WHITE PAPER

PF-266737-19

Shelburne Museum Stagecoach Inn Renovation Project

October 1, 2019-May 31, 2022

Report submitted August 31, 2022
Project Summary

This project encompassed the preventive conservation efforts within a larger project to re-imagine the exhibition of American Folk Art within Stagecoach Inn, one of 39 exhibition buildings on Shelburne Museum’s 45-acre campus. These preventive conservation efforts included:

- repairing 33 windows, adding light blocking interior storm windows;
- rerouting HVAC duct work within the building to enhance energy efficiency;
- replacing the HVAC humidifier, condensers, air handler, and controller to bring the system up to date;
- stabilization of the south chimney;
- repointing and capping the two chimneys to improve the building envelope, prevent avian and rodent ingress, and prevent bricks from coming dislodged during wind events;
- fabricating better exhibition mounts and pedestals to reduce vibration and abrasion to the works of art;
- upgrading exhibition lighting to be consistent with the other LED systems recently installed in other Museum structures;
- relocation and re-shelving of objects stored in Stagecoach Inn attic space to provide safer storage of objects;
- installation of security cameras on the second floor of the building and updating the structure’s VESDA system to enhance security for the visitors and artifacts.

Project Origins and Goals

*What needs motivated you to develop and seek funding for your project?*

Given the size of our campus, several factors are considered as to when a project such as this one becomes a top priority. These include observations gleaned through ongoing monitoring of environmental and artifact conditions within a structure, significance of the structure, significance of the collection within the structure. Chief issues included:

- The collection housed within Stagecoach Inn is considered one of the earliest and historically important collections of folk art in the country.
- The structure, originally built ca. 1783 as a guesthouse in nearby Charlotte, VT, was one of the earliest vernacular buildings moved to Shelburne Museum’s campus.
- The building’s humidifier was near end of life.
- The extant condensers were cooled with a known ozone depleting material slated to become illegal in the United States on January 1, 2020.
- Because the way we arrange the exhibitions in the building had changed since that system was installed, we recognized that changes to the ductwork could result in energy and cost savings as well as mitigating risks inherent in the way the ductwork had been designed previously.
- The HVAC controllers and switches in the building dated back to an earlier Java-based system and needed to be updated so that they could work more smoothly with the present HTML5-based control system.
- Storm windows on the building’s 33 single-glazed pane windows had been installed too tightly, leading to premature degradation of the putty that held the panes in place.
- The chimneys needed to be repointed and capped to improve the building envelope.
Once we had identified these issues, more were raised, including the quality of the lighting system and object mounts, and inefficiencies within collections storage within the building.

Rather than addressing these preventive conservation challenges piecemeal, we opted to bundle them in a single large project knowing that this would also provide the curatorial team an opportunity to re-imagine the installation while the exhibition was closed during the work period.

*What past work did your project build on?*

The design of this project was based on similar projects to update and improve structural integrity, environmental control, security, wiring, lighting, and fire detection in the Museum’s historic structures. The most recent of these was Dorset House, funded in part by a 2014 NEH Sustaining Cultural Heritage Collections program grant (PF50497-14). The method of installing interior storm windows in that project was replicated in this one. The Dorset House project was also used as a model for developing the budget for this project.

**Project Activities**

Our original work plan was as follows, with an anticipated public re-opening in May 2021:

<table>
<thead>
<tr>
<th>Task</th>
<th>Oct 2019-May 2021</th>
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<tbody>
<tr>
<td>Repair and reglaze 33 windows; add light blocking interior storm windows</td>
<td>Oct19-Nov20</td>
</tr>
<tr>
<td>Design new pedestals and object mounts; construction of mobile shelving units for storage</td>
<td>Oct19-Jan20</td>
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<tr>
<td>Move collections to other secure storage areas</td>
<td>Nov19</td>
</tr>
<tr>
<td>Update the structure’s VESDA system</td>
<td>Nov19-Sept20</td>
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<tr>
<td>Reroute HVAC duct work within the building; update HVAC system</td>
<td>Nov19-Dec19</td>
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<tr>
<td>Monitor climate in building while collection remains in storage</td>
<td>Jan20-Jun20</td>
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<tr>
<td>Stabilization of south chimney</td>
<td>July20</td>
</tr>
<tr>
<td>Repointing and capping two chimneys</td>
<td>July20</td>
</tr>
<tr>
<td>Upgrading exhibition lighting</td>
<td>Oct20-Dec20</td>
</tr>
<tr>
<td>Returning collections to be displayed to Stagecoach Inn</td>
<td>Dec20-Mar21</td>
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<tr>
<td>Relocate objects in attic storage to new mobile shelving</td>
<td>Jan21</td>
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<tr>
<td>Installation of security cameras on second floor</td>
<td>Feb21</td>
</tr>
</tbody>
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The proposed work, except for re-routing the ductwork and HVAC installation and updating controls, was to be undertaken by in-house staff. Societal, technical, and institutional challenges intervened, altering the timeline, and necessitating an extension.
Pandemic-induced societal and institutional challenges

