

Old Ship Meeting House

Hingham, MA



Massachusetts Historical Commission
2015 Preservation Award Nomination
Rehabilitation and Restoration

February 2015



BUILDING CONSERVATION ASSOCIATES INC

**Old Ship Meeting House
Comprehensive Restoration
Hingham, Massachusetts**

Statement of Achievement

Introduction

Old Ship Meeting House is a National Historic Landmark and one of Hingham's and Massachusetts' most important historic buildings. Old Ship is the oldest surviving New England meeting house. Of the more than two hundred meeting houses known to have been built between 1629 and 1700, only Old Ship survives. (Marion Card Donnelly) Its architectural significance has been recognized for more than two hundred years, first by its Hingham congregation who refused to allow its demolition in the 1790s and later by their painstaking campaigns of restoration.

Formal recognition of Old Ship's architectural significance includes: documentation by the Historic American Building Survey (1962), designation as a National Historic Landmark (1962), listing on the National Register of Historic Places (1966), and inclusion in the Town of Hingham's Bachelor's Row-Pear Tree Hill Local Historic District.

The Church has worked diligently in the last decade to comprehensively restore Old Ship Meeting House. As in the 18th century, the leaders of the church recognized the architectural and historical significance of the building and the importance of its preservation. Their commitment to its preservation has extended beyond the physical repair of the building to the scholarly approach of using the restoration work to further study and understanding of the architectural history of the Meeting House.

The work has been funded by grants from Save America's Treasures, MPPF Funds from the Massachusetts Historical Commission, and Hingham Community Preservation Act monies. In all, the church has raised more than 1.5 million dollars for work on Old Ship.

This Preservation Award nomination describes the full Old Ship Meeting House restoration project, which spanned the years 2006– 2014. It is understood that this Award is for work that was completed between 2011 and 2014 and a significant portion of this work was completed during that time. (All work, with the exception of the Historic Structure Report and the re-shingling of the wood roof was completed between 2011 and 2014.) Understanding the work that is being nominated, however, benefits significantly from knowing its context within the larger project. And the larger project, which was based on careful research, prioritizing of scope of work related to funding, and the skills of many restoration crafts people required nearly a decade of work.

The full scope of work for the project included: the preparation of the Historic Structure Report; replacement of the wood shingle roof, the restoration of the windows, exterior carpentry repairs and the repainting of the building, significant structural repairs to the 17th century timber frame, the upgrading of the mechanical systems, the restoration of the interior finishes, and the addition of a new toilet facility (the privy).

The restoration work facilitated further study and documentation of the meeting house and included the discovery of significant 17th century building fabric that had been covered over by later alterations to the building. These findings have been recorded and included as addendums to the Historic Structure Report.

In this award nomination, these findings are described in the narrative's scopes of work as well as in a separate section that identifies some of the remarkable discoveries made during the restoration work.

Historic Structure Report

The Old Ship Restoration Project began with the preparation of a Historic Structure Report that focused on the architectural history of the building and on the assessment of its current condition. The architectural history of the building is very well documented, from the construction of the building in 1681 to the present day. The Massachusetts Historical Society is the repository for the Old Ship building records.

The architectural history of the building has five primary campaigns of work. The original construction of the building in 1681; the construction of the north addition in 1731; the construction of the south addition in 1755; the Victorian remodeling of the building in 1869; and the restoration of the building to its “1755 appearance” in 1930. All of these campaigns of work significantly altered the Meeting House and important building fabric from each survives in the building. Despite the seemingly aggressive restoration undertaken in 1930 to remove the Victorian interior finishes, original building fabric – wood paneling and interior clapboard wall covering, 1755 and 1869 windows, and fragments of Victorian wallpaper and carpet survive in the building.

The condition of Old Ship in 2006 reflected the fact that it had last been comprehensively restored in 1930. It had been well maintained through the years, but suffered from the cumulative effect of multiple small projects undertaken without a plan for the full restoration/preservation of the building. In particular dire condition were the mechanical systems – electrical, fire and security, sprinkler; the structure of the north and south plates of the 1681 building; and the wood shingle roof (it was over 35 years old).

