

Proposal

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Re: 2742 W. State St. (1892)
Eugene Liebert
Concordia Historic District
Milwaukee, WI 53208



The following is a proposal for the restoration of selected millwork, doors, and windows in the above property located at 2742 W. State St., Milwaukee, WI 53208. If the terms outlined in this proposal are acceptable to all parties, it will serve as the contract for work. The signature page is found on the last page of this document. However, this document, nor any information provide herein will constitute a "Condition Report" preliminary to the approval of the destruction of any of the historic fabric in the building.

Rivercity Woodworking LLC is a drug free employer. My business holds insurance policies for bonding, professional liability, general liability, and workman's compensation in amounts that are to cover work on the proposed project. A Certificate of Insurance will be made

available once the owner and I enter into an agreement. I and/my company hold certifications from the Building Performance Institute (Building Analyst), RESNET (Energy Consultant and Rater), the State of Wisconsin, Department of Health [Lead Abatement Supervisor and company (LSC-123470, exp. 6/26/2016)], the Passive House Institute of America (Passive House Rater, and consultant in training), and the State of Illinois (DET verifier). I am a Trade Ally with Focus on Energy, a member of Milwaukee Chapter of NARI (National Association of Remodeling Industries), and a member of the Workforce Development Committee for NARI. My minority does not qualify as a Minority Owned Business in the State of Wisconsin.

Rivercity Woodworking will enlist (for pay) the homeowners, as part of its mission to educate the public with respect to historical materials and techniques, on restoration projects... Otherwise, its workforce may include qualified minority workers who may include (with agreements received from owners of the project) recently released felons in special training programs. The workforce will include also experienced carpenters.

The work outlined in the following pages will proceed using safe building practices that conform to best practices outlined by the Wisconsin DNR, the Federal DOE, EPA and OSHA. MSDS information is available upon request for all products used in the restoration processes. All materials used in this work have been approved by the Offices of Historic Preservation in the City of Milwaukee and in the State of Wisconsin and the Office of Technical Preservation in the National Parks Service in the Department of Interior as outlined in their *Preservation Briefs*. Cost estimates are located at the end of this document.

The restoration plan is presented in three parts addressing respectively doors, windows, and millwork. It is important to state explicitly that restoration engages, in principle, the idea that salvaging existing materials is preferred over sending still useable materials to landfills because: (1) surface defects are ugly, or unhealthy, or (2) building components fail to meet current energy standards. Thus, my standard restoration plan involves 2 parts: removing hazardous and defective materials and bringing existing windows, doors, and millwork to meet acceptable aesthetic standards and energy efficiency standards by producing renewed durable surfaces, and reducing air infiltration and ex-filtration.

Original Doors

There are several sets of doors remaining in the house. These are as follows:

- a. Door 1--doubled front entrance doors;
- b. Door 2--doubled foyer doors (2 sets) separating the main body of the first floor rooms from the entrance;
- c. Door 3--a back door (Fig.) (new and left on site when current homeowners purchased property);
- d. Door 4--double second floor front porch doors
- e. Door 5--storm/screen doors for front porch
- f. Doors 6-16-various doors to individual rooms, back staircase, and attic

Missing Doors

- a. Door 17-- back porch doors, first floor;
- b. Door 18--back porch doors, second floor;
- c. Door 19 - front porch doors, second floor.

The projects involved with each of these doors vary and are contingent upon the decision to return the back porches to porches and thus pushing the areas outside the thermal envelop of the building. Thus, the projects will include the need to purchase new doors, or manufacture new doors, restore existing doors, and install the one new door that remained in the house, uninstalled, when the current owners purchased the house. In summary:

Door 1--needs repair damaged parts, glass replacement, lock set and stay bolts, and storm/screen doors manufactured and installed...

Door 2--needs glass replacement

Door 3--needs to be installed, lock set purchased and installed, casing manufactured and installed, and clapboard manufactured and installed.

