

3/17/2023

Kraemer Design Group  
Attn: Lillian Candela  
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Detroit, MI. 48226  
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Job Name: Merchants Building  
Job Location: Detroit, MI

## Historic Window Site Review

**BlackBerry is providing this Historic Window Site review for: The Merchants Building at 206 E. Grand River in Detroit, MI. Our site review is based on a site visit at the building on 3/14/2023. This HWSR is based on the guidelines from the NPS standards for Historic Wood Window Restoration and Replication NPS Brief #9. As well as our over 30 years of historic window restoration and replication. The final approval requires NPS, SHPO, and the local HDC. Please note that final design approval is required prior to any work is performed.**

**EXISTING CONDITIONS: For (149) openings, (6,632 Sq. Ft.) of wood inswing casement and fixed windows.**

**The windows are located on all four elevations of the eight-story building. The typical window is a wood inswing casement window, single casement or double casement with a center astragal. 90 % of the openings have a top transom fixed light. All operating sashes have butt hinges and a simple cam latch. All sashes are single glazed with exterior putty glazing compound. The following are the exterior siteline dimensions; sash thickness is 1 ¾", the sash stiles are approximately 2 ¾" wide, the sash rails are approximately 3 1/4", the meeting sashes and vertical astragal is approximately 5 ½", the sill face is 1 ½" and the horizontal stacking mullion is approximately 2". The exterior brickmould is approximately 2" x 1 ½".**

**The overall condition is "poor". The exterior putty glazing has failed and has allowed water penetration into the interior surfaces of the sash and master-frame. This has allowed for the structural condition of the wood components to rot and decay. The bottom rails and lower portions of the stiles show evidence of the failure on over 85% of all windows. In about 45% of all master-frame sills, decay has eroded the interior surface of the sill and caused material failure. The exterior sills are split and deeply fissured allowing water to saturate the wood. Many of the sashes have failed joinery at the bottom corners where the rails and stiles meet. The exterior vertical astragals are missing (having warped and fallen off) or are separating and warped**

allowing additional water penetration to the interior of the building. Many of the sashes have warped so severely they are inoperable. None of the original sashes were designed to accept any weatherstripping, but only close and butting against the exterior rabbited master-frame, this alignment is gapped and has always allowed excessive air and water penetration.

**RECCOMENDATION:**

Based our site visit, inspection, and review the only recommendation we can provide is full replacement of all windows. While viewed from the exterior from the street the windows might appear that restoration maybe an option; upon close inspection this is quickly dismissed because of the structural damage and decay because of decades of no maintenance and long-term exposure to water and weather. Likewise it should be noted that the need for abatement should be expected because of the likely presence of ACM in the exterior glazing compound that remains, as well as lead paint present on all window components. Durability is a primary concern in regards to the use of restoration remediating historic properties with wood and steel windows. The extreme presence of material decay and structural failure does not lend itself to a long-term solution in regard to a building's life cycle for maintaining the property or a reasonable return on investment. This is becoming evident in some cases on properties in Detroit that have been restored and poorly executed workmanship of trying to restore components that were well pass their useful function.

We recommend the full removal and replacement of all windows ,and for this commercial property the installation of a historically correct thermally broken aluminum window. The Quaker H450 Series projected series casement product is and example of a product that can be used in this application. The project would require complete removal, abatement, and disposal of the existing wood windows. Installation of blocking, and a custom exterior panning and sill profile. The windows would include an AAMA 2604 or 2605 painted finish, 1" insulated glass with Cardinal 272 Low-e glass and argon gas fill. Also included is interior snap trim and standard hardware.

Budget Pricing includes material, tax on material, labor (non-union, non-prevailing wage), employment cost, insurance, staging, disposal, and supervision.

**Budget Pricing \$895,328.00**

**Lead times: Shop Drawings allow 4 to 5 weeks.**

**Manufacturing allow 14 to 16 weeks from date of approved Shop Drawings.**

**Please contact me with any questions or concerns.**

**Sincerely,**

**\_\_\_\_MKS\_\_\_\_\_  
Michael K. Shields  
President  
BlackBerry Systems, Inc.**

**\_\_\_\_3/17/2023\_\_\_\_  
Date**