or wet blasting to suit Project. See the Evaluations.

* + - 1. MECHANICAL PAINT REMOVAL

Hand cleaning techniques are used where the substrate is in sound to moderately deteriorated condition. The type of substrate, its location, environmental restrictions (requiring containment, etc.) and the size, shape or intricacy of the substrate, are all factors that can influence the preparation technique required. In many cases, power tool or other mechanical techniques cannot be used.

* + - * 1. Hand Cleaning: Use sandpaper, scrapers, wire brushes, bristle brushes (with detergent solutions), steel wool and manual chipping hammers as appropriate for substrates to have existing coatings removed.

Exterior Substrates: Do not use steel or copper wools to clean exterior surfaces when using detergents.

Only use tools that are resistant to the detergent and cleaning chemicals being used..

Most often, power tools are used where abrasive blast cleaning is not practical due to the size of the area or location of the substrate.

* + - * 1. Power Tool Cleaning: Use tools such as grinders, rotary and cup brushes, power sanders, and needle guns as appropriate for substrates to have existing coatings removed.

Improper use of this cleaning method can cause substrate blasting damage, or excessive moisture injection into (and even behind) the substrate. It can also result in less than adequate cleaning of the surface. The effects of the amount of moisture applied must also be closely monitored.

* + - * 1. Pressurized Water Washing: Use lowest pressure necessary to result in the required substrate preparation. When using detergents protect foliage from damage from spray and runoff. If foliage cannot be protected then only low-toxicity, environmentally friendly detergents are to be used.

Wood: Use power washing and pressure washing [**with detergents** ][**without detergents** ]to remove loose and flaking paint, dust, dirt, and surface chalk. Allow substrates to dry to no more than 12 percent moisture content prior to recoating.

Detergents to be thoroughly rinsed with large amounts of water.

Masonry: When using detergent additive, soak surfaces to be cleaned with water and prior to pressurized water washing.

Soft and Old Masonry Surfaces: Use power washing and pressure washing [**with detergents** ][**without detergents** ]to remove loose and flaking paint, dust, dirt, and efflorescence. Use lowest pressure possible on old mortar joints; do not damage mortar joints.

Hard Masonry Surfaces, Concrete, and Hard Stone: Use high pressure washing and hydro blasting [**with detergents** ][**without detergents** ]to remove loose to moderately adhered paint, surface contaminants, heavy efflorescence, etc.

Detergents to be thoroughly rinsed with large amounts of water.

* + - * 1. Abrasive Blast Cleaning: Use abrasive materials propelled by [**compressed air** ][**and** ][**water jet** ]at high velocity. Abrasive materials include, but are not limited to, sand, glass beads, pulverized walnut or almond shells, sodium bicarbonate (baking soda), dry ice, ground corncobs, plastic power, and powdered aluminum silicate.

Prohibited Toxic Substances: Do not use abrasive containing any of the following:

Beryllium.

Lead.

Cadmium.

Chromium.

Exterior Blast Cleaning: Use only non-polluting and biodegradable abrasives and methods.

Wood, Gypsum and Cement Plaster, and Soft Metals: Use softer abrasives such as pulverized walnut shells, sodium bicarbonate (baking soda), dry ice, ground corncobs, plastic power, and powdered aluminum silicate to remove coatings.

Cast Iron and Steel: Use sand abrasives; do not wet blast.

* + - 1. PAINT REMOVAL FROM STEEL AND IRON
         1. Prepare existing steel to be painted by cleaning in accordance with Structural Steel Painting Council (SSPC) standards:

Select one of the following subparagraphs below, depending upon the steel substrate condition and amount of surface cleaning required for paint or primer adhesion. Delete other cleaning methods. If more than one cleaning method is required, describe areas and locations of each method on the drawings.

SSPC-SP1: Remove oil, grease, dirt, soil, salts, and other surface contaminants using appropriate cleaning solvents and clean rags, vapor, alkali, emulsion, or steam and adequate ventilation.

SSPC-SP2: Remove loose rust, mill scale, and paint to the degree specified by hand chipping, scraping, sanding, and wire-brushing.

SSPC-SP3: Remove loose rust, mill scale, and paint to the degree specified by power-tool chipping, descaling, sanding, wire-brushing, and grinding.

Use cleaning method below where repainting maintenance costs warrant a cleaner substrate for better primer adhesion and less paint film deterioration in corrosive environments.

SSPC-SP5: Remove all visible rust, mill scale, paint, and foreign matter by white-metal blast cleaning with wheel or nozzle (dry) using sand, grit, or shot.

Use cleaning method below where the maintenance cost of repainting warrants maximum primer adhesion in severely corrosive environments.

SSPC-SP6: Remove all visible rust, mill scale, paint, and foreign matter by mechanical blast cleaning until at least two-thirds of each element of the surface is free of all visible residues.

* + - 1. PAINT, GENERAL
         1. Material Compatibility:

Systems could fail if paints used for individual coats are incompatible. MPI's paint systems match primers and topcoats and take compatibility into consideration.

Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.

For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

* + - * 1. Colors: [**As indicated with each paint system in maintenance repainting schedule(s) at the end of Part 3**] [**Match Director’s Representative's samples**] [**As selected by Director’s Representative from full range of industry colors**].

Revise "Paint Materials, General," "Paint Material Manufacturers," and "Paint Materials" articles below to suit Project.

* + - 1. PAINT MATERIALS, GENERAL
         1. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."

Transition Coat: Paint manufacturer's recommended coating for use where a residual existing coating is incompatible with the paint system.

Generally, retain "Material Compatibility" paragraph below.

* + - * 1. Material Compatibility:

Systems could fail if paints used for individual coats are incompatible. MPI's paint systems match primers and topcoats and take compatibility into consideration.

Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.

For each coat in a paint system, provide products recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

* + - * 1. Colors: [**As selected by Director’s Representative from manufacturer's full range**] [**Match Director’s Representative's samples**] [**As indicated in a color schedule**].

[**10**] [**20**] [**30**] percent of surface area will be painted with deep tones.

* + - * 1. Mechanical, Electrical, and Plumbing Components Colors: Provide paint colors shown on contract drawings or to be selected by the Director from finish paint manufacturers available color selections.

Approved finish paint manufacturers to match designated colors of other manufacturers where colors are shown on contract documents.

Safety Colors: Industry Standard ANSI Safety Colors.

Fire Protection Systems: Paint exposed piping, and handles of valves serving the system as specified below:

Sprinkler Systems: Red piping, and green valve handles.

Standpipe Systems: Red piping, and red valve handles.

Combination Sprinkler/Standpipe Systems: Red piping, and yellow valve handles.

Do not paint equipment with factory finish paint.

Color Coding: Apply exposed insulated and uninsulated piping finish paints in the following colors when piping is located in the following applicable rooms or spaces:

Applicable Rooms and Spaces: Mechanical Equipment Rooms, Steam Service Rooms, Refrigeration Machine Rooms, Boiler Rooms, Penthouse Mechanical Equipment Rooms and Power Houses.

Color code as follows:

Air, Compressed: Safety Green.

Air, Control: Safety Green.

Air, Medical: Safety yellow.

Ammonia, Gas and Liquid: Safety Yellow.

Brine: Safety Green.

Carbon Dioxide: Safety Red.

Dangerous Materials: Safety Yellow.

Engine Exhausts: Safety Yellow.

Flue Gases: Safety Yellow.

Gas, Natural and Manufactured: Safety Yellow.

Gasoline: Safety Yellow.

Glycol and Glycol/Water Mixtures: Safety Yellow.

Nitrous Oxide: Safety Blue.

Oils, Fuel and Lubrications: Safety Yellow.

Oxygen: Safety Green.

Pneumatic Tube System s: Safety Green.

Refrigerants: Safety Yellow.

Sewers, Storm and Sanitary: Safety Yellow.

Steam; Supply, Condensate Return and Exhaust: Safety Yellow.

Vacuum: Safety Green.

Vent, Atmospheric: Safety Green.

Water, Up to 140 Degrees Fahrenheit: Safety Green.

Water, 141 Degrees and Above: Safety Yellow.

Other Colors:

Exposed Ductwork: Gray.

Insulated and Uninsulated Equipment: Gray.

* + - 1. PAINT MATERIAL MANUFACTURERS

* + - * 1. [Manufacturers:](http://www.specagent.com/Lookup?ulid=11177) Subject to compliance with requirements, provide products by the following:

Behr Paint

Benjamin Moore & Co.

Carboline.

Cloverdale Paint.

Diamond Vogel.

Dunn-Edwards

Pratt & Lambert.

PPG Architectural.

Sherwin-Williams.

Approved equivalent.

* + - 1. PAINT MATERIALS

Manufacturers' names and product designations can be inserted in paragraphs in this article. Paints in these paragraphs are specified by referencing MPI paint categories and optional MPI numbers. Note that each paint category below is unique within this Section and is identical to that used in the maintenance repainting schedules at the end of Part 3.

If retaining paragraphs below, first revise the maintenance repainting schedules; then retain, delete, and insert appropriate paint products in paragraphs to correspond with paint systems specified in the maintenance repainting schedules.

* + - * 1. Primers and Sealers:

Primer Sealer, Latex, Interior: A white, pigmented, water based latex sealer used on new interior plaster, concrete and gypsum wallboard surfaces that are subsequently painted with latex or alkyd finish coat(s). Its purpose is to reduce the porosity of the substrate for finish coats. Not intended for use on wood or previously painted surfaces.

Type IAL-P: Primer Sealer, Latex, Interior MPI #50. Provide one of the following:

Benjamin Moore & Co.: Super Hide Zero VOC Latex Primer.

PPG Architectural: Speedhide Zero Interior VOC Latex Sealer.

Sherwin-Williams: ProMar 200 Zero Interior Latex Primer.

Approved equivalent.

Primer, Latex, for Interior Wood: A latex based primer for use on interior surfaces such as doors, casings, and trim where odor or VOC concerns may not permit the use of solvent based products. Primers complying with this standard must contain "tannin blocking" materials, which effectively prevent staining on woods such as cedar and redwood.

Type IAL-PW: Primer, Latex, for Interior Wood MPI #39. Provide one of the following:

Benjamin Moore & Co.: Multi-Purpose Primer.

PPG Architectural: Seal Grip Interior/Exterior Acrylic Universal Primer/Sealer.

Sherwin-Williams: Multi-Purpose Latex Primer/Sealer.

Approved equivalent.

Primer, Stain Blocking, Water Based: A water based, pigmented primer designed for use on interior wood and on gypsum wallboard as a stain sealer. This product may be used for new and repainting work in residential, commercial and light industrial areas. Finish coats used over this primer will include latex and alkyd based paints.

Type IAL-SB: Primer, Stain Blocking, Water Based:  MPI #137. Provide one of the following:

Benjamin Moore & Co.: Fresh Start High-Hiding All Purpose Primer.

PPG Architectural: Spectrum Paint Rhino-Grip 8000 Int/Ext Universal Primer.

Sherwin-Williams: Multi-Purpose Latex Primer/Sealer.

Approved equivalent.

