SECTION 04425

MASONRY ASSEMBLY AND DISASSEMBLY

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Rebuild fireplace using salvaged brick.

B. Point reassembled brick masonry.

1.2 RELATED SECTIONS

1.3 QUALITY ASSURANCE

A. Intent: It is the intent of this section to reassemble brick fireplace to match configuration prior to disassembly as closely as possible.

B. Contractor Qualifications: Work to be performed by a Contractor having not less than five (5) years documented experience in comparable masonry restoration projects and employing personnel skilled in the restoration processes involving brick masonry construction. Submit qualifications of all personnel scheduled for work on this project. All work to be performed by persons whose qualifications have been submitted.

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Shop Drawings:

1. Submit to-scale shop drawings showing configuration of rebuilt fireplace. Include information on brick bond and joint width.

D. Samples

1. Mortar Samples: Contractor shall submit cured samples, 5 inches by 5 inches by 1 inch, of all pointing mortars for Stanford University State's Representative's review of color and texture. Pointing and pointing mortars are to match exactly sound original existing mortar as identified by State's Representative.

2. Bricks: Submit new brick to match existing. This will be used in the event that breakage during disassembly occurred. New bricks, to the extent possible, are to be used at hidden locations.

1.5 JOB CONDITIONS

A. Protect adjacent surfaces from damage and soiling from masonry assembly activities.

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to Project Site in undamaged condition

B. Store and handle brick and related materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, breakage, chipping, or other causes.

PART 2 - PRODUCTS

2.1 GENERAL

A. Source of Materials: Obtain materials for masonry work from a single source for each type of material required to ensure match of quality, color, texture and general appearance.

2.1 MORTAR MATERIALS

A. Portland Cement: ASTM C 150, Type I, low alkali of natural color or white as needed to produce color indicated.

B. Hydrated Lime: ASTM C 207, Type S.

C. Aggregate: ASTM C 144 and as indicated below:

1. For pointing mortar, use aggregate graded with 100 percent passing the No. 16 sieve.

D. Colored Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes. Use only pigments with record of satisfactory performance in brick mortars. An exact color match with existing will be required. If possible, match color of existing mortar without the use of pigments. Use pigments only if necessary to achieve an exact match.

E. Water: Clean, non-alkaline, and potable.

2.2 BRICK

A. Brick to match existing as closely as possible in terms of size, color and texture, as approved during submittal process.

B. Salvaged existing brick.

2.3 MORTAR MIXES

A. General:

1. Measure and Mixing: Measure cementitious and aggregate material in a dry condition by volume or equivalent weight. Do not measure by shovel. Mix materials in a clean mechanical batch mixer.

2. Mortar shall be mixed in an approved type power operated batch mixer. Mixing time shall be such as to produce a plastic homogeneous mortar, but mixing shall not be less than five minutes, approximately two minutes of which shall be for mixing the dry materials and not less than three minutes for continuing the mixing after water has been added. A minimum amount of water shall be used to produce a workable consistency.

3. Mortar for pointing shall be as dry a consistency as will produce a mortar sufficiently plastic to be worked into the joints.

4. Where mortar is required in small batches of less than one cubic yard, and the State's Representative specifically approves, mortar may be mixed by hand in clean wooden or metal boxes prepared for that purpose but not on slabs, sidewalk, etc., provided the methods of mixing and transferring the mortar are approved by State's Representative.

5. After mixing, the mortar shall sit for 20 minutes prior to use to allow for initial shrinkage. Mortar shall be placed in final position within two hours of mixing. Re-tempering of partially hardened material is not permitted.

6. Mortar for use shall have a compressive strength less than that of the adjacent brick.

B. Mortar: Type O, color and texture to match existing.

PART 3 - EXECUTION

3.1 GENERAL

B. Use extraordinary care to disassemble, remove, and store all sandbrick elements. Conduct disassembly and storage operations in accordance with approved methods as established by the submittal and approval process.

3.4 SETTING

A. All masonry shall be laid plumb, true to line, with level and accurately spaced courses.

B. Standard width of mortar joints for both vertical and horizontal joints shall match existing.

C. Wet new and existing brick before installation of new brick, using wetting methods which ensure that units are nearly saturated but surface dry when laid.

