

# City of Fort Lauderdale Historic Preservation Design Guidelines

## WINDOWS & DOORS



*Windows play an important part in identifying a building's architectural style. These 4-over-1 windows have a vertical muntin arrangement at the top sash, typical of an Arts and Crafts style home.*

*Screens are limited to the lower sash and they have minimal profiles.*

*The horizontal strips at the top and bottom of the window frame have attachments for hurricane protection.*

### PURPOSE

These *Guidelines* were prepared to assist property owners with information when considering the repair, alteration or installation of windows and doors. It is not intended that these *Guidelines* should replace consultation with qualified architects, contractors, the Historic Preservation Board (HPB), City Staff and applicable ordinances.

These *Guidelines* were developed in conjunction with the City of Fort Lauderdale's Historic Preservation Board (HPB) and the Department of Sustainable Development (DSD). Please review this information during the early stages of planning your project. Familiarity with this material can assist in moving a project quickly through the approval process, saving applicants both time and money.

The DSD Staff is available to provide informal informational meetings with potential applicants who are considering improvements to their properties.

Additional *Guidelines* addressing other historic building topics are available at City Hall and on the City's website at [www.fortlauderdale.gov](http://www.fortlauderdale.gov). For more information, to clarify whether a proposed project requires HPB review, or to obtain permit applications, please call the DSD at (954) 828-3266.

### WINDOWS & DOORS

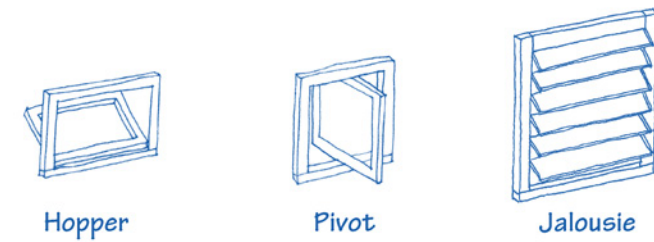
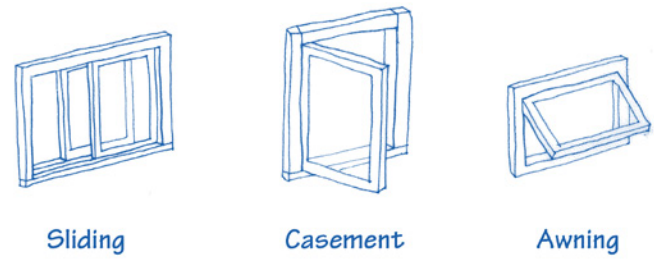
**Windows and doors typically comprise at least one quarter of the surface area of exterior walls of most historic buildings. Windows and doors, in addition to their trim, shutters, and associated features, are important elements of historic buildings.**

Windows and doors can:

- Define the character of each individual building and provide a visual feature on the streetscape
- Help define the building type, use and architectural style
- Help identify the age of construction



*Windows at Mid-Century Modern buildings tend to be metal and can be found in sculptural boxed surrounds and forms.*



## COMMON WINDOW TYPES

The window types above can have different muntin patterns or configurations. Muntin patterns are defined in terms of the number of panes or lights. For example, a six-over-one (6/1) double-hung window indicates there are 6 panes in the upper sash and 1 pane in the lower sash.

- **Fixed:** Non-operable framed glazing
- **Single-hung:** Fixed upper sash above a vertically rising lower sash
- **Double-hung:** Two sashes that can be raised and lowered vertically
- **Sliding:** Either a fixed panel with a horizontally sliding sash or overlapping horizontally sliding sashes
- **Casement:** Hinged on one side, swinging in or out
- **Awning:** Hinged at the top and projecting out at an angle
- **Hopper:** Hinged at the bottom and projecting in at an angle
- **Pivot:** Pivots vertically along a central axis either horizontally or vertically
- **Jalousie:** Parallel glass or acrylic louvers locked in tracks, often aluminum, that allow the louvers to be open and closed simultaneously to control air flow, typically by means of a hand crank

## WINDOW STYLES

Window patterns and configurations are intrinsically linked to a building's period of construction and style. Late 19th century buildings, from the Victorian period, encouraged varied shaped windows and significantly more elaborated frames, casings and applied ornament and trim. When the Mission Revival and Colonial Revival styles were popularized beginning in the 20th century, the use of multi-paned windows with simpler frames and casings was more prevalent, while the Art Deco style and Mid-Century Modern buildings utilized larger sheets of glass or glass block.

Since all of the components and details of a window are essential to defining a building's style, property owners are encouraged to investigate the essential elements of their windows prior to undertaking any modifications. For guidance on window and building styles, please consult with the DSD Staff and the *Guidelines for Architectural Styles*.