Work to repair and reglaze the windows was underway, the collections had been moved from the building, work to re-route the ductwork and install the new HVAC equipment was mostly complete, and construction of a mobile storage shelving unit prototype was complete when staff pivoted to working from home. For the first week and a half after the Museum closed on March 13, contracted work to install the air handling equipment was overseen by the systems maintenance technician. They had nearly finished by the 25th but were held up by one humidifier part mired in the shipping schedule. All work on the project was stopped at that point, apart from design and ordering the VESDA system.

While working remotely and like many museums, the curators, conservator, and other staff pivoted to creating content for a series of online exhibitions with associated video content. Although some items that were slated to be installed in the new Stagecoach Inn display were included in the online exhibitions Color, Pattern, Whimsy, Scale and in the Home and Community sections of American Stories, lacking direct contact with the collections made it difficult for the curators to create workable exhibition layouts, delaying pedestal design and mount making.

Once we were able to carefully come back to work in May 2020, the administration opted not to rehire seasonal staff to support as many full-time staff positions as possible. This meant that all staff took on extra duties to help the grounds crew, front-of-house, and serve as gallery attendants so that the Museum could re-open for three months on a limited basis. Work on the Stagecoach Inn windows recommenced, but more slowly than it might have otherwise. We still wanted to ensure that the controls and system were stable before the collection could be returned to the building. This monitoring was delayed until all the windows had been repaired and tinted interior storm windows had been installed.

The consulting mount maker who was to serve as a consultant could not travel to the Museum to mentor the staff preparator. On the other hand, because the International Mount Maker’s Forum pivoted their conference to a virtual model, the preparator was able to watch the presentations, gaining insights that helped her design and construct some of the needed supportive object mounts.

The pandemic also resulted in the retirement and departure of staff, mirroring a national trend in the workforce at this time. Several of the staff were critical to this project. The preservation staff member who was to undertake the work on the chimneys left for a job closer to his family. A mason was contracted to address the chimneys at an added cost assumed by the Museum. The systems maintenance technician retired in March 2021 and consulted remotely for several months troubleshooting building issues so that we could continue to refine controls as needed. As a result of these changes, work on the project continued but was slowed.

Technical challenges
As mentioned previously, one of the tasks that could move forward while staff worked remotely was the redesign of the VESDA smoke detection system so that it would include addressable points. Rather than opting to install an older system, we had planned to install the most current version, as recommended by Nick Artim, a noted consultant on fire protection for cultural heritage sites. Unfortunately, installation has been delayed as we wait for the updated system to complete the UL listing process, a delay linked to ongoing supply chain issues related to the pandemic. Therefore, this step is yet to be undertaken.
Project Outcomes

Signage outside of Stagecoach Inn let our visitors know why the building was closed and who was working on the project, communicating the Museum’s commitment to the preservation of the collections. The project was also featured in the Winter/Spring 2020 Newsletter sent to the Museum’s membership. A press release to local, trade and national media announcing the building reopening is scheduled to go out in early September.

A re-opening date of September 10, 2022 is set, corresponding with a Gala celebrating the Museum’s 75th anniversary. This celebration includes a folk art panel discussion with Museum curator moderating three nationally-known folk art experts. Gala programming includes tours of the space. At that time, apart from the installation of the VESDA system, all other tasks will be completed. There is great anticipation around Stagecoach Inn’s reopening. While our visiting public and collection are the most obvious benefactors of the renovated structure with improved lighting, an updated HVAC system, and more supportive mounts and pedestals in new displays, our protection services officers and Museum guides will benefit from enhanced security tools including new cameras and an updated smoke detection system.

