

**PROJECT
WORK SCOPES
& ALTERNATES
(PWS&A)**

PROJECT WORK SCOPES & ALTERNATES (PWS&A)

PWS&A Contents:

- A. Base Contract (BC)
- B. Alternates
- C. Unit Costs

A. BASE CONTRACT (BC): See project schedule, Instructions to Bidders, Paragraph 4

BC1. Interior Removals

BC2. Roof Tiles

- a. Install new Spanish tile on Archway (north) roof
- b. Repair Kitchen roof
- c. Repair Tower roof
- d. Repair observation deck roof & replace hatch

BC3: Windows

- a. Repair and paint existing windows per schedule
- b. Replace windows with new per schedule

B. ALTERNATES

Alternate 1: Install new Akron Spanish tile on Archway (North) roof.

Alternate 2a: Install new Spanish tile on Kitchen roof.

Alternate 2b: Install new Akron Spanish tile on Kitchen roof.

Alternate 3a: Install new Spanish tile on Tower roof.

Alternate 3b: Install new Akron Spanish tile on Tower roof.

Alternate 4: Restore frames and replace sash and glass (insulated) in historic design for windows 7, 8, 9, 10, 2 and 4.

C. UNIT COSTS (UC)

UC 1: Repair concrete deck (square foot by 1" depth).

UC 2: Repoint using Rosendale cement mortar to 2" depth (linear foot of mortar joint).

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END

**TECHNICAL
SPECIFICATIONS**

DIVISION ONE GENERAL REQUIREMENTS

Section 01010 - Summary of the Work

- 1.01 Unless otherwise specifically excluded, all portions of the Project Manual including the Invitation to Bid, Instructions to Bidders, Proposal, all parts referenced in the Table of Contents and the Drawings are included in the Contract Documents.
 - 1.02 Refer to Project Work Scopes & Alternates.
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Section 01011 - General Requirements

1.01 Limitations of Responsibility

- A. The Contractor shall be responsible for any engineering services associated with the means and methods of construction including, without being limited to temporary, shoring and bracing, removal and/or demolition procedures, erosion control, temporary enclosures, scaffolding, building access (including lifts and other devices), and site security.
- B. The objective of shop drawing and/or submittal reviews by the Architect is to determine general conformance with the project design in accordance with the Contract Documents and is not intended to address means and methods of construction, installation instructions, or safety procedures.
- C. The Architect shall have the authority to reject work not in conformance with the Contract Documents, but not to stop the work. Only the Owner shall have authority to stop the work.

Should the Architect observe conditions which are inconsistent with the Contract Documents or which appear to present a risk of injury or damage the Architect may, without assuming any responsibility for the Contractor's safety procedures or construction means and methods, suggest to the Contractor or Contractor's representative that these conditions be reconsidered in accordance with the Contract Documents.

Section 01025 - Schedule of Values & Approvals for Payment

- 1.01 Application for Payment: Upon award of the contract, the Contractor shall submit to the Architect a draft AIA Form G703 with project costs itemized by trade section and, as applicable, by separate categories for specific project scopes. This list must be sufficiently detailed to allow evaluation of the work at all stages. Inadequately detailed, incomplete, or inaccurate forms will be rejected. Contractor shall also submit a copy of AIA Form G702 with all pertinent project information completed prior to initial payment request.
- 1.02 Progress Payments:
 - A. Progress payments shall be made monthly in accordance with the Owner's standard procedures and the contract agreement. The Contractor shall prepare and submit accurate G702/G703 forms to the Architect.
 - B. The Architect shall approve such payments as warranted for work completed satisfactorily and incorporated into the structure. Materials stored on site will not be approved for payment without evidence of specific insurance and protective procedures for the safety of such materials on behalf of the Owner. Materials stored off-site or on-site but not yet incorporated into the work are not eligible for compensation unless specifically approved by the Owner.
 - C. If portions of the work are determined to be unacceptable or if damage for which the Contractor is responsible has occurred to the property the Architect may withhold from payments due the Contractor, in addition to specified retainage, an amount sufficient to ensure proper repair and corrections.
 - D. The Owner reserves the right to require that each application for payment include

evidence that all subcontractors, suppliers, and vendors have been paid by the Contractor for those materials and services, less retainage not greater than that applied to the Contractor, for which the Contractor is requesting payment.

- 1.03 Retainage: Retainage as described in the Instructions to Bidders shall be withheld from all Applications for Payment and shall be paid as a separate application for payment after the last incremental draw and after Final Project Completion.

Section 01035 - Change Orders & Substitutions

1.01 Change Orders:

- A. The Architect shall issue Change Orders for modifications to the contract scopes as appropriate. The Contractor may be required to provide support documentation, formal request for change order, and detailed cost breakdown describing change requested.
- B. Proposals for change orders shall, upon request, state specific man-hours anticipated, applicable billing rates, and materials directly attributable to the work.
- C. Change orders shall not include costs for ordinary tools or equipment normally used in such work. Reasonable costs for specialty tools or equipment specifically necessary for the work will be allowed.
- D. Change shall include overhead and profit as a separate line item value in accordance with the Instructions to Bidders.

1.02 Substitutions:

- A. The Contractor shall notify the Architect in advance of proposed product submissions, which differ from those referenced in the specifications. The Architect may advise the Contractor that certain products are not sufficiently equivalent for consideration, are not as appropriate for use with an historic structure, or that they are, in the Architect's opinion, inferior to the specified product or otherwise unacceptable.
- B. Requests for reasonable substitutions initiated by the Contractor will be considered by the Architect, but must be supported by a fully detailed written comparison of the specified product and the proposed product. The Architect shall not be obligated to investigate equivalence and reserves the right to reject proposed substitutions, which would require extensive comparison. In general, substitutions will be considered only where based on reasonably uncontrollable conditions or increased benefit to the Owner and project, and not for the convenience or financial benefit of the Contractor.
- C. In general, substitutions will be considered only where based on reasonably uncontrollable conditions or increased benefit to the Owner and project, and not for the convenience or financial benefit of the Contractor. The Contractor must plan in advance to anticipate delivery time and availability of materials.
- D. The Contractor must anticipate consequences of the substitution or additional modifications to the work necessitated or made advisable by the acceptance of the substitution, and shall coordinate as necessary with all other contractors and subcontractors accordingly.

Section 01040 - Scheduling & Coordination

- 1.01 Sequence and Procedures: Except as specifically noted, the work described by the Contract Documents is not necessarily presented in a sequence for execution. All sequencing and construction procedures, including (without being limited to) bracing and shoring, shall be as determined by the Contractor within the limits of this contract and the Architect shall have no responsibility whatsoever for the consequences of these determinations.

1.02 Submissions, Shop Drawings & Samples:

- A. The Contractor shall provide adequate shop drawings or samples for Architect approval where required by the technical specifications or upon request where deemed necessary by conditions of the work. When required by law or specifically indicated in the project scope these drawings shall be sealed by a licensed professional as applicable.
- B. The Contractor shall submit not less than three (3) copies of all submittal materials plus

as many copies as the Contractor needs returned.

- C. The Contractor shall carefully coordinate all submissions, responses, reviews and/or inspections to allow efficient execution of the project and the Architect's required services. The Contractor shall carefully review all submittals in advance of delivering them to the Architect and shall initial them attesting to the fact that the information contained therein is accurate and complete.
- D. The Architect reserves the right to reject incomplete or inadequate submissions, or submissions which have not been properly reviewed by the Contractor. The Contractor shall be responsible for delays resulting from rejected submissions.
- E. Submissions shall be made in a timely manner to avoid project delays and shall allow the Architect not less than ten (10) days for review and response.
- F. Where possible corrections are minor the Architect may red-mark all copies of the submission and return them to the Contractor. Where corrections are more extensive, the Architect may return one red-marked copy and the Contractor shall be responsible for copying these into the remaining sets. Where corrections are excessive the Architect may reject the submission in its entirety.
- G. Drawings and similar submittals should be submitted with a reproducible master to facilitate reproduction of corrected versions.
- H. The objective of shop drawing and/or submittal reviews by the Architect is to determine general conformance with the project design in accordance with the Contract Documents and is not intended to address means and methods of construction, installation instructions, or safety procedures.

1.03 Project Meetings:

- A. No work shall begin prior to the Pre-Construction Meeting, which shall be attended by the Contractor, relevant subcontractors, the Owner, and additional parties as necessary. At this meeting the Architect shall review the project schedule, project scope, submission requirements, and specific project concerns.
- B. Prior to the Pre-Construction Meeting the Contractor shall submit to the Architect a list of proposed project personnel, sub-contractors, and suppliers, including names, addresses, phone numbers, fax numbers, and contact personnel. This list shall be updated and re-submitted as applicable during the project.
- C. Construction phase meetings shall be held at the jobsite, on a schedule to be determined, and be attended by the Contractor's responsible representative, the Architect, and the Owner's representative.