## GLASS BLOCK

Glass block was popularized as a building material at the beginning of the 20th century. It is available in a variety of sizes, with the most common size being approximately 8" square and 4" thick. Although typically made of clear glass with a relatively smooth finish, some decorative glass block can be colored glass and include decorative patterns.

In Fort Lauderdale, glass block was historically used in Art Deco and Moderne buildings as well as some Mid-Century Modern buildings. At the exterior of buildings it offers a distinctive pattern and texture while at the interior it provides diffused translucent natural light. It also has the advantage of being burglar resistant and has a higher thermal rating than standard glass windows. Glass block is laid in mortar similar to brick and stone. Refer to *Guidelines for Masonry, Stucco & Concrete* for more information.

### DEFINITIONS:

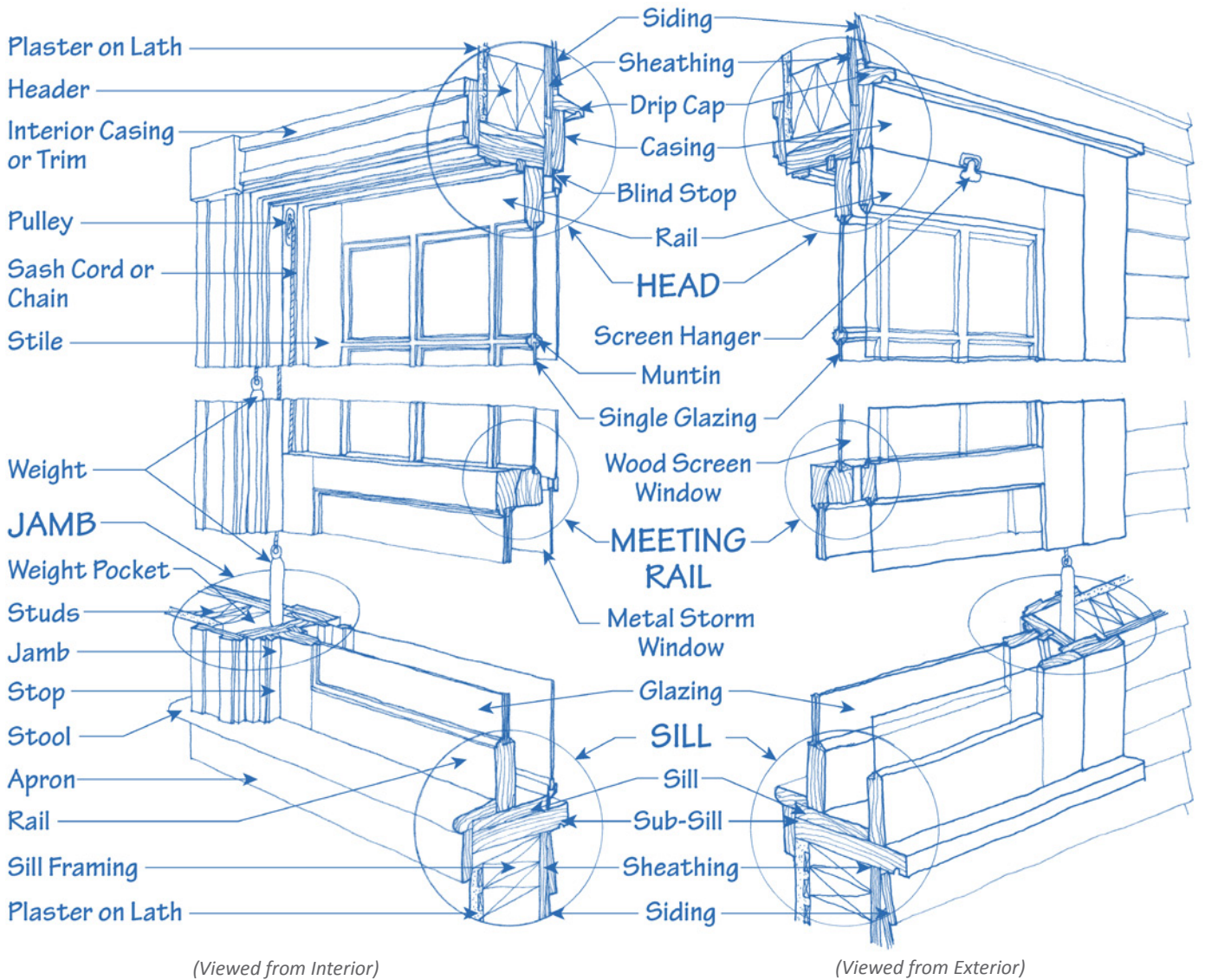
**Mullion:** The vertical element separating two window or door frames.