D. Lay rebuilt masonry in bond pattern to match existing.

E. Set brick in full beds of mortar.

F. Strike exposed joints when thumbprint hard, and tool to same appearance as the existing masonry.

G. Point joints in accordance with "Raking and Pointing," below.

3.6 RAKING AND POINTING

A. All joints as indicated on the drawings or as designated by State's Representative to be pointed shall be prepared as follows:

1. Rake all joints to a minimum depth of 1". In all cases rake back to expose sound mortar. Joints that have recessed surface held back from the surface of adjacent brick shall be raked to a 1" mortar depth.

2. Take extraordinary care to not damage adjacent masonry surfaces as a result of the raking process. Do not chip or spall the edges of the brick.

3. The use of power tools for brick masonry joints preparation is prohibited without written approval by the State's Representative. Rake out all joints by hand using a chisel 1/4" or less in width.

4. Remove all mortar and foreign material from raked joints; clean joint edges; use fine brush or compressed air to remove granular particles and dust.

B. Point designated joints, and point new joints, as follows:

1. Wet joint thoroughly and repeatedly prior to pointing and between pointing lifts.

2. Do not point in temperatures over 90 degrees F. or under 40 degrees F. Provide cover so that pointing may be accomplished without direct sun on the joints for up to eight hours after pointing.

3. Repoint in two lifts; pack joints to within 3/8" of surface on first lift; allow first lift to set up prior to pointing second lift.

4. As soon as mortar has taken its initial set, tool joint surface flush with the face of the brick to match existing. Do not allow mortar to extend over edges of the bricks.

5. After initial 24-hour set, provide moist curing by repeatedly wetting the joints and adjacent surfaces for 72 hours or until mortar has completely set.

6. Clean up after the work. Remove mortar stains, excess mortar, etc. Do not use acids; rinse thoroughly after clean-up operations.

3.6 ADJUSTING AND CLEAN UP

A. Remove and replace or repair brickwork of the following description:

1. Broken, chipped, stained, or otherwise damaged bricks. Broken, chipped, stained, or otherwise damaged brick may be repaired providing the methods and results are acceptable to the State's Representative.

2. Defective joints.

3. Bricks and joints not matching approved samples and field-constructed mock-ups.

4. Brickwork not complying with other requirements indicated.

B. Replace in manner that results in brickwork's matching approved samples and field-constructed mock-ups, complying with other requirements, and showing no evidence of replacement.

C. Clean masonry not less than 6 days after completion of work, using clean water and stiff bristle fiber brushes. Do not use wire brushes, acid-type cleaning agents, cleaning compounds with caustic or harsh fillers, or other materials or methods that could damage brick.

D. Upon completion, remove tools, equipment, and other materials from the site.

E. Remove and legally dispose off-site all debris, rubbish, and other materials resulting from disassembly operations.

END OF SECTION

SECTION 08611

WOOD WINDOW REHABILITATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Rehabilitation of existing wood windows.

B. Cleaning and preparation for refinishing

C. Repair and replacement of hardware as required.

1.2 RELATED SECTIONS:

A. Section 09900 - Painting.

1.3 QUALITY ASSURANCE

A. Materials and fabrication of wood window rehabilitation replacement parts shall be in accordance with standards for the Woodwork Institute of California (WIC) A Manual of Millwork for custom grade.

B. Rehabilitation of windows to follow Preservation Briefs: No. 9, The Repair of Historic Wooden Windows, National Park Service, U.S. Dept. of the Interior.

C. This section includes the rehabilitation of existing wood double hung and hopper windows to an acceptable level of structural soundness, operation, visual appearance, and weather and air tightness.

1.4 SUBMITTALS

A. Submit under provisions of General Conditions

B. Certification: Prior to delivery of materials to be used in wood window rehabilitation, furnish a WIC Certified Compliance Certificate indicating that the materials meet the requirements of the grades specified.

C. Samples:

1. Replacement window hardware: samples of each type required for replacement.

PART 2 - PRODUCTS

2.1 CONSOLIDATION MATERIALS

A. Liquid Epoxy Consolidant for consolidation of decayed wood trim:

1. Use a low strength, low viscosity, moisture insensitive epoxy with a low modulus of elasticity specifically designed and marketed for wood restoration.

