



Rainwater Harvesting

This **Advanced Method and Material** was developed jointly by the City of Bellingham Public Works Department and Sustainable Connections to decrease stormwater flow by providing means for collecting rainwater for residential and commercial applications.



↓ BENEFITS

Rainwater Harvesting provides an additional on-site water source that can be used for non-potable applications where it is not necessary for the water quality to meet drinking water standards. These uses include:

- ❖ Toilet flushing
- ❖ Clothes washing
- ❖ Outdoor watering

Additional benefits include:

- ❖ Increased water efficiency
- ❖ Reduced stormwater flows
- ❖ Contribute LEED® points for your project

Rainwater Harvesting is the collection and storage of rainwater for later use and/or stormwater detention. Systems can be simple rain barrels ranging in size from 55 to 95 gallons to larger above ground or below ground tanks or cisterns that can store 250 to 50,000 gallons. One inch of rain falling on a 1,000 square-foot surface can yield up to 643 gallons of collected water that can be used indoors and outdoors. Using collected rainwater can offset a residential home's municipal water use by up to 75%, and a commercial building's municipal water use by 15-50%. Collected rainwater can also be used for potable uses when treated appropriately and in accordance with Washington State and Whatcom County Department of Health standards.

Promoting water conservation is an important component of the City's commitment to ensure clean, safe, drinking water for future generations. The City of Bellingham Public Works Department's Water Conservation Program provides water customers with information and educational opportunities that can result in more efficient and source-appropriate use of our water resources. The Lake Whatcom Reservoir is the primary source of drinking water in Bellingham.

POLICY/CONDITIONS

Consult the City's Rainwater Harvesting Permitting Guide for information on required permits.

SCOPE

Rainwater Harvesting can be integrated on almost any residential or commercial building site that has a roof area for collection and space for a storage tank.

DEFINITIONS

Rainwater Harvesting is characterized by collection, conveyance, storage, and distribution of collected rainwater. The basic components include a roof area, gutters & downspout, above ground or below ground tank, and a pump or gravity for distribution.

PERMIT REQUIREMENTS

Refer to the City of Bellingham to determine if your above ground or below ground rainwater harvesting system is going to require permits.



Rainwater Harvesting (cont'd)

COMPLIANCE WITH THESE STANDARDS

- Bellingham Municipal Code 15.42
- Low Impact Development Technical Guidance Manual for Puget Sound
- Stormwater Management Manual for Western Washington
- 2009 Uniform Plumbing Code (UPC) and Amendments – Chapters 51-56, 51-57 WAC
- 2009 International Building Code (IBC) and Amendments – Chapter 51-50 WAC
- 2009 International Residential Code (IRC) and Amendments – Chapter 51-51 WAC
- 2009 Washington Cities Electrical Code
- 2008 National Electrical Code

REFERENCES / SOURCES

City of Bellingham Public Works – Rainwater Harvesting: Guidance Toward a Sustainable Water Future
Puget Sound Action Team – Low Impact Development – Technical Guidance Manual for Puget Sound
Washington Department of Ecology – Stormwater Management Manual for Western Washington

FINANCIAL INCENTIVES

City of Bellingham

Rainwater Harvesting may help to meet criteria that could qualify a project for a 50% reduction in the stormwater development charges. See Bellingham Municipal Code 15.16.030(B)(3) or contact City staff for details and criteria about the reduced stormwater development charges.

Additionally, a Rainwater Harvesting system can also be incorporated into a project to help avoid the 0.1 cfs increase in flow for the 100-year storm threshold that would require stormwater detention or to reduce the required size of stormwater mitigation facilities by decreasing the volume of stormwater required to manage and mitigate.

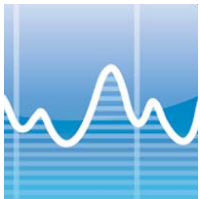


ADDITIONAL RESOURCES

Water Conservation Rebate

Save energy, water and money.

<http://www.cob.org/services/environment/conservation/rebate.aspx>



Residential Water Consumption Calculator

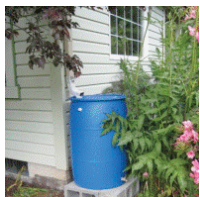
How much water do you use?

<http://www.cob.org/services/utilities/water-calculator.aspx>

Rainwater Harvesting

More information and resources about rainwater harvesting.

<http://www.cob.org/environment/conservation/rainwaterharvesting.aspx>



Rain Barrel Program

Purchase a rain barrel for \$25.

<http://www.cob.org/services/environment/conservation/rain-barrel-program.aspx>

SCOPE

Rainwater Harvesting can be integrated on almost any residential or commercial building site that has a roof area for collection and space for a storage tank.

DEFINITIONS

Rainwater Harvesting is characterized by collection, conveyance, storage, and distribution of collected rainwater. The basic components include a roof area, gutters & downspout, above ground or below ground tank, and a pump or gravity for distribution.

PERMIT REQUIREMENTS

Refer to the City of Bellingham to determine if your above ground or below ground rainwater harvesting system is going to require permits.