Door 4--needs to be manufactured, or purchased, lockset purchased, and installed

Door 5--needs to be restored and glass replaced, or manufactured new

Door 4-5--needs rough opening framed, casing manufactured and installed, lock sets and stays purchased and installed.

Door 6-16 each door is functional, with individual handle sets repaired or replaced.

Doors 17 need to be purchased, or manufactured, locksets purchased, and installed

Pocket Doors (2)--need sliding door hardware to be cleaned, oil, and repaired as needed to allow the door to ride smoothly on its hangers.

Original Windows

There are a total of 90 windows cut into the walls in four facades and on four floors: the foundation, the first floor, the second floor, and the third floor (attic). Eight-three windows are in the main house and 8 windows are installed into the first and second floor of what were original sleeping and eating porches located in the north east corner of the house. A preliminary assessment determined that most of the windows were original or the 1892 building phase. These are typically 1 and 3/4" thick. About 20 windows have been replaced with a lesser quality 1 and 3/8" sash through the twentieth century. Storm windows only were installed in the porch area.

	Attic	Second Floor	First Floor	Foundation
East	3	4 (porch excluded)	8 (porch included)	6
South	12 (tower included)	8 (tower included)	7	2 (?)
West	3	7 (stairwells included)	5 (stairwells included)	5
North	2	4 (porch excluded)	3 (porch excluded)	4

There are five styles represented--fixed, hopper, awning, and double hung. Only one original stain glass window survives. With the exception of 4 missing sashes in the tower, two missing

pocket sashes on the front porch, windows set into what was originally an outdoor porch (on two floors), and a handful of windows (fixed and double hung) that had been replaced by previous owners, all of the remaining windows can be saved with varying degrees of effort.

Window and Door Replacement

In the instance where a window or door is missing or cannot be restored, it is necessary to manufacture a new one. If the original that will be replaced survives, the newly manufactured unit will copy the original in every detail. If, however, the original has not survived, such as in the case of the second floor porch doors, it is necessary to establish a historically correct design for the new door or sash. The porch prime doors will conform to the design of the first floor airlock doors (see attached illustration); the storm doors will conform to the existing storm doors now serving as the prime porch doors (see attached illustration), moldings for the new doors will conform to moldings on the first floor prime doors. Exterior trim will conform to the trim surrounding the first floor doors (see attached illustration). The storm doors will be fabricated from select and better graded White Northern Pine. The prime door will be fabricated in solid wood; the core will be laminated White Northern Pine; the ¼ veneer will be rift cut White Oak from trees grown in northern climates. All doors will be glazed with ¼ inch laminated glass.

Restoration Process

The procedures used to restore windows or doors are the same. In the instances where an extensive restoration will be necessary, this will be undertaken when one or more of the following conditions are seen. These are:

1. The sashes or doors do not close
2. The sashes do not have their balance system and so cannot be opened safely
3. The sashes are fitted with glazing that does not comply with the building code
4. One or more parts of the sash or door has been broken, is missing, or is deteriorated

The process of restoring sashes to an operable and weather tight condition proceeds through the following steps:

- Hazardous and defective materials are removed.
- Balance system is replaced or rejuvenated
- Jamb is secured and insulated
- Improve Energy Performance

Hazardous & Defective Material Removal

1. Each sash or door that is designated for restoration will be removed from its frame and the site. All paint and putty will be removed by a commercial stripper. Once cleaned, the sash is removed to my shop (607 A S. 6th St, Milwaukee, WI) where it is disassembled to remove the glass, safely, and to remove all metal that had been used to secure sash sticks. Original glass is cleaned. The sash sticks are wetted continuously with steam to remove safely *the entire* glazing compound that survived the stripping work. This is an important step to ensure that all asbestos has been removed from wood and glass and to ensure that new putty will be bedded into a solid

substrate.

