§RR403
FOOTINGS

§RR403.1 General. All exterior walls shall be supported on continuous solid or fully grouted masonry or concrete footings, wood foundations, or other approved structural systems which shall be of sufficient design to accommodate all loads according to Section R301 and to transmit the resulting loads to the soil within the limitations as determined from the character of the soil. Footings shall be supported on undisturbed natural soils or engineered fill.

§RR403.1.1 Minimum size. Minimum sizes for concrete and masonry footings shall be as set forth in Table RR403.1 and Figure RR403.1(1). The footing width, W, shall be based on the load-bearing value of the soil in accordance with Table RR401.4.1. Spread footings shall be at least 6 inches (152 mm) in thickness. Footing projections, *P*, shall be at least 2 inches (51 mm) and shall not exceed the thickness of the footing. The size of footings supporting piers and columns shall be based on the tributary load and allowable soil pressure in accordance with Table RR401.4.1. Footings for wood foundations shall be in accordance with the details set forth in §RR403.2, and Figure RR403.1(2) and Figure RR403.1(3).

TABLE RR403.1
MINIMUM WIDTH OF CONCRETE OR MASONRY FOOTINGS (inches)[a]

	LOAD-BEARING VALUE OF SOIL (psf)			
	1,500	**2,000**	**3,000**	**[3]4,000**
Conventional light-frame construction				
1-story	12	12	12	12
2-story	15	12	12	12
3-story	23	17	12	12
4-inch brick veneer over light frame or 8-inch hollow concrete masonry				
1-story	12	12	12	12
2-story	21	16	12	12
3-story	32	24	16	12
8-inch solid or fully grouted masonry				
1-story	16	12	12	12
2-story	19	21	14	12
3-story	42	32	21	16

For SI: 1 inch = 25.4 mm,
1 pound per square foot = 0.0479 kN/m^2.

a. Where minimum footing width is 12 inches, a single wythe of solid or fully grouted 12-inch nominal concrete masonry units is permitted to be used.

§RR403.1.4 Minimum depth. All exterior footings shall be placed at least 12 inches (305 mm) below the undisturbed ground surface. Where applicable, the depth of footings shall also conform to §RR403.1.4.1 through §RR403.1.4.2.

§RR403.1.4.1 Frost protection. Except where otherwise protected from frost, foundation walls, piers and other permanent supports of buildings and structures shall be protected from frost by one or more of the following methods:

1. Extending below the frost line specified in Table RR301.2(1);

2. Constructing in accordance with §RR403.3;

3. Constructing in accordance with ASCE 32-01; and

4. Erected on solid rock.

Exceptions:

1. Freestanding accessory structures with an area of 400 square feet (37 m^2) or less and an eave height of 10 feet (3048 mm) or less shall not be required to be protected.

2. Decks adjoining but not supported by a dwelling need not be provided with footings that extend below the frost line where:

1. A 1-inch horizontal space is provided between the deck and the dwelling, and

2. The deck is not less than 4 inches and not greater than 8 1/4 inches below the threshold of any door opening onto the deck.

Footings shall not bear on frozen soil unless such frozen condition is of a permanent character.

§RR502.2.1 Decks. Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads as applicable. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal. Where positive connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting. For decks with cantilevered framing members, connections to exterior walls or other framing members, shall be designed and constructed to resist uplift resulting from the full live load specified in Table RR301.5 acting on the cantilevered portion of the deck.