

Simplified Wall Bracing

2012 IRC Section R602.12

When can you use the simplified wall bracing procedure?

If the proposed house is:

- A one or two family dwelling
- 1 or 2 stories tall
- In SDC A, B, or C

If the proposed house has:

- Winds 90 mph or less
- Wind exposure category A or B
- Concrete or masonry foundation
- Walls 10 feet high or less
- Exterior walls sheathed in plywood or OSB
- Floors cantilevered 24 inches or less
- ½" gypsum board on interior of exterior walls
- Roof eave to ridge height of 15 feet or less
- Cripple walls below 1 story building only

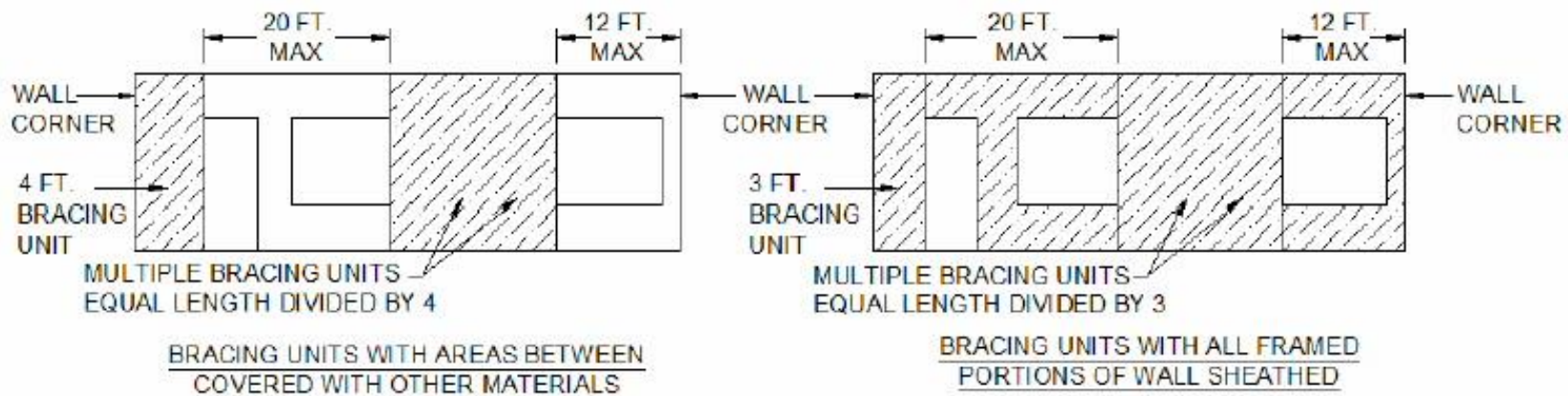
Step 1: Draw Line

Draw a line around the exterior of the building, including the garage. Is each line 60 feet or less in length?

Step 2: Continuous Sheathing?

Decide whether to use continuous sheathing on the house:

- If intermittently sheathed (each 4' section of bracing = 1 bracing unit)
- If continuously sheathed (each 3' section of sheathing = 1 bracing unit)







Step 3: Count Bracing Units

On each side of the rectangle:

- Count the number of bracing units provided
- Compare bracing units provided to number required in Table R602.12.4

TABLE R602.12.4 MINIMUM NUMBER OF BRACING UNITS ON EACH SIDE OF THE CIRCUMSCRIBED RECTANGLE

STORY LEVEL	EAVE-TO-RIDGE HEIGHT (feet)	MINIMUM NUMBER OF BRACING UNITS ON EACH LONG SIDE ^{a, b}						MINIMUM NUMBER OF BRACING UNITS ON EACH SHORT SIDE ^{a, b}					
		Length of short side (feet) ^c						Length of long side (feet) ^c					
		10	20	30	40	50	60	10	20	30	40	50	60
	10	1	2	2	2	3	3	1	2	2	2	3	3
		2	3	3	4	5	6	2	3	3	4	5	6
	15	1	2	3	3	4	4	1	2	3	3	4	4
		2	3	4	5	6	7	2	3	4	5	6	7

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

a. Interpolation shall not be permitted.

b. Cripple walls or wood-framed basement walls in a walk-out condition of a one-story structure shall be designed as the first floor of a two-story house.

c. Actual lengths of the sides of the circumscribed rectangle shall be rounded to the next highest unit of 10 when using this table.