Roof

Old Ship Meeting House has a wood shingle roof. Prior to 2008, the wood shingles had last been replaced in the 1980s. The existing wood shingles were warped and worn and the roof in need of full replacement.

The roof was stripped of its existing shingles, which were nailed directly to the sheathing boards. The removal of the shingles revealed that the roof preserves most of its original sheathing boards. The pattern of these boards shows that the east and west 1681 roofs originally had roof gables and the changes in the roofs associated with the 1731 and 1755 additions. (The north and south roofs of the original meeting house have been covered over by the 1731 and 1755 additions, but surviving elements of their framing also indicate that they originally had gables. (Figures 2 – 4)

The condition of the sheathing boards was very fragile from years of nailing. To avoid any significant replacement of the sheathing boards and to provide a nailing surface for the new shingles, the roof was strapped. At the edges of the roof, the sheathing boards were covered with ice and water shield, and a new copper edge flashing installed. (Figures 5 – 6) The new wood shingles were hand-nailed to the strapping.

One change was made to the wood shingle roof. The exterior sprinkler system that had been installed on the roof hips in the 1930s was not reinstalled. It had not been functional for years and with modern fire-fighting equipment, it was no longer deemed necessary. (The sprinkler had been installed to prevent the roof from catching fire from flying embers from nearby building fires.) The hips were finished with woven wood shingles. (Figures 7 – 8)

Exterior Carpentry

The major exterior carpentry repairs were concentrated on the east elevation of the building. Modern clapboards installed in the 1960s as well as some nineteenth century clapboards were replaced. A sill repair was also made at the location of the former brick entry steps.

As on the roof, the stripping of the modern clapboards from the east wall revealed, remarkably, that most of the sheathing boards are original. They document the 1731 and 1755 additions to the building, as well as the locations and size of the 1681 casement windows. (Figures 9 – 12) The casement windows were replaced in 1755 with double-hung, twelve-over-twelve sash. Prior to this work, the size and locations of the casement windows, though speculated, was not documented.

Exterior Painting

Old Ship was painted with its historic (c.1755) paint colors at the conclusion of the project. It is indeed true that little exterior building fabric survives from 1755. Most of the clapboards and the windows were replaced in 1869. It was intended that the 1869 diamond-panes windows would be replaced and the twelve-over-twelve sash restored in 1930. However, the interior work was undertaken first and the onset of the Depression ended the project before the exterior restoration work was completed. Fragments of 18th century building fabric survive on the south portico and were the source of the paint samples from which the historic colors for the Meeting House were derived.

Most of the historic paint on the Meeting House had been stripped in earlier repainting campaigns. Surface preparation for this project, therefore, typically required limited paint removal and sanding.

All of the window sashes were restored and painted separately. (Figures 13 – 17)

Windows

The diamond-paned windows at Old Ship Meeting House date to the Victorian remodeling of the building in 1869. The windows replaced the 1755, double-hung, twelve-over-twelve sash. The diamond paned windows are a unique design, a double hung window with diamond panes that imitate the diamond panes of the building's original casement windows.

The decision was made at the inception of this window restoration project that the glass would not be removed from the diamond-paned windows. The wood frames of the sash were generally in good condition and removing the glass would have caused significant breakage. The diamond-panes, with their narrow tips, are even more vulnerable to breakage than a rectangular piece of glass. All of the sashes were removed from their openings, any necessary carpentry repairs made, glazing putty replaced, and repainted.

In addition to the diamond-paned windows, two of the 1755 windows survive at Old Ship. They are the arched-topped windows above the pulpit in the west wall. These windows required more extensive repair. Their glass was removed, wooden sash repaired, glass reinstalled with new putty and repainted. These windows also had an exterior Tru-View protective panel installed. (Figures 16 -23)

1681 Doors

The most remarkable discovery of this restoration of Old Ship Meeting House was the uncovering of the original, 1681, exterior doors in the west wall. The doors are located behind the pulpit, which was installed in 1755. Since 1755, the doors have been concealed in the west wall, though careful inspection of the wall under the pulpit reveals the doors' casing and its horizontal interior panels. From the outside, there is no clue that there were formerly doors in this location.

