

Frequently Asked Questions

Graywater reuse and disposal systems



State of Oregon
Department of
Environmental
Quality

Water Quality Division Community and Program Assistance

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DEQ Graywater Website:
<http://www.oregon.gov/deq/wq/programs/Pages/Water-Reuse-Graywater.aspx>

Q: What is graywater?

A: Graywater is wastewater that originates from showers, baths, bathroom sinks, kitchen sinks and laundries. It does NOT include toilet water or wastes, garbage wastes, dishwashing wastewater discharge, garbage disposal discharge or wastewater contaminated by soiled diapers.

Graywater may contain a mixture of organic matter, suspended solids, bacteria and common household chemicals that are disposed down the drain during common household activities.

Q: Why is reuse of graywater important?

A: Using graywater for well-defined, accepted uses can help conserve limited water supplies while promoting reuse and recycling.

Q: Why do I have to get a permit to use graywater?

A: Oregon law [ORS 454.610 (1)] requires a person to obtain a permit from DEQ to construct, install or operate a graywater reuse and disposal system.

Q: There are three different graywater permits. Which one do I need?

A: The type of permit (Tier 1, Tier 2 or Tier 3) is based on the size and complexity of your graywater reuse and disposal system.

- **Tier 1:** A graywater reuse and disposal system in a single-family residence or duplex producing less than 300 gallons per day of graywater that is used only for subsurface irrigation would be eligible for a Tier 1 permit. A person obtaining a Tier 1 permit must register their system with DEQ.
- **Tier 2:** A graywater reuse and disposal system in a residential, commercial or institutional structure producing less than 1,200 gallons per day would be eligible for a Tier 2 permit. A Tier 2 permit is also required for any system treating graywater to Type 2 standards. Because of the volume and/or sources of graywater, these systems represent a higher risk to public health and the environment. A person wishing to obtain a Tier 2 permit must submit

information to DEQ for review and approval before getting a permit.

- **Tier 3:** A Tier 3 graywater permit is generally for systems producing more than 1,200 gallons per day of graywater or systems that treat and disinfect graywater to Type 3 standards prior to use. Because these systems are potentially large and complex, DEQ will evaluate each system individually and develop site-specific conditions necessary to protect public health and the environment.

Q: What's in the permits?

A: The permits describe management practices necessary to protect public health and the environment. The permits also require the graywater user to monitor and maintain the system and, in some cases, submit an annual report. The Tier 1 (2401) and Tier 2 (2402) permits are general permits. Copies of general permits can be viewed online at:

<http://www.oregon.gov/deq/wq/programs/Pages/Water-Reuse-Graywater.aspx>

The Tier 3 permit is an individual permit and will include custom conditions.

Q: How do I apply for a permit?

A: Information on how to apply for a permit is available on DEQ's website at:

<http://www.oregon.gov/deq/wq/programs/Pages/Water-Reuse-Graywater.aspx>

To obtain a permit, you must submit a complete permit application with fees and required documentation to DEQ.

Q: Can I apply and pay for a permit with a credit card online?

A: No. You must mail a completed application with a check to the DEQ office indicated on the permit application.

Q: If I want to install a graywater reuse and disposal system, what do I have to do? Do I just contact DEQ, my city or county, or must I contact other state agencies?

A: If you want to reuse graywater, you must complete the following:

- develop a system design plan,

- develop an operations and maintenance manual,
- obtain a plumbing permit from the local city or county, and
- request a graywater reuse and disposal system permit from DEQ.

In some instances, DEQ may need to review and approve the system design plan and other documents. However, for most homeowners, a person may obtain permit coverage by agreeing to follow some simple best management practices and paying a permit fee. With a DEQ permit, a person may then install and operate a graywater reuse and disposal system as described in their system design plan.

Q: How long will it take to get a permit?

A: Once the permit application package is complete, including fees and documentation, it generally takes 30 days to get coverage under a general permit (2401 and 2402) and up to six months to get coverage under an individual permit.

Q: I applied for coverage under the 2401 or 2402 general permit and haven't heard anything. How will I know when I am covered under a permit?

A: DEQ will send you a copy of the signed general permit. Information on the cover page of the permit is specific to your system and identifies your coverage under the permit.

Q: What will the permits cost?

A: The permit fees vary based on permit type.

