washingtonpost.com

Discarded Materials Give House New Life

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Special to The Washington Post
Saturday, May 12, 2007; F01

Bill Hutchins's house in Takoma Park is proof of the adage that one man's trash is another man's treasure.

He transformed his tiny bungalow into a showcase for environmentally friendly construction using dumpster-salvaged kitchen counters, cast-off doors from renovated Pentagon offices, surplus plumbing fixtures bought at auction, and windows and lumber from remodeling and demolition projects.

The 600-square-foot Montgomery County house that he bought in 2004 for $350,000 is now a sleek, 2,700-square-foot, energy-efficient residence that has been assessed at $1.5 million. Hutchins, an architect specializing in green housing, estimated that the project cost him $500,000.

"I didn't want something funky. It was a demonstration for sustainable building that was a soulful, modern, urban sensibility," Hutchins said.

Several factors contributed to what would be considered a penny-pinching budget for such a large undertaking. By serving as his own contractor, Hutchins estimates, he shaved 20 percent off the total cost. He said the scrap material used in much of the work saved $12,000 to $13,000.

Labor costs were in the neighborhood of $100,000, a substantial saving that Hutchins said came about because builder colleagues were excited about what he was doing and wanted to be part of the process.

"Even if [the house] sells for only a million, I'll make a profit," Hutchins said recently as he stood in the hallway connecting the kitchen and sitting room, the ceiling of which consists of decking from an organ factory that went belly-up in the face of competition from electric keyboards.

Not that he has any plans to sell. Hutchins, 50, had long wanted to design his own ecologically correct abode. He and his family -- his wife, Beth Knox; three teenagers; and four cats -- moved in last fall.

The makeover included a two-level addition constructed from yet another waste product, straw bale. Straw bale consists of the residual stalks left in fields after the harvest of wheat, barley, oats and other grains. Most of the straw is covered by plaster, but Hutchins placed what he calls a "truth window" in one of the walls that allows a visitor to admire the stacked stalks.

"Straw bale is highly renewable, local and amazing insulation, and it's beautiful," Hutchins said. "I wouldn't use it if it wasn't."

The outdoor hemlock siding came from a tree salvage company in Pittstown, N.J. "It's selectively horse-logged and milled by the Amish," Hutchins said.

The multilevel roofs either have solar panels, which help with heat and hot water, or sprout locally grown plants that live off rain and snow and take carbon dioxide out of the atmosphere. In the yard, a bog and a rain garden control and employ runoff.

"We have a lot of storm water that comes down, but no storm water leaves our site, and we collect other people's storm water. It's all reusable," Hutchins said.

An earthen basement hides a hand-cranked pump that supplies two Volkswagens with biodiesel fuel made of processed soybean oil that Hutchins buys from a company in Baltimore.

"I never go to a gas station anymore," he said. He estimated that since October, when he moved in, he has spent $400 fueling the cars. Biodiesel costs a little more than the petroleum-based fuel -- it's $3.30 per gallon, according to Hutchins -- but he said he uses it because soybeans are a renewable product.

The house is in Takoma Park's historic district. Hutchins said he had the blessing of the Montgomery County Historic Preservation Commission because he worked with the architectural language of the existing cottage and because of the many ecologically sensitive practices he was employing.

Most of the four-bedroom, 3 1/2-bath residence is heated by a five-setting corn stove. (The exceptions are a lower-level in-law suite and a combination living and community room in the front of the house, where Hutchins holds workshops for those who want to learn about sustainable dwellings.) On a recent chilly Saturday, the house was toasty, particularly in the farmhouse kitchen, where the stove is.

"My heating bill for the whole winter was $500," he said.

Even so, Hutchins is quick to add that his choice of heat came with some soul-searching and that it is not the answer for everyone.

"You're using food. That's an issue. This is [livestock] feed quality that you're taking," Hutchins said, gesturing toward the stove, where the family cats routinely lounge. "My argument is I'm not proposing corn stoves as the global answer to heat needs. We need lots of things, but if we have intuition, we work and understand appropriate responses."