2. When damaged, individual sticks are repaired with Dutchmen, or filled with formulated epoxy liquid and putty.
3. Deteriorating sections are treated with a formulated epoxy consolidating material or a wood stabilizer (depending on the moisture content of the wood and whether cracks are developing).
4. Parts are sanded and prepared for re-assembly.
5. Once reassembled, the sash is secured with formulated epoxy adhesives and wood pins. The assembled sash is sanded. In sanding, the goal is two-fold--to ensure a clean surface to reseal moldings, and to establish smooth surface in the rabbets in sashes for new glazing compound and to ensure a solid surface for new finishes.
6. Glass replace in doors and windows will conform to the building code requirements. Otherwise the original glass is returned to the door or sash. It is bedded in a linseed oil glazing compound, secured with points, and sealed with a glazing compound smoothed to a 20-30 degree angle.
7. The exterior is treated with a stabilizer and two coats of a commercial primer in preparation for painting.
8. All hardware is removed, cleaned, polished, oiled (when appropriate) and returned to good working condition

Balance System

Several windows have had their original balance system (window weights and sash pulleys) replaced with what is known as a "block and tackle / spring loaded" jamb liner, or aluminum liners. Since all of the "modern" replacement balance systems are not operable, the goal will be to return all windows to their original configuration with genuine all cotton starched sash cord of the appropriate weight. If preferred, brass chain can be used instead of rope. The addition of a traditional weather-stip. All pulleys are removed, cleaned, oiled, repaired when possible, or replaced when not possible, and reinstalled with No. 8-1 stainless steel slotted wood screws. All hardware is removed, polished, and oiled, when appropriate, to ensure smooth operation.

Frames (Doors and Windows)

- **Window Frame:** The frame restoration follows the same basic steps involved in sash restoration: cleaning, repairing, or replacing, deteriorated parts. Where necessary, deteriorated wood will be repaired or replaced (with duplicated profiles manufactured in White Northern Pine), treated with a wood preservative and prepared for painting and the

installation of wood storm sashes. Typically, the most deteriorated part of the frame is restricted to the lower sections with the sills displaying most damage from advancing fungal infiltration and attendant collapse of the wood fibers. Treatment with formulated epoxies is preferred over the replacement of parts. Once treated, any residual lead paint is completely removed.

- In special cases, it may be necessary to replace a part of the frame. The special cases include replacing a jamb that has been so split to become unstable, or have become so out of plumb as to make the smooth operation of the sash impossible. In this case, the jamb will be replaced.
- If, and when, the frame is not plumb, square, and level, and depending upon the extent of the deformation, it may be necessary to remove the frame from the opening, disassemble it, repair the joinery, and replace broken parts. This strategy is extensive and is considered only when the unit is in very bad condition. The goal is to return a structurally compromised frame to serviceable life. If this type of work is necessary, the projected removal of a frame will be discussed with the general contractor and home owner before proceeding with the removal.
- The frames are treated with a saturating oil product on the pulley or hinge stiles.
- It will be necessary to completely rebuild the front porch door frame. The rebuilding plan preserves the replacement will preserve the original dimensions/ The frame consists of three boxed jambs that will hold two doors, a boxed lintel that separates the doors from the transom light above them. This frame will be fabricated using only clear 5/4 White Northern Pine joined secured with *Festtool Dominos*[®]

Improving Energy Performance

An essential part of the restoration work is to improve the energy performance of the building envelop by reducing the infiltration around windows. The restoration strategy categorizes infiltration into one of 4 problem areas:

- (1) The gap between the frame and the brick wall;
- (2) The gap between the sash and the frame;
- (3) The gaps between the sash frame and the glass.
- (4) The gaps in joinery

The gaps that form between the frame and the wall are addressed in the restoration of the frame. Additionally, the interior casing is removed to seal the gap between brick and window frame, and to seal any cracks that may have developed in the weight cavity, where these exist. The gaps in joinery and where glass is seated into the sash are addressed in the restoration of the