Alkyd, Sanding Sealer, Clear: A solvent based, quick drying, clear, sandable alkyd sealer used on new interior wood surfaces that are to be top-coated with an alkyd varnish. Also used for spot priming bare spots in previously varnished work that is to receive an alkyd varnish. Not recommended for use with Type IPV-3 polyurethane varnish.

Type ITS-P: Alkyd, Sanding Sealer, Clear MPI #102. Provide one of the following:

PPG Architectural: DEFT Sanding Sealer Interior Oil Based.

Pratt & Lambert: Alkyd Sanding Sealer Clear.

Sherwin-Williams: MINWAX Sanding Sealer

Approved equivalent.

Stain, Semi-Transparent, for Interior Wood: A solvent based, oil or oil/alkyd, semi transparent, pigmented stain for new interior hard and softwood trims, doors, paneling, glue laminated beams and dimension lumber, that are to be finished with a clear varnish. Used in residential, commercial and public locations. Can be top coated with Type IV-1, Type IV-2, Type IPV-3, oil modified polyurethane varnishes, or as a finish itself. Must also be compatible with wood fillers and Type ITS-P alkyd sanding sealer.

Type ITOS: Stain, Semi-Transparent, for Interior Wood MPI #90. Provide one of the following:

PPG Architectural: DEFT Interior Oil-Based Wood Stain.

Pratt & Lambert: Tonetic Interior Oil Wood Stains.

PPG Architectural: MINWAX Performance Series Tintable Interior Wood Stain 250 VOC.

Approved equivalent.

Block filler, latex: A water based, high solids, emulsion type pigmented coating with bridging and filling properties for interior or exterior concrete masonry units, for the purpose of filling the surface for subsequent applications of paint.

Type LBF: Block Filler: Block filler, latex, interior/exterior, MPI #4. Provide one of the following:

Benjamin Moore: Ultra Spec Hi-Build Masonry Block Filler.

PPG Architectural: Speedhide Int./Ext. Masonry Hi Fill Latex Block Filler.

Sherwin-Williams: Pro Industrial Heavy Duty Block Filler.

Approved equivalent.

* + - * 1. Metal Primers:

Primer, Metal, Surface Tolerant: A solvent based, anti-corrosive metal primer for use on structural steel and misc. metal fabrications in residential and commercial applications, as well as light to moderate industrial applications. Most often specified for field application or repainting. Products conforming to this specification will provide good corrosion resistance on poorly prepared metal surfaces which may only receive a minimum of solvent degreasing (SSPC — SP1) followed by hand or tool power cleaning (SSPC SP2 or 3).

Type ESP-1: Primer, Metal, Surface Tolerant MPI #23. Provide one of the following:

Benjamin Moore & Co.: Coronado Rust Scat Polyurethane Int/Ext Alkyd Metal Primer.

PPG Architectural: Protective and Marine Coatings Multiprime/Devguard 4160.

Sherwin-Williams: Protective & Marine Kem Bond HS.

Approved equivalent.

Primer, Alkyd, Anti-Corrosive for Metal: A solvent based, alkyd type, anti-corrosive primer for ferrous metals in industrial or light marine exposures. This coating is primarily used for field application on new and repainting work. Minimum preparation for new work is an SSPC SP 6 commercial blast, but in many situations, hand or power tool cleaning to SSPC SP11 may be used.

Type ESP-2: Primer, Alkyd, Anti-Corrosive for Metal MPI #79. Provide one of the following:

Benjamin Moore & Co.: Super Spec HP Alkyd Metal Primer.

PPG Architectural: Protective and Marine Coatings Multiprime/Devguard 4160.

Sherwin-Williams: Protective & Marine Kem Bond HS.

Approved equivalent.

Primer, Rust-Inhibitive, Water Based: A water based, emulsion type, anti-corrosive primer for interior ferrous metals exposed to mildly corrosive environments. This coating shall be resistant to flash rusting when applied to cleaned steel.

Type ISP-3: Primer, Rust-Inhibitive, Water Based MPI #107. Provide one of the following:

Benjamin Moore & Co.: Ultra Spec HP Acrylic Metal Primer.

PPG Architectural: Protective and Marine Coatings Pitt-Tech Int/Ext DTM Industrial Primer.

Sherwin-Williams: Pro Industrial Pro-Cryl Universal Primer.

Approved equivalent.

Primer, Zinc Rich, Organic: A solvent based, one component, anti-corrosive primer for new or repaired ferrous metal surfaces exposed to industrial and marine environments. Minimum recommended surface preparation is a SSPC SP 10 blast cleaning to near white metal. SSPC SP 5 is recommended where this primer will be used in a system for highly corrosive or immersion service. In milder exposures or where blast cleaning is not practical, power tool cleaning to bright metal is acceptable.

Type ESP-3: Primer, Zinc Rich, Organic MPI #18. Provide one of the following:

Benjamin Moore & Co.: Corotech Organic Zinc Rich Primer.

Diamond Vogel: Endura Zinc 705, Organic Zinc Rich Epoxy Ester Primer.

Sherwin-Williams: Protective & Marine Corothane I Galvapac 1K Zinc Primer

Approved equivalent.

Primer, Zinc-Rich, Epoxy: A solvent based, two or three component, epoxy type anti-corrosive primer for cleaned new or repaired ferrous metal surfaces exposed to moderate industrial or marine environments. Must be top-coated to attain maximum protective qualities.. Minimum recommended surface preparation is SSPC SP-6 Commercial Blast, but in some repainting work, hand or power tool cleaning may be the maximum attainable.

Type ESP-EP1: Primer, Zinc-Rich, Epoxy MPI #20. Provide one of the following:

Carboline: Carbozinc 859.

PPG Architectural: Protective and Marine Coatings Aquapon Zinc Rich Epoxy.

Sherwin-Williams: Protective & Marine Zinc Clad IV.

Approved equivalent.

Primer, Epoxy, Anti-Corrosive, for Metal: A solvent based, two component, epoxy, anti-corrosive primer for exterior and interior, ferrous and galvanized metal surfaces. Specified for use over new, cleaned metals and as a spot primer or full coat over previous epoxy coatings that have been properly prepared with hand, power tool or abrasive blasting cleaning methods.

Type ESP-EP2: Primer, Epoxy, Anti-Corrosive, for Metal MPI #101. Provide one of the following:

Benjamin Moore & Co.: Corotech Surface Tolerant Epoxy Mastic Coating.

PPG Architectural: Protective and Marine Coatings Amercoat 235.

Sherwin-Williams: Protective & Marine

Approved equivalent.

Wood Primers: A pigmented, white, water borne emulsion type wood primer for exterior wood surfaces. This primer is intended for use in coating systems using both latex and alkyd based finishing paints. Paint systems using this primer will be specified for new and repainting work in residential, commercial and light industrial applications. This primer is recommended for use on woods containing extractable staining materials such as cedar and redwood.

* + - * 1. Wood Primers:

Type EWP: Primer, Latex for Exterior Wood MPI #6. Provide one of the following:

Benjamin Moore & Co.: Multi-Purpose Primer.

PPG Architectural: Seal Grip Interior/Exterior Acrylic Universal Primer/Sealer.

Sherwin-Williams: Multi-Purpose Latex Primer/Sealer.

Approved equivalent.

Primer, Alkyd for Exterior Wood: An alkyd/oil based primer for exterior wood siding and trim. This product is used for new and repainting work in residential, commercial and light industrial areas. This primer is used on woods prone to extractive bleeding, such as cedar and redwood, and must have bleeding resistance when applied to dry (less than 15% moisture content) wood substrates. Finish coatings, used over this primer include latex, alkyd and alkyd/oil based paints. The straight alkyd products are faster drying than the oil/alkyd type primer.  Must be mildew resistant.

Type EAP: Primer, Alkyd for Exterior Wood:  MPI #5. Provide one of the following:

Benjamin Moore & Co.: Fresh Start All-Purpose Primer.

PPG Architectural: Seal Grip Interior/Exterior Acrylic Universal Primer/Sealer.

Sherwin-Williams: Exterior Oil-Based Wood Primer.

Approved equivalent.

* + - * 1. Water-Based Paints:

Latex, Exterior Flat (Gloss Level 1): A white or colored, flat, water based paint intended for use on new and previously painted exterior wall surfaces, including stucco, concrete, or primed wood. This product is not intended for application to un-primed wood surfaces. Surfaces prone to extractive bleeding (i.e. cedar/redwood) must have a stain blocking primer applied (Type EAP or Type EWP). This product is alkali resistant for use on masonry surfaces and mildew resistant. Other primers used with this coating include Type LBF for concrete block, self-priming on stucco and concrete. Not recommended for horizontal surfaces, where water may pond or stand.

Use paint Type EAL-1 below on exterior permeable wall and soffit substrates where winter indoor to outdoor airborne moisture migrations may damage less permeable exterior paint. Use paint Type EAL-2 on wood trim, metal and other substrates requiring less permeability and occasional washing may be needed.

Type EAL-1; Latex, Exterior Flat (Gloss Level 1) MPI #10. Provide one of the following:

Benjamin Moore & Co.: Ultra Spec Exterior Flat Finish.

PPG Architectural: Speed Cryl Exterior 100% Acrylic Flat.

Sherwin-Williams: SuperPaint Exterior Latex Flat.

Approved equivalent.

Latex, Exterior Low Sheen (Gloss Levels 3-4): A latex based, low sheen paint for use on new and previously painted surfaces, including stucco, concrete or wood. This product is not designed for application to unprimed wood surfaces. Where extractive bleeding may be encountered, a stain blocking primer such as Type EAP or Type EWP must be employed. This product is alkali resistant for use on masonry surfaces, and mildew resistant. Other primers used with this coating include Type LBF for concrete block, self-priming on concrete and stucco. Not recommended for horizontal surfaces where water may pond or stand.

Use paint Type EAL-2 below on exterior doors, windows, frames, trim, soffits and other substrates where winter indoor to outdoor moisture migrations do not pose a problem and concealed air spaces have been vented. Use paint Type EAL-3 for a harder, more durable finish where frequent washing may be required. Do not use paint Type EAL-2 over an existing paint Type EAL-1 on permeable exterior wall surfaces and assemblies.

Type EAL-2; Latex, Exterior Low Sheen (Gloss Levels 3-4) MPI #15. Provide one of the following:

Benjamin Moore & Co.: Ultra Spec Exterior Satin Finish.

PPG Architectural: Speed Cryl Exterior 100% Acrylic Satin.

Sherwin-Williams: SuperPaint Exterior Latex Satin.

Approved equivalent.

Latex, Exterior Semigloss (Gloss Level 5): A pigmented, water based, emulsion type, semi-gloss paint for exterior masonry, stucco, primed metals and wood, (primarily trim, fascia and smooth surfaces e.g. doors and door frames) where low to moderate contact can be anticipated. Alkali resistant for use on masonry surfaces and mildew resistant. Primers used with this coating include Type LBF for concrete block, self-priming on stucco and concrete, and Type EAP and Type EWP for wood surfaces. Not recommended for horizontal surfaces, where water may pond or stand.

Use paint Type EAL-3 below on exterior impermeable substrates where frequent use or corrosive weathering requires a hard and durable long-lasting finish that can be easily washed and maintained. Do not use paint Type EAL-3 over existing paint Types EAL-1 or EAL-2 on permeable substrates. Do not use paint Type EAL-3 on surfaces where paint Type EAL-2 will perform equally well at less expense. Use paint Type AU for greater resistance to surface abrasions, impacts and acidic damages in corrosive or abusive outdoor environments.

