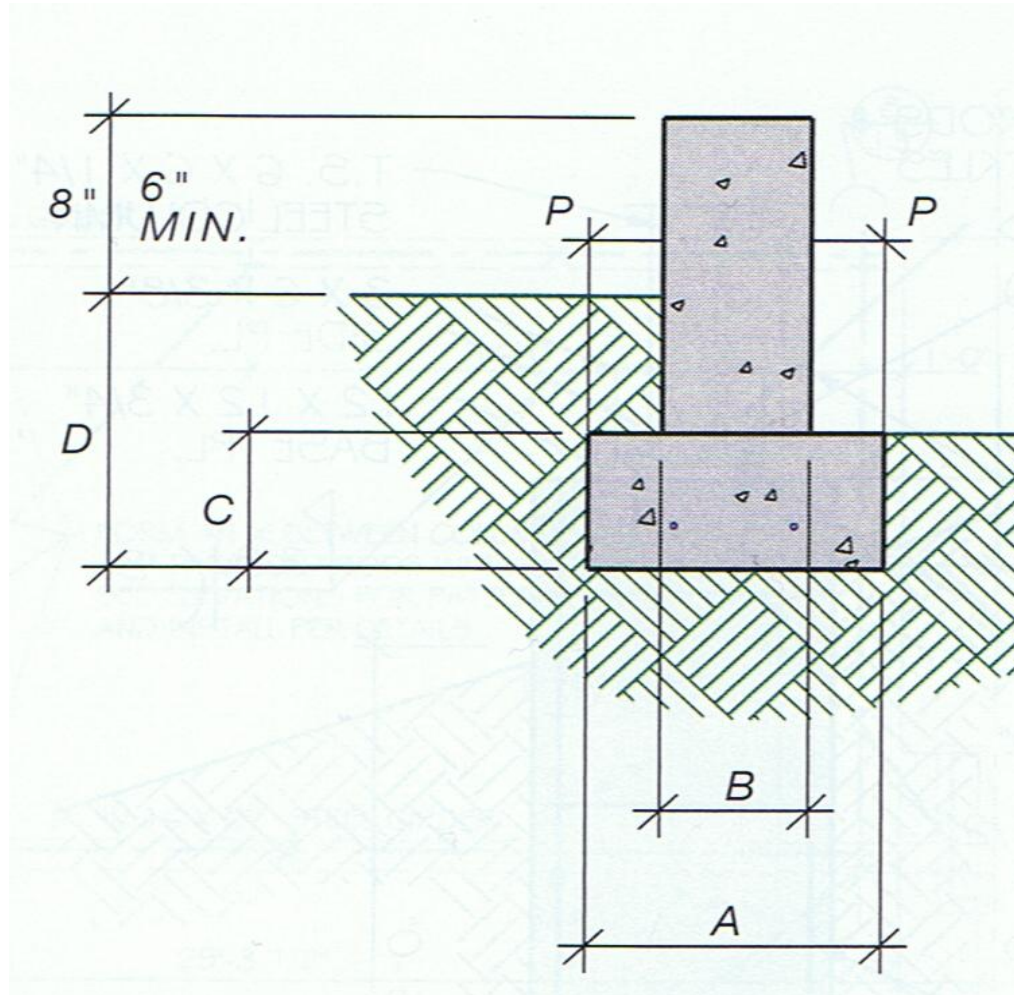


Foundation Systems, Floor Systems & Foundation Support

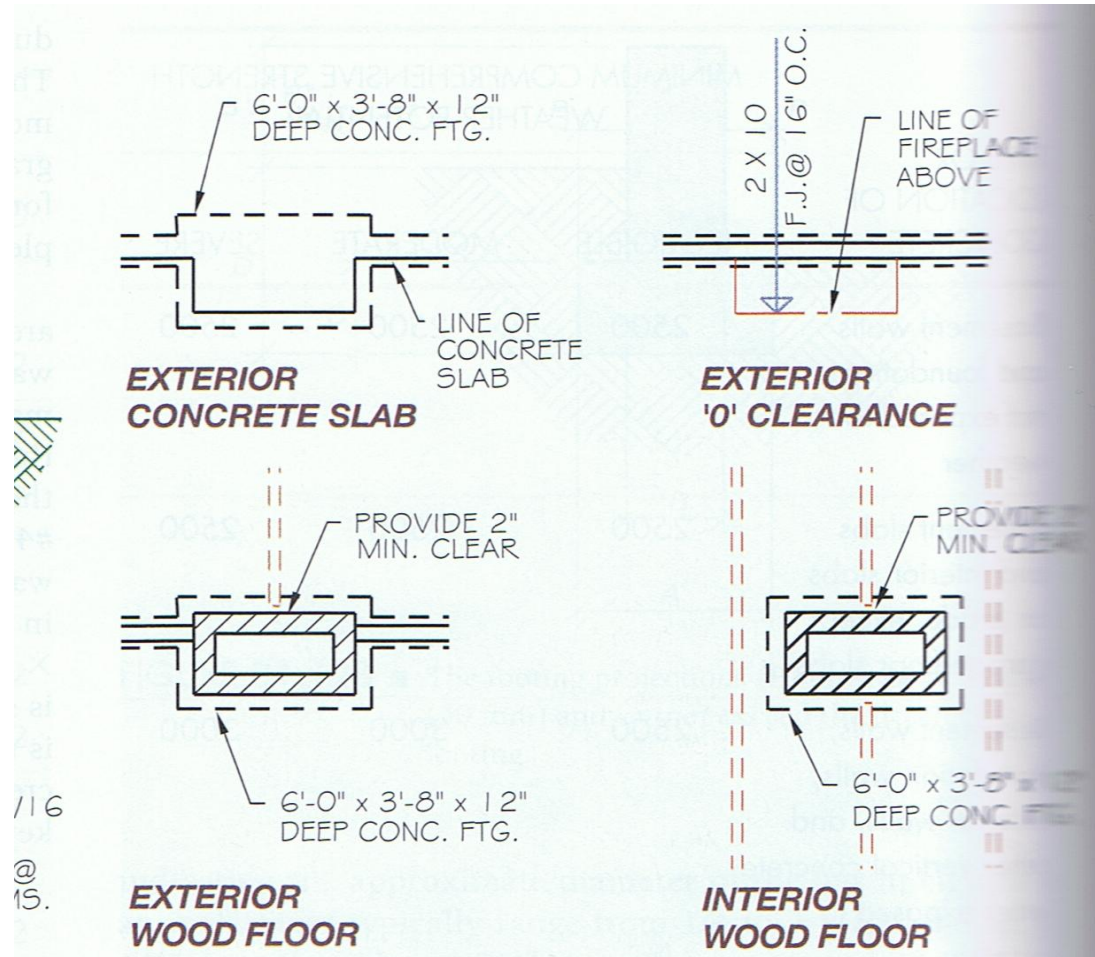
With a soil load-bearing capacity of 1500 psf, the minimum footing width for a one story home is 16 inches.



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Support

Code generally requires the footing for a fireplace to be a minimum of 12 inches thick and to extend a minimum of 6 inches beyond the face of the fireplace on all sides.



