

# Emergency Escape Window

## 1 & 2 Family Dwellings and Attached Single Family Dwellings

Based on the 2020 Minnesota State Building Code



MR = Minnesota State Building Code extracted from 2020 Minnesota Rules

IRC = International Residential Code

NEC = National Electrical Code

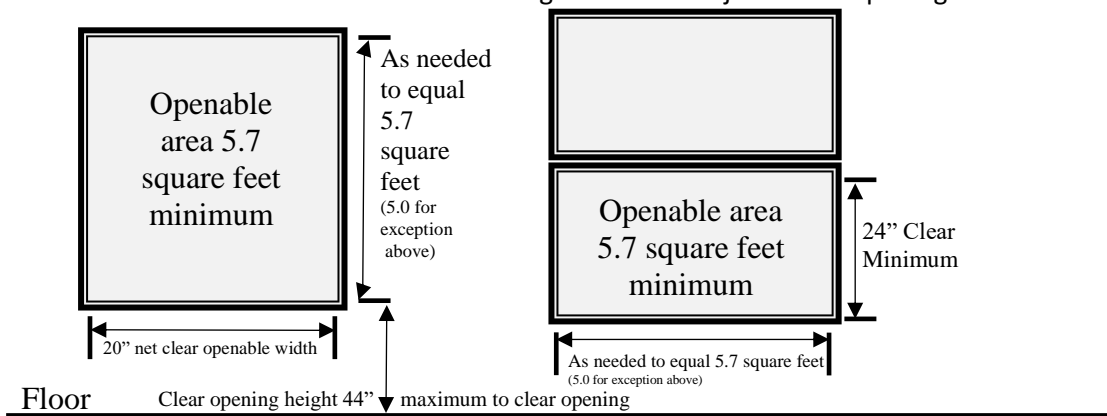
# EMERGENCY ESCAPE & RESCUE OPENINGS (EGRESS WINDOWS)

## Permit Requirements: SECTION R310

Building permits are required for all new and replacement emergency escape and rescue openings (egress windows). Replacement windows shall meet the requirements of the 2020 Minnesota State Building Code which adopts and amends the 2018 International Residential Code.

All bedrooms/sleeping rooms shall have at least one egress window meeting all these requirements:

- Openable area not less than 5.7 square feet=820 square inches
  - Exception grade floor openings shall have a minimum net clear opening of 5.0 square feet
- Opening height not less than 24 inches
- Opening width not less than 20 inches
- Emergency escape windows shall be operational from the inside of the room without the use of keys or tools
- Grade floor opening
  - A window or other opening located such that the clear opening height is not more than 44 inches above or below the finished ground level adjacent the opening



## Permit Fees: <https://www.rochestermn.gov/government/departments/building-safety/construction-residential>

An estimate of the permit costs are based on the material and labor valuation—which is the either the amount charged by a contractor for the work or for DIY work, double the materials cost. An example would be to take the materials times two for DIY estimates. This keeps the permit costs consistent whether done as DIY or by hired contractor.

## Plan Review & Inspections:

A Plan Review is performed by the Plans Examiner in order to identify potential problems prior to construction. If more information is needed during Review, the Plans Examiner will email a correction letter and a copy of the plans to the applicant. Once the corrections are completed, they should be emailed back to the Examiner who requested them.

Inspections will be performed during construction to ensure Code compliance and that the materials used are installed correctly. The Plan Review and Inspections are not designed to be a guarantee of the work; rather they are done to provide a reasonable degree of review and observation so the project will be successful, safe and long lasting.

Every effort is made to perform all inspections the next business day following the request. Inspections may be scheduled on line at: [www.rochestermn.gov/CitizenAccess](http://www.rochestermn.gov/CitizenAccess).

- Or call 507-328-2600 and please have your permit number available when you call. Inspectors' work schedules fill up fast at certain times of the year, so if you can call more than a day in advance you may avoid any potential delays in the progress of your project.

**Submittals for permits:** Apply for permits on line at: [RochesterMN.gov/CitizenAccess](http://RochesterMN.gov/CitizenAccess)

**When doing work in an owner-occupied, single family dwelling these are the basic criteria:**

- For window and door replacements not in bedrooms but within existing openings, a window permit is optional. Should you wish to apply for one, a complete description of work is required. An example would read "Replacing six dining room windows and four family room windows in existing openings." Another example would be "Replacing patio door and two kitchen windows, all in existing openings."
- Plans are required when replacing bedroom windows in existing openings. Send a sketch or at minimum, with a written description of work detailing location(s) of new window(s); manufacturer's specs are preferred. An example would read "Replacing one bedroom window within existing opening, on main level." Or "Replacing one bedroom window on main floor, two on second floor, all within existing openings."