Type EAL-3: Latex, Exterior Semigloss (Gloss Level 5) MPI #11. Provide one of the following:

Benjamin Moore & Co.: Ultra Spec Exterior Gloss.

PPG Architectural: Speed Cryl Exterior 100% Acrylic Semi-Gloss.

Sherwin-Williams: Latitude Exterior Acrylic Gloss.

Approved equivalent.

Latex, Interior, Flat, (Gloss Level 1): A white, or colored, water based latex paint with a flat finish. Used on primed/sealed interior wall surfaces such as plaster, gypsum and on primed wood and metal. Not intended for use on unprimed wood surfaces.

Use paint Type IAL-1 below for walls and ceilings in inhabitable spaces with low lighting levels and minimal maintenance needs. Use paint Type IAL-2 for metal doors and trim on IAL-1 walls and ceilings. Use paint Type IAL-1 for ceilings in habitable spaces with IAL-2 walls for a more durable wall finish with greater reflectance and less need for cleaning.

Type IAL-1: Latex, Interior, Flat, (Gloss Level 1) MPI #53. Provide one of the following:

Benjamin Moore & Co.: Super Hide Zero VOC Interior Flat.

PPG Architectural: Speedhide Pro EV Zero VOC Latex Flat.

Sherwin-Williams: SuperPaint Interior Latex Flat.

Approved equivalent.

Latex, Interior, (Gloss Level 3): A white, or colored, water based latex-based paint with a finish between a high side sheen flat and a ‘satin-like’ finish or a low semi-gloss. Used on primed/sealed interior plaster and gypsum board, and on primed wood and metals.

Use paint Type IAL-2 below on walls with paint Type IAL-1 ceilings in moderate to medium occupancy rooms with low to medium light reflectance and cleaning needs. Use paint Type IAL-2 on both walls and ceilings in medium occupancy rooms requiring greater light reflectance and less need for cleaning. Use paint Type IAL-3 for metal doors and trim with paint Type IAL-2 walls

Type IAL-2: Latex, Interior, (Gloss Level 3) MPI #52. Provide one of the following:

Benjamin Moore & Co.: Super Hide Zero VOC Interior Low Eggshell.

PPG Architectural: Speedhide Zero Interior Satin.

Sherwin-Williams: ProMar 200 Zero VOC Interior Latex Eg-Shel.

Approved equivalent.

Latex, Interior, Semigloss, (Gloss Level 5): A white, or colored, water based latex-based paint with a semi-gloss finish. Used on primed/sealed interior wood and metal trim and doors, and on plaster and gypsum wallboard (particularly kitchens and bathrooms) where washability is required.

Use paint Type IAL-3 below on walls in medium to high use rooms with IAL-2 ceilings and need for walls with greater light reflectance and lower cleaning maintenance needs. Use paint Type IAL-3 for both walls and ceilings in high use rooms and spaces needing greater light reflectance. Use paint Type IAL-4 for metal doors, frames and trim with paint Type IAL-3 walls.

Type IAL-3: Latex, Interior, Semigloss, (Gloss Level 5).  MPI #54. Provide one of the following:

Benjamin Moore & Co.: Ultra Spec 500 Interior Semi-Gloss.

PPG Architectural: Speedhide Zero Interior Semi-Gloss.

Sherwin-Williams: ProMar 200 Zero VOC Interior Latex Semi-Gloss.

Approved equivalent.

Latex, Interior, Gloss (Gloss Level 6): A water based, acrylic co-polymer emulsion type, pigmented, gloss coating for interior primed wood, plaster, masonry, concrete, trim and wall surfaces. Application methods will include using brushes, rollers, and airless, high velocity, low pressure (HVLP) and conventional spray equipment.

Type IAL-4: Latex, Interior, Gloss, (Gloss Level 6, except Minimum Gloss of 65 Units at 60 Degrees) MPI #114. Provide one of the following:

Benjamin Moore & Co.: Ultra Spec HP D.T.M. Acrylic Gloss Enamel.

PPG Architectural: Advantage 900 Int/Ext Trim & Door Gloss.

Sherwin-Williams: Pro Industrial DTM Acrylic Gloss.

Approved equivalent.

Latex, Interior, Institutional Low Odor/VOC, Flat (Gloss Level 1): A white or colored flat latex paint with low odor characteristics and a VOC of less than 10 grams per liter. For use in areas such as hospitals and other occupied buildings where the odor and VOC levels of conventional latex products would preclude their use. It is intended for use on new or previously painted interior wall and ceiling surfaces including gypsum board, plaster, concrete or primed metal and wood surfaces.

Use paint Type IAL-1-LO below for walls and ceilings in inhabitable spaces with low lighting levels and minimal maintenance needs. Use paint Type IAL-2-LO for metal doors and trim on IAL-1-LO walls and ceilings. Use paint Type IAL-1-LO for ceilings in habitable spaces with IAL-2-LO walls for a more durable wall finish with greater reflectance and less need for cleaning.

Type IAL-1-LO: Latex, Interior, Institutional Low Odor/VOC, Flat (Gloss Level 1) MPI #143. Provide one of the following:

Benjamin Moore & Co.: Eco Spec WB Interior Latex Flat Finish.

PPG Architectural: Speedhide Zero Interior Zero VOC Latex Flat.

Sherwin-Williams: ProMar 200 Zero VOC Interior Latex Flat.

Approved equivalent.

Latex, Interior, Institutional Low Odor/VOC (Gloss Level 3): A white or colored latex paint with low odor characteristics and a VOC of less than 10 grams per liter. For use in areas such as hospitals and other occupied buildings where the odor and VOC levels of conventional latex products would preclude their use. It is intended for use on new or previously painted interior wall and ceiling surfaces including gypsum board, plaster, concrete or primed metal and wood surfaces.

Use paint Type IAL-2-LO below on walls with paint Type IAL-1-LO ceilings in moderate to medium occupancy rooms with low to medium light reflectance and cleaning needs. Use paint Type IAL-2-LO on both walls and ceilings in medium occupancy rooms requiring greater light reflectance and less need for cleaning. Use paint Type IAL-3-LO for metal doors and trim with paint Type IAL-2-LO walls.

Type IAL-2-LO: Latex, Interior, Institutional Low Odor/VOC (Gloss Level 3).  MPI #145. Provide one of the following:

Benjamin Moore & Co.: Super Hide Zero VOC Interior Low Eggshell.

PPG Architectural: Manor Hall Interior 100% Acrylic Satin.

Sherwin-Williams: ProMar 200 HP Zero VOC Interior Acrylic Eg-Shel.

Approved equivalent.

Latex, Interior, Institutional Low Odor/VOC, Semigloss (Gloss Level 5): A white or colored latex paint with low odor characteristics and a VOC of less than 10 grams per liter. For use in areas such as hospitals and other occupied buildings where the odor and VOC levels of conventional latex products would preclude their use.

Use paint Type IAL-3-LO below on walls in medium to high use rooms with IAL-2-LO ceilings and need for walls with greater light reflectance and lower cleaning maintenance needs. Use paint Type IAL-3-LO for both walls and ceilings in high use rooms and spaces needing greater light reflectance. Use paint Type IAL-4-LO for metal doors, frames and trim with paint Type IAL-3-LO walls.

Type IAL-3-LO: Latex, Interior, Institutional Low Odor/VOC, Semigloss (Gloss Level 5).  MPI #147. Provide one of the following:

Benjamin Moore & Co.: Ultra Spec 500 Interior Semi-Gloss.

PPG Architectural: Speedhide Zero Interior Semi-Gloss.

Sherwin-Williams: Pro Industrial Acrylic Semi-Gloss Coating.

Approved equivalent.

Latex, Interior, Institutional Low Odor/VOC, Gloss (Gloss Level 6): A white or colored latex paint with low odor characteristics and a VOC of less than 10 grams per liter. For use in areas such as hospitals and other occupied buildings where the odor and VOC levels of conventional latex products would preclude their use.

Use paint Type IAL-4-LO below on walls in frequently used rooms with IAL-3-LO ceilings for high light reflectance and durable easy-to-clean surfaces. Use paint Type IAL-4-LO on both ceilings and walls for greater light reflectance and less maintenance.

Type IAL-4-LO: Latex, Interior, Institutional Low Odor/VOC, Gloss (Gloss Level 6) MPI #148. Provide one of the following:

Dunn-Edwards: ENDURACOAT Interior/Exterior Gloss Industrial Maintenance Coating.

Pratt & Lambert: Krylon Industrial Waterborne Acrylic Enamel Gloss White Base.

Sherwin-Williams: Pro Industrial Acrylic Gloss Coating.

Approved equivalent.

* + - * 1. Solvent-Based Paints:

Alkyd, Exterior Gloss (Gloss Level 6): A white, or colored, gloss, alkyd based paint intended for use on new and previously painted primed exterior wood and metal surfaces, primarily residential and commercial trim, doors and frames.

Type EAP: Alkyd, Exterior Gloss (Gloss Level 6) MPI #9. Provide one of the following:

Benjamin Moore & Co.: Super Spec HP Urethane Alkyd Gloss Enamel.

PPG Architectural: Protective & Marine Coatings HPC Industrial Alkyd LVOC Gloss.

Sherwin-Williams: Protective & Marine Seaguard 1000 Marine.

Approved equivalent.

Alkyd, Interior, Gloss (Gloss Level 6): A solvent based, gloss alkyd paint for primed new, or previously sealed, interior wood and metal surfaces. Primarily used on trim, doors and frames.

Type IAP: Alkyd, Interior, Gloss (Gloss Level 6) MPI #48. Provide one of the following:

Benjamin Moore & Co.: Super Spec HP Urethane Alkyd Gloss Enamel.

PPG Architectural: Protective & Marine Coatings Industrial Alkyd Gloss.

Sherwin-Williams: Industrial Enamel HS.

Approved equivalent.

* + - * 1. Floor Coatings:

Floor Paint, Latex, Low Gloss (Maximum Gloss Level 3): An abrasion-resistant, latex type, pigmented paint for new interior and exterior horizontal concrete and primed wood surfaces not prone to water permeation from below. Coating must be alkali and water resistant to incidental splash and spillage. Primarily specified for use in low to medium traffic, residential and commercial locations. Surface preparation requires removal of all previous sealers and water retaining materials applied to the surface. Smooth concrete must be acid etched. Designed to be used with or without non-slip aggregate.

Type EPE: Floor Paint, Latex, Low Gloss (Maximum Gloss Level 3):  MPI #60.

Cloverdale Paint: Porch & Floor Enamel

PPG Architectural: Floor & Porch Enamel

Sherwin Williams: ArmorSeal Tread-Plex.

Approved equivalent.

* + - * 1. Solvent-Based Varnishes:

Varnish, with UV Inhibitor, Exterior, Semigloss (Gloss Level 5): A solvent based, alkyd type, clear varnishes for exterior wood doors, frames and trim. Stabilized against UV deterioration for exterior finishing with a UV inhibitor. Systems using these coatings will be specified for new and repainting work in residential and commercial applications, primarily in areas of moderate contact and abrasion. Recommended for trim, doors or windows and frames.