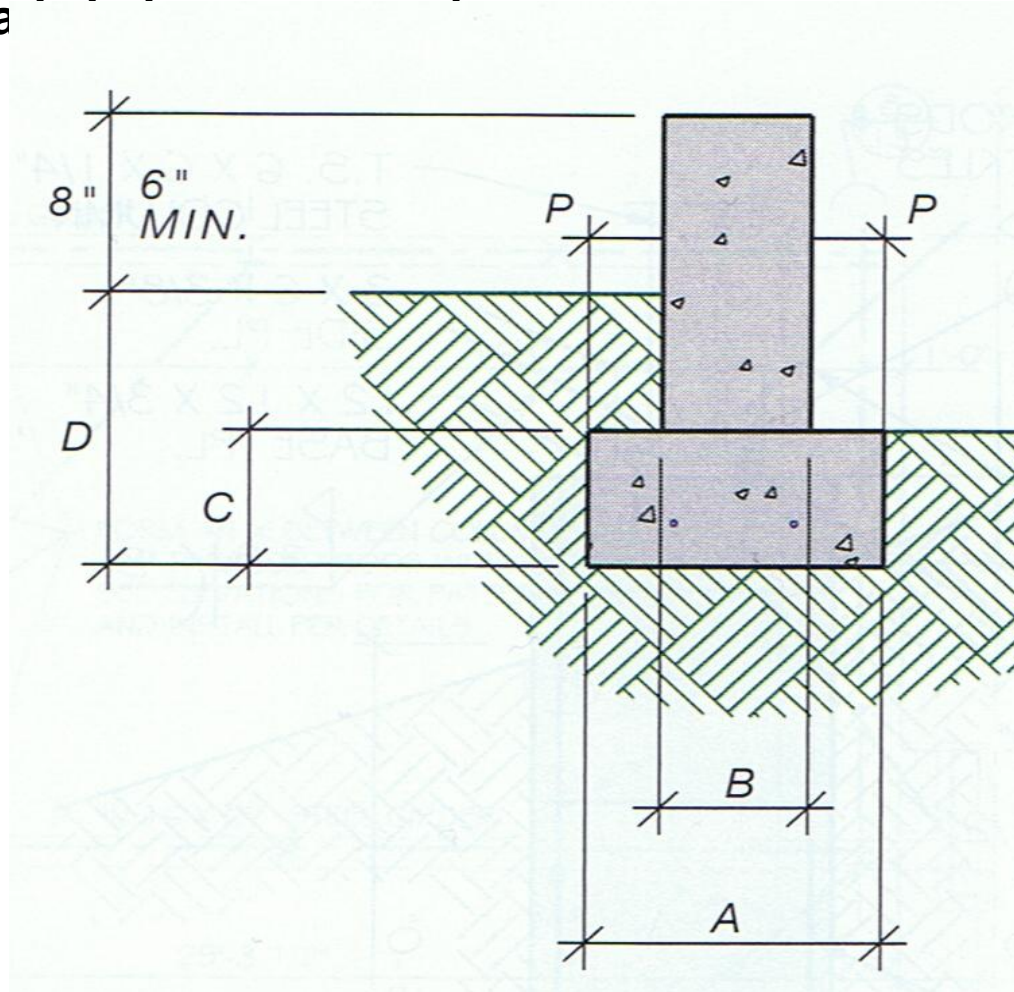
A masonry fireplace is required to have a 12" deep footing that extends 6" past the face of the fireplace. A wood stove, a zero-clearance fireplace, or a gas fireplace is not required to have a footing, but the outline of the unit should be represented on the foundation plan if it extends beyond the foundation.

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Support

The foundation wall is the part of the wall that goes from the frost line to grade level.

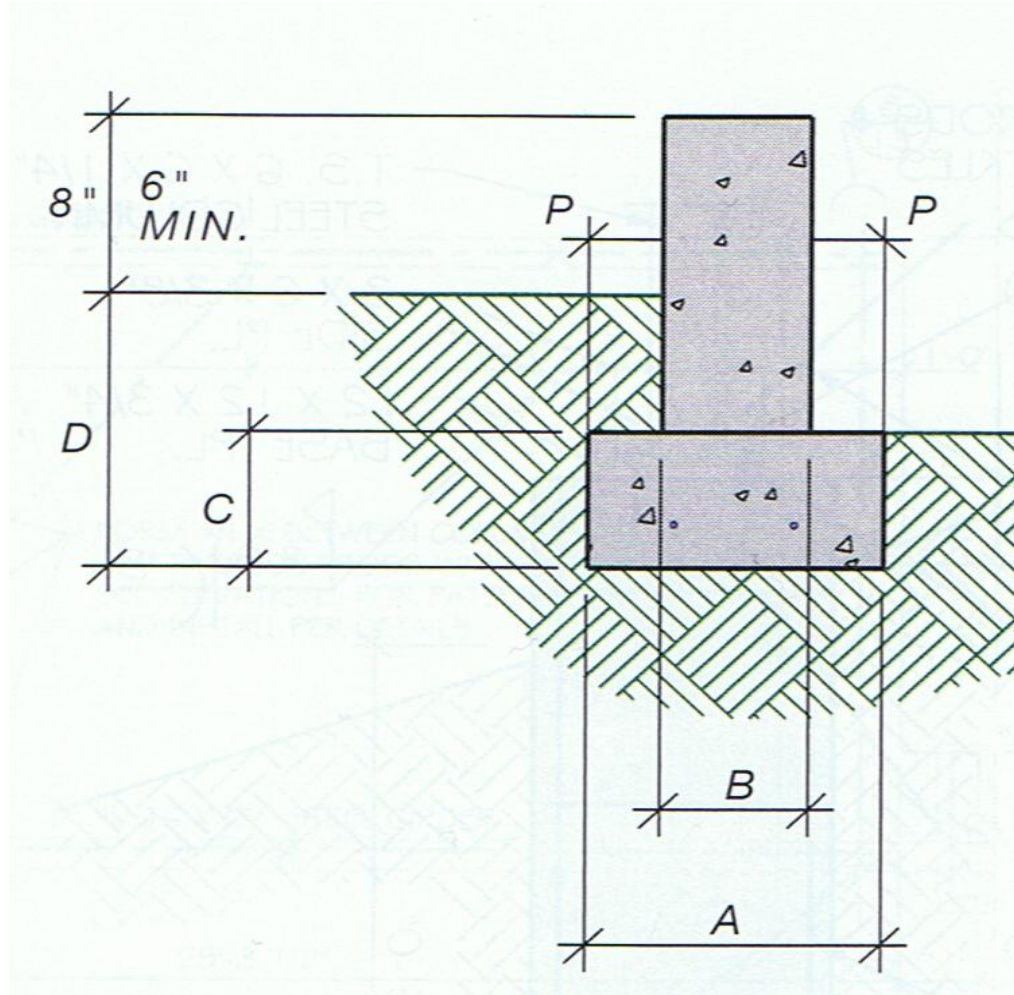
The foundation wall is normally centered on the footing to help equally disperse the load