**All egress windows require permits, whether in an owner-occupied, single family dwelling, or a rental property:**

Send a sketch or at minimum, a written description of work detailing location(s) of new window(s). This may include drawings depicting the details of new construction.

- Floor plans may be available by request through the City Clerk's Records Office website: <https://www.rochestermn.gov/government/departments/city-clerk/records>
- Size and location of egress windows.
  - Floor levels and rooms to be labeled (new or existing rooms?).
- A 5.7 sq. ft. minimum opening size is required.
- The manufacturer's specs are required as attachments for rental properties, preferred for owner-occupied.
  - Manufacturer's specs showing actual window opening size (clear opening), hardware and placement area
- Location of smoke and carbon monoxide alarms.

**All windows with safety glazing require a permit, whether in an owner-occupied, single family dwelling, or a rental property,** even if installed in existing openings.

- Send a sketch or at minimum, a written description of work detailing location(s) of new window(s);
- Indicate window is provided with safety glazing such as tempered glazing.

**Window wells:**

- Is this a new or an existing window?
- Framing-member size around the window; treated?
- Manufacturer's information on the egress size
  - Regarding the degree of opening of a window, here is the test:
    - take a box that measures at least 20 inches wide and at least 24 inches high and at least 36" deep. If you put the box edge on the windowsill and it is not impeded by the open window for the rest of the box's 36" depth out into space, that is then an adequate degree of opening.
- Height of well must be verified to determine ladder requirements
- Verify height of window opening from finished floor, maximum 44"
- Verify that it meets the minimum 9 square feet requirement for window well
- 3' clearance verified in any direction inside of window well
- Drainage system information for the window well

- Placement of well to be sketched on drawings
- Information on the ladder and its attachment
- Confirmation that the basement is considered habitable space
- Verify the existing house footing will maintain 42" frost protection

### Calculating open area for window in square feet

Height	Width																
	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"	34"	35"	36"
24"	3.3	3.5	3.7	3.8	4.0	4.2	4.3	4.5	4.7	4.8	5.0	5.2	5.3	5.5	5.7	5.8	6.0
26"	3.6	3.8	4.0	4.2	4.3	4.5	4.7	4.9	5.1	5.2	5.4	5.6	5.8	6.0	6.1	6.3	6.5
28"	3.9	4.1	4.3	4.5	4.7	4.9	5.1	5.3	5.4	5.6	5.8	6.0	6.2	6.4	6.6	6.8	7.0
30"	4.2	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8	6.0	6.3	6.5	6.7	6.9	7.1	7.3	7.5
32"	4.4	4.7	4.9	5.1	5.3	5.6	5.8	6.0	6.2	6.4	6.7	6.9	7.1	7.3	7.6	7.8	8.0
34"	4.7	5.0	5.2	5.4	5.7	5.9	6.1	6.4	6.6	6.8	7.1	7.3	7.6	7.8	8.0	8.3	8.5
36"	5.0	5.3	5.5	5.8	6.0	6.3	6.5	6.8	7.0	7.3	7.5	7.8	8.0	8.3	8.5	8.8	9.0
38"	5.3	5.5	5.8	6.1	6.3	6.6	6.9	7.1	7.4	7.7	7.9	8.2	8.4	8.7	9.0	9.2	9.5
40"	5.6	5.8	6.1	6.4	6.7	6.9	7.2	7.5	7.8	8.1	8.3	8.6	8.9	9.2	9.4	9.7	10.0
42"	5.8	6.1	6.4	6.7	7.0	7.3	7.6	7.9	8.2	8.5	8.8	9.0	9.3	9.6	9.9	10.2	10.5
44"	6.1	6.4	6.7	7.0	7.3	7.6	7.9	8.3	8.6	8.9	9.2	9.5	9.8	10.1	10.4	10.7	11.0
46"	6.4	6.7	7.0	7.3	7.7	8.0	8.3	8.6	8.9	9.3	9.6	10.0	10.2	10.5	10.9	11.2	11.5
48"	6.7	7.0	7.3	7.7	8.0	8.3	8.7	9.0	9.3	9.7	10.0	10.3	10.7	11.0	11.3	11.7	12.0
50"	6.9	7.3	7.6	8.0	8.3	8.7	9.0	9.4	9.7	10.1	10.4	10.8	11.1	11.5	11.8	12.2	12.5
52"	7.2	7.6	7.9	8.3	8.7	9.0	9.4	9.8	10.1	10.5	10.8	11.2	11.6	11.9	12.3	12.6	13.0
54"	7.5	7.9	8.3	8.6	9.0	9.4	9.8	10.1	10.5	10.9	11.3	11.6	12.0	12.4	12.8	13.1	13.5
56"	7.8	8.2	8.6	8.9	9.3	9.7	10.1	10.5	10.9	11.3	11.7	12.1	12.4	12.8	13.2	13.6	14.0
58"	8.0	8.5	8.9	9.3	9.7	10.1	10.5	10.9	11.3	11.7	12.1	12.5	12.9	13.3	13.7	14.1	14.5
60"	8.3	8.8	9.2	9.6	10.0	10.4	10.8	11.3	11.7	12.1	12.5	12.9	13.3	13.8	14.2	14.6	15.0

