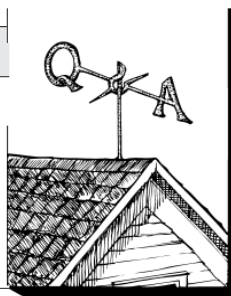


Protecting Below-Grade Framing



Q. We are building an addition and want the floor levels between the old and new living areas to line up. However, this would put the floor framing slightly below the existing grade. Is there a foundation flashing detail to protect the floor framing and siding in this case?

A. Carl Hagstrom responds: This is a common problem when adding on to a house. The CABO code requires nontreated framing to be at least 8 inches above finished grade. I would steer away from looking for a flashing. You want to fix the problem, not treat the symptom.

First, determine whether the existing grade can be altered to eliminate the problem. Excavating for an addition foundation usually disrupts the surrounding grade, anyway, so re-sculpturing the site to accommodate the addition may not necessarily be that complex or expensive. The “cut” required to lower the grade a foot or so can often be incorporated with landscaping, or low-height (and low-cost) retaining walls.

If you’re faced with a tight lot, of

course, adjusting the level of the grade may not be an option. In this case, you can extend the foundation upwards to cover the rim floor framing, as shown in the illustration (below, left). Be sure to use treated lumber in places that come in contact with the concrete, or use a capillary break to separate standard framing from the concrete (30-pound roofing felt works well).

This detail has its drawbacks. Gaining access to the wall cavity from below (for duct runs and plumbing, for example) is nearly impossible. Be sure to have your mechanicals worked out well in advance if you plan to use this approach. Also, forming the shelf in the foundation can be costly, especially if the extra height must be added to standard 8-foot concrete forms.

Carl Hagstrom manages Hagstrom Contracting in Montrose, Pa.

Temporary Bearing Support

Q. We will soon build an addition to a balloon-framed house. This job calls for opening up one exterior bearing wall. We plan to install the beam flush with the ceiling joists so we have a continuous ceiling plane between the old and new structures. What is the best way to temporarily support the structure above this beam?

A. Clayton DeKorne responds: Here’s one method that has worked well for me in the past. After stripping the siding off the wall in question, lag a ledger into the wall stud above the existing second-floor level. Then install temporary T-posts made from 2x6s nailed together at right angles, as shown in illustration A (next page). We’ve typically installed posts every two feet or so along the ledger, depending on the loads. Only one of the 2x6s in each post bears on the ledger; the other stiffens the bearing 2x6. Use plenty of nails to hold these 2x6 posts together, so the two pieces function as one stiff member.

Cut the posts long. Once they are wedged up under the ledger at a slight angle, we use a sledgehammer to drive the bottom end of each post toward the building. This lifts the structure slightly to take the load off the existing wall studs. To keep the posts from kicking out, screw a block down to hold the end of each post in place, much in the same way wall bracing is secured to a floor deck.

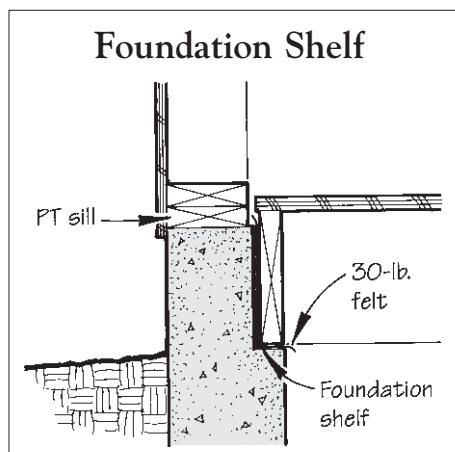
Obviously, this method works best if you can install the addition foundation and floor structure first, so you’re working off a flat deck. To do this, we typically cut holes through the wall at the existing floor and ceiling levels, so we could take whatever measurements and siting necessary to align the old and new floors and ceilings. This also means the home is opened up for a shorter time — a good goal to shoot for if the owners are living in the house while the job is in progress.

While I’m most comfortable supporting the posts on the joists of my new work, I have also used this method working off the exterior grade, using plywood feet on the posts, and stakes to secure the post ends.

If your bearing wall supports a hip roof, you may not have to support the interior ceiling joists. But many times, the joists will intersect your new beam at right angles. In this case, we post up from the interior floor deck, aligning the posts over existing floor joists, as shown in illustration B, above.

