



The Rain Barrel

What is a Rain Barrel? To the average homeowner, a rain barrel is merely a simple and inexpensive way to catch and store rainwater as it flows from a building's roof into the gutters and downspouts. This stored water then becomes a great alternative to tap/city water and can be used during periods of dry or drought to water gardens, trees, and other plants. This is FREE WATER and obviously the homeowner saves money.

Why is Rain Barrel Good for the Environment? Water coming from your tap has been treated at the treatment plant in order to make it suitable for drinking. This process requires large amounts of energy, therefore using rainwater instead of treated tap/city water for irrigating plants saves energy. Second, stormwater falling on an impervious area such as pavement, concrete, or a rooftop generally drains straight to a storm drain, ditch, or directly into a creek instead of soaking into the ground. As these impervious areas drain, the stormwater carries whatever pollutants (herbicides, pesticides, fertilizers, dog waste, etc.) it picks up along the way and deposits them into our streams. Impervious areas also mean that water that would have otherwise been absorbed into the ground and gradually seeped back into our streams over a period of days, now flows straight through our stream system in the course of hours, many times causing flooding. This accelerated draining process not only increases flooding but it also leaves our streams lower and drier for longer periods of time. Therefore, if we catch stormwater in a barrel and later release this water back into the ground when watering our gardens and trees, we're both decreasing the flooding that rain event would have otherwise caused **and** helping to replenish the ground water and the streams during that period of dry when the streams need it most.

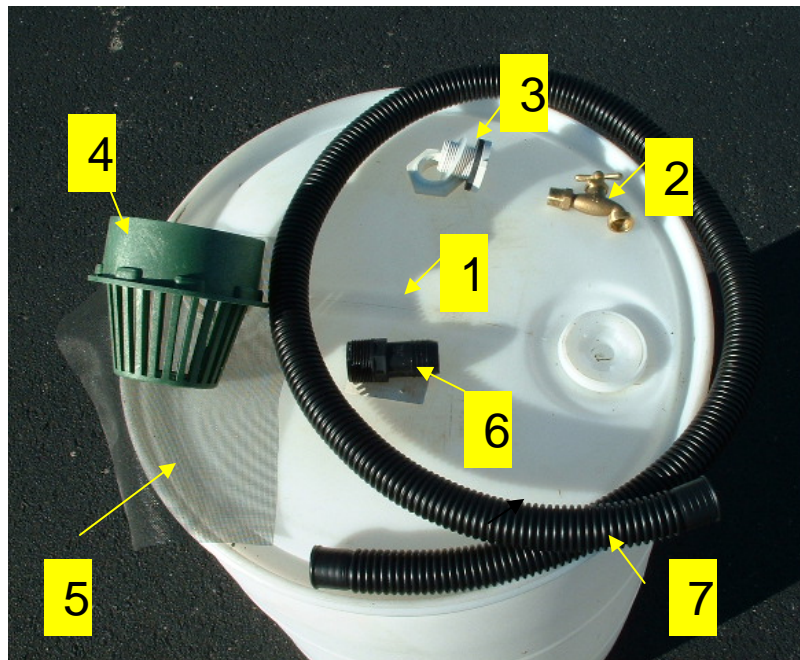
How to Make Your Own Rain Barrel – Making your own rain barrel can be fun, inexpensive, and very rewarding. A quick internet search will show that there are many different types of rain barrels with just as many different construction options for building your own. The following is the method that Metro Water Services NPDES uses to build rain barrels. We believe it serves as an economical and relatively simple example that should provide a reliable, leak proof rain barrel for many years to come.

Materials –

- 1) 55 gallon drum
- 2) ½" Copper threaded spigot or shutoff valve
- 3) ½" PVC Bulkhead fitting
- 4) Atrium Grate
- 5) Screen
- 6) 1 ¼" PVC barbed fitting with male end
- 7) 5' section of sump pump hose
- 8) 1 ½" hose clamp (not shown)

Tools -

- 1) Drill with 1 ¼" & 1 ½" drill bits
- 2) Channel lock pliers with long handle
- 3) Jig Saw
- 4) Screw driver
- 5) Marker



Directions – Read each step in its entirety before beginning the step and note the “Tips” at the end of some steps.