2. Subject to compliance with requirements, provide the following, or approved equal:

a. LiquidWood, Abatron Inc., 5501 - 95th Avenue, Kenosha, WI 53144 Tel: (414) 653-2000
b. Flexible Epoxy Consolidant 100, ConServ Epoxies, Housecraft Associates, 7 Goodale Rd., Newton, NJ 07860 Tel: (201) 579-1112
c. West System 105 Epoxy Resin with 207 Hardener, Gougeon Brothers Inc., P.O. Box 908, Bay City, MI 48707 (517) 684-7286

B. Epoxy Fill for patching and resurfacing voids in wooden members:

1. Use a moisture insensitive, putty consistency epoxy compound with a low modulus of elasticity and inert filler that is specifically designed and marketed for wood restoration, and which may be cut and worked with wood-working tools after curing.

2. Subject to compliance with requirements, provide the following, or approved equal:

a. WoodEpox, Abatron Inc., 5501 - 95th Avenue, Kenosha, WI 53144 Tel: (414) 653-2000
b. Flexible Epoxy Patch 200, ConServ Epoxies, Housecraft Associates, 7 Goodale Rd., Newton, NJ 07860 Tel: (201) 579-1112
c. West System 105 Epoxy Resin with 407 Gougeon Brothers Inc., P.O. Box 908, Bay City, MI 48707 (517) 684-7286

2.2 REPAIR AND REPLACEMENT MATERIALS

A. Wood for repairs: AWI Premium Grade, certified kiln dried vertical grain Douglas Fir, preservative treated, for opaque finish.

1. Wood to bear the grade and trademark of the association under whose rules it is produced and a mark of mill identification.

2. Lumber and finished woodwork throughout to be of sound stock thoroughly seasoned, kiln-dried to a moisture content not exceeding 12% for finish.

B. Adhesives for Wood: Aliphatic resin, non-staining, heat and water resistant, glue for sash repair.

C. Fasteners: Of size and type to suit application. Finish nails for exposed locations.

2.3 HARDWARE

A. Balancing System:

1. Cast iron weight: as required to balance sash. Reuse existing if adequate to balance sash or provide new for proper functioning of window.

2. Pulleys: Reuse existing or provide new to match existing. Sand corrosion from face of pulley plate and oil surface and pulley shaft.

3. Ropes: Simpson #8 cotton rope with nylon center, or approved equal.

B. Reuse existing hardware wherever possible. In locations where existing hardware is missing or damaged, replace with new hardware to match existing as closely as possible. Rearrange existing hardware as required so that each room has either all new or all replacement hardware. The following are acceptable replacement elements:

2.5 OTHER MATERIALS

A. Water-Repellent Preservative: NWWDA tested and accepted preservative and water-repellent formulation containing 3-iodo-2-propenyl butyl carbamate (IPBC) as its active ingredient.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Take all necessary field measurements and verify all conditions prior to ordering and fabrication of material.

B. Examine each window carefully to determine work required to repair window to good operating condition.

C. Inspect openings before beginning installation of removed sash. Verify that the opening is correct and the sill is level. Do not proceed with installation of window units until unsatisfactory conditions have been corrected.

3.3 WOOD WINDOW RESTORATION - PERFORMANCE REQUIREMENTS

A. All windows, frames, and trim to be refinished, as described in Section 09900 - Painting. Take special care to avoid damaging decorative profiles or rounding edges during scraping and any allowed sanding.

B. Wood components, general: Replace any missing trim, stops, or parting beads. Patch holes, indentations, gouges, etc. less than 1" x 1" x 1/2" deep with epoxy wood filler. Patch damaged areas larger than 1" x 1" x 1/2" deep with wood Dutchmen. Finished windows shall be fully intact, structurally sound, and weather-tight.

C. Rails and stiles: Replace rotted or structurally unsound rails or stiles with new members exactly matching the profiles and joinery of the existing. Unless specifically indicated in the window Schedule, the Contractor may opt to epoxy consolidate rotted rails and rail/stile joinery to avoid rail replacement. Patch all holes in woodwork as described above.

D. Sills: Required sill work is indicated in schedule on Drawings. Replacement sills shall exactly match design and profiles. Epoxy consolidate sills as described in paragraph 3.5.

3.4 GENERAL REPAIR SEQUENCE

A. Where required for repair remove sash from designated windows as specified in Section 02071 – "Protection and Salvage of Historic Elements".

1. Immediately after removing sash, provide temporary exterior grade plywood panels installed in place to close window openings as required to obtain a weathertight installation. Do not damage existing window frames or surrounding construction when installing temporary window closures.

a. Temporary closures shall not obstruct restoration work scheduled for wood frames.

