Notebook...

SEPTEMBER 1997 EDITED BY DAVID DOBBS

Handling the Rebound

Builders learn the lessons of growth

by Kathy Price-Robinson

If you're not in a construction boom already, you may be soon. Across the country, consumer confidence is running high, interest rates are low, and many areas are experiencing explosive growth. New home sales and starts continue to rise — spectacularly in some areas — and the NAHB predicts 1995's $112 billion remodeling industry will increase to $122 billion this year.

Business is particularly brisk on the West Coast. As Arroyo Grande, Calif., building contractor Bruce Robertson said, "If you can't make it now in this business, you might as well get a new career. It'll never get better than this."

Most contractors are enjoying this surge. But as the experience of some West Coast contractors suggests, explosive growth can bring trouble. Jobs get delayed, irking customers and disrupting crowded schedules; new employees make mistakes; and management strains to juggle intense demands.

For many builders around the country, busier times are offering opportunities not seen in several years — and some pitfalls to avoid as well.

Such stresses teach valuable lessons. Here's some advice from West Coast contractors who've already learned them.

See the big picture. Thinking ahead was paramount for all the contractors we spoke with.

"Always focus on the big picture," said Scott Gregor, owner of $2 million-a-year Master Plan Construction in Portland, Ore., a city that saw a boom last year and a leveling off this year. "Keep asking yourself: Where do I want to be in five years? In ten years?" Setting a goal for the future can make it easier to answer smaller, everyday questions about which jobs to take or whether to hire that new carpenter.

In addition, many contractors stress the importance of avoiding shortsightedness and of anticipating an end to the boom. As Van Nuys, Calif., builder Alon Toker says, "It all levels out. The more you zoom in during the boom, the more alarmed you are when it ends."

Use time well. "I make my commute time valuable," said Tom Bortolazzo, a luxury home builder in Santa Barbara, Calif., speaking from his cellular phone. With 20 employees and several jobs scattered over a large area, Bortolazzo drives a lot. So he always uses that time to do phone work. Other contractors save time by subbing out payroll and other routine office tasks and by giving employees increased authority. For many contractors, relinquishing such authority can be one of the most difficult steps in handling growth. But it's crucial to success in boom times because it frees their own time while letting jobs proceed more smoothly.

Be selective. Typically, contractors have to scramble for work. So when the economy quickens, it's easy to stay in that same mindset, taking every job that comes along.

Scott Gregor made that mistake in 1996 when he was offered a slew of jobs and took them all. The overload stressed his employees, irked clients who

continued

Stiffening Floors

A high-tech option for low-tech framers

A major benefit of engineered joists is that they produce a stiff, solid-feeling floor. Now a new product, the IBS 2000 joist brace from Luxor Industrial Corporation of Canada, apparently makes conventionally framed floors ultrastiff, too. The IBS 2000 (which stands for Interlocking Bracing System) is a premanufactured X-shaped brace that can be nailed between joists either vertically or (when you need to run ducts in the joist space) horizontally. Luxor spokesman John Taylor says the IBS braces stiffen floors so well that you can increase both the span and on-center spacing, saving enough lumber to offset the cost of the units, which run from around $4 to $10 each. Yet the product's greatest asset, says Taylor, is the stiffness and solid feel it gives floors.

IBS 2000, a new floor-joist bracing system, is designed to make conventionally framed floors ultrastiff, and to allow greater spans or wider on-center spacing than conventional bracing.

Ralph Corbo, a builder in Woodbury, Conn., agrees. He recently used IBS units to stiffen a 2x10 floor system that spanned 17 feet 4 inches. The design originally called for a post-and-girder support in the basement below. After running the numbers on the IBS 2000 units, however, Corbo's architect nixed the post-and-girder and went with the bracing alone.

Though the span was 20 inches longer than BOCA allowed for a conventional 2x10 floor system, Corbo found the floor was "like iron." A test at centerspan showed the floor deflected only 1/32 of an inch when a 225-pound framer walked across the floor — well within the BOCA allowance of 1/2 inch. Corbo has used the IBS system on every house he has built since. On his latest project, he's using 2x10s every 19.2 inches instead of every 16, which reduces the number of joists needed from 81 to 64.

