



MANHATTAN BEACH COMMUNITY DEVELOPMENT RESIDENTIAL WINDOW REPLACEMENT Building Permit Guidelines

Window replacements require a building permit. This handout can be used as a guideline for replacing windows in residential buildings. Window replacements must comply with the 2016 California Building, Residential, Green, and Energy Codes.

A Building Permit is required for the following Work:

- Replacing a window with the same size/type/location (“Like for Like”)
- Replacing a window where the size or shape of the frame is altered.
- For retrofit windows (e.g. existing frame is left in place)
- For new windows

A Building Permit is not required for glass work only, however the glass must comply with code requirements.

Plan Requirements:

Window replacements can generally be reviewed and permitted over the counter; however, projects which propose the removal or relocation of load-bearing or non-load-bearing walls or structural changes may be subject to standard plan review procedures of 3 to 5 business days. Changes to the exterior will also be subject to additional requirements and approval by the Planning Division.

1. **Enlarged Proposed Floor Plan** – Two printed copies of a legible floor plan drawn to scale of the building showing all windows which are going to be replaced or added. Plans shall include project address, owner’s name and contact information, north arrow, applicable codes, and use of all rooms. Label the size and type of windows to be removed, and size and type of replacement windows. If windows are to be replaced on multiple stories of the residence, provide a floor plan for each level. In some cases elevation plans may also be required. See the attached example floor plan.
2. **Replacement Windows** – Specify the size and type of the existing window to be removed and the size and type of window being installed. Example: Replace 3’ x 4’ horizontal sliding window with new 3’ x 4’ casement window (the first dimension represents the width of the window, the second dimension is the height).
3. **New Windows or Different Sized Replacement Windows** – On the floor plan, label the dimensions of the rooms in which the new window or replacement windows are being installed. Provide framing details for the new opening. The new/replacement windows must meet egress, light, ventilation, and energy code requirements. In some cases an energy report and structural calculations/plans may be required.
4. **Plan Check and Permit Fees** – The fees are determined by the most current City Resolution of Fees and the total valuation of the construction project. The value shall include all materials, labor, contractor overhead and profit. A plan review fee is charged for commercial and residential plan reviews and is collected at the time of submittal for plan review. The building permit fee and additional fees will be collected at time of permit issuance.

Code Requirements

1. **Installation Standards** - All windows shall be installed in accordance with the manufacturer's requirements (including new flashing). [§ 102.4 CBC and § R102.4 CRC]
2. **Energy Efficiency Standards** - When replacing or adding no more than 75 square feet of windows, the newly installed windows may have a maximum U-factor of 0.40 and a maximum Solar Heat Gain Coefficient (SHGC) of 0.35.

If more than 75 square feet of window area is replaced, or if additional window area is added, the newly installed windows shall have a maximum total fenestration area of 20%, maximum west-facing area of 5%, maximum U-factor of 0.32, and a maximum Solar Heat Gain Coefficient (SHGC) of 0.25. [§ 150.2(b)1 CEC]

3. **Emergency Escape and Rescue Windows** - Windows replaced in bedrooms shall meet all of the following egress requirements (at least one window in each bedroom is required to meet these requirements) [§ 1030 CBC, § R310 CRC, § 406.3 CEBC]:
 - Minimum net 5.7 square feet of openable area (minimum of 5.0 net square feet required for grade level bedrooms; i.e. first floor)
 - Minimum net 20" clear width when open
 - Minimum net 24" clear height when open
 - Maximum height of 44" from the finished floor to the bottom of the clear opening

Replacement Emergency Escape and Rescue Windows – Replacement emergency escape and rescue windows are exempt from the provisions above, provided the replacement window is the manufacturer's largest standard size window which will fit within the existing frame or existing rough opening. The replacement window may be of the same operating style as the existing window or a style which provides an equal or greater window opening area than the existing window. [§ 406.3 CEBC]

Bars, grills, grates or similar devices installed on escape or rescue windows, doors or window wells, shall be equipped with approved released mechanisms per § R 310.4 CRC.

4. **Fall Protection** - Where the operable window opening (measured at the window sill) is located more than 72 inches above the exterior finished grade, and the sill height is less than 36 inches above the finished floor on the interior and the window permits openings that will allow passage of a 4-inch diameter sphere when fully opened, window opening control devices complying with ASTM F 2090 shall be installed on the replacement window. [§ 1015.8 CBC, § R312.2 CRC, § 406.2 CEBC]
5. **Natural Light and Ventilation** - Each habitable room is required to have natural light (windows or skylights) sized to a minimum of 8% of the floor area of the room and ventilation (openable portion of window or skylight) sized to a minimum of 4% of the floor area. Exception: when a whole-house mechanical ventilation system is installed and artificial light is provided. [§ 1205.2 CBC, § 1203.5 CBC, and § R303 CRC]

Bathrooms, water closet compartments and other similar rooms must have operable windows and/or operable skylights with minimum total glazed area of 3 square feet, one-half of which must be openable. Exception: when a local exhaust system 50 cubic feet per minute and artificial light is provided. [§ 303 CRC]

6. **Tempered Glazing** - Tempered glazing shall be installed in the following locations [§ 2406.4 CBC, § 2403.1 CBC, and § R308.1 CRC, § R308.4 CRC]:
- Within a 2 foot arc of either the edge of a door or where the bottom exposed edge of the glazing is less than 60 inches above the walking surface.
 - Adjacent to a bottom stair landing where glazing is less than 36 inches above the landing and within 60 inches horizontally of the landing.
 - Adjacent to stairs where glazing is located less than 36 inches above the plane of the adjacent walking surface.
 - Within a portion of wall enclosing a tub/shower where the bottom exposed edge of the glazing is less than 60 inches above the standing surface and drain inlet.
 - Within 60 inches of a tub/shower where the glazing is less than 60 inches above the walking surface.
 - Any glazing meeting all the following conditions:
 - Exposed area of an individual pane greater than 9 square feet
 - Exposed bottom edge is less than 18 inches above the finished floor
 - Exposed top edge is greater than 36 inches above the finished floor
 - Where a walking surface is within 36 inches horizontally of the glazing.