It is hard to minimize the significance of these doors. Very few, if any, 17th century exterior doors survive in their original location. The doors show their construction, with vertical boards on the outside and horizontal boards on the inside. The boards are held together with nails installed in a decorative pattern. The doors were hinged and do not appear to have had a latch. A small hole in the door suggests a rope handle and probably an interior bar that secured the doors. The casing of the doors had a 1/4 -round molding and it was painted red. The door itself does not appear to have been painted. (Figures 24 – 26)

Structural Repairs

Old Ship Meeting House retains most of its original (1681) timber frame. The notable exceptions are found on the north and south walls, where much of the vertical framing was removed when the 1731 and 1755 additions were built. With the removal of the vertical framing members to open up the interior space in the Meeting House, the plates of the north and south wall had sagged and deflected. Earlier supplementation of the frame had included the installation of a timber strong-back at the west end of the north plate as well as the construction of pony trusses at the center bays of both the north and south walls.

The reinforcement of the timber frame was designed to be supplemental and to be completely hidden in the attic spaces above the beams requiring additional support. The supplemental steel was designed by Odeh Engineers and installed by Webb Preservation. The steel was lifted into the attic through the dormer windows. Wooden templates were made of each of the pieces of steel to assure that they could be installed in the space. Multiple pieces, rather than full-length, installations were required.

This part of the project is particularly deserving of recognition for the sophistication of the design of the repairs and the skill with which the steel was installed. (Figures 27 – 31)

Interior Finishes Restoration

The restoration of the interior finishes was done in conjunction with the upgrading of the mechanical systems. The upgrading of the electrical service, which included re-wiring the entire building and all of the lighting fixtures, required some cutting into the plaster and removal of wood trim. All of the removal work was done by a master craftsman and supervised by an architectural conservator. At the conclusion of this work, the areas opened were restored along with other areas of deteriorated finishes.

Only limited restoration work was undertaken on the interior wood finishes. The wood surfaces in the Meeting House are regularly cleaned and treated by a team of church volunteers and therefore were not part of this project. Most of the wood surfaces in the sanctuary were carefully covered before the interior work began. (Figure 32)

Most of the interior finishes restoration involved plaster repair – both areas of plaster loss and areas where the plaster had become detached from its wood lath substrate. (Figure 33) Extensive plaster consolidation was done to the galley ceilings. The lath of these ceilings is exposed in the north and south attics. (Figure 34)

After the plaster walls and ceilings were repaired, they were whitewashed. Whitewash samples were mocked-up before the final color of the whitewash was selected. Early plaster samples found in the Meeting House indicated that the plaster walls and ceilings had been whitewashed in 1755. (Figures 35 – 37)

Interior Historic Building Fabric Discoveries

As on the exterior of the Meeting House, interior work, particularly where furnishings and elements were removed for repair or restoration, revealed the remarkable survival of 17th and 18th century building fabric. Behind one of the plaques on the east wall, a viewport showing three generations of interior wall finishes was found. (Figure 38). This viewport was probably created in 1930, but because it was covered with a plaque that was screwed into the plaster, it was never viewed. During this restoration the plaque was moved so the viewport is now accessible.

The viewport shows the original interior wall finish, which was clapboards. Unlike exterior clapboards, these clapboards are installed with their projecting surface facing upward. The clapboards are unfinished. In 1731, the clapboards were covered over with plaster that was whitewashed. To make the clapboarded surface more uniform in plane, wood laths of two thicknesses were nailed onto the clapboards. The third layer is also lath and plaster and dates to 1755. This is the plaster that is found on most of the interior walls of the Old Ship. Neither in the 1869 Victorian remodeling or the 1930's restoration was significant re-plastering done in the Meeting House.