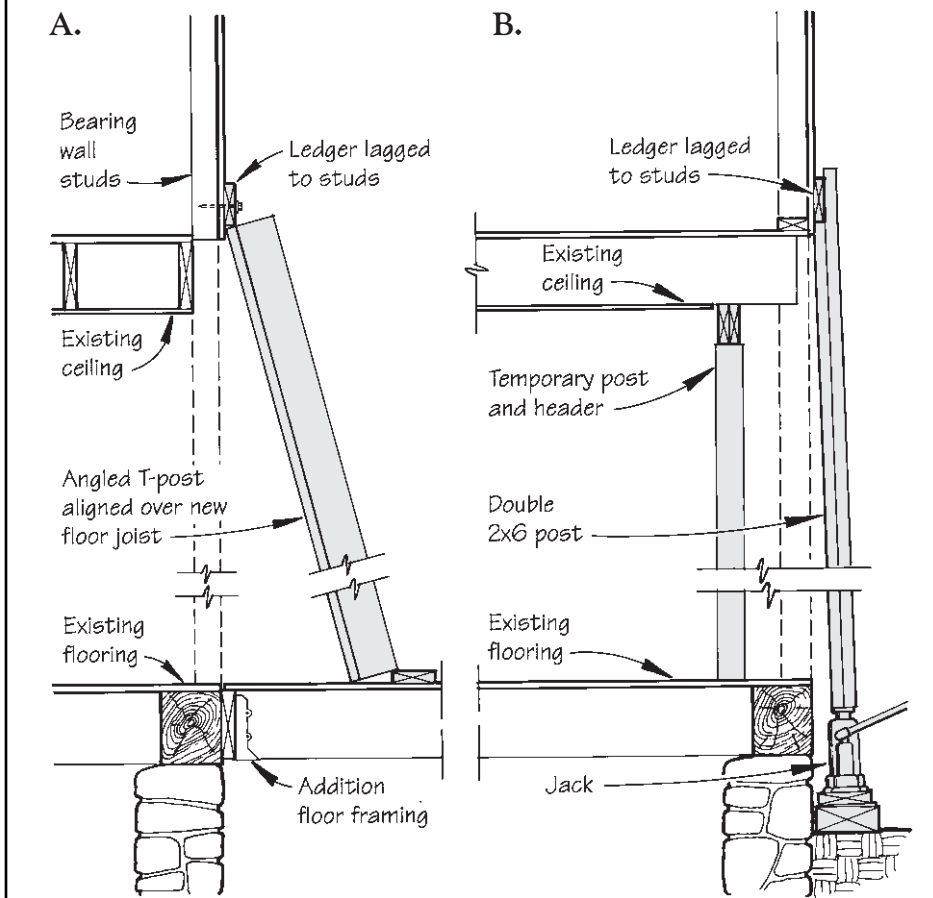
Alternative method. Instead of using T-posts at an angle for the exterior posts, I have seen one contractor successfully use doubled 2x6 posts installed vertically on hydraulic bottle jacks. One 2x6 on each post supports the ledger, while the other 2x6 lapped the face of the ledger (illustration B). The contractor claims this method gives him more control lifting the structure and doesn’t require working off a flat deck. He supports the jacks on wide, level timber blocks.

Making the cut. When you’re ready to cut the wall out, start by cutting every other stud. If the Sawzall blade starts to bind, back off. This probably means there is still some load on the studs. Either beat the ends of the T-posts closer toward the building with a sledgehammer, or jack



Code requires nontreated framing to be at least 8 inches above finished grade. If the existing grade around an addition cannot be resculpted to meet this requirement, build a shelf into the foundation as shown. Use pressure-treated wood for the rim joist, or separate the framing from the concrete with 30-pound asphalt-impregnated felt.

Two Bracing Methods



A 2x6 T-post against a ledger temporarily supports a bearing wall (A). Working off the addition floor, drive the end of the T-post toward the building, then secure a block to the deck. As an alternative method, support the ledger on a doubled 2x6 post (B). Be sure to provide good support under the jack.

the posts up.

Also, make certain the structure is securely nailed together before you start cutting. Nail off as much of the exposed sheathing above the beam as possible to make sure the wall holds together to spread out any hidden point loads. Unless the addition will have a flat roof, you will want to strip the siding well above the existing second-floor level anyway.

Also, make sure you cut out the sheathing to expose the studs where you will insert the beam *before* you cut out the supporting wall. Give yourself plenty of room to maneuver

a Sawzall, so you can get as straight a cut as possible on the ends of the studs that will bear fully on the new beam. Inevitably you'll have to shim these anyway, but it's still best to have a square cut for full bearing on the shim. I usually cut the studs 1/4 inch short, or more, to allow for any crown in my beam.

Good prep is the key to this kind of demolition. Think every step through, and do everything you can *before* you start cutting the studs loose. Ideally you should be cutting out individual studs that are free of sheathing and plaster. After removing all the studs,

immediately insert the beam, so the structure is supported on temporary posts for as short a time as possible. Nothing will keep you awake more than leaving a house on temporary supports overnight. ■

Clayton DeKorne is a senior editor of the Journal of Light Construction.

Got a question about a building or renovation project? Send it to On the House, JLC, RR 2, Box 146, Richmond, VT 05477.