

## HOME

# Cistern conversion makes sense, saves cents

Take advantage of sewer installation to cut water bills

By MICHAEL WELBER  
Keys Sunday contributor

Keys residents who have connected to one of the new sewer systems have a terrific opportunity to save money on their water and sewer bills. They can do so by converting their unused septic tank into a cistern. Not only does the cost of doing this come close to the cost of conventional tank abandonment, but using the water that will collect in what becomes a cistern will reduce the owner's water bill and, therefore, their sewer bill.

After connecting to the sewer, whether in Marathon or elsewhere, all residents are required to have the old tank pumped out. It's at this point that people have a choice: They can either pay a contractor \$450 to punch a hole in the bottom of the empty tank and fill it with gravel or, for about the same amount of money, convert the tank to a cistern.

Doing the latter makes a lot of sense. Anyone who is handy can do much of the work themselves. Those who are less handy, like me, can hire someone. Either way,



CONTRIBUTED PHOTO

Department of Health Environmental Specialist Leslie Grabowski tests the Welbers' new cistern.

it's all perfectly legal. The Florida Department of Health now allows anyone who wants to use a septic tank as cistern to do so as long as it is properly sanitized. The water can't be used for human consumption, but it's fine for washing cars and boats or for watering gardens and landscaping.

Before you begin work, you're required to obtain a permit from the Department of Health. It charges a \$50 fee for the permit and then another \$50 for a mandatory water test.

The first step in the process is to spray the sides of the pumped-out tank with a mixture of chlo-

rine and water and then pressure-wash the tank. Then connect a pipe from the downspout of the home's gutters to the tank. If you don't have gutters, you'll need to install them, and the installer can connect the tank at that time. We were fortunate to already have gutters, and the company that



The shallow-well pump has been placed well above flood level on this stilted home. It's also wired with a ground fault circuit interrupter switch.

installed them connected one of the downspouts to the tank. It is a good idea to install a piece of 1/8-inch mesh screen material at a suitable location in the path from the gutter to the cistern. This will catch any debris that is flushed from the roof during a rainstorm.

Next, install a candy cane-style PVC pipe to the other end of the tank to provide a place where any overflow can run out of the tank. You'll need to cut a hole in the cement lid of the septic tank to do

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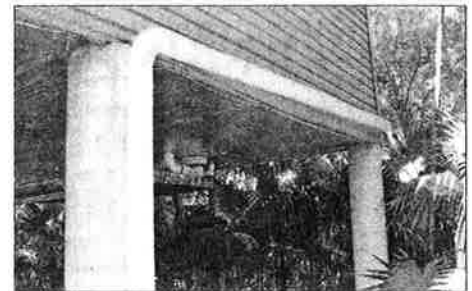
## GREEN SOLUTIONS



How the gutter feeds into the septic-turned-cistern tank.



You'll also need to install an outlet for any overflow.



The water is diverted from the downspout to the cistern.

## Department of Health will sign off on tank once conversion is complete

SEPTIC / From 3

this. Add a grate or screen to the pipe to prevent rodent and mosquito access to the cistern. You can then direct the overflow water to an area that won't flood.

Then install a pipe in the cistern that can be connected to an external pump. That means cutting another hole in the cement and then sealing the opening around the pipe so critters and mosquitoes

can't get in. That pipe will be connected to a small electric pump and pressure tank that should sit above the flood plain. These pumps are readily available locally but also can be purchased online. They're called "shallow well pumps."

One of the pricier aspects of my conversion was hiring a local electrician to wire in the pump with a ground fault circuit interrupter switch that is weather tight. Having

experienced the flooding of Hurricane Wilma, I wanted to be sure that the pump would be protected against shorting out. It's also possible to simply plug the pump into an available socket.

Finally, the pump should be connected to a standard garden faucet.

Now wait for it to rain. Even though it was already the rainy season, we waited and waited. Finally, several heavy storms filled our 1,100-gallon cistern. The DOH requires that the water level be 12 inches from the top for its test. In

addition, the chlorine levels can be no more than 1 part per million and the pH between 6 and 8, and the water must be clear. We used a simple swimming pool tester to check on these because each additional inspection costs another \$50. We called the Department of Health and arranged an inspection.

Here's where we made our first mistake. We ignored the sage advice of a septic-to-cistern conversion guru, the late Fran Wagner, who said to add 3 to 4 gallons of plain (unscented) chlorine bleach. Our sewer installer

suggested swimming pool shock instead. Wrong. For reasons that are too complicated to explain here, the shock didn't kill the E. coli bacteria and we flunked our first DOH test.

After pumping the tank out onto our drain field with the newly installed electric pump, we waited again for several weeks before the tank refilled. This time we followed Fran's advice and added bleach. Success.

Now instead of using Florida Keys Aqueduct Authority water for car washing and plant water-

ing, we'll use wonderfully pure — and free — rainwater. Because the Department of Health tested it, we know the water is safe. And both our water bill and our sewer bill will be reduced. Now that's a win for us and a win for our environment, because water has become a very precious commodity.

— Michael Welber is the former editor of *Keys Sunday* and a Marathon resident. He cautions those with newer anaerobic septic tanks to consult someone who's gone through that more complicated conversion.

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