1.04 General Coordination:

- A. The Owner has no provision for a Construction Manager or Clerk of the Works for this project. The General Contractor shall be required to provide general project coordination services on behalf of the Owner without ultimate responsibility or liability for the performance of other prime contractors or subcontractors, if any, not directly under their control.
- B. Each subcontractor shall be responsible for coordinating their own work with that of the General Contractor and all other prime contractors.

1.05 Use of Site:

- A. Arrangements for staging, parking, and access shall be such as to not interfere with normal local traffic and shall not unduly inconvenience neighbors.
- B. The Contractor shall take all necessary precautions to ensure that delivery of materials and related activities do not cause damage to the site. Any disturbance to natural or manmade resources (including access road and bridges) caused by the action of this contract shall be corrected by the responsible parties to the full satisfaction of the Owner.
- C. The work of the project shall not disturb in any way the Owner's normal operations. The Contractor shall actively coordinate work activities with the Owner regularly and in advance to ensure full compliance.

1.06 Additional Services Due to Contractor Performance: In the event of errors, poor coordination, inappropriate work, or inadequate submissions on the part of the Contractor that require

additional professional services or costs to the Owner for multiple reviews or identification and/or correction thereof, the Contractor shall reimburse such costs to the Owner or have them deducted from any payments due under the terms of this contract, in addition to the direct costs of correcting such problems.

1.07 Access to Work:

- A. The Architect and Owner shall at all times have reasonable and adequate access to the work for the purpose of investigating field conditions and observing the work of the Contractor in progress.
- B. The Contractor shall provide such access as necessary and a safe and legal means of reaching work areas such as, but not limited to, scaffolding, ladders, or mechanical lifts.
- C. Contractor shall coordinate with the Architect and Owner prior to removing scaffolding or other access devices. The Architect and Owner shall have no obligation to approve or authorize payment for work installed if the work cannot be reasonably accessed for observation.

1.08 Site Camera: Contractor shall maintain on-site a digital camera and an acceptable means of transmitting electronic photographs to the Architect in a timely manner for consultation of specific conditions upon request and general documentation of the ongoing work.

1.09 On-Site Records:

- A. The Contractor shall maintain on-site at all times a minimum of one complete, clean set of all drawings, specifications, addenda, change orders, approved submittals, payment applications, and other documents which define the scope and status of the work. These materials must be made available to the Owner, Architect, Engineer and other parties as necessary to facilitate project coordination.
- B. All such materials, particularly construction drawings and the Project Manual, shall be maintained in sound condition. Torn, missing, stained, or otherwise damaged materials are not acceptable.

1.10 Contractor Access:

- A. Contractor shall be accessible to the Architect and Owner at all times for official notification and/or general communication. Accessibility shall include, at a minimum, fully operational 24-hour phone with message recorder and 24-hour dedicated (or automatic) fax machine.
- B. Contractor shall designate one or more representatives who shall be accessible by working telephone twenty-four (24) hours per day in the event of emergencies.
- C. Contractor shall maintain an active internet account with 24-hour e-mail capability for ongoing communication regarding the project.

Section 01050 - Field Verification

- 1.01 Prior to starting work, the General Contractor shall use a transit or level to verify all grades, elevations, floor levels, etc. and all similar relationships associated with or affected by the work of the project. These references shall be recorded using the same nomenclature as the Contract Documents.
- 1.02 All dimensions and existing conditions must be carefully checked onsite and verified relative to the work of the project by the General Contractor.
- 1.03 The Contractor shall notify the Architect immediately if conditions or materials are found to be contrary to the drawings and shall not continue work until these discrepancies are resolved. Commencement of work indicates acceptance of existing conditions and acceptance of all related consequences.
- 1.04 Note that mandatory design and accessibility tolerances may be necessary relative to the placement of doors, fixtures, etc., and even slight adjustments to field conditions may affect compliance approvals.

Section 01055 - Unexpected Conditions

- 1.01 During the work of this contract, conditions may be uncovered which could not have been reasonably anticipated in advance. Unless otherwise included in the base contract scope (including scopes defined by indications such as "as required" or "as necessary"), any additional work necessary to achieve the objectives of this project will be considered as extra to the base contract subject to Owner approval. Upon uncovering such problems, the Contractor shall notify the Architect and not proceed with work until an appropriate solution has been determined.

Section 01060 - Regulatory Requirements & Permits

1.01 Code Compliance:

- A. All work shall be performed in compliance with the latest edition of all codes and standards having jurisdiction.
- B. Unless otherwise specifically indicated, all work shall comply with the requirements of the NYS Uniform Fire Prevention and Building Code.
- C. In the event that multiple codes apply, including any applicable local ordinances, the Contractor shall comply with the most stringent requirements.

1.02 Permits:

- A. Unless otherwise clearly indicated, each Contractor shall be responsible for identifying, securing, and paying for any and all permits, inspections, and certificates of approval required for the work of their contract.
- B. Copies of all such permits shall be posted as required.
- C. Upon completion, copies of all such materials shall be assembled and submitted to the Architect with the project record documents.

Section 01090 - Definitions

- 1.01 General: Except as specifically defined otherwise, the following definitions supplement the General Conditions, Supplementary General Conditions and other contract documents, and apply generally to the Work.

- A. "Typical" - All similar elements or conditions shall be treated equally as directed, or that a specific detail or reference shall apply to these similar elements or conditions.
- B. "Similar" - Nearly alike, though not necessarily identical to.
- C. "Equal" - Sufficiently identical to in design and quality to be virtually interchangeable.
- D. "Approved", "Directed", "Accepted", etc. and variations thereof - These terms imply "by the Architect," unless otherwise indicated.
- E. "Furnish" - Supply and deliver to project site, ready for unloading, unpacking, assembly, installation, and similar subsequent requirements.
- F. "Install" - Includes all operations at project site, including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar actions. (Unless stated as "install only," the term "install" shall mean "furnish and install.")
- G. "Provide" - Furnish and install, complete and ready for intended use.
- H. "Installer" - Entity (firm or person) engaged to install work. Installers are required by definition to be skilled in work for which they are engaged.
- I. "Indicated" - Shown on drawings by notes, graphics, etc., or written into other portions of contract documents. Terms such as "shown", "noted", "scheduled", and "specified" have same meaning as "indicated", and are used to help locate particular information.
- J. "Repair" - To make repairs to existing materials or elements.
- K. "Replicate" - To fabricate or construct from new materials an exact duplicate of specific elements to match their original form and condition (unless otherwise noted). Unless otherwise noted or approved, replica work shall be of same material as original.
- L. "Reconstruct" - To disassemble and repair (replicating missing portions as necessary), specific elements as identified.
- M. "Restore" - To accurately return the character, form, and features of a property or element to its original condition and appearance. This may include the removal of features from other periods in its history, conservation of existing features,

and/or reconstruction of missing features from the restoration period. When restoring historic materials, as much original fabric as possible should be preserved. Confirm historic authenticity of feature, finish, or condition to be restored with Architect in advance. "Restore" includes mitigation of hazardous materials. See Instructions to Bidders, Owner's Directive and Section 01530.

- N. "Day" - Calendar day (vs. working day) unless specifically noted otherwise.
 - O. "Inspection" - Observation to become generally familiar with existing conditions or with work relative to general conformance with the contract documents. Inspection does not imply or require that the Architect make exhaustive investigations or continuous observations, or to be responsible for work quality, accuracy, or construction procedures or techniques.
 - P. "Final Project Completion" - Date at which Owner accepts completed project and responsibility therefore. Date shall be the date of final approval as issued by the Owner and following all inspections and receipt of all required documents, affidavits, final submittals, as-builts, and other close-out materials.
 - Q. Where used colloquially or in casual reference during the course of the project, all terms such as "drawings," "specs," "specifications," "project manual," "contract documents," "bid documents," etc., shall refer to the legally binding contract documents without limiting them to precise definitions.
 - R. "Contractor" - Unless specifically noted otherwise, "Contractor" (whether capitalized or not) shall refer to any party with a contractual relationship with the Owner for the execution of work described by the contract documents. The "Contractor(s)" may delegate certain project scopes to subcontractors, making them also responsible for compliance with all applicable contract documents, but this does not relieve the Contractor(s) from overall responsibility in accordance with the terms of their individual contracts with the Owner.
 - S. For the purposes of this project "warranty" and "guarantee" shall be equivalent.
- 1.02 Plural words will be interpreted as singular and singular words will be interpreted as plural where applicable for context of contract documents.
 - 1.03 Abbreviations, where not defined in contract documents, will be interpreted by the Architect based on standard construction industry terminology.
 - 1.04 Gender Specific: Where "he" or similar masculine words are used "she" and female counterparts shall be equally applicable without preference or prejudice.

