



# National Preservation Institute

P.O. Box 1702 Alexandria, VA 22313-1702 703.765.0100 info@npi.org www.npi.org

## Historic Windows: Managing for Preservation, Maintenance, and Energy Conservation

### Seminar Overview

Historic windows are both critical components of a building's weather envelope and valuable character-defining features worth retaining for architectural and environmental reasons. Learn about the rich history and variety of wood, steel, and aluminum windows and construction methodology. Explore the maintenance and rehabilitation techniques that allow windows to have long and sustainable service lives. Review energy conservation and economic issues as factors facing managers in the restore-or-replace debate and regulations relating to preservation of these assets.

### Agenda

#### History

- An architectural history of windows in America
- Stylistic vocabulary of windows
- Survey of historic window styles and types
- Historic context of design and materials
- Value of historic fabric

#### Methods of construction

- Origins of leaded, glazed windows
- Evolution of wood sash and casement windows
- History and manufacture of window glass
- Typical sash window construction, balance systems, and hardware
- Steel windows
- Aluminum windows

#### Maintenance and repair techniques/ demonstrations using sustainable building practices

- Operation and disassembly of typical sash window
- Replacing sashes and weight system components
- Making wood sash window parts (historic and modern repair techniques)
- Sash repairs with wood and epoxies

- Replacing glass and reglazing with putty
- Glass cutting
- Paint maintenance

#### Energy conservation using sustainable building practices

- Reducing drafts
- Weatherstripping
- Storm window methods
- Payback on upgrades versus other options

#### Standards

- Historic structures reports and building documentation
- Secretary of the Interior's Standards
- Historic district requirements
- National window rehabilitation standards
- LEED

#### The restore-or-replace debate

- Retain and rehabilitate vs. wholesale or partial replacement
- Finding contractors
- Researching manufacturers
- Energy efficiency and sustainability