

GREYWATER FACT SHEET 2

CHOOSING THE RIGHT GREYWATER SYSTEM FOR YOUR NEEDS



You can reuse greywater for a number of non-potable water uses, depending on what type of greywater system you decide to use. Therefore, it is important to decide how much greywater you need, and where you want to use it before you decide which option is best for you.

Untreated greywater can be diverted for:

- Sub-surface irrigation (irrigation buried at least 10 cm below the surface of soil or mulch).

Treated greywater can also be used for:

- Surface irrigation.
- Toilet flushing.
- Clothes washing machine use.

The basic differences between greywater diversion and greywater treatment systems are outlined in the following table:

Method of Reuse	Council Approval Required?	Possible Uses	Costs
Greywater diversion device (Watermark licensed)	Not if the device is Watermark licensed and certain performance criteria met (see guideline)	Sub-surface irrigation only (10 cm below surface)	Low cost as no treatment required. Cost influenced by whether or not a pump is installed
Greywater Treatment System (NSW Health accredited)	Yes	Garden irrigation, toilet flushing, and washing clothes	Higher cost as a result of treatment requirements

Once you have determined how much greywater you need and whether a diversion or treatment system is most appropriate for your requirements, you must then decide what system is best for your needs. The types of greywater diversion and greywater treatment systems are outlined below.



GREYWATER DIVERSION DEVICES (UNTREATED)

Watermark licensed diversion devices can be installed to divert greywater from your bathroom or laundry (NOT kitchen) to sub-surface irrigation systems without approval from council if certain conditions are met. Kitchen wastewater must not be reused in diversion device systems due to a high content of oils, grease and bacteria in wastewater generated from kitchens.

There are two types of diversion device systems available: gravity diversion and pumped diversion. Both types must have the following features:

- WaterMark licence (previously a Plumbing Safety Licence).
- A hand activated valve, switch or tap that provides easy access to divert greywater for reuse, or to sewer, as required.
- An overflow to sewer.
- For pumped diversion devices, some form of non-storage tank to help smooth surges (the surge tank does not operate as a storage tank but a temporary holding tank).

A licensed plumber must install all diversion device systems and notify the local water utility in writing of the system's installation. A list of licensed devices can be found on the NSW Health website at: www.health.nsw.gov.au

GRAVITY DIVERSION DEVICES

Gravity diversion devices are most appropriate for properties that have a slope downwards away from the house to the garden or lawn area. In these systems, gravity provides pressure to move the water from the house to the irrigation system. The following images provide examples of licensed greywater diversion devices. Note that these are examples only, for a full list, please visit the NSW Health website.



Gflow Grey Water System
www.gflow.com.au



Gravity diversion device system – the Greywater Gardener 230
www.waterwisesystems.com/greywater_gardener.html

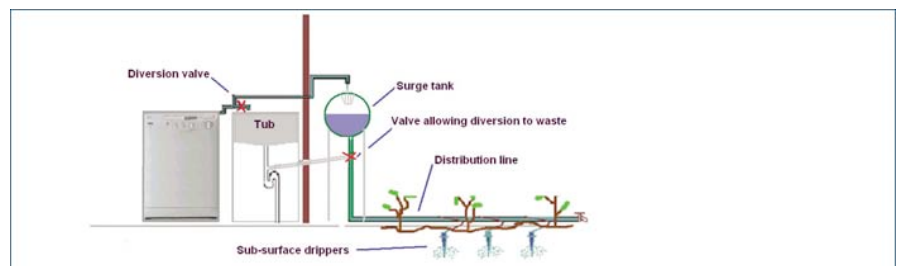


Gravity diversion device from Nylex
www.nylex.com.au

A surge tank for a greywater diversion device does not act as a storage tank, but a temporary holding tank to allow an even flow of greywater to your garden.



Grey to Green diversion device
www.greytogreen.com



Grey to Green diversion system
www.greytogreen.com

PUMP DIVERSION DEVICES

Pump diversion devices should be used when the garden or lawn area is uphill away from the house, or the area is too flat for a gravity system to work. A pump is installed to pump water from the diversion device and surge tank to the area that is to be irrigated.

