



Building and Safety Division - Public Information

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GUIDELINES FOR THE INSTALLATION AND USE OF NON POTABLE RAINWATER CATCHMENT SYSTEMS (Residential Permit Exempt System)

The 2013 California Plumbing Code, Chapter 17 "Non Potable Rainwater Catchment Systems" became effective on January 1, 2014. Chapter 17 establishes the minimum requirements for the installation and use of a Rainwater Catchment System for residential occupancies as well as nonresidential occupancies. This guideline handout will focus on residential, permit exempt rainwater catchment systems. It is important to remember that exemption from the permitting requirement does not mean the system is exempt from meeting other requirements specific to this code or other associated codes.

This handout is intended to provide basic detailing and information to ensure that a homeowner wishing to install a Non Potable Rainwater Catchment System will work properly and not become a nuisance in the future. Of course, any plumbing system that is not properly maintained over the long term will become a problem and may also create unsanitary conditions that could become a health hazard.

Common Questions:

What is "Rainwater Catchment" (Harvesting)?

Rainwater catchment or harvesting is the accumulation and deposition of rainwater for reuse before it reaches the aquifer, storm drain or sewer system. These systems catch rainwater from aboveground surface runoff (generally a rooftop), transport it through a gutter or conveyance system, where it empties into a storage tank in a predetermined location. The water is then pumped or fed by gravity through a hose or irrigation system for uses such as water for gardening, irrigation, etc. Rainwater is ideally suited to irrigation because it contains few salts, which are hard on plants.

Do I need a permit to install my Rainwater Catchment System?

Yes, a permit is required for the installation of most systems but there are permit exemptions for some rainwater catchment systems used for outside irrigation.

Does my Rainwater Catchment system require a filter?

Filters are only required for rainwater supplying water closets, urinals, trap primers and drip irrigation systems.

Can my storage tank be installed underground?

Yes, storage tanks can be installed either above or below grade. Certain specific requirements apply to each application.

Does my residential Rainwater Catchment system require a "First Flush Diverter"?

Although "First Flush Diverters" are not required on residential permit exempt installations they do help keep the rainwater you are permitting to enter your storage tank cleaner.

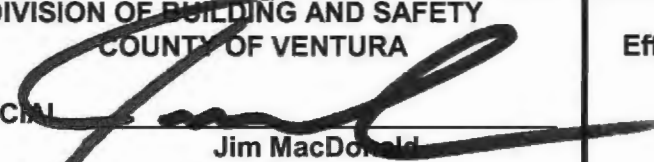
What Does "The Code" Say?

- 1702.2.1 Exception 2:** *A permit is not required for exterior rainwater catchment systems used for spray irrigation with a maximum storage capacity of 360 gallons (1363 L)*

Although a plumbing permit is not required for this rainwater system, associated permits may be required for associated electrical and building components.

- 1702.8 Rainwater Catchment System Color and Marking Information:** *Rainwater catchment systems shall be marked in lettering in accordance with Section 601.2 with the words: "CAUTION: NON POTABLE RAINWATER WATER, DO NOT DRINK."*



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1702.9.1 Outside Hose Bibs: *Outside hose bibbs shall be allowed on rainwater piping systems. Hose bibbs supplying rainwater shall be marked with the words: "CAUTION: NONPOTABLE WATER, DO NOT DRINK." and the figure below:*



3. **1702.0.3.1 Prohibited Discharges:** *Overflows and Bleed-off pipes from roof-mounted equipment and appliances shall not discharge onto roof surfaces that are intended to collect rainwater.*

Example: Refrigerant coils from residential heating and air conditioning equipment.

4. **1702.9.4 Minimum Water Quality:** *The minimum water quality for harvested rainwater shall meet the applicable water quality requirements for the intended application as determined by the Authority Having Jurisdiction.*

5. **1702.9.5.1 Rainwater Storage Tanks, Construction:** *Rainwater storage shall be constructed of solid, durable materials not subject to excessive corrosion or decay and shall be water tight.*

1702.9.5.2 Location: *Rainwater storage tanks shall be permitted to be install above or below grade.*

1702.9.5.3 Above Grade: *Above grade storage tanks shall be of an opaque material, approved for aboveground use in direct sunlight or shall be shielded from direct sunlight.*