- **Tier 1 permit:** A person applying for a Tier 1 permit must pay \$93, which includes a new-permit application fee (\$52) and an annual fee (\$41). Except with a new-permit application and in years when the permit is renewed, DEQ will waive the annual fee if an annual report on system operation and maintenance is submitted to DEQ. Then annual report form is available on DEQ's website.
- **Tier 2 permit:** A person applying for a Tier 2 permit must initially pay \$602, which includes a one-time fee of \$550 and then a \$52 annual fee. The one-time new-permit fee is necessary to cover DEQ's costs of reviewing and approving the permit. Unlike the Tier 1 permit, a person covered by a Tier 2 permit is required to submit both an annual report and pay the \$52 annual fee.

- **Tier 3 permit:** The costs of a Tier 3 permit vary based on the system's size and complexity and can range from approximately \$613 to \$3,948 for a new permit; annual fees may be approximately \$341 to \$817.

Q: What would happen if I don't have the required permit for a graywater system? Are there penalties if I operate a graywater reuse and disposal system on my property without a permit?

A: Discharging graywater without a permit is a violation of state law. Unpermitted graywater systems may be subject to enforcement action, including the imposing of civil penalties.

Q: If I already have a graywater reuse and disposal system, is that "grandfathered in," or do I need to get a permit?

A: The Oregon Legislature specifically stated that a person may not construct, install or operate a graywater reuse and disposal system without first obtaining a permit from the DEQ. Anyone who may have a previously installed system has to meet all relevant requirements of the new rules and apply for a permit to operate the system.

Q: I have a small business that will be generating very low volumes (approximately 25 gallons per day) from sinks. Can I get a Tier 1 (2401) permit rather than a Tier 2 (2402) permit?

A: No. Under the Oregon Administrative Rules (OAR 340-053), graywater from non-residential structures can only be permitted under a Tier 2 or Tier 3 graywater permit.

Q: If I use graywater only for toilet flushing, do I need to get a permit from DEQ?

A: No. This type of activity may require a plumbing permit or approval from the Oregon Department of Business and Consumer Services, Building Codes Division. A DEQ permit is not required for indoor graywater reuse activities where the water is ultimately discharged to a sanitary sewer or an onsite wastewater treatment system. This includes toilet and urinal flushing as well as reuse in commercial laundries and car washes.

Q: I plan to reuse graywater for irrigation in a greenhouse. Do I need a permit from DEQ?

A: Yes.

Q: I capture graywater in a bucket and use it to water plants in my house. Do I need a permit from DEQ?

A: No.

Q: The 2401 and 2402 permits require submission of an annual report to DEQ by January 15. What information is required and how will I submit it?

A: If you are covered under either the 2401 or 2402 general permits, you will fill out a form that is available on the DEQ graywater website, <http://www.oregon.gov/deq/wq/programs/Pages/Water-Reuse-Graywater.aspx>. On the annual report, you will be required to provide the analytical results from any required monitoring results (2402 only); how graywater was used during the previous year; the months when graywater was used for irrigation; a brief description of maintenance activities; and brief descriptions of any changes to the graywater reuse and disposal system.

Q: What's the difference between graywater reuse and graywater disposal?

A: Graywater reuse refers to a beneficial activity where graywater replaces another water source. An example of graywater reuse is using graywater to replace some of the municipal or well water you normally use for irrigation. Oregon Administrative Rules (OAR 340-053) allow graywater reuse for specific activities only. Graywater disposal is when you send your graywater to the sewer, a septic system, or other DEQ-permitted wastewater disposal system.

Q: I'm building a new sustainable structure. Do I have to connect to the sewer or install a septic system?

A: Yes. Since graywater cannot be reused year round, unless otherwise approved by DEQ in an individual permit, all new and existing graywater reuse and disposal system must be connected to a wastewater disposal system.

Q: My local county has directed me to install a septic system to develop my property. Can I avoid installing a septic system if I use a graywater reuse and disposal system with composting toilets?

A: No. The proposed rules require a graywater reuse and disposal system to be connected to an approved onsite (septic) wastewater treatment system or a municipal sanitary sewer system.

Q: The rules describe three types of graywater. What are differences?

A: The rules recognize three different types of graywater based on the quality of the graywater.