B. Remove all dirt and debris and all extraneous nails, staples, bolts, hooks, etc. from sash and frame.

C. Label each member prior to disassembly for repair.

D. Proceed with required repair work.

E. Sand all interior paint to a uniform and smooth finish on sashes and frames. Refinish as scheduled in Section 09900 - Painting.

F. Reinstall sash in original locations.

G. Make final adjustments and assure that sash operates properly.

3.5 WOOD CONSOLIDATION

A. General:

1. Remove all existing deteriorated, damaged, or loose trim, components, and sections of millwork as noted on schedule and as required to accommodate new work.

2. Replace existing members that are completely deteriorated.

3. Close all existing open joints with approved adhesive.

B. Patching:

1. Mix, use and cure structural adhesive putty following manufacturer's directions.

2. Form exact, sharp and accurate profiles to match existing.

3. File and sand to match desired profile and to produce uniformly smooth surface. No coarse-grained sandpaper mark or other imperfections shall be permitted.

C. Consolidation:

1. Mix, use and cure epoxy consolidants following manufacturer's directions.

2. Drill holes in areas of deteriorated wood as required to ensure complete penetration of consolidant into deteriorated portions of member.

3. Flow consolidant onto wood with a brush until wood is saturated.

D. At completion of work, all members shall match original in profile and shall be sound and true.

3.6 FRAME REPAIR

A. Refer to Section 06250 - "General Wood Restoration" for consolidation of wood members.

B. Frame Repair Procedure:

1. Inspect all frame components for condition.

2. Tighten loose and open joints in frame using waterproof glue and galvanized finishing nails properly countersunk. Fill all joints which cannot be closed without dismantling the window and fill all holes in wood with non-shrinking epoxy wood filler.

3. Fill all miscellaneous holes, cracks, and open joints in woodwork with epoxy wood filler.

4. Sand to smooth surface.

C. Finish paint as indicated in Section 09900 - Painting.

3.7 SASH REPAIR

A. Inspect all sash components for condition. If repairs other than filler are required, carefully remove glass from sash, disassemble sash and remove deteriorated components and replace with replicated components.

B. Replace all missing or badly deteriorated components.

C. Tighten loose and open joints in sashes by disassembling sash, and reassembling using waterproof glue and replacement hardwood pins. Clamp sash until glue sets.

D. Fill all miscellaneous holes, cracks, and gouges in sash with epoxy wood filler.

E. Sand to smooth surface.

F. Reinstall existing sound glass, if removed, and install new glass to replace missing glass.

G. Install sashes and existing weights and pulleys. Install new parting beads, where indicated on the window schedule.

H. Reinstall removed existing hardware and install new to replace missing or broken pieces as required.

I. Finish paint as indicated in Section 09900 - Painting.

3.8 INSTALLATION OF REPAIRED SASH

A. Install repaired sash level and plumb, without warp or rack of frames or sash. Properly support, anchor, or secure window components.

B. Adjust all operating sash and hardware to provide smooth operation. Lubricate hardware and moving parts.

C. All windows shall be in excellent operating condition at the conclusion of work.

3.9 CLEANING

A. Clean interior and exterior surfaces promptly after installation. Take care to avoid damage to protective coatings and finishes. Remove excess glazing and sealants, dirt, and other substances.

B. Clean glass promptly after installation of sashes. Wash and polish glass on both faces before Substantial Completion. Comply with manufacturer's recommendations for final cleaning and maintenance. Remove nonpermanent labels from glass surfaces.

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

3.10 ADJUSTMENTS

A. Repair or replace all defective work to the satisfaction of the Architect.

B. Adjust operating sash and hardware to provide a tight fit at contact points and weatherstripping, and to provide smooth operation and a weathertight closure. Lubricate hardware and moving parts.

3.11 PROTECTION

A. Protect window units from damage or deterioration until time of Substantial Completion.

END OF SECTION

SECTION 09560

WOOD FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Install new wood flooring to match existing where flooring is missing or severely deteriorated.

2. Reinstall wood flooring where removed for construction activities.

3. Clean and finish new and existing flooring.

B. Related Sections:

1. Section 02070 - Selective Demolition

2. Section 02071 - Protection and Salvage of Historic Elements

3. Section 09900 - Painting

1.2 QUALITY ASSURANCE

A. Qualifications of wood flooring restoration Contractor must include a minimum of five (5) years experience in flooring restoration involving cleaning, sanding, and new flooring installation.

