

WINDOW GUIDELINES FOR HISTORIC PRESERVATION

Andover Preservation Commission, BallardVale Historic District Commission

Original and old wood windows are critically important character-defining features of old homes and other buildings. Sadly, they are one of the most threatened elements in the historic built environment today, as evidenced by their inclusion on the endangered lists of preservation organizations nationwide.

The removal and replacement of old and original wood windows with factory-made models destroy critical detail and texture that make a historic building unique. The loss of original wood windows detracts from a building's appearance, compromises its historic authenticity, and irreversibly devalues its value. Old wood windows possess aesthetic attributes – the beauty deriving from correct proportions, craftsmanship, traditional materials, and old glass – that simply cannot be replaced by modern replacement window units. Further, retention of original and historic wood windows is the most sustainable choice, conserving both a home or building's character and protecting our environment.

Note: Any and all window replacements need to be approved through the Andover Preservation Commission or the BallardVale Historic District Commission. Applicants to the BallardVale Historic District Commission may be asked to provide a window repair estimate for all window replacement requests.

The Three Approaches to Old Wood Windows

Three general approaches to the revitalization of historic windows are described below in order of preference by the Ballardvale Historic District and Andover Preservation Commissions:

1. Repair/refurbishment of existing wood windows with the addition of interior and/or exterior storms for energy efficiency. (Best solution from a preservation and eco-friendly perspective)

A professionally restored wood window will outlast any modern replacement window unit several times over, in large part because the first growth lumber used in period construction is far more stable, dense, and rot-resistant than any wood now available, at any price. The replacement window industry is extremely aggressive in promoting the durability, energy efficiency, and cost-effectiveness of its products. In reality, there are no more durable, energy-efficient, or cost-effective window than a sound, weatherized wood window with an interior or exterior storm window. A refurbished historic window can last another century, while a modern replacement window unit will last only 15 (most vinyl) to 25 (medium quality wood) years. There is a reason replacement window units are called "replacement" windows – they inevitably fail and need to be replaced.

2. Retention of window casing, replacing only the window sashes.

Historic windows can often be saved by replacing only the sashes. Refer to the guidelines in the next section to assure that the replacement sash design is historically appropriate.

3. Removal of windows and installation of window replacement units. (To be avoided where possible as historic wood windows are lost)

It is almost never necessary to replace all the windows in a house; assess the condition of each window individually. If historic wood windows must be replaced, the replacement window units should be historically appropriate — true to the original windows and true to the character of the house. The Commission offers the following guidelines for replacement window units:

- Windows should be wood or aluminum-clad wood
- Window style should remain the same as the original (double-hung, casement, etc.)
- Window opening should be identical to original window (no fillers to allow for installation of a stock-size window in a too large opening). One of the most character-destroying features of replacement window units is light reduction. Up to 20% of the light transmitted through an original window is lost when a full replacement window unit is set inside the existing casing.
- Sash area should be substantially similar to the original window (no reduction in glass area).
- The lower sash must rest upon the sill, as in the original window.
- Window grill configurations should match the original windows or be historically appropriate. True divided lights (TDL) or simulated divided light (SDL) are preferred and permanently applied exterior grids must be included. The muntins of said grills (strips of wood creating the illusion of separate glass ‘panes’) should be as similar to the originals in profile, width, and depth as possible.

Replacing “already replaced” Windows

If your home no longer has the original windows and the replacement windows need to be replaced, consider upgrading your new window choice to a better, more historically accurate window instead of matching the failing ‘old’ replacement windows. Clearly, the replacement windows were not a good product and did not stand the test of time as wood windows do. Even if you are only replacing a few windows in your home at a time, it is better to go with a high-quality wood window and match the better window as you do additional window replacements.

Window Energy Efficiency

New vinyl windows have a very short life span and are not repairable. Old wood windows are designed to be repairable, and with good storms, proper repairs and weatherstripping, can last hundreds of years if not indefinitely. The energy efficiency of a properly functioning wood window with a storm window is equivalent or superior in energy efficiency to a new window.

An engineer contracted by Bay State Gas and National Grid to perform energy audits in the Boston area states that there are only two valid reasons for replacing windows – noise and ease of use. This same engineer reports that the energy payback for replacement window units is 15 years at minimum which is the life span of most vinyl replacement windows!

The majority of a building's heat loss (80%) is through the roof; insulating the attic (at an average cost of \$1,200) achieves the same energy savings as replacing all the windows in a house.

Repairing Wood Windows, the Maintenance Free Myth, and Going Green

Vinyl windows have a very short life span and are not repairable. Vinyl windows are notorious for oxidizing when exposed to sunlight, creating inhalable dust, and having their glass seals fail. If and when your vinyl window breaks or the seals fail, there is no choice but to replace the entire window unit.

