

Green home grows on you



DEAN J. KOEPFLER/THE NEWS TRIBUNE

Gillian Chappell and her dog Oliver stand in front of her ultra-green Tacoma home Monday. The home was built using green techniques and consumes a minuscule amount of energy. Her driveway is made of permeable pavers so water can seep into the ground.

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Gillian Chappell loves the days when her utility bill shows up in the mailbox at her Old Town Tacoma home – to see how much money she made. The solar panels on the roof generate so much electricity that Gillian and John Chappell sell it back to Tacoma Power for a profit. Roughly \$700 so far and counting. “It’s so much fun to open the bills,” Gillian said. The Chappell house has rewritten the rulebook on what it means to build a “green” house, says its builder Duke York of York Enterprises. He should know. York, former president of the Master Builders of Pierce County, became the first certified green builder in the county. Even so, York admits he didn’t really understand how environmentally sensitive and sustainable a house could get until the Chappells interviewed him, among several other candidates, during their rigorous search to find a builder. “John says to me, ‘Now, you’ve built Rastra houses before, haven’t you?’ And I looked at him with my head tilted to one side like a puppy

looks at you when it doesn’t understand a word you’re saying,” York recalled.

Rastra, travel trunk-sized blocks of recycled Styrofoam beads and light concrete, have hollow cavities and form the insulated walls of the Chappell home. They stack like Legos and the cavities fill with steel rebar and concrete.

Gillian says those Rastra walls form one of the main reasons they have turned on their gas furnace just twice – for a total of 12 hours – since they moved in 17 months ago. As a television infomercial pitchman might say, “But wait! There’s more!”

In fact, there’s so much more packed into and around the Chappell house that the Master Builders’ Tacoma-Pierce County Built Green® Program scrapped its three-star energy rating system for new homes this year in favor of a five-star rating system.

“The Chappell’s house was so far off the chart, we needed a new chart,” York said.

Gillian demanded green, often beyond what York's subcontractors had experienced before. She wouldn't even allow them to smoke on the job site.

"I think I made some of the subcontractors cry," she said this week while we talked in the kitchen. "Every step, including the selection of the lot, meant an opportunity to demonstrate how we can think, build, feel and live differently and better," she said.

Consider:

- The ultra-narrow lot fronts on an alley. The steep slope formed an unusable backyard of a neighbor whose home faces Annie Wright School. The Chappells wanted to reclaim it and won a City of Tacoma variance to build closer to the property lines.
- York Enterprises excavated the site for construction, stored the dirt on a lot near Wilson High School then moved the dirt back for the yard work. Most construction projects throw away the excavated soil and buy fresh fill at the end of the project.
- Rainwater on the northwest side of the house drains into a barrel system that the Chappells use to water a native plant garden.
- Rainwater on the southeast side drains into a sculpted, plant-and-tree-packed "rain garden" that features multiple layers of various soils that feed the runoff into the groundwater.
- To avoid stormwater runoff, the driveway features concrete paving blocks with holes so the water can seep into the ground.
- Gray water – from the sinks, shower and washing machine – gets routed through a filtration system so it can fill the toilets.

- Blown-in, soy-based insulation fills upper walls.
- The unfinished floors came from sustainable, fast-growing eucalyptus wood.
- Wheat board forms cabinet interiors.
- The dining room table came from a center slice of an elm tree salvaged from the University of Washington's Seattle campus.
- The interior walls resemble a troweled-on stucco finish but are made from American Clay colored with pigment rather than paint.
- All paint, caulking and other materials could not contain any VOCs (volatile organic compounds) or chemicals used in traditional building products.
- The window coverings come from organic fibers.
- The master bathroom counter comes from a dried slurry of concrete and paper.

I can give you the technical specs, but, as a journalist, my frustration comes from an inability to adequately describe the feel of being inside the house.

It feels unlike any house I have visited. It feels peaceful, serene. The Rastra blocks outside noise. It smells clean. The lack of VOCs combined with the air exchanger tucked into an upstairs closet makes it seem as if you're breathing fresh, mountain air. I didn't want to leave.

And then the bigger questions hit you: Why don't we all live like this? Why do most of us, homebuilders and consumers, behave like lemmings – building the same-old, same-old and buying them?

Why can't we live like the Chappells?

“I don’t know if I’ll see it in my lifetime. I’m 62,” York said. “But we’re going to get there in the next 25 years or so. We’re making huge headway now because of the focus on the Earth and climate change and the downturn in the economy. People are very much more aware of their living situation and how their actions affect the planet.”

Still, York said, as he evangelizes for green building in remodeling and new construction, the response he gets from most consumers? “That’s expensive. Maybe next year.”

Gillian says the budget exceeded \$600,000 for the 2,300-square-foot house.

John, a pediatric surgeon at Mary Bridge Children’s Hospital, can afford it. But because the products – and the typical contractors’ skills – haven’t gone mainstream, the price exceeds

what many consumers would consider affordable.

“We’re just convinced that it can be done so everybody can afford it,” she said.

And the Chappells want to prove it – with their next extreme green house. They already have a draft of the plans as they search for a lot.

“We really, really want to prove on a really limited budget, on anybody’s budget, you can have a sustainable house that’s pleasant to live in.”

With utility bills that pay you to live there.

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