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New builder takes over Zero Energy Project

BY JON SAVELLE

While plans are on track to build a zero-net-energy demonstration housing project in the Issaquah Highlands, the company who will construct it has changed. Noland Homes has withdrawn, citing unfavorable market conditions. In their stead is Howland Homes, a Shoreline builder of townhouse condominiums.

"It was unfortunate," project manager Brad Liljequist said regarding Noland Homes. "They were really, really, really invested in the project and were really excited about it. But they reached a point where it was not feasible."

With Noland pulling out, Liljequist asked brothers Matt and Doug Howland whether they would like to join the project.

"As soon as we approached them about picking the project up, they jumped right up," Liljequist said.

He added that Howland has experience in energy-efficient "green" building, at least as it is practiced today.

"This project is so cutting edge, there aren't any builders that have done this level of green," Liljequist said.

The zero-net-energy project, which has been renamed ZHome, would create 10 townhouses on a block just east of the Highlands transit center. Its design objectives are to consume no more energy than it produces over the course of a year; have neutral carbon dioxide emissions over a year; make extensive use of recycled, reclaimed, reused or locally produced materials that have low toxicity; and aggressively capture and reuse rain and storm water.

Design of the ZHome project is well along, with groundbreaking expected in September. Drawings of the buildings are not yet ready for public viewing, but Doug Howland, president of Howland Homes, said their just-completed townhouse development on Seattle's Queen Anne Hill gives a sense of what it will look like.

"Now is the transition from thinking about it to executing," he said. "So all the 'green' features work well together. That's where these projects win or lose."

The trick is to integrate cutting-edge design, materials and systems in comfortable, attractive buildings. Howland said the project team is investing time and money to achieve simplicity and not end up with a "clunky, boutique green house."

In the Seattle townhouse market, Howland so far has maintained a three-star rating in its sustainable construction. But the firm recently revised its

energy efficiency to a four-star level.

The ZHome, by contrast, will achieve five-star performance or better. To make that happen, everything must be designed to work together with everything else.

What's more, the project must be built on a production basis — that is, it must be reproducible in large numbers in the marketplace. And it must pay equal attention to the occupants' health, using nontoxic materials and adhesives.

By the same token, the designers must consider how the structure is put together and how it could be recycled at the end of its useful life.

"It's so much more than just energy," Howland said. "It's all that stuff we need to pay attention to."

Ideally, ZHome will spur other people to pursue sustainable design, materials and techniques.

"What is success? It is every single person that walks through those units will take away one thing they can act upon," Howland said. "It might have to do with lighting, or heating, or water use, or energy management or one of many other ideas."

Equally important is the goal of widespread production. Already, Howland Homes is applying things it has learned in two months with the ZHome project; some materials and techniques are finding their way into more conventional townhouse projects.

In the Highlands, the ZHome will be designed to reflect the styles of architecture used by developer Port Blakely Communities. But underneath the style is a complex experiment in design and systems engineering — one that Howland, an engineer himself, is determined to evaluate with exactitude.

"I want to make sure the ZHomes are sustainable in a measurable way," he said. "How much carbon is generated, how much electricity, what are the best types of materials. I want to be accountable."

As the project takes shape, it will be recorded in several ways. Liljequist is putting together a Web site, while Howland expects that trade publications and even national media will be interested in writing about or filming all aspects of the job.

"This is all about education," he said.

The ZHomes will open in fall 2009. One of the 10 units, to be a demonstration home for the first several years, Howland plans to donate to a nonprofit housing provider.

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