Project Manual for
The Town of Glastonbury
Window Replacement at 2157 Main Street

2157 Main Street
Glastonbury, CT 06033

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SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.

1.2 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.3 INFORMATIONAL SUBMITTALS

A. Engineering Survey: Submit engineering survey of condition of building.

B. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection and for dust control. Indicate proposed locations and construction of barriers.

C. Schedule of selective demolition activities with starting and ending dates for each activity.

D. Predemolition photographs or video.

1.4 CLOSEOUT SUBMITTALS

A. Inventory of items that have been removed and salvaged.

1.5 FIELD CONDITIONS

A. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

C. Hazardous Materials: Lead Based Paint is present on site (LBP). Lead awareness specification applicable to EPA Renovation, Repair and Painting Rule (RRP) and Lead management plan (LMP) is included with the specifications. It is not expected that additional hazardous materials will be encountered in the Work.

1. Hazardous materials will be removed by Owner before start of the Work.
2. If suspected hazardous materials are encountered, do not disturb; immediately notify Owner. Hazardous materials will be removed by Owner under a separate contract.

D. Storage or sale of removed items or materials on-site is not permitted.

E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.

C. Inventory and record the condition of items to be removed and salvaged.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

3.3 PROTECTION

A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

C. Remove temporary barricades and protections where hazards no longer exist.

3.4 SELECTIVE DEMOLITION

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
4. Flame-cutting prohibited.
5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
6. Dispose of demolished items and materials promptly.

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition.

3.5 CLEANING

A. Remove demolition waste materials from Project site.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

B. Burning: Do not burn demolished materials.

C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Framing with dimension lumber
   2. Wood blocking.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.

1.3 INFORMATIONAL SUBMITTALS

A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.

B. Evaluation Reports: For the following, from ICC-ES:

   1. Wood-preservative-treated wood.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

   1. Factory mark each piece of lumber with grade stamp of grading agency.
   2. Dress lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal (38-mm actual) thickness or less; 19 percent for more than 2-inch nominal (38-mm actual) thickness unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat the following:
1. Wood sills, sleepers, blocking, and similar concealed members in contact with masonry or concrete.
2. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
3. Wood framing members that are less than 18 inches (460 mm) above the ground in crawlspaces or unexcavated areas.

2.3 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction.

B. Dimension Lumber Items: Construction or No. 2 grade lumber of any species.

C. Concealed Boards: 15 percent maximum moisture content and any of the following species and grades:

1. Mixed southern pine or southern pine; No. 2 grade; SPIB.
2. Eastern softwoods; No. 2 Common grade; NeLMA.
3. Northern species; No. 2 Common grade; NLGA.
4. Western woods; Construction or No. 2 Common grade; WCLIB or WWPA.

2.4 FASTENERS

A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture.

1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.

B. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

B. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate blocking, and similar supports to comply with requirements for attaching other construction.

C. Do not splice structural members between supports unless otherwise indicated.

D. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

E. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).
2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
3. ICC-ES evaluation report for fastener.

3.2 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

SECTION 064023 - INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Interior frames and jambs.
2. Wood furring, blocking, shims, and hanging strips for installing interior architectural woodwork items that are not concealed within other construction.
3. Shop priming of interior architectural woodwork.
4. Shop finishing of interior architectural woodwork.

1.2 ACTION SUBMITTALS

A. Product Data: For the following:

1. Anchors.
2. Adhesives.
3. Shop finishing materials.

B. Shop Drawings:

1. Include the following:

a. Dimensioned plans, elevations, and sections.
b. Attachment details.

2. Show details.
3. Show locations and sizes of furring, blocking, and hanging strips, including blocking and reinforcement concealed by construction and specified in other Sections.

C. Samples: For each exposed product and for each shop-applied color and finish specified.

1.3 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install interior architectural woodwork until building is enclosed, wet-work is complete, and HVAC system is operating and maintaining temperature and relative humidity at levels designed for building occupants for the remainder of the construction period.

PART 2 - PRODUCTS

2.1 ARCHITECTURAL WOODWORK, GENERAL

A. Provide custom interior casing to match existing casing and window sill profiles, including existing casing width, thickness and profile.