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Support

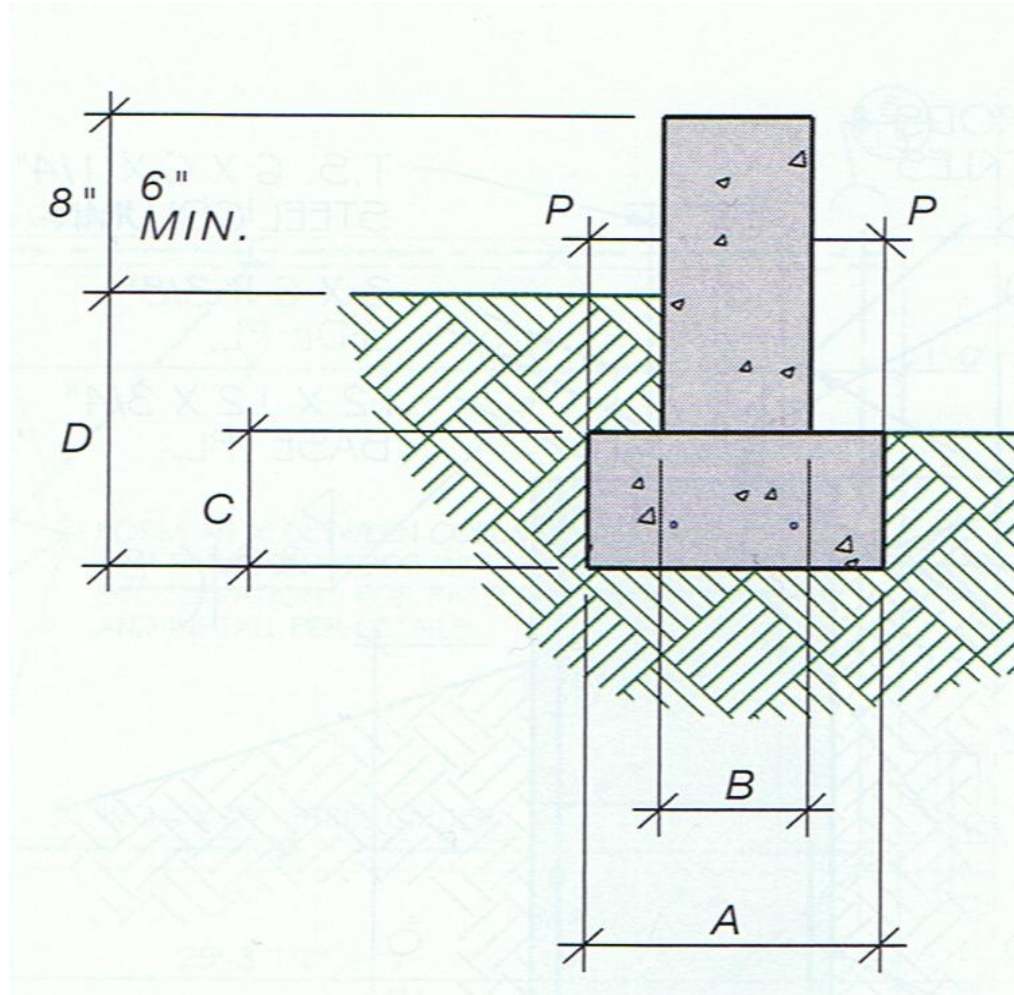
*The distance from the ground (grade) level to the wood framing members which are placed on top of a concrete foundation wall is 6 to 8 inches.



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Support

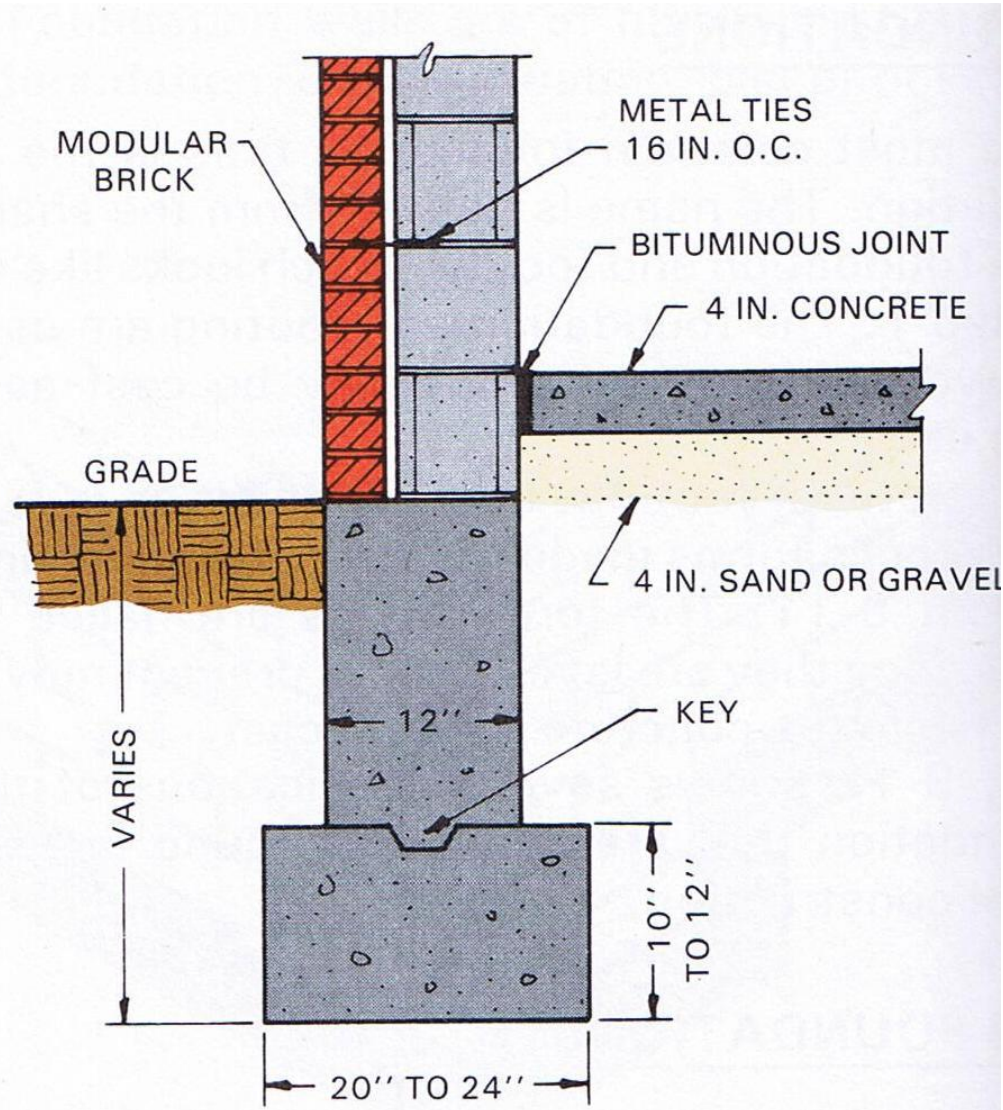
*According to UBC, on residence footings the minimum width of the bearing wall footing is 12”.



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*From the sheathing to the edge of the foundation a brick ledge is generally 4 inches wide.

