

# EIGHT-PENNY NEWS

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## Referral Services Give Edge to Quality Builders

**New referral businesses help homeowners link up with qualified contractors**

Four years ago, builders and contractors flooded into Sacramento's booming market. "They didn't even need to advertise," says Nancy Roberts, a local businesswoman. "But homeowners were getting shoddy work." So Roberts started a local contractor referral service, The Sacramento Trades Guild, for homeowners anxious about hiring carpenters off the street. Today, with the Sacramento market dried up, Roberts has seen the trend shift. Now, she says, contrac-

tors hungry for work are eager to get on her list.

It isn't that easy. "You can't sign up every contractor in town," says Roberts, who requires contractors to undergo extensive background checks for proper licensing and insurance, past work, and financial stability. "You have to control the quality and make sure members get lots of referrals." Now with more than 100 member contractors, each paying monthly dues ranging from \$50 to \$200 (depending on

their trade), the Guild makes more than 10,000 referrals a year. Though the service cannot guarantee a certain number of jobs, it is successful enough to have a high renewal rate among members.

Here's how it works: Homeowners call in to the service looking for a contractor to build a room addition, extend a fence, or hang a door. The Trades Guild gives the caller the names of two or three member companies, encouraging the homeowner to get bids

from each contractor. It is then up to the homeowner to select the contractor to do the work. Roberts' staff tracks the job with a questionnaire completed by the homeowner, providing valuable feedback on the quality of work provided. Member contractors are rotated by computer so one member won't get all the calls.

Guild membership, says Roberts, helps set contractors apart in a competitive market. "We're established now.

*continued*

## Sacrificed for Science: Professor Sics Bugs on New Building

First, University of California entomologist Vernard Lewis built a \$65,000 house in Richmond, Calif. Then he — brought in some *termite* 3

It's all part of the quest for knowledge, says Lewis. He's running a carefully controlled experiment to compare different ways of controlling insects.

To run the experiment, Lewis and his assistants plant 4,725 dry-wood termites in the house, toenailing infested blocks of wood into the stud cavities. "We count the termites by hand," he said. "Otherwise it wouldn't be scientific."

The next step? "We invite the exterminators to the party." After the termites have a two-day head start, the big boys of bug control

step up to do their worst. Two exterminators go head-to-head in the building Lewis has named "Villa Termiti"; each contestant has two weeks to blast the bugs on his side of the building. An assortment of techniques will be tried, including such high-tech methods as X-ray and microwave radiation.

Lewis has gone to great lengths to keep the contest fair, even constructing a perfectly symmetrical building with doors and windows on each wall. Even so, he says, "I've been getting a lot of phone calls from lawyers. Nobody wants to look bad."

The termites, of course, end up looking and feeling the worst. But Lewis said some termites usually survive each assault, and he doubts



COURTESY OF THE TERMITE INSPECTORS, VALENCIA, CALIF.

*A pest-control worker wields the microwave bug blaster used in one "Villa Termiti" experiment.*

that any method can be 100% effective against established termites. And, other insect species have arrived uninvited. "My biggest problem is the Argentine ants," said Lewis. "They keep eating my termites." The South American ant species, introduced into California in the early 1900s, now view Villa Termiti as a convenient snack bar stocked with defenseless termites (Lewis

removes the soldier termites from the colonies he plants).

Lewis is not projecting a winner in the Berkeley bug-control battle, but whatever the outcome, his final report promises to be controversial. Spin doctors for the exterminators are already hard at work maneuvering to defend their reputations. Lewis hopes the results of his study will be available sometime in 1994. □

## STATE BY STATE

**New Hampshire.** The insurance industry is asking state regulators for an average 31.2% increase in workers compensation rates. Hearings were held around the state in November to get public input on the proposal. Outgoing Insurance Commissioner Louis Bergeron referred the request to a consultant; Deputy Commissioner Robert Solitro will decide on the rate hike request after receiving the consultant's report.