Type EV: Varnish, with UV Inhibitor, Exterior, Semigloss (Gloss Level 5) MPI #30. Provide one of the following:

Behr Paint: Oil-Based Spar Urethane Semi-Gloss.

Sherwin-Williams: Minwax Helmsman Spar Urethane Semi-Gloss.

Approved equivalent.

Varnish, Marine Spar, Exterior, Gloss (Gloss Level 7): A solvent based, phenolic modified clear varnish for exterior wood surfaces. Highly water resistant but can show some yellowing and gloss loss from high UV exposure. Suitable for dark or dark stained wood doors.

Type ESV: Varnish, Marine Spar, Exterior, Gloss (Gloss Level 7) MPI #28. Provide one of the following:

Behr Paint: Oil-Based Spar Urethane Gloss.

Sherwin-Williams: Minwax Helmsman Spar Urethane Gloss.

Approved equivalent.

Varnish, Interior, Flat (Gloss Level 1): A solvent based, alkyd type, clear varnishes used on new or properly prepared, previously varnished interior wood surfaces. These coatings are specified primarily in residential and light commercial locations. Used for interior hard and softwood trims, doors, paneling, glue-laminated beams and dimension lumber, trim, molding, frames and doors. Must be compatible with Type ITS-P alkyd sanding sealer or Type ITOS semi-transparent stain.

Type IV-1: Varnish, Interior, Flat (Gloss Level 1) MPI #73. Provide one of the following:

Behr Paint: Fast Drying Oil-Based Polyurethane Flat.

Sherwin-Williams: Minwax Performance Series Fast-Dry Oil Varnish Satin.

Approved equivalent.

Varnish, Interior, Gloss (Gloss Level 6): A solvent based, alkyd type, clear varnishes used on new or properly prepared, previously varnished interior wood surfaces. These coatings are specified primarily in residential and light commercial locations. Used for interior hard and softwood trims, doors, paneling, glue-laminated beams and dimension lumber, trim, molding, frames and doors. Must be compatible with Type ITS alkyd sanding sealer or semi-transparent stain (Type ITOS).

Type IV-2: Varnish, Interior, Gloss (Gloss Level 6) MPI #75. Provide one of the following:

Behr Paint: Fast Drying Oil-Based Polyurethane Gloss.

Sherwin-Williams: Minwax Performance Series Fast-Dry Oil Varnish Gloss.

Approved equivalent.

* + - * 1. Epoxy Coatings:

Epoxy, Gloss: A solvent based, gloss, two component, epoxy coating specified for wall and floor surfaces in moderate to heavy traffic commercial and moderate industrial environments. Must be resistant to incidental splash and spillage of dilute (5%) sulfuric acid, (15%) hydrochloric acid, (20%) sodium hydroxide, gasoline and heavy duty cleaners and detergents. Used as a self-priming material on smooth, low porosity concrete, masonry and wood surfaces. This epoxy shall be able to be applied at temperatures ranging from 15° to 40° C and a maximum relative humidity of 80%.

Type EP: Epoxy, Gloss:  MPI #77. Provide one of the following:

Cloverdale Paint: ClovaCoat 300.

Sherwin-Williams: Protective & Marine Tile-Clad HS Epoxy.

Approved equivalent.

Epoxy, High-Build, Low Gloss: A two component epoxy, high solids, low gloss coating for use on interior or exterior concrete, masonry and primed metal surfaces. Metal surfaces may be primed with conventional epoxy primers, epoxy zinc rich primers or inorganic zinc rich primers. For increased durability, this product may be top coated with epoxy or polyurethane enamels.

Type EPHB: Epoxy, High-Build, Low Gloss MPI #108. Provide one of the following:

Benjamin Moore & Co.: Corotech Polyamide Epoxy Gloss.

PPG Architectural: Protective & Marine Coatings Aquapon High Build Epoxy.

Sherwin-Williams: Macropoxy 646 Fast Cure Epoxy.

Approved equivalent.

* + - * 1. Polyurethane Coatings:

Polyurethane, Two-Component, Pigmented, Gloss (Gloss Level 6): A solvent based, two component polyurethane, pigmented coating with a gloss finish for interior or exterior brick, block, concrete, plaster, wood and metal surfaces, where abrasion, weathering, chemical and solvent resistance is required.

Type AU: Polyurethane, Two-Component, Pigmented, Gloss (Gloss Level 6) MPI #72. Provide one of the following:

AkzoNobel: Devoe High Performance Coatings; Devthane 379.

Benjamin Moore & Co.: Corotech Aliphatic Acrylic Urethane Gloss.

PPG Architectural: Protective & Marine Coatings Pitthane Ultra Gloss 95-812 Series.

Sherwin-Williams: Protective & Marine Acrolon 218 HS.

Approved equivalent.

* + - * 1. Polyurethane Varnishes:

Varnish, Interior, Polyurethane, Oil-Modified, Gloss (Gloss Level 6): A solvent based, one component, oil modified polyurethane clear 'gloss' varnish for new or previously varnished or stained, interior wood surfaces in residential and commercial buildings. Uses include floors, cabinetry, moldings, doors and trim. These products are intended as "self-sealing" materials on new wood surfaces or bare areas in repainting. Not recommended for use over sealers containing stearates.

Type IPV-3: Varnish, Interior, Polyurethane, Oil-Modified, Gloss (Gloss Level 6):  MPI #56. Provide one of the following:

Behr Paint: Fast Drying Oil-Based Polyurethane Gloss.

PPG Architectural: Deft Polyurethane Interior Oil Based 350.

Sherwin-Williams: Fast-Drying Polyurethane Clear Gloss.

Approved equivalent.

Varnish, Polyurethane, Moisture-Cured, Gloss (Gloss Level 6): A solvent based, moisture curing polyurethane clear-coating with a gloss finish for interior brick, block, concrete, plaster, wood and metal surfaces, where chemical and solvent resistance is required. Systems using this coating will be specified for new and repainting work in residential, commercial and industrial applications in areas of high contact and abrasion.

Type IPMV-3: Varnish, Polyurethane, Moisture-Cured, Gloss (Gloss Level 6) MPI #31. Provide one of the following:

Benjamin Moore & Co.: Corotech Aromatic Moisture Cured Urethane Clear.

Sherwin-Williams: Protective & Marine Armorseal, Rexthane I MCU.

Approved equivalent.

* + - 1. PATCHING MATERIALS

Retain this article for anticipated substrate-patching materials; revise to suit Project. Patching compounds in "Wood-Patching Compound" and "Metal-Patching Compound" paragraphs below are suitable for either interior or exterior exposure.

* + - * 1. Wood-Patching Compound: Two-part, epoxy-resin, wood-patching compound; knife-grade formulation as recommended in writing by manufacturer for type of wood repair indicated, tooling time required for the detail of work, and site conditions. Compound shall be designed for filling voids in damaged wood materials that have deteriorated from weathering and decay. Compound shall be capable of filling deep holes and spreading to feather edge.

[Manufacturers:](http://www.specagent.com/Lookup?ulid=11040) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Advanced Repair Technology, Inc](http://www.specagent.com/Lookup?uid=123457008285).

[ConServ Epoxy LLC](http://www.specagent.com/Lookup?uid=123457008286).

[Polymeric Systems, Inc](http://www.specagent.com/Lookup?uid=123457008288).

[Protective Coating Company](http://www.specagent.com/Lookup?uid=123457008289).

Approved equivalent.

Retain "Metal-Patching Compound" paragraph below for filling nonstructural defects in existing metal surfaces to be painted.

* + - * 1. Metal-Patching Compound: Two-part, polyester-resin, metal-patching compound; knife-grade formulation as recommended in writing by manufacturer for type of metal repair indicated, tooling time required for the detail of work, and site conditions. Compound shall be produced for filling metal that has deteriorated from corrosion. Filler shall be capable of filling deep holes and spreading to feather edge.
        2. Cementitious Patching Compounds: Cementitious patching compounds and repair materials specifically manufactured for filling cementitious substrates and for sanding or tooling prior to repainting; formulation as recommended in writing by manufacturer for type of cementitious substrate indicated, exposure to weather and traffic, the detail of work, and site conditions.
        3. Gypsum-Plaster Patching Compound: Finish coat plaster and bonding compound according to ASTM C842 and manufacturer's written instructions.

1. EXECUTION
   * + 1. PROTECTION
          1. Comply with each manufacturer's written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent chemical solutions from coming into contact with people, motor vehicles, landscaping, buildings, and other surfaces that could be harmed by such contact.

Cover adjacent surfaces with materials that are proven to resist chemical solutions being used unless the solutions will not damage adjacent surfaces. Use protective materials that are UV resistant and waterproof. Apply masking agents to comply with manufacturer's written instructions. Do not apply liquid masking agent to painted or porous surfaces. When no longer needed, promptly remove masking to prevent adhesive staining.

Do not apply chemical solutions during winds of sufficient force to spread them to unprotected surfaces.

Neutralize and collect alkaline and acid wastes before disposal.

Dispose of runoff from operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.

* + - 1. MAINTENANCE REPAINTING, GENERAL

Retain "Maintenance Repainting Appearance Standard" paragraph below to control overall appearance from a distance. If retaining paragraph and painting substrates that have characteristic irregularities, consider revising paragraph to suit Project.

* + - * 1. Maintenance Repainting Appearance Standard: Completed work is to have a uniform appearance as viewed by Director’s Representative from building interior at [**5 feet**] [**10 feet**] away from painted surface and from building exterior at [**20 feet**] [**50 feet**] away from painted surface.
        2. Execution of the Work: In repainting surfaces, disturb them as minimally as possible and as follows:

Remove failed coatings and corrosion and repaint.

Verify that substrate surface conditions are suitable for repainting.

Allow other trades to repair items in place before repainting.

* + - * 1. Mechanical Abrasion: Where mechanical abrasion is needed for the work, use gentle methods, such as scraping and lightly hand sanding, that will not abrade softer substrates, reducing clarity of detail.

Consider retaining "Heat Processes" paragraph below; revise to suit Project. See "Paint Cleaning and Removal" Article in the Evaluations.

* + - * 1. Heat Processes: Do not use torches, heat guns, or heat plates.
      1. EXAMINATION
         1. Examine substrates and conditions, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of painting work. Comply with paint manufacturer's written instructions for inspection.
         2. Maximum Moisture Content of Substrates: Do not begin application of coatings unless moisture content of exposed surface is below the maximum value recommended in writing by paint manufacturer and not greater than the following maximum values when measured with an electronic moisture meter appropriate to the substrate material:

Percentages in first six subparagraphs below are based on the "MPI Manual."

Concrete: 12 percent.

Gypsum Board: 12 percent.

Gypsum Plaster: 12 percent.

Masonry (Clay and CMU): 12 percent.

Portland Cement Plaster: 12 percent.

Wood: 15 percent.

* + - * 1. Alkalinity: Do not begin application of coatings unless surface alkalinity is within range recommended in writing by paint manufacturer. Conduct alkali testing with litmus paper on exposed plaster, cementitious, and masonry surfaces.
        2. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

If existing surfaces cannot be prepared to an acceptable condition for proper finishing by using specified surface-preparation methods, notify Director’s Representative in writing.

