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production values

what it takes to bring alternative housing models to market.

by nigel f. maynard

Grant Kirkpatrick, AIA, found himself in a place that's familiar to architects: staring at a great site, wondering what type of house would do it justice. "We wanted it to be green and light and respectful of the land," says the founding principal of Los Angeles-based KAA Design Group. Because the property was located some 230 miles from his primary residence, he also wanted an efficient way to deliver a non-site-built house.

Although the mobile home doesn't have the best architectural reputation, KAA used the 85-year-old industry for inspiration, designing an attractive unit and finding a manufacturer to build it. The discovery also spawned a new venture: HOM Escape in Style, a line of KAA-designed modern manufactured houses and lifestyle products.

Indeed, architects know better than most that, when it comes to delivering an attractive home in line with a client's budget, the need for problem solving is acute. Such situations come with the territory and make the practice of architecture all the more exciting. Rather than simply finding solutions,



Courtesy KAA Design Group

KAA Design Group took two years to develop the HOM prototype, but the result is a sustainable, modern manufactured housing line priced at about \$200 per square foot. Three models are available.

some firms go further by turning their ideas into businesses that revolve around alternative housing models.

factory direct

How, exactly, does a design professional turn a one-time architectural solution into a full-fledged business? Those who have done it say it's crucial to investigate fully the possibilities of what you're proposing.

When Michelle Kaufmann, AIA, LEED AP, moved to Northern California, she encountered a dearth of affordable,

sustainable, well-designed homes. Believing off-site construction was the solution, she embarked on an experiment to build two houses—a modular unit for a client and a custom, site-built version for she and her husband, Kevin. Both houses measured 1,566 square feet and were created from the same house plans with the same materials, but the site-built house took 21 months to design, permit, and build and cost 20 percent more than the prefab home, which was completed in far less time.

Geoffrey Warner, AIA, principal of St. Paul, Minn.-based Alchemy Architects, took an even more hands-on approach for a small retreat he was doing. "The site was a couple of hours away, so it led to talk about prefabrication as a solution," he explains. He and his staff felt they'd have more control over the prefab process and learn from it if they built the structure themselves, so they did. But they also learned that if they wanted to pursue a prefab line, they would need to forge rela-

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tionships with factories that were capable of building their designs. "Most of the modular builders we found were doing modular homes in a suburban vernacular," Warner says. The trick, he adds, is forming a partnership with a factory that can produce your work.

Kaufmann, principal of Oakland, Calif.-based Michelle Kaufmann Designs, echoes the sentiment. "The biggest issue in launching our own line of modular designs was finding good factory partners to work with," she says. "That took quite a bit of time, especially on the West Coast."

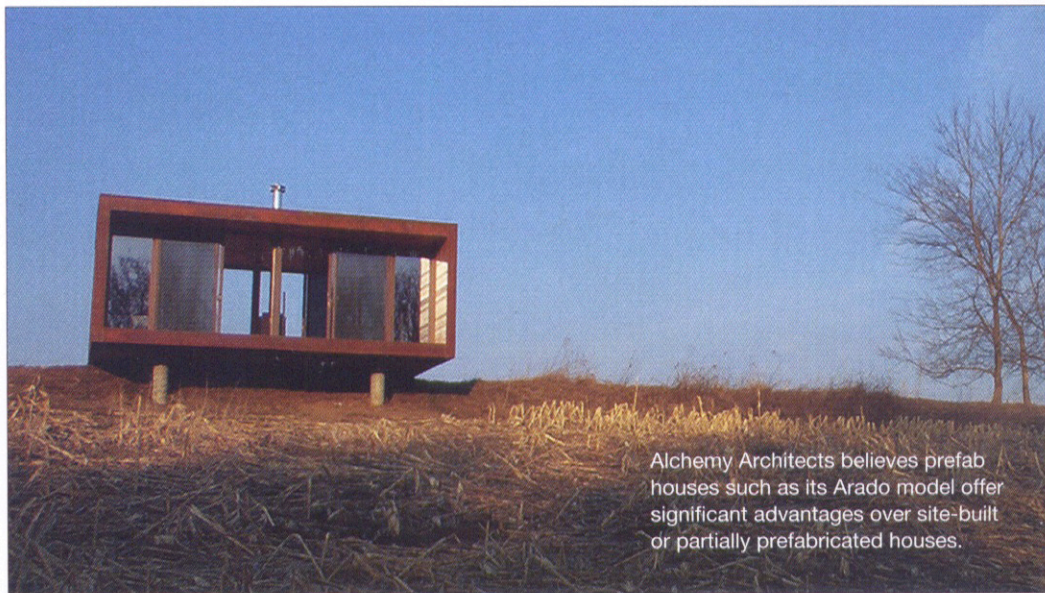
Even when the factory is selected, a lot of work remains. For us "it was trial and error," Kirkpatrick recalls. It took less than three months for the first HOM to be delivered to the site once the order was placed, but working out the



Cusato Cottages/Cottage Living magazine

Designed as an alternative to FEMA trailers, the Katrina Cottage is currently used as affordable housing and vacation retreats.

issues involved in the design and production process took much longer. "It was two years in the making for the first home, as it was the prototype," he says. "There was



Alchemy Architects believes prefab houses such as its Arado model offer significant advantages over site-built or partially prefabricated houses.

Courtesy Alchemy Architects

quite a bit of back and forth, and engineering, tooling, and sourcing."

Architects agree that working well with the factory is vital to the strength and quality of the homes. "Some manufacturers are bottom-feeders," Kirkpatrick says, so they care little for high design, "and most are resistant to different ideas." While developing HOM, he says KAA encountered manufacturers who balked at certain material selections, modern design, and architectural detailing.

According to Warner, Alchemy's work-around was to design for easy construction. "We tried to bend over backwards to design a house that can be built on a modular framework," he says. The firm designs its ceilings at 8 feet, for example, and uses 8-foot doors to avoid trim. It also bypasses complicated flourishes that could hold up the assembly line.

But there are other solutions. For Kaufmann and her team, "the best way for us to really maximize the benefits of our designs was

to have our own factory," she says. So, in 2006, they bought one. They've since found "a few good factory partners who also build our designs," she adds, but the bulk of the building is handled by Kaufmann-owned mkConstructs. (For more on Kaufmann and her housing solutions, see pages 32-37 in this issue.)

And then there's Marianne Cusato. The Coral Gables, Fla.-based designer doesn't have a factory building her designs, nor does she have a modular line of houses, yet she still manages to produce affordable housing. Cusato's "Katrina Cottage" was designed as an emergency housing solution, but it has become the answer to many things. "People were looking at it as more of a vacation home," Cusato says of the builders who toured the prototype at the 2006 International Builders' Show, "and not so much as emergency housing."

For \$700, interested individuals or builders may purchase a Katrina Cottage plan from a number of Web

sites (including www.cusato cottages.com). Or they can buy the plans from Lowe's. Each store "has the takeoffs for everything that goes into the house and can walk you through [the process of making] changes," she explains. "The house still has to be built on site, but you get the materials and products you need, when you need them." (For more on Cusato, see pages 70-71 in the June 2006 issue.)

hat trick

In the end, Kaufmann says, design pros interested in bringing their ideas to market must focus on due diligence. "It's critical to not just think like a typical architect, but to also think like a production worker, a builder, and a product designer," she says. "We have found that when we wear multiple hats, we come up with our best work." ra

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