**Vermont.** A council appointed by Governor Howard Dean has produced an agreement to reform the state's workers comp system. All sides in the negotiations among industry, government, and labor representatives are applauding the agreement, which they say will lower costs by tightening up administration of the system. "We hope this is going to attract industry to Vermont," said Ron Pickering, president of the Vermont State Labor Council.

**Massachusetts.** New state regs for septic systems taking effect in January may require \$2 billion worth of work statewide, according to Christine Braley of the Massachusetts Homebuilders Association. The new law will require owners to repair or replace substandard systems if they are located near lakes, ponds, rivers, streams, or public drinking water supplies.

The new rules also require new systems to be located farther from water resource areas, and limit the amount of waste water that can be discharged in certain areas.

## Government, Industry Push Geothermal

Heat pumps are a popular choice in mild climates that need both heating and cooling over the course of a year. Their efficiency suffers, however, in freezing cold weather when they must resort to expensive electric resistance heating as a backup.

Now, however, electric utilities and the federal government are putting their money on an improved version of the heat pump: one

Utilities Group for Geothermal Energy Technology. The fifteen NUGGET utilities are each offering a rebate on geothermal hvac installations. A typical example is the System: GT program from Jersey Central Power & Light (JCP&L). JCP&L offers up to \$3,000 to people who install an approved geothermal system.

Spencer Morasch, a JCP&L engineer who is also president-elect of the North

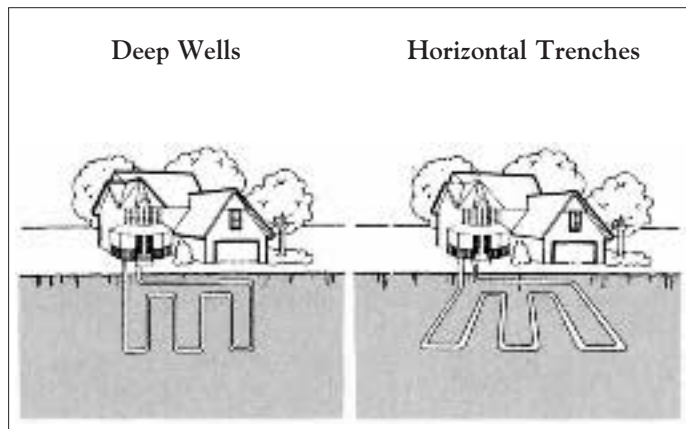
house needs heat, the pump pulls heat out of the ground; when the house needs cooling, the pump sends heat back out into the 40°F to 50°F subsoil. The heat pump also heats domestic water in either heating or cooling mode. According to EPA estimates, modern ground-source heat pumps have a COP of between three and five; that means they put out in heat from three to five times as much energy as they consume in electricity.

Energy engineer Morasch says that because ground temperatures are nearly constant year-round everywhere in the world, geothermal heat pumps are efficient even in cold climates.

"Canada and Sweden are the two places that are using this the most," he noted. "In a colder climate where you need more heat, you just have to size your system bigger — just like with oil or anything else."

**But who's going to install it?** One problem for the budding geothermal movement has been that most hvac installers have never worked with geothermal. Morasch said that his builder had never seen a geothermal system; but, he said, the builder was able to find an hvac contractor who had installed hundreds of the systems in New Jersey. Morasch advises builders to make sure their installer has been certified by IGSHPA, the International Ground Source Heat Pump Association. IGSHPA teaches installers things like how to fuse the joints in the plastic ground-loop pipe.

EPA's L'Ecuyer said NUGGET members are providing training programs for installers who want to learn about geothermal; but he said it's not that complicated if you understand air conditioning. "This is not rocket science," he said. "Your normal hvac guys, if they want to, can do the job right." □



Ground loops for geothermal systems can be installed in deep wells or in horizontal trenches.

that uses the earth as a source of cheap heat. Electric utilities are betting on "geothermal" because they say it will cut down on peak demand; the government likes the ground-source heat pump because they say it conserves resources and pollutes less than other types of heat. Together, the two are offering rebates and special mortgages to convince people to choose geothermal systems for their new homes.