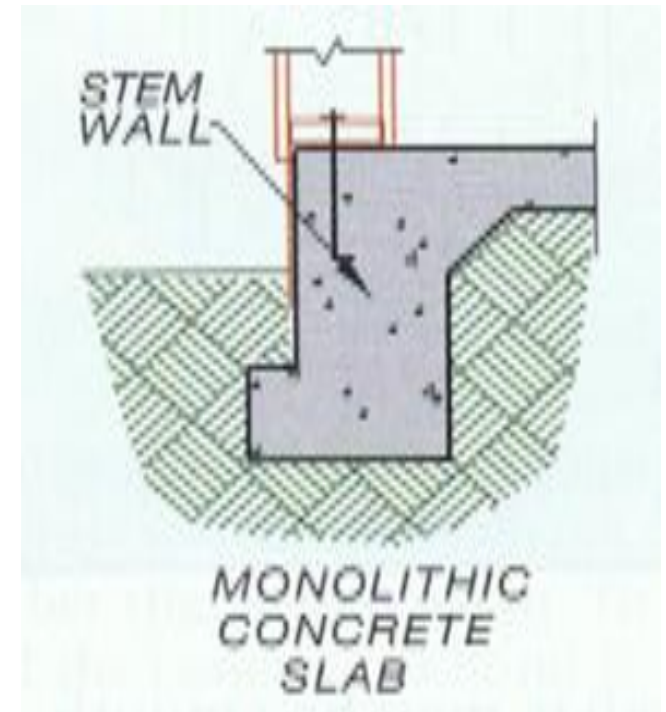


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Support

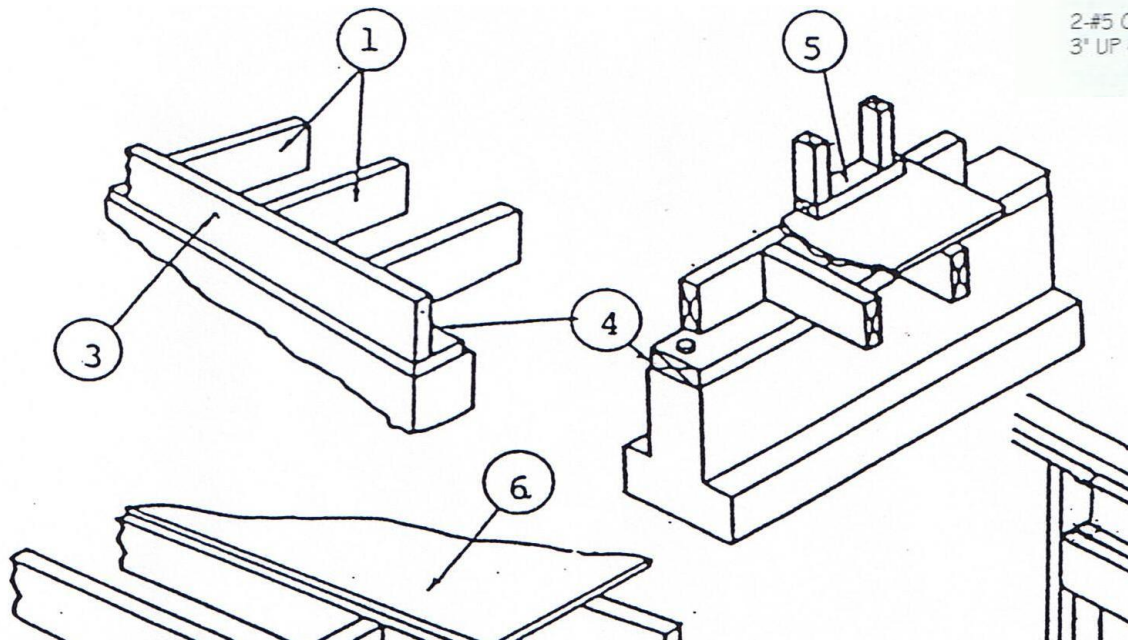
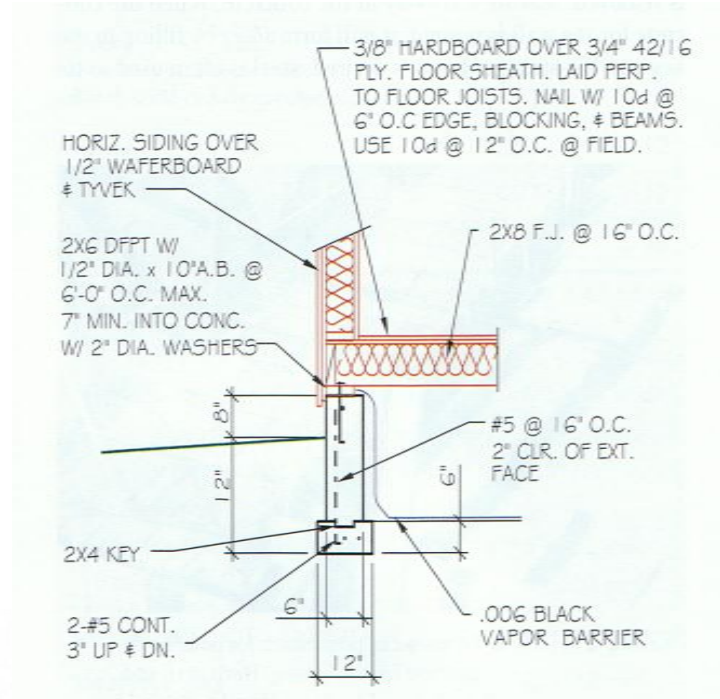
According to the UBC and IRC, we are required to use anchor bolts which have a minimum diameter of $\frac{1}{2}$ inches and which extend a minimum distance of 7 inches into the concrete.

The maximum spacing of anchor bolts in the foundation wall of a one story structure is 6 feet. Orem city's requirement is presently a 32 inch maximum spacing.



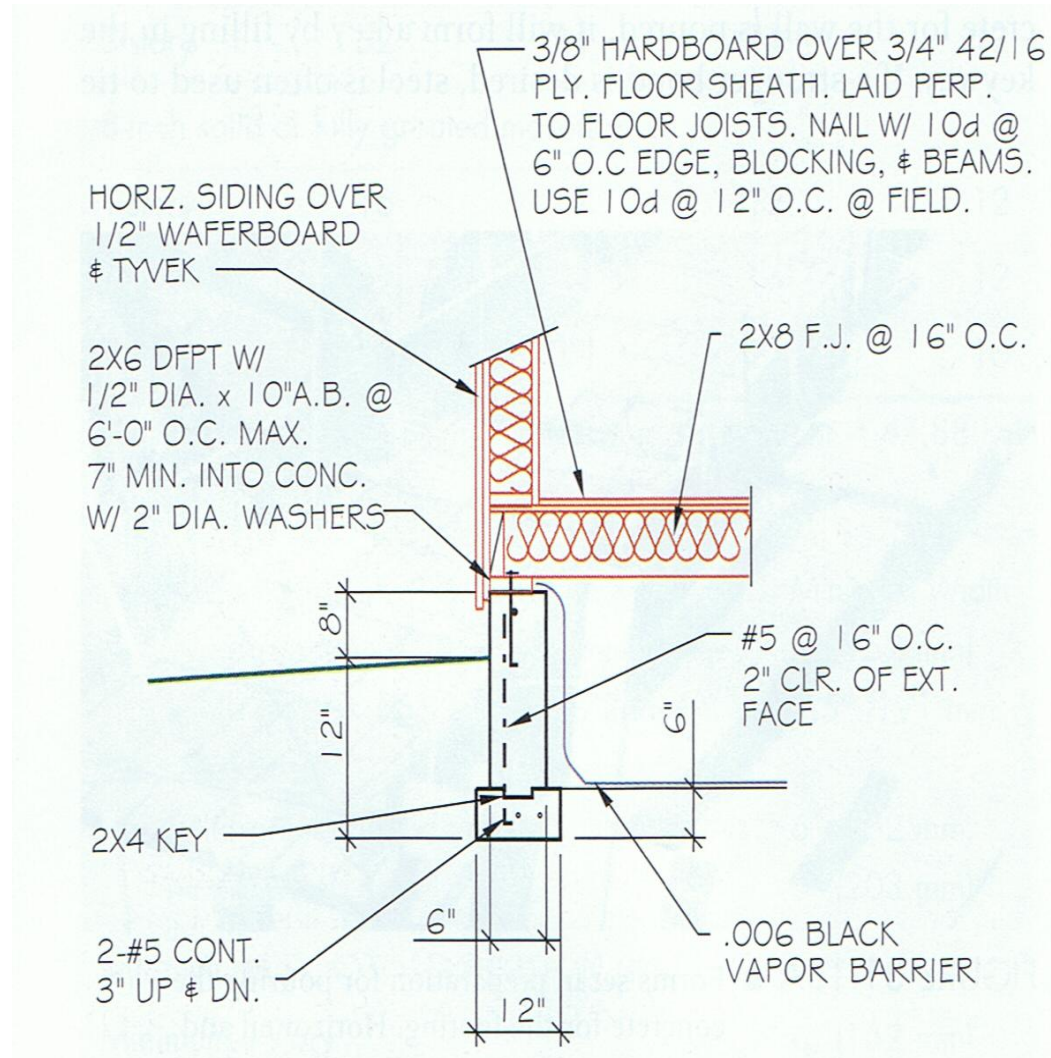
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The mudsill must be made of pressure treated lumber or of some other lumber, such as redwood, which is resistant to moisture damage.



