

CISTERNS: DESIGN FOR MAINTENANCE



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CISTERNS: DESIGN FOR MAINTENANCE



Today we will cover:

- 💧 Why maintenance is important
- 💧 Tools to help you teach your customer how to maintain their installation
- 💧 Design for maintenance
 - Piping and gluing tips
 - Common issues
- 💧 Q&A



DESIGN FOR MAINTENANCE

Help your Customers Succeed with their 5-Year Maintenance Agreements (10 years for Big Roofs)

Design your installation to be easily maintained!

- ✓ Walk through the final installation with your customer and trace the whole system to show how water flows
- ✓ Demonstrate the maintenance needed, have them practice while you are there
- ✓ Make sure resident owns basic tools (like a Phillips head screwdriver) to open hatch for the filter basket

Pro Tip: Offer to come back and maintain the installation twice a year for the first 2 years; create a maintenance cost estimate to share with your customers



TEACHING MAINTENANCE STEPS

5-10 Year Commitment

CISTERN MAINTENANCE SCHEDULE

WINTER
TO PROTECT YOUR CISTERN AND STOP WATER POLLUTION, THE LOW-FLOW VALVE SHOULD BE OPEN FROM SEPTEMBER TO MAY.

SPRING

ON-GOING MAINTENANCE

- Check leaf screen, pipes and valves after storm events; clean as needed
- Maintain and clean gutters

DISASSEMBLE, INSPECT, AND CLEAN THE LOW-FLOW VALVE SO IT DRAINS.

OPTIONAL: LOW-FLOW VALVE WANT TO FOR SUMMER?

FALL
OPEN LOW-FLOW VALVE

OPEN

Disassemble, inspect, and clean the low-flow valve so it drains.

OPTIONAL: low-flow valve want to for summer?

RainWise
Questions? Contact us at: rainwise@seattle.gov

Cistern Sticker

Seattle Public Utilities King County

Be **RainWise**

Manage your rain water at home

Rain Garden and Cistern Maintenance Guide

Thank you for maintaining your rain garden and cistern to protect our waterways.

RainWise, a City of Seattle and King County partnership, offers rebates for cisterns and rain gardens on private property. Learn more at www.seattle.gov/rainwise.

Maintenance Guide



“How To” Videos



RESOURCES IN OTHER LANGUAGES

700milliongallons.org/rainwise/maintenance



RainWise Flyer
Spanish & Vietnamese



Maintenance Guide
Spanish & Vietnamese



Maintenance Videos
Videos in English, Spanish and Vietnamese

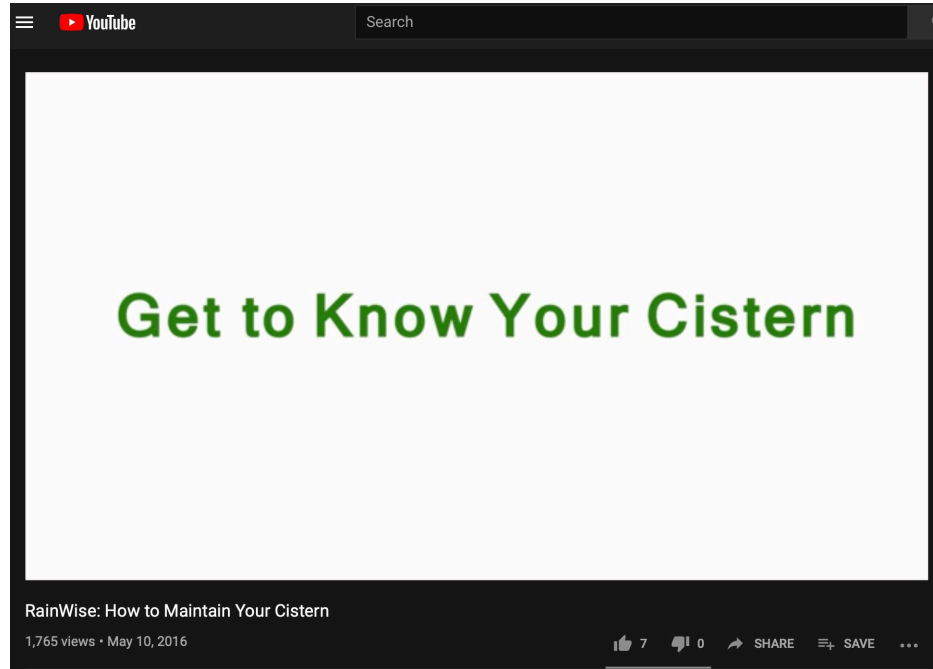
On Site Interpretation

ECOSS staff are available in many languages including:

- Mandarin
- Spanish
- Vietnamese



WHEN MOVING PICTURES ARE BETTER...



