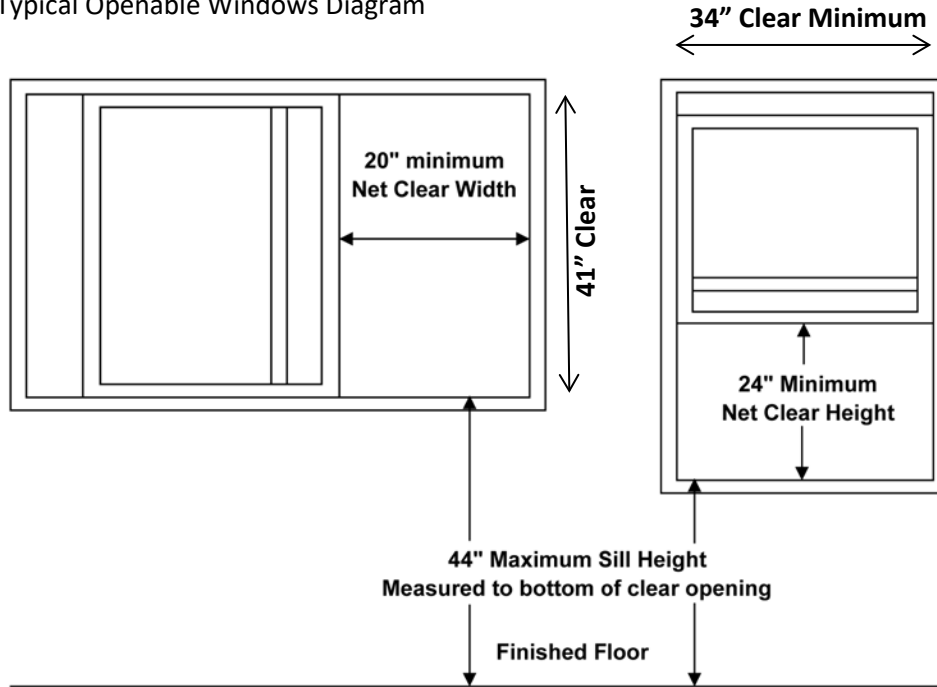




Windows egress requirement

Egress window requirements are in place to help reduce the risk of someone getting trapped in a bedroom while their home is on fire, and being trapped and unable to escape. The spirit of the code is to make sure that someone who was sleeping in a bedroom can get out in the event of a fire.

Typical Openable Windows Diagram



Inspection required

1. Framing and windows flashing (see stucco and flashing handout)
2. Stucco lath repair (see stucco and flashing handout) Rough electrical, if moving outlet or adding a switch and outside light prior to covering with insulation and /or drywall
3. Final inspection