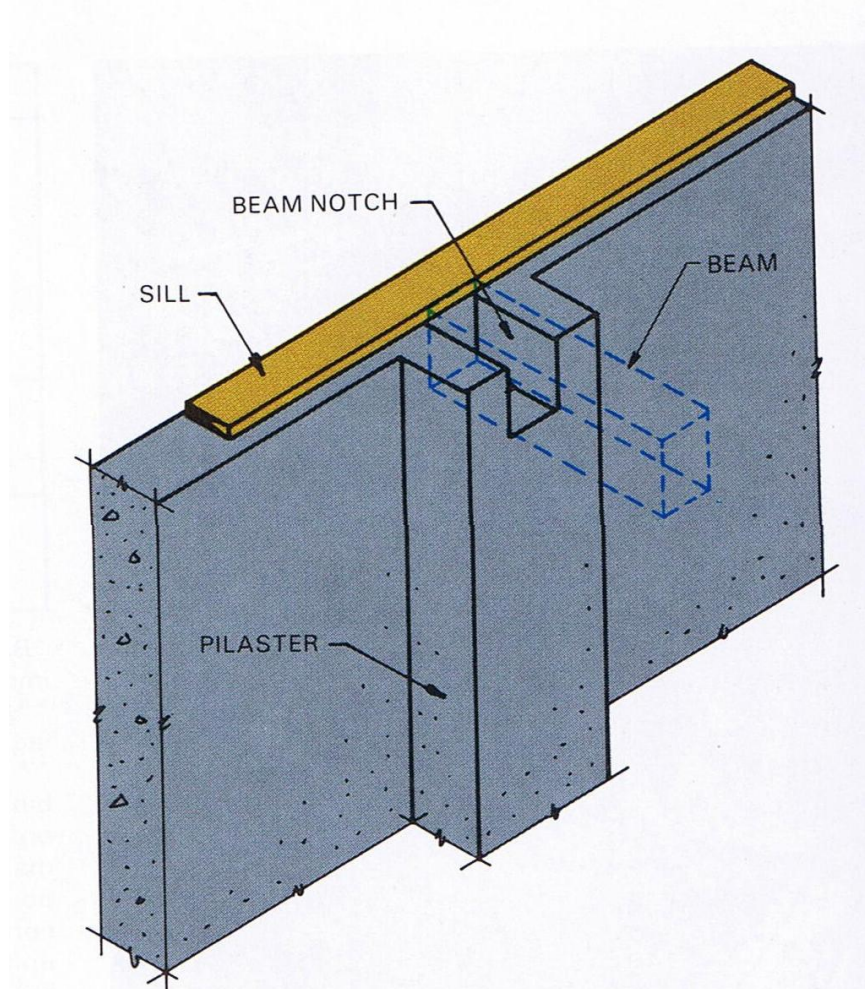
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*The mud sill plate is placed directly on top of the footing when using a T-foundation.



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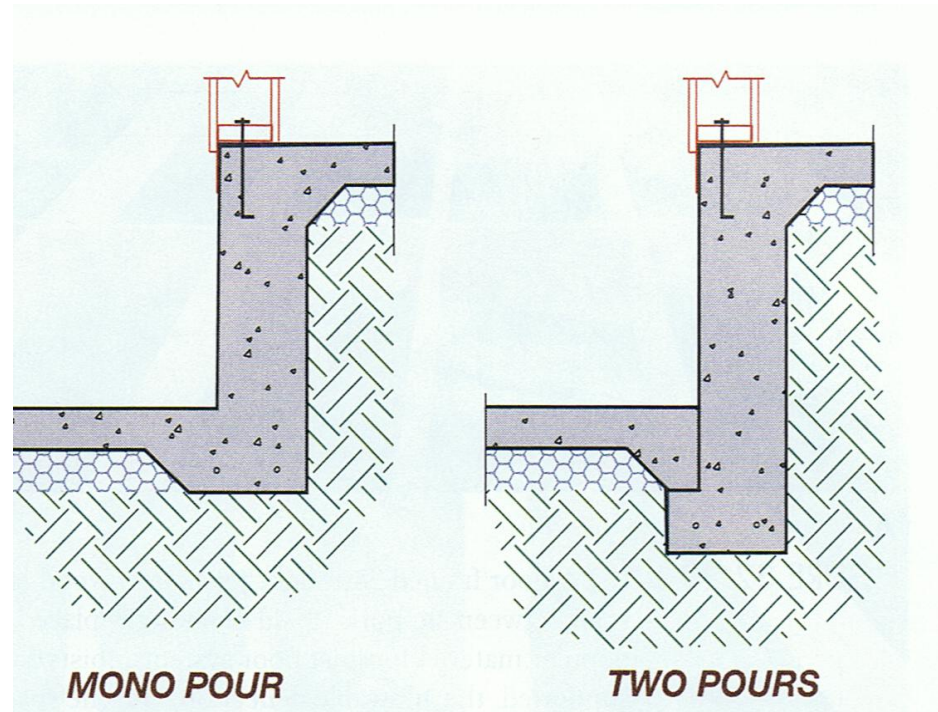
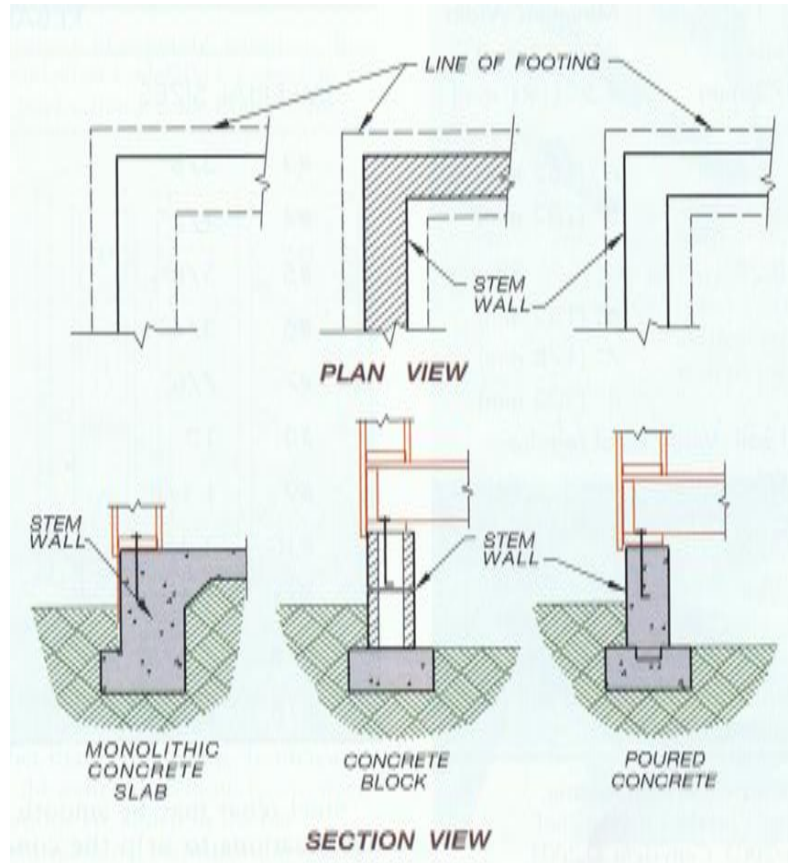
Another name for the cavity that is built into a foundation wall to hold a support beam or girder is a beam pocket. This recessed area must supply a minimum of 3 inches of bearing surface for the beam and a minimum of ½ inch of air space on the sides and end of the beam for air circulation.