The effort seems to be getting results. Only about 150,000 ground-source heat pump units are in existence today, but 20,000 are now being installed annually, and government and industry sources say production is increasing at 20% a year.

**Feds head the effort.** Mike L'Ecuyer, the Environmental Protection Agency's point man on geothermal, recently helped to set up NUGGET, the Northeast

Jersey ASHRAE chapter, had a geothermal system installed in his new house. A standard system with natural gas heat and electric air conditioning would have cost him \$6,000 for his 2,200-square-foot home, he said. The geothermal package carried a price tag of \$10,000, but the rebate brought it down to \$7,000. He estimates that he saves \$500 annually on operating costs, making his payback period two years. Morasch said that because the heat pump itself is inside in the basement, it will last longer than air-source units that are exposed to weather.

**How it works.** A ground-source heat pump uses an antifreeze solution instead of air for both heat source and heat sink. The antifreeze solution circulates through a long plastic pipe buried under the ground in a deep trench or well. When the

# JLC Business Survey

We sent out surveys to a random sampling of JLC readers who own and operate their own businesses. Of those responding, the majority (67%) do both new construction and remodeling. Almost a third do at least some commercial remodeling. The median business grosses \$250,000 a year, employs two people full-time and one or two part-time.

As we suspected, our readers are a busy lot. Over 70% of respondents do their own estimating, scheduling, and job supervision. And of that group, most did either sales or bookkeeping as well. A few wrote in extra jobs they routinely handle: "callbacks," "worrying," and "sweeping the floor." How long does all this take? On average, 53 hours per week.

Perhaps the two most interesting results were the responses to the questions "What do you like most about the building business?" and "What do you hate most ...?"

Responding to the first question, most indicated they truly enjoyed the building process. Many credited the variety and creativity of the work, the challenges and problem solving, and the independence it allowed them. Comments included "the accomplishment of taking a drawing and turning it into a house," "creating from a pile of lumber," and "problem solving on site and in the office."

A second strong motivator was the satisfaction of working closely with appreciative customers. As one put it, he enjoyed "working with customers to create what they envision."

Not surprisingly, customers showed up on the dislikes list at well, as in "people who want the \$200,000 house for \$100,000," "picky customers," and "clients who keep changing their minds." One lamented the trend that nowadays "people seem to feel free to negotiate on financial matters throughout the job."

Dust, noise, long commutes,

and late hours got a few votes, as did the financial ups and downs of the industry. One quipped he both liked and hated the same thing: "occasional profits."

But the most common complaints centered on estimating, billing, and other paperwork. This list included "the time eaten up by estimating and paperwork," "estimating on incomplete plans and specs," "frequent price fluctuations," and "subs who bill more than they quoted."

Other stats paint a picture familiar to quality-conscious small contractors. Over three-quarters of those responding use their own crews for finish carpentry and framing. Over half do their own K&B installations, roofing, and siding. Most sub out their foundation work, drywall, plumbing, electrical, and painting. Fewer than half (40%) install their own insulation.

About 60% of those responding use primarily fixed-price contracts. But 72% do at least some cost-plus work, and about 25% use some negotiated bids. The vast majority report they get their work primarily through referrals and repeat business.

Design/build is frequently practiced by 45% of those responding, but only half of that group charge separately for their design work.

About half do their own bookkeeping. The rest use either an employee, spouse, or outside service — in roughly equal proportions. Over 62% do cash accounting, 25% use accrual, and the rest are "not sure." Just over 50% are generating and using job-cost reports, and 64% of that group use computers. Overall, about half the respondents use computers.

