

PASSIVE RAINWATER HARVESTING SYSTEM MAINTENANCE GUIDE

Routine Maintenance

Task	Tools	Frequency	Details
Inspect and clean gutters, screens, and filters	Ladder	Twice a year spring and fall	Remove debris from roof, gutters, screens, and filters after the Live Oaks drop their leaves in spring and at the end of fall after the pecans drop their leaves.
First flush clean out	Gooseneck pliers	Monthly	Check to see if first flush is empty, if not then open drain and clean out. This can be checked by tapping on first flush to see if it sounds empty or full. If empty, then it is functioning properly.
Cistern inspection	Flashlight, ladder	Every one to five years	Shine flashlight inside cistern containing water to confirm that sediment in cistern (cistern) is minimal. Open cleanout valve and see if sediment comes out and/or look inside cistern through inlet to see if sediment has built up at bottom of cistern. To clean, close dripline valve and open cleanout valve while stirring up the sediment with a long brush or spraying water into cistern.
Cistern drawdown		One time per year five days after rain (clean filter 3-4 times per year)	Confirm the cistern is draining properly. Tap on cistern a week after last rain. If cistern is empty everything is working properly. If full of water confirm valve is open. Then clean out any filters after the valve. Flush out the dripline by opening the dripline air vent and running water through the dripline.

Common Problems

Problem	Solutions
Cistern isn't filling up with rain.	Clean out gutters. Confirm that plumbing leading to cistern is still connected properly. Confirm that the valves leading out of the cistern are not draining it as quickly as it fills up. Inspect the cistern for leaks.
Cistern is draining slowly.	Confirm the outlet from the cistern isn't clogged on the inside. Clean any filters that lead to the irrigation systems. Backflush the irrigation system. Unclog any outlets that aren't draining.
Water has a foul smell.	Confirm that all access holes into the cistern are covered with an unbroken screen. Check to make sure nothing got inside the cistern and expired. If the smell is unbearable clean out the cistern completely.
Excess sediment in bottom of cistern.	Empty and thoroughly clean out the cistern. This may involve siphoning out the water and sediment below the drain outlet.
Sediment from cistern frequently clogging irrigation or plumbing.	Clean sediment out of cistern. Consider installing gutter screens, finer mesh filter between gutter and cistern, a water calming device for the water entering the cistern, and/or a floating suction filter inside the cistern.
First flush doesn't drain or never gets cleaned out.	Consider installing a drain line on the bottom end of the first flush. If you use a pvc cap with a small hole at the end the first flush it should always be draining. This will cause less water to be caught but will improve the water quality in the cistern.

