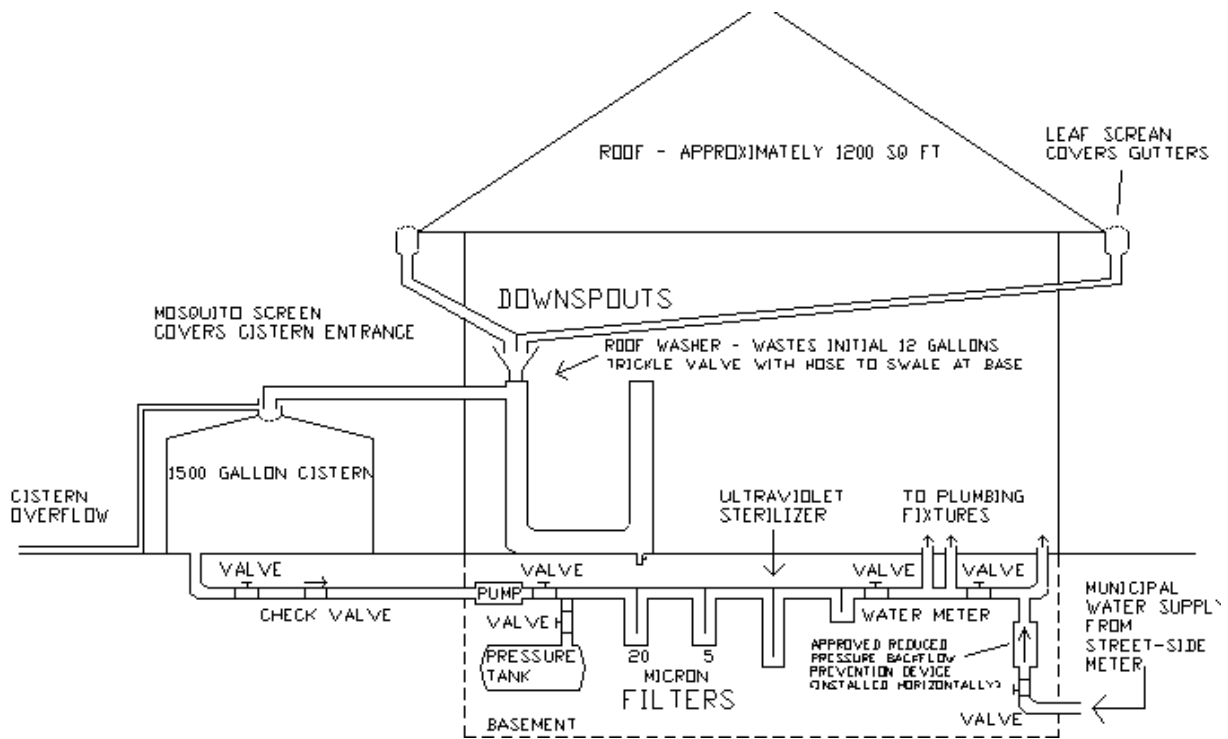


# resources

Monday, October 08, 2007  
11:44 AM



Rainwater Harvesting and Purification System  
<http://www.rwh.in/>  
Screen clipping taken: 10/8/2007, 11:45 AM

Mr. Ole Errson

The only regulations I have come across relating to rainwater harvesting are from Ohio, whose Department of Health Administrative Code regulates private water systems. Note, in particular, Rules 3701-28-09 Continuous disinfection and 3701-28-13 Construction and surface design of cisterns, hauled water storage tanks, and roof washers.

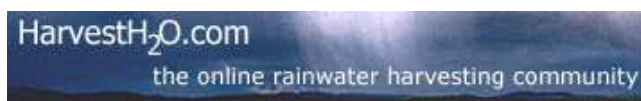
Yahoo discussion forum on rawinwater harvesting

At the current time we continue to use the public water supply only for summertime water and occasional drinking and cooking. In fact, during the rainy season, which lasts from about September to June, our only connection to the public utility is one faucet at the kitchen sink which uses less than one gallon per day, which got us into hot water with the city water bureau.

In my research on rainwater catchment systems the best single reference I have come across for detailed design guidelines is the Texas Water Development Board's *Texas Guide to Rainwater Harvesting*.