B. Quality Standard: Unless otherwise indicated, comply with the Architectural Woodwork Standards for grades of interior architectural woodwork indicated for construction, finishes, installation, and other requirements.

2.2 INTERIOR FRAMES AND JAMBS FOR OPAQUE FINISH

A. Architectural Woodwork Standards Grade: Custom.

B. Wood Species: Any closed-grain hardwood.

1. Do not use plain-sawn softwood lumber with exposed, flat surfaces more than 3 inches (76 mm) wide.
2. Wood Moisture Content: 4 to 9 percent.

2.3 MISCELLANEOUS MATERIALS

A. Furring, Blocking, Shims, and Nailers: Softwood or hardwood lumber kiln-dried to less than 15 percent moisture content.

1. Preservative Treatment: Provide softwood lumber treated by pressure process, AWPA U1; Use Category UC3b.

a. Provide where in contact with concrete or masonry.
b. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.
c. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
d. Mark lumber with treatment quality mark of an inspection agency approved by the American Lumber Standards Committee's (ALSC) Board of Review.

B. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage.
1. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.

C. Installation Adhesive: Product recommended by fabricator for each substrate for secure anchorage.

2.4 FABRICATION

A. Fabricate interior architectural woodwork to dimensions, profiles, and details indicated.

B. Complete fabrication, including assembly, to maximum extent possible before shipment to Project site.

1. Disassemble components only as necessary for shipment and installation.
2. Where necessary for fitting at site, provide allowance for scribing, trimming, and fitting.
3. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled.

a. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting.
b. Verify that parts fit as intended, and check measurements of assemblies against field measurements indicated on approved Shop Drawings before disassembling for shipment.

2.5 SHOP PRIMING

A. Preparations for Finishing: Comply with the Architectural Woodwork Standards for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing interior architectural woodwork, as applicable to each unit of work.

B. Interior Architectural Woodwork for Opaque Finish: Shop prime with one coat of wood primer as specified in Section 099123 "Interior Painting."

1. Backpriming: Apply one coat of primer, compatible with finish coats, to concealed surfaces of woodwork.

2.6 SHOP FINISHING

A. Finish interior architectural woodwork at fabrication shop. Defer only final touchup, cleaning, and polishing until after installation.

B. Preparation for Finishing: Comply with Architectural Woodwork Standards, Section 5 for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing interior architectural woodwork, as applicable to each unit of work.

1. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of interior architectural woodwork. Apply two coats to end-grain surfaces.

C. Opaque Finish:

1. Architectural Woodworking Standards Grade: Custom.
2. Finish: System - 4, Latex Acrylic, Water Based.
3. Finish: System - 13, Polyester, Catalyzed.
4. Color: Match existing casing color.
5. Sheen: Semigloss, 46-60 gloss units measured on 60-degree gloss meter according to ASTM D523.

PART 3 - EXECUTION

3.1 PREPARATION

A. Before installation, condition interior architectural woodwork to humidity conditions in installation areas for not less than 72 hours prior to beginning of installation.

B. Before installing interior architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming of concealed surfaces.

3.2 INSTALLATION

A. Grade: Install interior architectural woodwork to comply with same grade as item to be installed.

B. Assemble interior architectural woodwork and complete fabrication at Project site to the extent that it was not completed during shop fabrication.

C. Install interior architectural woodwork level, plumb, true in line, and without distortion.

1. Shim as required with concealed shims.
2. Install level and plumb to a tolerance of 1/8 inch in 96 inches (3 mm in 2400 mm).

D. Scribe and cut interior architectural woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.

E. Preservative-Treated Wood: Where cut or drilled in field, treat cut ends and drilled holes according to AWPA M4.

F. Anchor interior architectural woodwork to anchors or blocking built in or directly attached to substrates.

1. Secure with countersunk, concealed fasteners and blind nailing.
2. Use fine finishing nails for exposed fastening, countersunk and filled flush with interior architectural woodwork.
3. For shop-finished items, use filler matching finish of items being installed.