**Muntin:** The narrow molding separating individual panes of glass in a multi-paned window sash.

**Sash:** The part of the window frame that holds the glazing, especially when movable.

**True Divided Light:** A window or door in which the glass is installed as several individual small panes.

## DOUBLE-HUNG WINDOW COMPONENTS



## WINDOW CONFIGURATIONS

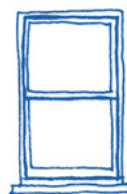
Different window configurations are appropriate for each architectural period or style. Altering the window type, style, shape, material, size, component dimension, muntin pattern or location can dramatically alter the appearance of the building.

### Encouraged:

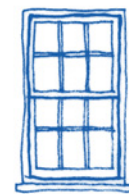
- Use historically appropriate muntin pattern, window configuration exterior profile and size
- Use hardware appropriate for the historic period
- Install true divided-light windows rather than snap-in muntin grids for multi-paned appearance

### Discouraged:

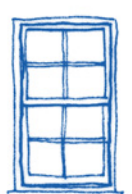
- ✗ Use only internal muntins between glazing layers
- ✗ Use only interior muntins



1/1 Window



6/6 Window



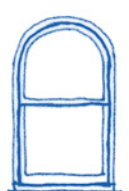
4/4 Window



6/1 Window



2/2 Arch-Top Window



1/1 Arch-Top Window



*The window sill and jamb have peeling paint and some checking or splitting. Removal of the loose paint will allow the wood to be inspected for signs of rot.*



*Often, the deterioration of wood windows first occurs at the sill. Peeling paint can allow moisture to enter wood and cause rot. Regular repainting is recommended to provide a protective layer against moisture.*

## HISTORIC WINDOW PROBLEM SOLVING

Property owners generally do not pay attention to their windows until a problem occurs. Typical concerns include operation, reducing air infiltration, maintenance and improving appearance. Generally, the appearance of a window that has not been properly maintained can seem significantly worse than its actual condition. Replacement of an entire wood window because of a deteriorated component, typically the sill or bottom rail, is rarely necessary. In many instances, selective repair or replacement of damaged parts and the implementation of a regular maintenance program is all that is required. It is generally possible to upgrade windows in fair or good condition relatively economically.

### To improve operation:

- Repair sash cords, chains and weights
- Remove built-up paint, particularly at jambs
- Repair or replace deteriorated components such as parting beads that separate window sash

### To reduce air infiltration:

- Install weather-stripping snugly between moving parts (quality metal weather-stripping can last 20 years)
- Replace broken or cracked glass (glazing)
- Re-caulk perimeter joints
- Remove and replace missing or cracked glazing putty

- Add sash locks to tighten windows
- Insulate weight pockets if no longer in use

### To reduce solar heat gain or heat loss:

- Utilize operable exterior shutters where historically appropriate
- Install interior blinds or curtains
- Plant deciduous trees at south and west elevations to block summer sun and allow in winter sun, but not too close to the building
- Install UV window shades
- Install clear UV film without tint or color

### Maintenance:

- Regularly review, repair and repaint windows

### Encouraged:

- Retain original windows if at all possible
- Match replacement windows to new ones as closely as possible in dimensions, proportion, profiles and external appearance
- Replace modern inappropriate windows with historically appropriate windows

### Discouraged:

- ✗ Remove or encapsulate historic wood trim
- ✗ Install tinted or colored window film that alters the color or appearance of the glazing

## CRITERIA FOR REVIEW

Use the following guidelines when evaluating window repair or replacement:

1. **Perform routine maintenance:** Replace broken or missing components such as trim, glazing or sash cords. Verify that caulking, glazing putty and weather-stripping is securely applied and repaint.
2. **Treat or repair deteriorated components:** At the earlier stages of wood deterioration, it is possible to complete in-place treatments that do not necessitate component replacement. This includes treating wood for insects or fungus, epoxy consolidation, applying putty at holes and cracks and painting. Metal window components, particularly steel, require regular maintenance to prevent deterioration, most frequently rusting. Regular scraping of surface rust and application of a rust-inhibitive paint will allow windows to remain serviceable for a significantly longer period of time.
3. **Replace deteriorated components:** Replace either the deteriorated portion of the component with a “Dutchman”, or the entire component if very deteriorated. A “Dutchman” is a repair with a piece of the same material in a sharp-edged recessed cut and can be used for wood or metal components, although metal Dutchmen typically require a skilled metal worker. The replacement pieces should match the original in design, shape, profile, size, material and texture. New wood sills are usually easily installed, while complete sash replacement might solve problems of broken muntins and deteriorated rails.
4. **Replace window:** If the majority of the window components are deteriorated or missing and in need of replacement, replacement of the unit might be warranted.

## WINDOW REPAIR VERSUS REPLACEMENT

When considering repair and retention of existing windows versus installation of window replacement, it is encouraged that applicants retain the existing elements. However, it is recognized that it is sometimes necessary to replace window components or an entire unit because of extensive deterioration.