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Support

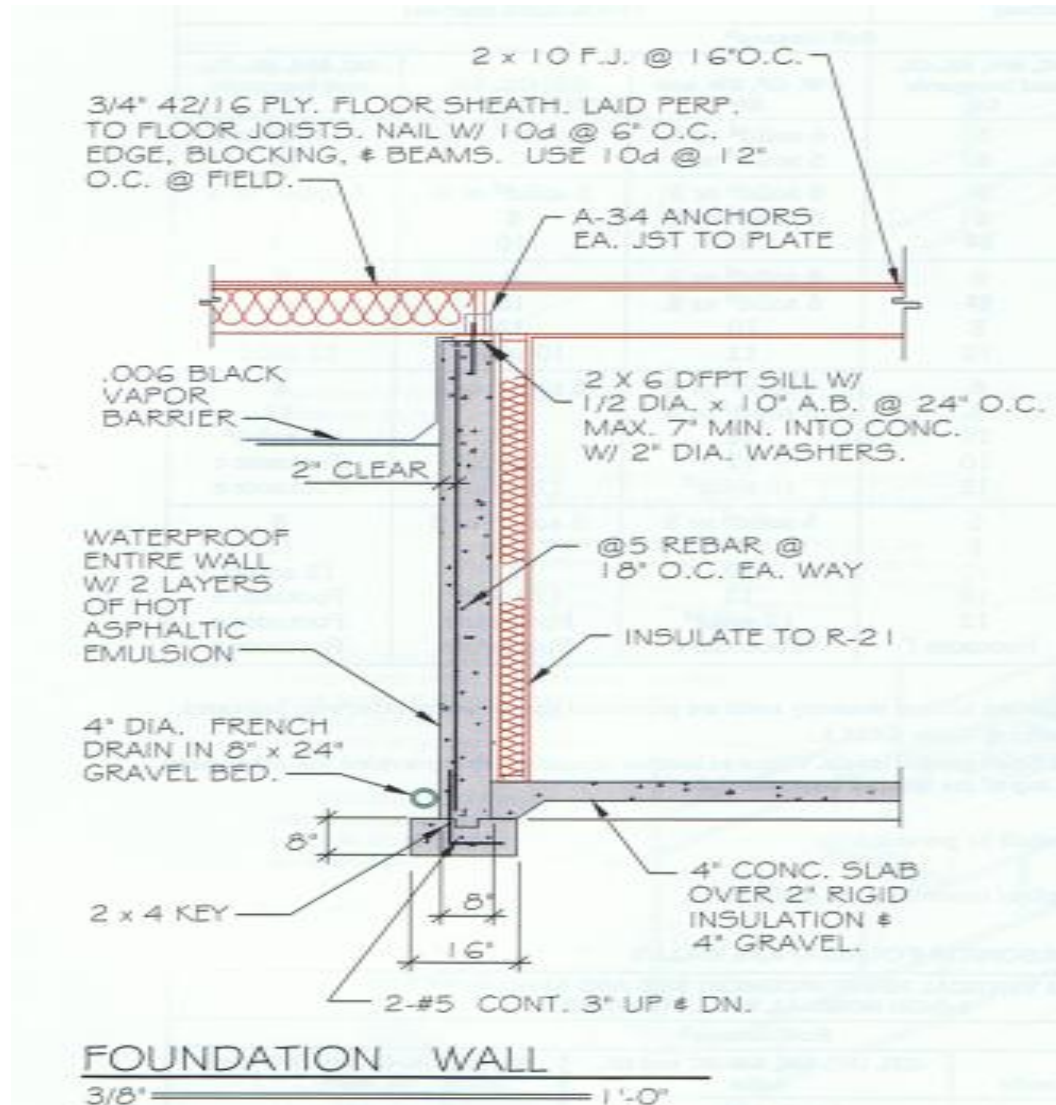
When the footing, foundation wall and the concrete floor are all poured in one continuous pour it is referred to as monolithic construction.



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Support

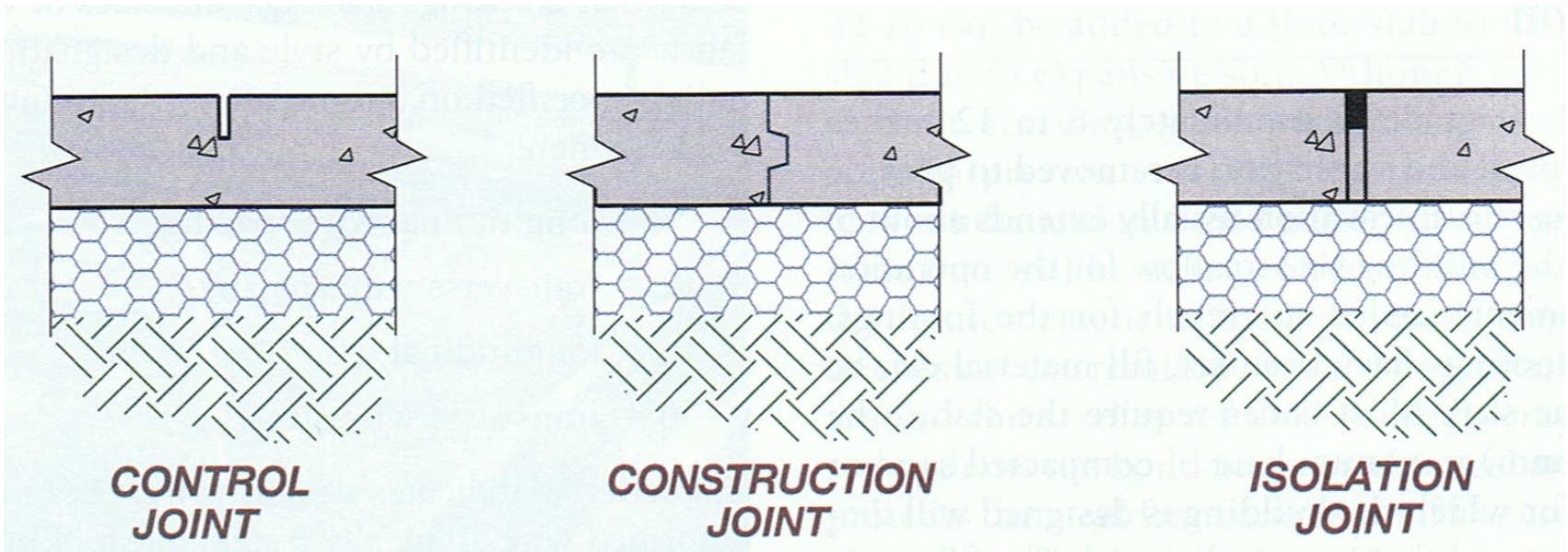
3 1/2 inches is the minimum thickness allowed for residential floor slabs. Typically you will see a call out of 4" for residential floor slabs.