**EGRESS WINDOW REQUIREMENTS MINIMUMS:**

No clear opening height dimension may be less than 24”

No clear opening width dimension may be less than 20”

**Specifications for egress windows installed before September, 1978 require:**

1. Distance from the floor to the finished sill to be no more than 48 inches
2. Window must have a clear openable area of at least 720 square inches

**Specifications for egress windows installed after September, 1978 require:**

1. Distance from the floor to the finished sill to be no more than 44 inches
2. Window must have a clear openable area of at least 820 square inches

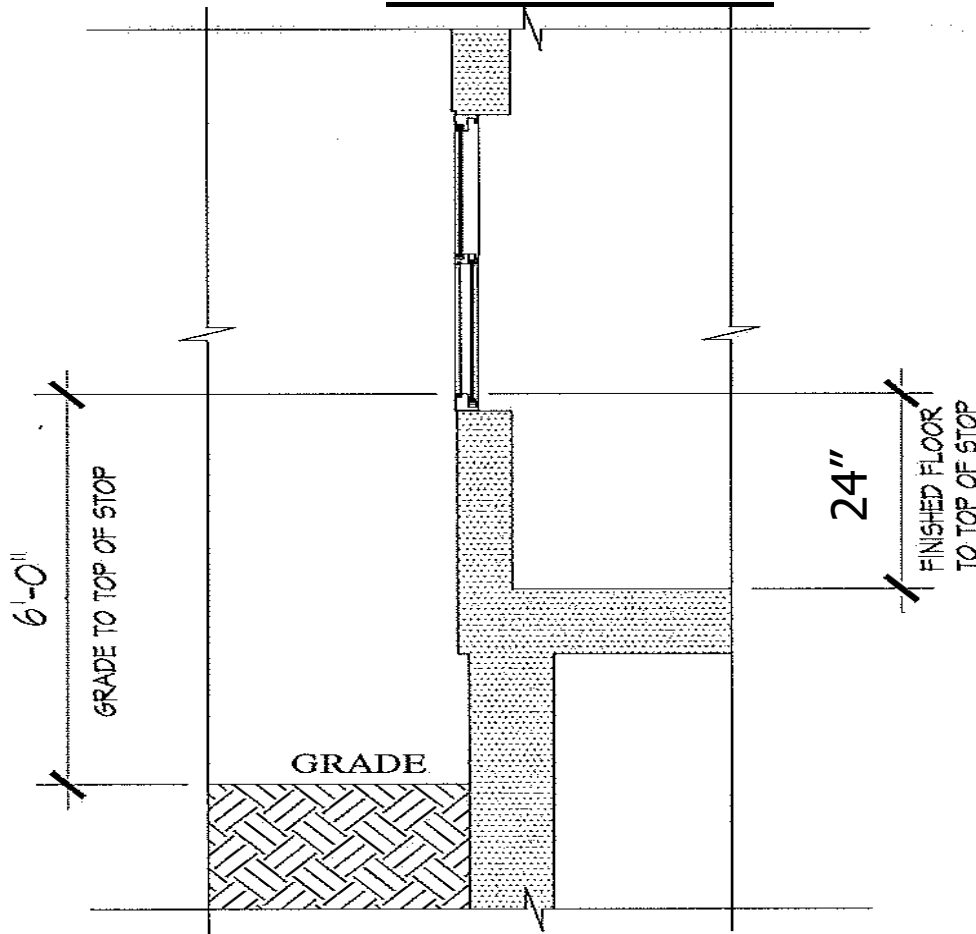
*When new and/or replacement windows are being installed into an existing structure, they must meet the new requirements for sill height and clear openable area.*