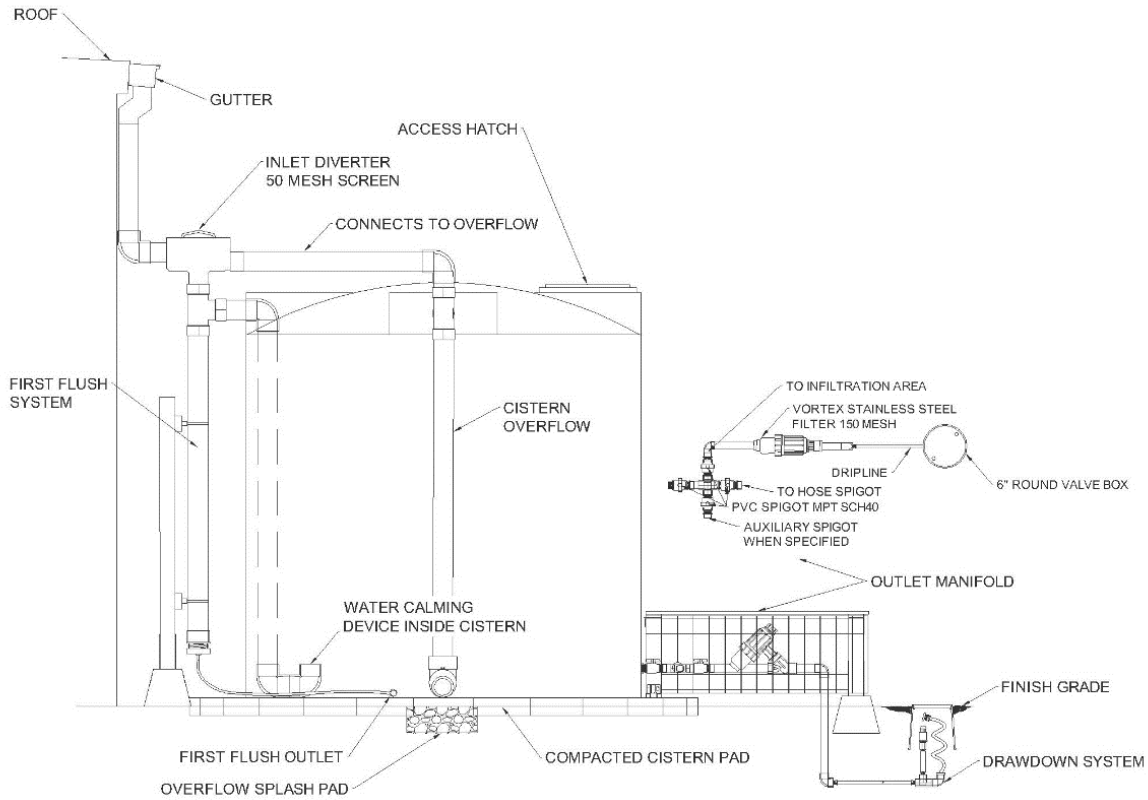
Design Features

- 1 A clean, impervious roof made from non-toxic material.
- 2 The absence of lead flashings or lead-based paints.
- 3 A filter and first flush device to intercept water entering cistern and gutter guards / screens.
- 4 Wire mesh (1mm screens) to cover all cistern inlets.
- 5 A covered and light-proof cistern.
- 6 Cistern taps or draw-off pipes that are at least 100mm above the cistern floor (Alternatively, a floating arm draw-off valve).
- 7 A cistern floor which slopes towards the sump and washout pipe.
- 8 A well-covered access hatch for easy access and inspection.
- 9 Do not use the access hatch as the point for water entering the cistern. This makes it difficult to access the cistern.
- 10 Spend some time researching your future system online, there are an abundant amount of resources.

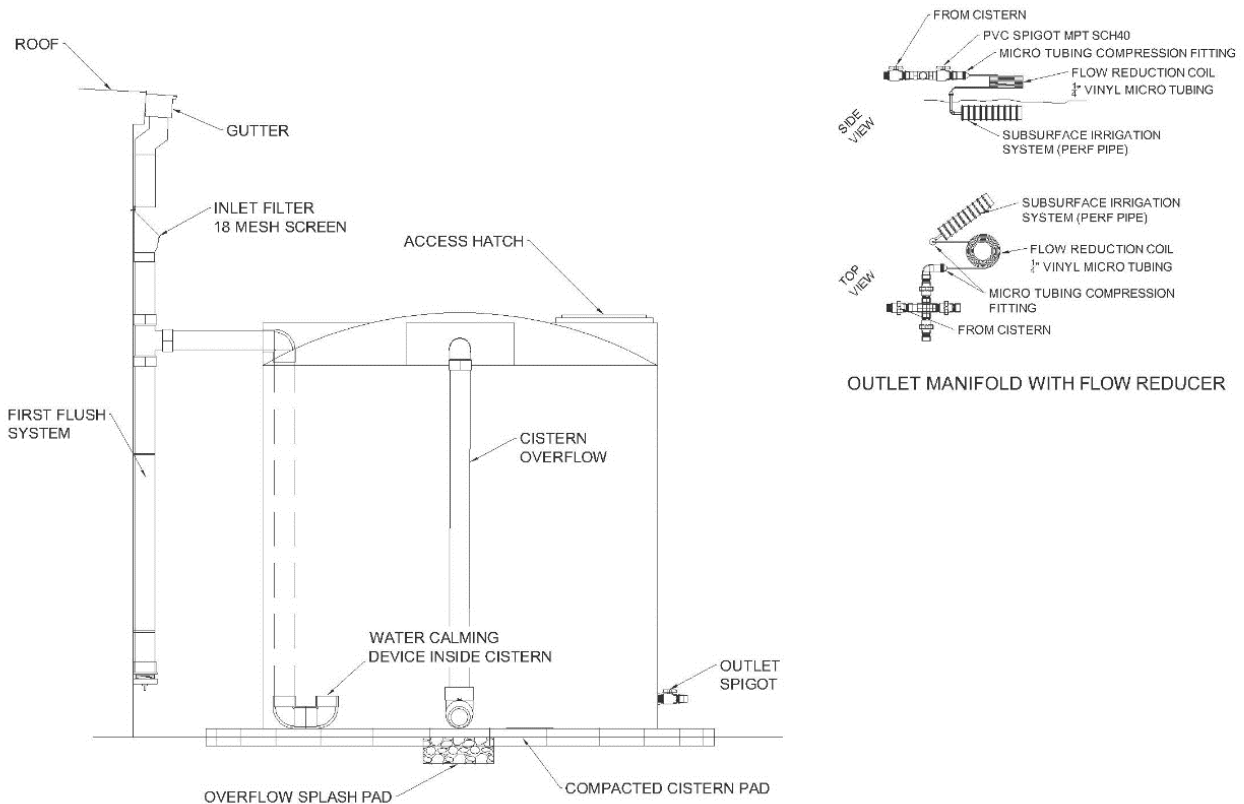
Tools Needed

1. Flat and Phillips screwdrivers
2. Hammer
3. Flashlight
4. Gooseneck pliers
5. Hand brush/broom

PASSIVE RAINWATER HARVESTING SYSTEMS



PASSIVE RAINWATER SYSTEM WITH INLET DIVERTER



PASSIVE RAINWATER SYSTEM WITH INLET FILTER