

**HEALTH INFORMATION:
GREY WATER RE-USE
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**HEALTH PROTECTION BRANCH
MINISTRY OF HEALTH**



What is grey water?

Grey water is used household water sourced from baths, showers, bathroom basins and laundries, but doesn't include toilet, kitchen sink, or dishwasher waste. Grey water may be re-used for low-risk purposes, such as subsurface irrigation of lawns, ornamental gardens, or toilet flushing. Generally, grey water from the kitchen (kitchen sink) is not recommended for reuse due to the high levels of organic materials such as oils and fats.

How does grey water differ from sewage (black water)?

Both grey water and black water are types of wastewater. Grey water is the result of water being used for household purposes, like bathing and washing clothes, while black water contains feces and urine and other bodily wastes. Grey water can be recycled as its bacterial count is much lower than black water, including the presence of pathogens. Accordingly, black water typically needs more intensive treatment to kill the disease carrying bacteria present. Recycled grey water also tends to turn into black water after use, as it can be used to flush toilets.

What laws apply to the use of grey water?

Technically under the Sewerage System Regulation, grey water is considered sewage, and discharging it onto land, into a source of drinking water, surface water, or tidal waters is considered a health hazard. All domestic sewage originating from a building must go into a public sewer or a sewerage system, unless it is authorized under the 2012 Building code.

The 2012 Building code allows for the construction of non-potable water systems, and subsurface irrigation with non-potable water. The Health Canada Guidelines for Domestic Reclaimed Water for use in Toilet and Urinal Flushing provides further guidance for grey water systems, and is referenced in the BC Building Code¹. Local governments may also create bylaws which allow for the surface discharge of grey water if it meets the provisions of the building code for grey water disposal.

Facts about grey water disposal

- Owners of grey water systems need to be aware of potential environmental impacts related to grey water system maintenance and household habits, with particular attention to chemicals used in the home (such as cleaning products and laundry detergents). Runoff of grey water from the property must be avoided.

¹ Canadian Guidelines for Domestic Reclaimed Water for Use in Toilet and Urinal Flushing, Federal-Provincial-Territorial Committee on health and the Environment, Ottawa, Ontario, January, 2010.

BC 2012 Building Code

Code of Practice for the Reuse of Grey water in Western Australia, 2010, Government of Western Australia, Department of Health

- Grey water to be used for irrigation should be discharged below ground to reduce the risk of human contact. However, surface discharge of grey water in the garden is possible, provided a balance is achieved with the amount of grey water applied, and the solids and nutrients present in the grey water that the plants and soil in the garden can absorb. Bucketing is a simple method to collect grey water directly from the bathroom and laundry and apply evenly on garden or lawn areas. Consider the following when irrigating your garden with grey water:
 - Post warning signs to property users that the plants are surface-irrigated with grey water ('avoid contact').
 - Apply grey water evenly (to prevent ponding).
 - For laundry water, select garden-friendly detergents (biodegradable and low in phosphorus, boron, sodium, and chlorine).
 - Avoid watering vegetables or (fruit – fallen to ground) intended for raw consumption.
 - Don't apply grey water in areas which are readily accessible to children, pets, or immunocompromised people.
 - Don't reuse grey water when a household resident is sick (diarrhea, etc).
 - Don't reuse grey water which contains cleaning products, hair dye, or other chemicals (paint, etc).
 - Properly manage grey water so it doesn't flow into the street, neighbouring properties, or down storm water drains.

- Grey water treatment systems collect, store, treat (chemically and/or biologically) and may disinfect grey water to the standards specified by the local authority. Depending on the level of treatment, this enables the use of treated grey water for above ground irrigation, toilet flushing and cold water supply to washing machines. Treated grey water can be stored for longer than 24 hours, unlike untreated grey water. All grey water diversion and grey water treatment systems have to be approved by the local authority and must be installed by a licensed plumber.

- Grey water from laundries may contain high levels of sodium, carbonates, boron and phosphates, which may have long-term effects on plants or soils.

More information on grey water

Additional information on grey water can be obtained by contacting your local health unit (environmental health department), or the BC Ministry of Health, Health Protection Branch.