

4 Steps to Build a Rainwater Collection System

Ever stop to think about how much water is wasted each day? The average person uses approximately 152 gallons of water per day with cooking, cleaning, washing, and flushing! About a third of that usage is wasted running down a drain or being flushed away. That is a lot of water being wasted!

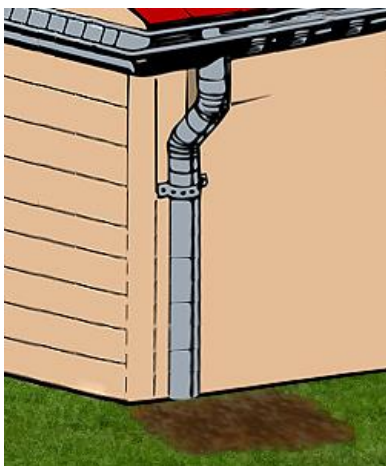
Building a rainwater collection system is a great way to reduce water wasting and better utilize an energy source. Rainwater is free from pollutants as well as salts, minerals, and other natural or man-made contaminants. Collecting rainwater is inexpensive and may be used for a number of different tasks or chores around your home without having to be treated like watering the [garden](#) or washing your car. Follow these easy steps to create a Rainwater Collection System.

Step 1: Acquire a Rain Barrel



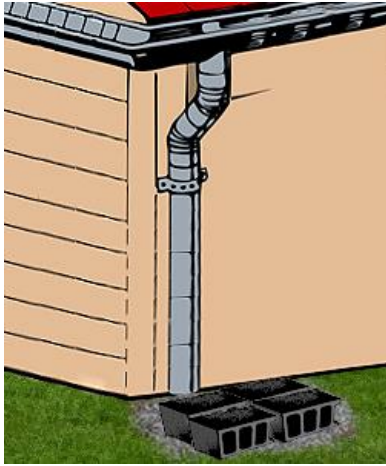
You will need to acquire a [rain barrel](#). You can make your own rain barrel if you are a DIY'er but they can also be purchased very reasonably now. If you do choose to make your own make sure that the container did not formerly contain oil, pesticides, or any other type of toxic substance. It is just too difficult to clean these chemicals from the inside of the barrel, so using them is risky. The average roof collects approx. 600 gallons (2,271.2 L) of water for every inch of rainfall so you may want to consider getting 2-3 barrels and taking full advantage of this process.

Step 2: Clear the Area for the Platform



Each rain barrel will need to be raised off of the ground and placed on a platform whether it is a homemade platform or one that you have [purchased](#). Start by clearing away any rocks and other debris from the downspout on your home. If the ground there is not flat, take a shovel and clear away enough dirt to flatten an area large enough to accommodate the number of barrels you will have in your system. If your downspout empties out onto a concrete driveway or patio that is slanted, build a level surface by stacking a few plywood boards in the low section so you have a level area to set the barrels on.

Step 3: Create the Platform



Dig a 5-inch deep rectangle in the area that you leveled to accommodate the rain barrels, and fill it with 1/2 inch of pea gravel. This pea gravel layer will provide better drainage around the rain barrels and help keep water away from the foundation of your home. **Skip this if your downspout empties onto a concrete driveway or patio. **

Stack concrete blocks on top of the pea gravel, placing them sideways to create a raised platform for the rain barrel or barrels. The finished platform should be wide and long enough to hold all of your rain barrels level with each other, and steady enough that they will not tip over.

Step 4: Assemble the Rainwater Collection System



Place the barrels on top of the platform making sure that they are level with one another. Use a downspout elbow to connect your downspout to the closest rain barrel. Mark the downspout one inch below the height of the rain barrel. You will need to attach the downspout elbow to the downspout so water will pour directly into the barrel. Use a hacksaw to cut the downspout at the mark. Fit the elbow to the downspout. Fasten it in place with screws, and make sure they are tight. Now connect each barrel using a [Rain Barrel Link Kit](#) which will consist of a hose and 2 clips. Place the hose on the overflow valves located on each side at the top or one on the front of the barrels. Then place the clips on each end of the hose, securing it to the overflow valves.

Tips:

- ❖ Keep debris out of your gutters and from clogging your downspout by placing a screen over the top of your gutters.
- ❖ Plastic downspout fittings are durable and inexpensive.
- ❖ Make sure that the end of the elbow will match up with the barrel opening so all the water goes into the barrel and not all over the top of the barrel.

Warnings:

- ❖ Water harvested from some rooftops may contain chemical components depending on the roof materials.
- ❖ If you live in an area that receives “acid rain” be aware that it may not be safe to harvest water with the intention of consuming the water even after treatment.
- ❖ Check with your local city official to ensure that rainwater collection is legal in your area.
- ❖ Do not drink rainwater without treating the water first, but the water can be directly used to water plants, wash things, flush toilets, etc.