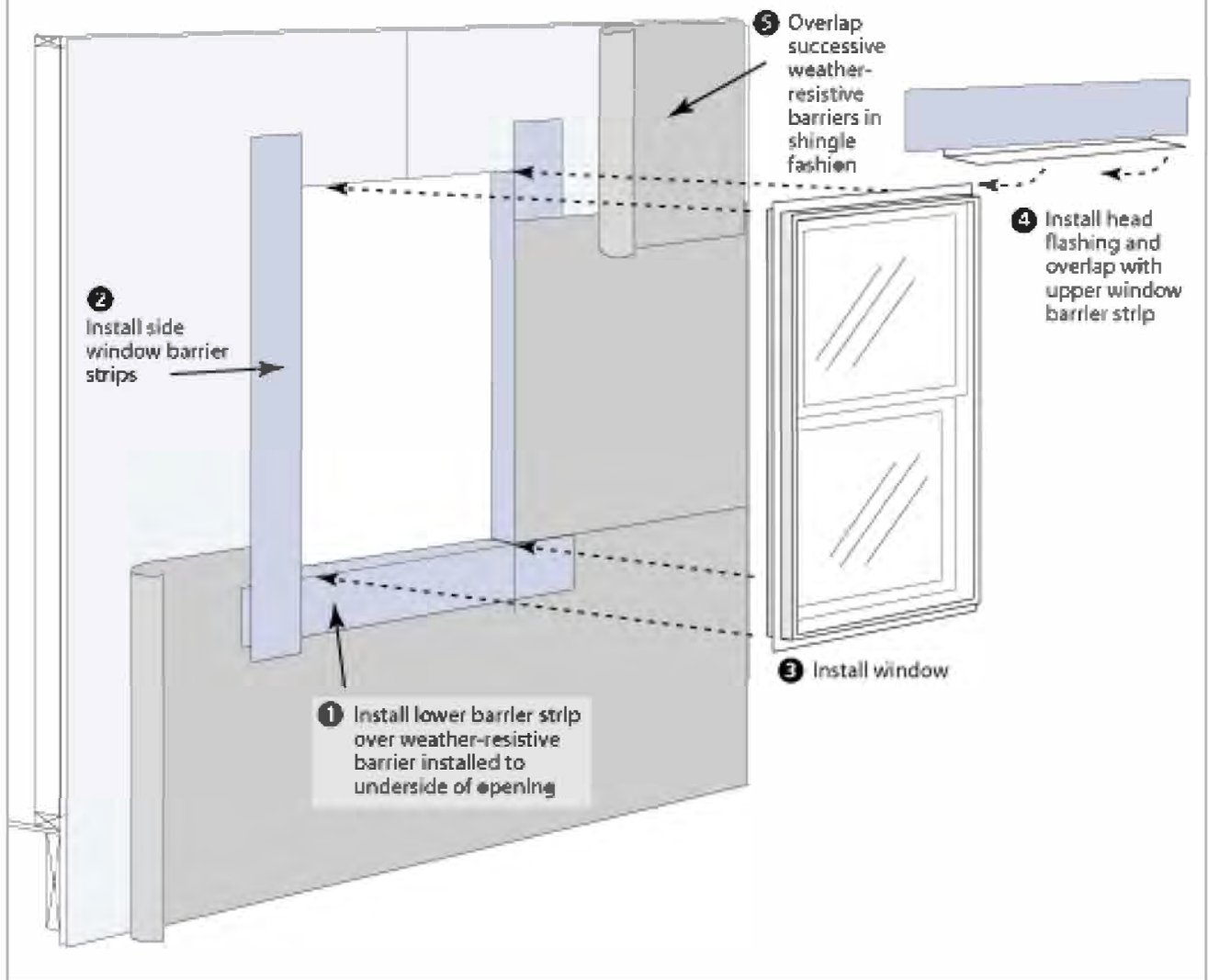
Note: Using both the minimum sizes for width and height will not obtain the required minimum area (5.7 sq. ft.) The above chart shows the minimum area for a given width or height. This area is larger than the minimum required for ventilation

Minimum sizes area mandated by the 2016 California Building Code, Section 1026.2

SAMPLE MINIMUM WIDTH / HEIGHT REQUIREMENTS FOR EGREESS WINDOWS

(Dimensions are inches)	20	20.5	21	21.5	22	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27
Width															
Height	41	40	39.1	38.2	37.3	36.5	35.7	34.9	34.2	33.5	32.8	32.2	31.6	31	30.4
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	29.8	29.3	28.8	28.3	27.8	27.4	26.9	26.5	26.1	25.7	25.3	24.9	24.5	24.1	24

Flashing Window Openings



INSTRUCTIONS:

To aid in communication between yourself, the inspectors, and the plans examiners, we have prepared this sample plan to assist in the preparations of your plan for window and door replacement. Follow the instructions on sheets one and two, then submit this information to the permit center.

PREPARATION OF PLAN:

On an 8-1/2"x11" or larger sheet of paper show the following: (Although the plan are required to be to scale. A scale of 1/8" per foot will work for most residences.)