Section 01400 - Quality Control, Standards & Compliance

- 1.01 Worker Standards & Qualifications:
 - A. All work under this contract shall be performed by and supervised by competent, responsible workers thoroughly familiar with the materials and methods specified. The Owner reserves the right to reject persons not considered suitably qualified for the work of this project.
 - B. Workers on site or performing services relating to the work of this project shall conduct themselves in a responsible and courteous manner. Spitting, profanity, rude gestures, and other actions, which may be considered socially offensive, are prohibited. The Contractor shall be responsible for the actions of all persons under his or her control, including subcontractors and suppliers, and shall remove violators from the site.
- 1.02 Lines and Levels: In general, all work shall be installed plumb and level. Should existing adjacent work not be plumb or level, new work shall be installed so as to meet the existing without appearing to emphasize the variance, subject to Architect approval.
- 1.03 Matching Materials: In general, where repetitive materials such as brick, clapboard, flooring, etc. are to be patched with infill of equivalent materials, new materials shall match the existing in size, shape, texture, color, etc. and be installed (unless otherwise specified) by "toothing in" or similar techniques to make the repaired area blend with the original.

1.04 Cutting & Patching:

- A. Each subcontractor shall be responsible for all cutting and patching necessary for the work of his or her subcontract unless clearly noted otherwise. The Contractor shall be responsible for ensuring that all cutting and patching is executed properly.
- B. All cutting and patching shall be done in accordance with relevant sections of the Project Manual. Damage shall be minimized. All cuts shall employ sharp blades, bits, etc. and back-splintering is to be avoided.
- C. Cutting of structural members, historic features, and historic finishes is to be avoided in general, and is prohibited without written approval of the Architect.
- D. Patching shall utilize materials and construction equal to those of the affected areas, and shall blend exactly to undamaged portions of those areas and adjacent surfaces.
- E. Care shall be taken with patching drywall or plaster to ensure that the repaired area not be excessively smooth, relative to typical finished surfaces, due to fine sanding of joint compound or that the face not be abraded to cause an excessively rough texture.
- F. When touch-up painting is required at patched areas, care must be taken to ensure that the touch-up paint matches and blends unnoticed with the base surface paint as to color, type, sheen, and other characteristics.
- G. Coordinate with firestopping and smokestopping.

1.05 Identification and Marking: All products requiring specific grading quality or certifications shall be stamped or labeled with the appropriate designations or otherwise identified to the satisfaction of the Architect.

1.06 Certifications and Testing: Whenever the Contract Documents require that a product be in accordance with Federal Specification, ASTM designation, ANSI specification, or other association standard, upon request the Contractor shall present an affidavit from the manufacturer certifying that the product complies therewith. Where requested or specified submit supporting test data to substantiate compliance.

1.07 Correlation, Intent and Interpretation of Contract Documents:

- A. In the event of conflicts between drawings and specifications, quantity shall typically be governed by the drawings and quality by the specifications.
- B. In the case of differences between small and large-scale drawings or details, the large-scale drawing or detail is assumed to govern.
- C. In the event of conflict within the specifications, the higher quality shall govern.
- D. Dimensions take precedence over scaled drawings. Do not scale the drawings.
- E. Where a portion of the work is drawn and the remainder is indicated conceptually or in outline, the parts drawn shall also apply to other like portions of the work.
- F. Refer all discrepancies, conflicts or matters requiring interpretation, including, but not limited to, those listed above, to the Architect's immediate attention for timely resolution. Interpretation without the Architect's specific confirmation is done at the Contractor's sole risk and responsibility.

1.08 Environmental Considerations:

- A. The Contractor shall undertake all measures necessary to prevent all forms of environmental pollution at the project site resulting from the work of this contract.
- B. The Contractor shall undertake all reasonable means to use non-polluting products and/or recyclable materials in the work of this project and to recycle all debris and unused materials to the greatest extent possible. Upon request the Contractor shall submit a list of materials to be recycled and specific information describing the location of disposal.
- C. The Contractor shall undertake all reasonable means to minimize disturbance to natural site features, landscaping, and wildlife. Under no circumstances shall the work of this project cause damage or harm to any endangered or protected objects, plants, trees, animals, insects, or other such creatures.

1.09 Specification and Contract Compliance:

- A. The Contractor shall carefully read and follow the requirements of the Project Manual, and shall be responsible for ensuring that project personnel under his control comply with

- the Project Manual as well.
- B. Special attention is called to the sections relating to project safety. Contractors who disregard these provisions and place any persons or property at risk may, at the discretion of the Owner, be removed from the project immediately and will be subject to all penalties referenced by the contract documents.
 - C. All portions of the Project Manual shall apply to all specification sections whether noted separately for the section or not.
- 1.10 Deviation from Drawings: Contractor shall pay strict attention to the placement of work, including fixtures and devices, as indicated on the drawings, particularly with regard to center lines or relationships with other features. Fixture placement shall not be at the convenience of the Contractor. Architect must approve all deviations from the drawings in advance. If Contractor installs work not in accordance with the Project Manual he may be required to relocate these items and correct all damage to related materials at no extra cost to the Owner.
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Section 01500 - Temporary Facilities & Control

1.01 Temporary Utilities:

- A. Temporary Electric Power: The Owner shall pay for and provide normal electrical usage during the course of the work. The Contractor shall extend power to work areas as needed. Contractor's use of electricity must not overload the existing electrical system or adversely affect the Owner's operations.
- B. Temporary Project Lighting: The Contractor shall provide temporary lighting to all portions of the work area as necessary for effective observation and examination, and to facilitate the safe and proper execution of all scopes. Lighting shall be installed and maintained so as not to present a danger to persons or property.
- C. Temporary Heating & Ventilating: The Contractor shall be responsible for and shall pay all costs associated with providing any temporary heat required for the proper execution of the work.
- D. Temporary Water: The Owner shall provide normal water usage during the course of the work. The Contractor shall be responsible for temporary connections, temporary distribution of and maintenance of all systems until project is delivered to the Owner. Contractor shall make arrangements for access to water without disrupting ongoing functions in the building during construction.
- E. Temporary Construction Fence: As part of project mobilization prior to the start of work on the site, the General Contractor shall install a secure perimeter job fence, maximum 30' from building face on all four sides. Type of Fence: Rolled 6' high Polyethylene mesh with driven stakes and metal chain link gates. The fence shall be maintained throughout the project and removed at the completion of the project.

1.02 Site Facilities & Control:

- A. Temporary Sanitary Facilities: The Contractor shall provide and pay for necessary temporary toilet facilities on site for use by project-related personnel during the period of the work. Facilities inside the building are not to be used by workers. Portable units shall be located discretely and replaced or cleaned regularly to prevent objectionable odors or other conditions offensive to the site.
- B. Telephone: Contractor shall provide telephone service to or cell phone at the work site for proper coordination and for communication with the Architect and others associated with the project.
- C. Temporary Site Maintenance: Contractor shall keep the work area free of snow, rain, ice, mud, and other such conditions which might adversely affect the work.

- 1.03 Upon completion of the work, the Contractor remove temporary facilities and repair any portions of the site affected by their installation to their original condition.

Section 01525 - Safety Requirements (General)

