



**CITY OF GENEVA**  
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## HISTORIC PRESERVATION COMMISSION GUIDE TO WINDOWS

### INTRODUCTION

Window replacement, in the name of environmental responsibility and energy efficiency, has been rapidly increasing over the past few years. The result can be the erosion of a building's architectural character and the waste of a repairable and durable resource. The purpose of this guide is to help property owners make informed decisions about their windows before they start working on them.

In the City of Geneva a building permit is required when replacing windows. This is to ensure that windows are installed properly and that the type of window and its installation complies with building and energy codes. For historic properties (those in a historic district or individually landmarked), a permit application for window replacement must also be reviewed and approved by the Historic Preservation Commission (HPC) before a permit is issued and work started.



*Historic Window  
in Geneva*



*Historic Window in Geneva*

The Historic Preservation Commission uses the U.S. Secretary of the Interior's Standards for Rehabilitation (Standards) as a guide when reviewing permit applications. The Standards are used by preservation commissions at the local, state, and federal level and emphasize the repair of building materials and architectural details before considering replacement. The retention of original or historic building materials, such as windows, maintains a building's historic and architectural integrity. The HPC recognizes that not all windows can be repaired in a cost effective manner, but an analysis should be conducted before making a determination. Have your historic windows evaluated by a trained professional to determine if repair is feasible. If it is demonstrated that the windows are deteriorated and beyond repair then in-kind, (i.e., wood for wood, aluminum for aluminum) replacements should be considered. The HPC established a "Windows Policy" in 2000 describing how the Standards are applied to window permit applications. The policy may be found on the HPC page of the City of Geneva's website under "Guide to Windows".



*Historic Window in Geneva*

### WINDOWS MATTER

Windows play an important role in the architectural significance and character of a building. They provide visual texture and contrast to the building façade materials and may indicate the period and style of the structure. Windows are often referred to as the "eyes" of a building. Historic wood and steel windows were made by craftsmen. Historic windows possess aesthetic and material attributes that simply cannot be replicated by modern replacement windows. These attributes are shown in handcrafted details such as the careful construction of the sash or muntins and the design of fine window details that exemplify the care and craft that were required to originally create them. Repairing and preserving these important building attributes maintains a building's authenticity while being an environmentally sustainable endeavor. Original wood windows, when properly maintained, will typically outlast contemporary replacement windows by decades.



*Historic Window  
in Geneva*

### WINDOWS ARE REPAIRABLE

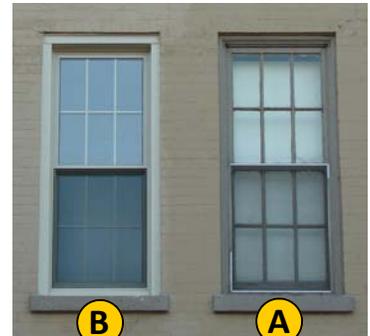
Wood and steel windows can be repaired. Wood windows installed before 1960 are typically made of old growth lumber which is very dense and strong, often making repair a viable solution. If you're a Do-It-Yourself-er, be sure to check out the resources section below for HOW TOs on window repair. If not a DIY-er, consider hiring a local carpenter or window repair specialist. Often, contemporary replacement windows are sold as a quick fix and a seemingly easy answer to improve energy efficiency, but careful planning in the repair of wood windows can result in energy savings and a more environmentally-friendly project.

**SUSTAINABILITY & ENERGY EFFICIENCY**

Windows may not be the main source of energy loss in your building. An energy audit of the building can aid in determining the energy loss culprits – and it may not be the windows. Window openings make up about 10% of a building’s walls. According to the U.S. Department of Energy over 30% of air infiltration and leaks occur through floors, roofs and ceilings. Concentrating on these energy loss areas may yield greater energy savings with greater economy.

**ENERGY AUDITS**

Because of recent changes in the real estate market, property owners are opting to make changes to their building that add value, making buildings durable and comfortable for the long haul. Every building is unique in its design and construction, thus, energy efficiency issues are exclusive to each building as well. Many new building products, including replacement windows, guarantee energy savings. But these products may not be the single nor most cost effective solution for a building’s energy efficiency improvement plans. A report from a skilled energy auditor will guide a property owner towards a project list that best fits the building and may be a more cost effective project than window replacement.



Example of inappropriate replacement (B) of historic windows (A)

**STORM WINDOWS**

If it is determined that energy loss through windows is a problem, older windows can be made as energy efficient as new replacement windows. A single pane window with a storm window replicates the dual pane feature found in replacement windows but without the real possibility of breaking the thermal seal (creating a cloudy effect and reducing the energy efficiency). Storm windows are now available with coatings (i.e., “low-e”) that increase efficiency of the window opening without compromising its historic characteristics.



Example of inappropriate replacement (B) of historic windows (A)

**CARBON FOOTPRINT**

An important aspect of sustainability and energy efficiency is reduction of the carbon footprint. If it is feasible to repair older wood windows, is it sustainable to throw them out and replace them with a new product? Removing and disposing a repairable material, manufacturing a new product, and using fossil fuels to transport the product to the site all contribute to the production of green house gas emissions. The inherent “embodied energy” which is lost when disposing of repairable windows should be considered when evaluating window replacement as a way to improve energy efficiency. While replacement offers one solution, the total impact of replacing windows on the environment may outweigh the perceived benefits.

If repair is less expensive or equal to the cost of replacement, repair is the best option. Old wood windows typically will last another 50-75 years as compared to the average 15-year life span of replacement windows. Most replacement windows provide only about \$40 savings in energy costs per month. The return on investment may be as much as 30-40 years to recoup the costs of a window replacement project and by that time the windows will likely need to have been replaced twice.

**RESOURCES**

For more information about the repair of windows, see the City’s website under Guide to Windows on the Historic Preservation page at: <http://www.geneva.il.us/>



Repairable Wood Windows heading for landfill

These photos show historic windows (A) that have been inappropriately replaced with vinyl windows (B).