1. Show the property configuration, and street/alley location.
2. Show all buildings and/ or structures on the property.
3. Draw the floor plan of the residence. Note the use of each room. If a window or door is removed/replaced or the size changed, indicate the floor area (sq.-ft.) of the room.
4. Show all existing windows and doors, and note which will be replaced. (Show their size and type. This can be done by keying each location to the table as shown on the sample plan.
5. If applicable, show the location of new window and door openings.
6. Show a north arrow.

SPECIAL CASES:

Rooms are required by residential code to meet minimum natural light and ventilation requirements. Sleeping rooms must have at least one window or door to exterior which meets emergency escape/rescue requirements. When making changes in size or removing/replacing windows and doors, compliance to code requirements must be shown. (See "Window and Door Replacement Worksheet" for more info.)

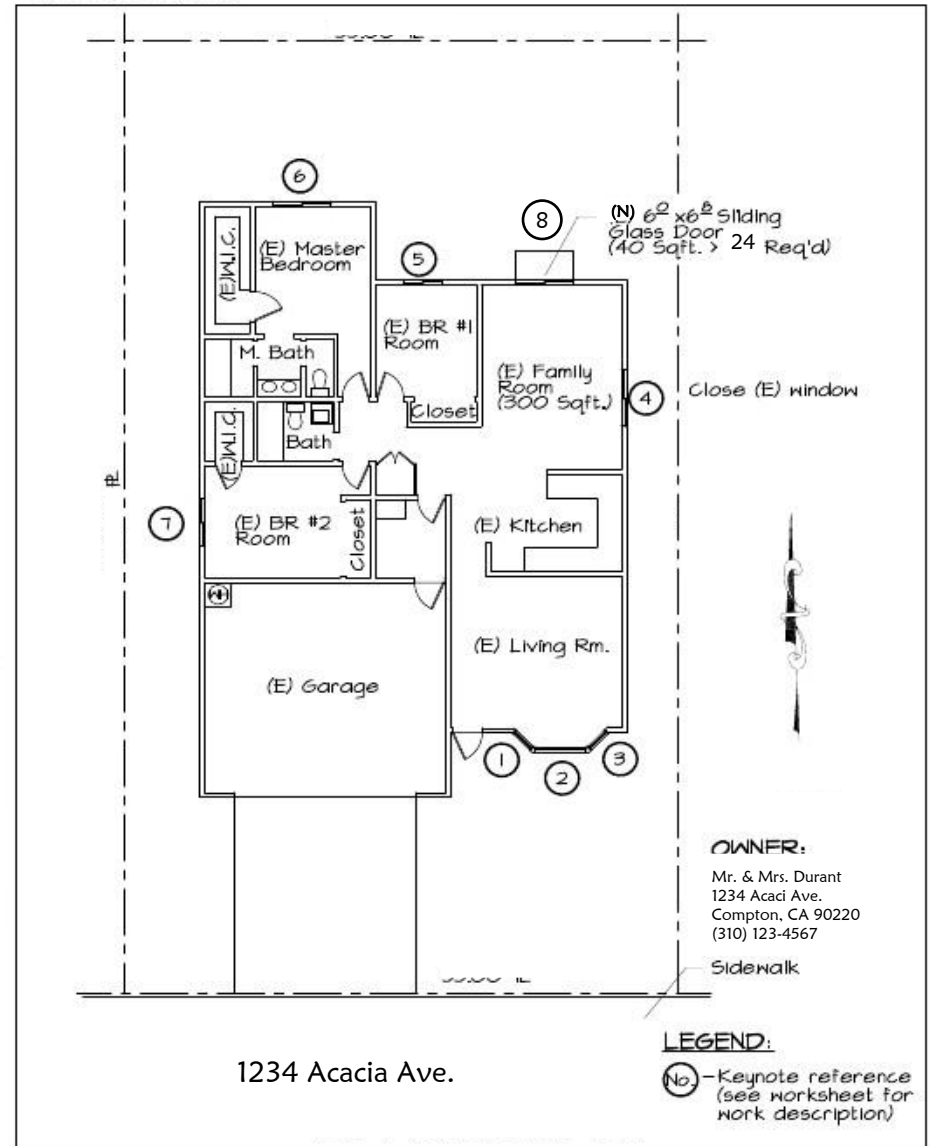
Removal of Windows and Doors

Show floor area and size of all other windows and doors in the room. Remaining window or door must provide compliance to emergency escape/rescue requirements and natural light & ventilation requirements.

