

# Don't Replace - Restore!



Wood Window Repair Workshop



# HISTORIC WINDOWS

Soul of the house



## Wood

Pine, Mahogany, Cypress



## Metal

Steel & Aluminum

# Types



Fixed or Picture



# Types



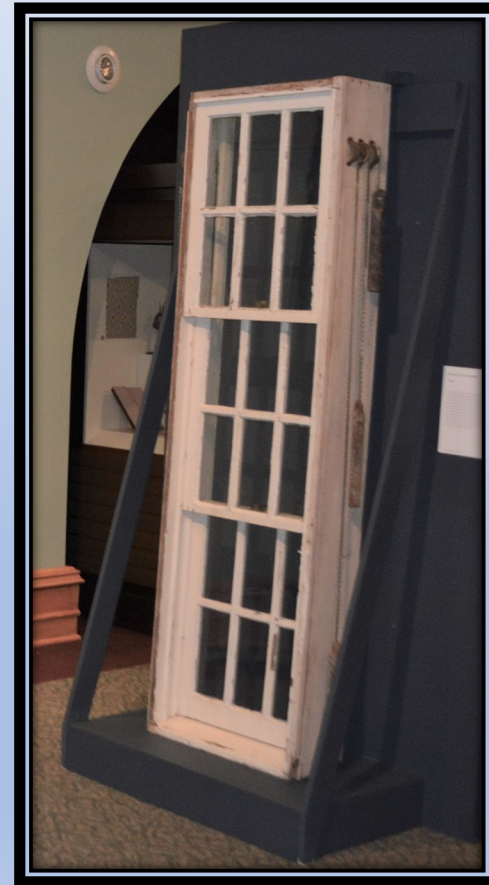
Slider or Glider

Casement



# Types

Single or Double Hung



Triple hung

# Types



Pocket or Jib



# Lites

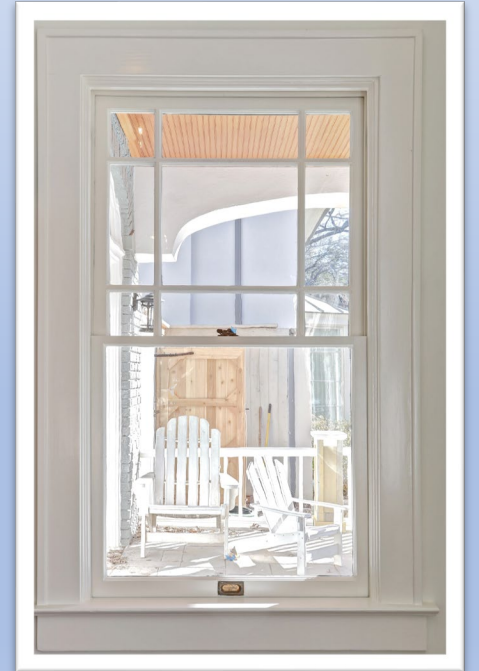
One over one



Two over two



Six over six



Nine over one

## THE FOUR TREATMENT STANDARDS:

- Preservation:** the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property.
- Rehabilitation:** the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.
- Restoration:** the act or process of accurately depicting the form, features, and character of a property as it appeared in a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.
- Reconstruction:** the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving side, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.





# Going to focus on:

the maintenance and repair of existing historic materials



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- |                 |  |
|-----------------|--|
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# Possible Requirements or Restrictions

- Is there a historic designation
  - National Registry
    - Private conservation easement (rare)
  - Recorded Texas Historic Landmark (RTHL)
  - Preservation Tax Credits
  - Located in a historic designated neighborhood
  - Local designation – individual landmark



# Most common issues

- Painted shut
- Ropes have broken
- Rails not meeting correctly
- Windows don't lock
- Drafty
- Rot and wood decay
- Interior condensation