1) Start by tracing a hole on the top of the barrel using your atrium grate as a guide. The atrium grate should fit into and rest on this hole (but not fall through). Cut hole using a jig saw (figure A).



Figure A

2) Once the atrium hole is cut you can then determine the location for the drain shutoff valve. Generally, the valve should be placed as low as possible in the barrel. The bulkhead fitting will have to be held in place against this hole on the inside of the barrel.

Therefore, most times the limiting factor is how far down in the barrel one can reach their hand in order to hold the bulk head fitting in place. Once the location of the hole has been determined, drill a 1 ¼” hole in the barrel (Figure B).



Figure B

TIPS - The lower the valve, the more storage you’ll have in your barrel and the more head pressure you’ll have when watering plants. Use channel lock pliers to hold the bulkhead fitting for maximum reach (figure C).



Figure C

3) While one person holds the bulkhead fitting inside the barrel against the hole, another person must start threading the copper shutoff valve into the bulkhead fitting (Figure D). At this point it’s only necessary to “start” threading the copper valve into the bulkhead fitting. Once this is achieved, the person holding the bulkhead fitting on the inside of the barrel with the pliers can let go.



Figure D

TIPS – Make sure that all washers and nuts are in place before threading (rubber washer on inside of barrel, nylon washer and nut on outside). Be sure not to cross thread the copper valve into the bulkhead fitting.

4) Turn the barrel on the side and position yourself over the barrel and valve/bulkhead fitting for maximum leverage. You must now thread the bulkhead fitting through the barrel by turning the copper valve and bulkhead fitting (Figure E). As you turn the copper valve and bulkhead fitting (clockwise), you’ll see that the copper valve must thread itself into the bulkhead fitting and become “tight”, before the bulkhead fitting can be thread through the barrel. Once the bulkhead begins to thread through the barrel, continue to tighten the valve/bulkhead fitting until the rubber gasket is firmly against the inside wall of the barrel. Once the bulkhead fitting is firmly in place, continue to tighten the copper fitting into the bulkhead fitting until it’s tight and faces down. Finally screw down the bulkhead fitting lock nut on the outside of the barrel (Figure F).

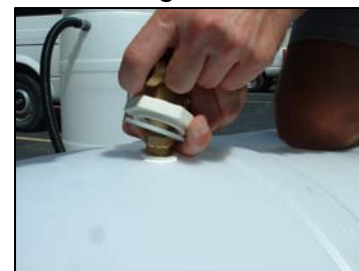


Figure E

TIPS - Threading the bulkhead fitting through the barrel is the hardest part of this job. Sitting on the barrel and pulling up firmly on the copper valve and bulkhead fitting while twisting/threading is an effective method of completing this task. Be sure the bulkhead fitting is threading straight through the barrel.



Figure F

5) Determine the location for the 1 ½" overflow drain. Drill hole and thread in 1 ½" PVC fitting. Attach sump hose using hose clamp (Figure G).

TIPS – The overflow location should be just below the lowest point of the atrium grate. This will insure that the level of the water in the barrel is never high enough to provide exposed water for mosquitoes to breed.

6) Cut out screen to be placed around atrium grate. Place atrium grate and screen inside barrel (Figure H).

Place barrel at desired location near roof downspout.

Tips - Placing the barrel on 2 cement blocks generally gives better access to the valve and makes it easier to attach/detach a garden hose or fill watering bucket.

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8) Cut gutter at point where it can be directed into the atrium grate at top of barrel (Figure I).

TIPS – If there is a difficulty in routing downspout water into the barrel, a flexible gutter extension can be purchased which allows for more location options. Also note that during large rain storms water may overflow through the top of the barrel and atrium hole. Be sure not to place barrel in location where this will cause flooding issues.



Figure G



Figure H



Figure I

Please direct any questions to
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