



Greywater Reuse

Background

Greywater can be used as an alternative water source and can help to reduce demand on town drinking water supplies. Greywater includes wastewater generated from the shower, bathtub, spa, hand basin, laundry tub washing machine, kitchen sink and dishwasher. Greywater does not include wastewater from the toilet, urinal or bidet.

Before submitting a proposal that involves greywater reuse, please read the following information. This information can help you plan your project and fill in the application form.

Issues

There are some environmental and health concerns about reusing greywater, so it is important you contact the environment protection agency in your state, your health department and local council before you install a greywater reuse system.

The composition of greywater can vary considerably between households and sources. Bathroom greywater can be contaminated with hair, soaps, shampoos, dyes, toothpaste, lint, oils, and cleaning products. It may also contain some faecal contamination from body washing. Laundry greywater can contain faecal contamination, lint, oils, greases, chemicals, soaps, nutrients and other compounds. Greywater from the kitchen can be contaminated with food particles, oils, grease, detergents and cleaning products.

Greywater from the bathroom and laundry but not the kitchen can generally be used for non-drinking purposes such as garden watering and toilet flushing, providing it is managed to ensure the environment and public health are protected. Greywater from the kitchen is generally not recommended for use in greywater reuse systems unless treated because solid food particles and fats can cause blockages and some dishwashing powders can be harmful to soil structure and plants.

Health

The major risk of human contact with greywater is infection from viruses, bacteria, and other pathogens. Pathogens from greywater can spread through direct contact or indirectly by consumption of contaminated food or water. To minimise the risk of human exposure, greywater may need to be applied using sub-surface irrigation and should not be applied to food crops such as vegetables.



Environment

Greywater can contain contaminants which can be harmful to the environment. Elevated levels of salts (often from powder detergents) can build up in the soil and can damage the soil structure, cause soil degradation, reduce nutrient availability and affect plant health. Additionally many cleaning products and dishwashing powders are alkaline and contain chemicals that are harmful to the soil structure, plants and groundwater.

The elevated nutrient levels often found in greywater can be beneficial to some plants but not others. For example, some native plants are very sensitive to additional phosphorus. You may need to assess the type of plants and soils you are intending to irrigate and ensure that they will be compatible with greywater applications.

Designing a greywater reuse system

Greywater reuse systems need to be carefully designed, installed and managed to avoid environmental and health problems. You will need to check if greywater reuse is allowed in your area and if there are any greywater effluent quality requirements that need to be met. In many states, greywater cannot be stored for more than 24 hours without treatment and there may be controls on how greywater can be applied, for example only using sub-surface irrigation. Generally the higher the treatment level, the lower the risks to public health and the environment from greywater reuse.

Inappropriate application of greywater can lead to the contamination of surface or groundwater.

Before installing a greywater system, you may need to ensure that there is enough land available to ensure that the greywater will be absorbed on site and will not run-off onto neighbouring properties, into the environment or the stormwater system. You may need to obtain approvals for your greywater reuse system.

Installing a greywater reuse system

There may be specific plumbing and planning requirements that need to be met when installing greywater reuse systems. A licensed plumber may be required to install your greywater system and ensure greywater cannot flow into the reticulated system. Check with your local government planning agency before submitting a proposal.

Maintenance and monitoring of your system

The success of the greywater reuse system will depend on the system being maintained (for example cleaning, replacing filters, periodic de-sludging and flushing irrigation lines). You will need to identify the maintenance required and who will be responsible.

Monitoring of the greywater system is required to ensure that the system is functioning properly, that water will be acceptable for the end use and minimize risks of human exposure.

Before you apply

Before you apply, talk to the health department and environment protection agency in your state and your local council to ensure that your proposal is consistent with planning, environmental and health guidelines and regulations. It is your responsibility to obtain any health, planning and environmental approvals or permits that are required to undertake your project.

**Before you apply you should consider:**

- what the greywater will be used for (e.g. irrigation of a community area)
- how the greywater will be stored, treated and applied (e.g. sub-surface irrigation, toilet flushing)
- the maintenance and monitoring regime required.

If your application is successful, you will need to provide:

- copies of your approvals (planning, health, and environment, where required)
- details of how and who will maintain and monitor the greywater reuse system.

Information to help you in your application

ACT (2004) *Greywater Use: Guidelines for residential properties in Canberra*. ACT Health in partnership with the ACT Planning and Land Authority, Environment ACT and ActewAGL.

<http://health.act.gov.au/c/health?a=da&did=10087127&pid=1103502499>

Department of Health (2002) *Code of Practice for the Reuse of Greywater in Western Australia*, Department of Health, Water Corporation and Department of Environment. January 2005.

<http://www.health.wa.gov.au/pophealth/environmental/resources/code%20of%20practice%20reuse%20greywater%20050124.pdf>

NSW Health (2000) *Greywater Reuse in Single Domestic Premises*. NSW Health.

<http://www.health.nsw.gov.au/public-health/ehb/general/wastewater/wastewater.html>

QLD EPA (2004) *Draft Queensland Guidelines for the Safe Use of Recycled Water*. Environmental Protection Agency

http://www.epa.qld.gov.au/environmental_management/water/safe_use_of_recycled_water/

VicEPA (2001). *Domestic Wastewater Management Series, Reuse Options For Household Wastewater. Publication 812*. November 2001

[http://epanote2.epa.vic.gov.au/EPA/Publications.nsf/0/7a4f9f7400a82b43ca256af600140478/\\$FILE/812.pdf](http://epanote2.epa.vic.gov.au/EPA/Publications.nsf/0/7a4f9f7400a82b43ca256af600140478/$FILE/812.pdf)

Contact for more information:

Your local planning authority

Your State/Territory health department

Your State/Territory environment agency

Your local water authority

Disclaimer

The information provided in this sheet is intended as a guide only and does not provide an exhaustive list of all the issues to consider in using greywater. This information does not replace legislation and guidelines in your state or territory.

