

## PRESERVATION OF HISTORIC WINDOWS

### Information Sheet

Andover Preservation Commission, Ballardvale Historic District Commission

Original and old windows are critically important character-defining features of historic 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 windows with factory-made models destroys critical detail and texture that makes an historic building unique. The loss of original windows detracts from a building's appearance, compromises its historic authenticity, and devalues it irreversibly. Historic 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 sustainable choice, conserving both building character and the environment.

### The Three Approaches to Historic 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 windows with addition of interior/exterior storms for energy efficiency. (Best solution from a preservation 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 is no more durable, energy efficient, or cost-effective window than a sound, weatherized wood window with an interior or exterior storm. 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 ultimately fail and need to be replaced.

**2. Retention of window casing and replacement of window sashes only.**

Historic windows can often be saved by replacing only the sashes (see illustration page 3). 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 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 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 with a paintable surface
- Window style should remain the same as the original (double-hung, casement, etc.)
- Window opening should be identical to original window (no spacers to allow for installation of a stock-size window). 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.
- Multi-light configurations should match the original windows or be historically appropriate. True divided lights are preferred, but if SDL is the chosen solution then permanently applied exterior grids must be included where appropriate. The muntins of said grids (strips of wood creating illusion of separate glass 'panes') should be as similar to the originals in profile, width and depth as possible.

### **Window Energy Efficiency**

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 (the life span of most vinyl replacement windows).

Refurbished windows with weather stripping and storms (interior or exterior) are equivalent or superior in energy savings to replacement windows

Only appropriately-installed Energy Star windows provide valid comparison and acceptable payback

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

**The BallardVale Historic District Commission and Andover Preservation Commission recommend that historic windows be restored whenever possible and supplemented with unobtrusive storm windows. Applicants to the Ballardvale Historic District Commission must provide a window repair estimate for all window replacement requests.**

### **Vendor Resources**

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

### **Window Repair**

- Windowrepair.com - Lawrence, MA 978-975-3400
- Window Woman of New England – Topsfield, MA 978-561-1062
- Cleary Window Restoration – Waltham, MA 800-893-0728

- OldTown Repair – Marblehead, MA 781-631-5145
- Heartwood Building & Restoration – Hawley, MA 413-339-4298
- Old Bostonian Stripping & Refinishing – Boston, MA 617-282-9300

### **Wood Replacement Window Models**

- Harvey - Majesty
- Pella - Enduraclad
- Andersen 400 (have vinyl exterior cladding. Only “Full Divided Light” Option offers aluminum spacer bar matching grill pattern)
- Marvin – Signature Collection SDL with spacer bar
- J.B. Sash (custom windows)
- Heartwood Fine Windows and Doors - Heartwoodwindowsanddoors.com
- Brosco – ADL (Authentic divided light) options and double-hung replacement sash kits

### **Storm Windows**

*NOTE: 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 windows. Advanced Energy Panels - <http://www.windotherm.com/index.htm>*

- Innerglass Windows – Simsbury, CT 800-743-6207
- Georgetown Door and Window – Georgetown, MA 978-352-2804
- Spencerworks.com – Lincoln, NE 402-499-7848 -4991

### **References and Resources**

1. Timothy Galvin, Honeywell Corporation 2. Lynch, Michael. “Caring for Your Old Windows”, Historic New England Magazine, June 2000 3. Sedovic, Walter & Gotthelf, Jill. “What Replacement Windows Can’t Replace: The Real Cost of Removing Historic Windows”, APT Bulletin Journal of Preservation Technology/36:4, 2005 4. Window Replacement Guidelines, Springfield Historical Commission, Springfield, MA 5. Cambridge Historical Commission’s Window Information Guide, Cambridge, MA <http://www.cambridgema.gov/~Historic/windowguide.html> 6. “The TRUTH about WINDOWS – and Storm Windows too”, Plainfield Historic Preservation Commission, Plainsfield, NJ [http://www.plainfieldhistoricpreservation.com/articles/oldhouseguy\\_3.htm](http://www.plainfieldhistoricpreservation.com/articles/oldhouseguy_3.htm) 7. National Park Service Preservation Brief #9 - The Repair of Historic Wooden Windows <http://www.nps.gov/history/hps/tps/briefs/brief09.htm>