

JOHN MILNER ARCHITECTS
DESIGN & PRESERVATION

September 9, 2022

Mr. Nick Sugar
Senior Planner
City of Hudson, Ohio
1140 Terex Road
Hudson, OH 44236

Re: Baldwin-Buss House – Exterior Restoration, Siding Conditions

Dear Nick:

Thank you for meeting with us and the Baldwin-Buss team on site late last month. It has been a pleasure to work with the City of Hudson and the Hudson Architectural and Historic Board of Review (AHBR) on this exciting and important restoration project.

In 2020, John Milner Architects, Inc. (JMA) was hired by Peninsula Architects as the Historic Preservation Consultant to assist in the restoration efforts of the Baldwin-Buss House as part of a project to construct the new home and headquarters for the Hudson-based Peg's Foundation. Since then, we have developed a thorough assessment of the entire structure, which includes historical research, chronology of development, detailed survey of existing conditions, and documentation, including photographs and drawings, of the existing building components.

As the restoration project moved forward through design and development of construction documents, we identified the exterior envelopment of the Baldwin-Buss House as a primary area of concern. We found the original tulip poplar, lapped wood siding and exterior trim details was in need of attention and made initial recommendations based on our site survey.

Existing Conditions

JMA determined that as a protective layer the exterior siding was in poor to fair condition, having failed in certain locations or on the verge of failing in others. Most of the deterioration is associated with areas of elevated moisture such as the joints between siding and trim boards and the intersection of walls and roofs. Numerous boards exhibited large splits, broken edges and/or isolated areas of rot. (*Figure 1*). Through paint analysis we discovered there are approximately 22 layers of paint on the exterior surface. Improper surface preparation between coats of paint has led to heavy accumulation and significantly uneven surface texture (*Figure 2 and 3*). Consistently around the perimeter of the building the bottom courses of siding were improperly flashed or in too close contact with grade. Multiple sections of siding have already been replaced with modern materials and improperly installed (*Figures 4 and 5*). In summary, we believe that after 200 years of continued exposure the siding is near the end of its expected life span.



Figure 1. Broken and split siding boards at the west elevation. Also note open butt joints, cupped boards, and improper roof flashing installation.



Figure 2. Overview of uneven surface texture due to heavy paint accumulation at the north elevation.

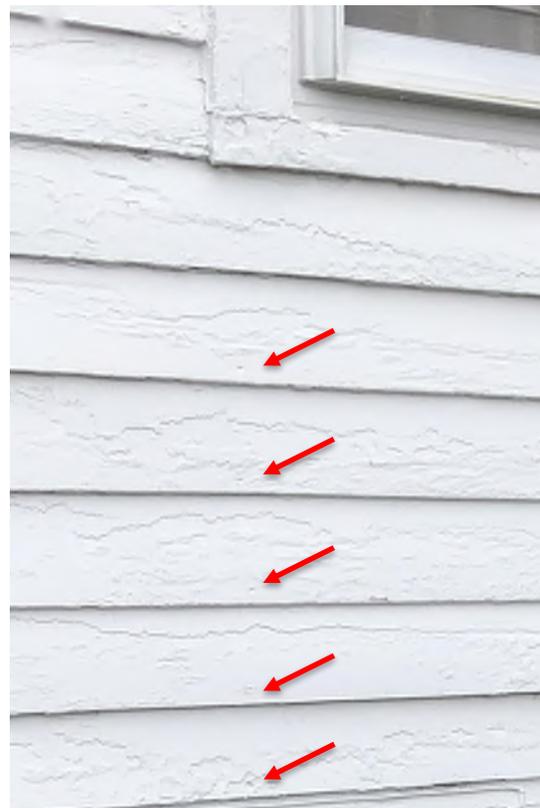


Figure 3. Original nailing pattern obscured by heavy paint accumulation.



Figure 4. Section of siding below SE window previously replaced. Siding sits directly on roof surface, causing water absorption of roof runoff at the exposed end grain.



Figure 5. Siding at SW corner of main black previously replaced with shingles.

Based on a visual inspection of the building, there was no obvious damage besides heavy paint accumulation on the east façade that required replacement of the flush board siding. Further testing of the flush board siding is to be conducted during construction. It was determined that the replacement allowance for the lapped wood siding on the remaining facades would be significantly higher than the flush board siding due not only to the greater amount of visible deterioration but also to the likelihood of concealed deterioration and the chances of further damage occurring as boards are removed for replacement.

Selective Demolition Findings

There were a number of conditions exposed during selective demolition that support the replacement of the lapped wood siding. One important discovery was that failed siding and improper flashing have allowed water to infiltrate into the timber wood structure and caused significant deterioration (*Figures 6 and 7*). Multiple sills and corner posts throughout the building have been compromised.

Protected by the former west addition, early siding absent of heavy paint accumulation revealed clear nailing patterns of the siding boards and typical conditions of wood that may be present beneath the usual layers of paint in other locations (*Figure 8*). The siding boards are thin, at a maximum 3/8" in thickness, and are often cracked and cupped where they meet the cornerboard (*Figure 9*).

Siding boards are nailed in two locations, top and bottom, along studs, making the removal of intact boards twice as challenging, rather than if they were only blind nailed. Reinstallation of salvaged boards also becomes more difficult as these nail holes will likely become enlarged during the process of board

removal. Visible nail holes of the salvaged boards would have to be filled and/or perfectly aligned with existing studs which are not likely exactly evenly spaced throughout.



