

Cisterns

What are cisterns?

Cisterns are tanks that collect and store rainwater, typically from rooftops. Cisterns may hold 100 to 10,000 gallons. They can be installed above or below ground, and are constructed of a durable material such as concrete, plastic, polyethylene, or metal. The collected rainwater can be used for watering gardens, laundry, flushing toilets, and agricultural uses. Rainwater can be used for potable applications if the water is treated and meets state and federal safe drinking water standards.

What are the benefits of cisterns?

Cisterns can be used to offset household water usage, lower water bills, and reduce well water demands. Collecting rainwater where it falls also lowers the risks of running off driveways and lawns, where it picks up pollutants like motor oil and pesticides as it drains to local streams, rivers, and Puget Sound waterways.

Where can cisterns be installed in Jefferson County?

Cisterns may be installed in many locations. They are especially beneficial in areas where saltwater intrusion limits groundwater supplies, such as Marrowstone Island. Critical areas maps showing locations in Jefferson County that are affected by these conditions are available online.

Helpful Resources

American Rainwater Catchment System Association

www.arcsa.org

Design for Water: Rainwater Harvesting, Stormwater Catchment, and Alternate Water Reuse

by Heather Kinkade-Levario

HarvestH2O: The Online Rainwater Harvesting Community

<http://harvesth2o.com/index.shtml>

Low Impact Development Technical Guidance Manual for Puget Sound

By Curtis Hinman

Rainwater Collection for the Mechanically Challenged

by Suzy Banks and Richard Heinichen

Rainwater Harvesting for Drylands and Beyond, Volumes 1 and 2

by Brad Lancaster

www.harvestingrainwater.com



Jefferson County
Department of Community Development
621 Sheridan Street Port Townsend, WA 98368

phone: 360.379.4450

fax: 360.379.4451

e-mail: dcd@co.jefferson.wa.us



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Cisterns are one method of low impact development (LID) used to effectively manage stormwater runoff.

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Cistern Basics

Observe your Site

Walk around your property to identify the site's drainage conditions and where the rainwater flowing off the roof goes. It may be helpful to sketch a site plan and mark the location of downspouts and roof lines (see sample sketch, right). Estimate the square footage of the roof areas and map where those areas drain. Then, install the rain barrel based on where you will use the water in your garden.

Locate

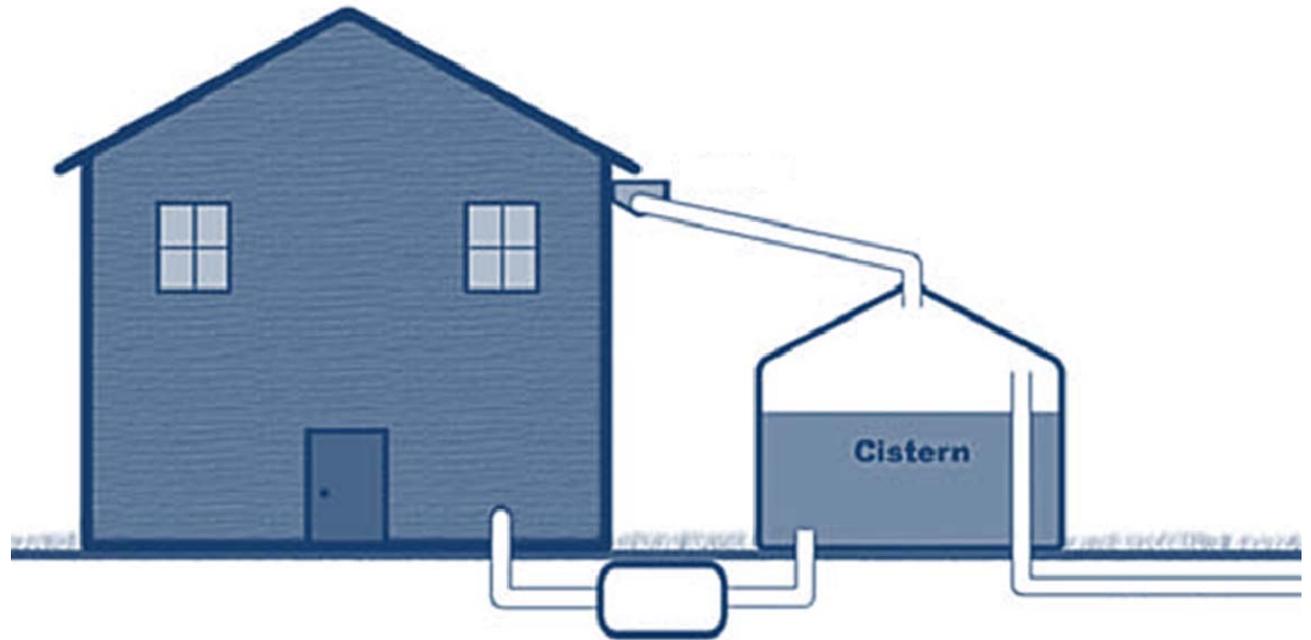
A rain barrel should be located at the base of a downspout. Be sure to select a location that allows overflow into the garden or landscape (see diagram, lower right).

Installation

Install the rain barrel on the ground next to the building. Secure it on a firm, level surface. A full 55-gallon rain barrel weighs over 400 pounds, so an even surface is very important to prevent the risk of tipping it over. A lid and sturdy fine mesh should cover all openings to prevent mosquitoes and debris from getting inside.

Maintenance

Clean out the rain barrel and check for leaks at least once per year. Downspouts, rain barrel screening, and overflow should be cleaned annually to prevent clogging. Caulk any observed leaks or holes. Make sure all the parts are securely fastened together. Monitor the overflow to make sure it drains away from structures. Drain the barrel if freezing weather is anticipated to protect from expanding and cracking the barrel or its parts.



Images:

Where can you buy a cistern?

Rainwater collection technology is well developed and there are many well developed systems available. Design and construction can be complex, so it is a good idea to consult an experienced designer or engineer. There are numerous online and print guides about rainwater collection systems. Check out the list of helpful resources on the other side of this brochure to get started.