The greenest and most eco-friendly building is one that is already built. New windows are sold with promises of being eco-friendly and energy-efficient, but when evaluated from the perspective of the energy cost spent in the production, shipping, installation - not to mention the removal and landfill waste of the existing windows - replacing original windows has a significant negative impact on the environment.

Historic wood windows were made from old-growth timber which is denser and far more weather-resistant than any wood product available today. Old wood windows are designed to be repairable, and with good storms, proper repairs and weatherstripping, can last hundreds of years.

As you obtain pricing for replacement of your existing wood windows, we implore you to also obtain pricing for repair of your existing wood windows. These window restoration experts will oftentimes repair the windows in their existing locations. You may be pleasantly surprised at the cost savings you will discover in repairing windows you already own!

Window Repair Sources

Inclusion in this document does not imply endorsement or approval by the Andover Preservation Commission or the BallardVale Historic District Commission.

- Cleary Window Restoration – clearywindowrestoration.com – Waltham, MA 800-893-0728
- Furniture Plus – furnitureplusrepair.com – Worcester, MA 508-791-8450
- Good Window Works – goodwindowworks.com – Boston, MA 857-770-8555
- Heartwood Building & Restoration – Charlemont, MA 413-339-4298
- Old Bostonian Stripping & Refinishing – oldbostonian.com – Boston, MA 617-282-9300
- OldTown Repair – Marblehead, MA 781-631-5145
- Thomas Barber – thomasbarderrestoration.wordpress.com - Lynn, MA 617-784-1201
- Wood Restoration Cape Cod – windowrestorationcapecode.com – Orleans, MA 508-255-0536
- Windowrepair.com - Framingham, MA 617-441-2022
- Window Woman of New England – window-woman.com – Topsfield, MA 978-561-1062
- Wood Window Restoration – windowrestorationma.com – Boston, MA 857-201-2999

New Construction and Replacement Window Models

New or replacement windows should have TDL grids (true divided light), SDL grids (simulated divided light, grids adhered on the inside, outside, and with a spacer bar in the middle), or at minimum, the grills permanently adhered on the exterior. Wood windows are better quality than vinyl windows and many manufacturers offer exterior clad wood windows so they are maintenance-free.

Wood windows with SDL

- Brosco with factory-installed exterior low E energy panel
- Heartwood Fine Windows
- JB Sash & Door – jbsash.com/historic-windows-ma
- Pella Traditional

Wood Windows with SDL and clad on exterior

- Andersen 400 series
- Harvey Majesty
- Jeld Wen Sitaline or W-5500 series
- Marvin Ultimate
- Pella Architect Series or Lifestyle
- Sanford Hills, Mathews Brothers – mathewsbrothers.com/Sanford-hills

Fiberglass Windows with SDL

- Marvin Elevate

Storm Windows

Many “invisible” exterior and interior storm window models are available. Exterior storm windows are preferred because interior storms will not prevent condensation on the original wood windows.

Exterior Storms

- Innerglass Windows – stormwindows.com – Simsbury, CT - 860-651-3951
- Georgetown Door and Window - georgetowndoor.com – Georgetown, MA - 978-352-2804
- Spencer Works Inc - spencerworks.com – Lincoln, NE - 402-499-7848

Interior Storms

- WindowTHERM – skylarcinnovations.com – Ellenville, NY – 855-422-5075

References and Resources

1. Bring Vintage Windows Back to Life – 5 ways to love old houses, Yankee Magazine
<https://newengland.com/yankee-magazine/living/home-repair-diy/vintage-window-restorer-alison-hardy/>
2. The Real Cost of Removing Historic Windows, Sedovic + Gotthelf
<https://www.lenfant.org/eblasts/October2011/WhatReplacementWindowsCan'tReplace.pdf>

3. Window Replacement Guidelines, Springfield Historical Commission, Springfield, MA
http://www.springfield-ma.gov/planning/fileadmin/Planning_files/Window_replacement_guidelines-final1.pdf
4. Cambridge Historical Commission's Window Information Guide, Cambridge, MA
<https://www.cambridgema.gov/historic/aboutchc/~media/ff5f4acddf24c1a9a810ee179014735.ashx>
5. The Truth About Windows – and Storm Windows Too,
<https://dahp.wa.gov/sites/default/files/TheTruthAboutWindows.pdf>
6. National Park Service Preservation Brief #9 - The Repair of Historic Wooden Windows
<http://www.nps.gov/history/hps/tps/briefs/brief09.htm>
7. The Case for Repairing Wood Windows, Old House Online
<https://www.oldhouseonline.com/gardens-and-exterior/preserving-wood-windows/>