

Why Use Gray Water?

Worldwide and especially in the southwest U.S., water is becoming more precious. Using gray water (household wastewater except from the kitchen sink, dishwasher and toilet) for non-potable uses can help preserve groundwater supplies.

Is it legal use gray water?

On January 1, 2001, it became easy for Arizona residents to use gray water. To learn how to use it legally, visit the Arizona Department of Environmental Quality website (see Resources).

Will using gray water help septic systems?

Septic systems work best when a lot of water does not enter them at once. By diverting washing machine water, several laundry loads can be washed a day!



Should plants be watered or can the water just drain to the yard?

Use gray water instead of groundwater for watering landscape plants. Not only

will it conserve water, but it will reduce the electric or water bill!

Are state tax credits for installing a gray water system available?

Yes! Before Jan. 1, 2012, Arizona will credit a homeowner up to \$1,000 for installing a gray water system. Builders can get up to \$200 per home or dwelling unit.

Are some houses already plumbed for gray water?

Yes. Houses in the unincorporated areas of the Sierra Vista Subwatershed (bounded by Hwy 82 and the international border on the north and south; and the Mule and Huachuca Mountains on the east and west) built after Jan 4, 2007, have least two fixtures plumbed for gray water.

If the house is plumbed, where is the connection?

The gray water “stub out” pipe is connected to the sanitary drainage system. Close to the sanitary drainage clean out, look for a valve box or something similar that is either marked or has a colored top. Inside the box, there will be a marked gray water line.

How can the gray water be accessed?

A three-way diversion valve must be installed on the line. Valves are available from plumbers or pool supply stores. The valve allows gray water to be diverted to or away from the wastewater system.

How does the gray water get to the landscape?

Gray water can be stored in a tank or drained directly into the landscape. As with any watering, do not water next to the house foundation.

Are there approved gray water designs?

Each design can be different. Ask the city or county what plumbing code they use (UPC or IPC). Bring design plans to the Planning Department for approval.



What fixtures are best to put on a gray water line?

Choose fixtures that are close to an outside wall and generate the most water.

Can soft water be used for gray water?

Only use a potassium salt and not sodium. It is more expensive, but the sodium chloride salt will burn plant leaves. The potassium chloride will not.

What about soaps and cleansers?

Use laundry soaps that do not contain boron and are low in sodium. Some chlorine is OK to use. A brochure and websites are available for more information (see Resources).

Can gray water be stored in a tank?

Plumbing codes may have a restriction on how long gray water can be stored. Plan to use it within a day or two. Filter the water to keep particles out of the stored water and keep a cover on the container.

What happens if the tank overflows?

The gray water tank overflow must drain into the sanitary drainage system at a specific place. Contact the Planning Department or Environmental Health Services for details.

Can the water smell if it is not stored?

If gray water drains directly onto the ground, it is not allowed to pool. If it does not soak into the ground, it can smell. Soaps and particles in gray water can plug soils.

How can it soak into the ground faster?

To promote good infiltration put some bark or straw mulch in the watered area (adds organic material and increases porosity) and move the gray water outlet around so it does not always saturate the same soil.

How can gray water be moved around?

Sophisticated systems have underground pipes that have branched drains (flow splitters) or diversion valves. Simple systems can have a flexible wide hose (look for collapsed blue hoses in plumbing departments) that can be manually moved. Do not use a garden hose directly from the washing machine because it will not drain fast enough. Gray water storage tanks can be drained with a garden hose.



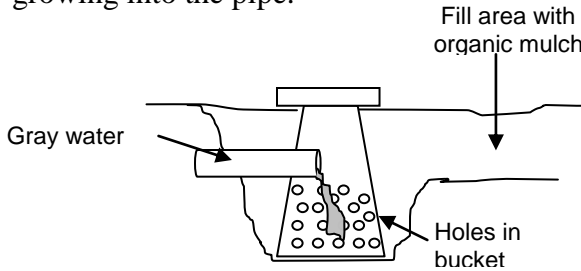
Flow Splitter

Can gray water be used in a drip irrigation system?

Even filtered gray water contains particles. Because drip irrigation emitters have small holes, gray water can plug them. Stored gray water will need to be pressurized because drip systems need 20 psi to work properly.

If it is difficult to use gray water in a drip system, how can it be used?

Basin flood watering is a great way to use gray water. It can also be delivered subsurface by emptying it into an open ended (on top and bottom) buried bucket. Leave an air gap between the end of the pipe and the soil to keep roots from growing into the pipe.

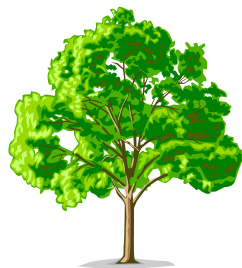


What if the gray water tank is lower than the landscape?

Just get a sump pump with a wide screen (so particles do not clog it), drop it in the tank, connect the hose and water! Get a pump with a float switch so when the water level drops too low the pump will shut off.

Can the gray water tank be buried?

Sure! Just make sure that the overflow is correctly connected to the sanitary drainage system.



RESOURCES

Gray Water Regulations: Arizona Department of Environmental Quality www.azdeq.gov. Go to “Water Quality,” then Quicklinks “Using Gray Water at Home.”

Arizona Tax Credit: www.azdor.gov Click on “Credit Pre-Certification.”

Cochise County Planning Department/ Environmental Health Services: www.co.cochise.az.us or call 432-9440

City Planning Departments (in phone book or on web).

Oasis Design: www.oasisdesign.net

Rainwater Harvesting for Drylands: www.harvestingrainwater.com

Graywater and Your Detergent Waterwise.arizona.edu/graywater

Local plumbers, builders and plumbing supply stores can also be a wealth of knowledge. Local governments may have helpful information too.

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Waterwise.arizona.edu

Remember:

Using gray water is a responsibility. Although it is a great resource, it can be a health hazard if not managed properly. Wear gloves when working with gray water.

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Common Gray Water Questions



Cochise County Cooperative Extension
Water Wise Program
Waterwise.arizona.edu



Before installing any system, contact a local Planning, Health or Environmental Services department for regulations/codes