* + - * 1. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.

Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

* + - 1. PREPARATORY CLEANING

Retain cleaning methods in this article to suit Project; insert other methods to suit Project.

* + - * 1. General: Use the gentlest, appropriate method necessary to clean surfaces in preparation for painting. Clean all surfaces, corners, contours, and interstices.
        2. Detergent Cleaning: Wash surfaces by hand using clean rags, sponges, and bristle brushes. Scrub surface with detergent solution and bristle brush until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that surface remains wet. Rinse with water applied by clean rags or sponges.
        3. Solvent Cleaning: Use solvent cleaning to remove oil, grease, smoke, tar, and asphalt from painted or unpainted surfaces before other preparation work. Wipe surfaces with solvent using clean rags and sponges. If necessary, spot-solvent cleaning may be employed just prior to commencement of paint application, provided enough time is allowed for complete evaporation. Use clean solvent and clean rags for the final wash to ensure that all foreign materials have been removed. Do not use solvents, including primer thinner and turpentine, that leave residue.
        4. Mildew: Clean off existing mildew, algae, moss, plant material, loose paint, grease, dirt, and other debris by scrubbing with bristle brush or sponge and detergent solution. Scrub mildewed areas with mildewcide. Rinse with water applied by clean rags or sponges.

Retain "Chemical Rust Removal" or "Mechanical Rust Removal" paragraph below, or both, for cleaning rusted iron and steel. Method in first paragraph is commonly used to convert reddish-brown iron oxide (rust) into a black, water-soluble, iron phosphate compound that is easier to remove and resists further corrosion.

* + - * 1. Chemical Rust Removal:

Remove loose rust scale with specified abrasives for ferrous-metal cleaning.

Apply rust remover with brushes or as recommended in writing by manufacturer.

Allow rust remover to remain on surface for period recommended in writing by manufacturer or as determined by preconstruction testing. Do not allow extended dwell time.

Wipe off residue with mineral spirits and either steel wool or soft rags, or clean with method recommended in writing by manufacturer to remove residue.

Dry immediately with clean, soft cloths. Follow direction of grain in metal.

Prime immediately to prevent rust. Do not touch cleaned metal surface until primed.

Method in "Mechanical Rust Removal" paragraph below is labor-intensive but avoids use of harsh chemicals.

* + - * 1. Mechanical Rust Removal:

Remove rust with specified abrasives for ferrous-metal cleaning. Clean to bright metal.

Wipe off residue with mineral spirits and either steel wool or soft rags.

Dry immediately with clean, soft cloths. Follow direction of grain in metal.

Prime immediately to prevent rust. Do not touch cleaned metal surface until primed.

* + - 1. PAINT REMOVAL

Retain one or more paint removal methods in this article to suit Project. Revise methods for specific substrates if required.

* + - * 1. General: Remove paint where indicated. Where cleaning methods have been attempted and further removal of the paint is required because of incompatible or unsatisfactory surfaces for repainting, remove paint to extent required by conditions.

Application: Apply paint removers according to paint-remover manufacturer's written instructions. Do not allow paint removers to remain on surface for periods longer than those indicated or recommended in writing by manufacturer.

Apply materials to all surfaces, corners, contours, and interstices, to provide a uniform final appearance without streaks.

After work is complete, remove protection no longer required. Remove tape and adhesive marks.

Brushes: Use brushes that are resistant to chemicals being used.

Retain one of or both "Metal Substrates" and "Wood Substrates" subparagraphs below to suit Project.

Metal Substrates: If using wire brushes on metal, use brushes of same metal composition as metal being treated.

Wood Substrates: Do not use wire brushes.

Spray Equipment: Use spray equipment that provides controlled application at volume and pressure indicated, measured at nozzle. Adjust pressure and volume to ensure that spray methods do not damage surfaces.

Equip units with pressure gages.

Unless otherwise indicated, hold spray nozzle at least 6 inches from surface and apply material in horizontal, back-and-forth sweeping motion, overlapping previous strokes to produce uniform coverage.

For chemical spray application, use low-pressure tank or chemical pump suitable for chemical indicated, equipped with nozzle having a cone-shaped spray.

Fan-spray angle in first subparagraph below is considered efficient for low and medium pressure and less harmful than sprays with narrower angles. Never use a fan spray with an angle less than 15 degrees.

For water-spray application, use fan-shaped spray tip that disperses water at an angle of 25 to 50 degrees.

Retain subparagraph below if heated water is required. Revise temperature range to suit Project.

For heated water-spray application, use equipment capable of maintaining temperature between 140 and 160 deg F at flow rates indicated.

* + - * 1. Paint Removal with Hand Tools: Remove paint manually using hand-held scrapers, wire brushes, sandpaper, and metallic wool as appropriate for the substrate material.
        2. Paint Removal with Alkaline Paste Paint Remover:

Retain first subparagraph below if loose and peeling paint is significant. Do not use water on gypsum substrates.

Remove loose and peeling paint using[**water,**] scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.

Apply paint remover to dry, painted surface with brushes.

Allow paint remover to remain on surface for period recommended in writing by manufacturer or as determined by preconstruction testing.

Retain one of first two subparagraphs below; do not rinse cast-iron or gypsum substrates with water. Retain one of first two options and one of last two options in first subparagraph. Alkaline paint removers work better with hot water.

Rinse with [**cold**] [**hot**] water applied by [**low**] [**medium**]-pressure spray to remove chemicals and paint residue.

Use mechanical methods recommended in writing by manufacturer to remove chemicals and paint residue.

Repeat process if necessary to remove all paint.

* + - * 1. Paint Removal with Covered or Skin-Forming Alkaline Paint Remover:

Retain first subparagraph below if loose and peeling paint is significant. Do not use water on gypsum substrates.

Remove loose and peeling paint using[**water,**] scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.

Apply paint remover to dry, painted surface with brushes or as recommended in writing by manufacturer.

Apply cover according to manufacturer's written instructions.

Allow paint remover to remain on surface for period recommended in writing by manufacturer or as determined by preconstruction testing.

Scrape off paint and remover.

Retain one of first two subparagraphs below; do not rinse cast-iron or gypsum substrates with water. Retain one of first two options and one of last two options in first subparagraph. Alkaline paint removers work better with hot water.

Rinse with [**cold**] [**hot**] water applied by [**low**] [**medium**]-pressure spray to remove chemicals and paint residue.

Use mechanical methods recommended in writing by manufacturer to remove chemicals and paint residue.

For spots of remaining paint, apply alkaline paste paint remover according to "Paint Removal with Alkaline Paste Paint Remover" Paragraph.

Retain "Paint Removal with Solvent-Type Paste Paint Remover" paragraph below for solvent-type paste and low-odor, solvent-type paste paint removers; delete paragraph if using only covered, solvent-type paste paint remover.

* + - * 1. Paint Removal with Solvent-Type Paste Paint Remover:

Retain first subparagraph below if loose and peeling paint is significant. Do not use water on gypsum substrates.

Remove loose and peeling paint using[**water,**] scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.

Apply thick coating of paint remover to dry, painted surface with natural-fiber cleaning brush, deep-nap roller, or large paintbrush. Apply in one or two coats according to manufacturer's written instructions.

Allow paint remover to remain on surface for period recommended in writing by manufacturer or as determined by preconstruction testing.

Retain one of first two subparagraphs below; do not rinse cast-iron or gypsum substrates with water. Retain one of first two options and one of last two options in first subparagraph. Some manufacturers advise that heated water may improve stripping efficiency.

Rinse with [**cold**] [**hot**] water applied by [**low**] [**medium**]-pressure spray to remove chemicals and paint residue.

Use mechanical methods recommended in writing by manufacturer to remove chemicals and paint residue.

Repeat process if necessary to remove all paint.

* + - * 1. Paint Removal with Covered, Solvent-Type Paste Paint Remover:

Retain first subparagraph below only if loose and peeling paint is significant. Do not use water on gypsum substrates.

Remove loose and peeling paint using[**water,**] scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.

Apply paint remover to dry, painted surface with natural-fiber cleaning brush, deep-nap roller, or large paint brush or as recommended in writing by manufacturer.

Apply cover according to manufacturer's written instructions.

Allow paint remover to remain on surface for period recommended in writing by manufacturer or as determined by preconstruction testing.

Scrape off paint and remover.

Retain one of two subparagraphs below; do not rinse cast-iron or gypsum substrates with water. Retain one of first two options and one of last two options in first subparagraph. Some manufacturers advise that heated water may improve stripping efficiency.

Rinse with [**cold**] [**hot**] water applied by [**low**] [**medium**]-pressure spray to remove chemicals and paint residue.

Use mechanical methods recommended in writing by manufacturer to remove remaining chemicals and paint residue.

* + - 1. SUBSTRATE REPAIR

Revise this article to suit Project; coordinate with other maintenance or repair Sections that pertain to the substrate materials.

* + - * 1. General: Repair substrate surface defects that are inconsistent with the surface appearance of adjacent materials and finishes.
        2. Wood Substrate:

Repair wood defects including dents and gouges more than [**1/8 inch**] [**1/4 inch**] in size and all holes and cracks by filling with wood-patching compound and sanding smooth. Reset or remove protruding fasteners.

Where existing paint is allowed to remain, sand irregular buildup of paint, runs, and sags to achieve a uniformly smooth surface.

* + - * 1. Cementitious Material Substrate:

General: Repair defects including dents and chips more than [**1/4 inch**] [**1/2 inch**] in size and all holes and cracks by filling with cementitious patching compound and sanding smooth. Remove protruding fasteners.

New and Bare Plaster: Neutralize surface of plaster with mild acid solution as recommended in writing by paint manufacturer. In lieu of acid neutralization, follow manufacturer's written instruction for primer or transition coat over alkaline plaster surfaces.

Concrete, Cement Plaster, and Other Cementitious Products: Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. If surfaces are too alkaline to paint, correct this condition before painting.

* + - * 1. Gypsum-Plaster and Gypsum-Board Substrates:

Repair defects including dents and chips more than [**1/8 inch**] [**1/4 inch**] in size and all holes and cracks by filling with gypsum-plaster patching compound and sanding smooth. Remove protruding fasteners.

Rout out surface cracks to remove loose, unsound material; fill with patching compound and sand smooth.

* + - * 1. Metal Substrate:

Preparation: Treat repair locations by wire-brushing and solvent cleaning. Use [**chemical**] [**or**] [**mechanical**] rust removal method to clean off rust.

Retain "Defects in Metal Surfaces" subparagraph below for filling nonstructural defects in existing metal surfaces to be painted.

Defects in Metal Surfaces: Repair non-load-bearing defects in existing metal surfaces, including dents and gouges more than [**1/16 inch**] [**1/8 inch**] deep or [**1/2 inch**] [**1 inch**] across and all holes and cracks by filling with metal-patching compound and sanding smooth. Remove burrs and protruding fasteners.

Priming: Prime iron and steel surfaces immediately after repair to prevent flash rusting. Stripe paint corners, crevices, bolts, welds, and sharp edges. Apply two coats to surfaces that are inaccessible after completion of the Work.