With so many engineered flooring systems available, the IBS 2000 won't be used by everyone. But for builders who prefer using dimensional lumber or who want ultrastiff I-beam systems, the product seems to warrant consideration. For more information, contact Western Interlok Systems (Luxor's subsidiary), 24611 Fraser Hwy., Langley, B.C. V2Z 2L2, Canada; 604/857-9601, fax: 604-857-9602; *www.luxorcorp.com*.

Offcuts ...

Worm composting is going big-time, according to a recent report in *Small Flows*, a journal covering small septic and water system issues, which says worms are now helping small cities process municipal sludge. Called vericomposting, the process uses thousands of earthworms in narrow composting piles or windrows to process partially treated sludge. The worms eat the sludge and excrete "castings" of fine particles that are safe for use as fertilizer. Gardeners have used worms to speed composting for years; now several municipal pilot projects have shown that vericomposting holds promise for larger-scale use.

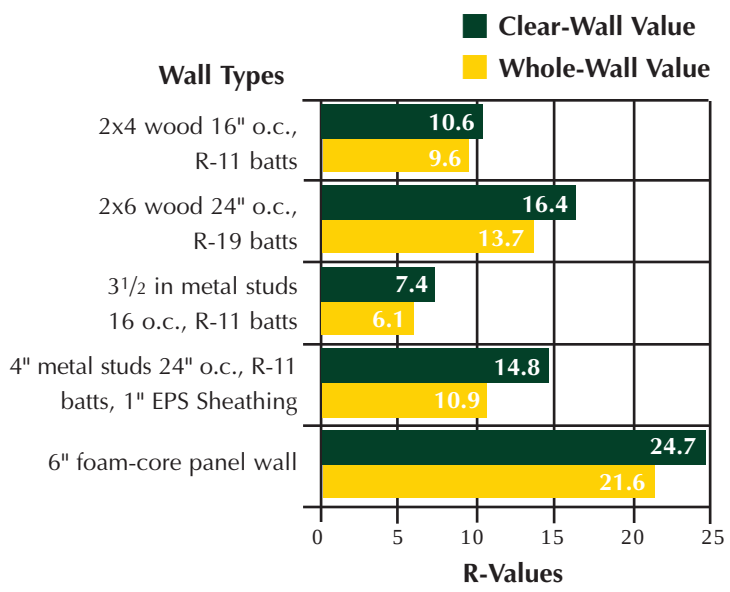
Beginning October 1, 1997, employers must submit a report on new hires within 20 days to the state in which the employees work, according to *The General Ledger*, a newsletter for bookkeepers. The report must include each new hire's name, address, and SSN and your company's name, address, and federal EIN. Some states require other information as well. Each state designates its own reporting agency; contact your state's labor and/or tax departments for information.

Real R-values for Whole Walls

Scientists with the Department of Energy have developed a new method for measuring the effective R-values of wall assemblies. The technique, the brainchild of Jeffrey Christian and Jan Kosny of Tennessee's Oak Ridge National Laboratory (ORNL), takes into account not just the performance of insulation, but also the heat losses that happen at corners, areas around windows, and joints where walls meet roofs, floors, or foundations.

Depending on how a wall is built, these thermal bypasses can cut the assembly's total heat-flow resistance to far below the R-value of the insulation it contains. Most builders realize that the framing in a 2x6 wood-frame wall, for instance, reduces its actual insulating value below the R-19 label on the fiberglass batts used to insulate it. But "framing factor" rules of thumb often underestimate this R-value drop. Christian and Kosny's new technique allows builders to estimate a typical wall's real performance much more closely, and to make meaningful comparisons to alternative wall systems like steel framing, foam-core structural panels, or foam-formed poured-in-place concrete walls.

Real R-value Comparison



Testing and simulations. The Oak Ridge method uses a computer model to predict wall performance based on the known properties of the materials that make up the wall. For each type of assembly, Christian and Kosny test the computer's output against the measured performance of a "clear wall" section that has no windows or connections to other components. Once the computer's accuracy has been verified, the pair apply the model to estimate the wall's performance as part of an actual house, with connections to corners, floors, roofs, and window and door openings.