**Typical examples of the required dimensions of windows that meet the minimum requirements:**

Installed <b>before</b> September, 1978			Installed <b>after</b> September, 1978		
Width		Height	Width		Height
20	x	36	20	x	41
21	x	34 ¼	21	x	39 ¼
22	x	33	22	x	37 ½
23	x	31 ½	23	x	35 ¾
24	x	30	24	x	34 ¼
25	x	29	25	x	33
26	x	27 ¾	26	x	31 ¾
27	x	27	27	x	30 ½
28	x	26	28	x	29 ½
29	x	25	29 ½	x	28
30	x	24	30	x	27 ½
			31 ½	x	26 ¼
			33	x	25
			34	x	24 ¼

Informational Item: Where the bottom of the clear window openings are less than 24” to the finished floor or more than 72” above grade shall be provided with window fall protection as of July 1, 2021 per MN Housing Omnibus bill Article 2, Section 4, HF1496 Fischer/SF802 Karan

## WINDOW FALL PROTECTION IRC SECTION 312.2



In dwelling units, where the lowest part of the opening of an operable window is located more than 72 inches above the finished grade or surface below, the lowest part of the window opening shall be a minimum of 24 inches above the finished floor of the room in which the window is located. Operable sections of windows shall not permit openings that allow passage of a 4-inch diameter sphere where such openings are located within 24 inches of the finished floor.

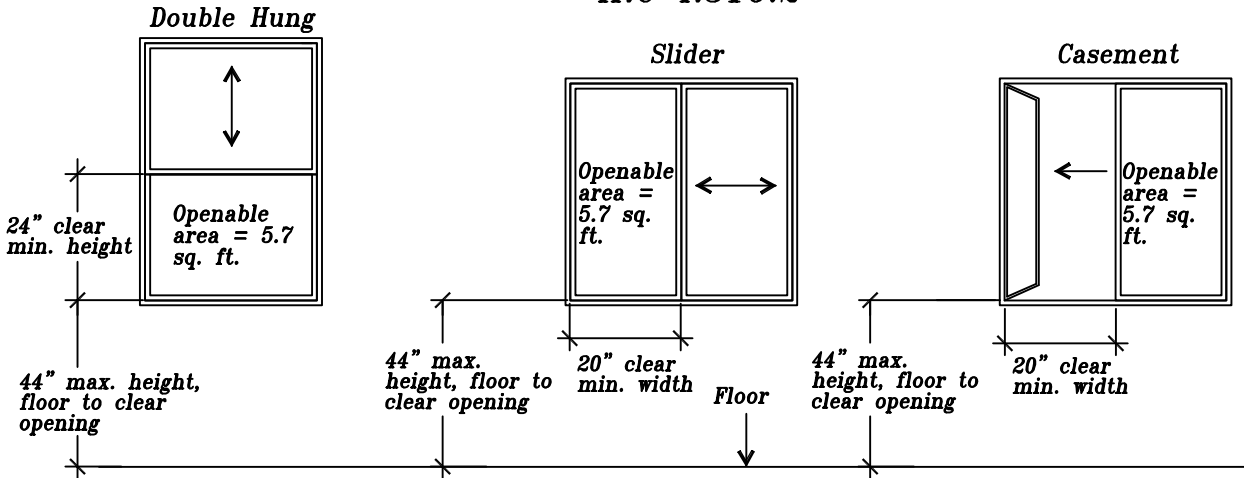
### Exceptions:

1. Windows with openings that will not allow a 4-inch diameter sphere to pass through the opening when the window is in its largest opened position.
2. Openings that are provided with window fall protection devices that comply with ASTM F2090.
3. Windows that are provided with window opening control devices that comply with Section R312.2.2. This device shall not reduce the minimum net clear opening area of the window unit to less than the area requirement in Section R310.1.1 (Egress windows).
4. Replacement windows.

