

Determining Perimeter Footing Sizes

Provide footing size minimum per charts;

TABLE R403.1 (1)
MINIMUM WIDTH AND THICKNESS FOR CONCRETE FOOTINGS FOR LIGHT-FRAME CONSTRUCTION (inches)

SNOW LOAD OR ROOF LIVE LOAD	STORY AND TYPE OF STRUCTURE WITH LIGHT FRAME	LOAD-BEARING VALUE OF SOIL (psf)
30 psf		2000 psf
	1 story—slab-on-grade	12 x 6
	1 story— with crawl space	12 x 6
	1 story—plus basement	14 x 6
	2 story—slab-on-grade	12 x 6
	2 story—with crawl space	13 x 6
	2 story—plus basement	17 x 6
	3 story—slab-on-grade	12 x 6
	3 story—with crawl space	15 x 6
	3 story—plus basement	20 x 6

TABLE R403.1 (3)
MINIMUM WIDTH AND THICKNESS FOR CONCRETE FOOTINGS WITH CAST-IN-PLACE CONCRETE OR FULLY GROUTED MASONRY WALL CONSTRUCTION (inches)

SNOW LOAD OR ROOF LIVE LOAD	STORY AND TYPE OF STRUCTURE WITH CMU	LOAD-BEARING VALUE OF SOIL (psf)
30 psf		2000 psf
	1 story—slab-on-grade	12 x 6
	1 story—with crawl space	15 x 6
	1 story— plus basement	20 x 6
	2 story—slab-on-grade	18 x 6
	2 story— with crawl space	22 x 6
	2 story— plus basement	27 x 8
	3 story—slab-on-grade	25 x 7
	3 story—with crawl space	29 x 9
	3 story—plus basement	33 x 12

a. Interpolation allowed. Extrapolation is not allowed.
 b. Based on 32-foot-wide house with load-bearing center wall that carries half of the tributary attic, and floor framing. For every 2 feet of adjustment to the width of the house add or subtract 2 inches of footing width and 1 inch of footing thickness (but not less than 6 inches thick).

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Example 1; a single story, 40' wide house with slab and full span trusses; Start with subtracting for no floor load. 1/2 the tributary load is 8' with a center bearing wall. Then add 12' for full span trusses at 40' means a tributary load of 20'. So we have 12' - 8' = 4'; and divide in half so we have a total of 2' (for average increase) so we have a 2" width increase and 1" height increase and add to the 12" x 6" minimum footing from the chart and end up with a 14" x 7" minimum footing.

Example 2; a single story, 40 wide houses with wood floor center supported floor joists and full span trusses. Start by adding for increase in floor load span of 2'. ($\frac{1}{2}$ the tributary load is 10' with a center bearing wall). Then add 12' for full span trusses at 40' means a tributary load of 20'. So we have $12' + 2' = 14'$; and divide in half so we have a total of 7' (for average increase) so we have a 7" width increase and $3 \frac{1}{2}$ " height increase and add to the 12" x 6" minimum footing from the chart and end up with a 19" x $9 \frac{1}{2}$ " minimum footing.

This formula is to be on the plans, if you want to have 1 size footing but have different spans, than pick the largest and use that span for the formula.