

Guidelines

REPLACEMENT WINDOWS

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You will need to buy new windows if you purchase a derelict building with missing or rotten window sash; if you have a building with stylistically inappropriate windows and you want to replace them with appropriate ones; or if you are putting windows in an addition or new construction.

In the past, replacement windows that fit existing openings most closely would be selected from manufacturers' catalogs. The smaller windows would then be installed in the existing brick openings, filling in the space between the sash and the brick opening with plywood or other material to make the windows fit. Since the designation of Capitol Hill as a Historic District in 1976, reducing masonry openings is unacceptable except in the occasional case where the sill of a rear window in a kitchen may be raised to meet the kitchen counter, for example.

The challenge of replacing windows is further complicated by the desire to use double-pane or insulating glass. If you are going to the considerable expense and inconvenience of replacing windows, it is foolish not to take advantage of the opportunity to have them as air tight, energy conserving, and comfort enhancing as possible. Using insulating glass reduces the heat lost through windows by half.

If you have a number of masonry openings of different sizes, you have

two choices: buy custom windows from a company that makes custom windows, or buy as many stock windows as you can find to fit your openings and custom windows for any openings for which you cannot find stock windows. Vinyl and aluminum window distributors make up all sizes of custom windows, but neither vinyl nor aluminum replacement windows are typically acceptable in the Historic District, particularly on the front facades.

The good news is that there are custom wood window companies who specialize in the replacement market, and can make windows appropriate for the Historic District: double-hung, two-over-two, one-over-one, circle-topped, and arched-window heads. These same companies can make or provide custom brick mold (the piece of molding around the window that makes the transition between the window and the masonry), true divided light sashes with insulating glass (as opposed to snap-in mullions which are not appropriate) and any other special provisions so the windows look right for your historic house. All the major wood window companies (Pella, Anderson, Marvin, etc.) will make custom windows using their stock profiles. You can then use stock windows where they fit openings precisely and custom windows for the openings you cannot find a window to fit. The cost of custom windows is not too expensive, although circle-head and arched-head window sashes are quite expensive.

Besides buying extremely sophisticated window systems with these major manufacturers, (the profiles of the frames and sash are extraordinarily sophisticated, helping to ensure both smooth, easy operation and water tightness), high performance, low maintenance finishes are available. The disadvantage of these finishes is often limited colors. Remember, white windows are appropriate for Georgian Revival houses and dark colors appropriate for Victorian-era buildings.

In new construction or additions, your design can accommodate stock sizes of wood windows. The first thing to be careful about is proportion. Capitol Hill's window openings are very vertical. While the proportion of any new window is key, equally critical to the overall appearance is the size of the window. A correctly proportioned but too small window compromises the relationship of opening to solid wall on a building. The typical, late-Victorian window is not only vertically attenuated, but is a *large* window, usually five to seven feet in height.

The most typical window sash styles in the district are one-over-one and two-over-two in wood double-hung windows. One-over-one refers to the number of panes of glass in each sash. A two-over-two sash has one vertical divider or muntin in each sash, creating two panes on the top and two in the bottom.

The vertically divided two-over-two window is not commonly available as a standard manufactured item.

(Horizontally divided two-over-two windows are available but are quite inappropriate.) However, since window companies rapidly respond to demand, it does not hurt to check on availability.

The typical one-over-one window is readily available from almost all manufacturers of wood double-hung windows. Even though the two-over-two and one-over-one double-hung windows are ubiquitous, there is a great range of other window types, sizes and proportions found in the Capitol Hill Historic District. For example, many houses built in the early 20th century have six-over-six (6/6) or six-over-one (6/1) sash. The diversity of original window types contributes to the richness of the neighborhood building fabric.

If you are replacing windows which were inappropriate modifications made by a previous owner it is best to try to identify what kind of windows your house originally had. Since many of our row houses are identical or nearly so to their neighbors or other houses on Capitol Hill, this is often easily done. At the least it is usually possible to identify original masonry openings if they have been wholly or partially bricked in.

When building new, remember to look to your immediate historic contributing neighbors with your architect or contractor. You will want to create fenestration (window) patterns consistent with the rhythm of your block. Windows in new construction should be of similar materials (wood), type, size, proportion and level of articulation to windows found on neighboring buildings. Casement windows are not typical in the Historic District, although they are occasionally found. Because of their rarity, they are usually not acceptable on the fronts of buildings although they may be acceptable on rear additions.

Large sheets of fixed glass are discouraged, also. Not only are the expanses of solid glass not right for our buildings, but losing the opportunity for ventilation provided by operable windows is really unfortunate.

Tinted glass is totally inappropriate.

Use clear glass. "Low E" or low emissivity glass which can enhance thermal comfort has a soap bubble kind of sheen which is not appropriate for our buildings.

A final reiteration: complete replacement of historic windows should only be a last resort. Not only is it much more expensive than alternatives of maintenance and repair, but it is very damaging to historic building fabric associated with the windows. Replacing windows nearly always entails removal and reinstallation of interior trim which can rarely be done without damage to your original wood work and plaster. Finally, we must always remember that once historic building fabric, like original windows, is gone, it is lost forever. If you *must* replace windows, remember some basic guidelines:

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WINDOW REPLACEMENT DON'TS

Don't replace windows without a permit!

Don't imitate the wrong historical period.

Don't use a lot of muntins to divide what should be large expanses of glass.

Don't reduce the original window opening size.

Don't replace windows to get better thermal performance: do install storm windows.

If you must replace windows, don't use artificial materials not originally found on the house like steel, vinyl, or aluminum.

Interior say "Deteriorated architectural features shall be repaired rather than replaced, whenever possible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, color, texture, and other visual qualities."

This means your replacement windows should match other original windows on your building or nearby similar buildings. These will be wood, double-hung sash, and will fit the full original window opening size. If the original windows have or had divided lights, the replacements also need to have true divided lights of the historically accurate style. If you are not sure which style is right for your house, the Preservation Office can give you advice.

Many modern window systems have snap-in systems which simply apply a muntin, dividing the pane, to the interior, exterior or between panes of an insulated glass panel. None of these snap-in systems look the same as the true divided lights and they should be avoided.

Good sources of additional information on this topic include:

The *Preservation Briefs*, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

Park, Sharon C. "The Use of Substitute Materials on Historic Building Exteriors." *Preservation Briefs*#16. U.S. Department of the Interior, National Park Service, Preservation Assistance Division, Technical Preservation Services.

Nelson, Lee H. "Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character." *Preservation Briefs* #17. U.S. Department of the Interior, National Park Service, Preservation Assistance Division, Technical Preservation Services.

This article first appeared in the Capitol Hill Restoration Society News. For more information on windows, consult the 12-page CHRS Guideline "Windows: The Eyes of a Building."