*Note: The new 24" provision only applies to IRC-1, IRC-2 and IRC-3, not IBC R-1, R-2, R-3 or R-4*

# Emergency Escape & Rescue Window

IRC R310.2



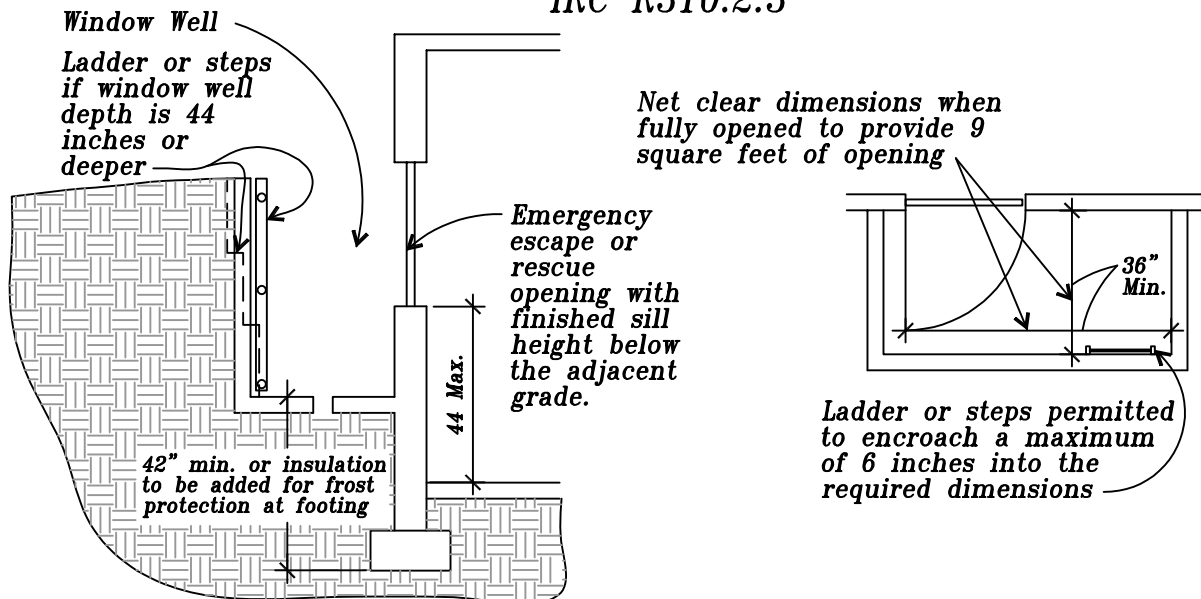
Emergency Escape and Rescue Windows must meet the following criteria:

- A minimum total net openable area of not less than 5.7 sq. ft.(820 sq. in.). \*
- A minimum clear opening height of not less than 24 inches.
- A minimum clear opening width of not less than 20 inches(casement windows may require egress hardware to provide clear opening).
- The clear opening not more than 44" above the floor and should be openable from the inside with normal operation and without use the use of tools, keys or special knowledge. See rescue window detail below.

\* Exception: Grade floor openings shall have a min. total net clear opening of 5.0 sq.ft.(720 sq.in.) Grade floor opening is a window or other opening located such that the height of the clear opening is not more than 44 inches above or below the finished ground level adjacent to the opening. See detail #1 on back of sheet.

