REPAIRING WOOD WINDOWS

DEPARTMENT OF ENVIRONMENTAL PROTECTION • NATURAL & HISTORIC RESOURCES • HISTORIC PRESERVATION OFFICE

Historic windows make a significant contribution to a building's façade and interior character. They are also important features of the overall streetscape within historic neighborhoods. Therefore, existing window sash and frames should be repaired where possible. Unlike today's metals replacement windows, earlier wood units are constructed such that damaged portions may be repaired or replaced one part at a time. This approach results in savings over time for the building owner and ensures that historic material will be retained to the greatest degree possible.

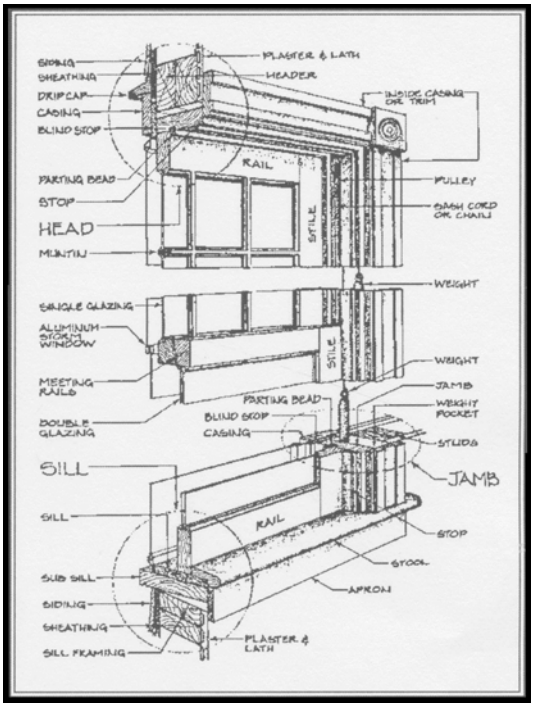
"Dutchman" or splicing repairs, which replace only the damaged portion of a single component with material matching the original in all profiles and visual qualities, are recommended.

Epoxy Consolidation

Rotted wood components can often be repaired through epoxy consolidation. Epoxies are two-part compounds that protect wood fibers from additional moisture damage and provide a smooth, paintable surface. This is in some instances more cost effective than the labor-intensive splicing technique. You should specify only top-quality consolidation and patching materials specially formulated for wood (rather than metal cars or fiberglass boats).

Documentation

Occasionally deterioration is so advanced or extensive that replacement of the entire component (stile, rail, parting bead, etc.) with new matching material is warranted. Required replacements should match the originals in material, finish, configuration, and all sizes, shapes, profiles, and visual qualities. Conditions of deterioration beyond repair should be conclusively documented photographically. Additionally, where extensive replacement of sash and/or frames is proposed, a comprehensive existing-condition window survey specifying existing conditions for frame, sash, glazing, and hardware components may be required before review can be completed.



Anatomy of a Double-Hung Window
Jonathan Poore, 03/1982 Reprint with the permission of *The Old-House Journal*

Historic Metal Windows

A Preservation Brief describing techniques for repairing historic metal windows is available upon request from this office.

Energy Concerns

Repairable windows should never be replaced with new units as a weatherization measure. Alternatives to window re-placement that increase the energy efficiency of the overall building envelope are generally less costly and should be

explored. These include: additional glazing through retrofitting or storms; extra attic and ceiling insulation; caulking; and quality weatherstripping. Our FYI publications *Retrofitting Historic Windows and Insulation* provide additional guidance.

Additional Information Request

If repair of existing sash and frames cannot occur, please specify or provide:

1. Conclusive photographic documentation of deterioration beyond repair.
2. Comprehensive existing-condition window survey detailing frame, sill, and all sash components.
3. Head, jamb, and sash section drawings for existing and proposed new window units.
4. Life cycle cost estimates for repair; replacement in-kind; all other options explored.
5. R-value estimates for repair and energy retrofit options vs. all others, estimate payback period for each option.

Please Note

Inappropriate window treatments may result in project denial for tax credit or state/federal funding purposes. Please telephone the Historic Preservation Office at (609) 984-0176 for further assistance.

Suggested Reading

Myers, John H., *Preservation Brief 9: The Repair of Historic Wooden Windows.* Washington, DC. Technical Preservation Services, 1981.

Park, Sharon C., *Preservation Brief 13: The Repair and Thermal Upgrading of Historic Steel Windows.* Washington, DC. Technical Preservation Services, 1981.

Smith, Baird M., *Preservation Brief 3: Conserving Energy in Historic Buildings.* Washington DC. Heritage Conservation and Recreation Service, 1978. *Windows The Old House Journal.* April 1982, entire issue.

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