Simple size-ups. Christian and Kosny have already published figures on two dozen traditional and innovative wall systems. A few sample comparisons reveal some interesting implications (see chart).

For one thing, you get less than you pay for when you jump from 2x4 to 2x6 walls. A 2x4 wall has a true clear-wall R-value of 10.6, close to its advertised R-11. Its whole-wall value isn't much lower at 9.6. But an "R-19" 2x6 wall, even with 2-foot o.c. stud spacing, gives you only R-16.4 in clear-wall terms, and earns just R-13.7 for a whole-wall rating. So 2 extra inches of thickness bumps your wall's practical insulating value up by only R-4.1.

Typical steel-framed wall sections fare even worse. A basic metal-framed stud wall with R-11 batt insulation bottoms out at a measly R-6.1, while even the sophisticated foam-sheathed steel-wall system used on NAHB's Energy Conservation House, whose clear-wall section rates R-14.8, earns a whole-wall score of only R-10.9 — barely a point above a simple 2x4 stick-built wall.

But fans of steel framing shouldn't lose heart. Christian has high hopes for ORNL's newly invented Stud Snuggler, an insulating-foam wrap for steel studs that economizes on the costly foam by installing it right around the studs, where it does the most good. Christian has been stingy with details, but indications are that the new device may put steel walls into the same energy-efficiency ballpark as wood-frame assemblies.

Structural panels loom large. The big winner so far in the Oak Ridge ratings is the 6-inch-thick structural insulated panel assembly. Starting with a clear-wall value of 24.7, it retains 88% of that performance in the whole-wall evaluation at R-21.6. This is 58% better than a 2x6 stick-framed wall, and head and shoulders above any other system Oak Ridge has so far tested. While foam-core construction still comes at a premium, energy-conscious buyers might find this real insulating value to be worth the price.

Wall system comparisons online. For details on the full range of wall systems tested, you can consult long articles Christian and Kosny have published in *Home Energy* magazine ("Wall R-values That Tell It Like It Is," April 1997) and the ASHRAE *Journal* ("Thermal Performance and Wall Ratings," March 1996).

Both articles are available on the World Wide Web. Try these URLs: *www.cad.ornl.gov/kch/articles.html* and *www.homeenergy.org/homeenergy/297walls.html.*

Florida Limits Local Codes

Bill erases many hurricane provisions

Under heavy lobbying from builders, Florida's legislature passed a law early this summer prohibiting towns or counties from creating building codes that are stricter than the state code. Governor Lawton Chiles, despite getting five calls or letters opposing the bill to every one supporting it, let the bill become law without signing it. The law knocked out several county or town code upgrades that were passed after 1992's Hurricane Andrew destroyed thousands of homes and other buildings.

In reversing those code upgrades, the bill created a sharp split between the state building lobby and towns and consumer advocates who say such upgrades are needed to prevent a repeat of Andrew's devastation. Most post-Andrew analysis blamed the widespread destruction on a combination of inadequate codes, noncomplying or subpar construction, and lax inspection; and most of the studies recommended upgrading codes and enforcement. The several towns and counties that passed such upgrades will now have to drop them. Dade County, for instance, will have to drop code provisions requiring stricter building requirements and the presence of at least one journeyman plumber or electrician for every three unskilled workers at a job site.

The relative clumsiness of the journeyman requirement — along with the absence in the Dade and other county bills of any provision calling for increased enforcement — was cited by the bill's sponsor, Rep. Carlos Lacasa of Miami, in his explanation of why a bill prohibiting such codes was needed. "If you don't have good inspectors and good code enforcement by local government, all the journeymen in the world won't matter," he told the *Miami Herald*. Lacasa and other supporters of his bill, including the Florida Home Builders Association, said increased inspection was a better solution than stronger codes, and that county- or town-specific amendments to the state code raise construction costs and create a confusing variety of codes throughout the state.

The state code itself may soon come under pressure for change, however; a governor's commission reviewing the devastation wrought by Andrew will report to the legislature in December, perhaps prompting proposed upgrades statewide.

Lumber Prices Stabilize

The first half of 1997 brought a long-absent stability to framing lumber prices. That's the good news. The bad news is that prices stabilized at a near-record highs.