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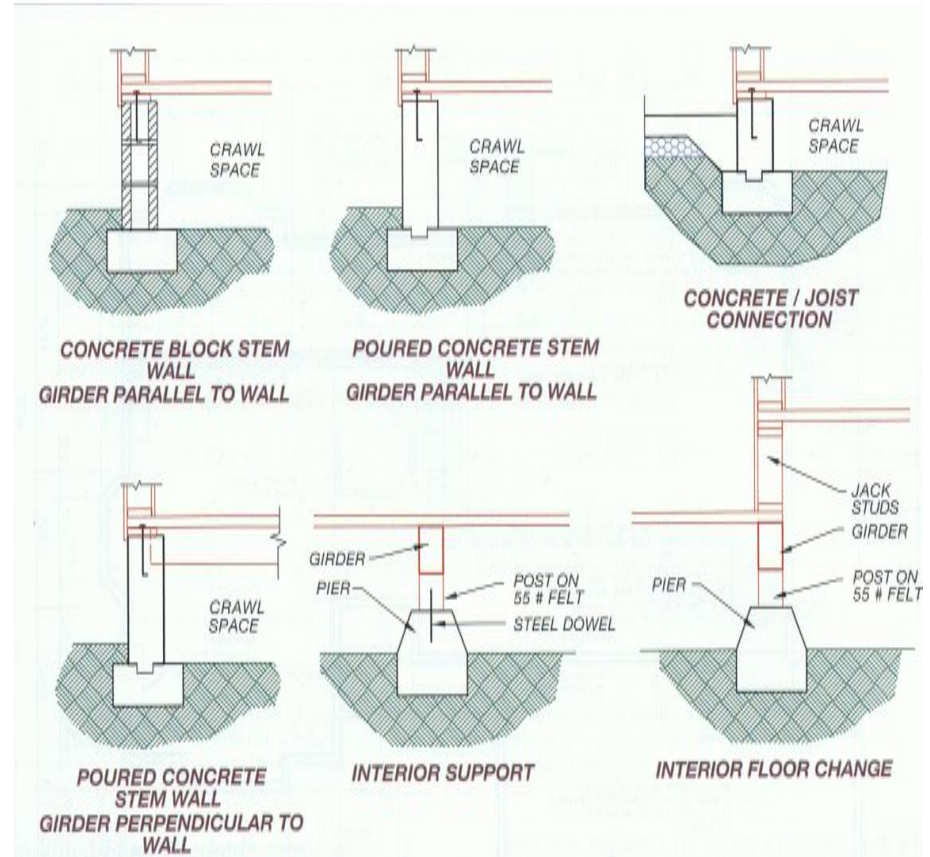
Three types of joints may be placed in concrete to control cracking due to temperature change and moisture content, they are control, construction, and isolation.

The American Concrete Institute suggests that control joints be spaced a distance in feet equal to about 2 ½ times the slab depth in inches.



Foundation Systems, Floor Systems & Foundation Support

In a crawl space the building codes require a minimum of 18 inches between the bottom of the floor and the ground and 12 inches between the bottom of beams and the ground.



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Air must be allowed to circulate in the crawl space area below a floor system. Vents must be installed that will provide 1 square foot of ventilation for each 150 square feet of crawl space. Vents must be provided within 3 feet of each foundation wall corner to provide adequate air movement in the crawl space area.



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If the crawl space access is located in the floor it should be at least 18 inches by 24 inches. If it is located in the foundation wall it can be 16 inches by 24 inches.



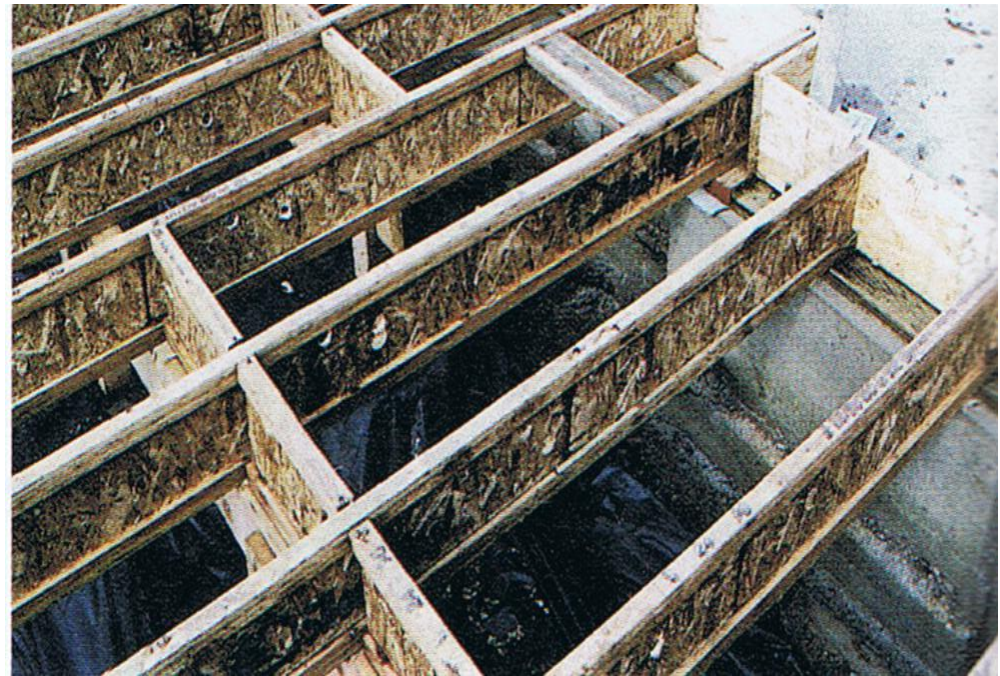
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The material used to damp proof a concrete foundation wall must be applied to the outside surface of the wall from the top of the footing to the grade level.



