

CITY OF REDLANDS
DEVELOPMENT SERVICES DEPARTMENT
BUILDING AND SAFETY DIVISION
35 CAJON AVE SUITE 20
REDLANDS, CALIFORNIA 92373
(909) 798-7536

WINDOW AND DOOR REPLACEMENTS

INFORMATION:

All window and exterior door replacements and retrofits require a building permit. A floor plan is required to determine the location of windows being replaced.

Replacement windows without a Performance Energy Analysis shall comply with the Mandatory Measures Prescriptive requirements. A maximum U Factor of 0.32 and SHGC of 0.25 required in Climate Zone 10.

CURRENT BUILDING CODES:

- 2016 California Building Code (CBC)
- 2016 California Green Building Standards (CGBS)
- 2016 California Energy Code (CEC)
- 2016 California Residential Code (CRC)

EMERGENCY ESCAPE AND RESCUE OPENINGS (EGRESS):

Every sleeping room, habitable attic, and basement shall have at least one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, emergency escape and rescue shall be required in each sleeping room.

REQUIREMENTS

1. Clearances
 - a. The bottom of the clear opening not greater than 44 inches measured from the floor. (CRC R310.2.2) *and*
 - b. Net clear opening of 5.7sf Exception: Net clear opening of 5sf for windows at grade level or below grade opening. (CRC R310.2.1) *and*
 - c. Minimum net clear opening height of 24 inches, *and*
 - d. Minimum net clear opening width of 20 inches
2. Operational constraints. EGRESS openings shall be maintained free of any obstructions other than those allowed by CRC Section R310 and shall be operational from the inside of the room without the use of keys, tools or special knowledge.
3. Window wells. The minimum horizontal area of the window well shall be 9 square feet, with a minimum horizontal projection and width of 36 inches. The area of the window well shall allow the emergency escape and rescue opening to be fully opened. Exception: The ladder or steps required by CRC section R310.2.3.1 shall be permitted to encroach a maximum of 6 inches into the required dimensions of the window well. (CRC R310.2.3)
4. Ladder and steps. Window wells with a vertical depth greater than 44 inches shall be equipped with a permanently affixed ladder or steps usable with the window in the fully open position. Ladders or steps required by this section shall not be required to comply with

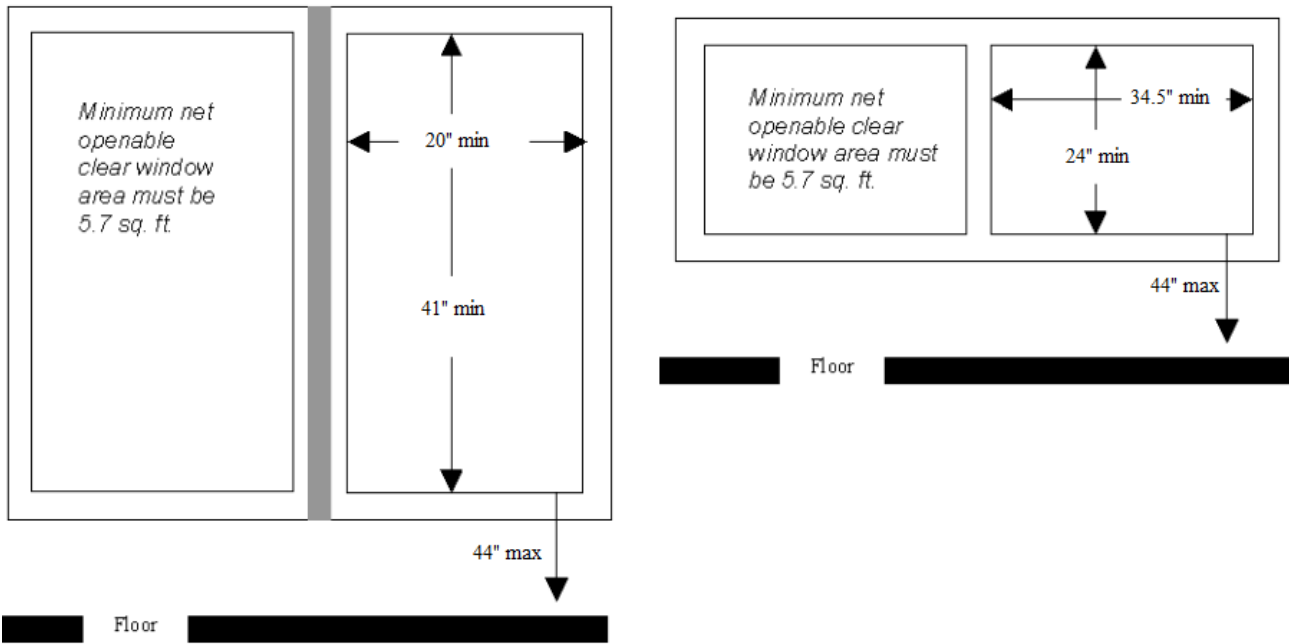
Sections R311.7 and R311.8. Ladders or rungs shall have an inside width of not less than 12 inches, shall project not less than 3 inches from the wall and shall be spaced not more than 18 inches on center vertically for the full height of the window well.