END OF SECTION 064023

SECTION 066500 – SIMULATED WOOD TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Exterior Window Trim

1.2 SUBMITTALS

A. General: Submit under provisions of General Requirements.

B. Product Data: Manufacture's data sheets on each product to be used, including:
   2. Preparation instructions and recommendations.
   3. Storage and handling requirements and recommendations.
   4. Installation instructions and methods.
   5. Code compliance reports.

C. Samples: For each product specified, two samples, minimum size 6 inches long, representing actual product, color, finish, and profile.

1.3 QUALITY ASSURANCE

1. Manufacturer Qualifications: Manufacturer with a minimum of 15 years producing PVC trim products.
2. Installer Qualifications: Installer with a minimum of 3 years experience with the installation of PVC trim products.
3. Regulatory Requirements: Check with Local Building Code for installation requirements.
4. Allowable Tolerances:
   a. Variation in component length: -0.00 / +1.00"
   b. Variation in component width: ± 1/16"
   c. Variation in component thickness: ± 1/16"
   d. Variation in component edge cut: ± 2°
   e. Variation in Density -0% + 10%
5. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
   a. Finish areas designed by Architect.
   b. Do not proceed with remaining work until workmanship, color, and sheen are approved by architect.
   c. Refinish mock-up area as required to produce acceptable work.
   d. Accepted mock-ups shall be comparison standard for remaining work.

1.4 DELIVERY, STORAGE AND HANDLING

A. Trim materials should be stored on a flat and level surface on a full shipping pallet. Handle materials to prevent damage to product edges and corners.

B. Store materials under a protective covering to prevent jobsite dirt and residue from collecting on the boards.

1.5 WARRANTY

A. Provide manufacturer's Limited Lifetime warranty against defects in manufacturing that cause the products to rot, corrode, delaminate, or excessively swell from moisture.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

B. Acceptable products: AZEK® Trimboards manufactured by The AZEK® Company, which is located at: 888 N Keyser Ave Scranton, PA 18508 or equal

C. Request for substitutions will be considered in accordance with provisions of General Requirements

2.2 MATERIALS

A. PVC : Free foam cellular PVC material with a small cell microstructure and density of .55 grams/cm³.
   1. Material shall have a minimum physical and performance properties specified in the following Section B

B. Performance and physical characteristic requirements:

Property	Units	Value	ASTM Method
PHYSICAL			
Density	g/cm3	0.55	D 792
Water Absorption	%	0.15	D 570
MECHANICAL			
Tensile Strength	psi	2256	D 638
Tensile Modulus	psi	144,000	D 638
Flexural Strength	psi	3329	D 790
Flexural Modulus	psi	144,219	D 790
Nail Hold	Lbf/in of penetration	35	D 1761
Screw Hold	Lbf/in of penetration	680	D 1761
Staple Hold	Lbf/in of penetration	180	D 1761
Gardner Impact	in-lbs	103	D5420
Charpy Impact (@23°C)	ft-lbs	4.5	D256
THERMAL			
Coefficient of Linear Expansion	in/in/°F	3.2 x 10-5	D 696
Burning Rate	in/min	No burn when flame removed	D 635
Flame Spread Index	--	25	E 84
Heat Deflection Temp 264 psi	°F	150	D 648
Oil Canning (@140°F)	°F	Passed	D 648

2.3 SIMULATED WOOD TRIM

A. Provide Mouldings or custom milled PVC Trimboards to match existing casing and window sill profile. Match existing width, thickness and profile.

B. PVC Trimboard:
   1. Size:
      a. Nominal Width:
         1) As required to match existing casing width.
         2) As required to match existing casing thickness.
      b. Finish:
         1) Traditional Smooth finish

C. Mouldings: AZEK Mouldings design to complement exterior trim.
   1. Casings: As required to match existing casing in profile, width, and thickness.
   2. Sill: As required to match existing casing in profile, width, and thickness.
   3. Finish:
      a. Smooth Finish

