Sample

Operation and Maintenance Manual

for Clothes Washer Systems

Congratulations on your new graywater system! This manual will help you maintain a well-functioning, water-saving graywater irrigation system.

- **This manual is to remain with the building throughout the life of the system**. Upon change of ownership or occupancy, the new owner or tenant must be notified that the structure contains a graywater system.

- A **Plot Map** showing the location of all graywater system components is attached to this manual.

- Insert the **calculations** you used to design your system here:

  My **washing machine** uses _____ **gallons per load**
  My **household** does _____ **loads of laundry per day**
  My **household** does _____ **loads of laundry per week**
  This system was designed to accommodate _____ **gallons per day**

- **Turning off your graywater system**:
  To turn your graywater system off, turn the handle for the 3-way valve to direct the water towards the sewer or septic system. The first few times you do this, check to make sure the system is turning off and that your 3-way valve is labeled correctly.

- **Common times to turn off your system**:
  - During the rainy season.
  - When washing dirty diapers.
  - When washing anything with chemicals, such a oily rags.
  - Anytime the water isn't draining well and you notice pooling or runoff in the landscape.
  - If you think your plants are receiving too much water.
  - Anytime you use products that are harmful to plants (like bleach or harsh cleaners).

- **What products can I use in my graywater system?**
  - Plant-friendly, biodegradable & non-toxic.
  - Free of salt (sodium) and boron (borax), two common ingredients that are non-toxic to people but are harmful to plants and/or the soil.
  - Chlorine bleach is harmful to plants and should be diverted, along with any other harmful products, to the sewer or septic system (by switching the 3-way valve). Hydrogen peroxide bleaches are less harmful and can be used instead of chlorine.

- Some soaps, including shampoo & conditioner, can change the water's pH. In general, liquid soaps do not affect the pH, while bar soaps make the water alkaline (opposite of acidic). Certain acid-loving plants might not be happy with alkaline water. If you're uncertain if the pH is being affected, use the graywater to irrigate plants that are not acid-loving. Acid-loving plants include ferns, azaleas, camellias, rhododendrons, and blueberries.
- For information about products that independent groups have found to be free of ingredients that may harm plants, see websites such as: *http://greywateraction.org/content/greywater-friendly-products* *http;//harvestingrainwater.com/greywater-harvesting/greywater-compatible-soaps-and-detergents*

- **How do I maintain my graywater system?**
  Periodically check on the mulch basins (the mulch layer the graywater flows into) and make sure the graywater is draining properly. If you notice any pooling or runoff, dig out the mulch basin and put in new mulch (wood chips or bark). *Mulch usually needs to be replaced every one or two years.*

  At the beginning of the irrigation season, check to ensure that graywater is flowing out of the outlets evenly. If you notice uneven distribution, check the outlets for clogs, and manually remove any debris. If you notice that many of the outlets are clogged, you need to flush the system.

  To flush the system, open any partially closed ball valves, making sure the end of each line is open. Pull the tubing off the PVC connection point and insert the barbed 1-inch female hose thread adapter. Attach a garden hose to the hose connection and turn the hose on high to flush particles out of the system. ***Any time you attach a garden hose to temporarily flush the system, make sure you have an anti-siphon valve or vacuum breaker on the hose bibb!*** When you are finished, be sure to readjust the ball valve for an even flow of graywater.

A basic operation and maintenance checklist for laundry-to-landscape systems is provided on the next page.

Laundry-to-Landscape System: Operation and Maintenance Checklist

Component	Inspection Schedule	O&M Activity	Action Needed
3-way valve	*Annual*	*Check for leaks at washer hose and that label is in place*	☐ *Condition good* ☐ *Action needed* *If leaking, tighten hose clamp. Replace label if needed.*
Auto vent	*Annual*	*Check for leaks from auto vent*	☐ *Condition good* ☐ *Action needed* *If leaking, replace the auto vent.*
Piping and tubing	*If you notice water in an unusual place*	*Check for leaks*	☐ *Condition good* ☐ *Action needed* *If piping or tubing is damaged, cut out damaged section and reconnect with a 1-inch barbed coupling.*
	Annual	*Check for even distribution from outlets*	☐ *Condition good* ☐ *Action needed* *Unclog hair or lint built up in the outlets. Open ball valves, check for clogs. If needed, flush the system with a hose: temporarily disconnect the tubing from the PVC fitting, attach the garden hose by barb fitting, and connect the hose to the system.*
Mulch Basins	*Annual*	*Check to see if mulch has decomposed and water is pooling under graywater outlets.*	☐ *Condition good* ☐ *Action needed* *Remove decomposed mulch and add new mulch.*