5. Bulkhead enclosures shall provide direct access from the basement. The bulkhead enclosure shall provide the minimum net clear opening equal to the door in the fully open position as required by CRC section R310.2.1 and R310.3.1. Bulkhead enclosures shall also comply with Section R311.7.10.2. (CRC R310.3.2)
6. Bars, grilles, covers, screens or similar devices are permitted to be placed over emergency escape and rescue openings, bulkhead enclosures, or window wells that serve such openings, provided that the minimum net clear opening size complies with CRC sections R310.1.1 to R310.2.3, and such devices shall be releasable or removable from the inside without the use of a key, tool, special knowledge or force greater than that required for normal operation of the escape and rescue opening. The release mechanism shall be maintained operable at all times. (CRC R310.4)
7. In dwelling units, where the top of the sill of an operable window opening is located less than 24 inches (610 mm) above the finished floor and greater than 72 inches (1829 mm) above the finished grade or other surface below on the exterior of the building, the operable window shall comply with one of the following: (CRC R312.2)
 - a. Operable windows with openings that will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening where the opening is in its largest opened position.
 - b. Operable windows that are provided with window fall prevention devices that comply with ASTM F2090
 - c. Operable windows that are provided with window opening control devices that comply with Section CRC R312.2.2.
8. Habitable rooms shall have an aggregate glazing area of not less than 8 percent of the floor area of such rooms. Natural ventilation shall be through windows, skylights, doors, louvers or other approved openings to the outdoor air. Such openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants. The openable area to the outdoors shall be not less than 4 percent of the floor area being ventilated. CRC R303.1
9. Fenestration products shall have a temporary label for manufactured fenestration products or a label certificate when the component modeling approach (CMA) is used and for site-built fenestration meeting the requirements of Section 10-111(a)1. The temporary label shall not be removed before inspection by the enforcement agency. (California Energy Code 110.6(a)5)
10. All joints, penetrations and other openings in the building envelope that are potential sources of air leakage shall be caulked, gasketed, weather-stripped or otherwise sealed to limit infiltration and exfiltration. (California Energy Code 110.7)
11. Any fenestration product and exterior door, other than field-fabricated fenestration products and field-fabricated exterior doors, may be installed only if the manufacturer has certified to the California Energy Commission, or if an independent certifying organization approved by the California Energy Commission has certified, that the product complies with all of the applicable requirements of this subsection. (California Energy Code 110.6(a))
12. Glazing meeting the following condition must be tempered: (CRC R308.4)
 - a. Glazing in doors greater than 3 inches in diameter (CRC R308.4.1)
 - b. Glazing within 24 inches of either side of the door in the plane of the door in a closed position (CRC 308.4.2)
 - c. Glazing perpendicular to the plan of a door in the closed position and within 24 inches of the hinge side of an in-swinging door (CRC 308.4.2)
 - d. Glazing that is larger than 9 square feet, has the bottom edge less than 18 inches above the floor, the top edge is more than 36 inches above the floor, and has one or more walking surfaces within 36 inches (CRC 308.4.3)

WINDOW INSTALLATION;

Approved corrosion-resistant flashing shall be applied shingle-fashion in a manner to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. All flashings shall be installed following the **Window Manufacturer's Installation and Flashing Instructions** or In accordance with the flashing design or method of a registered design professional. (CRC R703.4)

TYPICAL OPENABLE WINDOW DIAGRAM:



SAMPLE WIDTH / HEIGHT REQUIREMENTS FOR

EGRESS (Dimensions are inches)

WIDTH	20	20.5	21	21.5	22	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27
HEIGHT	41	40	39.5	38.5	37.5	36.5	35.5	35	34.5	33.5	33	32.5	32	31	30.5

WIDTH	27.5	28	28.5	29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.5
HEIGHT	30	29.5	29	28.5	28	27.5	27	26.5	26.5	26	25.5	25	24.5	24.5	24

Note: Using both the minimum sizes for width and height will not obtain the required minimum area (5.7 sq. ft.) The above chart shows the minimum area for a given width or height. This area is larger than the minimum required for ventilation.

REPLACING WINDOW WITH SLIDING DOOR REQUIREMENTS:

1. There shall be a landing or floor on each side of each exterior door. The width of each landing shall be not less than the door served. Every landing shall have a dimension of not less than 36 inches measured in the direction of travel. The slope at exterior landings shall not exceed 1/4 unit vertical in 12 units horizontal (2 percent). (CRC R311.3)
2. Landings or finished floors at the required egress door shall be not more than 1^{1/2} inches (38 mm) lower than the top of the threshold. Exception: The landing or floor on the exterior side shall be not more than 7^{3/4} inches (196 mm) below the top of the threshold provided the door does not swing over the landing or floor. Where exterior landings or floors serving the required egress door are not at grade, they shall be provided with access to grade by means of a ramp in accordance with CRC section R311.8 or a stairway in accordance with CRC section R311.7. (CRC R311.3.1)

4. Exterior lighting required. A switch and light is required outside each outdoor entrance or exit.
5. Moving the electrical wiring to allow a new door and adding the required lighting will require an electrical permit.
6. Interior and exterior alterations, repairs or additions having a valuation in excess of \$ 1,000 or when one or more sleeping rooms are added or created, the entire dwelling shall be provided with smoke and carbon monoxide alarms per CRC section. R314 and R315.
 - a. Smoke alarms are required in all sleeping rooms, outside each sleeping area in the immediate vicinity of the bedrooms, on each floor level including basements and habitable attics. Carbon Monoxide alarms are required when fuel-burning appliances are installed and/or dwelling units have attached garages.

INSPECTIONS:

Inspections shall be made by calling and leaving a voice-mail message on the inspection request line at **(909) 798-7536**.

Inspection requests for next day inspections must be called in by 4:00pm the day **BEFORE** you want the inspection. Requests received on weekends, holidays, or after 4:00pm will be scheduled for the second following business day, Monday-Friday.

The following inspections are typical for window installations:

1. Framing and Window flashing.
2. Stucco lath repair.
3. Rough electrical, if moving outlet or adding a switch and outside light prior to covering with insulation and/or drywall.
4. Interior smoke alarm and carbon monoxide detector installation(s)
5. Final inspection.