2.4 ACCESSORY PRODUCTS

A. Fasteners
   1. AZEK Cortex for Trim
   2. Use fasteners design for wood trim and wood siding (thinner shank, blunt point, full round head) with AZEK®.
   3. Use a highly durable fastener such as stainless steel or hot-dipped galvanized.
   4. Staples, small brads and wire nails must not be used as fastening members.
   5. The fasteners should be long enough to penetrate the solid wood substrate a minimum of 1 ½”.
   6. Standard nail guns work well with AZEK® trim products.
   7. Use 2 fasteners per every framing member for trimboard applications. Trimboards 12” or wider, as well as sheets, will require additional fasteners.
   8. Fasteners must be installed no more than 2” from the end of each board.
   9. AZEK should be fastened into a flat, solid substrate. Fastening AZEK® into hollow or uneven areas must be avoided.
   10. Pre-drilling s typically not required unless a large fastener is used or product is installed in low temperatures.
   11. 3/8” and ½” sheet product is not intended to be ripped into trim pieces. These profiles must be glued to a substrate and mechanically fastened.

B. Adhesives
   1. Glue all AZEK® to AZEK® joints such as window surrounds, long fascia runs, etc. with AZEK® Adhesive, a cellular pvc cement, to prevent joint separation.
   2. The glue joint should be secured with a fastener and/or fastened on each side of the joint to allow adequate bonding time.
   3. AZEK ® Adhesive has a working time of 10 minutes and will be fully cured in 24 hours.
   4. If standard pvc cements are used, keep in mind these products typically cure quickly which will result in limited working time and may reduce adhesive strength.
   5. Surfaces to be glued should be smooth, clean and in complete contact with each other.

6. To bond AZEK® to other substrates, various adhesives may be used. Consult adhesive manufacturer to determine suitability.

C. Sealants:
1. Use urethane, polyurethane or acrylic based sealants without silicone.

2.5 FINISHES

A. AZEK products do not require paint for protection but may be painted to achieve a custom color.

B. Preparation
1. No special surface preparations are required prior to painting - sanding is not necessary for paint adhesion.
2. Surface must be clean and dry
3. Use a 100% acrylic latex paint with a Light Reflective Value (LRV) of 55 or higher.
4. Follow the paint manufacturer's recommendations to apply.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Manufacturer instructions:
1. Comply with manufacturer's product catalog installation instructions and product technical bulleting instructions.

B. Cutting
1. AZEK products can be cut using the same tools used to cut lumber.
2. Carbide tipped blades designed to cut wood work well. Avoid fine tooth metal cutting blades.
3. Rough edges from cutting may be caused by excessive friction, poor board support, or worn or improper tooling.

C. Cutting
1. AZEK products can be drilled using the same tools used to drill lumber.
2. Drilling AZEK products is similar to drilling a hardwood. Care should be taken to avoid frictional heat build-up.
3. Use standard woodworking drills. Do not use drills made for normal rigid pvc.
4. Periodic removal of AZEK shavings from the drill hole may be necessary.

D. Milling:
1. AZEK products can be milled using standard milling machines used to mill lumber.
2. Relieve Angle 20° to 30°
3. Cutting speed to be optimized with the number of knives and feed rate.

E. Routing:
1. AZEK products can be routed using standard router bits and the same tools used to rout lumber.
2. Carbide tipped router bits are recommended.

F. Edge Finishing:

1. Edges can be finished by sanding, grinding or filing with traditional woodworking tools.

G. Nail Locations:
   1. Use 2 fasteners per every framing member for trimboard applications.
   2. Trimboards over 12” or wider, as well as sheets, will require additional fasteners.
   3. Fasteners must be installed no more than 2” from the end of each board.

H. Thermal Expansion and Contraction:
   1. AZEK products expand and contract with changes in temperature.
   2. Properly fastening AZEK material along its entire length will minimize expansion and contraction.
   3. When properly fastened, allow 1/8” per 18 foot of AZEK product for expansion and contraction.
   4. Joints between pieces of AZEK should be glued to eliminate joint separation. When gaps are glued on a long run of AZEK, allow expansion and contraction at ends of the run.

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Urethane joint sealants.
   2. Latex joint sealants.

1.2 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product.

B. Samples: For each kind and color of joint sealant required.

C. Joint-Sealant Schedule: Include the following information:

   1. Joint-sealant application, joint location, and designation.
   2. Joint-sealant manufacturer and product name.
   3. Joint-sealant formulation.
   4. Joint-sealant color.