Figure 6. Detail of NW corner. Due to lack of sill flashing at the bottom course of siding, runoff pooled on the foundation stones and rotted the timber sills.



Figure 7. Water infiltration behind the SE corner board led to significant rot and post and material loss of sill.



Figure 8. Overview of siding condition where west addition was removed.



Figure 7. Boards often split or cupped at ends. Also note original nailing pattern unobscured by layers of paint.

Recommendations

Generally, it is our recommendation that the siding on the north, south, and west elevations of the main block of the Baldwin-Buss House be replaced in entirety to ensure the longevity of the structure and integrity of repairs made during the renovation project. Full replacement at this time also allows for significant improvements to be made that extend the lifespan of the building. These improvements would include installation of proper flashing at roofs and sills, waterproofing at existing window openings, installation of a protective air and water barrier such as Tyvek, and repair to damaged or deteriorated sheathing boards (if necessary).

Full replacement using new Western Red Cedar, a material comparable to tulip poplar in insect and rot repellent characteristics, would create a uniform aesthetic to the building envelope that more accurately represents the original or early appearance. Our recommendation is to match the historic profile of the siding as well as the nailing patterns, board spacing and exposure. At a minimum, the west elevation which has the most damage and piecemeal appearance from previous generations of repair should be replaced to create a consistent weather barrier.

In 2012, our firm was entrusted with a similar restoration project at Shaker Village of Pleasant Hill, a National Historic Landmark site, outside of Lexington, Kentucky. The Meeting House at Shaker Village is located within the physical and spiritual epicenter of site and has substantial architectural and historical significance. Built in 1820, it features similar construction methods, materials, and detailing to that of the Baldwin-Buss House. Our primary goal was to restore the exterior, which had deteriorated due to years of neglect prior to becoming a National Register site.

Below are images comparing the siding at Shaker Village and boards at the Baldwin-Buss House (Figures 10 and 11). Both projects had original tulip poplar siding, fastened in two locations (top and bottom), heavy paint accumulation, and overall were in similar stages of deterioration. For additional information, please see the attached summarized case study of the Meeting House at Shaker Village.

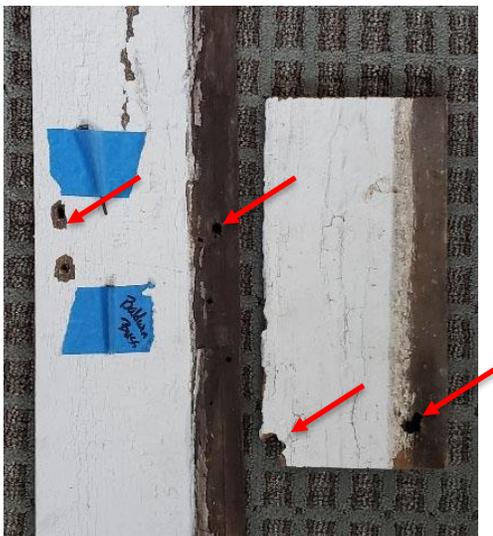


Figure 10. Comparison of face of siding boards from Baldwin-Buss (left) and Shaker Village (right). Arrows point to nail holes.



Figure 11. Comparison of siding profiles from Baldwin-Buss (left) and Shaker Village (right)

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In summary, we consider exterior cladding materials to be sacrificial layers that protect the bones of a structure. As that layer fails, or reaches the end of its lifespan, compromises to the integrity of a historic building become evident as can be seen at the Baldwin-Buss House. Through careful documentation and reproduction of these exterior materials we can safeguard the future of this prominent and unique structure in Historic Hudson.

Sincerely yours,

A handwritten signature in black ink, reading "Christopher J. Miller". The signature is written in a cursive style with a large, prominent loop at the end of the name.

Christopher J. Miller, AIA

Principal
John Milner Architects

SHAKER VILLAGE OF PLEASANT HILL - MEETING HOUSE

HARRODSBURG, KENTUCKY



SCOPE OF SERVICES:

Conditions Assessment; Preservation Master Plan; Design & Construction Phase Services

SIZE:

5400 Square Feet

BACKGROUND:

Shaker Village of Pleasant Hill is the country's largest extant community founded by the Shakers. This National Historic Landmark site was active from 1808-1910 and preservation efforts began as early as 1961. The 1820 Meeting House is a contributing resource to the Shaker town at Pleasant Hill Historic District listed in the National Register of Historic Places. JMA was invited to restore the exterior of the Meeting House, the spiritual and physical center of the community, in 2016.



PROJECT SCOPE:

- Replacement of wood shingle roof and flashings with new tapered cedar shakes
- Historic woodwork restoration including new siding, cornices, rakes and eaves with materials and profiles to match existing
- Replacement of existing gutters and downspouts
- Restoration of 28 historic double hung windows
- Structural repairs to stone foundation blocks and structural reinforcement to historic truss system
- Brick and stone pointing, including chimney repair
- Interior lighting and geothermal HVAC upgrades, plaster and paint finish repairs



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HARRODSBURG, KENTUCKY

BEFORE



AFTER



PROCESS



Structural repairs were made to timber frame after siding was removed.



A mock-up was made to ensure proper profiles, spacing, and nailing patterns would be recreated.



New siding was primed on all surfaces prior to installation.



Siding was installed over new building wrap after repairs to the structure were made and new flashings installed.