1702.9.5.4 Below Grade: *Rainwater storage tanks installed below grade shall be structurally designed to withstand anticipated earth or other loads. Holding tank covers shall be capable of supporting an earth load of not less than 300 pounds per square foot.*

6. **1702.9.5.6 Openings and Access Protection:**

1702.9.5.6(A): Animals and Insects: *Rainwater tank openings shall be protected to prevent the entrance of insects, birds or rodents into the tank and piping systems. Screens installed on vent pipes, inlets and overflow pipes shall have an aperture of not greater than 1/16 of an inch and shall be close fitting*

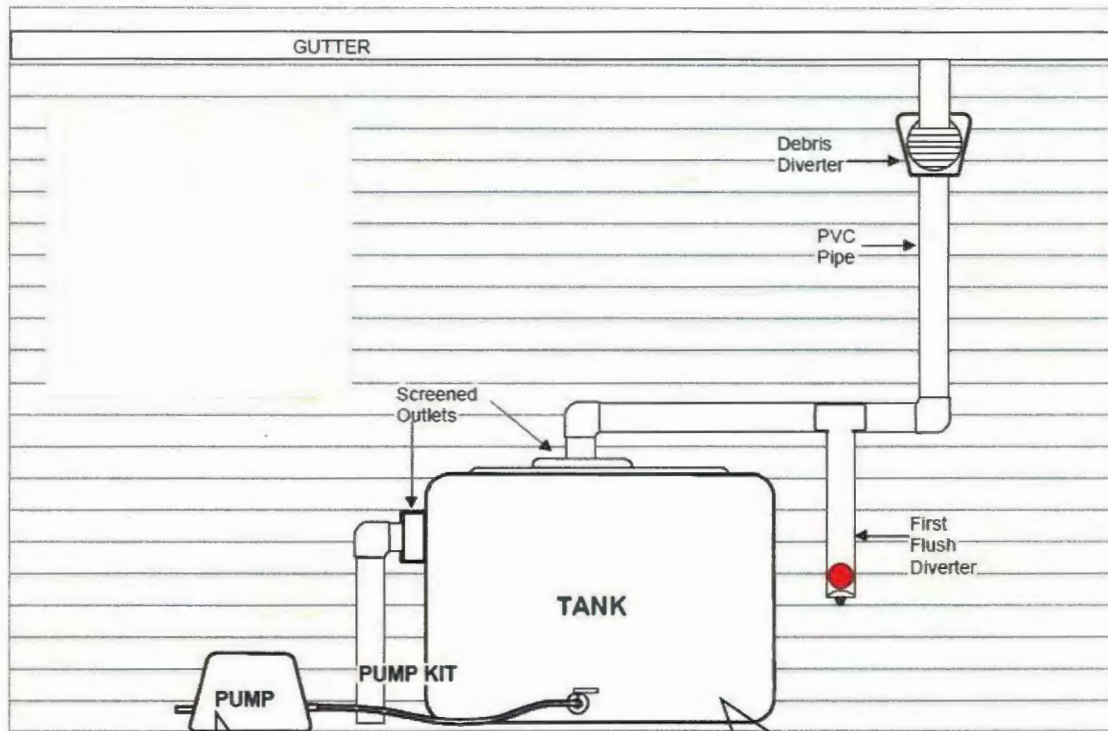
1702.9.5.6 (B): Human Access: *A minimum of one access opening shall be provided to allow inspection and cleaning.*

1702.9.5.7 Venting: *Rainwater tanks shall be provided with a vent sized in accordance with this code and based on the size of the tank influent pipe.*

7. **1702.9.10 Debris Removal:** *The rainwater catchment conveyance system shall be equipped with a debris excluder or other approved means to prevent the accumulation of leaves, needles, other debris and sediment from entering the storage tank.*

8. **1702.9.5.5 Drainage and Overflow:** *Rainwater storage tanks shall be provided with a means of drainage and cleaning. The overflow drain shall not be equipped with a shutoff valve. Where draining to a storm drainage system, the overflow drain and tank drain shall be protected from backflow by a backwater valve and shall be installed so that access is provided to the working parts for service and repair.*

So, how might this system look when installation is complete?



An electrical permit is required to install a new outlet to serve the pump

Max 360 gallon tank without a plumbing permit.



1 inch of rainwater on 2,000 sq ft. roof

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1,250 Gallons of Water

DID YOU KNOW?