1.3 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM C1021 to conduct the testing indicated.

1.4 WARRANTY

A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

   1. Warranty Period: Two years from date of Substantial Completion.

B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

   1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

A. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 URETHANE JOINT SEALANTS

A. Urethane, S, NS, 100/50 T, NT: Single-component, nonsag, plus 100 percent and minus 50 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C920, Type S, Grade NS, Class 100/50, Uses T and NT.

1. Pecora Corporation, Sika Corporation, or Tremco Incorporated

2.3 ACRYLIC JOINT SEALANTS

A. Acrylic Latex: Acrylic latex or siliconized acrylic latex, ASTM C834, Type OP, Grade NF.

1. Pecora Corporation, or Tremco Incorporated

2.4 JOINT-SEALANT BACKING

A. Cylindrical Sealant Backings: ASTM C1330, Type C (closed-cell material with a surface skin) Type O (open-cell material) Type B (bicellular material with a surface skin) or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

2.5 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove laitance and form-release agents from concrete.
2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces.

3.2 INSTALLATION OF JOINT SEALANTS

A. General: Comply with ASTM C1193 and joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.

1. Provide concave joint profile per Figure 8A in ASTM C1193 unless otherwise indicated.

3.3 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:
   a. Perimeter joints between exterior wall surfaces and frames of windows.

2. Joint Sealant: Urethane.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

B. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces not subject to significant movement.

1. Joint Locations:
   a. Perimeter joints between interior wall surfaces and frames of windows.

2. Joint Sealant: Acrylic latex.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 079200

SECTION 085213 – ALUMINUM CLAD WOOD WINDOWS

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes wood clad windows. Basis of design is Marvin Windows and Doors, Ultimate Double Hung G2, Transom, Picture window complete with hardware, glazing, certified mulls, weather strip, simulated divided lite, jamb extension, and standard or specified anchors, trim, attachments, and accessories.

1.2 RELATED SECTIONS

A. Section 06 40 23 – Interior Architectural Woodwork: Wood trim other than furnished by window manufacturer

B. Section 07 92 00 – Joint Sealants: Sill sealant and perimeter caulking

C. Section 09 90 00 – Painting: Paint and stain other than factory-applied finish

1.3 REFERENCES

A. American Society for Testing Materials (ASTM):

A. E283: Standard Test method for Rate of Air Leakage through Exterior Windows, Curtain Walls and Doors

B. E330: Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls and Door by Uniform Static Air Pressure Difference

C. E547: Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Cyclic Static Air Pressure Differential

D. E2190: Specification for Sealed Insulated Glass Units

E. C1036: Standard Specification for Flat Glass

F. E2068: Standard Test Method for Determination of Operating Force of Sliding Windows and Doors

G. E 1996: Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Windborne Debris in Hurricanes

H. E 1886: Standard Test method for Performance of Exterior Windows, curtain Walls, and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials

I. F 2090-17: Standard Specifications for Windows Fall Prevention Devices with Emergency Escape (egress) Release Mechanisms

B. American Architectural Manufacturer's Association/Window and Door Manufacturer's Association (AAMA/WDMA/CSA):

J. AAMA/WDMA/CSA 101/I.S.2/A440-08, Standard/Specification for windows, doors and skylights

K. AAMA/WDMA/CSA 101/I.S.2/A440-11, Standard/Specification for windows, doors and skylights

L. AAMA 450-10, Voluntary Performance Rating Method for Mulled Fenestration Assemblies

C. WDMA I.S.4: Industry Standard for Water Repellant Preservative Treatment for Millwork

D. Window and Door Manufacturer's Association (WDMA): 101/I.S.2 WDMA Hallmark Certification Program

E. Sealed Insulating Glass Manufacturer's Association/Insulating Glass Certification Council (SIGMA/IGCC)

F. American Architectural Manufacturer's Association (AAMA): 2605: Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels

G. National Fenestration Rating Council (NFRC):

M. 101: Procedure for Determining Fenestration Product thermal Properties

N. 200: Procedure for Determining Solar Heat Gain Coefficients at Normal Incidence

H. Window Covering Manufacturer's Association

A. A100.1: American National Standard for Safety of Corded Window Coverings Products

1.4 SYSTEM DESCRIPTION

A. Design and Performance Requirements:

Product	Air Test to PSF	Water Tested to psf	Structural Tested to psf	Certification Rating	Design Pressure	Overall Width		Overall Height	
						in	mm	in	mm
Ultimate Double Hung G2 (4040)	1.57	7.5	75	LC-PG50	DP50	45 1/4	(1149)	87 1/2	(2223)
Ultimate Double Hung G2 (4044)	1.57	7.5	75	LC-PG50	DP50	45 1/4	(1149)	95 1/2	(2426)
Ultimate Double Hung G2 Picture (6668)	1.57	7.5	75	CW-PG50	DP50	67 1/4	(1708)	69 1/2	(1765)
Ultimate Double Hung G2 Transom (4020)	1.57	7.5	75	LC-PG50	DP50	45 1/4	(1149)	27 11/16	(703)

1.5 SUBMITTALS

A. Shop Drawings: Submit shop drawings under General Requirements

B. Product Data: Submit catalog data under provision of General Requirements

C. Samples:

a. Submit corner section under provision of section General Requirements

b. Include glazing system, quality of construction and specified finish

D. Quality Control Submittals: Certificates: submit manufacturer's certification indicating compliance with specified performance and design requirement under provision of section General Requirements

1.6 QUALITY ASSURANCE

A. Requirements: consult local code for IBC [International Building Code] and IRC [International Residential Code] adoption year and pertinent revisions for information on:

1. Egress, emergency escape and rescue requirements

2. Basement window requirements

3. Windows fall prevention and/or window opening control device requirements

1.7 DELIVERY

A. Comply with provisions of General Requirements

B. Deliver in original packaging and protect from weather

1.8 STORAGE AND HANDLING

A. Prime and seal wood surfaces, including to be concealed by wall construction, if more than thirty (30) days will expire between delivery and installation

B. Store window units in an upright position in a clean and dry storage area above ground to protect from weather under provision of General Requirements

1.9 WARRANTY

Complete and current warranty information is available at marvin.com/warranty. The following summary is subject to the terms, condition, limitations and exclusions set forth in the Marvin Windows and Door Limited Warranty and Products in Coastal Environments Limited Warranty Supplement:

A. Clear insulating glass with stainless steel spacers is warranted against seal failure caused by manufacturing defects and resulting in visible obstruction through the glass for twenty (20) years from the original date of purchase. Glass is warranted against stress cracks caused by manufacturing defects from ten (10) years from the original date of purchase.

B. Standard exterior aluminum cladding finish is warranted against manufacturing defects resulting in chalk, fade and loss of adhesion (peel) per the American Architectural Manufacturer's Association (AAMA) Specification 2605-11 Section 8.4 and 8.9 for twenty (20) years from the original date of purchase.

C. Factory-applied interior finish is warranted to be free from finish defects for a period of five (5) years from the original date of purchase.

D. Hardware and other non-glass components are warranted to be free from manufacturing defects for ten (10) years from the original date of purchase.

PART 2 PRODUCTS

2.1 MANUFACTURED UNITS

A. Description: Ultimate Double Hung G2 (and related stationary units) as manufactured by Marvin, Warroad, Minnesota.

2.2 FRAME DESCRIPTION

A. Interior: Non Finger-Jointed Pine

1. Kiln-dried to moisture content no greater than 12 percent at the time of fabrication

2. Water repellant, preservative treated in accordance with ANSI/WDMA I.S.4.

B. Frame exterior aluminum clad with 0.050" (1.3mm) thick extruded aluminum

C. Frame thickness: 11/16" (17mm) head and jambs

D. Frame depth: Frame depth had an overall 5 21/32" jamb (144mm). 4 9/16" (116mm) jamb depth from the nailing fin plane to the interior face of the frame for new construction.

