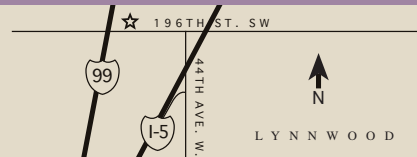


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GOING GREEN

Zero Energy Idea House aims to leave no footprint on the planet

By Jeff Meisner

A Bellevue couple plans to build a state-of-the-art, energy-efficient home called the Zero Energy Idea House on a windy bluff overlooking Lake Sammamish.

The 1,700 square-foot, two-bedroom house will cost about \$600,000 to build and will have an assortment of energy-efficient and so-called “green” features, according to Donna Shirey, president and CEO of Shirey Contracting Inc. Shirey and her husband, Riley Shirey, have owned the property where the house will be built since 1975 and will move in once the house is completed. The Shireys hope to start construction in July.

The home will have rooftop solar panels to provide power and to heat water. The house’s roof will be gabled with low-lying plants and shrubs intended to replace the habitat that will be taken away when the house is built.

“It’s an eco-roof,” said David Clinkston of Seattle-based Clinkston Brunner Architects. “The plants will extract carbon dioxide from the air and contain it in the soil.”

The eco-roof has a second benefit — it contributes to more sustainable urban drainage, Clinkston said. “If the rain were to hit an all-metal roof, that water would hit the storm drainage system really quickly,” he said. “(The eco-roof) slows down this effect. (The roof) also increases the insulation value of the roof.”

The home won’t be made from traditional materials and lumber. Instead, it will be constructed from structural insulated panels, or SIPs in industry parlance, molded to a steel frame. SIPs are panels made with an exterior skin bonded to a layer of rigid insulation, which is then bonded to an interior skin.

“SIPs keep a lot of energy from leaking out of the house,” Clinkston said. “Essentially, they act as an incredibly efficient thermal envelope. They make it easier to heat the house during the winter.”

The Zero Energy Idea House’s big energy efficiency payoff comes in the form of the photovoltaic panels on the roof which retain energy from the sun. That energy is then stored at an on-site battery system to generate electricity. And here’s the kicker — whatever energy the Shireys don’t use is put back on the public power grid.

Additional power will be generated with the construction of a windmill on the property, and water will be stored in an on-site cistern, Clinkston said.

The project has called upon the expertise of numerous individuals — geotechnical engineers, civil engineers, structural engineers, a wildlife biologist, two landscape architecture firms and even sustainability consultants from the Washington State University Extension Energy Program.

“This project required far more disciplines than a normal residential project,” Clinkston said.

With the house situated on such a precarious slope, it will be cantilevered for structural stability, said Donna Shirey, who has been building energy-efficient homes for more than 20 years. Clinkston helped design a “green” home for the Shireys in the coastal Washington town of Seabrook a few years ago.

The Shireys first started thinking about building the Zero Energy Idea House about three years ago, when they sold a large house they owned on the shores of Lake Sammamish. “It was a big piece of

property and we only used a small part of the house,” she said.

With most of the design work and planning done, the Shireys and their team of experts await final approval from Bellevue officials to begin construction. Donna Shirey predicts it will take about eight months to complete the project and said she is anxious to move in.

“We’re really ready to be out of our apartment in downtown Bellevue,” she said.



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