Pasted from <<http://www.rwh.in/>>

## Excellent resource



The Rainwater Harvesting Community :: HarvestH2O.com  
<http://www.harvesth2o.com/>  
Screen clipping taken: 10/9/2007, 9:57 AM

Rainwater Harvesting Potential and Guidelines  
for Texas

## Fantastic guide!

# The Texas Manual on Rainwater Harvesting

When assessing the health risks of drinking rainwater, consider the path taken by the raindrop through a watershed into a reservoir, through public drinking water treatment and distribution systems to the end user. Being the universal solvent, water absorbs contaminants and minerals on its travels to the reservoir. While in residence in the reservoir, the water can come in contact with all kinds of foreign materials: oil, animal wastes, chemical and pharmaceutical wastes, organic compounds, industrial outflows, and trash. It is the job of the water treatment plant to remove harmful contaminants and to kill pathogens. Unfortunately, when chlorine is used for disinfection, it also degrades into disinfection byproducts, notably trihalomethanes, which may pose health risks. In contrast, the raindrop harvested on site will travel down a roof via a gutter to a storage tank. Before it can be used for drinking, it will be treated by a relatively simple process with equipment that occupies about 9 cubic feet of space.



Typical treatment installation of an on-demand pump, 5-micron fiber filter, 3-micron activated charcoal filter, and an ultraviolet lamp (top).

The raindrop as it falls from the cloud is soft, and is among the cleanest of water sources. Use of captured rainwater offers several advantages.

Rainwater is sodium-free, a benefit for persons on restricted sodium diets. Irrigation with captured rainwater promotes healthy plant growth. Also, being soft water, rainwater extends the life of appliances as it does not form scale or mineral deposits.

The environment, the catchment surface, and the storage tanks affect the quality of harvested rainwater. With minimal treatment and adequate care of the system, however, rainfall can be used as potable water, as well as for irrigation. The falling raindrop acquires slight acidity as it dissolves carbon dioxide and nitrogen. Contaminants captured by the rain from the catchment surface and storage tanks are of concern for those intending to use rainwater as their potable water source. The catchment area may have dust, dirt, fecal matter from birds and small animals, and plant debris such as leaves and twigs. Rainwater intended for domestic potable use must be treated using appropriate filtration and disinfection equipment, discussed in Chapter 2, Rainwater Harvesting System Components.

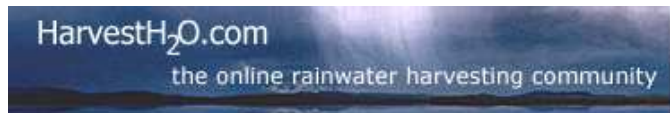
The rainwater harvesting system owner is responsible for both water supply and water quality. Maintenance of a rainwater harvesting system is an ongoing periodic duty, to include:

- monitoring tank levels,
- cleaning gutters and first-flush devices,
- repairing leaks,
- repairing and maintaining the system, and
- adopting efficient water use practices.

In addition, owners of potable systems must adopt a regimen of:

- changing out filters regularly,
- maintaining disinfection equipment, such as cleaning and replacing ultraviolet lamps, and
- regularly testing water quality.

Another ultimate source of information!



**18. I am researching metal roofing systems for a client who is building a LEED residence and wants to harvest rainwater. Do you have recommendations for metal roofing systems for irrigation and/or potable water?**

First, thank you Alicia for the question. Ideally there would be a roofing material certified by the National Sanitation Foundation for potable use, but there is none as of yet. NSF has certified some epoxy coating but none for exterior use. You can find out more about these materials at NSF Protocol 151.

As for as metal, galvanized metal, painted or unpainted with a nontoxic paint, are common. Other roofing type materials include terra cotta tile, slate, and fiberglass. Roofing materials should have as little toxic material on it as possible, to reduce leaching into the rain.

Make sure water does not sit on the roof for any length of time. This reduces leaching potential as well. Of course for irrigation purposes, almost any roof surface will work. Just keep the gutters and water clean.

And of course put in screens on gutters, a first flush device and filtration system to clean the water if it is to be used for potable water. Every municipality is different on what is allowed, so please check with local officials.

Pasted from <<http://www.harvesth2o.com/faq.shtml>>