



DOMESTIC GREYWATER REUSE

Greywater is all household wastewater except that from toilets and bidets. Kitchen waste water is not recommended for untreated re-use because it has large amounts of grease, fats and food waste.

Greywater can be directly diverted using a greywater diversion device (GDD) or treated in a greywater treatment system (GTS). A GDD simply diverts greywater usually from a shower, bath and / or laundry to a subsurface irrigation system. The GDD may filter the greywater, temporarily retain the greywater in a surge tank for an hour or so and then return unused greywater to the sewer.

A greywater treatment system (GTS) may collect greywater, treat it to a high standard and then store the final effluent for reuse by above ground spray irrigation on the garden, and other domestic uses such as for toilet flushing or washing machine use.

Diverting Greywater before it enters the sewer.

There are two acceptable methods of diverting greywater.

- (a) The greywater connection can only be from a single-pipe sewer system before a waste fixture trap.
- (b) A two-pipe system is installed - a waste stack and a soil stack. The waste stack is diverted to the GDD or GTS with any excess greywater returned to the sewer via a gully. (For more information please refer to diagrams on the following pages)

The following information provides advice for plumbers on Council's requirements for

1. Direct diversion of greywater and
2. Greywater treatment systems.

Health issues to consider when planning greywater reuse

- Untreated greywater should only be diverted from the bath, shower and laundry rinse cycle.
- Untreated greywater must only be used with watering systems that are under the soil surface to minimise human contact.
- Install signs around irrigation systems where greywater is used to alert people that it is not drinking water.
- Prevent surface ponding or run-off by confining greywater to the application area only.

1. DIRECT DIVERSION OF GREYWATER

Installation Approvals required - Greywater Diversion Devices (GDD)

The installation and operation of a GDD and its subsurface irrigation system will require the prior approval of Council. Council will require that a properly researched and designed subsurface irrigation system be installed and that an overflow to the sewer is available. Council will only allow the installation of a GDD if accredited by the NSW Health Department. Council will also want to renew the approval to operate the GDD at annual or longer periods.

Installation

Any alteration to existing plumbing must ensure that venting and overflow arrangements have not been affected by the GDD. Drainage venting and overflow gullies must still comply with AS/NZS 3500 after the diversion system has been installed. Water seals must be maintained.

No interconnection or cross connection with either reticulated potable supply or rainwater supply is permitted.

Backflow prevention protection

If you install a GDD on a property you must contact Council to arrange for an inspection to ensure installation of a meter containing an integral dual check valve. This will provide protection to the town's drinking water supply from any misuse of the greywater.

Signage

Safety signs must be fixed at all greywater outlets. Signs and warning notices must comply with the requirements of Australian Standard AS1319 and displayed as shown below.

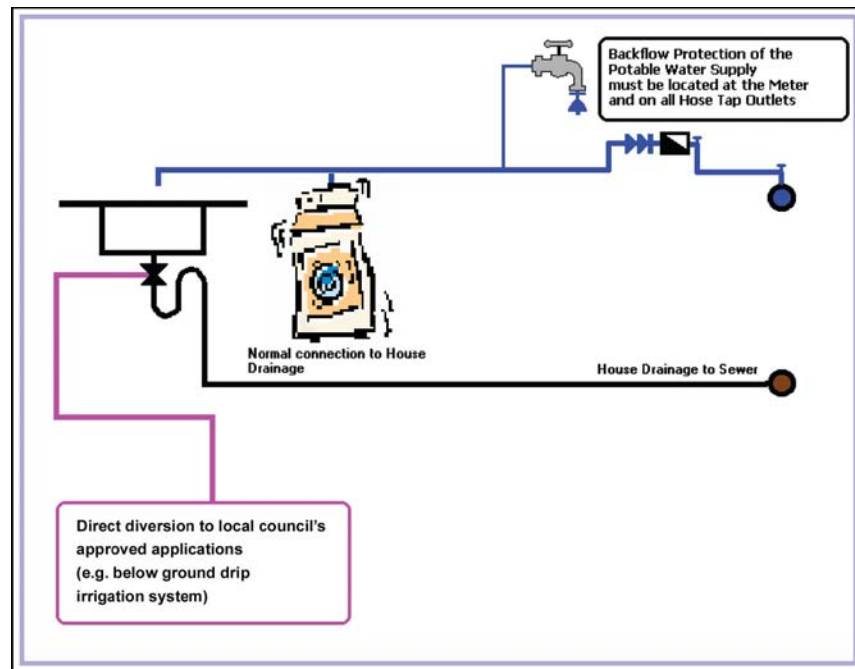
Maintenance of the Sewer Connection

A permanent connection to the sewer must be maintained to prevent greywater spreading during wet weather. Rainwater must not be discharged to the sewer through the greywater return or overflow.