In summary, this is a group of contractors who take pride in their work and enjoy their independence, but wish that the job came with fewer headaches — and less paperwork. □

## FROM WHAT WE GATHER

**Claims that low-e glass or Heat Mirror prevents fabric fading** are not supported by research, according to a recent report in *Energy Design Update*. Although these products block much of the UV (Heat Mirror is the best for this), much of the fading in household furnishings is caused by visible light, not ultraviolet. So for most fabrics and finishes, the only way to significantly retard fading is to limit the material's exposure to sunlight.

**America's 22nd largest builder is now Habitat for Humanity**, according to *Builder* magazine (May 1993). The nonprofit volunteer group plans to build its 30,000th home this summer as part of an 18th anniversary celebration. Plans include a number of "blitz-build" events in which large teams of volunteers put up complete houses in one week; Habitat is actively seeking help with these projects.

Interested parties should call 800/422-4828.

**Use of engineered lumber is surging**, according to market researchers George Carter & Associates. Their survey of 3,500 building suppliers and contractors showed that consumption of parallel-strand lumber rose 44% over two years, while wood I-beam use increased by 47%. Knowledge of the new materials has increased dramatically over the past two years, said George Carter, Jr. He predicts that use of engineered lumber will more than double by the end of the decade.

**You can remove the lead from old brass plumbing fittings** in 30 minutes with Purdue engineer Benito Marinas's latest invention. Marinas runs a solution of oxidized copper through the fittings; the copper replaces the lead. "This will happen naturally in 20 years," said Marinas. "This way, we can do it in half an hour." He is working to adapt the technique to also remove the lead from solder in plumbing joints. Purdue University has applied for a patent on the process, and hopes it will soon be on the market.

**High-end fixtures continue to plumb new depths.** A smart toilet from Japan's Toto Ltd. will instantly analyze waste for signs of diabetes, kidney or liver problems, internal bleeding, or even pregnancy. The prototype model, complete with microcomputer and digital display, cost the company \$5 million to make. Toto hopes to sell a production version to hospitals and clinics for \$3,500, or \$5,000 with a bidet function.

**Falls were the leading cause of death** in construction-related accidents during the '80s, according to a report from the National Institute for Occupational Safety and Health (NIOSH). Electrocutions and vehicle accidents were second and third. An average of 1,143 construction workers died in jobsite accidents each year.

The statistic makes construction the second most hazardous occupation in America. Only mining is more dangerous, according to government figures. The figures for construction included residential, commercial, and industrial construction.



# OSHA Reform — Burden for Small Builders

Bills before the House and the Senate aimed at reforming the federal Occupational Safety and Health Administration (OSHA) may not come up for a vote until next year — but they already have housing industry trade groups up in arms.

The proposed reforms place a heavier burden on employers to ensure safety on the job, including written safety and health plans, liability at all levels of management (including superintendents), and tighter notification and compliance rules. In addition, companies with 11 or more employees would be required to set up joint labor-management safety committees at each job site, with employee representatives compensated for their time on the committee.

Furthermore, the law would empower OSHA to set new standards for workplace toxins, shut down work sites and factories without a court order, require the builder to fix a cited hazard even if it is under appeal, and redefine criminal violations as felonies. “As written, we’re opposed to the legislation,” says Bill Kilmer, NAHB’s legislative director for labor and small business issues. “The premise is good, but the roadmap has some pitfalls.

“NAHB’s concerns focus



*Workers on OSHA-approved scaffolding atop Capitol dome. Inside, OSHA reform efforts continue.*

on the practicality of job-site safety committees; residential construction sites have several trades represented at any given time, and from a variety of subcontractors. Whose workers and which trades will be on the committee?” Kilmer asks. And while NAHB supports voluntary written safety plans,

Kilmer objects to mandating the criteria for a plan because of differences in how builders operate their businesses. NAHB calculated that complying with the law would add \$4,500 to the cost of building a house.

