



Water wisdom: The cistern is sexy again

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Some of the best new ideas are old ones. Take the cistern. Basically, it's a man-made receptacle for harvesting rainwater. It's an emerging "green" building trend, but hardly new technology; the ancient Babylonians used cisterns to water their Hanging Gardens.

In the 19th and early 20th centuries, residential cisterns were fairly common in America's cities and towns. With the spread of modern plumbing and water systems, uptown cisterns largely became a thing of the past. Who needs them? Water's cheap. Water's everywhere.

But that assumption, according to John Lambie, is what's wrong.

"Water, fresh water, isn't everywhere," he says. "Water is a finite resource. We pay a price for every drop of water we waste and every drop of water."

Lambie is the founder of the Florida House, a sustainable technology demonstration home in Sarasota that he created in 1994. His latest brainchild is DwellGreen, a nationwide network of specialists and service providers who retrofit homes to the highest ecological, efficiency and performance standards.

"Cisterns, by definition, conserve water," he says. "It's common-sense technology."

As Lambie sees it, there's no single solution to water wastage. But cisterns are a big part of the solution.

"My model is individual action -- transformation from the ground up," he says. "If a homeowner here and a homeowner there gets on board with cisterns and other sustainable practices, then things will start to change. Each

home with a cistern contributes to watershed health. Each homeowner who has one is part of the solution.”

We spoke with two homeowners who fit the bill.

Jack Whelan is a retired Sarasota-based architect and planner; his wife, Sidney Whelan, is a retired Montessori school teacher and principal. Their south Sarasota house was built by a mysterious, unknown architect or unaccredited designer after World War II. It’s a low-slung, poured concrete structure of rounded corners and generous windows. The house seems both futuristic and timeless -- a structure on the cover of a science-fiction novel or a centuries-old dwelling from the American Southwest. Any way you look at it, the house the nameless architect built was ahead of its time. A built-in cistern system is one timeless feature.

Jack takes me up a spiral stairway to the roof to show me where the process starts. The roof is flat, but not all the same level. It’s portioned like a school lunch tray with rounded edges on all sides -- a subtly terraced design. The effect is to channel rainwater to downspouts at the corners of the house, which, in turn, lead to the cistern below. Screens trap leaves and other debris on the way down. The house is around 2,000 square feet. The cistern extends below all of it to a depth of five feet and a capacity of 75,000 gallons.

The Whelans use that water for irrigation: three garden beds full of flowers and herbs to the west of their house with sprinklers in the middle. A valve can switch the system to city water in case of drought, though that’s rarely necessary.

“I feel guilty when people see me watering on days you’re not supposed to,” says Sidney. “I think I need a sign: cistern water only.”

Why store 75,000 gallons to water a small garden? Originally the cistern system had been designed to also flush the house’s toilets, Jack notes, but a subsequent owner had rerouted the interior plumbing to city water only.

“Putting it back the way it was is not a simple job,” he says. “We’d have to rip up the concrete floors.”

It's a mystery why the house's anonymous designer created such massive capacity.

"At the time the house was built, there was no water shortage in Florida," he says. One possible explanation: Originally, the house's roof was one big thirsty garden. Another possible explanation: The nameless architect had also provided a fallout shelter and may have felt the need for his own water supply in the early days of the Cold War. That's the one thing we know for sure about the designer: He clearly planned ahead.

In a neighborhood not far away, a mid-century modern house offers a new spin on ancient water wisdom. The owners are Dane Spenser and Gail Hustedde. Gail is a ceramic artist; Dane is a landscape professional. The couple also likes to plan ahead. They've recently completed a major renovation with architect Greg Hall and contractor R.C. Moore.

"We pretty much took the house apart and put it back together again," says Dane. "It might as well be brand new."

The renovation was inside and out. When Dane was preparing an area to the east of the house for a pool and planter, it occurred to him that the renovation could also go down -- into the earth itself.

"It was a perfect spot for a cistern," he says. "As a landscape professional, I hate seeing water go to waste."

Dane built the cistern himself. His inventive design is a series of plastic pallets held in place below a concrete planter. When lined up, the hollow spaces of the pallets form a water tank.

But can they support all that weight on top of them?

"The pallets are tough. They were built for shipping containers," he says. "They can support 30,000 pounds of weight and stand up to a lot of impact."

The cistern's capacity? 3,000 gallons.

"It sounds like a lot, but after one downpour, it quickly fills up," he says. "Then you're good to go until the next rainstorm."

A timer valve gradually releases the water to a sprinkler system for irrigation, he says. And a spillway releases excess capacity in case of a gully washer.

The cistern is underground, but the results are in plain view. A cluster of Florida natives -- cinnamon ferns, setter bushes, coontie palms -- are thriving.

The cistern wasn't hard to install, he says. And he'd like to see other homeowners do likewise.

"I did this for myself," he says, "but also to create a demonstration."

Once Dane completed his cistern, he was inspired to install two 165-gallon rain barrels for good measure.

Like the other homeowners and professionals we spoke to, he knows that fresh water really isn't everywhere.

And Dane doesn't want to waste a drop. He doesn't claim that's an original idea, but he'd like the idea to spread.

He, along with others, is convinced that now is the time for water conservation, and a home cistern is a great way to do it. It's an idea whose time has come.

Again.



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