* + - 1. PAINT APPLICATION, GENERAL
         1. Comply with manufacturers' written instructions for application methods unless otherwise indicated in this Section.
         2. Prepare surfaces to be painted according to the Surface-Preparation Schedule and with manufacturer's written instructions for each substrate condition.

Generally, retain first paragraph below for unanticipated conditions where residual existing coating may not be compatible with new paint system.

* + - * 1. Apply a transition coat over incompatible existing coatings.

Retain "Metal Substrate" paragraph below if applicable; revise to suit Project. See "Painting Metal Substrates" Article in the Evaluations.

* + - * 1. Metal Substrate: Stripe paint corners, crevices, bolts, welds, and sharp edges before applying full coat. Apply two coats to surfaces that are inaccessible after completion of the Work. Tint stripe coat different than the main coating and apply with brush.

Revise "Blending Painted Surfaces" paragraph below to suit Project; insert location-specific requirements if needed.

* + - * 1. Blending Painted Surfaces: When painting new substrates patched into existing surfaces or touching up missing or damaged finishes, apply coating system specified for the specific substrate. Apply final finish coat over entire surface from edge to edge and corner to corner.
      1. FIELD QUALITY CONTROL

Retain "Manufacturer's Field Service" paragraph below to require a company service advisor to provide on-site assistance.

* + - * 1. Manufacturer's Field Service: Engage paint-remover manufacturer's company service advisor for consultation and Project-site inspection and to provide on-site assistance when requested by Director’s Representative.

Retain "Paint Material Testing" paragraph below for large projects or critical coatings where additional control is needed. Delete if tests are not required.

* + - * 1. Paint Material Testing: Director’s Representative may engage the services of a qualified testing and inspecting agency to inspect and test paint for composition and dry film thickness.

Paint Composition: The following procedure may be performed at any time and as often as Director’s Representative deems necessary during the period when paints are being applied:

Testing agency will sample paint materials being used. Samples of material delivered to Project site will be taken, identified, sealed, and certified in presence of Contractor.

Testing agency will perform tests for compliance of paint materials with product requirements.

If test results show materials being used do not comply with product requirements, Contractor shall remove noncomplying-paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

Dry Film Thickness:

Contractor shall touch up and restore painted surfaces damaged by testing.

If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written instructions, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written instructions.

* + - 1. CLEANING AND PROTECTION
         1. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
         2. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
         3. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Director’s Representative, and leave in an undamaged condition.
         4. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.
      2. SURFACE-PREPARATION SCHEDULE

If a project requires a variety of paint removal and surface-preparation methods, a schedule is useful for identifying separate requirements for each condition. This schedule is an example only and parallels the degrees of surface degradation (DSD) classified by MPI; revise to suit Project. Retain option in "General" paragraph below if location and extent of each method are indicated on Drawings.

* + - * 1. General: Before painting, prepare surfaces[**where indicated on Drawings**] for painting according to applicable requirements specified in this schedule.

Examine surfaces to evaluate each surface condition according to paragraphs below.

Where existing degree of soiling prevents examination, preclean surface and allow it to dry before making an evaluation.

Repair substrate defects according to "Substrate Repair" Article.

Revise remaining paragraphs below to suit Project. Retain MPI's DSD designations if retaining MPI systems in the maintenance repainting schedules.

* + - * 1. Surface Preparation for MPI DSD 0 Degree of Surface Degradation:

Surface Condition: Existing paint film in good condition and tightly adhered.

Paint Removal: Not required.

Preparation for Painting: Wash surface by detergent cleaning; use solvent cleaning where needed. Roughen or degloss cleaned surfaces to ensure paint adhesion according to paint manufacturer's written instructions.

* + - * 1. Surface Preparation for MPI DSD 1 Degree of Surface Degradation:

Surface Condition: Paint film cracked or broken but adhered.

Paint Removal: Scrape by hand-tool cleaning methods to remove loose paint until only tightly adhered paint remains.

Preparation for Painting: Wash surface by detergent cleaning; use other cleaning methods for small areas of bare substrate if required. Roughen, degloss, and sand the cleaned surfaces to ensure paint adhesion and a smooth finish according to paint manufacturer's written instructions.

* + - * 1. Surface Preparation for MPI DSD 2 Degree of Surface Degradation:

Surface Condition: Paint film loose, flaking, or peeling.

Paint Removal: Remove loose, flaking, or peeling paint film by hand-tool or chemical paint-removal methods.

Preparation for Painting: Wash surface by detergent cleaning; use solvent cleaning where needed. Use other cleaning methods for small areas of bare substrate if required. Sand surfaces to smooth remaining paint film edges. Prepare bare cleaned surface to be painted according to paint manufacturer's written instructions for substrate construction materials.

* + - * 1. Surface Preparation for MPI DSD 3 Degree of Surface Degradation:

Surface Condition: Paint film [**severely deteriorated**] [**obscuring fine architectural detail work because of paint-layer buildup**] [**and**] [**surface indicated to have paint completely removed**].

Paint Removal: Completely remove paint film by hand-tool or chemical paint-removal methods. Remove rust.

Preparation for Painting: Prepare bare cleaned surface according to paint manufacturer's written instructions for substrate construction materials.

* + - * 1. Surface Preparation for MPI DSD 4 Degree of Surface Degradation:

Surface Condition: Missing material, small holes and openings, and deteriorated or corroded substrate.

Retain option in "Substrate Preparation" subparagraph below if Project documents include other maintenance Sections.

Substrate Preparation: Repair, replace, and treat substrate according to "Substrate Repair" Article[**and requirements in other Specification Sections**].

Preparation for Painting: Sand substrate surfaces to smooth remaining paint film edges and prepare according to paint manufacturer's written instructions for substrate construction materials. Remove rust.

* + - 1. SURFACES, GENERAL

Edit paragraph and subparagraphs below by deleting surfaces and substrates not to be painted and adding other unlisted substrates and paint types for specific project requirements. The following may be deleted where paint type locations are shown on the drawings or room finish schedule.

* + - * 1. Surfaces: Unless otherwise specified or shown on the drawings, paint surfaces as follows:

Exterior Surfaces:

Wood Substrates:

Smooth Siding: Paint Type EAL-1.

Natural Finish: Paint Type ESV.

Stained Finish: Paint Type EWS

Rough Siding, Stained Finish: Paint Type EWS.

Doors, Windows, Frames and Trim: Paint Type EAL-2.

Handrails: Paint Type EAL-3.

Pressure Treated Decks: Paint Type EDS.

Porch Floors and Steps: Paint Type EPE.

Clear Natural Wood Finish: Paint Type ESV

Factory Finished Metal Substrates: Field painting not required.

Factory Primed and Unprimed Ferrous Substrates:

Metal Siding: Paint Type EAL-2.

Doors, Windows, Frames and Trim: Paint Type EAL-3.

Handrails: Paint Type AU.

Existing Unprimed Structural Steel: Paint Type AU over primer Paint Type ESP.

New Primed Structural Steel: Paint Type AU.

Steel Stairs, Decks and Handrails: Paint Type AU.

In occupied buildings use paint types that are Low Odor (LO). Retain the second option and delete the first option in the below paragraphs.

Interior Surfaces:

Ceilings: Paint [**Type IAL-1**] [**Type IAL-1-LO**]except as noted below:

Living Units: Paint [**Type IAL-2**] [**Type IAL-2-LO**].

Toilets, Kitchens, Shower Rooms, Janitor Closets and Other Wet Areas: Paint [**Type IAL-3**] [**Type IAL-3-LO**].

Food Preparation and Clean Room Areas: Paint [**Type IAL-4**] [**Type IAL-3-LO**].

Walls: Paint [**Type IAL-2**] [**Type IAL-2-LO**]except as noted below:

Living Units: Paint [**Type IAL-3**] [**Type IAL-3-LO**].

Toilets and Kitchens: Paint [**Type IAL-3**] [**Type IAL-3-LO**].

Shower Rooms, Janitor Closets and Other Wet Areas Paint [**Type IAL-4**] [**Type IAL-4-LO**].

Doors, Windows, Frames and Trim: Paint [**Type IAL-3**][**Type IAL-3-LO**] except as noted below:

Use Paint [**Type IAL-4**][**Type IAL-4-LO**] where walls are Paint [**Type IAL-3**][**Type IAL-3-LO**].

Unless otherwise noted, paint both exterior and interior unremovable and exposed wall and ceiling air supply and return grilles; plumbing pipes; electrical panel and fuse boxes, raceways and conduits; heating convector cabinets, radiators, radiator cabinets, unit heaters, and similar existing and installed devices and equipment by other trades.

Paint to match adjacent wall or ceiling surfaces.

Paint exposed surfaces when any part of the surface is on or within 8 inches of ceiling or wall surface to be painted.

Paint visible interior surfaces behind grilles, guards and screens.

Doors and Frames: Unless otherwise noted, paint doors and frames the same color in the next highest gloss as adjacent wall surfaces.

Where walls are not the same color on both sides of a door frame, change color at the inside corner of the frame stop.

Prime and finish paint door faces and edges before installation.

Paint door edges the same paint type color as the exterior side of the door.

Do not paint door components which are clearly not intended to be painted such as non-ferrous hardware, frame mutes, and weather stripping.

Do not allow doors and frames to touch until paint is thoroughly dry on both surfaces.

Window Frames and Sash: Unless otherwise noted, paint window frames and sash the same color as adjacent wall surfaces.

Where interior walls are not the same color on both sides, change paint color along the inside concealed corner of door frame stops.

Do not paint window components which are clearly not intended to be painted such as prefinished frames, sliding metal or plastic contacts, weatherstripping, and non-ferrous hardware.

Do not allow operable doors, windows and frames to touch until paint is thoroughly dry on both surfaces.

Ferrous Metal Door and Window Hardware: Unless otherwise noted, prime and paint to match adjacent doors, windows and frames.

Case Work: Paint factory unfinished exposed and semiexposed surfaces when doors and drawers are either open or closed including:

Both faces and edges of cabinet doors, shelving, dividers including interior side, rear, and bottom panel surfaces.

Both faces and edges of drawer face, side, rear, and bottom panels.

Exposed bottom or underside of case work more than 4 feet above the floor.

Do not paint plastic laminate surfaces, special countertop materials, glazing, factory finished surfaces, finish hardware and similar items clearly not intended to be painted.

* + - 1. EXTERIOR MAINTENANCE REPAINTING SCHEDULE

Paragraphs below are examples of paint systems for repainting exterior substrates. Many other systems are in the "MPI Manual"; insert other systems to suit Project. If not using MPI coatings and systems, delete options containing MPI designations. Coordinate terms and drawing designations, if retained, with the Specifications and Drawings. Insert prime coat for MPI DSD 0 or other degree of surface degradation if required. No prime coat is required by MPI for MPI DSD 0. See the Surface-Preparation Schedule.

* + - * 1. Ferrous Metal Substrates: [**Iron railing and gate**]:

Retain last option in "Alkyd System" subparagraph below for applications where existing coating is incompatible with new paint system; consult manufacturer on compatibility, or verify compatibility by preconstruction testing. MPI has no Budget Grade for this system.