The American Subcontractors Association (ASA) has similar concerns, focus-

ing on what Sarah Thomson, ASA’s assistant director of government relations, calls a lack of employee responsibility for safety. “There’s no way for an employer to control every move of his employees,” she says. “Fining an employee directly is the best way to get safety across.” ASA would also like to see mandatory drug and alcohol testing after an accident occurs.

NAHB’s Kilmer agrees that the bill lacks employee responsibility. “If an employer was in compliance with the law, gave proper training, and documented the policy and procedures, the worker should be held negligent and financially accountable,” he says. Kilmer isn’t holding his breath, however: A similar proposal introduced last year was derailed by strong opposition from organized labor.

Both Kilmer and Thomson are confident, however, that modifications will be made before the bill goes up for a vote sometime next year. The White House is open to suggestions regarding OSHA reforms, says Kilmer, perhaps supporting a provision that would treat residential construction differently than commercial and industrial projects under the new law. □

## Treated Wood Study

Pressure-treated wood pilings do not harm bottom-dwelling ocean organisms, according to a recent study conducted by Massachusetts-based Springborn Laboratories. The study, which was funded by wood treatment manufacturer Hickson Corporation, measured the effect of exposure to the leachate on a small crustacean called *Ampelisca*. Toxicologist John Butala, who designed the study, said that the copper, chromium,

and arsenic contained in the pressure-treated pilings are chemically bound to the wood and leach out in only very tiny amounts. He said that the *Ampelisca* suffered no ill effects in the study.

Surprisingly, Butala noted, the control group of *Ampelisca* that were exposed to leachate from untreated southern pine pilings had an increased death rate. Some wood contains naturally occurring toxins, Butala explained. “We were work-

ing with very large timbers confined in a small amount of seawater,” he said. “The leachate was very highly concentrated.”

Pressure-treated lumber used in residential construction has only one-sixth the amount of toxic metals as the marine-grade pilings in the Hickson study, Butala said. Even so, Hickson spokesman Huck DeVenzio said his company agrees with the EPA in cautioning carpenters to wear gloves when

handling the lumber and to wash their hands before eating. But DeVenzio said that these precautions are only common sense when handling any lumber.

Toxicologist Butala warned, however, that you should never burn pressure-treated lumber. “You can get into big trouble,” he said, because fire reverses the process of chemical bonding, so the remaining ash contains high concentrations of free toxic metals. □

# Window Group Issues Energy Ratings

Comparing the energy performance of windows just got a lot easier. After years of work, the National Fenestration Ratings Council (NFRC), a window industry group, has come out with its *Certified Products Directory*. The book lists more than 5,000 windows, sliding doors, and skylights. More products will be added to the list as lab testing continues.

The book rates windows by U-value, based on a new evaluation procedure. In the past, window makers have made conflicting claims based on differing methods of measuring window performance. NFRC says that its new rating system holds all windows to the same standard for heat loss, aiding comparison shoppers.

The new numbers will also help in predicting a building's energy perfor-

mance. NFRC's Chris Mathis explained that the U-value number tells you how much heat will escape through a window when it's 70°F inside, 0°F outside, and the wind is blowing at 15 mph; these parameters are based on ASHRAE standards. "Once the engineers get their hands on these figures, they'll be able to do a

much better job of sizing hvac systems," Mathis said.

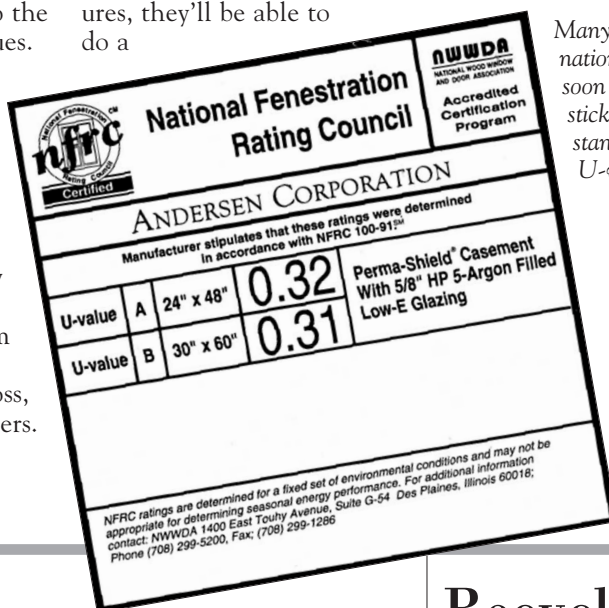
## Labels hit the streets.

