# Safe Scaffolding, Production-Style

## On a multi-employer jobsite, who's responsible?

BY TED CUSHMAN

Starting last spring, *JLC* has been following the work of the Southern California Builders Safety Alliance (SCBSA). The group's members include many of the top production builders in the Southern California market, along with representatives from Cal/OSHA Consultation and from trade contractors in the area.

After several years in existence, SCBSA has evolved a systematic approach to its work, organized around a quarterly calendar. Each quarter, teams go into the field to inspect jobsites, with tablet computers to record their observations and with "Safety Mojo" spreadsheet software for organizing and tabulating the results. After discussing what the data reveals, the group chooses an area of focus for the quarter and conducts a formal training session on that topic for site superintendents, trade contractors, and employees.

Not every builder in the local market, it should be noted, is on board with the Safety Alliance's efforts. Multiple builders are active in most area developments, and a superintendent with one SCBSA member builder told *JLC* that he often sees trade contractor employees walk across the street to a competing builder and take off their hard hats and safety gear before getting to work.

Obviously, it's a problem for builders who have strong safety programs if their safety message is contradicted by other builders who employ the same trade workers. Still, the safety message is gaining ground, said Rod Plunkett, a member of the Safety

Photos by Isaiah Cushman





Base plates **(1)** are mandatory on any scaffold, inside or outside. When set on soil, the base plate also should be securely attached to a mud sill, as shown here. The base plate should be pinned to the scaffold as provided by the manufacturer, unless the plate is snugged up directly under the pipe of the scaffold frame leg; in images **(2)** and **(3)**, the installer is digging out the ground and placing an extra sill block to hold the plate against the frame. Pins for the base plates shown in this example need to be placed into the holes provided; the pin in the foreground in image **(4)** is correct, but the pin at rear, set underneath the pipe, is a violation that has been known to cause failures and injuries.

Alliance who works as a safety officer for Shea Homes. "In our last quarterly audits, we visited 11 communities involving five different builders, and we noticed two framing companies in particular were doing a great job on safety," said Plunkett. "We like to give positive reinforcement, so we gave recognition plaques to United Production Framing for its fall-protection system and to a framer named Frank Gavlin, with R&D Framing, for having a proactive approach and making an outstanding effort."

Last March, *JLC* attended a Safety Alliance training session on heat-injury prevention at the Green River Golf Club, in Corona, Calif. (see "Working Safely in Hot Weather," Jun/17). That session was prompted by Cal/OSHA enforcement sweeps focusing on heat illness, but it turned out to be a timely topic, given the heat waves that have hit the nation this summer. In May, we went back for a training session on scaffolding—this time, the topic was prompted not by Cal/OSHA, but by the Safety Alliance's own surveys of builder-member jobsites. *JLC* also went on site, to take a look at the situation in the field.

## THE MULTI-EMPLOYER JOBSITE

Scaffolding safety is a complicated management challenge for production builders. In Southern California, where cement stucco is the predominant exterior cladding, scaffolding is a necessity; it's hard to apply three-coat stucco without scaffolding. But once the scaffolding is up, other trades on site also like to use it—for setting windows, for installing trim, for painting, and more.

In a production environment, where trade contractors—often pieceworkers—do all the actual construction, this means that

Scaffold planking should be stamped as "scaffold grade" lumber **(5)**, not regular dimensional lumber. By rule, the working platform should be fully planked; missing planks **(6)** will draw OSHA's attention. Cross braces can be used as top rails or mid-rails, but only if the crossing point of the braces falls within the correct range of heights. But the management problem of scaffolding goes beyond the fine points of the rules. Workers had already begun to use the partially completed scaffold above **(7)** , even though it had no end rails in place. In the example shown, the builder's superintendent who noticed the situation stopped the work and "red-tagged" the scaffolding as off-limits, using caution tape.

multiple employers are responsible for ensuring safety on the job. OSHA, at the federal level as well as at the state level, defines most construction sites as "multi-employer job sites." And OSHA considers all employers on the site to be responsible for safety, not just for their own employees, but often for other companies' employees too.

In practice, this means that if an OSHA inspector sees a scaffold violation, more than one employer could face a citation and a penalty. On a multi-employer site, the rules define four classes of employer: the "creating employer"—the one that first created a jobsite hazard; the "exposing employer"—the one whose employees are exposed to danger; the "controlling employer"—the company that runs the jobsite and has actual control (such as a builder or general contractor); and the "correcting employer"—any company tasked with fixing a hazardous condition.

Scaffolding on production jobsites may be set up by specialty contractors. If they put the scaffolds up incorrectly, they could be cited as the "creating employer." An employer such as a stucco contractor who puts his workers on the improper scaffolding could be cited as an "exposing employer." The builder on the site, who has authority to stop the work and to order the scaffolding fixed, could be cited as a "controlling employer." And if someone is told to fix the scaffolding, but doesn't, he could be cited as the "correcting employer."

But it gets even more complicated. Suppose the scaffolding is set up in full compliance, but then a sheet-metal contractor moves some planks out of his way as he sets counterflashing for a roof, and then the painter—possibly a pieceworker who's trying to work fast—gets on the scaffold and gets to work without replac-





Above, a worker for the scaffold-erection contractor sets a toe board **(8)** above an access point to the building, to prevent falling objects from striking workers as they go in and out, then wires the board in place **(9)**. Older planks that won't pass inspection on the working platform might still do good service as toe boards **(10)**. The danger posed by objects that could fall off the scaffold is real **(11)**: In this example, workers loading a pallet of corbel trim blocks onto the scaffold have removed the mid-rail. This situation, which the superintendent corrected during his inspection, created multiple risks for workers using the work platform, as well as for workers passing beneath it.

ing those planks. Now the painter is the "exposing employer," but the sheet-metal company rather than the scaffold erector is in the role of "creating employer." But if the builder ignores an obvious violation in plain sight, it could also be cited in its status as the "controlling employer."