# Emergency Escape & Rescue Window Well

IRC R310.2.3

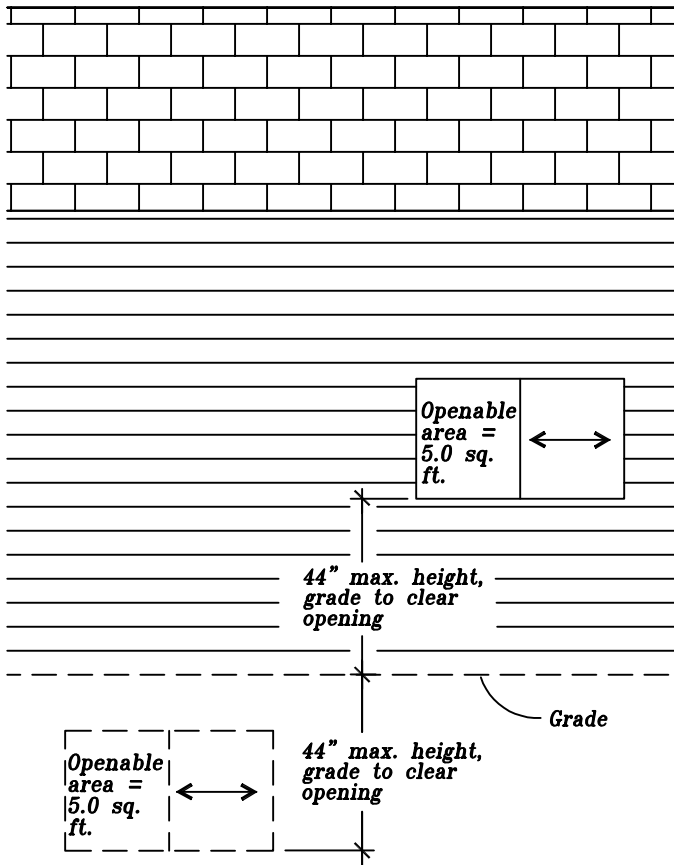


Emergency Escape and Rescue Window wells must meet the following criteria:

- A minimum area of 9 square feet with a minimum dimension of 36" and shall enable the window to open fully.
- If the depth of the window well exceeds 44 inches, a permanently affixed ladder or steps must be provided. The ladder must not interfere with the operation of the window.
- A minimum height clearance of 36 inches shall be maintained above the exterior grade. (Example: A deck above the escape window. See detail #2 on back.)

## Emergency Escape and Rescue Grade Windows

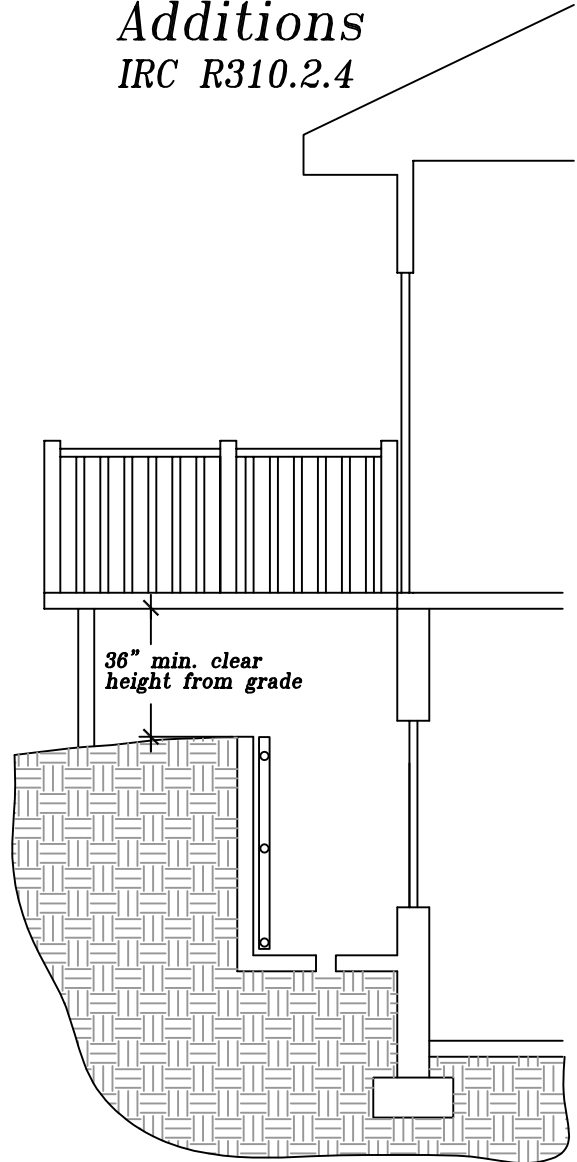
IRC R310.2.1 & R310.2.2



Detail 1

## Emergency Escapes below Decks and Additions

IRC R310.2.4



Detail 2

## Replacement Windows

IRC R310.2.5

Replacement Windows must meet the following criteria:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for a greater window opening than the existing.
2. Windows in rooms used for foster care or day care licensed or registered by the state of Minnesota shall comply with R310.2.5 (note 1 above) or all of the following conditions below, whichever is more restrictive:
  1. Minimum of 20 inches in clear opening width.
  2. Minimum of 20 inches in clear opening height.
  3. Minimum of 4.5 square feet (648 square inches) clear opening.
  4. Maximum of 48 inches from the floor to the sill height

Note: Building permits are required for replacement egress windows, window or door openings being increased in size and where safety glazing is required.