### **Discouraged:**

- × Replace a window component or unit if repair and maintenance will improve its performance and preserve historic elements

It is important to remember that because a portion of the window or door is deteriorated, replacement of the entire component or unit might not be necessary, particularly for wood windows. A simple means of testing wood window deterioration is to stab the element with an awl or ice pick. Stab the element perpendicularly and measure the penetration depth and damp wood at an angle for the type of splintering. (Refer to the *Guidelines for Exterior Woodwork & Siding* for wood rot test and repair techniques.)

## IF REPLACEMENT WINDOWS ARE NECESSARY

Because of the importance of windows and doors in the appreciation of architectural character, the HPB and DSD strongly encourage repair or replacement of only the components of windows that are deteriorated beyond repair. If a property owner wishes to pursue window replacement, they might need to demonstrate that the existing windows or doors are beyond repair and replacements are warranted.

### **If replacements are warranted, the following is Encouraged:**

- Relocate historic windows to the publicly visible elevations and install replacement windows or doors in less visible areas
- Match the original size, shape, configuration, operation, muntin pattern, dimensions, profiles and detailing to the greatest extent possible
- Select wood- or aluminum-clad wood replacement windows for street elevations
- Select true divided-light, single-glazed windows or doors with matching muntin profiles and dimensions
- Reuse serviceable trim, hardware or components

### **Discouraged:**

- × Decrease window size or shape with in-fill to allow for installation of stock unit size
- × Increase window sizes or alter the shape to allow for picture or bay windows
- × New openings at publicly visible elevations
- × Single hung windows, particularly without exterior muntins



*The 9-over-6 vinyl replacement windows have applied muntins, are mounted flush against the outside wall and lack the depth of traditional windows. They do not have trim or casings. They are not appropriate for historic buildings.*

## WINDOW MATERIALS: PAST & PRESENT

Wood windows were historically manufactured from durable, close, straight-grain hardwood of a quality uncommon in today's market. The quality of the historic materials and relative ease for repairs allows many well-maintained old windows to survive from the 19th century or earlier. Replacement windows and their components tend to have significantly shorter life spans than historic wood windows. Selecting replacement windows is further complicated by manufacturers who tend to offer various grades of windows, with varying types and qualities of materials and warranties. Today, lower cost wood windows are typically made from new growth timber, which is much softer and more susceptible to deterioration than hardwoods of the past. Vinyl and PVC materials, now common for replacement windows, break down in ultraviolet light, and have a life expectancy of approximately 25 years. Because of the great variety of finishes for aluminum windows, they continue to be tested to determine projected life spans.

Other areas of concern with replacement windows, beyond the construction materials used in the frame and sash, are the types and quality of the glazing, seals, fabrication and installation. Double glazing or insulated glass, used in most new window systems, is made up of an inner and outer pane of glass sandwiching a sealed air space. The air space is typically filled with gas with a perimeter seal. This perimeter seal can fail in as few as 10 years, resulting in condensation between the glass layers, necessitating replacement to allow for clear visibility. Many of the gaskets and seals that hold the glass in place also have a limited life span and deteriorate in ultraviolet light. Significant problems with replacement windows also result from poor manufacturing or installation. Twisted or crooked frames can make windows difficult to operate. Open joints allow air and water infiltration into the wall cavity or building interior.

### **Encouraged:**

- Review grades of windows offered by manufacturers and install quality wood windows when replacement is deemed necessary using quality materials in the process
- Understand the limits of the warranties for all components and associated labor for replacement
- Select reputable manufacturers and installers who are likely to remain in business and honor warranties

### **Discouraged:**

- Installation of single hung where the upper unit is glass mounted directly in the frame instead of in a fixed sash

## REPLACEMENT WINDOW QUALITY

Reputable lumber yards typically provide a better selection and higher quality replacement window options than companies that advertise with bulk mailings or flyers. Each manufacturer also provides various grades of replacement window options. Manufacturers' information can generally be found on their web sites or in catalogues.

## WINDOW OPTIONS

**Repair or replacement of existing components:** Deteriorated sills, sash and muntins are repairable by craftsmen with wood consolidant or replacement parts, retaining original fabric and function. (Refer to *Guidelines for Exterior Woodwork & Siding.*) In-kind replacement sash and sills can be custom-made to replace deteriorated sections if necessary. It is strongly encouraged that property owners explore repair and selective replacement parts options prior to considering sash or frame replacement.

### *Benefits of repair and selective component replacement:*

- Original building fabric and historic character remain
- Repairs can be completed by local carpenters
- Timber, used in historic windows, can last substantially longer than replacement units

**Sash replacement package:** Some manufacturers offer replacement jamb liners and sash for installation within existing window frames. The system allows installation of new sash of various muntin patterns within existing frames. Because of the loss of the historic sash, this option is discouraged.