Returning greywater to the sewer

Any greywater to be returned to the sewer is to be done via a trap or gully.





Typical direct diversion from washing machine.

2. GREYWATER TREATMENT SYSTEMS

Installation Approvals required - Greywater Treatment Systems (GTS)

The installation and operation of GTS and its domestic uses will require approval of Council. Council will require that a properly researched and designed irrigation system and other uses be installed to a trade standard and that an overflow to the sewer is available.

Additionally, Council will require appropriate backflow protection of the water supply.

Council will only allow the installation of a GTS which is accredited by the NSW Health Department.

Permission to connect

Permits will only be granted where the proposal provides satisfactory protection for the property's plumbing and Council water systems.

Installation

Backflow prevention and cross connection protection

If you install a GTS on a property you must install a testable backflow prevention device at the meter to provide protection to towns drinking water supply. All hose tap outlets connected to the property's drinking water service must also be fitted with a hose tap backflow prevention device to protect that service from contamination.

No interconnection or cross connection with either reticulated potable supply or rainwater supply is permitted.

Marking, Labeling and Signage

Greywater diversion components must be labelled “**RECYCLED / RECLAIMED WATER - DO NOT DRINK**”. Safety signs must be fixed at all greywater outlets.

Signs and warning notices must comply with the requirements of Australian Standard AS1319.

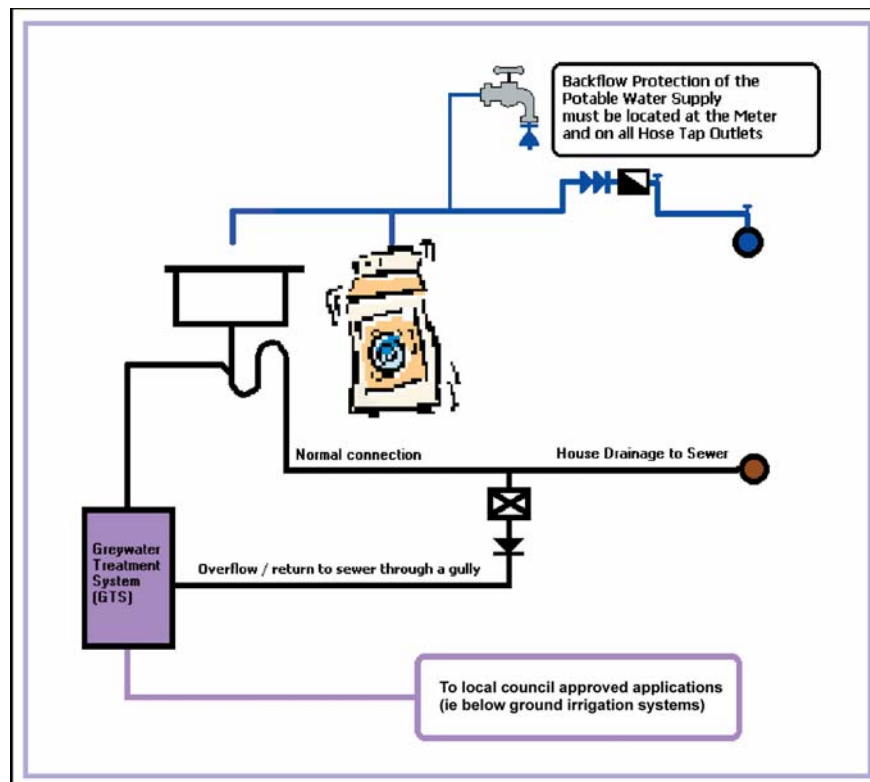
Pipes

All distribution pipes must be coloured lilac (P23) or meet the requirements of AS4130 and be clearly and permanently marked **RECYCLED / RECLAIMED WATER - DO NOT DRINK**. This applies to both above and below ground pipe work.