- 1.01 Unless otherwise specifically indicated as the responsibility of one, all Contractors shall:
- A. Insure that those portions of the job site affected by the work of their contracts are maintained at all times in such a way as to prevent injury or damage to all persons working on or visiting the premises, including related and personal property.
 - B. The General Contractor shall provide effective, accessible fire fighting equipment, specifically: one Tri-Class dry chemical fire extinguisher per 2000 sq. ft. or less of the job site. An additional extinguisher shall be provided by the applicable contractor or subcontractor for each crew using torches or other heat producing equipment. A designated operator shall supervise all such work in progress and shall maintain a fire watch for a minimum of two (2) hours after completion of such work, or shall use an approved infrared heat detector (pyrometer) to inspect the complete installation at end of each work day to confirm the absence of concealed fire danger. Maintain equipment in effective operating condition. The failure to use adequate shields during soldering, torch applications, or other such work will be considered gross negligence and may be grounds for dismissal of personnel in violation of this requirement from the project. If workers, or other persons subject to the control of the Contractor, are found in violation the Contractor may be fined \$100 by the Owner for each instance and each person in violation.
 - C. Provide appropriate construction helmets for use by all workers in areas where there is danger of head injuries from impact, flying or falling objects, or electrical shock. The General Contractor shall provide helmets for use by visitors.
 - D. Erect scaffolding and ladders in compliance with all applicable code and OSHA requirements and with full regard for life safety and protection of property.
 - E. Require that all workers wear protective equipment, goggles, hearing protection, respirators, etc. appropriate to the work they're performing or exposed to.
 - F. Secure the job site at the end of each work day and take all necessary precautions to insure that unauthorized persons cannot enter or otherwise cause damage. The General Contractor shall be responsible for general site security, though not for the negligence of other prime contractors or their subcontractors.
 - G. Ensure that all workers are thoroughly trained and competent to operate or use the equipment, tools, and products (including all levels of chemicals) selected or necessary for the execution of specific work scopes.
 - H. Maintain on-site complete information regarding First-Aid procedures including, within being limited to, cardio-pulmonary resuscitation and poison control treatments. Material Safety Data Sheets for all products on-site shall be available for inspection and use in emergencies and copies shall be sent to the Architect prior to the product's being delivered to the site.
 - I. Keep complete First-Aid materials on-site for temporary treatment of minor injuries.
 - J. Ensure that all workers on-site are capable of executing their assigned duties safely and competently, and that they are not under the influence of any debilitating drugs or chemicals, whether legally obtained and consumed or not.
 - K. Ensure that smoking and tobacco products (including cigarettes, cigars, pipes, chewing tobacco, etc.) are not permitted within the building or on the site. If workers, suppliers, subcontractors, or other persons subject to the control of the Contractor are found to be smoking in violation of this article the Contractor may be fined \$100 by the Owner for each instance and each person in violation.
 - L. Ensure that safe access to the entire site shall be maintained at all times for fire fighting or emergency vehicles and personnel.
 - M. Within seven days prior to the start of work, inspect the project site with the local code enforcement officer and representative of fire department having jurisdiction to review proposed work and construction operations to ensure that both agencies are familiar with and approve of site conditions.
 - N. Upon request, submit copies of all OSHA requirements applicable to the work of this

project. The Owner shall maintain the right to request OSHA inspection of the project and work in progress at any time.

- O. Provide all bracing and shoring, and any other necessary procedures, for complete protection during the entire period of this contract for the building, the site, all workers, visitors to the site, and the public at large. Re-evaluate bracing and shoring for all different phases of work or whenever site circumstances change in any way which could affect stability of existing systems or protection.

1.02 Responsibility for Jobsite Safety:

- A. Neither the activities of the Architect, Owner, or their agents nor the presence of their employees or consultants shall relieve the Contractor of his or her obligations, duties, and responsibilities including, without being limited to, construction means, methods, sequence, techniques, or procedures necessary for performing, superintending or coordinating all portions of the Work in accordance with the contract documents and any health or safety precautions required by any regulatory agencies having jurisdiction.
- B. The Contractor is responsible for jobsite safety as indicated, and this intent is made a part of the Owner's agreement with the Contractor.

- 1.03 All means, methods, scheduling and sequencing of work shall be the responsibility of the Contractor. Shoring and temporary support of structure and any engineering costs associated with it to facilitate completing the work of this contract are the responsibility of the Contractor.

Section 01530 - Hazardous Materials (General)

- 1.01 The Architect's contractual agreement for this project specifically does not include or imply the provision of services related to the identification, abatement, removal, or treatment of asbestos, asbestos-containing products or processes, lead containing materials or products, or any products or processes considered to be hazardous by any private or governmental agencies.
- The Architect may participate in discussions relating to such work only with regard to the possible impact on the work and services specifically included in the Architect's contract for services, and shall not have or be considered to have any responsibility or authority to make determinations or decisions, or to offer suggestions or issue directives relating to any hazardous or possibly hazardous materials or procedures.
- 1.02 In the event that the Contractor encounters unanticipated asbestos or products containing asbestos, products thought to contain asbestos, or any other forms of hazardous or potentially hazardous materials on or about the project site not previously identified and included in the work of the project he shall remove all persons from the property immediately without disturbing these products and shall notify the Owner and the Architect.
- 1.03 Except as specifically noted, the work of this project does not specifically require full abatement of paint or other finishes or products containing lead. The Contractor shall, however, assume that unless otherwise identified most paints and finishes in and around the building contain lead and shall take all appropriate and required precautions to minimize lead dangers to the public, the building's occupants, and all workers and suppliers associated with the work.
- 1.04 The work of this project may involve contact with and removal of miscellaneous bird or animal wastes. The Contractor shall be responsible for all such work, which may be included specifically in the project scopes, observed in the course of pre-bid site visits, or reasonably inferred from the general nature of the project and building conditions. All such contact and removals shall be included in the project scope and shall be undertaken in compliance with applicable standards for worker safety and protection of the public.
- 1.05 Refer also to concerns associated with mold as described in Section 01600.

Section 01580 - Temporary Project Signs

- 1.01 Temporary Project Identification Sign: If provided by the Owner, the General Contractor shall

- erect a project sign with appropriate support at the Owner's direction. Upon completion of the work, the General contractor shall remove the sign and support and deliver them to the Owner.
- 1.02 Architect's Sign: Prior to the start of construction, the General Contractor shall erect sign if provided by the Architect. Maintain sign during period of work and upon completion of the work, remove sign and return intact to the Architect.
- 1.03 Temporary "No Smoking" Signs:
- A. Prior to the start of construction, the General Contractor shall place temporary "NO SMOKING" signs around the project site.
 - B. Signs shall be of size, design, and quantity necessary to ensure compliance with Section 01525 - Safety Requirements.
 - C. Do not damage building elements or site features.
 - D. Maintain signs during work, remove upon completion.
- 1.04 Temporary Safety Signs: As required by law or by good safety practices.
- 1.05 Other Signs: Except as otherwise specifically approved by the Architect or directed by the Contract Documents, do not permit other signs or advertising on the job site.
-

Section 01600 - Materials & Property Protection

- 1.01 All materials shall be protected before, during, and after installation from loss or damage and, in the event of such loss or damage, shall be replaced or repaired by the Contractor at no additional cost to the Owner. Temporary enclosures shall be constructed and heated or otherwise maintained as necessary to protect work in place or in progress.
- 1.02 The protection from damage or discoloration of all existing or new building elements (including landscape and site features) and finishes shall be the responsibility of the General Contractor during the construction period and until turn-over to the Owner is complete. Unless responsibility for such damage can be directly attributed to another contractor (who shall then be responsible for its correction as noted below), any damage to the building or the site shall be repaired or replaced by the General Contractor to the satisfaction of the Owner at no additional expense to the Owner. In the event that any contractor exhibits negligence or lack of skill in causing the damage noted, the Owner reserves the right to undertake necessary repairs or replacement by other means and to charge to cost of this work to the contractor. Particular care shall be taken with the temporary protection of roofing and related areas, which may become exposed to the weather during the course of the work.
- 1.03 Particular attention shall be paid to the potential for mold and other organic growth due to latent dampness. Mold can cause damage to health and property. The Contractor shall not cover over moist conditions or incorporate damp materials into the work.
- 1.04 Materials stored on-site or during removal shall be so located as to avoid damage to the materials or the property, particularly with regard to spot overloading, and shall not interfere with the general construction, life safety, or emergency access.
-

Section 01700 - Contract Closeout & Guarantee

- 1.01 Completion & Final Payment:
- A. Contractor shall carefully verify that all work has been completed properly as required before requesting Architect's inspection. If necessary, Architect will prepare a punchlist of unacceptable work or corrections necessary before final approval. The Architect shall not be required to "punchlist" work that is not complete or until the Contractor has satisfied the requirements indicated. If a punchlist is requested for work that has not been properly reviewed by the Contractor and is not completed properly, the Contractor may be subject to additional services charges in accordance with Section 01040-1.06.
 - B. Upon completion of punchlist items, Contractor shall request final inspection by the Architect and shall submit completed "Release of Liens and Waiver of Claims", "Contractor's Warranty", "Consent of Surety to Final Payment," and other forms as may

be required. Affidavits may also be required from subcontractors and suppliers, particularly when the possibility of disputes is known to exist. All such forms must indicate "No exceptions" and, unless otherwise addressed in the agreement for subcontractor or supplier services, it may be necessary for the Contractor to make full payment to subcontractors and suppliers in advance of receiving final payment or retainage in order to secure these forms. When all work is completed as per Contract Documents, the Architect shall authorize payment for balance of contract amount.