### *Benefits of a sash replacement package:*

- Original muntin pattern can be duplicated
- Maintains the historic opening, surround and trim

### *Negatives of a sash replacement package:*

- Historic sash are removed and become landfill debris
- Replacement sash have a limited warranty, likely needing replacement again in 10 to 25 years as seals and joints open
- Modification of the jambs is necessary
- The jamb liners do not always work well in existing window openings and might need more frequent replacement
- Out-of-plumb openings can be difficult to fit making window sash hard to operate
- Perimeter seals might not be tight

**Frame and sash replacement unit:** This is a complete frame with pre-installed sash of various muntin patterns for installation within an existing window frame opening. Because of the total loss of both the frame and the sash, this is strongly discouraged.

### *Benefits of the frame and sash replacement unit:*

- Manufactured as a unit to be weather tight
- Original muntin pattern can be duplicated

### *Negatives of the frame and sash replacement unit:*

- Historic sash are removed and become landfill debris, the historic character of the building is diminished
- The surrounding frame is modified, alteration of built-in surrounds might be required and two frames and sills are typically visible at the exterior
- The size of the window sash and glass openings are reduced due to the new frame within the old frame
- In-fill might be required for non-standard sizes



*Historic windows often have character that is difficult to duplicate with replacement windows including the narrow muntin and frame dimensions and the reflective quality of individual pieces of glass.*

## MAINTAINING REPLACEMENT WINDOWS

One of the selling points of replacement windows is that they do not require maintenance. With the relatively short life expectancy of many of the materials and components, this is an optimistic viewpoint.

As joints or seals in replacement windows deteriorate, openings can be formed that allow air and water to enter into the window frame, wall cavity and/or building interior, causing additional damage. Repair of these openings typically requires replacement of the deteriorated parts. This can present a problem if the manufacturer has modified their designs or is no longer in business, necessitating custom fabrication of deteriorated elements or replacement of the window.

As previously described, double-glazing has similar problems over time with the deterioration of the perimeter seal. In addition, if the glazing unit is cracked or broken, it will require full replacement. This is further complicated when the double-glazing includes an internal muntin grid. By contrast, a good carpenter can generally repair a historic wood window with single pane glazing and install an interior or exterior storm window to improve thermal performance.

### JALOUSIE WINDOWS

Property owners are encouraged to retain historic jalousie windows wherever possible, however, it should be noted that they do not meet current hurricane protection requirements. Please contact the DSD at (954) 828-3266 for information if considering jalousie window replacement. (Refer to *Page 11, Hurricane Protection.*)

## REPLACEMENT WINDOW COSTS

The costs that should be anticipated if considering the installation of replacement windows include:

- Labor to remove old windows
- Environmental costs of disposal including transportation and landfill fees
- Purchase price and delivery of new windows
- Environmental costs of new window manufacturing and transportation from the factory
- Labor and materials to modify existing frames for new windows
- Labor to install new windows
- Life-cycle costs associated with more frequent replacement of new windows as they deteriorate

### WINDOW REPLACEMENT GUIDE

#### ***Strongly Encouraged if replacements are warranted:***

- Match the original material, size, shape, configuration, type, operation, materials, muntin pattern, dimensions, exterior profiles and detailing to the greatest extent possible with a salvaged or new replacement window
- Install clear glass at all openings unless replacing historic colored, beveled or frosted glass in-kind

#### ***Encouraged if replacements are warranted:***

- Install replacement windows in less visible areas
- Install quality replacement windows to match the historic materials, although wood windows with exterior wood or aluminum cladding are often an acceptable option for historic wood windows
- Reuse serviceable trim, hardware or components or use salvaged materials

#### ***Strongly Discouraged:***

- ✗ Replace a window component or unit if repair and maintenance will improve its performance and preserve historic elements
- ✗ Decrease window size or shape with in-fill to allow for installation of stock unit size
- ✗ Install vinyl or vinyl-clad windows
- ✗ Install aluminum windows where they did not exist historically
- ✗ Install an inappropriate window type, such as a casement in a former double-hung window location
- ✗ Increase window sizes or alter the shape to allow for picture or bay windows
- ✗ Install glass block at buildings where it was not found historically
- ✗ Install jalousie windows at buildings where they were not found historically

## WEATHER STRIPPING & CAULK FOR WINDOWS & DOORS

Proper application of weather stripping and caulk around windows and doors can greatly reduce air infiltration and drafts. When selecting weather stripping or caulk, it is important to choose the material appropriate for each location and follow manufacturer's installation recommendations for the best results.