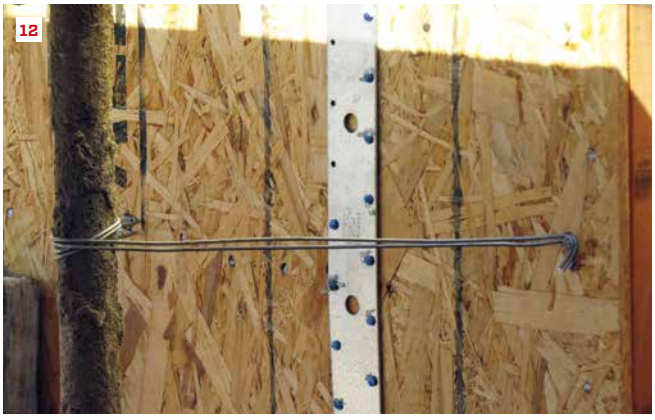
In this dynamic environment, it seems pretty obvious that a busy jobsite is only going to start out safe and stay safe if the builder—the "controlling employer"—stays on the case every day. And it's going to work best if all the builders in the area are on the same page and giving all the various trade contractors the same message: Safety matters, and everybody needs to follow the rules. And that, in a nutshell, is the mission of the Southern California Builders Safety Alliance: to send a consistent safety message to every trade employer across all the communities in the region.

Scaffolding is complicated. There are a lot of pieces and parts, and a lot of opportunities to violate the standards. There are also a lot of ways to get hurt. "I've been told that Cal/OSHA standards are 'written in blood,'" Rod Plunkett told *JLC*. "If it's in the standards, it's because somebody has been hurt or killed."

The examples mentioned here represent only a fraction of the issues that can come up with scaffolding. So if you use scaffolding, it's worth studying the topic in greater depth. One of the best ways to learn is to work with OSHA's consultation program, which offers expert instruction without the risk of being fined.

## BASE PLATES

Indoors or outdoors, scaffolding requires base plates (see photos, page 34). They're useful for leveling the legs, but they're vital for







Multistory scaffolds require wire ties to secure them against toppling **(12)**. To place the ties, the scaffold erector drives duplex nails partway into the framing, wraps the wire loosely around the scaffold and the nails, then drives the nails home to tighten the wire **(13)**. Wire ties create an ongoing inspection problem for the jobsite superintendent. Trade workers should not remove any wires while installing building paper or stucco **(14)**, but sometimes wires get disconnected **(15)**. If a wire is in the way of trim work, another wire should be installed before the problem wire is removed or cut.

stopping the legs of scaffolds from sinking into the soil or punching through a floor. Like any manufactured gear, they should be used according to the manufacturer's instructions—if they come with pins and holes for connecting to the pipe scaffolding, the pins need to be set into the holes as directed.

When placed in contact with earth, the base plates need to be supported by "mud sills," which, in California, should be at least 2 inches thick and 10 inches square, or equivalent (though a 10-inch-by-10-inch piece of 1⅛-inch plywood is a compliant alternative).

## PLANKS AND RAILINGS

Scaffolds come in light-duty, medium-duty, and heavy-duty types, as well as special-duty varieties for unusually heavy loads. For exterior use on a jobsite, you probably need heavy-duty scaffolding, meaning that the planks should support 75 pounds per square foot. Planks must be "scaffold grade," which is stronger than ordinary framing lumber, particularly across the plank's thickness. California allows heavy-duty planks to span 7 feet, but federal OSHA rules restrict that span to 6 feet, according to the U.S. Department of Labor website.

Planks should also be inspected for soundness. Photo 10 (see facing page) shows a convenient use for a plank that is no longer in good condition—it's now being used as a toe board (toe boards are required at doorways or other access points to the building, in order to prevent anything from sliding off the platform and striking a worker below).

Scaffold working platforms need top rails and mid-rails at specified heights. Cross-bracing (also required) can serve as a rail, but



The back of the work platform requires railings, but the front side remains open to allow access to the work. However, the side next to the building must be kept within a specified maximum distance of the wall, which can pose a problem at pop-outs **(17)**. Outriggers **(18)** are one way to extend the platform closer to a wall.

in that case, the cross point of the braces must also fall within a prescribed range of heights above the working platform. You can probably count on professionally erected scaffolding to comply with those rules, but making sure the railings stay in place is another matter; in photo 11 (see page 36), workers have removed a mid-rail to load components onto the scaffold, creating a citable hazard.

## TIES

To prevent toppling, scaffolds should be tied to the building at the scaffold ends and at intervals in between (the horizontal and vertical spacing depends on the height of the assembly). It's a good idea to install extra ties, since some may get cut during the course of work. Superintendents on multi-employer jobsites should keep an eye out for ties that have been cut and not replaced.

## DISTANCE FROM THE WALL

OSHA rules set a maximum allowable distance between the work platform and the wall. In California, that distance is 16 inches, although the federal requirement is 14 inches.

This rule creates practical problems when the wall being worked on has jogs or pop-outs. In those situations, outriggers may serve to get the working platform closer.

Details like these—and there are many more—would be problems to solve even on a slow-paced custom-home site where much of the work was being accomplished by the builder's own employees. On a busy production building site, with multiple trade contractors or even multiple builders at work, the challenges are multiplied.

*Ted Cushman is a senior editor at* JLC.