E. Sill assembly including the sill liner: 2 7/32" (56mm)

2.3 SASH DESCRIPTION

A. Interior: Non Finger-Jointed Pine

1. Kiln-dried to moisture content no greater than 12 percent at the time of fabrication

2. Water repellant preservative treated with accordance with WDMA I.S.4.

B. Sash exterior aluminum clad with 0.050” (1.3mm) thick extruded aluminum

C. Sash thickness: 1 3/4” (44mm). Corner slot and tenoned.

D. Operable sash tilt to interior for cleaning or removal

E. Sash Options:

a. Standard: Equal Sash

F. Exterior Cope Profile: Putty

G. Interior Sash Sticking

A. Standard: Ogee

2.4 GLAZING

A. Select quality complying with ASTM C1036. Insulating glass SIGMA/IGCC certified to performance level CBA when tested in accordance with ASTM E2190.

B. Glazing method: Insulating glass

C. Glazing seal: Silicone bedding on interior and exterior

D. Glass Type: Clear, Low E2 with Argon, Tempered where indicated or required by code

2.5 FINISH

E. Exterior: Aluminum clad. Fluoropolymer modified acrylic topcoat applied over primer. Meets AAMA 2605 requirements.

1. Aluminum clad color: Stone White

2. Interior: Bare PineA

2.6 HARDWARE

A. Locking system that provides locking, unlocking, balancing, and tilting of the sash members

B. Lock Actuator Assembly

O. 1. Material

a. Zinc die-cast

b. Available finishes: Satin Taupe

P. 2. Design Feature and Components

a. To unlock unit, turn the handle 135°

b. Lock automatically locks when both sash are closed.

c. To tilt the bottom sash for wash mode, the bottom sash must be unlocked and raised a few inches; push the button on top of the lock handle and rotate the handle 180°

d. To tilt the top sash for wash mode, the bottom sash must be tilted and/or removed from the frame; lower the top sash to a good working height, retract the tilt latches on the top rail and tilt sash inward out of the frame

C. Latches

a. Bottom sash latch

a. Material

i. Bolt: Glass-filled nylon

ii. Latch housing: Acetal

iii. Sash latch reinforcement: Stainless steel

b. Top sash tilt latch

a. Material

i. Bolt: Glass-filled nylon

ii. Latch housing: Glass-filled nylon

c. Latches accommodate travel of sash in frame, and tilting into wash-mode

d. Color: Beige (manual latch for Lift Lock also available in White and Black)

D. Strike Assembly

1. Material

c. Zinc die-cast strike plate and injection-molded Acetal housing and button

d. Available finishes: Satin Taupe, White, Bronze, Matte Black, Brass, Antique Brass, Polished Chrome, Satin Chrome, Oil Rubbed Bronze, or Satin Nickel

2. Strike assembly accommodates locking/unlocking

E. Balance System (balance system determined by sash weight)

1. Block & tackle balances

2. Hybrid spiral balances

2.7 INSECT SCREENS

A. Operating Units receive Aluminum Full size screen
a. Finish: Match exterior finish
b. Mesh: Charcoal Fiberglass

2.8 WEATHER STRIP

Q. Operating units:

1. Jambs: Foam-filled bulb

2. Header: Continuous dual leaf

3. Bottom rail and check rail: Hollow bulb

R. Stationary units:

1. Jambs: Foam for picture units; foam-filled bulb for transom unit

2. Header and bottom rail: Hollow bulb

2.9 JAMB EXTENSION

A. Jamb extensions as indicated

B. Finish: Bare Wood

2.10 SIMULATED DIVIDED LITES (SDL)

A. 5/8” (16mm) wide, with internal spacer bar

B. Exterior muntins: 0.050” (1.3mm) thick extruded aluminum

C. Interior muntins: Pine

D. Muntins adhere to glass with closed-cell copolymer acrylic foam tape

E. Exterior sticking: Putty

F. Interior Sticking:

Standard: Ogee

G. Patterns: Rectangular as indicated

H. Finish – exterior matches exterior aluminum clad colors, interior matches interior wood species and finish

2.11 ACCESSORIES AND TRIM

A. Installation Accessories:

1. Factory-installed vinyl nailing/drip cap
2. Installation brackets: 6 3/8” (162mm), 9 3/8” (283mm), 15 3/8” (390mm)
3. Masonry brackets: 6” (152mm), 10” (254mm)

PART 3 EXECUTION

3.1 EXAMINATION

A. Verification of Condition: Before installation, verify openings are plumb, square and of proper dimensions as required in Section 01 71 00. Report frame defects or unsuitable conditions to the General contractor before proceeding.