Because weather stripping is used between the moving parts of windows and doors, it is highly susceptible to damage and can become loose, bent or torn. It is important to inspect weather stripping on a regular basis, preferably every fall, and replace it as needed. For high use installations such as entrance doors, it may be beneficial to install more durable weather stripping such as spring metal or felt.

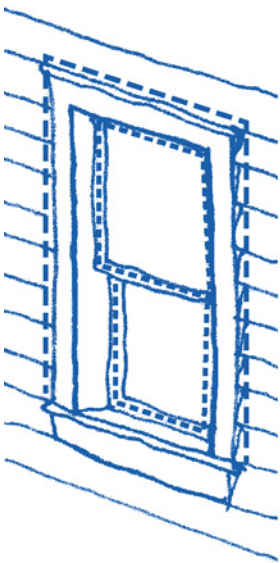
### *Recommended locations for weather stripping:*

- Behind window sash track
- Between window meeting rails
- At perimeter of doors and windows

The installation of caulk or other sealants should occur throughout the exterior of the building. Locations include where two dissimilar materials meet; where expansion and contraction occur; or where materials are joined together. In some instances caulks and sealants can be sanded and/or painted to minimize their visual appearance. It is important to select the appropriate type for each location and exercise care when removing old caulk that might contain lead.

### *Recommended locations for caulk:*

- Between window or door frame and adjacent wall
- Between abutting materials such as corner boards and siding, porch and wall surface
- Between dissimilar materials such as masonry and wood, flashing and wall surface



#### *Recommended weather-stripping locations:*

- Behind window sash track
- Between window meeting rails
- At perimeter of doors/windows

#### *Recommended caulk locations:*

- Between door/window frame and adjacent wall
- Between abutting materials such as corner boards and siding, porch and wall surface
- Between dissimilar materials such as masonry and wood, flashing and wall surface

## DEFINITIONS:

**Weather Stripping:** A narrow compressible band used between the edge of a window or door and the jambs, sill, head and meeting rail to seal against air and water infiltration; of various materials including spring metal, felt, plastic foam and wood with rubber edging.

**Caulk:** Flexible sealant material used to close joints between materials; of various materials including tar, oakum, lead, putty, and modern elastomers such as silicone and polyurethane.



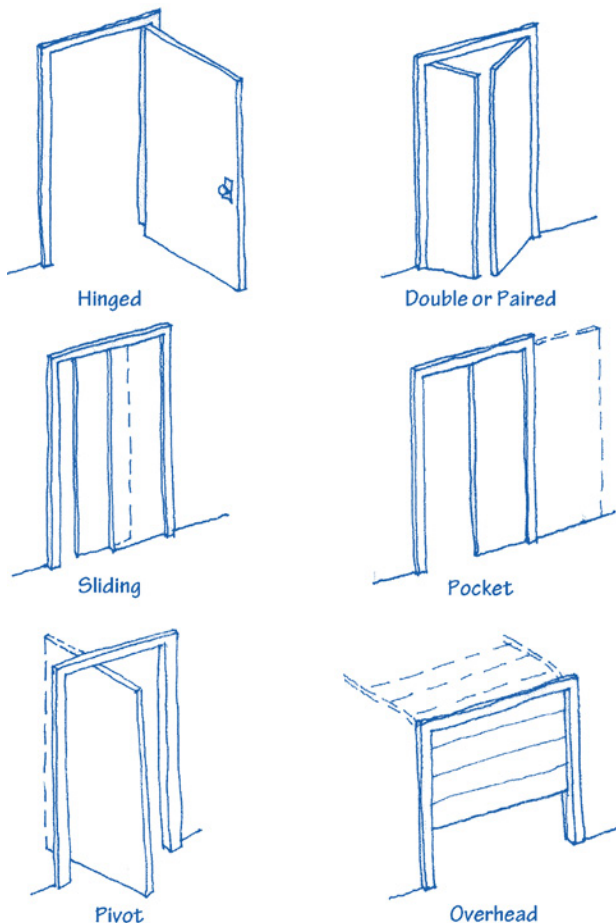
*Front doors should complement the style of a building. This wood plank door with heavy iron straps is appropriate for the Mediterranean Revival residence.*

## DOORS

Entrance doors serve an important role in regulating the passage of people, light and air into a building, as well as providing a threshold separating the exterior and interior. Historically, most doors were wood and varied stylistically based upon the building design, providing either a grand formal appearance or one that was more informal and welcoming. Traditionally, a door's hardware and trim complemented the overall building style. When selecting hardware for a door it is important to complement the historic style.



Doors are typically constructed of numerous parts. By the middle of the 18th century, elaborate paneled doors became more common and represent the most common door type in American residences. Paneled doors can be constructed in a variety of configurations that can reflect the style of the building. Later 19th century doors often included glazed panels. In the 20th century, new door types including flush doors and large, glazed metal doors to complement new architectural styles such as Art Deco and Moderne buildings.



