



Wet Sills and Rotten Posts Radiate Damage

by John Leeke

The following two case studies show that it's best to do repair work right the first time. Otherwise larger problems are likely to crop up down the road.

Case One: Bulging Plaster

The owner of an 1830s timber-framed cape-style house was concerned about an unusual bulge in the plaster near the corner of an exterior wall. The plaster bowed out from the surface of the wall in a horizontal area 6 inches high and 5 feet long. It bowed out from the flat surface of the wall about 1 1/2 inches.

The plaster had been in good condition less than two years earlier, but when I checked it out it was completely separated from the wood lath beneath. The space between the plaster and lath was hollow. There weren't any signs of water that could have weakened the plaster, so I began to suspect some unusual movement within the wall.

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When I checked the outside of the wall, I found the clapboards had buckled out in a similar way. Down in the cellar I saw new sills and extensive work. The owner said the sill work had been done two years before.

When I removed the corner boards from the exterior, I found the cause of the bulging above. The new sills had been replaced with green pine that still had more than 30-percent moisture content. The end of the original post was sitting on the new sills. The post end was continuing to decay and had reinfected the new sill (see Figure 1).

The contractor hadn't replaced the post end but did do an especially effective job of sealing the outer shell of the building with two layers of tar paper. Of course, this trapped mois-

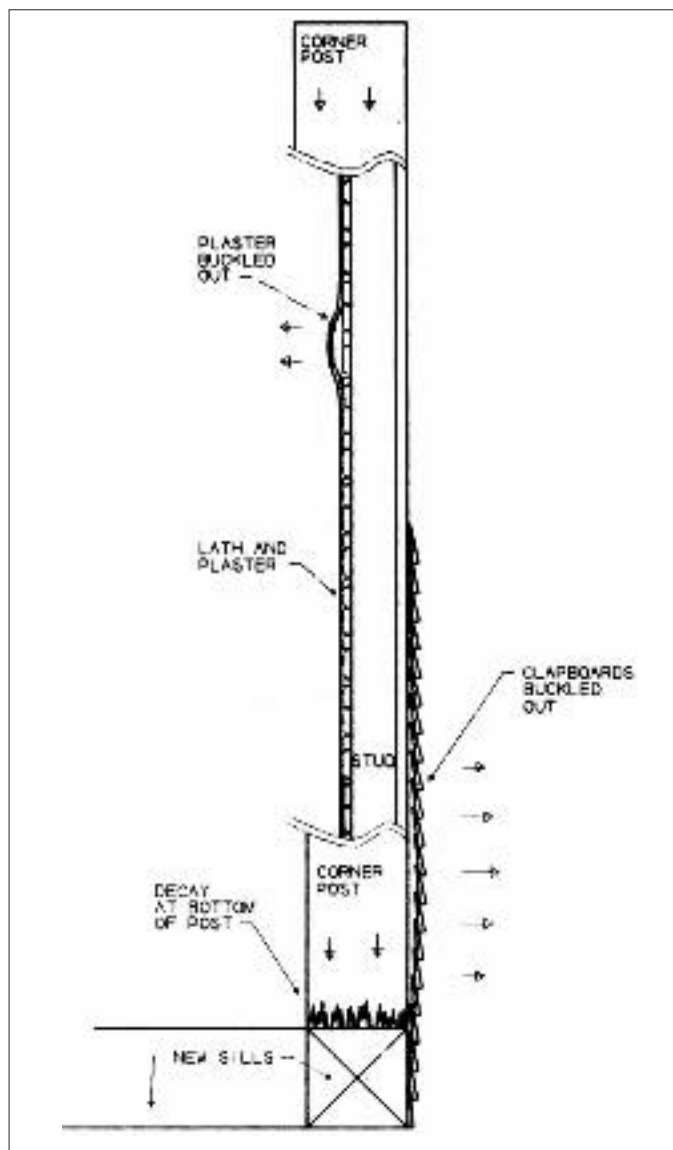


Figure 1. As the corner post dropped due to a decayed bottom, the added weight compressed the plaster and clapboards. Since the sills and studs remained stationary, the outer skins of the wall buckled and separated from the wall. While the damage to the plaster is not severe, it indicates serious structural damage below.

ture within the wall, leading to further decay of the post and new sill.

Case Two: Punky Sheathing

Carpenters were replacing the clapboards on the front of a 1791 tim-

ber-framed house. When they removed the old clapboards near the bottom at one corner, they found the sheathing too decayed to hold clapboard nails. And underneath, the front sill and end of the corner post was just as punky.

The post end and sill had been replaced 40 years ago. The sill and corner post decayed again due to water entry through the joint between clapboards and the corner board. The earlier repair job didn't effectively address the water entry that caused the problem.

The original builders of this house knew the joint between the clapboards and vertical trim was a trouble spot. They flashed behind the joint with overlapping "slips" of wood 1/8 inch thick by 3 inches wide. This flashing wasn't replaced when the sill was repaired 40 years ago. Conse-

Telltale Signs of Sill Problems

All of these signs are related to excessive moisture or building movement.

- Buckled or cracked plaster and clapboards — due to settlement of posts or studs.
- Tiny piles of sawdust or "frass" from carpenter ants — these pests only work in damp wood so look for source of moisture.
- Concrete filler in gap between foundation and wood sill — draws moisture up against wood sill and traps it.
- Mud-shelter tubes built by termites — they live in damp earth below and eat dry wood above.
- Lack of effective gutters and drainage — contributes to all of the above.

Figure 2. After treating the surrounding wood with Cuprinol fungicide (top) contractor Bill Noon, of Sanford, Maine, patches in a section of replacement sill built-up from 2x10 pressure-treated lumber. Notice how the first layer of replacement stock (center), and successive layers (bottom), are stepped back for a sturdy connection to the existing sill.



quently, water soaked in and decayed the replacement sill.

The Right Solutions

The solution in the first case involved some expensive backtracking. First a 2-foot section of dry pine timber was scarfed onto the end of the post. Then the owner had a difficult choice to make. He could remove the clapboards and replace the tar paper with something more breathable. Or, he could just close up the corner and hope the trapped moisture wouldn't damage other parts of the house. He decided to pay the price to take out the tar paper. Tyvek was laid on the wall before the clapboards were replaced.

For the second case, the solution was less costly. It took only a day for one carpenter to cut out the decayed sill and post, and piece in pressure treated 2x10 lumber (see Figure 2).

The carpenters worked a narrow strip of aluminum flashing underneath the joint between the new clapboards and the existing corner board. This will help keep any water that penetrates the tight joints from soaking into the framing.

Planning Ahead

Of course, we all face limits on our

projects. You can't always know what you'll find when you open up part of an old house. A preliminary investigation can help you and the owner make informed guesses about what will be found (see "Telltale Signs"). Advise the owner to plan for the unexpected by setting aside a significant contingency fund of 10 to 30 percent (or sometimes more) of the expected cost of the project.

In almost all cases, more work needs to be done than the budget allows. The line must be drawn somewhere. Just be certain the owner knows both where that line is and what work still remains.

It's sometimes difficult for a homeowner to plan ahead more than a season or two. I make notes on a ten-year calendar about the future needs of buildings I work on. Even if the building changes ownership, I have leads for future work.

Scheduling prospects even two or three years in advance can assure a bright future for your business as well as for the historic homes in your area. ■

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