For Hutchins, "appropriate responses" and global consciousness meant that most building materials, in addition to being reclaimed and recycled , had to be acquired from sites no farther than 30 miles from his home, thus reducing the environmental damage from hauling stuff long distances.

There were a few exceptions. In addition to the hemlock siding, for which the travel distance was offset by the logging methods, there is bamboo flooring in two of the bedrooms.

"My concern was that it was shipped from halfway around the world, where labor practices might be questionable, but we got a third-party assurance that there was good labor practice," Hutchins said.

Hutchins further attempted to offset the environmental cost of using the bamboo by reusing the house's original pine floors in the other two bedrooms and in the second-story hall. In his downstairs workshop, the pine paneling that was removed from the back of the house is now part of an interior wall.

He has yet to experience a sultry Washington summer in the house, but during last autumn's unseasonably warm days, the house stayed cool and comfortable even though the air-conditioning thermostat was set at 85 degrees. "We did that and used high-energy ceiling fans to get the humidity out. It's amazing how good it feels," Hutchins said.

Hutchins and his wife also took advantage of a sleeping porch off the master bedroom that is shielded by a roll-down reed screen and the next-door neighbor's large sugar maple. The in-the-woods atmosphere carries into the master bedroom, where the ceiling is covered with a fabric made from hemp. It is one of the few touches in the house that is strictly cosmetic.

"I just wanted something different and tentlike," Hutchins said.

He said that some of the construction decisions were made based on the possibilities presented by the various and ever-changing materials at hand.

"This house got designed and created daily," he said.

Hutchins said the cottonwood paneling in the kitchen and mudroom was acquired through word of mouth. After a contractor gave him permission, Hutchins scrounged odd-size scraps of granite, IceStone (made from recycled glass and concrete) and ceramic tile samples from a dumpster and wound up with a kaleidoscope of kitchen countertops. At an auction of surplus plumbing parts, he snagged a $3,000 Kohler bathtub and whirlpool for $500.

Another source for sound, affordable and recycled building materials was Community Forklift in Edmonston, in Prince George's County. Owned and operated by the nonprofit Sustainable Community Initiatives, Community Forklift sells surplus, reclaimed and green building materials. The materials are purchased from salvage companies, detoured from landfills or accepted as tax-deductible donations and sold to the public at considerable savings.

"We sell any- and everything that comes out of buildings: doors, windows, light fixtures, plumbing -- and we sell at 30 percent to 70 percent off the big-box-store prices," said Jim Schulman, president of Community Forklift.

Doors that formerly graced Pentagon offices and now cover the coat closet in Hutchins's mudroom came from Community Forklift, as did the wood used for his custom-made windows. In a previous existence, the Southern yellow pine boards had served as residential structural framing.

"They were rafters in little homes in Northern Virginia. The homes were being razed. [Hutchins] had the pine board milled, and the windows are quite lovely," Schulman said.

He said Hutchins in turn donated materials from his house that he no longer had use for.

"We got some very nice door hardware. It just wasn't his style. We sold all of it," Schulman said.

For all of his desire to be environmentally correct, Hutchins would never consider any of his innovations if they involved sacrificing look and comfort, he said.

"We want to do the right thing, but we're human. We make choices," he said.

Which is why halogen bulbs are in his kitchen ceiling rather than longer-lasting compact fluorescent lights or light-emitting diodes.

Halogen "puts out beautiful light," he said. "Until the others come out with that quality, I'll have them in my house."

The bathrooms represent a compromise, as well. Hutchins had wanted to construct a cupola, which would have allowed for maximum use of natural daylight, but could not because of historic-commission constraints.

Instead, he installed sun tubes, which are designed to refract and diffuse the light into the room below.

"I also refused to do a low-flow shower head," Hutchins said. "But I take a Navy shower. I don't sit there for 20 minutes."

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