

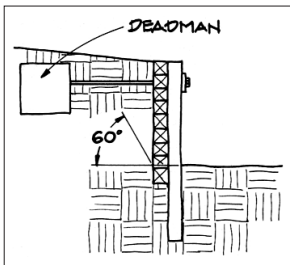
## Where Do The Deadmen Go?

by Henry Spies

### Timber Retaining Walls

**Q.** What is the proper way to build a timber retaining wall? Are deadmen required for reinforcement?

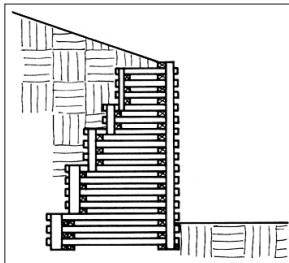
**A.** Retaining walls have to be designed for a specific site. The wall height, drainage patterns, and soil type determine how far apart to space the posts and whether additional bracing is needed. In general, a vertical post can be used without a horizontal anchor if the post extends twice as far into the ground as it does above the lower grade.



This means that a 4-foot wall must have 12-foot posts set 8 feet into the ground. Many builders think this is impractical, so "deadmen" are used to provide support.

A deadman is a horizontal concrete piling buried beneath the retained soil that is tied with cables to the inside face of the wall (see illustration). The deadmen should be placed far enough back from the wall to be out of the zone of failure. For typical soils, this zone is within the arc of 60° from the base of the inside face of the wall.

One major disadvantage with this



kind of deadman is that the cable can rust out in a relatively short time. Earth augers—galvanized steel screws that are bored into the retained soil—are used by highway departments for deadmen that will last a lot longer. These may be hard for a residential contractor to obtain but they have the added advantage of being able to screw into undisturbed earth, which makes them all the more stable.

An alternative to using either posts or deadmen is to build a crib wall. This is essentially a tower stacked up out of pressure-treated timbers and filled with soil. A report from the National Timber Piling Council, *Improved Standard Designs: Pressure-Treated Timber Crib Walls*, gives the design specifications for a variety of wall heights and grade conditions. A free copy is available from the NTPC, 350 Theodore Fremd Rd., Rye, NY 10580; 914/933-2568.

### Siding Over Foam

**Q.** I've gotten a lot of conflicting information on the best way to attach clapboard siding over 1-inch foil-faced foam

or other rigid insulation. With 16-inch on-center framing, can you just nail through the insulation with 2-inch nails into the studs? Are furring strips necessary to provide an air space to prevent moisture problems?

**A.** The latest word from the Western Wood Products Association (WWPA) confirms that clapboards can be attached by nailing through the foam and into the studs. However, the nail should penetrate the stud at least 1-1/2 inches. So a 3-inch nail is needed to nail through 1-inch foam. (One company that makes such long siding nails is Maze Nail Corp., 100 Church St., Peru, IL 61354; 815/223-8290).

WWPA also recommends using either a house wrap or 15-pound felt between the insulation and the siding. Also, the clapboards should be back primed and ends should be sealed with whatever water repellent, stain, or primer will be used on the exterior face.

Furring strips are often used, especially in either very cold or very humid climates. The air space does help prevent moisture problems with the siding. The air space must be screened at the bottom to keep insects out, and sealed at the top to prevent a "stack effect" of convective air currents rising through the wall. ■

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