In the east gallery, some of the 1869 wainscoting was removed to reveal additional original finishes. The 1681 horizontal board wainscoting was found nearly continuous along this wall. In this wainscoting are the cut-outs for the original east gallery floor joists, confirming both its existence as well as providing additional information about its dimensions. Behind the 17th century wainscoting, several areas of original brick and clay nogging were also found. (Figures 39, 40)

These discoveries substantially confirm the simple interior finishes of the 17th century Meeting House – the earliest wood finishes were all unpainted. Plaster first appears to have been introduced into the Meeting House in 1731 for both the ceiling and the walls. Throughout much of the 17th and first half of the 18th century, the walls of the Meeting House were whitewashed and the wood trim unpainted.

While the most remarkable finds during the Old Ship restoration related to the 17th and 18th century building fabric, several very interesting building elements from the 1869 Victorian remodeling were also found. Figure 41 is a photo showing the sanctuary with its Victorian furnishings. During the restoration, the wallpaper shown in this photo was found under one of the plaques on the east wall (Figure 42) and the carpet shown on the floor was found on several of the kneeling stools that were in the Meeting House. (Figure 43)

Privy

Old Ship Meeting House has never had toilet facilities, except for the one-hole outhouse in the basement. It offered no opportunity for restoration.

The Privy provides modern toilet facilities with a composting system. The privy was designed by Building Conservation Associates, Inc to replicate the other additions – south and east entries - that had been built onto the Meeting House in the 18th century. The Privy also creates an attractive, enclosed accessible entrance into the Meeting House.

The Privy was built over the existing ramp and therefore minimized the additional area that had to be altered to accommodate the new structure. It also used the existing accessible entry door into the Meeting House to provide access to the Privy.

The Privy is a modern structure designed to respond to the unique needs of the historic building. It required the addition of no new plumbing on the site and could be accommodated in a small structure at the rear of the building. It is a “green”, high tech/low tech solution that fulfills the needs of the 21st century congregation worshipping in this historic landmark.

Summary Statement

The Old Ship Meeting House Restoration Project merits a Massachusetts Historical Commission Preservation Award for the comprehensive scope of the work, the quality of the work undertaken, and the way that the project was undertaken so that historic building fabric was exposed and documented to further understand the remarkable architectural history of the Meeting House. Significant new information was gathered about both the 17th and 18th century interior and exterior finishes of the Meeting House. Much of this historic building fabric now remains exposed for scholarly study and visitor interpretation. Structural deficiencies have been repaired and the building has been made more weather tight. Most importantly, the long-term preservation of Old Ship Meeting House has been assured by this comprehensive restoration.

List of Contributors

Funding Sources

Old Ship Church
First Parish in Hingham
Unitarian Universalist
90 Main Street
Hingham, Massachusetts

Friends of the Old Ship Meeting House
90 Main Street
Hingham, Massachusetts

Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, Massachusetts

Save America's Treasures
National Park Service
Washington, DC

Community Preservation Act
Town of Hingham
Hingham, Massachusetts

Consultants

Restoration Consultant

Andrea M. Gilmore
Building Conservation Associates, Inc.
10 Langley Road
Suite 200
Newton Centre, Massachusetts 02459

Structural Engineer

M. David Odeh
Odeh Engineers
1223 Mineral Spring Avenue
North Providence, RI 02904

Preservation Contractor

David Webb
Webb Preservation
109 Hay Street
Newbury, MA 01951

All photographs © Building Conservation Associates, Inc. unless otherwise noted



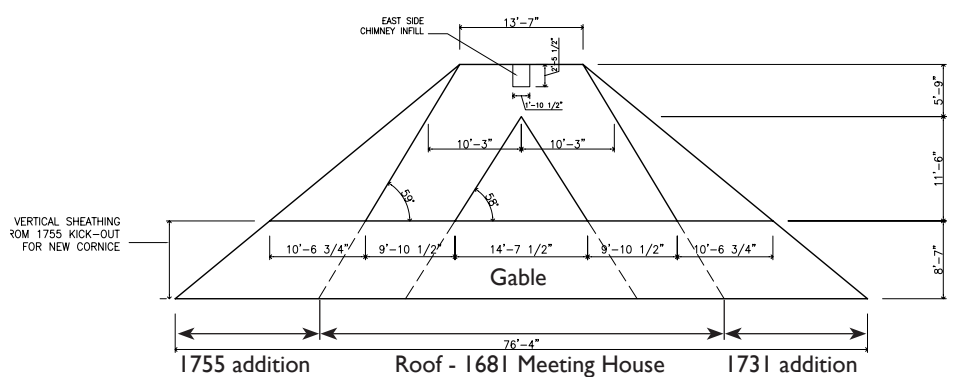
Figure 1. Old Ship Meeting House. 2008 – Prior to the commencement of the restoration work.