B. Acceptance of Condition: Beginning on installation confirms acceptance of existing conditions.

3.2 INSTALLATION

A. Comply with Section General Requirements

B. Assemble and install window/door unit(s) according to manufacturer's instruction and reviewed shop drawing.

C. Install sealant and related backing materials at perimeter of unit or assembly in accordance with Section 07 92 00 Joint Sealants.

D. Install accessory items as required.

E. Use finish nails to apply wood trim and mouldings.

3.3 FIELD QUALITY CONTROL

A. Remove visible labels and adhesive residue according to manufacturer's instruction.

B. Unless otherwise specified, air leakage resistance tests shall be conducted at a uniform static pressure of 75 Pa (~1.57 psf). The maximum allowable rate of air leakage shall not exceed 2.3 L/sm^2 (~0.45 cfm/ft^2).

C. Unless otherwise specified, water penetration resistance testing shall be conducted per AAMA 502 and ASTM E1105 at 2/3 of the fenestration products design pressure (DP) rating using "Procedure B" – cyclic static air pressure difference. Water penetration shall be defined in accordance with the test method(s) applied.

3.4 CLEANING

A. Remove visible labels and adhesive residue according to manufacturer's instruction.

B. Leave windows and glass in a clean condition. Final cleaning as required in General Requirements

3.5 PROTECTING INSTALLED CONSTRUCTION

A. Protecting windows from damage by chemicals, solvents, paint or other construction operations that may cause damage.

END OF SECTION 085213

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes surface preparation and the application of paint systems on exterior substrates.

1.2 DEFINITIONS

A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D523.

B. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.

C. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523.

D. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D523.

E. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523.

F. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D523.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.

B. Samples: For each type of paint system and each color and gloss of topcoat.

1.4 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system.

a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m).

b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.

a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Benjamin Moore, Sherwin-Williams Company, California Paints

B. Products: Subject to compliance with requirements, provide products listed in the Exterior Painting Schedule for the paint category indicated.

2.2 PAINT, GENERAL

A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."

B. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

C. Colors: Match existing color

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

C. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

A. 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 Architect, and leave in an undamaged condition.

B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 EXTERIOR PAINTING SCHEDULE

A. Plastic Trim Fabrication Substrates:

1. Latex System MPI EXT 6.8A:

a. Prime Coat: Primer, bonding, water based, MPI #17.

b. Prime Coat: Primer, bonding, solvent based, MPI #69.

c. Intermediate Coat: Latex, exterior, matching topcoat.

d. Topcoat: Latex, exterior, semi-gloss (MPI Gloss Level 5), MPI #11.

END OF SECTION 099113

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes surface preparation and the application of paint systems on interior substrates.

1.2 DEFINITIONS

A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D523.

B. MPI Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.

C. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.

D. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523.

E. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D523.

F. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523.

G. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D523.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

1. Include Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.

B. Samples: For each type of paint system and in each color and gloss of topcoat.

1.4 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system.

a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m).
b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.

a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Benjamin Moore, Sherwin-Williams Company, California Paints

B. Products: Subject to compliance with requirements, provide one of the products listed in the Interior Painting Schedule for the paint category indicated.

2.2 PAINT, GENERAL

A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."

B. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

C. Colors: Match existing color.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
1. Wood: 15 percent.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

D. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 INTERIOR PAINTING SCHEDULE

A. Wood Substrates: Wood trim

1. Institutional Low-Odor/VOC Latex System MPI INT 6.3V:

a. Prime Coat: Primer, latex, for interior wood, MPI #39.

b. Intermediate Coat: Latex, interior, institutional low odor/VOC, matching topcoat.

c. Topcoat: Latex, interior, institutional low odor/VOC, semi-gloss (MPI Gloss Level 5), MPI #147.

END OF SECTION 099123