Change in Window and Door Size

1. Reduction- Show floor area and size of all other windows and doors in the room. Remaining window or door must provide compliance to emergency escape/rescue and natural light & ventilation requirements.
2. Increase- More information is required for this type of work. For example, widening a window or door may require header and seismic retrofit, or lowering a window may weaken lateral system in some buildings. Other types of projects require more information (framing plans, etc.) Check with a plans examiner regarding your specific case.

SAMPLE PLAN



WINDOW AND DOOR REPLACEMENT – SAMPLE PLAN

INSTRUCTIONS:

Completing the "Window and Door Replacement Worksheet"

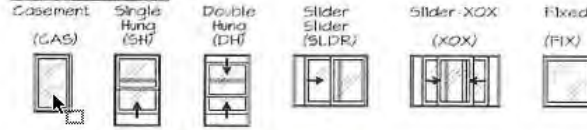
1. Indicate property address, owner's information, occupancy and type of construction.
2. Indicate existing window or door size and type.
3. Indicate new window or door size and type.
4. Calculate and record new window or door (glazing) area.
5. Indicate the floor area (sq.-ft.) of the room/area where window/door alteration occurs.
6. Note room/area in which window/door is located.
7. Use information on sheet 2 to determine if the window or door is required to have safety glazing (tempered), and note if required.
8. Verify that sufficient natural light and ventilation remains in rooms/areas where windows or doors are being removed/replaced or their size reduced.
9. Verify that at least one exterior opening in the bedroom (if window/door alteration occurs) meets the requirements for emergency escape/rescue. Also refer to exemption.
10. Verify if window fall prevention device is required for windows/doors above 1st floor. See sheet 5.
11. Calculate and record the total glazing area of the new windows & doors.
12. Indicate the energy efficiency of the new glazing (City may assist with completion).
13. Attach additional worksheets for more windows & doors when necessary.
14. Sign & date the worksheet(s).

SAMPLE COMPLETED WORKSHEET

INSTRUCTIONS:

Complete the worksheet below. The numbering system can be used to reference locations of proposed work on the plan. Refer to the code information on the second sheet to verify that your proposed windows & doors meet the applicable code requirements. If you need assistance see our "WINDOW AND DOOR REPLACEMENT- SAMPLE PLAN" handout or a plans examiner.

WINDOW TYPES:



WORKSHEET

ADDRESS: 1234 LAKE AVE. FIRE ZONE: YES NO

	EXISTING WINDOW/DOOR SIZE & TYPE	NEW WINDOW/DOOR SIZE & TYPE	GLAZING AREA (SQ.-FT.)	ROOM AREA (SQ.-FT.)	LOCATION (ROOM)	SAFETY GLAZING (Yes/No)
①	2'6" x 5'0" SH	2'6" x 5'0" SH	12.5 SF	300 SF	LIVING RM	NO
②	5'0" x 5'0" FIX	5'0" x 5'0" FIX	25 SF	300 SF	LIVING RM	NO
③	2'6" x 5'0" SH	2'6" x 5'0" SH	12.5 SF	300 SF	LIVING RM	NO
④	6'0" x 4'0" SLDR	CLOSED			FAMILY RM	
⑤	4'0" x 4'0" SLDR	4'0" x 4'0" SLDR	16 SF	150 SF	BR #1	NO
⑥	6'0" x 4'0" SLDR	6'0" x 4'0" SLDR	24 SF	175 SF	H. BEDRM	NO
⑦	5'0" x 4'0" SLDR	5'0" x 4'0" SLDR	20 SF	200 SF	BR #2	NO
⑧	6'0" x 6'8" DOOR	6'0" x 6'8" DOOR	40 SF	300 SF	FAMILY RM	YES
⑨						
⑩						
⑪						
⑫						
⑬						
⑭						
⑮						

Total Glazing Area 150 SF Max. U-Factor 0.32 Max. SHGC 0.25

Submission of this form is not a guarantee that the above stated windows will meet code requirements. Final determination will be made by the building inspector at the time of inspection.

