



An industry-changing property?

Meet Mark Baker and Nonnie Chrystal. What they're doing could change our industry. If it doesn't, it won't be from lack of effort on their part.

Husband, wife and business partners, they built and live in the Florida Showcase Green Enviro-home (FSGE) in Indialantic, FL. FOX News called the two-story, 3,292-sq.-ft. structure the "greenest house in the world."

Hyperbole or not, the FSGE is a rock star "green" house. *USA Today*, *Florida Today*, and dozens of other newspapers and magazines, both consumer and trade, have reported on it. Hardly a day goes by that Nonnie doesn't field requests for tours or interviews.

We met Mark and Nonnie this spring at a regional conference of the American Society

of Irrigation Consultants in Orlando. Their shared vision of a sustainable home and landscape is stunning. They describe their home as being "near" zero-loss, zero-energy, zero-maintenance and zero-runoff. To date, the data supports their claims. The home meets or exceeds 12 green building certifications, including LEED Platinum.

One of the components allowing it to earn green building accolades, of course, is its landscape.

The performance of the ornamentals and turf, like almost every feature of FSGE, has been excruciatingly monitored almost since Mark, an experienced builder and president of Mark Baker LLC, laid the first footer on the quarter-acre property in June 2007.

Native plants, only those that were in the region to greet Ponce DeLeon when he stepped ashore in April 1513, beautify the property, says Nonnie. Now well established, they require no irrigation and incredibly small amounts of maintenance.

The same goes for the small areas of paspalum and sunshine mimosa turfgrass on the property.

The landscape's most notable feature is 869 sq. ft. of green roof plantings; the great majority of plant material is on the house. There's also a small green roof on the pool outbuilding. The green roof on the house is irrigated from captured rainwater from the house.

Three, underground, 1,728-gal. cisterns capture runoff from the home's green roof areas. Special gutters on the home filter the rainwater before it enters the cisterns. The cisterns are daisy-chained so that the water level remains the same in all three. A low-energy, frequency-driven pump returns the water to the green roof for irrigation. Graywater from the shower, bathroom sinks and clothes washers is double filtered and ozonated before it's used to flush toilets in the house.

Most striking of all is how well the site contains stormwater runoff, in part because of a 100-sq.-ft. bioswale. The only measurable runoff from FSGE occurred in Aug. 2008 when Tropical Storm Fay dumped 25.5 in. of rain. This was before pervious Flexi-Pave made from recycled tires replaced pavement surfaces. Otherwise, the property has contained all the stormwater it has received, says Nonnie.

While water conservation is vital, in the long run, by itself, it won't be nearly enough to sustain Florida or its growth, says Nonnie. This will require a much better understanding of how to recycle water; capture, purify and store runoff; and recharge the state's aquifers.

She says the home she and Mark built, and which is being studied and monitored by the University of Central Florida, is providing proof this can be done without the need for massive new infrastructure. Eventually, governmental agencies will realize this and implement policies to make it happen at the homeowner level, she says.

Once that happens the implications for the landscape industry should be obvious.



Nonnie Chrystal and Mark Baker