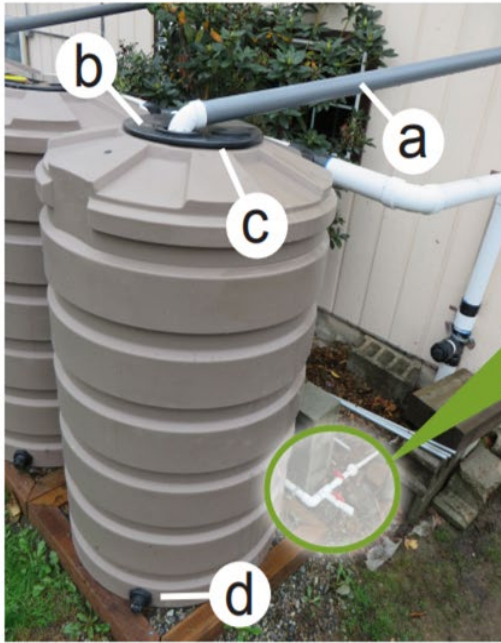
*Share this video link with your customers!
700milliongallons.org/rainwise/maintenance*



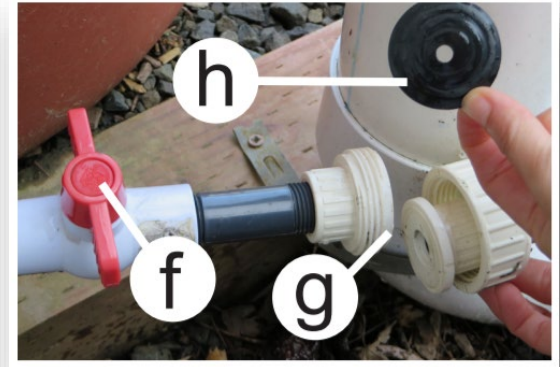
CISTERNS: DESIGN FOR MAINTENANCE



CISTERN ANATOMY



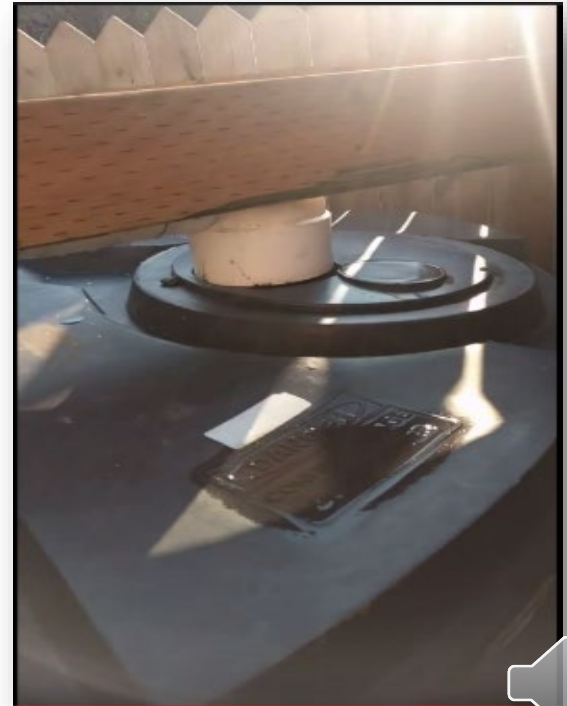
- a. Downspout
- b. Lid
- c. Screen (under lid)
- d. Cleanout
- e. Spigot
- f. Low-flow orifice valve
- g. Orifice housing
- h. Orifice (see photo below)



DESIGN FOR MAINTENANCE

Design your installation to be easily maintained!

