

## Rainwater Collection Systems (Cisterns)

Rainwater cisterns for landscape or garden irrigation may be constructed without permits, under certain circumstances, by using free-standing outdoor water tanks. Roof gutters and downspouts can be used to collect water and conduct it into the tank(s). Free-standing water tanks, supported directly upon existing level ground, which do not exceed 5,000 gallons, and where the ratio of height to width does not exceed 2 to 1 (i.e. a 6 foot high tank must be at least 3 feet wide) may be placed on the ground without obtaining a permit from the County of Ventura (city residents should check with their city Building Department). Care must be taken to assure that any placement is stable and strong -- water weighs 62 pounds per cubic foot or 8 pounds per gallon).

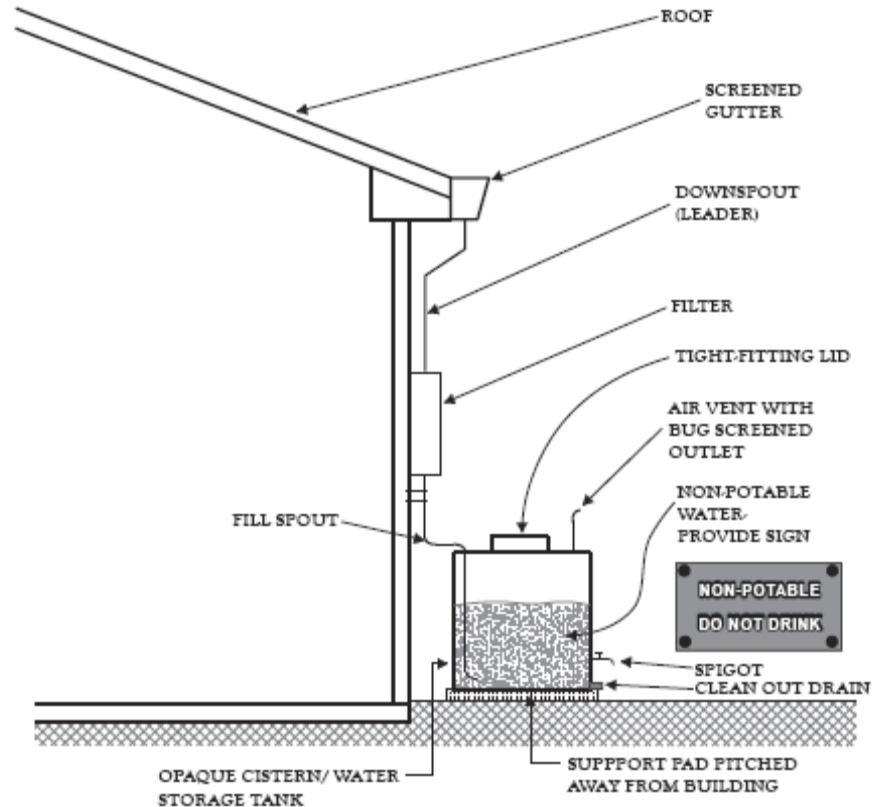
Plastic and metal tanks of many sizes and shapes are available from local farm supply dealers or on-line retailers. A wider and shorter tank will be more stable and less likely to fall over in an earthquake. For reference, one inch of rain falling on a 1,000 square-foot roof produces 623 gallons of water. Rain storms producing six inches of rain or more per day occur periodically. Provisions for addressing tank overflow and maintenance should be included in the design. If roofs and gutters are not screened or cleaned regularly, large amounts of leaves, etc. may be washed into the tank. A self-cleaning screen or filter can be installed at the inlet of the tank which may help avoid clogging of the tank and its outlet. Additionally, sediment may collect in the bottom of tanks and flushing or cleaning may be necessary. Design your system so as to take advantage of gravity to avoid using additional electricity. If it becomes necessary, cord-and-plug connected submersible electric pumps, such as those used for outdoor ponds, can be used to distribute irrigation water if gravity flow is insufficient. However, an electrical permit from the Building and Safety Division is required for any new electrical outlets put in service to operate these pumps. Be sure the pump you purchase is approved by Underwriters Laboratories (UL) for submersion into water and that any electrical outlets you use are protected by a Ground-Fault Circuit Protector (GFCI).

Rainwater Collection Systems (cisterns) **MUST NOT** be connected to or cross-connected to any potable water piping which is also connected to a house. This includes piping to or from an existing yard sprinkler or drip irrigation system. In order to protect the public water supply from contamination, cisterns or rainwater collection systems must be independent and entirely separated from the potable water system. Please note that your water company may require that you install a backflow preventer at your water meter. Contact your water company to obtain their requirements, if any, before installing a Rainwater Collection system.

Professionals, including engineers, architects, landscape architects, and landscape and construction contractors can offer design and installation services.

Informational Internet Link: <http://ag.arizona.edu/pubs/water/az1052/harvest.html>

A serious concern with any water storage is mosquito breeding. Mosquito eggs can hatch in a day or two and mature to adults in one to two weeks. Mosquitoes commonly found in Ventura County can transmit diseases such as the West Nile Virus. Rain water cisterns can become ideal mosquito breeding sources. To prevent mosquito breeding, the tank must have a tight fitting lid, the inlet to the tank and vents must be fitted with secured screening or tightly sealed, and the tank should be completely drained after use.



### CONCEPTUAL RAINWATER COLLECTION DETAIL

NO SCALE

- NON-POTABLE APPLICATION ONLY
- EXTERIOR ABOVE GROUND TANK
- WHEN PURCHASING A TANK FOR COLLECTING RAIN, MAKE SURE THE OUTLET SPIGOT IS LOCATED ON THE LOWEST PART OF THE TANK SIDEWALL TO ALLOW COMPLETE DRAINAGE OF THE TANK