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## Green building methods save energy, environment

By KURT BEGALKA - [kbegalka@nwherald.com](mailto:kbegalka@nwherald.com)

WOODSTOCK – Tired of the humdrum and reeling from the death of a family friend and baby sitter, Mike Brown decided to pursue something new.

“I wanted to do something different; do something better than remodel bathrooms for the rest of my life,” said Brown, 42, a construction veteran of 20 years.

He joined forces with his electrician and friend, Tom Frawley, a little more than a year ago to create Jordan Green Homes – an environmentally aware builder named in memory of Jordan Horn.

Horn, a Woodstock resident and graduate of Marian Central Catholic High School, died in a 2007 car accident en route to Beloit College. She was 20.

“She watched our kids for a couple summers,” Brown said. “When I would get home she would be talking about some environmental policy. She was always passionate about making changes, trying to change the world.”

Energy conservation is at the heart of the Woodstock company’s philosophy. The house that Brown and Frawley are building near Route 76 and Hunter Road in Poplar Grove is a modest 1,600-square-foot ranch. But it will feature passive solar heating from a bank of windows along its southern exposure and an extended roof to the south – pitched to accommodate solar panels.

Other energy efficiencies include LED lighting; an air intake system that works like a heat exchanger, cooling and warming the home by drawing air through 55-degree soil; and a radiant heat system that conveys water – heated on demand by propane – through pipes in the floor.

“It is 30 percent more efficient than forced air,” Brown said. “It’s kind of like a hybrid house that gets better gas mileage.”

But the centerpiece of the company’s approach is the Reddi-Wall system – polystyrene blocks reinforced with rebar and metal studs that lock the blocks together. After the foam blocks are filled with concrete, they boast a minimum R-50 insulating value.

Brown said the approach could cut heating costs by 75 percent, because it was about three times more efficient than traditional wood framing. Blocks are 5 feet long, 12 inches high and 10 inches thick. They are cut using a hand saw and filled with a special concrete cocktail.

“The key is you have to get the consistency right,” Brown said. “Too wet, and it flows out the bottom; too dry, and it doesn’t penetrate the cells.”

The construction method creates homes better able to withstand tornadoes and earthquakes, Brown said. The insulating foam also reduces noise and moisture build-up. Brown and Frawley learned of the system during a visit to the Midwest Renewable Energy Association in Custer, Wis., and took to it immediately.

Frawley, 47, of Woodstock, is a former tool and die maker who immigrated from Ireland 19 years ago. He brought with him a European approach to home construction – smaller and sturdier.

“[Building] green is part of the ultimate answer,” he said. “If you’re building houses that use less energy, that solves a lot.”

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