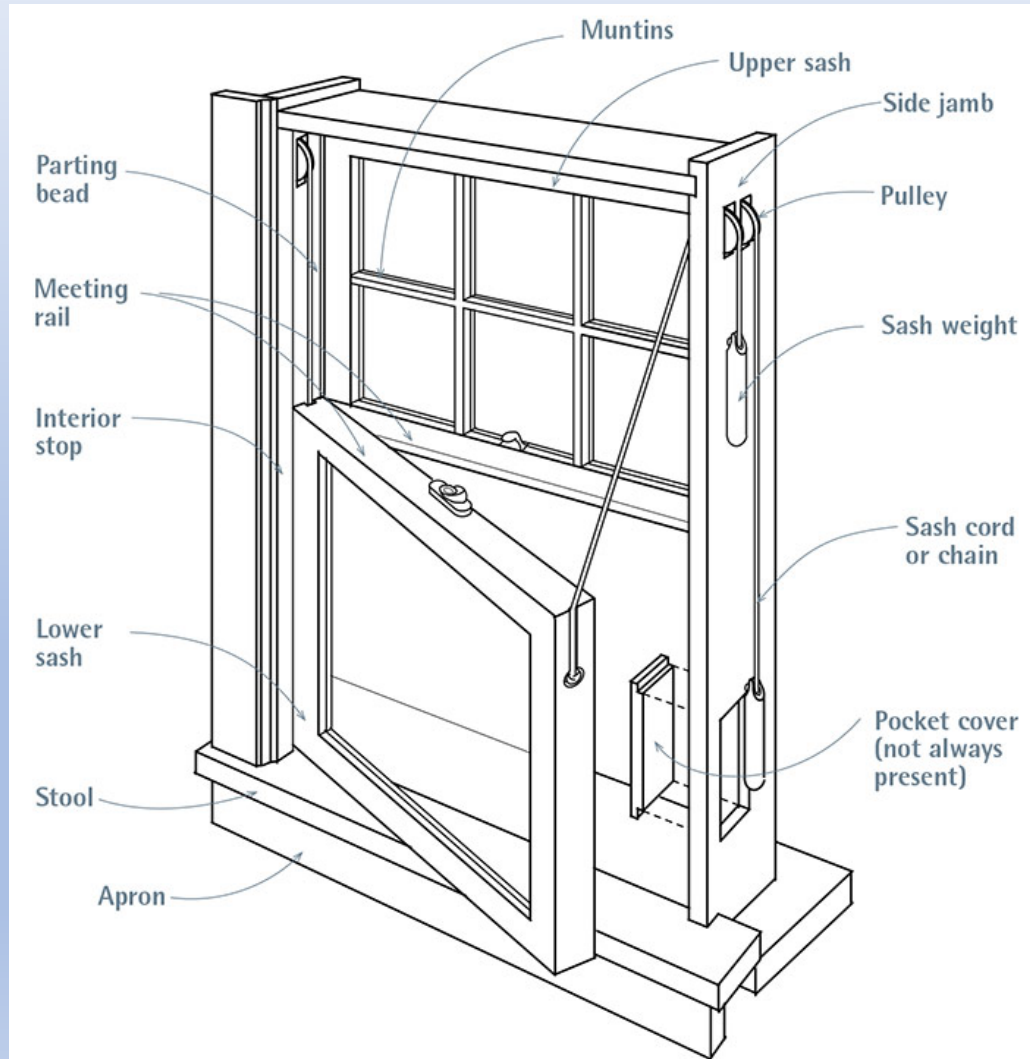


# Most common failures

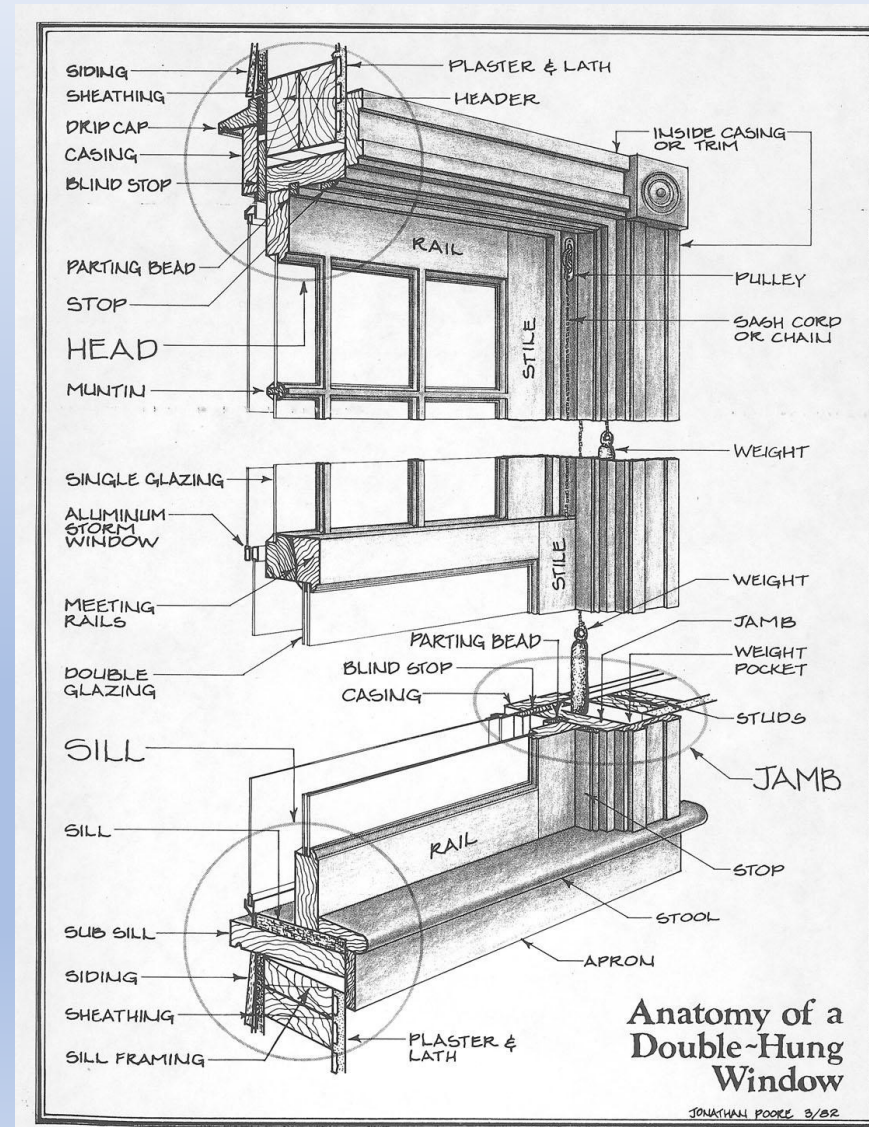
- Paint
- Putty
- Bottom rail of the upper sash warped or joint failure
- Window frame loose
- Window sill and sub-sill rot



# Window Parts



# More Window Parts





# Repair & Restoration Goals

Authenticity! Authenticity! Authenticity! Authenticity!

Think of that window as an artifact. Think of the house as an artifact.

Approach the work as a conservator.

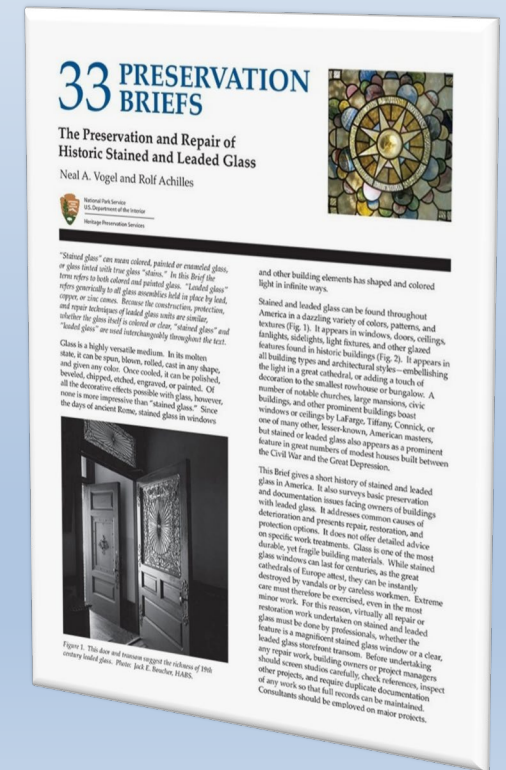
Always attempt to restore before replacing.

Replace with like material.



Find lots of information at:

<http://www.nps.gov/tps/how-to-preserve/briefs.htm>



# LUMBER



Most turn of the century homes (in this area) are frame built with “Old Growth - Long Leaf Pine”

Old Growth: Started growing a long, long time ago, grew for a very long time under a canopy of very old trees

Second Growth: Not as good as the old but better than new

New Growth: The faster it grows the better, but not for thee!