Project Evaluation & Impact

Progress was evaluated in monthly meetings lead by the project manager/lead carpenter before the pandemic. These were attended by the project director/director of preservation and landscape, the director of collections, conservator, senior curator, chief financial officer, and HR manager/special projects manager. Minutes were taken during these meetings with action items listed. A Gantt chart for the larger project, including the portion funded through NEH Sustaining Cultural Heritage Collections, was produced by the HR manager/special projects coordinator and the director of collections. After completion of the work on the building, meetings about the installation of the collection were included in the Museum’s standing exhibits meeting, run by the preparator or the director of collections.

The conservator evaluated the light levels and the stability of the exhibition environment using a handheld light meter, stand-alone temperature, and relative humidity data loggers (PEM2), and trends produced by the Building Automation System. The conservator tested use of light data loggers in the early months of implementation but found it difficult to decide where to place them since the exhibition design had not been finalized. Using light data loggers to understand the variability of light within galleries illuminated with natural light is an important area for future research. Since this initial trial, the conservator noted with interest work undertaken at the Spencer Museum of Art by Jacinta Johnson and Steven Weintraub and presented at the 2022 American Institute for Conservation Annual Meeting which outlined a protocol and suggested equipment for undertaking this kind of study.

Appropriate light levels were determined by the light sensitivity of the objects displayed in the galleries. With most of the objects being either painted wood or painted and gilded metal, light levels were established at 15-to-20-foot candles. The room-darkening interior storm windows achieved this. Once the layout was completed, only one window required supplemental light darkening by adding a scrim to the interior storm window due to the presence of a textile pillow in a painted wooden chair. Once the controls had been fine-tuned, the environment within the building was comparable to but with less daily variation than temperature and relative humidity conditions prior to the HVAC and window work.

The mobile shelving unit prototype was tested by the director of collections and the art handlers prior to constructing others, resulting in a change to the wheels and where they were located on the underside of the unit. The result is that the storage space feels more open and that collections can be safely moved...
within the attic space as required in times of building maintenance. The chimneys are re-pointed and capped, enhancing safety during times of high winds and preventing pest ingress.

On reflection, while this project encompassed all the preventive conservation actions, some of these actions, such as pedestal design and construction and mount making, were difficult to separate from aspects of the project tied to other initiatives funded by others, such as exhibition design and layout. In future projects, we will consider separating object-specific measures from building-specific measures so that the funded project delineation is further clarified for all staff.

We were grateful for the time extension provided to us by NEH. While we could not have predicted the risks to this project that occurred due to the pandemic when we designed it, in the future, we will engage in a longer planning process and bring in outside consultants to help us think through potential risks before implementation. The experience also has resulted in new thinking around our incident and emergency response protocols.

**Project Continuation and Long-Term Impact**

At this writing, the work funded by the NEH Sustaining Cultural Heritage Collections program is largely, but not fully, complete. The objects are in the process of being installed in preparation for the September 10 opening. The VESDA lines have been run and are awaiting the availability of the updated equipment while the older equipment continues to run. Once available, the updated system will be installed without impact to the exhibition spaces.

It is likely that fine tuning of the exhibitions will continue for several more months as other aspects of the project funded by other entities, such as the creation of educational programming, are further developed. We will continue to monitor and evaluate the stability of the environment and the condition of the works of art and artifacts as we do with other Museum exhibition and collections storage buildings. Once Stagecoach Inn is reopened to the public, we will be able to assess the success of the project through visitor, exhibition guide, and protection service officer comments.

As mentioned previously, lessons learned during this project will influence the scope and design of future preventive conservation projects in other structures at Shelburne Museum. While it made sense to us to bundle all aspects of preventive conservation activity into a single grant funded project, it may be more prudent to conduct discrete planning projects with the assistance of outside consultants, and then gauge what aspects should be bundled together for implementation.

We are honored to have learned that a two-year planning project investigating the condition of the building envelopes, HVAC systems, and environments for two of the Museum’s buildings housing fine arts collections has been approved for funding by the NEH Sustaining Cultural Heritage Collections program, as this represents the first incident of implementing lessons learned from this project. We will continue to seek funding from government funding agencies and foundations for more discrete planning projects, such as the previously mentioned light level survey, that will create baseline information before we implement improvements.