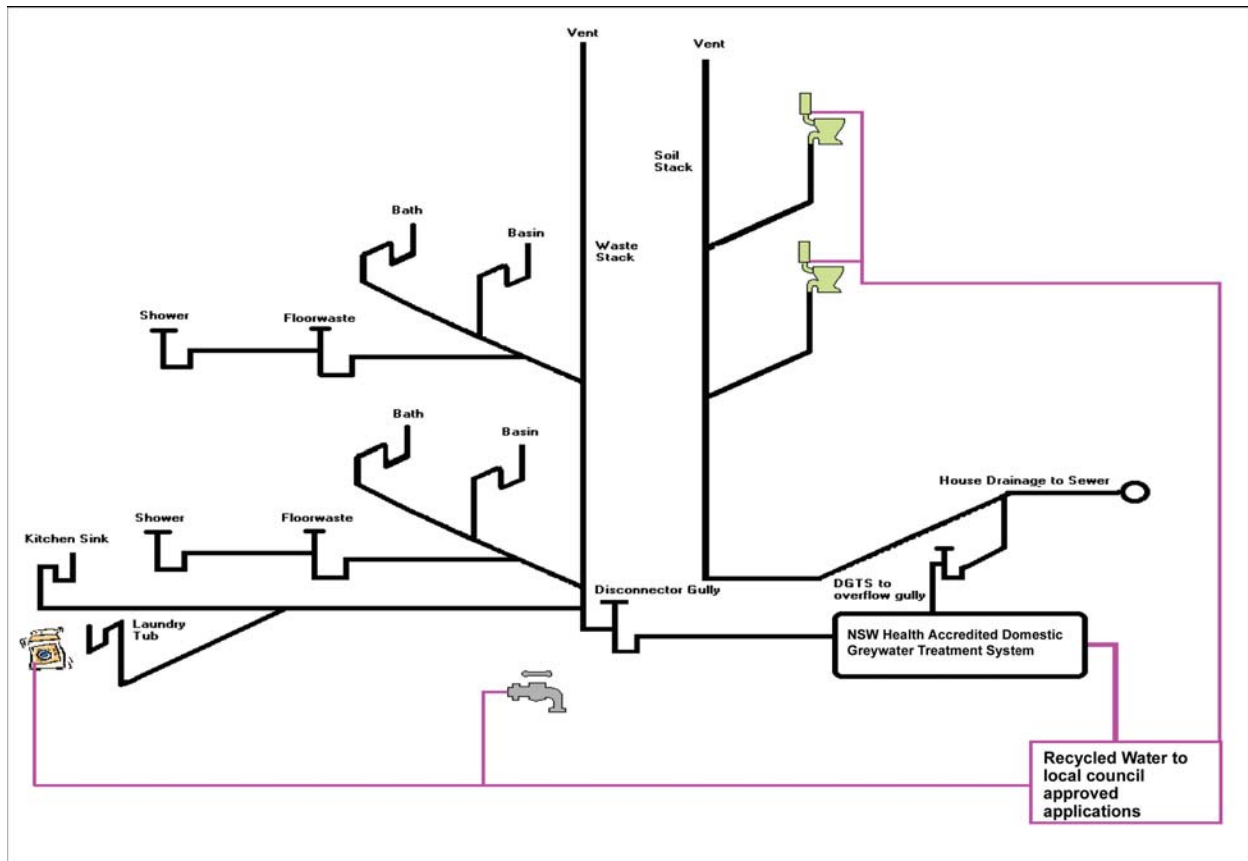
Diverting Greywater before it enters the sewer.

There are two acceptable methods of diverting greywater to a GTS.

1. The greywater connection can only be from a single-pipe sewer system before a waste fixture trap.
2. A two-pipe system is installed - a waste stack and a soil stack. The waste stack is diverted to the greywater treatment system with any excess greywater returned via a gully.



Typical diversion to greywater system via treatment system, single pipe.



Typical greywater dual pipe diversion to a GTS

Use ONLY Approved Plumbing Products & Materials

All works are to undertaken by a Licensed Plumber. Plumbers must check the products and materials they are installing comply with the NSW Code of Practice Plumbing and Drainage and Section 2 of AS/NZS 3500.

The appropriate Licence 'Mark' should be shown on the product. In the case of **plumbing products**, Standards Australia provides the Marks, which indicate the level of approval.

It is **important to note** however, that not all products with a Licence Mark are approved for installation in the Council area. Any concerns please contact Council

Typical greywater dual pipe diversion to a GTS

Reference should be made to NSW Health's guidelines for the use of greywater.

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

[Greywater Reuse in Single Domestic Premises - April 2000 \(PDF\)](#)

[Domestic Greywater Treatment Systems Accreditation G'lines - Apr 2000 \(PDF\)](#)

[Greywater Diversion Devices January 2004 \(PDF\)](#)