- For a single story, 1-4 bracing units are needed
- For the bottom of a two story house, 2-7 bracing units are needed

Did the bracing units fit on each side?

Step 4: Narrow Bracing Panels

Are the panels spaced not more than 20 feet edge to edge?

Do they begin within 12 feet of a corner?

If YES, you are done

If NO:

- Use narrow panels to add additional panels to meet the 12 ft and 20 ft requirements:

CS:

CS-G = $\frac{1}{2}$ bracing unit

CS-PF = $\frac{1}{2}$ bracing unit

Intermittent:

PFH = 1 bracing unit

PFG = $\frac{3}{4}$ bracing unit

Hold-downs

Continuous Sheathing

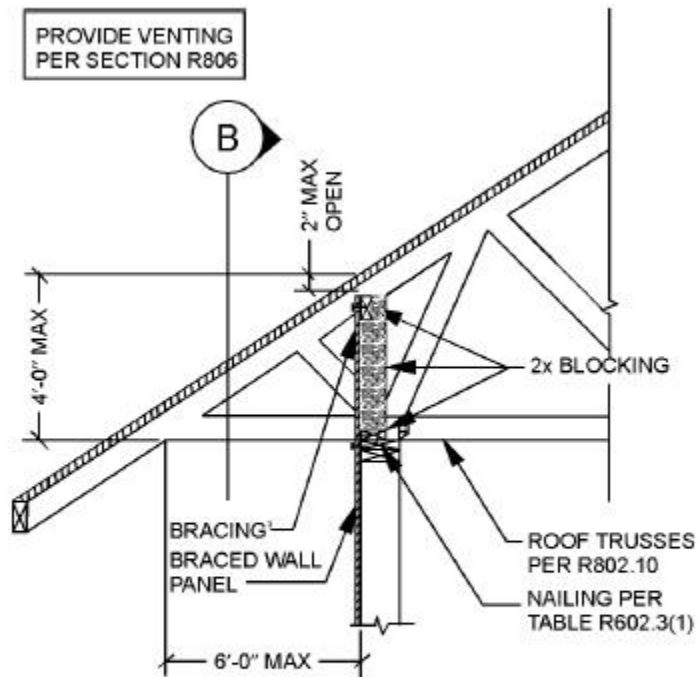
- No hold-downs required

Intermittent Bracing

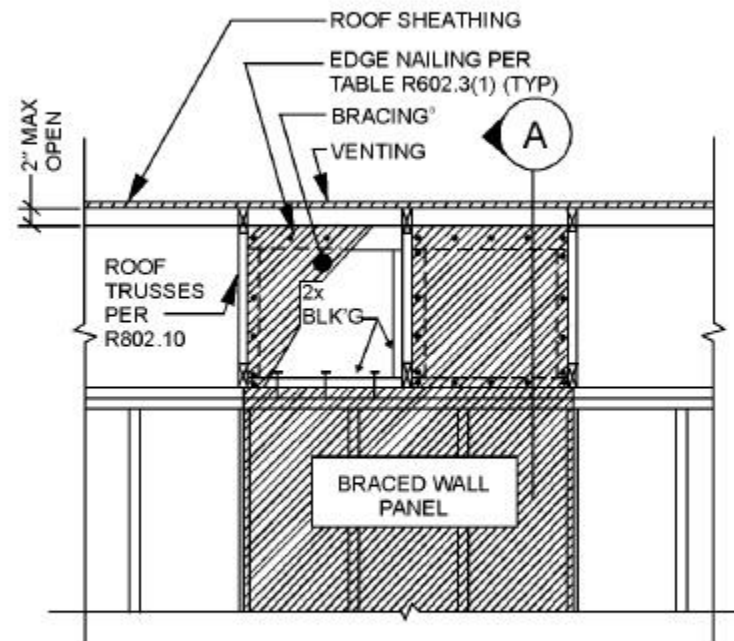
- No hold-downs required if only 4 foot panels
- No hold-downs required if using PFG narrow panel
- Hold-downs on PFH narrow panel only

You have completed your wall bracing.

Attach bracing units to roof and floors.



A SECTION



B ELEVATION