## COMMON DOOR TYPES

All of the door types above can have different patterns or configurations.

- **Hinged:** Swings to close at opposite jamb – almost always mounted at interior thickness of wall swinging inward
- **Double or Paired:** A pair of swinging doors that close an opening by meeting in the middle – includes French doors
- **Sliding:** Either a fixed panel with a horizontally sliding door or overlapping horizontally sliding doors – includes patio doors
- **Pocket:** Slides into a concealed wall recess
- **Pivot:** Pivots vertically along an axis
- **Overhead:** Horizontal sections that slide on tracks opening upward – most often found at garages

## DOOR STYLES

Door styles tend to correspond to the architectural style of the building, with some examples being more “high-style” while others are simpler interpretations. As a result, doors are considered an important feature and the retention, maintenance and repair of historic doors is recommended.

If door replacement is warranted, the door should be appropriate for the architectural style and character of the building. Refer to the *Guidelines for Architectural Styles* for or contact the DSD Staff for additional information.

## HISTORIC DOOR PROBLEM SOLVING

Since doors tend to be one of the most operated elements on the exterior of a building, they are more likely to deteriorate from wear or damage and generally require more regular maintenance, such as painting. If deterioration occurs, selective repair or replacement of damaged parts and the implementation of a regular maintenance program is often all that is required to retain a historic door.

### To improve operation:

- Verify that doors fit properly in their frames and joints are tight
- Verify that hardware is operational, particularly that hinges are tight and hinge pins are not worn
- Remove built-up paint at door and jambs
- Repair or replace deteriorated components such as trim and stops

### To reduce air infiltration:

- Install weather stripping between door and frame
- Replace broken glass (glazing) and remove and replace missing glazing putty
- Re-caulk perimeter joints around frame
- Install a screen or storm door

### Maintenance:

- Regularly review and repair doors
- Re-paint wood doors, particularly horizontal elements

## HISTORIC DOOR TREATMENT

### Encouraged:

- Retain historic doors and surrounding trim
- If the originals do not survive, match replacement doors as closely as possible to original doors or use doors appropriate to the period and style of the building
- Precisely match contours of profiles and trim to those of real wood doors if non-wood doors are used

### Discouraged:

- ✗ Remove or encapsulate historic wood trim
- ✗ Replace original doors unless seriously deteriorated



*This screen door includes large screened areas that allow the historic entrance door beyond to remain visible. The screen door is also painted to match the color of the wood door and surrounding trim.*

## SCREEN WINDOWS AND SCREEN DOORS

Screens should conceal as little of the historic window or door as possible and should be selected to complement each window or door type. This generally means selecting a screen window or door that has rails that coincide with the rails and glazing pattern and overall configuration of the window or door behind.

The most recommended option for a screen door is a simple wood frame with a large screen and minimal ornament. If more elaborate detailing is desired, the style and level of detailing should complement the building style; for example, a screen door with Victorian gingerbread would not be appropriate for a Colonial Revival house.



*The horizontal rail of the window screens align with the meeting rail of the window. The clip-in attachment allows for a visually minimal frame.*

### SCREEN WINDOW & SCREEN DOOR GUIDE

#### **Strongly Encouraged:**

- Simple screen windows and doors with large screened openings that reveal as much of the historic window or door as possible
- Removable window screens to facilitate maintenance of historic windows

#### **Encouraged:**

- Screens that minimize the change to the exterior appearance
- Painting the wood screen window or door frame to match the adjacent window trim
- Installing woven wire hurricane screens

#### **Strongly Discouraged:**

- ✗ Exterior storm windows or doors at locations that are visible from the street
- ✗ Vinyl, aluminum, metal or other synthetic material for screen frames – unless there is historical evidence that they previously existed (Wood frames can be custom made to fit any size or shape opening)
- ✗ Visually opaque screen material
- ✗ Plexiglas, or similar material, fastened to window or door frames, screens, or shutters
- ✗ Screens adhered or fastened directly to window or door trim, shutters or blinds
- ✗ Half or stock screen windows that are too small or a different shape than the window opening and require in-fill trim or panels

## HURRICANE PROTECTION

For many homes in Fort Lauderdale, a traditional form of hurricane protection is shutters or blinds. Additional protection can be obtained by fastening pre-fitted plywood panels onto closed shutters. These forms of protection allow historic windows to remain in place, retaining the historic character of buildings.

When significant changes are made to existing buildings and new buildings are constructed, the *Florida Building Code* requires hurricane protection for windows. Hurricane rated windows and doors can provide additional protection; however, they do not necessarily prevent windows and doors from breaking during a storm and allowing the building's interior to be damaged. Hurricane resistant windows and doors tend to have wide frames and applied muntins and shallow profiles that do not match historic proportions and are not appropriate for historic buildings.