An analysis of composite framing lumber prices by the newsletter *Random Lengths* (a weighted average of prices for a variety of framing lumber types and sizes) showed that "first-half 1997 lumber prices have been less volatile than any like period since 1989." That's when legal battles over cutting of declining western old-growth forests, along with market anxiety and bad weather in the South, began volatilizing lumber prices. Between 1990 and 1997, lumber prices often swung as far as 50% or even 100% up or down over periods of only weeks, making it extremely difficult to predict the price of construction.

This year, however, production gains and other factors have flattened these fluctuations. Prices wandered around the low $400s per thousand board feet, according to *Random Lengths*, staying within a relatively narrow $39 range. The $5.24 average weekly change was the smallest for any 6-month period since 1991.

Random Lengths warned, however, that the stability might not last, since several factors contributing to it might end.

For the first time in years, lumber prices stayed steady during the first half of 1997 — unfortunately, at near-record highs.

resented pushed-back start dates, and created cash-flow problems. Gregor now ruthlessly culls "marginal jobs" — those that promise little profit, are outside his expertise or geographical area, or that seem likely to go awry because of some quirk of the job or client.

Clarify customer expectations. Coddling customers may seem impossible during a building boom. Yet it's vital if you're to end the surge with customers who are satisfied rather than steamed. When Alon Toker's business grew fivefold following a 1994 earthquake in his area, he found that if he didn't clarify customer expectations soon after the contract was signed, the client would forget (or revise) what was agreed upon by the time the job started. Toker now sends a foreman to visit the client two or three days after the sale to clarify what was said and annotate the plans and contract accordingly. Making time for this meeting is often difficult, says Toker, but always pays off when he starts the job a few weeks later.

Don't hire your troubles away. When Portland boomed last year, Scott Gregor's payroll went from 9 employees to 25 within a few months. "I learned it's very expensive to hire a new employee," says Gregor, because of the cost of benefits, training, and increased unemployment insurance premiums if you have to lay people off later. In addition, most of the best workers are already employed or working for themselves by the time growth is really robust.

This year, Gregor's staff is down to 15. If it gets busy, he says, "We'll go overtime." Many contractors also try to meet increased demand by subbing out more work, thus avoiding the training and administrative overhead associated with new employees.

Overtime at home. Finally, it's important to take time off to keep your own life healthy and to maintain the perspective needed to see the big picture. Bortolazzo regularly takes his family away on weekends and for longer vacations — he's planning a month-long trip to Italy next year. Even Europe won't spell total freedom, however.

"I'll be taking my cell phone and fax machine," Bortolazzo explained. "So we can keep in touch."

Kathy Price-Robinson *is a freelance writer on building issues, and lives in Arroyo Grande, Calif.*

Offcuts ...

Construction had the single largest drop in injury rates of all large industries in 1995, according to the National Association of Home Builders. Construction's injury rate per 100 workers decreased from 11.8 in 1994 to 10.6 in 1995 — the lowest rate in a decade. Overall worker injury rates are 8.1 incidents per worker. Much of the drop was attributed to increased attention to safety in reaction to OSHA regulations and to high workers compensation rates.

Eastern S-P-F (spruce-pine-fir) mills produced more than one-third of all studs sold in the U.S. in 1996, despite a surge in western lumber production, according to the industry newsletter *Random Lengths*. Eastern S-P-F, most of which is produced in Canada, was once a minor player in the U.S. framing market. But it has made great gains over the last few years as supplies from the West and South faltered due to scarcer timber, environmental regulations, and bad weather.

A shortage of skilled labor is the top concern of remodelers (39%), according to a *NAHB Housing Economics* survey. Other top issues included labor costs (13%), material costs (10%), and low bidding by gypsy contractors (9%). Quality of skilled labor was identified most frequently (by 60%) as the most significant issue to shape the industry over the next five years.

How does your insulation stack up? The average newly built exterior wall is insulated to R-12.9, according to a recent NAHB survey of 2,100 U.S. builders. Average attic insulation is R-30, and average floor insulation is R-16.6 over crawlspaces and R-18.5 over basements. Twenty-two percent of new homes use windows with low-e glass; 30% of builders use an insulating wrap of rigid foam.