

Non-potable Rainwater Catchment Systems Safe Practices with Rain Barrels and Cisterns

Whether it is to recharge groundwater, conserve drinking water, or divert stormwater, rainwater harvesting is a viable option when living in an area such as Sacramento County that receives on average 18 inches of rain per year. Just one inch of rain, collected from a 1000 square foot roof, can produce 620 gallons of water that can be used to irrigate landscape, flush indoor toilets, or slowly be allowed to infiltrate the soil to help recharge our diminishing aquifers.



As environmentally attractive as it is, the process of rainwater harvesting, if not done correctly can have detrimental effects on public and environmental health. The collected water can breed mosquitos that can transmit disease such as the West Nile virus, the water can contain pathogenic bacteria from bird feces deposited on roof tops, and the water can become stagnant and odorous creating nuisance conditions.



The County of Sacramento Environmental Management Department recommends the following safety guidelines when installing and using your rain catchment system:

- **Non-potable water--do not drink-** Do not drink from your rain catchment device as this water has not been tested and may contain harmful bacteria, parasites, or chemicals that could cause illness or death if ingested.
- **Backflow protection-** The system should never be connected to a potable (drinkable) water source without obtaining the proper permits and ensuring the right type of back flow prevention device is utilized. Rainwater is not considered potable water and therefore can contaminate potable water systems if connected incorrectly.
- **Rooftop rainwater only-** Only collect rainwater from roof tops or other elevated impervious surfaces. Wastewater from appliances and sinks is considered greywater and may contain bacteria that can flourish inside the catchment device over time. Rainwater that has already contacted the ground may have picked up hazardous wastes such as lead, petroleum residual, and/or other pathogenic organisms from things such as pet waste or decaying animals.

- **Prevent mosquito breeding-** All device openings should be screened with 1/16 inch mesh or less material to keep mosquitos, rodents, animals and larger pieces of organic matter out the water.
- **Keep off of fruits and vegetables-** It is not recommended that this water be used on edible vegetables and fruits as it may contain contaminants that can cause illness or death. If it is to be used on edible produce, it is recommended that a “first flush diverter” be used to remove the first water that enters the system as this water will have the highest concentration of contaminants.
- **Opaque in color-** Lastly, the catchment device should be opaque in color or shielded from sunlight to prevent or slow algae growth.



Sacramento County Building Code adopted Chapter 17 of the 2013 California plumbing code which lists **dos and don'ts** for non-potable rainwater catchment systems. The chapter also discusses permit requirements and exemptions. For additional information on permitting requirements, contact the County Building Department at <http://building.sacounty.net>

For additional information on rainwater harvesting, water conservation, groundwater recharge, or low impact development (stormwater diversion), follow the links below:

Centers for Disease Control

<http://www.cdc.gov/healthywater/drinking/private/rainwater-collection.html>

Environmental Protection Agency

<http://water.epa.gov/polwaste/nps/upload/rainharvesting.pdf>

Sacramento Area Public Agencies Partnership

<http://www.beriverfriendly.net/Newdevelopment/>

California Plumbing Code

[2013 California Plumbing Code](#) specifically [Chapter 17](#)

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