Alkyd System: MPI REX 5.1D system[**over a transition coat**].

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Metal, Surface Tolerant, MPI #23. Type ESP-1.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Metal, Surface Tolerant, MPI #23. Type ESP-1

Intermediate Coat: Alkyd, exterior, matching topcoat.

Topcoat: Alkyd, exterior, gloss (Gloss Level 6), MPI #9. Type EAP.

Color:  [Match **existing colors**] [**As indicated on Drawings**] [**As selected by the Director’s Representative**].

Revise "High-Performance, Pigmented-Polyurethane-over-Epoxy System" subparagraph below if another type of high-performance system is required. Retain last option for applications where existing coating is incompatible with new paint system; consult manufacturer on compatibility, or verify compatibility by preconstruction testing. MPI has no Budget Grade for this system.

High-Performance, Pigmented-Polyurethane-over-Epoxy System: MPI REX 5.1H system[**over a transition coat**].

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Epoxy, Anti-Corrosive, for Metal, MPI #101. Type ESP-EP2.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Epoxy, Anti-Corrosive, for Metal, MPI #101. Type ESP-EP2.

Retain "Intermediate Coat in Primed Areas" subparagraph below for both Premium and Budget Grade systems if degradation extends through previous intermediate coat. MPI DSD 3 requires this intermediate coat; MPI DSD 2 may require this intermediate coat. The "MPI Manual" notes the following: "Where degradation extends through previous intermediate coat, add intermediate coat in primed areas."

Intermediate Coat in Primed Areas: Epoxy, High Build, Low Gloss, MPI #108. Type EPHB.

Topcoat: Polyurethane, two-component, pigmented, gloss (Gloss Level 6), MPI #72. Type AU.

For a Premium Grade system, the "MPI Manual" requires a second topcoat; delete "Second Topcoat" subparagraph below for a Budget Grade system.

Second Topcoat: Polyurethane, two-component, pigmented, gloss (Gloss Level 6), MPI #72. Type AU.

Color: [Match **existing colors**] [**As indicated on Drawings**] [**As selected by the Director’s Representative**].

* + - * 1. Wood [**Columns**] [**Beams**] [**Ceilings**] [**Siding**] [**and**] [**Fencing**]:

Retain last option in "Latex System" subparagraph below for applications where existing coating is incompatible with new paint system; consult manufacturer on compatibility, or verify compatibility by preconstruction testing.

Latex System: MPI REX 6.2A system[**over a transition coat**].

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation and whether an alkyd or a latex primer is required for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Alkyd for Exterior Wood, MPI #5. Type EAP.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Latex for Exterior Wood, MPI #6. Type EWP.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Alkyd for Exterior Wood, MPI #5. Type EAP.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Latex for Exterior Wood, MPI #6. Type EWP.

For a Premium Grade system, the "MPI Manual" requires intermediate coat; delete intermediate coat for a Budget Grade system.

Intermediate Coat: Latex, exterior, matching topcoat.

Retain one or more "Topcoat" subparagraphs below based on gloss level.

Topcoat: Latex, exterior flat (Gloss Levels 1-2), MPI #10. Type EAL-1.

Topcoat: Latex, exterior, low sheen (Gloss Levels 3-4), MPI #15. Type EAL-2.

Topcoat: Latex, exterior semigloss (Gloss Level 5), MPI #11. Type EAL-3.

Color: [Match **existing colors**] [**As indicated on Drawings**] [**As selected by the Director’s Representative**].

* + - * 1. Wood [**Doors**] [**Windows**] [**Frames**] [**Casings**] [**and**] [**Smooth Fasciae**]:

Retain last option in "Latex System" subparagraph below for applications where existing coating is incompatible with new paint system; consult manufacturer on compatibility, or verify compatibility by preconstruction testing. This system is the same as MPI REX 6.1A for glue-laminated beams and columns. MPI has no Budget Grade for this system.

Latex System: MPI REX 6.3A system[**over a transition coat**].

Retain one of three "Prime Coat" subparagraphs below based on degree of surface degradation for the predominant surface condition. If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Alkyd for Exterior Wood, MPI #5. Type EAP.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Alkyd for Exterior Wood, MPI #5. Type EAP.

Intermediate Coat: Latex, exterior, matching topcoat.

Retain one or more "Topcoat" subparagraphs below based on gloss level.

Topcoat: Latex, exterior flat (Gloss Levels 1-2). Type EAL-1.

Topcoat: Latex, exterior, low sheen (Gloss Levels 3-4), MPI #15. Type EAL-2.

Topcoat: Latex, exterior semigloss (Gloss Level 5), MPI #11. Type EAL-3.

Color: [Match **existing colors**] [**As indicated on Drawings**] [**As selected by the Director’s Representative**].

Varnish System (Clear): MPI REX 6.3F.

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with topcoat.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with topcoat.

For a Premium Grade system, the "MPI Manual" requires intermediate coat; delete intermediate coat for a Budget Grade system.

Intermediate Coat: Exterior varnish matching topcoat.

Retain one or both "Topcoat" subparagraphs below based on gloss level.

Topcoat: Varnish, with UV inhibitor, exterior, semigloss (Gloss Level 5), MPI #30. Type EV.

Topcoat: Varnish, marine spar, exterior, gloss (Gloss Level 6), MPI #28. Type ESV.

* + - * 1. Wood [**Deck**] [**and**] [**Stairs**] <**Insert item description or drawing designation, or both**>:

Retain last option in "Latex Porch and Floor System over Alkyd Primer" subparagraph below for applications where existing coating is incompatible with new paint system; consult manufacturer on compatibility, or verify compatibility by preconstruction testing. MPI has no Budget Grade for this system.

Latex Porch and Floor System over Alkyd Primer: MPI REX 6.5A system[**over a transition coat**].

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Alkyd/Oil for Exterior Wood, MPI #5. Type EAP.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Alkyd/Oil for Exterior Wood, MPI #5. Type EAP.

Intermediate Coat: Floor Paint, Latex, matching topcoat.

Topcoat: Floor paint, latex, low gloss, MPI #60. Type EPE

Retain "Topcoat Additive" subparagraph below if required.

Topcoat Additive: Manufacturer's standard additive to increase skid resistance of painted surface.

Color: [Match **existing colors**] [**As indicated on Drawings**] [**As selected by the Director’s Representative**].

* + - * 1. Wood [**Shingle**] [**Shake**] Siding <**Insert item description or drawing designation, or both**>:

Retain last option in "Latex System" subparagraph below for applications where existing coating is incompatible with new paint system; consult manufacturer on compatibility, or verify compatibility by preconstruction testing.

Latex System: MPI REX 6.6A system[**over a transition coat**].

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Alkyd for Exterior Wood, MPI #5. Type EAP.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Alkyd for Exterior Wood, MPI #5. Type EAP.

For a Premium Grade system, the "MPI Manual" requires intermediate coat; delete intermediate coat for a Budget Grade system.

Intermediate Coat: Latex, exterior, matching topcoat.

Retain one or more "Topcoat" subparagraphs below based on gloss level.

Topcoat: Latex, exterior flat (Gloss Levels 1-2), MPI #10. Type EAL-1.

Topcoat: Latex, exterior, low sheen (Gloss Levels 3-4), MPI #15. Type EAL-2.

Topcoat: Latex, exterior semigloss (Gloss Level 5), MPI #11. Type EAL-3

Color: [Match **existing colors**] [**As indicated on Drawings**] [**As selected by the Director’s Representative**].

* + - 1. INTERIOR MAINTENANCE REPAINTING SCHEDULE

Paragraphs below are examples of paint systems for repainting interior substrates. Many other systems are in the "MPI Manual"; insert other systems to suit Project. If not using MPI coatings and systems, delete options containing MPI designations. Coordinate terms and drawing designations, if retained, with the Specifications and Drawings. Insert prime coat for MPI DSD 0 or other degree of surface degradation if required. No prime coat is required by MPI for MPI DSD 0. See the Surface-Preparation Schedule.

* + - * 1. Ferrous Metal Substrates: [**Iron railing**] <**Insert item description or drawing designation, or both**>:

Retain last option in "Latex System" subparagraph below for applications where existing coating is incompatible with new paint system; consult manufacturer on compatibility, or verify compatibility by preconstruction testing.

Latex System: MPI RIN 5.1N system[**over a transition coat**].

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation and whether surface preparation, anticorrosive performance, or a water-based emulsion is more important for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Metal, Surface Tolerant, MPI #23. Type ESP-1.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Alkyd, Anti-Corrosive for Metal, MPI #79. Type ESP-2.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Rust-Inhibitive, Water Based, MPI #107. Type ISP-3.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Metal, Surface Tolerant, MPI #23. Type ISP-1.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Alkyd, Anti-Corrosive for Metal, MPI #79. Type ESP-2.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Rust-Inhibitive, Water Based, MPI #107. Type ISP-3.

For a Premium Grade system, the "MPI Manual" requires intermediate coat; delete intermediate coat for a Budget Grade system.

Intermediate Coat: Latex matching topcoat.

Retain one or more "Topcoat" subparagraphs below based on gloss level.

Topcoat: Latex, interior, flat (Gloss Level 1), MPI #53. Type IAL-1.

Topcoat: Latex, interior (Gloss Level 3), MPI #52. Type IAL-2.

Topcoat: Latex, interior, semigloss (Gloss Level 5), MPI #54. Type IAL-3.

Topcoat: Latex, interior, gloss (Gloss Level 6), MPI #114. Type IAL-4.

Color: [Match **existing colors**] [**As indicated on Drawings**] [**As selected by the Director’s Representative**].

Revise "High-Performance, Pigmented-Polyurethane-over-Epoxy System" subparagraph below if another type of high-performance system is required. Retain last option for applications where existing coating is incompatible with new paint system; consult manufacturer on compatibility, or verify compatibility by preconstruction testing.

High-Performance, Pigmented-Polyurethane-over-Epoxy System: MPI RIN 5.1H system[**over a transition coat**].

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with Epoxy, Gloss, MPI #77. Type EP.

Retain one or more "Prime Coat" subparagraphs below based on whether a one-component, ESP-3, or a multicomponent, ESP-EP1, primer is required.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Zinc Rich, Organic, MPI #18. Type ESP-3.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Zinc Rich, Epoxy, MPI #20. Type ESP-EP1.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Zinc Rich, Organic, MPI #18. Type ESP-3.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Zinc Rich, Epoxy, MPI #20. Type ESP-EP1.

Retain "Intermediate Coat in Primed Areas" subparagraph below for both Premium and Budget Grade systems if degradation extends through previous intermediate coat. MPI DSD 3 requires this intermediate coat; MPI DSD 2 may require this intermediate coat. The "MPI Manual" notes the following: "Where degradation extends through previous intermediate coat, add intermediate coat in primed areas."

Intermediate Coat in Primed Areas: Epoxy, Gloss, MPI #77. Type EP.

Topcoat: Polyurethane, two-component, pigmented, gloss (Gloss Level 6), MPI #72. Type AU.

For a Premium Grade system, the "MPI Manual" requires a second topcoat; delete "Second Topcoat" subparagraph below for a Budget Grade system.

Second Topcoat: Polyurethane, two-component, pigmented, gloss (Gloss Level 6), MPI #72. Type AU.