- C. Completion and Final Payment procedures shall include satisfaction of all requirements and approval by the Owner's designated representative.
 - D. Upon satisfactory completion of all work, submission of all required materials, and approval of work and submissions by the Owner and the Architect, a Certificate of Final Project Completion will be executed.
- 1.02 Project Close Out: Prior to Final Project Completion, Contractor shall deliver to the Architect three (3) clean copies of all permits, approvals, Certificates of Occupancy, revised detailed list of subcontractors and supplies, waste disposal documentation (as applicable), product data, material information, assembly, or equipment data, warranty information, and operating instructions, complete, fully labeled, and assembled neatly in a notebook in an organized fashion for delivery to the Owner.
- 1.03 Warranty & Guarantee:
- A. The Contractor shall submit the completed Contractor's Warranty form. The Owner shall not be obligated to accept portions of the work in advance of final project completion if there is a reasonable chance that the work, including equipment and systems, will be used during the balance of the construction period and/or might suffer damage during this time.
 - B. Neither the Certificate of Final Project Completion nor Final Payment nor any provision in the contract shall relieve the Contractor of responsibility as described in this Section. All work must be completed in accordance with the Contract Documents, except as may be altered or deleted by appropriate, legal change order or Architect's directives. Failure of the Architect or Owner to detect errors or omissions in the work at any stage of the project or any time afterwards does not relieve the Contractor from the responsibility for executing this work properly.
 - C. The Contractor's warranty shall be provided in addition to manufacturer's standard warranty on specific materials or assemblies.

Section 01710 - Project Maintenance & Cleanup

- 1.01 All cleaning material and equipment shall be selected and used with care to avoid marring, defacing, or discoloring any building features, materials, or finishes. The Contractor shall bear responsibility for damage resulting from improper cleaning.
- 1.02 Debris shall be removed from the building using chutes and other devices to limit danger or damage. Under no circumstances shall debris, trash, excess materials, etc. be thrown from one level to another within or outside of the building.
- 1.03 Periodic Cleaning: The General Contractor shall keep the site generally free from accumulation of waste matter or rubbish at all times. In addition, all prime contractors shall be responsible removal of debris and for cleaning relative to the work of their contracts. Particular attention is called to the need for clean, dust-free conditions when painting or finishing and for potential damage to unprotected equipment in the course of sanding drywall or plaster.
- 1.04 Final Cleanup: Upon completion of the work the General Contractor shall undertake a final cleaning and leave the property ready for use and occupancy without the need of further cleaning.

END

SECTION 02070 - SELECTIVE REMOVALS

Part 1 - General

1.01 General Conditions

- A. The work of this Section is subject to all provisions of the General Conditions, all Division One requirements, and the requirements of all other materials included in the Contract Documents. All Contractors are advised to review these materials carefully.

1.02 Scope

- A. Work Included: Refer to Project alternates and drawings. Materials and finishes tested and identified in the winter of 2014-15 to be contaminated will be removed by others and are not included in the work of this Section. Window removal is not included in general demolition. It is included in window work.

1.03 Job Conditions

- A. Demolition, as noted, includes complete removal of existing materials and disposal off site of all such materials unless otherwise specifically noted for salvage. Salvaged materials, if designated, shall be removed in a manner to minimize damage and shall be stored on site as directed by the Owner.
- B. Materials, finishes and items to be removed include but are not limited to the following:
- Suspended grid false ceilings
 - Plaster board
 - Rigid insulation
 - Fiberglass insulation
- Basement, Kitchen and Bathroom are N.I.C.
- C. The existing window frames, sash and trim shall be removed by others and are not included in the work of this Section.
- D. All penetrations of exterior walls or other surfaces left by removals shall be secured and insulated temporarily under individual contract scopes to prevent intrusion and weather damage until addressed by general construction work.
- E. The Contractor shall carefully protect all parts of the present structure and equipment to remain from any and all damage. Provide temporary barricades and other forms of protection as required to protect the Owner's personnel and the general public from injury due to selective demolition work. Maintain all required means of egress. Remove barricades and other protective devices upon completion of work. Refer to Division One.

Part 2 - Products - Not used.

Part 3 - Execution

3.01 Inspections

- A. Inspect structure prior to start and notify Architect in writing of conditions detrimental to the execution of the work. Photograph existing damage which could be misconstrued as resulting from the work. Label and date photos and give to Architect prior to starting work.
- B. During limited removals, continuing inspections shall be made by Contractor's designated representative. Cease operations and notify the Architect immediately if safety of structure appears to be endangered. Take precautions to support structure until determination is made of continuing operations. Persons shall not be permitted to work where such hazards exist until appropriate protection has been provided.

3.02 Identification & Disconnection of Utilities

- A. Contractor shall determine that all utilities and services have been located, disconnected and capped (as necessary) in accordance with applicable regulations and utility authorities having jurisdiction before general demolition starts. Heating, plumbing and electrical systems shall be maintained and protected in place.
- B. Contractor shall be responsible for payment of any fees or charges for the disconnection and capping of services associated with the work.

3.03 Preparation: The Contractor shall:

- A. Provide shoring, bracing, support and engineering as necessary to prevent movement, settlement or failure during demolition process.
- B. Protect from damage all existing finish work that is to remain in place and become exposed during demolition operations.
- C. Erect and maintain dust-proof partitions and closures, including temporary closure of windows in coordination with Owner, if necessary to prevent spread of dust or fumes.

3.04 Execution

- A. Contractor shall ensure that transportation of debris from the project not create a nuisance, safety hazard, or environmental concern. Dirt or debris falling from vehicles in transit shall be cleaned up the same day and immediately if it presents any form of hazard. If cleanup procedures are deemed inadequate or untimely, the Owner may undertake cleanup by alternative means and deduct the costs from any amounts owed the Contractor under the terms of this Contract.
- B. If unanticipated conditions are encountered, the Contractor shall investigate and assess their nature and extent, and shall report to the Architect in written detail. The Architect shall consider alternative action, obtain cost estimate from the Contractor for possible changes in the work, or issue other directions to overcome the obstacle and keep work progressing.
- C. Debris resulting from this work may not be stored or accumulated on the site except in a dumpster as approved by the Owner. Any debris the Contractor fails to remove promptly from the site around the building may be removed by the Owner at the expense of the Contractor.
- D. Debris shall not be stored within the building, even briefly, so as not to overload structural systems or otherwise create a cluttered or unsafe condition.

3.05 Removal of Debris

- A. Debris not approved for use as fill shall be transported by the Contractor to an approved legal landfill. Burning of debris or other materials on site will not be permitted.
- B. Contractor shall pay all costs required for and associated with legal disposal of project debris including transportation of debris to the landfill.
- C. Upon request, the Contractor shall submit signed receipts from all landfills or other disposal sites for all debris associated with the work of this contract.

3.06 Cleaning

- A. Conduct cleaning operations in compliance with Section 01710.

END

SECTION 073200 - ROOF TILE

Part 1 - General

1.01 Section Includes

- A. Clay roof tile.
- B. Fasteners.
- C. Underlayment.
- D. Flashings and Counterflashings.
- E. Roof gutter.

1.03 References

- A. ASTM B 370 – Standard Specification for Copper Sheet and Strip for Building Construction.
- B. ASTM B 749 – Standard Specification for Lead and Lead Alloy Strip, Sheet, and Plate Products.
- C. ASTM C 387 – Standard Specification for Packaged, Dry, Combined Materials for Mortar and Concrete.
- D. ASTM C 887 – Standard Specification for Packaged, Dry, Combined Materials for Surface Bonding Mortar.
- E. ASTM C 920 – Standard Specification for Elastomeric Sealants.
- F. ASTM C 1167 – Standard Specification for Clay Roof Tiles.
- G. ASTM D 226 – Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
- H. ASTM D 1970 – Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
- I. ASTM D 2626 – Standard Specification for Asphalt-Saturated and Coated Organic Felt Base Sheet Used in Roofing.
- J. ASTM D 4586 – Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- K. SMACNA Architectural Sheet Metal Manual: Sheet Metal and Air Conditioning Contractors' National Association, Inc.

1.04 Submittals

- A. Submit under provisions of Section 013000.
- B. Product Data: Manufacturer's descriptive literature for products specified in this section.
- C. Shop Drawings: Indicate the following:
 - 1. Roof tile:
 - a. Exposure pattern.
 - b. Locations and configurations of special shapes.
 - c. Locations and configuration of each type of roof flashing.
- D. Selection Samples: Two sets of color charts or samples representing manufacturer's full range of available colors.
- E. Verification Samples: Three full-size tile samples of each type tile specified, representing actual color and finish of products to be installed.

- F. Manufacturer's printed installation instructions for each product, including product storage requirements.
- G. Closeout Submittals: Warranty documents, issued and executed by tile manufacturer, countersigned by Contractor.

1.05 Quality Assurance

- A. Installer Qualifications: Company specializing in installing roofing of the type specified in this section, with not fewer than ten years of documented experience.
- B. Mock-Up:
 - 1. Construct mock-up using materials specified in this section.
 - 2. Construct mock-up at southeast or southwest hipped corner of kitchen wing roof, size 3 feet by 3 feet. Provide and document calibrated pull out tests for all concrete roof planes per tile manufacturer's recommendations.
 - 3. Obtain Architect's acceptance of mock-up before beginning construction activities of this section; accepted mock-up will be standard by which completed work of this section is judged.
 - 4. Accepted mock-up may remain as part of the Work.
- C. Pre-Installation Meeting:
 - 1. Convene at job site seven (7) calendar days prior to scheduled beginning of construction activities of this section to review requirements of this section.
 - 2. Require attendance by representatives of the following:
 - a. Installer of this section.
 - b. Other entities directly affecting, or affected by, construction activities of this section.
 - 3. Notify Architect eight (8) calendar days in advance of scheduled meeting date.