Figure 2. Old Ship Meeting House. East elevation – Wood shingle roof stripped, exposing historic sheathing boards.



Figure 3. Old Ship Meeting House. East elevation – Patched roof sheathing boards identifying the location of the 1681 roof gable. Rectangular patch above is the former chimney location.



OWNER		SCARS OF ORIGINAL GABLES EAST SIDE	
 BUILDING CONSERVATION ASSOCIATES, INC. RESTORATION CONSULTANT 580 HIGH STREET DEDHAM, MA 02026	Old Ship Meeting House Hingham, MA	REVISIONS:	SHEET
		SCALE: NTS DATE: April 2008 DRAWN BY: RR	

Figure 4. Old Ship Meeting House. Drawing of roof sheathing boards showing additions to building as well as original roof gable.



Figure 5. Old Ship Meeting House. East elevation – Installation of new ice and water shield at eave.



Figure 6. Old Ship Meeting House. South elevation – Installation of roof strapping.



Figure 7. Old Ship Meeting House. South elevation – Restored dormer and wood shingle roof.



Figure 8. Old Ship Meeting House. Southeast corner of wood shingle roof showing woven hip.



Figure 9. Old Ship Meeting House. Exterior carpentry repairs – East elevation – Modern clapboards removed and replaced. Note documentation of building history shown in sheathing boards.



Figure 10. Old Ship Meeting House. East elevation – Detail of casement window (1681) infill. Windows were infilled in 1755.



Figure 11. Old Ship Meeting House. East elevation – Detail of casement window infill showing cut-out for window sill.



Figure 12. Old Ship Meeting House. East elevation – New clapboards being installed.



Figure 13. Old Ship Meeting House. Exterior painting – South elevation – Surface preparation.



Figure 14. Old Ship Meeting House. Exterior painting – Surface preparation.



Figure 15. Old Ship Meeting House. East elevation – After restoration complete, including re-painting.



Figure 16. Old Ship Meeting House. West elevation – 1755 – Arch-topped windows behind pulpit, before restoration.



Figure 17. Old Ship Meeting House. 1755 sash removed for restoration. Photo courtesy of David Webb.



Figure 18. Old Ship Meeting House. 1755 sash – Detail of deteriorated glazing. Photo courtesy of David Webb.



Figure 19. Old Ship Meeting House. 1869 sash – Detail of deteriorated glazing. Photo courtesy of David Webb.



Figure 20. Old Ship Meeting House. Detail of muntin repair. Photo courtesy of David Webb.



Figure 21. Old Ship Meeting House. Reglazing 1869 sash. Photo courtesy of David Webb.



Figure 22. Old Ship Meeting House. West elevation – 1755 sash restored with new protective covers installed.



Figure 23. Old Ship Meeting House. Restored 1869 window.



Figure 24. Old Ship Meeting House. Original 1681 doors uncovered in west wall; covered over in 1755.



Figure 25. Old Ship Meeting House. Molding detail on casing of 1681 doors.



Figure 26. Old Ship Meeting House. Detail of red paint on casing of 1681 doors.



Figure 27. Old Ship Meeting House. Designing the templates for steel fabrication for structural repairs.



Figure 28. Old Ship Meeting House. Structural steel being lifted by crane into Meeting House attic.



Figure 29. Old Ship Meeting House. Structural steel being guided into the attic through the south roof dormer window.



Figure 30. Old Ship Meeting House. Structural steel being prepared for installation.



Figure 31. Old Ship Meeting House. New structural steel installed on north side of attic. Steel supplements the deflected plates of the original 1681 timber frame.



Figure 32. Old Ship Meeting House. Interior of the Meeting House prepared for restoration work.



