

# Emergency Water Supply Installation

## 100 gallons

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### Introduction

I have kept an emergency drinking water supply of 25 one gallon jugs for many years in preparation for a major earthquake. The assumption that 25 gallons plus 50 gallons in my water heater should get me through a major earthquake until help arrives was just foolish optimism. The recent failure of 3 out of 4 Scatchet Head Water District booster pumps caused me to reevaluate my emergency water supply. Knowing that we are going to go through a major overhaul of our water system over the next few years I realized that unforeseen circumstances may cause additional water system failures. And, I learned that 75 gallons is not enough to get me through a major earthquake until help arrives. I am also upgrading my emergency food supply.

When I saw 50 gallon food grade water barrels for sale at The Freeland Country Store I asked a friend if he could help me modify two barrels and install them in my garage. He had done something similar for himself and has all the necessary tools. Also, it helps that am retired from Boeing where I worked as a Technical Designer. Fortunately, I discovered that it doesn't require a degree in Rocket Science and cost me only \$200 in materials and supplies although you will spend more if you need to purchase or build a platform.

Lucky for me the platform you see in the photo came with the house but it needed to be reinforced and bolted to the wall. One gallon of water weighs 8.34 pounds so the platform needed to support at least 875 pounds just to be safe. The platform is heavily reinforced because I had no way to actually "engineer" the installation to any specification. The cargo strap will secure far more weight than the water barrels.



## Parts List

Parts	Quantity	Place of Purchase	Cost
50 Gallon Food Grade Water Barrel	2	Freeland Country Store	\$130.54
RAINPAL RBS005 Brass Rain Barrel Spigot	2	Amazon	\$34.70
Cargo Strap, 3 inch wide	1	Amazon	\$20.51
Eye Screw	2	Sebos, Bayview	\$5.20
Rubber Stopper	4 (2 extra)	ACE, Freeland	\$7.96
Short Hose	1	Sebos	?
		Approximate Total	\$200

## Installing Eye Bolts and Cargo Strap

Finding a wall stud or other suitable structure to install the eye bolts can be tricky even with a stud finder. This eye bolt is screwed at an angle into one of multiple 2 x 4 's that support the door frame. The other eye bolt in the next picture is screwed into a single 2 x 4 at an angle. The placement and diameter of the pilot hole was critical to keep the 2 x 4 from splitting.





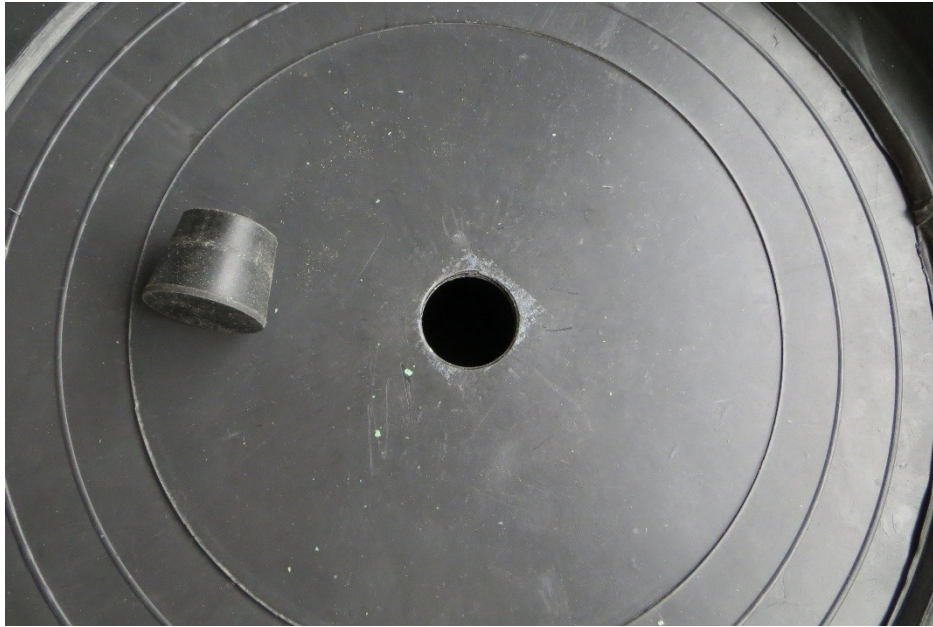
## Spigot Installation

Freeland Country store sells the food grade water barrel with or without a spigot. I strongly recommend installing the higher quality spigot in the parts list. The diameter of the barrel with the top removed is wide enough to reach down inside and use tools to install the spigot. The RAINPAL Spigot instructions specify drilling a 7/8 diameter hole for installation. I found that a 13/16 diameter hole is better for a snug fit. My spigots are angled side ways to allow clearance from the platform to install a short hose.



## Rubber Stopper Installation

I considered various ways of filling and venting the barrel and I chose a quality rubber stopper. Locating and drilling the hole for a stopper is easy with the same tools I used to install the spigot.



### Options for Locating and Supporting Your Water Barrels

1. I Recommend a raised and secured platform placed in a garage, shed or under a roof outdoors. You can build your own platform or purchase a water heater stand for each barrel for \$50 - \$75. You can also use concrete blocks. I don't recommend installing the barrel(s) on the floor because you will need at least 24 inches to attach a short hose to the spigot and to fill a container. Also, you will want to drain the barrel(s) completely before moving and cleaning at least twice a year.
2. Check out the internet for many DIY water barrel installations. Some are very clever.

### Additional Design Considerations

1. There is a large selection of cargo straps available online. It is important to select one wide strap (2 and ½ to 3 inches) or two narrow straps (1 ½ to 2 inches).
2. A wide strap may have hooks too large for an eye bolt that is small enough to screw into a 2 x 4. Be prepared to shop for the right combination of cargo strap and eye bolts.
3. If you purchase the eye bolts locally and the cargo strap(s) on line you will probably be OK.
4. Or, you can purchase your cargo strap(s) and eye bolts at a local hardware store. You will pay more but avoid the hassle of returns.
5. It is unlikely that the length of the cargo strap will be ideal for your installation. A cargo strap that is too long is not a problem. Mine was many feet too long. I just coiled up the slack and secured it with a zip tie (see first and fourth pictures).
6. The folded blanket between barrels in the first picture is a cushion and a spacer to keep the bottom inside edges of the barrels away from the corners of a 2 x 6 on the platform (the 2 x 6 could not be removed).
7. I fill my barrels with a garden hose from a hose bib just outside the garage. I plan to purchase a Brita water filter in case I need more drinking water than the 25 gallons you can see under the platform in the first photo.
8. A short piece of hose will be necessary to fill any bucket or container.

## Cleaning the Barrels

1. Before installation, I sprayed the inside, outside, and lids of the barrels with a strong solution of bleach and water.
2. Then I scrubbed all surfaces with a soft brush with a long removeable handle that I use to wash my car.
3. Then rinse, and reinstall with cargo strap before filling with a clean garden hose.
4. Do this at least twice a year.