Another hurricane protection option is fabric storm panels that can protect windows and doors from flying debris in the event of a storm. Fasteners can be pre-installed in locations that are minimally visible and painted to match adjacent surfaces. Fabric storm panels are lightweight, easy to install and allow light to enter a building in the event of a storm. Another benefit is that they have little to no impact on the historic character of a building if installed only when a storm is expected.

Manufacturers are continuing to develop new options for hurricane protection. Innovative solutions that do not require removal of historic fabric and have minimal visual impact when not in use are encouraged.

### Encouraged:

- Install temporary enclosures, such as plywood panels, that do not require permanent exterior fasteners
- Utilize historic shutters or hurricane-resistant historic appearing shutters where stylistically appropriate
- Install visually minimal exterior fasteners to allow for quick installation of protection prior to a storm

### Discouraged:

- ✗ Install permanently mounted exterior tracks and/or grilles for hurricane protection or security

### KEEP IN MIND...

- Hurricane resistant windows and doors do not mean they will not break in the event of a storm, they only potentially reduce interior damage during a storm
- Clips and fasteners can be installed on existing window trim to allow pre-cut plywood panels, fabric storm panels or other hurricane protection to be installed quickly in the event of a storm



*The corrugated Plexiglas in this example has yellowed and obscures the window. It is not appropriate at a historic building.*



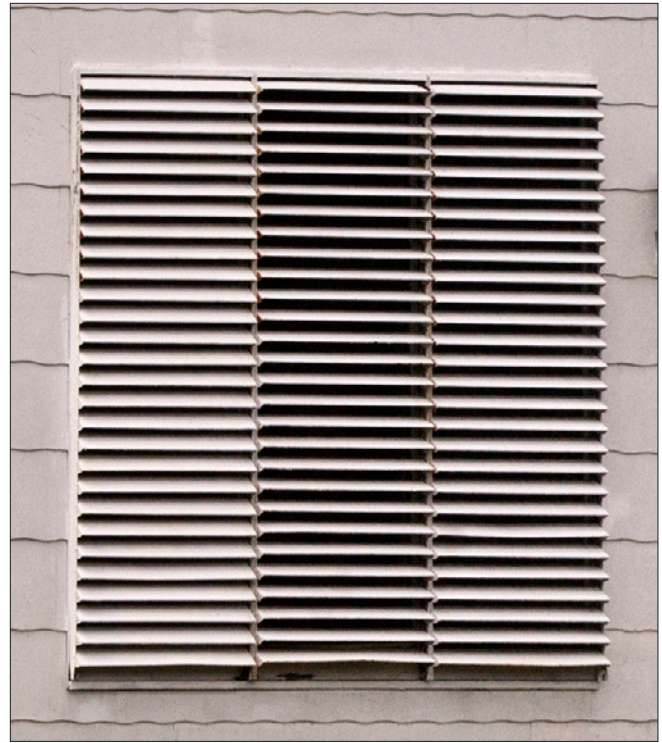
*Solid metal louvers obscure windows and are not appropriate at historic buildings.*



*The small holes along the top and bottom of the window allow quick installation of fabric storm panels and are visually inobtrusive.*



Shutters should be operable and proportioned to fit the window. The shutters in this example are fastened to the face of the building and too narrow for the window opening.



Fixed shutters or louvers that obscure windows create a fortress-like appearance at a building and along a streetscape, which is not appropriate for historic properties.

## SHUTTERS

Historically, exterior shutters were used as shielding devices. Paneled shutters were installed to provide a solid barrier when closed and louvered shutters to regulate light and air. Shutters were not used on all historic buildings or in all locations. Some building styles, such as Mission Revival, Spanish Eclectic, Mediterranean Revival, Art Deco, Moderne and Mid-Century Modern, typically did not include shutters.

It is often possible to determine if shutters previously existed by looking for hardware such as hinges or tie-backs or evidence of their attachment such as former screw holes in the window casing.

### Encouraged:

- Shutters where they existed historically
- Operable wood shutters with period-appropriate hardware
- Shutters of the appropriate style for the building and location
- Appropriately sized and shaped shutters for the window opening, fitted to cover the window when closed
- Refurbished historic shutter hardware appropriate to the building style

### Discouraged:

- ✗ Shutters where they did not exist historically
- ✗ Bermuda shutters without historic documentation
- ✗ Shutters screwed or nailed to the face of the building

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## PREPARATION

All components of the *Fort Lauderdale Historic Preservation Design Guidelines* including all text, graphic design, photography and illustrations unless noted otherwise were prepared by:

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