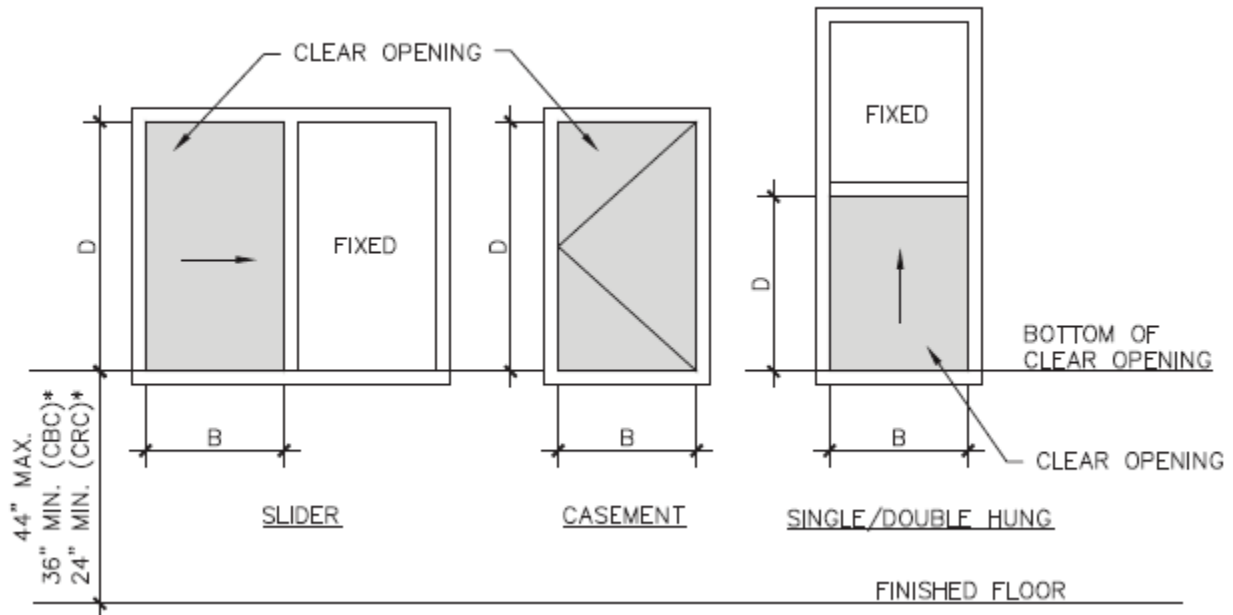
Where required, tempered glazing (except tempered spandrel glass) shall be permanently identified by a manufacturer marking that is permanently applied and cannot be removed without being destroyed (e.g. sand blasted, acid etched, ceramic fired, laser etched, or embossed). Stickers attached to the window are not sufficient.

7. **Smoke and Carbon Monoxide Alarms** - Where alterations, repairs or additions requiring a permit occur, the dwelling unit shall be equipped with smoke alarms located as required for new dwellings. Smoke alarms shall be installed on the ceiling or wall (between 4" and 12" of the ceiling) in all sleeping rooms, each area/hallway adjacent to sleeping rooms, each story of the building, and in any basement. [§ 907.2.11 CBC, § R314.2.2 CRC, § R315.2.2 CRC]

Carbon monoxide alarms shall be installed on the ceiling or wall (above the door header) in each area/hallway adjacent to sleeping rooms, each story of the building, and any basement. Carbon monoxide alarms are not required if there is no fuel-burning appliances and where the garage is detached from the house.

8. **Water-Conserving Plumbing Fixtures** – For all building alterations, as a condition for final permit approval all existing noncompliant plumbing fixtures must be replaced with water conserving plumbing fixtures. [Senate Bill 407 California Civil Code § 1101.4(a)]

Emergency Escape and Rescue Windows



At Grade		Above Grade	
Minimum Clear Area			
5.0 sq. ft.		5.7 sq. ft.	
Minimum Clear Opening Dimensions			
B	D	B	D
20"	36"	20"	41"
21"	34 ³ / ₈ "	21"	39"
22"	32 ³ / ₄ "	22"	37 ³ / ₈ "
23"	31 ³ / ₈ "	23"	35 ³ / ₄ "
24"	30"	24"	34 ¹ / ₄ "
25"	28 ⁷ / ₈ "	25"	32 ⁷ / ₈ "
26"	27 ³ / ₄ "	26"	31 ¹ / ₂ "
27"	26 ³ / ₄ "	27"	30 ¹ / ₂ "
28"	25 ³ / ₄ "	28"	29 ³ / ₈ "
29"	24 ⁷ / ₈ "	29"	28 ³ / ₈ "
30"	24"	30"	27 ³ / ₈ "

CRC R310 Basements and every sleeping room shall have not less than one operable emergency escape and rescue opening. The openings shall open directly into a public way, or to a yard or court that opens to a public way.

The openings shall be maintained free of obstructions and shall be operational from the inside without the use of keys, tools, or special knowledge.

Minimum net clear opening of 5.7 square feet (5.0 square feet at grade or below grade), net clear opening height of 24 inches, net clear opening width of 20 inches, maximum sill height of 44 inches to clear opening. See the table and diagram to the left for minimum dimensions.

* Minimum window sill height is applicable when the sill is greater than 72" above the exterior grade.