Color: [Match **existing colors**] [**As indicated on Drawings**] [**As selected by the Director’s Representative**]

* + - * 1. Wood [**Columns**] [**Beams**] [**and**] [**Ceilings**] <**Insert item description or drawing designation, or both**>:

Retain last option in "Latex System over Latex Primer" subparagraph below for applications where existing coating is incompatible with new paint system; consult manufacturer on compatibility, or verify compatibility by preconstruction testing.

Latex System over Latex Primer: MPI RIN 6.2D system[**over a transition coat**].

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Latex, for Interior Wood, MPI #39. Type IAL-PW.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Latex, for Interior Wood, MPI #39. Type IAL-PW.

For a Premium Grade system, the "MPI Manual" requires intermediate coat; delete intermediate coat for a Budget Grade system.

Intermediate Coat: Latex, interior, matching topcoat.

Retain one or more "Topcoat" subparagraphs below based on gloss level.

Topcoat: Latex, interior flat (Gloss Level 1), MPI #53. Type IAL-1.

Topcoat: Latex, interior (Gloss Level 3), MPI #52. Type IAL-2.

Topcoat: Latex, interior, semigloss (Gloss Level 5), MPI #54. Type IAL-3.

Topcoat: Latex, interior, gloss (Gloss Level 6), MPI #114. Type IAL-4.

Color: [Match **existing colors**] [**As indicated on Drawings**] [**As selected by the Director’s Representative**]

* + - * 1. Wood [**Doors**] [**Windows**] [**Frames**] [**and**] [**Moldings**] <**Insert item description or drawing designation, or both**>:

Retain last option in "Latex System over Latex Primer" subparagraph below for applications where existing coating is incompatible with new paint system; consult manufacturer on compatibility, or verify compatibility by preconstruction testing. MPI has no Budget Grade for this system. This system is the same as MPI RIN 6.4T for wood paneling, casework, and millwork.

Latex System over Latex Primer: MPI RIN 6.3U system[**over a transition coat**].

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Latex, for Interior Wood, MPI #39. Type IAL-PW.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Latex, for Interior Wood, MPI #39. Type IAL-PW.

Intermediate Coat: Latex, interior, matching topcoat.

Retain one or more "Topcoat" subparagraphs below based on gloss level.

Topcoat: Latex, interior (Gloss Level 3), MPI #52. Type IAL-2.

Topcoat: Latex, interior, semigloss (Gloss Level 5), MPI #54. Type IAL-3.

Topcoat: Latex, interior, gloss (Gloss Level 6), MPI #114. Type IAL-4.

Color: [Match **existing colors**] [**As indicated on Drawings**] [**As selected by the Director’s Representative**].

Retain last option in "Low-Odor Latex System over Latex Primer" subparagraph below for applications where existing coating is incompatible with new paint system; consult manufacturer on compatibility, or verify compatibility by preconstruction testing. MPI has no Budget Grade for this system.

Low-Odor Latex System over Latex Primer: MPI RIN 6.3V system[**over a transition coat**].

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Latex, for Interior Wood, MPI #39. Type IAL-PW.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Latex, for Interior Wood, MPI #39. Type IAL-PW.

Intermediate Coat: Latex, interior, matching topcoat.

Retain one or more "Topcoat" subparagraphs below based on gloss level.

Topcoat: Latex, interior, institutional low odor/VOC flat (Gloss Level 1), MPI #143. Type IAL-1-LO.

Topcoat: Latex, interior, institutional low odor/VOC (Gloss Level 3), MPI #145. Type IAL-2-LO.

Topcoat: Latex, interior, institutional low odor/VOC, semigloss (Gloss Level 5), MPI #147. Type IAL-3-LO.

Topcoat: Latex, interior, institutional low odor/VOC, gloss (Gloss Level 6), MPI #148. Type IAL-4-LO.

Color: [Match **existing colors**] [**As indicated on Drawings**] [**As selected by the Director’s Representative**].

MPI has no Budget Grade for the system in "Alkyd Varnish System (Clear)" subparagraph below. This system is the same as MPI RIN 6.4J for wood paneling, casework, and millwork.

Alkyd Varnish System (Clear): MPI RIN 6.3J.

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Alkyd, Sanding Sealer, Clear, MPI #102. Type ITS-P.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Alkyd, Sanding Sealer, Clear, MPI #102. Type ITS-P.

Intermediate Coat: Interior varnish matching topcoat.

Retain one or more "Topcoat" subparagraphs below based on gloss level.

Topcoat: Varnish, interior, flat (Gloss Level 1), MPI #73. Type IV-1.

Topcoat: Varnish, interior, gloss (Gloss Level 6), MPI #75. Type IV-2.

* + - * 1. Wood [**Paneling**] [**Casework**] [**and**] [**Millwork**] <**Insert item description or drawing designation, or both**>:

Retain last option in "Latex System over Latex Primer" subparagraph below for applications where existing coating is incompatible with new paint system; consult manufacturer on compatibility, or verify compatibility by preconstruction testing. MPI has no Budget Grade for this system. This system is the same as MPI RIN 6.3U for dressed lumber (doors, windows, frames, and moldings).

Latex System over Latex Primer: MPI RIN 6.4T system[**over a transition coat**].

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Latex, for Interior Wood, MPI #39. Type IAL-PW.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Latex, for Interior Wood, MPI #39. Type IAL-PW.

Intermediate Coat: Latex, interior, matching topcoat.

Retain one or more "Topcoat" subparagraphs below based on gloss level.

Topcoat: Latex, interior, eggshell (Gloss Level 3), MPI #52. Type IAL-2.

Topcoat: Latex, interior, semigloss (Gloss Level 5), MPI #54. Type IAL-3.

Topcoat: Latex, interior, gloss (Gloss Level 6), MPI #114. Type IAL-4.

Color: [Match **existing colors**] [**As indicated on Drawings**] [**As selected by the Director’s Representative**].

Retain last option in "Low-Odor Latex System over Latex Primer" subparagraph below for applications where existing coating is incompatible with new paint system; consult manufacturer on compatibility, or verify compatibility by preconstruction testing.

Low-Odor Latex System over Latex Primer: MPI RIN 6.4D system[**over a transition coat**].

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Latex, for Interior Wood, MPI #39. Type IAL-PW.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Latex, for Interior Wood, MPI #39. Type IAL-PW.

For a Premium Grade system, the "MPI Manual" requires intermediate coat; delete intermediate coat for a Budget Grade system.

Intermediate Coat: Latex, interior, matching topcoat.

Retain one or more "Topcoat" subparagraphs below based on gloss level.

Topcoat: Latex, interior, institutional low odor/VOC flat (Gloss Level 1), MPI #143. Type IAL-1-LO.

Topcoat: Latex, interior, institutional low odor/VOC (Gloss Level 3), MPI #145. Type IAL-2-LO.

Topcoat: Latex, interior, institutional low odor/VOC, semigloss (Gloss Level 5), MPI #147. Type IAL-3-LO.

Topcoat: Latex, interior, institutional low odor/VOC, gloss (Gloss Level 6), MPI #148. Type IAL-4-LO.

Color: [Match **existing colors**] [**As indicated on Drawings**] [**As selected by the Director’s Representative**].

MPI has no Budget Grade for the systems in "Alkyd Varnish System over Stain" subparagraph below. This system is the same as MPI RIN 6.3D for dressed lumber (doors, windows, frames, and moldings).

Alkyd Varnish System over Stain: MPI RIN 6.4F.

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Stain, Semi-Transparent, for Interior Wood, MPI #90. Type ITOS.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Stain, Semi-Transparent, for Interior Wood, MPI #90. Type ITOS.

Intermediate Coat: Interior varnish matching topcoat.

Retain one or more "Topcoat" subparagraphs below based on gloss level.

Topcoat: Varnish, interior, flat (Gloss Level 1), MPI #73. Type IV-1.

Topcoat: Varnish, interior, gloss (Gloss Level 6), MPI #75. Type IV-2.

Stain Color: [Match **existing colors**] [**As indicated on Drawings**] [**As selected by the Director’s Representative**]..

* + - * 1. [**Plaster**][ **and** ][**Gypsum Board** ]<**Insert item description or drawing designation, or both**>:

Retain last option in "Latex System over Waterborne Primer" subparagraph below for applications where existing coating is incompatible with new paint system; consult manufacturer on compatibility, or verify compatibility by preconstruction testing.

Latex System over Waterborne Primer: MPI RIN 9.2A system[**over a transition coat**].

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation (and whether a latex sealer or a stain-blocking sealer is more important) for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer Sealer, Latex, Interior, MPI #50. Type IAL-P.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Stain Blocking, Water Based, MPI #137. Type IAL-SB.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer Sealer, Latex, Interior, MPI #50. Type IAL-P.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Stain Blocking, Water Based, MPI #137. Type IAL-SB.

For a Premium Grade system, the "MPI Manual" requires intermediate coat; delete intermediate coat for a Budget Grade system.

Intermediate Coat: Latex matching topcoat.

Retain one or more "Topcoat" subparagraphs below based on gloss level.

Topcoat: Latex, interior, flat (Gloss Level 1), MPI #53. Type IAL-1.

Topcoat: Latex, interior (Gloss Level 3), MPI #52. Type IAL-2.

Topcoat: Latex, interior, semigloss (Gloss Level 5), MPI #54. Type IAL-3.

Topcoat: Latex, interior, gloss (Gloss Level 6), MPI #114. Type IAL-4.

Color: [Match **existing colors**] [**As indicated on Drawings**] [**As selected by the Director’s Representative**]..

Retain last option in "Low-Odor Latex System over Waterborne Primer" subparagraph below for applications where existing coating is incompatible with new paint system; consult manufacturer on compatibility, or verify compatibility by preconstruction testing.

Low-Odor Latex System over Waterborne Primer: MPI RIN 9.2M system[**over a transition coat**].

Retain one or more "Prime Coat" subparagraphs below based on degree of surface degradation (and whether a latex sealer or a stain-blocking sealer is more important) for the predominant surface condition If more than one degree of surface degradation applies to the project and are in distinct areas, then retain applicable ones and identify the areas on the drawings.

Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer Sealer, Latex, Interior, MPI #50. Type IAL-P.

Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Stain Blocking, Water Based, MPI #137. Type IAL-SB.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer Sealer, Latex, Interior, MPI #50. Type IAL-P.

Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Stain Blocking, Water Based, MPI #137. Type IAL-SB.

Retain one or more "Topcoat" subparagraphs below based on gloss level.

Topcoat: Latex, interior, institutional low odor/VOC flat (Gloss Level 1), MPI #143. Type IAL-1-LO.

Topcoat: Latex, interior, institutional low odor/VOC (Gloss Level 3), MPI #145. Type IAL-2-LO.

Topcoat: Latex, interior, institutional low odor/VOC, semigloss (Gloss Level 5), MPI #147. Type IAL-3-LO.

Topcoat: Latex, interior, institutional low odor/VOC, gloss (Gloss Level 6), MPI #148. Type IAL-4-LO.

Color: [Match **existing colors**] [**As indicated on Drawings**] [**As selected by the Director’s Representative**].

END OF SECTION 090190.52