Foundation Systems, Floor Systems & Foundation Support

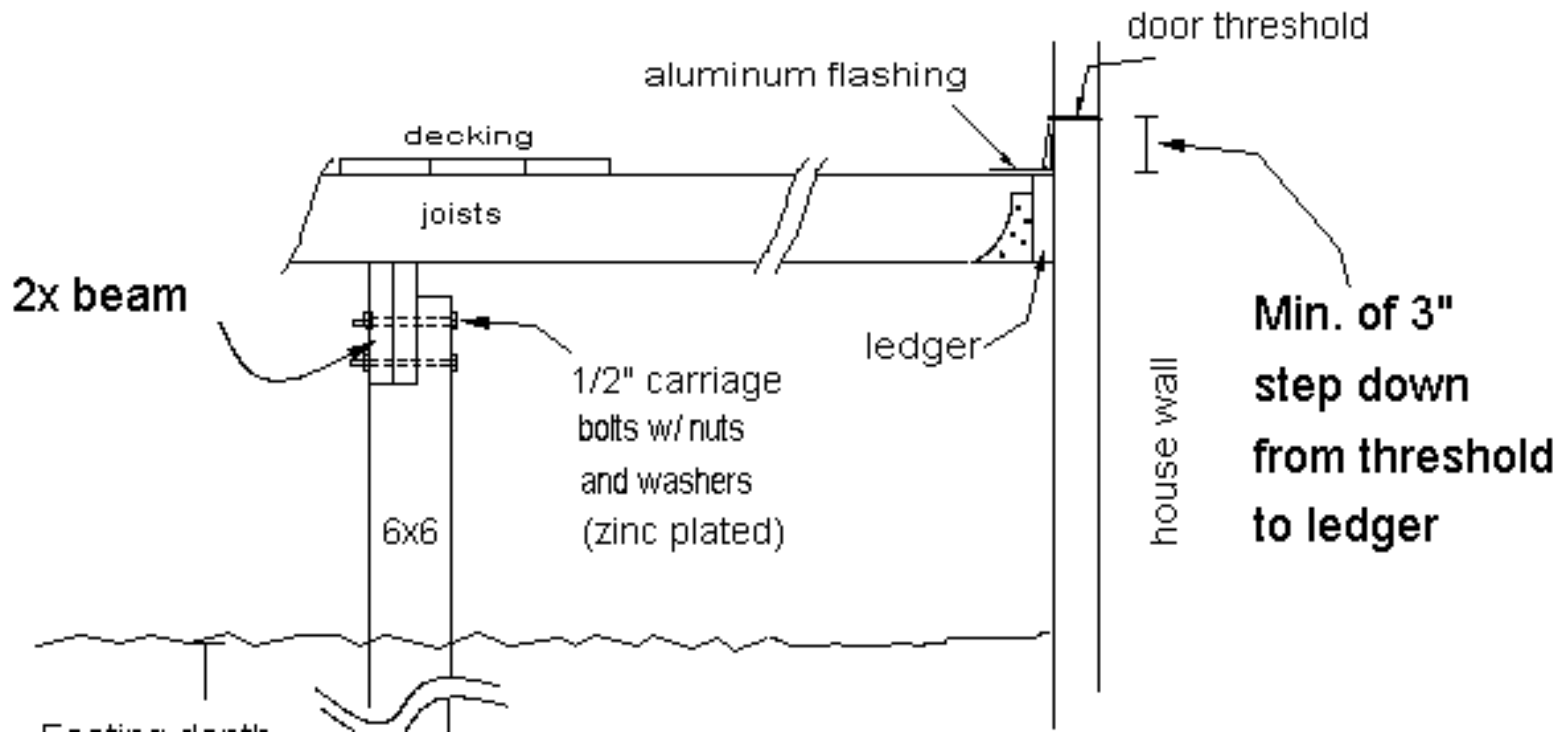
Floor joists are normally placed at a 16 inches on center spacing. This may however change depending on span, materials used and load supported.



Foundation Systems, Floor Systems & Foundation Support

One component that is typically used when floor systems such as a concrete slab and a floor joist system are combined is the ledger. It is used to support the floor joists and sub-floor when they intersect the concrete.

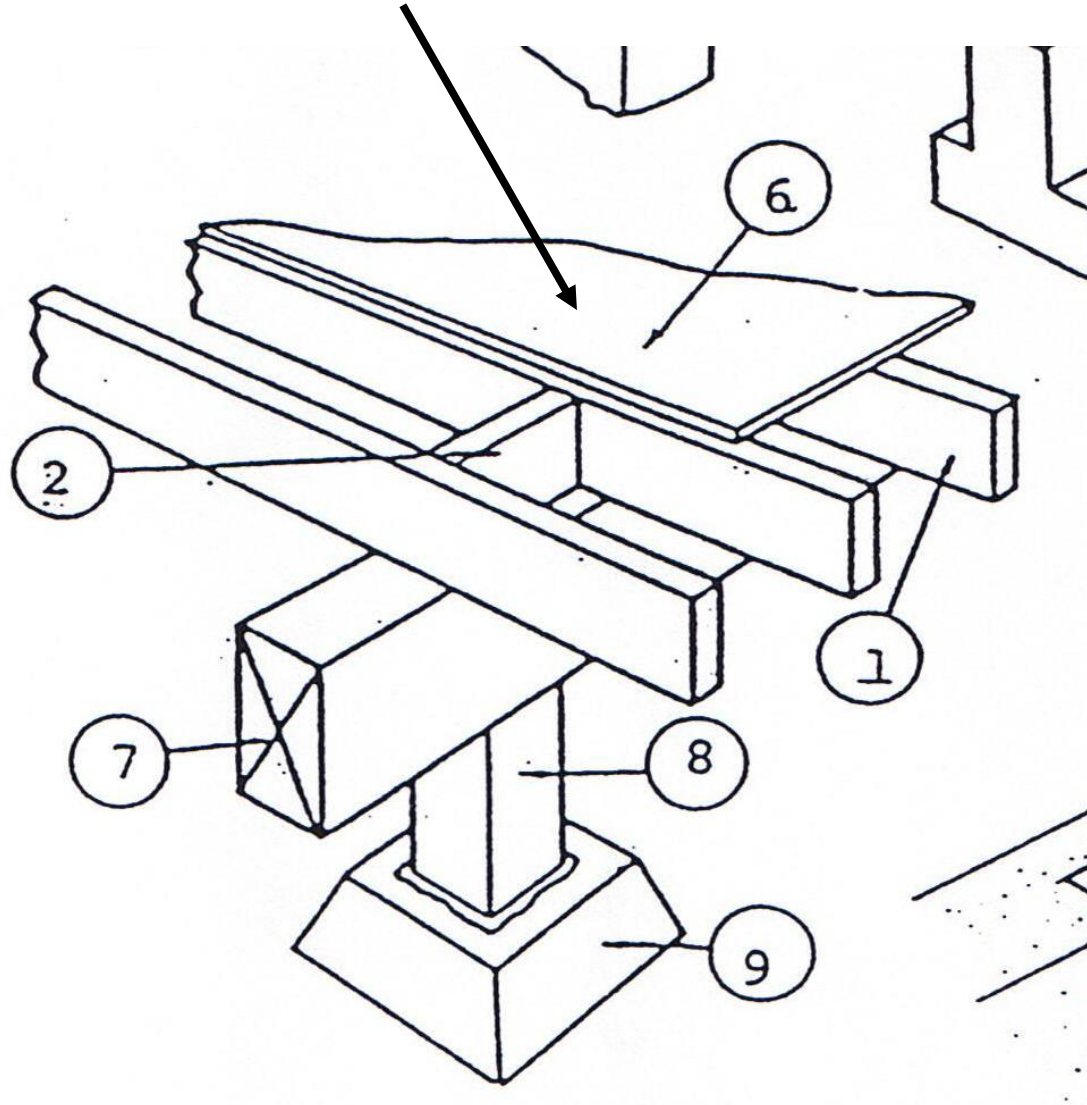
Footing to Post to Beam to Joist to Ledger Detail



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Support

*The flooring surface that is laid on the floor joists and serves as a base layer for the finished floor is called the sub-floor.



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Support

The enclosure place around a basement window to keep the soil away from the window is called in areaway. Another name used to identify that enclosure is called a window well.