1.06 Delivery, Storage, and Handling

- A. Store products of this section in manufacturer's unopened packaging until installation.
- B. Maintain storage area conditions for products of this section in accordance with manufacturer's instructions until installation.

1.07 Warranty

- A. Product Warranty:
 - 1. The clay roof tile manufacturer shall provide a 75-year warranty guaranteeing material integrity and color fastness for roof tile.
- B. Special Warranties:
 - 1. Roofing Contractor Warranty: The Contractor warrants products of this section, as installed, to be in accordance with the Contract Documents and free from faults and defects in materials and workmanship for a period of 5 years. Combine special warranty of this section with products, as installed.

1.08 Extra Materials

- A. Provide an additional quantity of roof tile matching tile installed, in the amount of 3 percent of the total installed, but not less than one full carton, for Owner's use in roof maintenance.

Part 2 – Products

2.01 Manufacturers

- A. Manufacturing facility shall be located in the United States.
- B. Manufacturer shall have been in continuous operation for over 100 years.
- C. Manufacturer shall be ISO 9000 certified and meet Cradle to Cradle specifications.
- D. Acceptable Tile Manufacturer: Ludowici Roof Tile; PO Box 69, 4757 Tile Plant Road, New Lexington, OH 43764. Tel: (800) 945-8453. Email: info@ludowici.com. www.ludowici.com.
- E. Requests for substitution will be considered in accordance with provision of Section 016000.
- F. Unless otherwise specified for an individual product or material, supply all products specified in this section from the same manufacturer.

2.02 Clay Roof Tile

- A. Roof Tile – General: Incombustible, vitrified tile manufactured from shale and fire clays, having less than 2.0 percent moisture absorption when tested in accordance with ASTM C 67, and meeting Grade 1 freeze/thaw resistance requirements when tested in accordance with ASTM C 1167.
 - 1. Color: Standard color Santiago Rose
- B. Spanish Clay Roof Tile Type
 - 1. Acceptable product: 13-1/4" Spanish.
 - a. Profile: Spanish tile is a one-piece barrel design that provides a pattern of distinctive ripples across the roof.
 - b. Nominal size: 9.75 inches wide by 13.25 inches long.
 - c. Average exposure: 8.25 inches wide by 10.25 inches long.
 - 2. Accessory tile pieces required:
 - a. Hip tile
 - b. Ridge tile
 - c. Eave tile
 - d. End band tile (half tiles)
 - e. Hip starter tile (with flat termination)
 - f. Hip Ridge Terminal with Ball Top (custom)
 - g. Hip 4-way Finial with Ball Top
 - h. Flat Top tile

2.03 Accessory Materials

- A. Underlayment: 2 layers of 30 lbs/sq ASTM D 2626, Type II asphalt-saturated organic felt.
- B. Lastobond Pro HT (ice & water membrane).
- C. Wood Strapping and Stringers: ACQ pressure-treated maximum 19 percent moisture content, nominal 1 inch (25 mm) thick, of height required to support tile; nominal 2 inch thick, of height required to support ridge and hip tile. Miscellaneous nailers and cant strips: ACQ treated.
- D. Flashing: 16 oz/sq. ft, 0.56 mm thick ASTM B 370 cold rolled copper.
- E. Tile Fasteners: Stainless steel types and sizes specified in manufacturer's instructions for indicated uses and as supplied by Ludowici.
- F. Copper Wire: 18 gage (1.2 mm) minimum.

- G. Cement Mortar for Setting Tile: 1 part Portland cement mortar ASTM C 270 Type M and 4 parts sand.
- H. Grout for Finishing Rake and Eave Edges:
 - 1. Mix the following materials in equal parts:
 - a. Factory-mixed mortar meeting requirements of ASTM C 387, Type N
 - b. Factory-mixed surface bonding mortar meeting requirements of ASTM C 887.
 - 2. Add mineral oxide pigment to match color of roof tile.
 - 3. Add water and acrylic additive in accordance with mortar materials manufacturer's instructions to obtain correct mix for workability.
- I. Sealant Used in Lieu of Flashing Cement: ASTM C 920 silicone; provide one of the following:
 - 1. Dow Corning 790 Silicone Building Sealant.
 - 2. GE SilProof
- J. Screws for wood strapping and stringers to concrete deck: Corrosion resistant hardened steel; minimum 3/8 inch (9.5 mm) head diameter; shank of minimum 11 gage (3 mm) diameter and length sufficient to penetrate 1-1/4 inch into concrete deck: Phillips flat-head TapCon, set-flush, compatible with ACQ lumber.
- K. Fasteners for tile: As supplied by tile manufacturer for specific conditions.
- L. Adhesive: OSI Pro-Series RT-600 Roof Tile Adhesive.
 - 1. Do not expose to ultraviolet rays.
 - 2. Do not allow direct contact with waterproofing shingle underlayment.

2.04 Flashing Fabrication

- A. Form flashing to profiles indicated on drawings, to match historic step flashing and as required to protect roofing materials from physical damage and shed water and in accordance with tile manufacturer's instructions for indicated project conditions.
- B. Form sections square and accurate in profile, in maximum possible lengths, free from distortion or defects detrimental to appearance or performance.
- C. Provide soldered 20 oz. copper boot flashing for plumbing vent roof penetration. Install in accordance with tile manufacturer's recommendations. Submit shop drawing for approval.

2.05 Gutter Gutter & straps shall be by Berger Bros Co. or approved equal (800)523-8552

- A. Gutter: SMACNA Plate Number 1-3A, 5" diameter 20 oz copper half-round single bead gutter, pitched per drawings, with end cap at high end, open at low end with 90° bend at outfall.
- B. Downspouts: none required
- C. Hangers:
 - 1. Base Contract: Copper #10 Combination Circle and Shank with Spring Clip at 16" o.c. Fasten to edge of concrete roof deck. Do not drill stone facings.
 - 2. Under Alternate 3: Copper Regal Bar Hangers at 16" o.c.
- D. Splash Stone: Provide local natural, irregular splash stone on grade at outfall of gutter, min. 18" x 18".

Part 3 - Execution

3.01 Examination

- A. Verify that roofing penetrations and plumbing stacks are in place and properly flashed to deck surface.
- B. Verify that roof openings are correctly framed.
- C. Verify that deck surfaces are dry and free of ridges, warps, and voids.

3.02 Preparation

- A. Removal of existing tile and flashings is to be accomplished by others. Repair concrete and roof deck using Quikrete Concrete Patching Compound or equivalent in accordance with manufacturer's instructions.
- B. Comply with tile manufacturer's recommendations on preparation of acceptable roof deck.
- C. Broom clean deck surfaces prior to installation of underlayment, strapping and stringers.

3.03 Underlayment and Accessory Installation

- A. Underlayment:
 - 1. Beginning at eave edge, install perpendicular to roof slope; extend minimum of 4 inches (100 mm) over gutters and valley flashing, and minimum 6 inches (150 mm) up abutting vertical surfaces.
 - 2. Overlap side joints minimum 2-1/2 inches (64 mm); overlap end joints minimum 6 inches (150 mm).
 - 3. Install second layer parallel to first layer, maintaining specified overlap at gutters, valley flashings, and at side and end joints; locate side joints minimum 18 inches (457 mm) from first layer side joints, and locate end joints minimum 12 inches (300 mm) from first layer end joints.
 - 4. Install additional layer on rough surfaces; install additional layer of full-width underlayment parallel to and centered on hips, ridges, and valleys.
 - 5. Fasten sides and ends to deck with fasteners spaced at maximum 6 inches (150 mm) on centers.
- B. Install flashing at all locations where roof intersects other roofs, sidewall or parapet walls, chimneys, ventilators, and similar projections, and at gable edges.
- C. Valley Flashings:
 - 1. Install minimum 24 inch (610 mm) wide flashing over full-width waterproofing membrane material; fasten metal to deck with cleats.
 - 2. Overlap end joints minimum 5 inches (127 mm); do not solder joints.
 - 3. Lap underlayment over edges of flashing 4 inches (100 mm).
 - 4. Install flashing full-width waterproofing membrane material.
- D. Intersections of Roof Surfaces and Abutting Vertical Surfaces:
 - 1. Install continuous 12 inch (304 mm) wide strips of waterproof membrane material to extend 9 inches (228 mm) across roof deck and 3 inches (76 mm) up vertical surface.
 - 2. Install continuous metal flashing to extend 3 inches (76 mm) up vertical surface.
 - 3. At locations where vertical surface will abut top edge of tile, install metal flashing to extend 3 inches (76 mm) up vertical surface, form metal flashing to extend minimum 3 inches (76 mm) over tile, and form 1/2 inch (12 mm) return hem at edge of metal.
 - 4. Form saddle flashings for protrusions through roof in accordance with manufacturer's instructions.