Pump diversion devices must have a backflow prevention device installed to prevent greywater flowing back to the house.



The following images are examples of licensed pump diversion devices. Note that these are examples only, for a full list, please visit the NSW Health website.

EXAMPLES OF PUMP DIVERSION DEVICES



A pump diversion device – the EcoCare Grey Waste Water Diverter System
www.ecocare.com.au



The H2gr0 pump diversion system
www.h2gro.com.au



Novabox is an automatic pump station for collecting and lifting domestic waste water from bath tubs, wash basins, showers and washing machines located in basements or below the sewer line.



Pump Greywater Diversion System Biological Wastewater Treatment
Email: bwt@iinet.net.au

OTHER DIVERSION DEVICES – NOT EXEMPT FROM COUNCIL APPROVAL

Diversion devices that do not have a hand activated valve, switch or tap, or non-storage surge tank will not be licensed. Although such products are available at hardware stores, they do not meet the requirements of the *NSW Greywater Guideline* and are **not exempt** from council approval. Generally such devices do not adequately manage the health and environmental risks associated with greywater reuse. For information about the health and environmental risks of greywater reuses, please refer to the *NSW Guidelines for Greywater Reuse in Sewered, Single Household Residential Premises* available for free at www.waterforlife.nsw.gov.au.

GREY WATER TREATMENT SYSTEMS

Greywater treatment systems can provide more water for reuse, however, council approval is required and the systems need to be regularly maintained by a service contractor. There are a number of NSW Health accredited greywater treatment systems available that will treat and disinfect greywater prior to its reuse onsite.

Treatment will reduce both the solids, pollutants (nutrients, chemicals) and micro-organisms (including disease causing organisms) in the greywater. This reduces the risks to human health and the environment, and allows the treated greywater to be reused for more applications than untreated greywater. The treatment processes and disinfection methods used vary between manufacturers. A greywater treatment system can be installed to treat greywater from the bathroom (shower and hand basin), laundry and kitchen. Greywater treated by an approved system can be reused for sub-surface irrigation and can also be used for surface irrigation, toilet flushing and washing machine use, as permitted by NSW Health.

MAINTENANCE

NSW Health issue certificates of accreditation for greywater treatment systems and this may include specific maintenance requirements for the system. All units require regular maintenance in accordance with their service manuals by the service contractor. Servicing is usually arranged under an annual service contract (a local government requirement) and service certificates are provided to the council and the property owner. The servicing costs are generally the owner of the system. Each manufacturer is also required to annually randomly sample up to 10 percent of the systems they have installed and to report the outcomes of water quality tests to NSW Health. The cost of this testing is built into the cost of the units.



COUNCIL APPROVAL

The installation and operation of a greywater treatment system requires approval from your council. For a list of NSW Health accredited systems, please visit the NSW Health website.

EXAMPLES OF GREYWATER TREATMENT SYSTEMS

The following provides examples of some accredited systems currently available. Note that these are examples only, and for a full list, please visit the NSW Health website.



The OASIS GT600 from Nubian
www.nubian.com.au



The Aqua Reviva treatment system from New Water
www.newwater.com.au



The NSW Department of Water and Energy does not endorse any particular product and recommends that people interested in selecting a greywater system suitable for their needs consult the NSW Health web site where further information is available.

Watermark Approved Greywater Diversion Systems:

www.health.nsw.gov.au/public-health/ehb/general/wastewater/diversion_devices.html

NSW Health Accredited Greywater Treatment Systems:

www.health.nsw.gov.au/public-health/ehb/general/wastewater/gts/index.html

ADDITIONAL RESOURCES

Further detailed information on greywater reuse is available in the following fact sheets:

Greywater Brochure: How can greywater be used?

Greywater Fact Sheet 1: Greywater diversion devices – Do's and Don'ts

Greywater Fact Sheet 3: Irrigating with greywater

Greywater Fact Sheet 4: Keeping your plants and soil healthy with greywater

Greywater Fact Sheet 5: Maintenance of greywater treatment systems and diversion devices



AquaReuse Greywater Treatment System
www.aquareuse.com.au

The full Greywater Reuse Guidelines and these fact sheets can be downloaded from the Water For Life website: www.waterforlife.nsw.gov.au