B. The contractor shall have satisfactorily completed a minimum of two (2) similar flooring restoration projects within the previous five (5) years.

C. Personnel scheduled for work on this project shall have a minimum of two (2) years experience in flooring restoration involving cleaning, sanding, and new flooring installation. Submit qualifications of all personnel scheduled for work on this project. Work shall be performed by persons whose qualifications have been submitted.

1.3 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Samples:

1. Submit samples of flooring, including both new and salvaged material.

2. Submit stain and finish samples along with samples of cleaned original flooring for comparison.

C. Product Data: Submit technical data and application instructions for cleaning products, stain, sealer and varnish.

D. Means and Methods: Submit means and methods for wood floor removal, cleaning and finishing prior to commencement of work. Indicate special procedures, including perimeter conditions requiring special attention.

E. Field Mock-Up

1. Cleaning: 2' X 2' test patches in locations to be determined by the State Representative. Intent is to use the gentlest means possible. See "materials" section below for list of products.

2. Installation of patch.

1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver and handle products under provisions of Section 01600.

B. All new flooring materials shall be thoroughly dry before delivery. Deliver all other materials to the job site in the manufacturer's original containers with labels intact.

1.5 SITE CONDITIONS

A. Provide equipment and cover to maintain a minimum of 40 degrees F and to protect work completed or in progress.

B. Maintain materials and surrounding air at minimum 50 degrees F prior to, during, and 48 hours after completion of work.

C. Do not install wood flooring material until wet construction work is complete and ambient air at installation space has moisture content stabilized.

D. Protection: Adequately protect existing construction to remain and surrounding property from damage.

E. Disposal: Dispose of all waste materials in a safe and legal manner.

F. Regulations: conform to all applicable federal, state, and local regulations.

PART 2 - PRODUCTS

2.1 FLOORING

A. Replacement Flooring:

1. All replacement flooring and flooring patches shall match existing adjacent flooring.

2. Reuse of existing sound salvaged floorboards is preferred.

2.2 ACCESSORIES

A. Nails: Type and size recommended sufficient to blind nail tongue and groove flooring.

2.3 CLEANING

A. Sandpaper: Coarse to medium grits.

B. Cleaning Products: The intention is to use the gentlest means possible. The following products shall be tested to determine the gentlest means possible to produce an acceptable cleaning level:

1. Murphy's Oil Soap

2. Spic 'n' Span - apply with scrub brush

3. Mineral spirits and coarse (#3) steel wool

2.4 FINISHING

A. Sealer: type recommended by varnish manufacturer.

B. Floor finish: Water-based polyurethane, matte finish. Dura Seal or equal.

PART 3 - EXECUTION

3.1 PREPARATION

A. Sequence work so that painting precedes floor refinishing and restoration.

B. Install any mechanical and electrical services as indicated on drawings prior to start of floor refinishing and restoration.

C. Verify that substrate is smooth and flat.

3.2 INFILL INSTALLATION

A. Broom clean substrate at areas to be infilled.

B. Lay infill flooring to match adjacent existing pattern. Replace damaged surrounding flooring as required to integrate infill.

C. Patches shall at minimum span from joist to joist.

D. Blind nail flooring to match existing nailing methods, conceal nailing at perimeter with baseboards or shoes.

3.3 CLEANING

A. Follow methods approved for Test Panel installation, see Submittals, above.

B. For wet cleaning methods, use minimum amount of water required to achieve desired results.

C. Remove all cleaning residue prior to finish application.

3.4 FINISHING AND REFINISHING

A. Sand existing flooring the minimum degree required to accommodate patched areas.

B. Prepare new wood as recommended by finish manufacturer.

C. Mask off adjacent surfaces.

D. Apply first coat of finish. Allow to dry and buff with steel wool to remove irregularities. Vacuum clean and wipe with damp cloth.

E. Apply second coat and allow to dry. Lightly buff with steel wool and vacuum clean.

F. Apply last coat of finish.

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

3.5 PROTECTION OF FINISHED WORK

A. Protect finished work under provisions of Section 01500.

B. Do not permit traffic near unprotected finish surfaces.

3.6 CLEAN-UP

A. Upon completion of work, remove tools, equipment, and other unnecessary materials from site. Return adjacent area to clean condition which existed prior to the start of work.

B. Remove and legally dispose off-site all debris, rubbish, and other materials resulting from work.

END OF SECTION