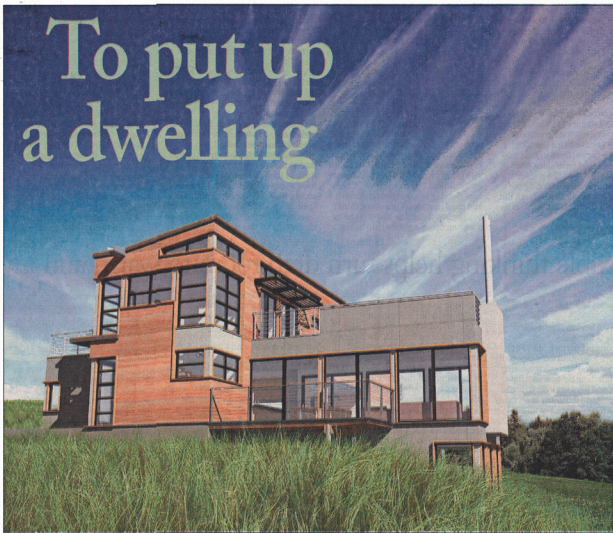


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To put up
a dwelling

Contributed photos

The Dwell house being built in Pittsboro represents the winning design for using modular components to produce a 2,000-square-foot house.

Builders work to make modular homes an easy sell in the South.

By NANCY E. OLSON
Correspondent

Steve Olson pays little heed to stigma, a philosophy in keeping with a man driving around with three toilets in the back of his pickup.

A contractor in Carrboro — Olson and his wife, Lori, own Mount Vernon Homes — he has been researching modular homes for the past couple of years as an affordable alternative in Chapel Hill's notoriously pricey housing market. But modular homes have been a tough sell in the South, where people hear "modular" and think "doublewide."

A contest held last year by a national magazine may erode the stigma, Dwell magazine challenged 16 architectural firms to come up with a design using modular components to produce a 2,000-square-foot house that could be mass-produced for \$200,000. The winning design, selected in April 2003, is being built outside Pittsboro this month. An architectural firm in New York, Resolution: 4 Architecture, produced the design. Carolina Building Solutions, in Salisbury, manufactured the modular components. Olson is the general contractor putting the house together on-site.

"It's going to be a beautiful home once it's done," Olson said. So beautiful that he hopes it will convince people to give modular housing serious consideration.

"There's an education process you have to go through with customers who aren't used to modular housing, because a lot of them think of it as a doublewide mobile home," Olson said. "Actually, it's just a stick-built house built in a factory."

About 12 percent of the building permits issued for single-family houses in the United States are for modular homes, according to Mike Zangardi, general manager of Carolina Building Solutions.



Nathan Wieler wanted something unusual in a home.

That percentage is up in the teens in New England, where a short building season and high labor costs boost the price of site-built houses. In the South, where construction can continue almost year-round and labor is relatively cheap, about 4 percent of homes are modular.

But as North Carolina has become a high-growth state, the construction labor pool has tightened. Tract builders dominate the low-

mid-priced housing market, and builders of high-end, custom homes fill in the "scattered lots," individual home sites outside of subdivisions. Interest in modular housing has increased in the below-\$200,000 price range.

"That's a growing market because it's a market not serviced the way it used to be," Zangardi said.

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Accepting the Dwell project meant pushing the envelope of what his factory produces," Zanussi said. And that appealed to him.

"Two years ago we redesigned all our projects so they are virtually undisturbable as modular open concepts," Zanussi said. "Dwell said, what else can we do with the building system. That was intriguing to us."

Dwell magazine's content was inspired by a contest in *Art and Architecture* magazine in 1961 called the Case Studies House Program, which challenged architects to build modern housing that would change the way people built homes. Dwell's editor in chief, Allison Arieff, who had written a book touting prefabricated housing, asked architects to apply that same concept using prefabricated components.

Around the time Arieff was coming up with the contest, Nathan Wisler and his wife, Ingrid Tunge, were becoming discouraged in their search for an affordable home. Wisler, founder of

the now-defunct media company Zoom Culture, wanted something unusual. He had read Arieff's book and called her to talk prehab. He said Tunge gave Arieff a list of specifications they wanted in a home and agreed to buy and build the winning design on land they owned outside Pittsboro. In April 2000, Wisler and Tunge helped select the design submitted by Resolution: 4 Architecture.

Stephen Tannev, one of the architects in the nine-member firm, sees nothing unusual about a company used to working with the small spaces of New York apartments.

"We have experience designing within the box and maximizing every inch," Tannev said. "We're leveraging low-cost, off-the-shelf materials in interesting ways."

After winning the contest, his firm launched a Web site, www.res4.com, introducing the modular designs that can be built relatively affordably. In the past year, the site has averaged 8,000 to 12,000 hits a day. The firm has fielded calls from young couples and empty-nesters as far away as Texas who want to build the modular homes. So far the firm has 12 such homes in the works.

"Ninety-five percent of domestic spaces built in America don't have the involvement of an architect," Tannev said. "We're interested in re-introducing the architect into domestic space in America."

Conceptually Tannev divided the space into modules of use. The communal modules were the living room, dining room and kitchen; the private modules were the bedrooms and bathroom.

"We have strategies to reconfigure these modules of use to create efficient, free-standing info," he said. "We think this will help people overcome their skepticism of modular housing."

The Dwell contest has boosted interest in modular housing by creating a custom home of prefabricated components. Resolution: 4 Architecture plans to grow the modular business as a new arm of the firm. Carolina Building Solutions is looking into ways it can produce a new line of products to create custom modular homes. Wisler launched Wisler Homes to build and market modern modular homes. He has two projects — one in California, the other in Pittsboro — in the works so far. Meanwhile, Steve Olson completes the finishing work on the Dwell house

that, while promoting the concept of an affordable, custom modular home, admittedly, could not be built for \$200,000. A typical modular home comes out of the factory about 80 percent complete, Olson said, but with the Dwell house, about 40 percent of the work is being completed in the field.

Because trucking the house to the site constitutes a wide load, a state trooper must escort each truck. Most modular homes are shipped on two trucks. The Dwell house required seven, and Olson could only get two troopers on any given day to accompany the shipment. That meant he had to arrange for the pieces to be off-loaded and stored where they wouldn't get in the way of incoming components. The road to the house site perpetuated up a hill with two hairpin switchbacks. Olson had to hire a bulldozer to pull the truck that was pulling the house, and a backhoe to push from behind and stabilize the units.

Before the house was trucked to the site, Olson built a foundation for it. He hired a crane to lift the house off the truck and a setting crew to attach the components to the foundation. At a cost of about \$2,000 a day, Plumbers, electricians and HVAC specialists must

rough in their products before a permit can be attached. On the interior, doors must be hung, walls painted, and trim and flooring installed. Outside, the siding must be attached and the grounds graded and landscaped. Olson is aiming for a June 30 move-in date.

"This is one of the more difficult projects I've ever worked on," he said. "With the number of vendors and assorted materials, I'm not in control of that."

Manufacturers have been shipping donated materials to his office in Cary, and he leads them — as he did three weeks recently — into his pickup and transports them to the home site.

Throughout the process, he and Wisler have been paying attention to how they might scale down the level of detail to be able to bring a modern modular home to market for between \$100,000 and \$200,000.

"We're trying to keep the affordability factor there," Olson said. "If it works, I can be a big part of it. If it doesn't, I've still got my day job."

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