- E. Fabricated Sheet Metal Items: Install in accordance with shop drawings and SMACNA ASMM. Install eaves trough over kitchen door on strap hangers.
- G. Cant Strip: Install nominal 3/8 inch by 4 inches (10 mm by 100 mm) pressure-treated wood cant strips directly over roof deck at eaves.
- H. Nailers: Install nominal 1 inch by 2 inches by 48 inches (25 mm by 50 mm by 1220 mm) pressure-treated wood nailers as detailed at ridge and hips, directly over underlayment. Protect with additional layer of WinterGuard before installing hip and ridge accessory.

3.04 Tile Installation

- A. Install tile roofing in strict conformance with manufacturer's instructions. Overhang of tile at eaves should be not less than ¾ inch (19 mm) and not more than 2 inches (51 mm). This dimension should be related to the size of gutters and should either be shown on the drawings or specified here.
- B. Install first course over cant strip, with overhang.
 - 1. Do not drive fasteners tightly against tiles, to reduce risk of breakage and to allow natural deck movement.
 - 2. Allow tile to "hang" on its fasteners.
 - 3. Provide ¾ inch to 2 inches overhang, permitting proper drip and flow into gutters.
- C. Install each subsequent course with maximum exposure in each course of 10.25 inches. Wet cut tile at hips and valleys, using masonry saw with diamond blade.
- D. At hip and ridge, and on mansard roofs, install bead of adhesive at butt end of each tile, located so it is completely concealed. Install sealant as required at hip and ridge accessories to achieve watertight installation.

3.05 Protection

- A. Do not permit traffic over finished roof surface unless absolutely necessary.
- B. Minimize traffic over finished roof surface. If necessary, wear soft-soled shoes and walk on the "butt" of the tile in order to avoid breakage.
- C. Replace tile broken due to improper protection or traffic control.

END

SECTION 085213 - ALUMINUM CLAD ULTIMATE CASEMENT/AWNING COLLECTION

Part 1 - General

1.01 Section Includes

- A. Removal of existing windows to accommodate installation of new clad windows
- B. Installation of temporary 1/2" thick plywood panels painted flat black in each window removal location
- C. "Casements": Aluminum Clad Wood Ultimate Casement Crank Out: Operators and Stationary units complete with hardware, glazing, weather strip, removable insect screen, leaded coming grilles, jamb extension, and standard or specified anchors, trim and attachments
- D. "Transoms": Aluminum Clad Wood Ultimate Casement Polygon (Stationary Units only) units complete with glazing, weather strip, leaded coming grilles, jamb extension, and standard or specified anchors, trim and attachments

1.02 Related Sections (Sections referred to herein are Marvin's standard specifications)

- A. Section 01 33 23 – Submittal Procedures; Shop Drawings, Product Data and Samples
- B. Section 01 62 00 – Product Options
- C. Section 01 65 00 – Product Delivery
- D. Section 01 66 00 – Storage and Handling Requirements
- E. Section 01 71 00 – Examination and Preparation
- F. Section 01 73 00 – Execution
- G. Section 01 74 00 – Cleaning and Waste Management
- H. Section 01 76 00 – Protecting Installed Construction
- I. Section 06 22 00 – Millwork: Wood trim other than furnished by window manufacturer
- J. Section 07 92 00 – Joint Sealant: Sill sealant and perimeter caulking
- K. Section 09 90 00 – Painting and Coatings: Paint and stain other than factory applied finish

1.03 References

- A. American Society for Testing Materials (ASTM):
 - 1. E 283: Standard Test method for Rate of Air Leakage through Exterior Windows, Curtain Walls and Doors
 - 2. E 330: Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls and Door by Uniform Static Air Pressure Difference
 - 3. E 547: Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Cyclic Static Air Pressure Differential
 - 4. E 2190: Specification for Sealed Insulated Glass Units
 - 5. C 1036: Standard Specification for Flat Glass
 - 6. F 2090-10: 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):
1. AAMA/WDMA/CSA 101/I.S.2/A440-05 Standard/Specification for Window, Skylights and Doors
 2. AAMA/WDMA/CSA 101/I.S.2/A440-08, NAFS – North American Fenestration Standard/Specification for Windows, Doors and Skylights
 3. AAMA/WDMA/CSA 101/I.S.2/A440-11, NAFS 2011 – Northern American Fenestration Standard/Specification for Windows, Doors and Skylights
- C. WDMA I.S.4: Industry Standard for Water Repellent 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):
1. 101: Procedure for Determining Fenestration Product thermal Properties
 2. 200: Procedure for Determining Solar Heat Gain Coefficients at Normal Incidence

1.04 System Description

- A. Design and Performance Requirements:

Product	Air Tested to psf	Water Tested to psf	Structural Tested to psf	Certification Rating	DP	Max Overall Width	Max Overall Height
Aluminum Clad Ultimate Casement (Full Frame and Replacement)	1.57	7.5	75	CW-PG50-C	50	36"	96-1/8"
Aluminum Clad Ultimate Casement (Full Frame and Replacement)	1.57	7.5	75	LC-PG50-C	50	40"	92"
Aluminum Clad Ultimate Awning (Full Frame and Replacement)	1.57	7.5	75	CW-PG 50-AP	50	48"	47-1/8"
Aluminum Clad Ultimate Awning (Full Frame and Replacement)	1.57	7.5	75	LC-PG50-AP	50	56"	47-1/8"
Aluminum Clad Ultimate Awning (Full Frame and Replacement)	1.57	7.5	75	LC-PG50-AP	50	72"	63-1/8"
Aluminum Clad Ultimate Casement Picture (Full Frame)	1.57	7.5	75	CW-PG50-FW	50	72"	71-1/8"
Aluminum Clad Ultimate Casement Picture (Full Frame)	1.57	7.5	75	CW-PG50-FW	50	88"	96-1/8"
Aluminum Clad Ultimate Casement Picture (Full Frame and Replacement)	1.57	10.5	75	AW-PG50-FW	50	60"	99"

Aluminum Clad Ultimate Casement Picture (Full Frame and Replacement)	1.57	7.5	75	CW-PG50-FW	50	64"	96-1/8"
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Product	Air Tested to psf	Water Tested to psf	Structural Tested to psf	Certification Rating	Design Pressure (DP)	Max Overall Width	Max Overall Height
Aluminum Clad Ultimate Casement Polygon Stationary (Full Frame and Replacement)	1.57	7.5	75	CW-PG50-FW	50	64"	96-1/8"
Aluminum Clad Ultimate Casement Polygon Stationary (Full Frame)	1.57	7.5	75	CW-PG50-FW	50	72"	71-1/8"
Aluminum Clad Ultimate Casement Polygon Stationary (Full Frame)	1.57	7.5	75	CW-PG50-FW	50	88"	96-1/8"

Product	Air Tested to psf	Water Tested to psf	Structural Tested to psf	Certification Rating	Design Pressure (DP)	Max Overall Width	Max Overall Height
Aluminum Clad Ultimate Casement Venting Picture	1.57	7.5	60	LC-PG40-AP	40	40"	71-1/8"
Aluminum Clad Ultimate Casement Venting Picture	1.57	7.5	60	LC-PG40-AP	40	40"	96-1/8"
Aluminum Clad Ultimate Casement Venting Picture	1.57	7.5	60	LC-PG40-AP	40	48"	71-1/8"
Aluminum Clad Ultimate Casement Venting Picture	1.57	7.5	60	LC-PG40-AP	40	72"	47-1/8"
Aluminum Clad Ultimate Casement Venting Picture	1.57	7.5	60	LC-PG40-AP	40	72"	71-1/8"

1.05 Submittals

- A. Shop Drawings: Submit shop drawings under provision of Section 01 33 23
- B. Product Data: Submit catalog data under provision of Section 01 33 23
- C. Samples:
 1. Submit corner section under provision of section 01 33 23
 2. Include glazing system, quality of construction, lead coming and specified finish
- D. Quality Control Submittals: Certificates: submit manufacturer's certification indicating compliance with specified performance and design requirement under provision of section 01 33 23

1.06 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
4. Safety glazing requirements

1.07 Delivery

- A. Comply with provisions of Section 01 65 00
- B. Deliver in original packaging and protect from weather

1.08 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 Section 01660

- 1.09 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

2.01 Manufactured Units

- A. Description: Factory-assembled Aluminum Clad Ultimate Casement, operating exterior swing window on Casement (stationary units) as manufactured by Marvin Windows and Doors, Warroad, Minnesota.
- B. Description: Factory-assembled Aluminum Clad Ultimate Casement Polygon (stationary only) as manufactured by Marvin Windows and Doors, Warroad, Minnesota.