I acknowledge and will meet the all the applicable code requirements as listed on sheet 4 & 5 for proposed window and door replacement.

Applicant Signature: Joe Smith Date: 1/1/17



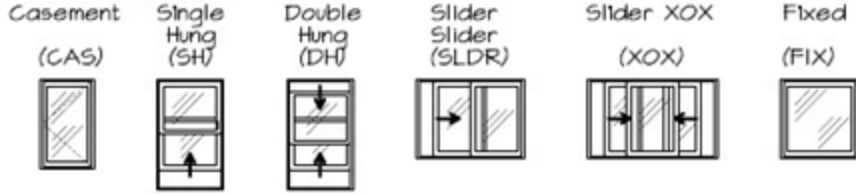
WINDOW AND DOOR REPLACEMENT

WINDOW AND DOOR REPLACEMENT – SAMPLE PLAN

INSTRUCTIONS:

Complete the worksheet below (Pens only) The numbering system can be used to reference locations of proposed work on the plan. Refer to the code information on the second sheet to verify that your proposed windows & doors meet the applicable code requirements. If you need assistance see our "WINDOW AND DOOR REPLACEMENT-SAMPLE PLAN" handout or a plans examiner.

WINDOW TYPES:



WORKSHEET

ADDRESS: _____

FIRE ZONE: YES / NO

	EXISTING WINDOW/DOOR SIZE & TYPE	NEW WINDOW/DOOR SIZE & TYPE	GLAZING AREA (SQ.-FT.)	ROOM AREA (SQ.-FT.)	LOCATION (ROOM)	SAFETY GLAZING (Yes/No)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

Total Glazing Area _____

Max. U-Factor _____

Max. SHGC _____

Submission of this form is not a guarantee that the above stated windows will meet code requirements. Final determination will be made by the building inspector at the time of inspection.

I acknowledge and will meet the all the applicable code requirements as listed on sheet 4 & 5 for proposed window and door replacement.

Applicant Signature: _____ Date: _____

WINDOW AND DOOR REPLACEMENT

CODE REQUIREMENTS

1. NATURAL LIGHT AND VENTILATION

HABITABLE ROOMS:

- Shall be provided with natural light by means of exterior glazed openings with an area not less than 8% of area of such rooms.
- Shall be provided with natural ventilation by means of openable exterior openings with an area not less than 4% of the area of such rooms.
- For designated historical buildings (contact Design & Historic Preservation) and if the windows and doors are considered historical, then windows and doors shall provide an area of 6% of the room's floor area or 6 square feet, whichever is greater.

BATHROOMS, WATER CLOSET COMPARTMENTS, AND OTHER SIMILAR ROOMS:

- Shall be provided with aggregate exterior glazing area in windows of not less than 3 square feet, ½ of which must be openable. Exception: In lieu of windows, artificial light and a local exhaust system (minimum 50 cubic feet per minute for intermittent ventilation & 20 cubic feet per minute for continuous ventilation) may be provided.
- For non-residential (including multi-family), mechanical ventilation shall be provided.

2. EMERGENCY ESCAPE/RESCUE WINDOWS AND DOORS

Basements, habitable attics, and every sleeping room (below fourth story) shall have at least one operable window or door approved for emergency escape or rescue that shall open directly into a public street, public alley, yard or exit court. The emergency window shall:

- be operable from the inside to provide a full, clear opening without the use of separate tools;
- have a minimum net clear openable area of 5.7 square feet (5.0 @ grade);
- have a minimum net clear openable height 24 inches;
- have a minimum net clear openable width of 20 inches;
- have a finished sill height not more than 44 inches above the floor.