Figure 33. Old Ship Meeting House. Plaster failure requiring re-adhesion and patching.

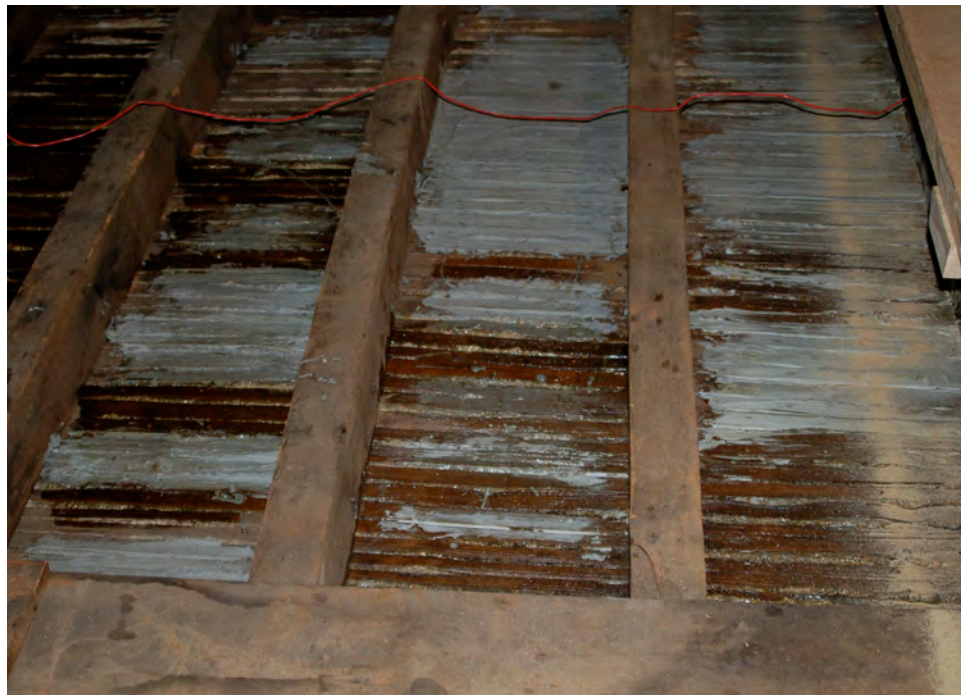


Figure 34. Old Ship Meeting House. Plaster re-adhesion.



Figure 35. Old Ship Meeting House. Whitewash mockup panels.



Figure 36. Old Ship Meeting House. Whitewash being applied to plaster walls and ceiling.



Figure 37. Old Ship Meeting House. Plaster walls restored.

Original 1681 interior clapboard wall covering.
Clapboards were unpainted.

1730 lath and plaster with whitewash

1755 lath and plaster with whitewash



Figure 38. Old Ship Meeting House. Interior, east wall.
Viewpoint of 17th and 18th century wall finishes.



Figure 39. Old Ship Meeting House. East gallery wall showing 1681 brick and clay mortar nogging.



Figure 40. Old Ship Meeting House. East gallery – 1681 wall paneling showing pockets for original east gallery framing.



Figure 41. Old Ship Meeting House. Victorian interior finishes, 1869-1930.



Figure 42. Old Ship Meeting House. East wall – Wallpaper from Victorian era shown in the historic photo (Figure 41).



Figure 43. Old Ship Meeting House. Kneeling stools upholstered with carpet shown in historic photo (Figure 41).



Figure 44. Old Ship Meeting House. North elevation showing Meeting House access ramp and location of privy.



Figure 45. Old Ship Meeting House. North elevation – Privy excavation.



Figure 46. Old Ship Meeting House. Privy during construction. East and north elevations.



Figure 47. Old Ship Meeting House. Privy during construction. West elevation.



Figure 48. Old Ship Meeting House. Interior of privy during construction, showing window that was modified in the 1990's to create the door to the accessibility ramp.



Figure 49. Old Ship Meeting House. Composting unit.



Figure 50. Old Ship Meeting House. Privy completed.



Figure 51. Old Ship Meeting House. East and North elevations showing completed privy.