What about slow growth vs. old growth

# MORE LUMBER

Replacement woods:

Reclaimed Long Leaf Pine

Sinker Cypress - not the same as "Cypress"

Vertical Grain Doug Fir

Mahogany

Sapele





# Epoxies

These are the two I work with



Advanced Repair Technology (ART)  
[www.advancedrepair.com](http://www.advancedrepair.com)



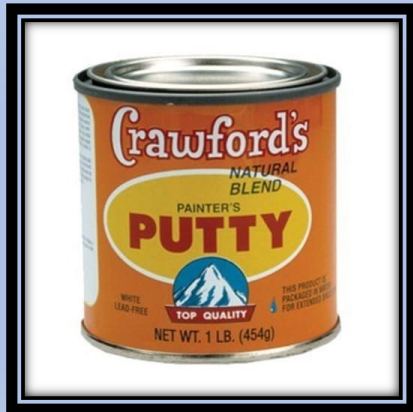
Abatron  
[www.abatron.com](http://www.abatron.com)

Both are a two component epoxy and two part consolidant or primer

# Putty



DAP "33"



Crawford's Painter's Putty



Red Devil Window Glazing Compound



Sarco MultiGlaze



Sherwin Williams "66" Glazing Compound

# PAINTING

Do not buy the cheap stuff

Just say no to Bondo!

EPA Lead Safe Rules Check out: [www.epa.gov/lead](http://www.epa.gov/lead)

Painting is one percent application, ninety nine percent preparation.



# Energy

The U-factor (the rate at which a window conducts non-solar heat flow) is not the main issue.

The solar heat gain coefficient (SHGC) (a measure of solar Radiation admitted through a window) is not the issue

Air infiltration is the major window energy loss issue

# Energy Findings

## The Study:

*saving windows, saving Money:*

*evaluating the energy Performance of window retrofit and replacement*

commissioned by the Preservation Green Lab - National Trust for Historic Preservation,  
and funded by The National Park Service

## The Findings:

Building on previous research, the study examines multiple window improvement options, comparing the relative energy, carbon, and cost savings of various choices across multiple climate regions.

Results of this analysis demonstrate that a number of existing window retrofit strategies come very close to the energy performance of high-performance replacement windows at a fraction of the cost.

# Energy Saving Remedies

## aka Treatments

- Check existing windows for air leaks. Repair
- Caulk and weatherstrip.
- Add window treatments and coverings.
- Add storm windows or panels
- Add solar control film
- Add exterior shading, such as awnings, exterior blinds, or overhangs.

# What else

Quick history of glass

Rondel or Circular or Bull's Eye, Cylinder Blown, Lifted & Floated

Tom Clark's "poor man's art glass"

Flashing

Weather stripping - Dorbin Catalog

Fasteners



# Resources

[www.windowpreservationalliance.org](http://www.windowpreservationalliance.org)

[www.nps.gov/tps/how-to-preserve/briefs.htm](http://www.nps.gov/tps/how-to-preserve/briefs.htm)

*Save America's Windows*

by John Leeke

*Window Preservation Standards*

Window Preservation Standards Collaborative

*The Window Handbook*

National Park Service

*Window Rehabilitation Guide*

Historic Preservation Education Foundation

## Window Parts and Hardware

Swisco: [www.swisco.com](http://www.swisco.com)

SRS Hardware: [www.srshardware.com](http://www.srshardware.com)

Samson Red Spot Sash Cord

Indoor Storm Windows

[www.indowwindows.com](http://www.indowwindows.com)

[www.window saver.com](http://www.window saver.com)

Dorbin Metal Strip Mfg. Co., Inc.

2404 South Cicero Ave.

Cicero, Illinois 60804-3492

# Top Ten Reasons To Restore

1. Because your windows fit your house.
2. Because you appreciate good craftsmanship.
3. Because you value good materials.
4. Because you love the character of antique glass.
5. Because you think a warranty should be more than 20 years.
6. Because you want to avoid vinyl.
7. Because you want more light.
8. Because windows are a functional part of your house.
9. Because you really can save 30-40% on heating costs.
10. Because the greenest building is one that is already built.



# SIEBLER

*Historic Preservation & Restoration*

[www.Siebler.com/windows](http://www.Siebler.com/windows)

Ron Siebler

214-546-7579

[ron@siebler.com](mailto:ron@siebler.com)

[www.Siebler.com](http://www.Siebler.com)