

Mission:

To protect, promote & improve the health of all people in Florida through integrated state, county & community efforts.

**Rick Scott**

Governor

John H. Armstrong, MD, FACS

State Surgeon General & Secretary

Vision: To be the Healthiest State in the Nation

PART II: SPECIFIC HOW-TO INSTRUCTIONS FOR CISTERNS

Water Treatment Steps for Cistern Conversion Procedure

Do this before you call the health department for the sample collection/inspection.

Tank Preparation and Disinfection:

1. Disconnect the tank inlet pipe. This will be done at the time the dwelling is connected to the new sewer system.
2. **Have the tank pumped out completely, pressure washed and that washwater pumped out completely by a state DOH and county licensed septic tank pumper. Companies licensed to pump out portable toilets only are not permitted to perform this task. Please check with us if you have any questions about who is licensed to perform this work.**
3. Disconnect the drainfield or filter box connection and permanently seal the pipe openings (If there is a filter box and that is also being converted to a cistern, then the contents must be removed and disposed of at the landfill).
4. Fill the tank with water.
5. Add sufficient liquid chlorine (not stabilized trichlor pool type tablets) to achieve 200 ppm free chlorine concentration. You will need to purchase some higher range chlorine test strips.
6. Check the chlorine level after 24 hours. If the chlorine level has dropped to below 50 ppm then add more chlorine to reach 200 ppm again and let stand another 24 hours. If it has dropped to no less than 50 ppm proceed to step 7.
7. Once the chlorine has stabilized at 50 ppm or greater for more than 24 hours, then let the water stand an additional 48 hours. Check the chlorine again. If it is less than 10 ppm then add more chlorine to reach 50 ppm and let it stand another 24 hours. If the chlorine is 10 ppm or higher, then the tank should be disinfected.
8. At the end of this procedure you should be able to see the bottom of the tank. One of the items to be checked by the health department is water clarity.
9. Once the tank has been disinfected, let the water stand until the chlorine level naturally dissipates to no more than 1 ppm.
10. Once the chlorine level has been stabilized at no more than 1 ppm, adjust the pH level of the water so that it is between 6-8. You will probably need to add some muriatic acid as our tap water has a higher pH and liquid chlorine has a high pH (>8). You will need either pH test paper or liquid pH reagent and possibly muriatic acid for this step. Great care must be taken while handling muriatic acid. Wear gloves, protective clothing and eye protection.
11. Call the health department for an inspection and a sample collection. We will test for water clarity, chlorine level and pH level. If any one of these 3 parameters are not met, we will not proceed with the next step, taking a water sample for bacteriological testing. You will be advised of what remedial action needs to be taken and we will schedule another inspection. There is a \$75 reinspection fee so it is advisable to check these parameters yourself before calling the health department. If the parameters are met, then a sample will be collected and

delivered to a state approved testing lab, using the chain of custody procedure. The sample will be tested for total coliform bacteria (cannot exceed 1,000 colony forming units / 100 ml) and fecal coliform (cannot exceed 200 colony forming units per 100 ml). If the sample exceeds these parameters then you will be notified and advised to repeat the disinfection procedure again. There will be a \$75 reinspection fee. If the sample meets the parameters then you will be able to have your septic system abandonment permit finalised with the health department.

SUGGESTIONS FOR CONVERTING A SEPTIC TANK TO A CISTERNS (not regulated by DOH)

1. Create 3 holes in the top of the tank. One for the gutter downspout, one for the overflow (nominally 3" pipe), and one for a 1" suction pipe.
2. Install gutters if not existing and install the downspout so that it leads through the tank top. This rainwater will be the water source to fill the tank.
3. Install the overflow pipe. It must have a grate or coarse screen over its end to prevent access by rodents etc.
4. Decide on the location for the hose faucet and install.
5. Decide on the location of the pump and install.
6. Run $\frac{1}{2}$ " or $\frac{3}{4}$ " pipe from the pumpout water output to the faucet.
7. Run 1" pipe from the pump inlet to the tank, through the tank top and down to within 6" of the bottom. This will assure that there is at least 6" of water in the tank at all times (to prevent an empty tank from possibly float up from the ground due to a high water table).
8. Seal around the pipes where they enter the tank.
9. Run power to the pump.