In the News

Prevailing-Wage Rules Complicate Stimulus Weatherization Work

As Recovery Act spending ramps up and stimulus money starts to hit the streets, trade contractors eyeing the billions of dollars allocated for low-income home weatherization and state-backed building energy-efficiency loan programs have been running into an unfamiliar roadblock: the Davis-Bacon Act of 1931, passed decades ago during the Great Depression. Davis-Bacon requires contractors on federal projects to pay local "prevailing wage" rates for all trade work on site. Under the Recovery Act, contractors on any stimulus-funded job are subject to the same requirement.

Davis-Bacon applies not just to low-income weatherization, but to any project that receives even partial assistance from federal dollars allocated in Division A of the American Recovery and Reinvestment Act of 2009, the spending portion of the bill. Division B, the tax portion, isn't included, so tax-credit–eligible work on private homes is not affected. But all the hundreds of billions of dollars of federal spending in the law — plus any state and local spending or lending that the federal dollars get mixed into — now fall under Davis-Bacon rules.

Davis-Bacon is a familiar issue for big public-works contractors accustomed to federal bridge or road projects. But for small remodeling or trade contractors who are otherwise well-equipped for weatherization and energy upgrade work, Davis-Bacon — and all the other paperwork that comes with any public-sector job — can pose a baffling new challenge.

Kansas City–area contractor Rick Westmoreland became familiar with Davis-Bacon when he did weatherization and public-housing rehab work in the 1980s. Now, with new construction dead in his market, he's back in the weatherization business and gearing up to do public jobs — and to pay Davis-Bacon wage and benefit scale.

Westmoreland says that the wage rates themselves aren't the big problem; he points out that everyone bidding against you has to pay the same rates. What's tricky is handling the matter with employees. "Go to a market-rate project the next day, and tell your people, 'Now you're going back to where you were' — it has a tremendous psyche effect on the workforce. You almost have to outsource to an entirely different workforce so that you don't corrupt your own." In the current market, though, Westmoreland expects to have enough Recovery Act–funded work that he won't need to send his workforce on to lower-paid private-sector jobs.

Trade classifications are another sticking point. Weatherization is not like building a courthouse or an office building, where trades like mason, steelworker, and carpenter are clearly defined. Weatherization workers tend to be more like all-purpose handymen, says Westmoreland: "Maybe you're replacing broken glass in a window. Well, that would technically be under the 'glazing' classification. Then you're over here patching a hole in

■ California builders now have until next year to comply with the latest version of Title 24, the state energy code. The 2008 edition was scheduled to take effect on August 1, but delays in completing the public-domain compliance software prompted the California Energy Commission to move the effective date to January 1, 2010. Included in the new code are upgraded SHGC and U-factor window values, prescriptive cool-roof requirements, new rules for lighting and controls, and new requirements for mechanical ventilation and air conditioning systems.

■ In Minnesota, new and replacement windows installed above the first story in most multi-unit dwellings will have to comply with a new window safety law, which took effect July 1. Laela's Law — named for a Minneapolis girl injured in a fall from a window in 2006 — calls for apartment houses, condos, hotels, and motels to equip windows that have sills lower than 24 inches from the floor with approved fall-prevention screens, guards, or devices. According to the state's health department, falls from windows account for 12 deaths and 4,000 injuries every year nationwide among children aged 10 and under.

the drywall. Now you're a plasterer. You weatherstrip a door, now you're in the carpenter classification. So how do you report that? How do you track that?"

To address this problem, the Department of Labor is surveying weatherization programs across the country to find out what a weatherization worker — a new category — typically gets paid. When the data comes back, the DOL plans to release new prevailing-wage scales for all counties for this type of work. There's also talk of creating an apprentice category, to cover the many new weatherization trainees that the government hopes to bring into the industry. In the meantime, the government's instruction to local nonprofits and contractors is to use their current wage scales to compensate their labor. If the new wage rates turn out to be higher, agencies are supposed to release further money so that contractors can pay back wages accordingly.

Under Davis-Bacon, contractors must pay weekly and file a weekly wage report breaking out the hours worked under the different trades, and the wages and benefits paid each worker. For basic compliance rules, go to dol.gov/compliance/guide/dbra.htm. To find prevailing wage rates in your state and county, there's a quick lookup utility at access.gpo.gov/davisbacon/allstates.html. And for specific information on Davis-Bacon in low-income weatherization programs, go to apps1.eere.energy.gov/weatherization/. — *Ted Cushman*

Tall Condo Survives Fake Quake

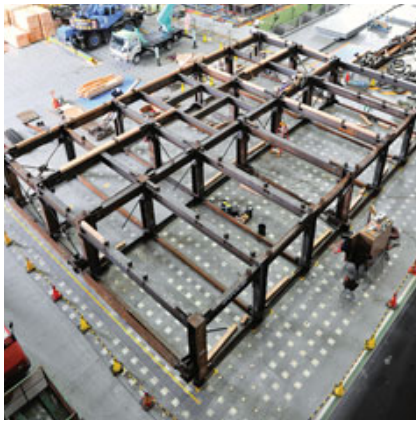
Shaking a building until it starts to fall apart is one way to find out how strong it is — as earthquakes have shown time after time, often with devastating consequences. In 1994, for example, California's Northridge earthquake shook the San Fernando Valley, killing dozens and causing more than $25 billion in damage. But a safer and less expensive way to perform seismic testing is to place the building on a shake table. There are several shake tables throughout the world, but none are larger than Japan's E-Defense facility in Miki City, located near Kobe, Japan. Here, a team of researchers from five American universities working under a National Science Foundation grant recently built a seven-story, 17,000-square-foot wood-framed condo tower and subjected it to a series of simulated earthquakes.

The tests were the final step in a four-year investigation into the ability of midrise wood-framed buildings to withstand major earthquakes. Currently, building codes in the United States allow wood-frame buildings to reach five floors in height, but that is rarely permitted in seismic zones.

The 23-unit tower tested in Japan was built using the same I-joists, LVLs, metal connectors, and hold-downs found on a typical low-rise residential project. Additional structural reinforcement came from steel

special moment frames on the ground level and mid-ply shear walls (where the sheathing is sandwiched between a double-studded wall) in portions of the interior shear walls.

After the 800,000-pound building was assembled, it was moved onto the 2.5 million-pound-capacity shake plate, which is powered by massive hydraulic pistons. Initial testing simulated the kind of fairly common seismic events that occur every 70 years or so, while the final 40-second test simulated a much rarer and more powerful quake measuring 7.5 on the Richter scale (the Northridge quake registered a 6.7). Other than some cracked drywall, the building experienced no significant structural damage, says Colorado State University civil engineering professor John van de Lindt, a principal investigator on the project. "The test in Miki City ultimately could help the building industry safely increase the height of wood-frame construction to six — possibly even seven — stories in active seismic zones," he says. — *Andrew Wormer*



To find out whether tall wood-framed buildings can be designed to withstand seismic activity, researchers recently tested a seven-floor condo tower on Japan's E-Defense shake table (above). The building was reinforced with an anchored tie-down system connected to steel special moment frames on the ground floor (above right), but otherwise was built using standard construction materials and techniques. Large hydraulic pistons provided the thrust to simulate a magnitude 7.5 earthquake (right).