- **Type 1** graywater has received no treatment or has passed through some type of physical process, such as a filter or grease trap, to remove solids, fats, oils, and grease. Because Type 1 graywater is largely untreated, it cannot be stored for more than 24 hours and it may only be used for subsurface irrigation of landscape plants and compost.
- **Type 2** graywater has passed through some type of chemical or biological process, such as a wetland, to further reduce the concentration of solids and organic matter in graywater. Type 2 graywater must be tested at least one-time per year to show that total suspended solids (TSS) and 5-day biochemical oxygen demand (BOD-5) concentrations are 10 mg/L or less. Because the organic material in Type 2 graywater has been stabilized, it can be stored for longer periods of time and used in landscape ponds as well as for drip irrigation.
- **Type 3** graywater is Type 2 graywater that has also been disinfected. Type 3 graywater must be tested for total coliform bacteria concentrations 3-times per week. Because it has been disinfected to reduce pathogens, Type 3 graywater can be stored for extended periods of time and can be used for the largest number of uses, including but not limited to sprinkler irrigation, dust control, wash water, and various other uses.

Q: What does it mean that graywater can only be used for irrigation when evapotranspiration rates exceed natural precipitation?

A: Graywater can only be used for irrigation when plants need water in excess of that supplied by rainfall. If you would normally turn on a sprinkler to water plants, it is safe to use graywater. Graywater may not be used during the winter or when plants do not need the moisture, particularly if the ground is frozen or saturated. If the ground is frozen or saturated, graywater could potentially move off-site, affect other properties, contaminate surface waters, and create public health hazards.

Q: Can I use my graywater reuse and disposal system in the winter?

A: Graywater can be used for irrigation only when precipitation cannot meet plant water needs. The state regulations also prohibit graywater discharges to frozen or saturated soils.

Q: Wastewater from my garbage disposal and dishwasher discharge through my kitchen sink plumbing. Are they considered kitchen sink wastewater?

A: No. Wastewater originating from garbage disposals and dishwashers is not defined as graywater and must be routed to a wastewater disposal system, such as a sewer system or onsite septic system.

Q: Can graywater be used to recharge groundwater?

A: Oregon has an anti-degradation policy that emphasizes prevention of groundwater pollution. As a result, any wastewater, including graywater, must be treated to high standards prior to groundwater discharge. Groundwater recharge could only be allowed with a groundwater evaluation and ongoing monitoring.

Q: Can I design my own graywater reuse and disposal system?

A: Yes. The rules allow individual homeowners to design and install their own graywater reuse and disposal systems. However, DEQ recommends that homeowners consult published literature or graywater experts to get the best system design.

Q: How much does a graywater reuse and disposal system cost to construct and install?

A: The costs of a graywater reuse and disposal system can vary widely, based on the system's size and complexity. A basic do-it-yourself system with components purchased from a hardware store could cost less than \$1,000 and in some cases less than \$100. Large, complex systems with graywater treatment and sophisticated irrigation components could cost more than \$10,000.

Q: Are graywater systems primarily for homes?

A: No. Although DEQ expects most systems to be installed in single-family residences, graywater reuse and disposal systems can be installed in commercial (for example, offices), institutional (for example, schools) and other structures.

Q: When I sell my house, do I have to do anything special?

A: When you sell your house, you must declare the graywater reuse and disposal system as an onsite wastewater system and give the new owner documentation on the system, including the system design plan and the operations and maintenance manual.

Q: I'm purchasing a house with a graywater reuse and disposal system. Do I have to get a permit to use the system?

A: Yes. You may use the system only if you obtain a permit from DEQ. Otherwise, you are required to abandon the system by removing the graywater diversion valve and directing all graywater flow to the sewer or onsite septic system.

Q: I've decided to abandon my graywater reuse system. What do I have to do? Can I put a lock on the diversion valve to prevent the system from being used?

A: Placing a lock on the diversion valve is not sufficient. To abandon a graywater reuse and disposal system, you must physically remove the diversion valve and direct all graywater flow to the sewer or onsite system. You will also need to submit a notice of termination form to DEQ. A notice of termination form is available on the DEQ graywater webpage.

<http://www.oregon.gov/deq/wq/programs/Pages/Water-Reuse-Graywater.aspx>

Q: Are other states promoting graywater reuse?

A: Yes. California was one of the first states to adopt a policy encouraging the reuse of graywater. Other western states that currently allow graywater reuse to varying degrees include Arizona, New Mexico, Texas, Utah, Montana, Wyoming and, most recently, Washington.

For more information please contact:

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Alternative formats

Documents can be provided upon request in an alternate format for individuals with disabilities or in a language other than English for people with limited English skills. To request a document in another format or language, call DEQ in Portland at 503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696; or email deqinfo@deq.state.or.us.