2.02 Frame Description

- A. Interior: Non Finger-Jointed Pine or finger-jointed core with non finger-jointed Pine veneer

1. Kiln-dried to moisture content no greater than twelve (12) percent at the time of fabrication
2. Water repellent preservative treated in accordance with WDMA I.S.4.
- B. Frame exterior aluminum clad with 0.050 inch (1.3mm) thick extruded aluminum
- C. Frame thickness: 1 3/16" (30mm)
- D. Frame depths for full frame units have 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.

2.03 Sash Description

- A. Interior: Non Finger-Jointed Pine or finger-jointed core with non finger-jointed Pine veneer.
 1. Kiln-dried to moisture content no greater than twelve (12) percent at the time of fabrication
 2. Water repellent 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 5/8" (41mm) and 1 7/8" (48mm) for full frame units.
- D. Stiles and Head Rails: 2 1/16" (52mm)
- E. Sash Option: Tall bottom rail: 3 9/16" (90mm)
- F. Interior Sash Sticking
 1. Standard: Ogee (to match existing)

2.04 Glazing

- A. Select quality complying with ASTM C 1036. Insulating glass SIGMA/IGCC certified to performance level CBA when tested in accordance with ASTM E 2190
- B. Glazing method: Insulating glass
- C. Glazing seal: Silicone bedding at interior and exterior
- D. Glass Type: Clear, Low E2 on #3 surface to accommodate lead coming on #1 and #2 surfaces. Provide tempered glass in locations where the Building Code of New York State requires safety glazing.

2.05 Finish

- A. Exterior: Aluminum clad. Fluoropolymer modified acrylic topcoat applied over primer. Meets or exceeds AAMA 2605 requirements.
 1. Aluminum clad color options: Medium Bronze
- B. Interior Finish options:
 1. Prime: Factory-applied enamel primer. Available on Pine product only.
 2. Painted Interior Finish: Field applied. Color to be determined.

2.06 Hardware

- A. Casement operating hardware (Casement Push Out):
 1. Hinges: One at the sill to bottom rail, one at the head jamb to top rail. Hinges are steel coated with E-Gard™. Hinge track is stainless steel. Units with a frame OM of 20 inches and greater use an 18 inch wash/egress hinge to allow the sash to slide across the frame opening which causes the sash exterior to rotate towards the user for easy wash ability. Units under 20 inch

OM width use a standard 2 bar hinge which will position the sash when fully open to 90 degrees for the user to wash, but does not include the feature of sliding the sash across the opening and rotating the exterior toward the user.

2. The Push Out unit includes one friction limiter device to control the sash open position. The limiter includes adjustable friction via a screw adjustment. The limiter has multiple positions that can be locked to hold the sash firmly in place.
3. Locks: Are a multi-point sequential concealed locking system in jamb opposite the hinge side. Lock sets are removable and non-handed. Standard tie bar, cams and keepers are steel coated with Eguard.

2.07 Weather Strip

- A. Weather strip at the frame is a hollow-foamed material bent around 90 degree corner to allow for seamless corner joints
 1. Color: Black
- B. Sash weather strip bulb shaped glass filled material
 1. Color: Black

2.08 Jamb Extension

- A. Jamb extensions shall be field-applied, as required to match existing jamb depths (depths may vary- confirm in field).
- B. Finish: Match interior frame finish

2.09 Insect Screen

- A. Crank Out
 1. Wood Screen Surround. Species and finish will match unit species.
 2. Screen mesh: Bright Bronze Wire

2.10 Lead Caming (Grilles)

- A. Factory applied by window manufacturer to #1 and #2 glass surfaces
- B. Size: 12 mm wide lead caming
- C. Shape: Flat
- D. Pattern: Rectangular and curved per drawings. Custom lite layout.
- E. Exterior Color: Natural lead with soldered joints

2.11 Accessories and Trim

- A. Installation Accessories:
 1. Masonry brackets: 6" (152mm), 10" (254mm)

Part 3 - Execution

3.01 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.

3.02 Installation

- A. Comply with Section 01 73 00.
- 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. Do not use expansive foam sealant.
- D. Install accessory items as required.
- E. Use finish nails to apply wood trim and mouldings.

3.03 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 Section 01 74 00.

3.04 Protecting Installed Construction

- A. Comply with Section 07 76 00.
- B. Protecting windows from damage by chemicals, solvents, paint or other construction operations that may cause damage.

End of Section

SECTION 08625 - WINDOW RESTORATION

Part 1 - General

- 1.01 Related Documents:** The work of this Section is subject to all provisions of the General Conditions, all Division One requirements, and the requirements of all other materials included in the Contract Documents. All Contractors are advised to review these materials carefully.
- 1.02 Scope:** The extent of work under this section is shown on drawings and in the Project Work Scopes & Alternates.
- A. Work in this section generally includes all materials and labor for the following:
1. Remove sash; clean and oil ball tip hinges and latch for reuse. Protect openings.
 2. Restore frames and sills in place.
 3. Replace sash in Mahogany to match existing except deeper rebate to accommodate insulating glass.
 4. Glass to be insulated; soldered lead tape to be applied to the #1 and #2 surfaces per drawings.
 5. Install bronze weatherstripping; brass fastener and slide bolts; reinstall existing hinges and latches.
 6. Prime and paint sash, frames and sills.
- B. Related work specified in other sections includes:
1. Aluminum Clad Ultimate Casement/Awning Collection (085213).
- 1.03 Quality Assurance:**
- A. Installer: Work shall be executed by craftsmen with at least 3 years of prior successful experience in work equivalent to work in this section.
- B. Reference Standard: Preservation Brief No. 9: "The Repair of Historic Wooden Windows," by John H. Myers (U.S. Department of the Interior), available for inspection at the office of the Architect or online.
- C. Glazing Standard: Comply with recommendations of Flat Glass Marketing Association (FGMA) "Glazing Manual" and "Sealant Manual" except where more stringent requirements are indicated.
- 1.04 Submittals:** Shop Drawings: Submit shop drawings of work of this section showing installation details, caming patterns, construction and sealant.

Part 2 - Products

- 2.01 Window Repair Materials:** All materials to be appropriate for exterior use.
- A. Wood: Shall be select grade clear Mahogany and shall be dried to a moisture content of six to twelve percent before fabrication.
- B. Putty: Wood putty.
- C. Primer: Base house primer.
- D. Preservative: See Project Work Scopes & Alternates.
- 2.02 Glazing Materials:**
- A. Glass:
1. Insulating glass. See Project Work Scopes & Alternates.
- B. Glazing Putty: Standard grade, DAP 33.
- C. Glazing Points: Standard zinc glazer point.
- 2.03 Manufacturers:**
- A. Wood Window Workshop, 839 Broad Street/ Utica, NY 13501 (Tel. 800-724-3081) or

- approved equivalent.
- B. Architectural Components, Inc., 26 North Leverett Road/ Montague, MA 01351 (Tel. 413-367-9441) or approved equivalent.

Part 3 - Execution

- 3.01 General:** The Contractor shall give owner sufficient advance notice before beginning work and shall install temporary 1/2" thick plywood panels painted flat black in each window removal location.

3.02 Repair of Existing Wood Windows and Trim:

- A. Repair or rebuild all loose, rotted, cracked, broken, and missing sections of wood window frames and trim to match original shapes and sections, so that the windows are entirely sound and solid and all sash are fully operable.
- B. All holes shall be filled with wood putty.
- C. All wood burrs and loose wood debris shall be removed from window framing members as not to inhibit window operation.
- D. Prime coat and paint all new and repaired work on all surfaces.

3.03 Glazing and Cleaning Glass:

- A. Glaze new sash. Remove all paint, sealant or other stains from glass; where not practical replace with new glass. All final glass must be clean and without stains or spots.
- B. Install all glazing putty so that glazing putty is watertight and sound. Neatly shape new glazing putty to uniform continuous shape with tight bond to wood and glass.
- C. The glass should be of the thickness recommended by its manufacturer for the size and loading of the opening to be glazed, and should meet safety glazing requirements where applicable.
- D. Install the glass with a sufficient number of clips or points to hold the glass in place without the glazing compound. This can usually be accomplished by spacing the clips approximately every twelve inches (12") but in no case shall there be less than one clip on each side.
- E. Do not apply putty and glazing compounds when surface and ambient temperatures are below 4° C (40 ° F), because frost on the surface might inhibit adhesion.

* * * * *

END

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* * * * *

END

DRAWINGS

