

Manmade wetland to clean waste water part of innovative project in Cashtown

BY JOHN MESSEDER
Times Staff Writer

After eight years of planning, permitting and community building, a community its planners tout as having low environmental impact has begun to take physical shape in Cashtown.

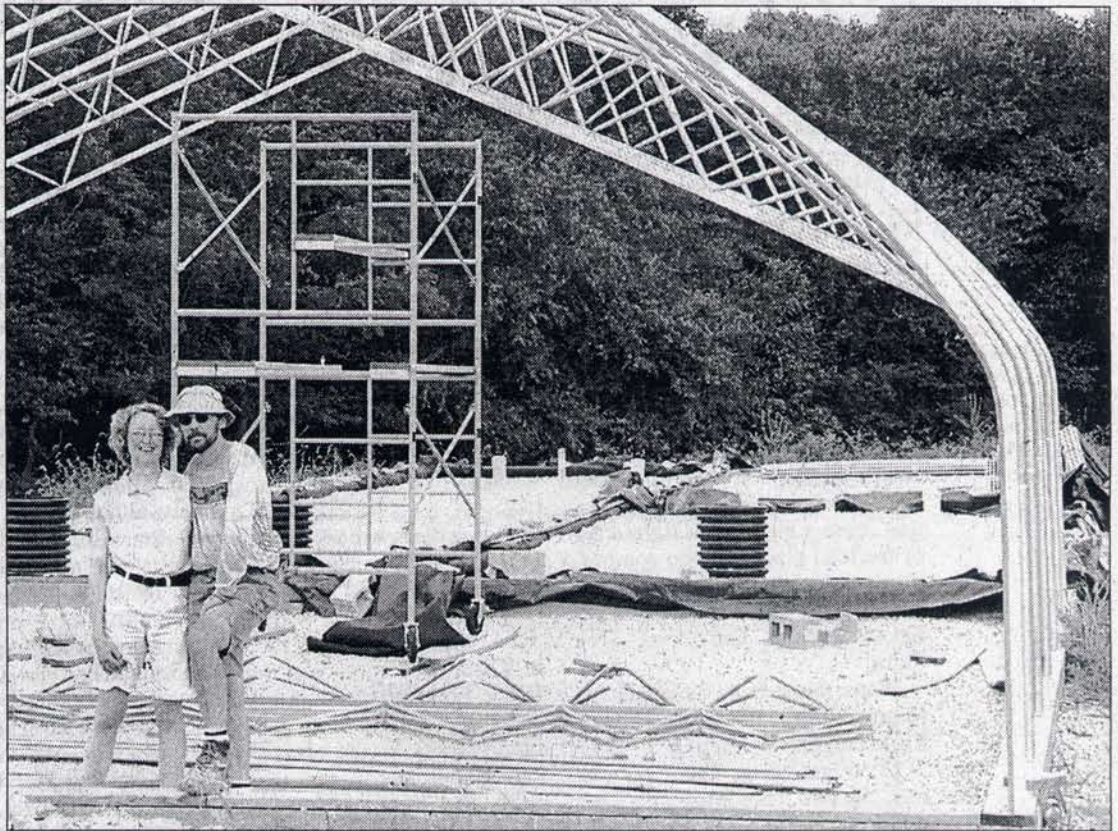
At the forefront of the project is a manmade wetland to naturally clean household waste water and return it to the aquifer.

"It's a lot of plastic pipes, gravel and marsh plants," project co-planner Bill Hartzell said of the indoor wetland that will filter waste water from the development's community center and 14 houses.

The working portion of the treatment facility is a manmade wetland, meant to function the same way a natural wetland works to filter pollutants and waste from a water supply. A three-foot deep stone-filled pond provides the filtration, with plants — cattails, rushes and other wetland flora.

Each home will be equipped with a "food processor" — a large tank and grinder that will prepare the home's waste for pumping uphill to the "wetland."

At the treatment facility, waste water will be injected into the bottom of the "pond," where plant
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Sandy and Bill Hartzell stand at the "front door" of a manmade indoor wetland and greenhouse that will filter residential waste water from the 14-home Hundredfold Farm. Residential water will be filtered by stones and plants in the "wetland," comprising three sec-

tions of 3-foot-deep stone-filled pond. Treated water will be used in household toilets and spread as irrigation over the Seven Springs Christmas Tree Farm. The front section of the building will be a greenhouse for residents to exercise their plant growing skills.

Wetland

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roots and natural bacteria will work to "digest" it, turning the solids into food, and leaving clean water.

Hartzell said the roots are home for bacteria that feeds on the wastes present in household effluent. Plants chosen for the job will be "whatever grows here," Hartzell said.

"If it was a factory pumping in here, there would be a different set of plants that would grow," he said.

Some of the treated water will go back to the homes and community building for use in toilets, but the technology is not yet approved for human consumption.

"DEP considered this an alternative reuse of water in the home," Hartzell said.

But he said toilets account for about 60 percent of residential water consumption, making even that reuse a significant lightening of the load placed on the community's two wells. In addition, excess water is used to irrigate the Seven Springs Christmas Tree Farm.

Water taken from the aquifer is returned to it, without use of man-made chemicals, he said.

"You get water that you can use," he said, "not just pump it off and forget about it."

"We've applied that to the whole farm," he said. "We don't use any chemicals."

Houses also will use passive solar heat and photovoltaic cells to provide electricity.

Only six of the parcel's 80 acres will be used for home sites, with a limit of 14 homes. The remainder is agricultural land, much of which supports the Christmas tree farm once owned and operated by Alex and Jane Kessel. Houses are limited to a maximum 2,000 square feet. Parking is not allowed among the homes, but rather at each end of the double row.

Driving among the houses will be permitted "if you've got Grandma visiting or an armful of crying baby and groceries," Sandy said, emphasizing that once emptied, the vehicle must be moved to one of the two designated parking lots.

"With co-housing, the whole idea is that you have a public space and a private space," Hartzell's wife Sandy pointed out. "Alex was thrilled with that. He wanted to keep the farm together."

The project began about eight years ago, when Bill and Sandy Hartzell moved back to Gettysburg area from Washington State, where the couple had lived in a similar community. Sandy's father, Lou Hammann, is a professor at Gettysburg College. Bill's family roots in the area are six generations deep.

"It just kind of drew people over the years," Bill said.

"Everybody has a different passion," Sandy said of the varied interests among the residents.

A significant difference between the startup of Hundredfold Farm and most resi-

dential developments has been the manner in which member residents have become involved. Unlike a traditional development, in which the builder constructs homes and then looks for people to buy them, the residents of Hundredfold Farm have joined in advance. Each has been part of deciding what type homes will be constructed, how they will be laid out, and other factors leading to the common goal of an environmentally friendly subdivision.

But Hartzell emphasized although each resident family is a joint owner of both the residential development and the tree farm, the pathway to membership is similar to other homeowner associations. Owners may sell their homes, and new residents would join because they support the community's goals.

The first homes are to be ready for occupancy by late August, Hartzell said.

"We're expecting that we will be full by Christmas 2007."

The entire project will serve as a demonstration for the public and interested groups. Hartzell said the community's mission statement includes provision for teaching the public what the residents have learned, including hosting tours of classes from Penn State Mont Alto, Mount St. Mary's University and Gettysburg College.

Readers may contact John Messeder at johnm@gburgtimes.com