- ✓ Make sure inlets, overflows and other piping are accessible
- ✓ DO NOT install supports, beams or other structures that would block access to inlets or outlets
- ✓ DO NOT glue the bulkhead to the cistern overflow; use a Fernco so this can be taken apart in the future
- ✓ DO NOT use silicone
- ✓ Use the right glue for PVC or ABS; teach your crews proper gluing techniques



DESIGN FOR MAINTENANCE



Design your installation to be easily maintained!

- Fernco (rubber gasket) example
- Low-flow orifice and housing can be installed inside an irrigation box (for sites accessible to the public / vandalism concerns)



DESIGN FOR MAINTENANCE: SHOPPING LIST

Retailers



"The Service People!"



Brands



DESIGN FOR MAINTENANCE: PIPING

ABS (above ground only)



PVC SCHEDULE 40 (above or underground)



Pro Tip: PVC SCHEDULE 40

- Will become brittle after prolonged exposure to the sun
- Can be painted if used above ground



DESIGN FOR MAINTENANCE: SHOPPING LIST



10' Pipe (aka a stick)



90° Elbow



45° Elbow



Long Sweep Elbow



Short Sweep Elbow



PVC Nipple



PVC Valve



Coupler



Sanitary Tee



Double Sanitary Tee



Fernco Clamp



Spigot



Flexhose



1" Male PVC Pipe Adapter, Slip-fit Other End



DESIGN FOR MAINTENANCE: GLUING

✓ PVC



✓ PVC



✓ ABS



✓ ABS

✓ PVC



DESIGN FOR MAINTENANCE: PIPING AND GLUING TIPS

- ✓ Don't be sloppy!
- ✓ Keep pipework simple and clean!
- ✓ Dry-fit first before you commit to gluing
- ✓ Work in a well-ventilated area and use gloves



“Cistern Installation Basics – Dry fit and Pipe Gluing”

Watch this webinar to learn how to dry-fit a cistern installation, pipe-gluing techniques, and more!

Recording: [Cistern Installation Basics – Dry fit and Pipe Gluing](#)

Located on the RainWise Website Contractor Resources page



DESIGN FOR MAINTENANCE: PIPING AND GLUING TIPS

Before



After



Keep pipework clean and simple to help with maintenance

- ✓ More parts equals more risk of breaking
- ✓ Excess piping can lead to hazards such as tripping
- ✓ As much as possible keep piping tight and clean for safety and aesthetics
- ✓ Do not glue Valves or Bulkheads together

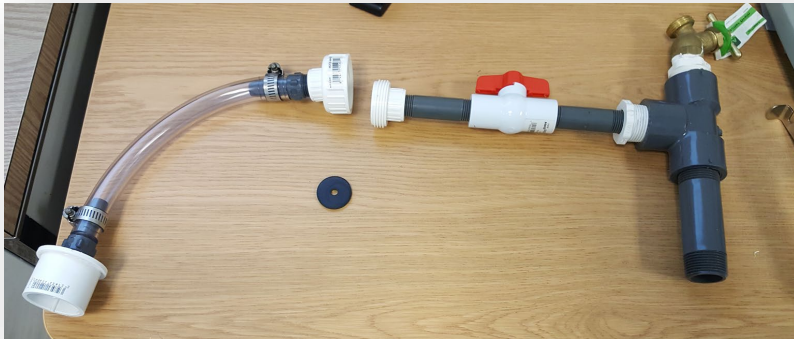


DESIGN FOR MAINTENANCE: COMMON ISSUES

Before



After



Hard Piped Low-Flow Kits

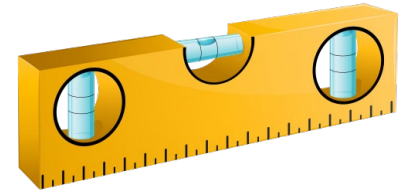
- ✓ Extremely difficult to service the low-flow orifice if hard piped (no wiggle room)

Pro Tip: to avoid mold buildup in the hose, attach an opaque black hose instead of a clear one



DESIGN FOR MAINTENANCE: COMMON ISSUES

PROBLEM	SOLUTION
Low water pressure coming out of the spigot	Advise Customer to purchase a pump
Pipes aren't glued	Double check all pipes before completion of project
Pipe not at correct slope	Double check all slopes with a level



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Q&A

