

Rain Barrel Construction

July 10, 2010

For Your Home

Need free water?

Installing a rain barrel to collect rain water for non-potable uses is an easy way to help the environment and to save money. Any person that can screw on a garden hose and has a saw and a screwdriver can install a rain barrel.



photo: www.composters.com

Caution: Water collected in rain barrels is safe for grey water uses, i.e., watering plants and gardens (not including vegetables), but is NOT SAFE TO DRINK.

Cold Climate Adaptation:

The rain barrel must be disconnected from the downspout in the fall to prevent ice dams from forming in the gutters. We also recommend that homeowners use mosquito pellets made with *Bt-israelensis* (Bt-i) or cover the top of the barrel to control the mosquito population.

Materials:

- 55-gallon barrel
- Garden hose valve
- Garden hose washer
- Plastic hose/tubing
- Plastic cement/silicon caulking
- Teflon tape
- ¾" polypropylene compression bulkhead fitting
- Small sheet metal screws
- Cinder blocks
- Wire screen
- Mosquito pellets made with *Bt-israelensis* (Bt-i)
- Universal downspout adapter or flexible down spout extension

Tools:

- Drill
- 1" drill bit
- Small drill bit
- Keyhole saw
- Heavy-duty scissors
- Hacksaw

Garden Hose Valve



www.malcleanse.co.uk/

Bulkhead Fitting



www.aquamation.co.uk/

Mosquito Pellets



<http://thegardenpet.com/>

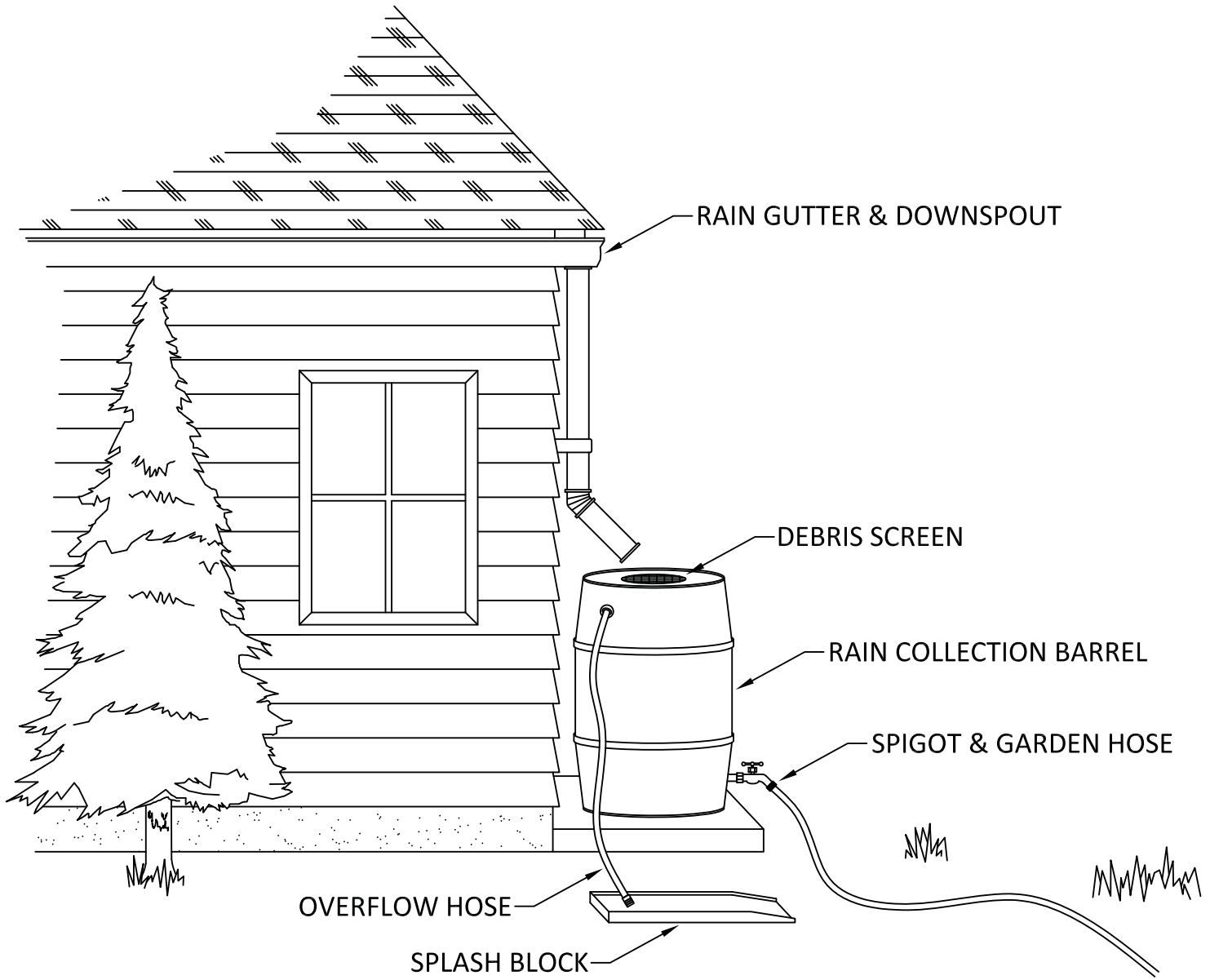
Keyhole Saw



www.make-my-own-house.com/

Steps:

1. Level the soil at your site and use the cinder blocks to create a stable platform for the rain barrel.
2. Saw an opening about twice the size of your downspout in the top of the barrel for the incoming water.
3. Drill a one-inch hole within four inches of the bottom of the barrel.
4. Attach the bulkhead fitting:
 - a. Remove the locknut from the fitting, leaving the gasket on the body.



- b. Wrap Teflon tape around the threads of the bulkhead fitting.
- c. Insert the body through the hole in the tank from the inside, trapping the washer between the tank wall and the bulkhead fitting.
- d. Screw the locknut back onto the body over the Teflon tape.
5. Attach the wire screen to the hole on top of the barrel to keep debris out.
6. Place mosquito pellets in the barrel (recommended).
7. 7) Modify the downspout so that it directs water into the barrel:
 - a. Measure how tall your rain barrel is going to be including the height of the platform and up to five extra inches
 - b. Use a hacksaw to cut the downspout at the appropriate height.

Steps continued

- c. Attach the universal downspout adapter or flexible down spout extension.
- d. Place the rain barrel under the downspout so the water will flow into it.
8. Install waterproof heat tape in downspout and barrel (recommended).
9. Set up the overflow system:
 - a. Drill a hole within three inches of the top of the barrel.
 - b. Insert the plastic hose/tubing into the hole and glue into place.
 - c. Direct the hose to a suitable runoff area or another barrel

Maintenance:

- Replace the mosquito pellet every spring.
- Clean off the wire screen periodically throughout the growing season.
- Clean gutters once a year to keep them clear.
- Empty the barrel and divert the downspout after the first freeze in the fall.

Cost Estimate:

- Pre-made: \$80 - \$200
- Homemade: \$70 - \$200

Time Estimate:

- The project should take about one to two days.

Pros:

- Reduces water runoff
- Increases groundwater infiltration
- Minimal maintenance required
- Requires limited space
- Collects rainwater for gray water uses

Cons:

Freezing water can cause pipe blockage and deformation of the barrel.

For more information about the Green Infrastructure Project please visit: www.cchrc.org/green-infrastructure

Sources:

Aquabarrel Kits

www.aquabarrel.com

City of Portland, Oregon, Rain Barrel Plans

www.portlandonline.com/bes/index.cfm?a=182095&c=50367

Drought Buster, Downspout rainwater redistributor

www.cleanairgardening.com/drbudorare.html

“Management of Mosquitoes in Stormwater Treatment Devices” by Marco Metzger

<http://anrcatalog.ucdavis.edu/pdf/8125.pdf>

Metropolitan Mosquito Control District

www.mmcd.org

Plant Kingdom has 40-gallon barrels with a spigot already installed.

620 Fideler Rd, Fairbanks, AK 99712

(907)457-5268

Rain Barrel Guide is a website with many articles on rainwater harvesting.

www.rainbarrelguide.com

Sourdough Fuel sells new 55-gallon barrels.

(907)456-7798x2

Whatcom County, Bellingham, Washington, Rain Barrel Factsheet

<http://whatcom.wsu.edu/ag/compost/rainbarrel.htm>



COLD CLIMATE HOUSING RESEARCH CENTER

CCHRC



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GW Scientific