California now requires windows to carry an NFRC rating label showing the U-value; other states are expected to follow suit. Some window manufacturers are already putting the labels on window units

nationwide. Steve Sherod of Andersen Windows, the nation's biggest window maker, says all Andersen products will soon carry the label.

**More to come.** The U.S. Department of Energy's Sam Taylor said NFRC has more work ahead. Congress has ordered the group to come up with a single "energy number" to evaluate a window's total thermal performance. National labs, backed by millions of federal and private dollars, are working on computer modeling and lab techniques to determine such a value. Taylor said the NFRC labels will eventually show this overall performance number, as well as numbers for traits like solar gain and visible light transmittance.

The *Certified Products Directory* is available from NFRC at 301/589-6372. □



Many windows nationwide will soon bear NFRC stickers showing a standardized U-value rating.

## Referral Services, continued

People know about us," she says. In addition to referrals, contractors also receive co-op advertising, health and dental benefits, credit union affiliation, and in-house marketing services to help dress up sales literature. Members also use the service to find qualified subs. Also, all past work records are kept at the Guild and are available to customers upon request. "That kind of access helps sell jobs," Roberts says.

The Sacramento Trades Guild is one of only a few such referral services nationwide, but the trend is growing. Home Services Alliance, a similar service in Georgia, is selling franchises in other U.S. and Canadian locations. Roberts is also

looking to expand her idea, offering a business package containing all the necessary materials, training, and consultation services that allow contractors, real estate agents, or interior designers to adapt her idea to other markets. "To be successful," she says, "you need a combination of the right ethics and the right attitude."

Another group, the non-profit Independent Contractor's Assoc. (ICA) has been offering free contractor referrals in the Illinois area since 1982. According to John Neron, ICA's director, "We've had a number of members who contract \$100,000 or more annually through our service." "For some," Neron says, "ICA is their only form of advertising, aside from word of mouth." □

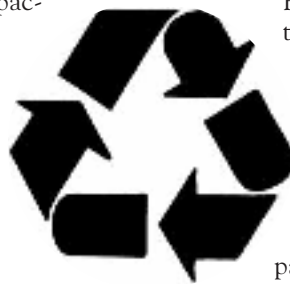
## Recycling May Cut Reroof Costs

As more and more U.S. landfills close and the remaining landfills approach full capacity, tipping fees for construction debris are skyrocketing. Reroofing contractors in particular are feeling the impact of the landfill crunch; roof tearoffs generate more than eight million tons of waste asphalt material annually, and over 80% of roofing contractors say their disposal costs rose in 1993. Disposal costs for roofing waste average around \$45 a ton, but can go as high as \$135. The more heavily populated areas of the country have the worst dumping problems; experts say tipping fees in

the Northeast have easily doubled in the past five years.

Recycling may ease the disposal cost burden for some contractors.

ReClaim Inc. of Kearny, N.J., is now making torn-off asphalt shingles into a patented cold-mix road patching product it calls RePave. The company has recycled 250,000 tons of roofing scraps since 1988 and has plans to expand. ReClaim is targeting locations with high dumping fees, where recycling has the greatest cost advantage. ReClaim's John Kraft said that New Jersey roofers can save as much as \$75 a ton by bringing roofing waste to his firm instead of dumping it. □



### For More Information

Home Services Alliance, 800/922-9694  
Independent Contractors Assoc., 708/971-0102  
The Sacramento Trades Guild, 800/932-5558