For designated historical buildings (contact Design & Historic Preservation) and if the windows are considered historical, then the emergency window shall:

- have a minimum net clear openable area of 3.3 square feet;
- have a minimum net clear openable width or height of 18 inches

3. ENERGY REQUIREMENTS

All glazing (windows & doors w/ glass) that are new, replaced, re-used, relocated, or changed in size must meet current California Energy Code. Glazing must comply with maximum U-Values and Solar Heat Gain Coefficient (SHGC) ratings per the prescriptive standards. A detailed computer analysis (performance method) of the dwelling by an energy consultant with possible further modifications to the building may allow a number greater than the prescriptive standards.

For designated historical buildings (contact Design & Historic Preservation) and if the windows or doors are considered historical, then they are exempt from compliance to the energy code requirements.

WINDOW AND DOOR REPLACEMENT

CODE REQUIREMENTS

4. IMPACT OR HAZARD GLAZING (TEMPERED GLASS)

Tempered or safety glazing shall be required where glazing is:

- in a door;
- within a 24" on either side of a door in the plane of the door in a closed position and where the bottom of the edge of the glazing is less than 60" above the walking surface;
- on a wall perpendicular to the plane of the door in a closed position, within a 24" of the hinge side of an in-swinging door, and where the bottom of the edge of the glazing is less than 60" above the walking surface;
- where the exposed area of an individual pane is larger than 9 sq.-ft, within 18" of the floor, top edge of the glazing is more than 36" above the floor, and one or more walking surfaces are within 36", measured horizontally and in a straight line, of the glazing;
- enclosing a hot tub, spa, whirlpool, sauna, steam room, bathtubs, shower, or swimming pool where the bottom of the window is less than 60 inches above the tub or shower bottom;
- within 60" measured horizontally from water's edge of a bathtub, hot tub, spa, whirlpool, or swimming pool or from the edge of shower, sauna or steam room and when the exposed surface of the glazing is less than 60" above the walking surface;
- adjacent to stairways, landings, and ramps when the exposed surface of the glazing is less than 36" above the plane of the adjacent walking surface;
- Adjacent to the bottom landing of a stairway where the glazing is less than 36" above the landing and within a 60" horizontal arc less than 180° from the bottom tread nosing.

5. WINDOW FALL PROTECTION

Where window fall prevention fall devices are not provided, window opening control devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all the following apply to the replacement window:

- a. The window is operable.
- b. The window replacement includes replacement of the sash and the frame.
- c. The top of the sill of the window opening is at a height less than 24" above the finished floor.
- d. The window will permit openings that will allow passage of 4" diameter sphere where the window is in its largest opened position.
- e. The vertical distance from the top of the sill of the window opening to the finished grade or other surfaces below, on the exterior of the building, is greater than 72".

The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit.

6. FIRE ZONE REQUIREMENTS

When your property is located in a designated Fire Zone (contact the Fire Department or Building & Safety), all new, re-used, or relocated windows & doors must comply with the following requirements:

- All exterior glazing (windows & doors) shall be max. dual glazed and have at least one pane (both for doors) tempered.
- All exterior doors (w/ no glazing) shall be of noncombustible or ignition-resistant material (exterior surface) or constructed of solid-core wood that have stiles and rails not less than 1-3/8" thick or raised panels not less than 1-1/4" thick.

7. EGRESS DOOR REQUIREMENTS

At least one egress door shall be provided for each residence (usually the front door). The egress door shall be side-hinge and have minimum size of 36"x80". Egress door shall be readily openable from inside the residence without the use of a key or special knowledge or effort.

NOTE: Egress door within a multi-family building may required to be a fire-rated door. New/replaced door must meet the minimum fire rating per Chapter 10 of the Building Code.

WINDOW AND DOOR REPLACEMENT