

Installation of permanent onsite domestic greywater systems

This fact sheet has been developed as a guide to householders on the use of greywater in residential properties in South Australia. It covers the approval and installation requirements, health and environmental impacts and owner obligations for the installation of permanent greywater systems.

What is greywater?

Greywater is wastewater generated from:

- Bathrooms, including showers, baths and hand basins. Use of spa water in a greywater system is not recommended as the large volumes of water used in a spa can overload the greywater system and cause pooling and runoff to the irrigation area;
- Laundries, including washing machines and troughs; and
- Kitchens, including sinks and dishwashers.

Note: Kitchen water can contain food particles, grease, oils and fats and its use is not recommended (particularly without treatment). Some greywater systems are not designed to receive greywater from the kitchen.

Note: For information on the temporary use of greywater including manual bucketing, see the fact sheet 'Manual bucketing & temporary diversion of greywater' on our [Alternative Onsite Systems](#) webpage.

Permanent greywater systems

Installation of a permanent greywater system requires specific design and installation considerations.

Greywater systems can be separated into two types: *Domestic Greywater Diversion Devices*, which divert greywater without storage or treatment, and *Domestic Greywater*

Treatment Systems, which collect and treat greywater to an acceptable level in accordance with Department of Health requirements.

Approvals

The following approval process is required for all permanent greywater systems in South Australia:

MANUFACTURER - product approval

Manufacturers are required to obtain a product approval from the Department of Health for any devices that divert, treat or reuse greywater before they are sold, marketed and installed in South Australia. This approval is required by legislation and ensures the design holds Watermark Certification and other specific requirements.

A list of products approved by the Department of Health can be found on [Approved Wastewater Products](#) webpage.

HOUSEHOLDER - installation approval

Householders are required to apply for an installation approval for every installation of a permanent greywater system. Installation approvals from the relevant authority incorporate product approval requirements and instructions provided by the product manufacturer. An application fee is charged for installation approvals and for inspections as required by the relevant authority.



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The greywater system installation application form can be found on our [Alternative Onsite Systems](#) webpage.

Approvals in areas which are serviced by an SA Water sewerage system

If your property is connected to the sewer or to a septic system in an SA Water sewerage area, it is a legislative requirement that an exemption from SA Water is received prior to installing the greywater system.

The relevant authority will arrange for the necessary details to be forwarded to SA Water in order to obtain the exemption.

On receipt of the details, SA Water will:

- Consider and assess the application to ensure it meets regulatory and legislative requirements;
- Issue a notice of exemption to the property owner;
- Audit the property after installation at no charge to the applicant to ensure the device has been installed in line with the conditions of authorisation and current plumbing standards.
- SA Water will arrange an encumbrance to be placed on the property in the form of a property advice letter once the greywater device has been installed and audited. This will ensure that prospective purchasers are made aware that a greywater system is installed on the property. The encumbrance advice will be sent to the applicant upon completion.
- A Certificate of Compliance of the kind issued by SA Water and an “as constructed” drawing, are required to be provided to SA Water within 7 days of completing the work, for all works completed by the plumber.

For more information contact SA Water, telephone 1300 650 950 or go to www.sawater.com.au.

Approvals in non-SA Water sewerage areas

If you wish to install a permanent greywater system in an area not serviced by SA Water (such as areas that are privately sewerage, or have no common drainage system or where there is a Septic Tank Effluent Disposal Scheme), then an exemption for that system may be required by the Council or other agency who owns the system.

Contact your local council (or owner if it is a private scheme) to obtain any necessary approvals to divert greywater from your septic tank or from any community wastewater management system.

Location and site characteristics

In addition to the application form and fee, the following details must be provided with your application:

- A plan showing detailed directions to locate the property.
- A scaled site plan of the property showing:
 - all buildings on and adjacent to the property as well as details of the property's land-use and neighbouring land-use.
 - the location of the house/building, boundaries, recreation areas, plumbing layout including greywater treatment or diversion system, irrigation / disposal area of final effluent and blackwater treatment and/or disposal system.
- Details of site characteristics, such as topography, proximity to any watercourses, bores, marine environment, etc.

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- Soil assessment report for the irrigation/disposal area if requested by the relevant authority.

Note: Greywater Systems and irrigation area/s must meet the mandatory setback distances from buildings, boundaries, bores, dams and watercourses as detailed in the SAHC Code 'Waste Control Systems - Standard for the Construction, Installation and Operation of Septic Tank Systems in SA' and its Supplements (see our [Onsite Systems](#) webpage).

Treatment and disposal of all wastewater

A greywater system is part of an overall property wastewater management system. Information on the management of the whole system is required as part of the application.

Method of black water (toilet waste) treatment and/or disposal

Options include:

- Connection to an SA Water sewerage system or a private or a council scheme.
- A septic tank (for a minimum of six persons) with subsurface effluent disposal or connection to a STEDS
- A composting toilet or other type of blackwater treatment/disposal system approved for installation in SA for blackwater.

Method of greywater diversion/treatment

Options include:

- A greywater diversion system approved for installation in SA.
- A greywater treatment system approved for installation in SA.
- A septic tank or other type of primary treatment for greywater approved for installation in SA.
- A reedbed system achieving secondary treatment.

Greywater disposal and irrigation options

Method of greywater reuse

For a greywater diversion device:

- Land application is to be via a dedicated subsurface disposal or subsurface irrigation.
- A soil report from an engineer or soil scientist must be provided for each installation;

For a greywater treatment system achieving secondary treatment with disinfection:

- Land application can be via a dedicated surface or shallow subsurface irrigation, or subsurface disposal in accordance the relevant authority's requirements.

Irrigation requirements

- Subsurface disposal and surface irrigation systems are to be designed in accordance with the SAHC Code 'Waste Control Systems- Standard for the Construction, Installation and Operation of Septic Tank Systems in South Australia' and its 'Supplement B - Aerobic Wastewater Treatment Systems' on our [Onsite Systems](#) webpage.
- Sub-surface irrigation systems are to be designed in accordance with the system manufacturer's, soil engineer's and the relevant authority's requirements.
- AS/NZS 1547 may be followed for other soakage, or spray and drip irrigation systems as accepted by the relevant authority.
- Irrigation of vegetable patches and other plants used for human consumption is not permitted. Irrigation of fruit and nut trees is allowed in some circumstances.
- As determined by the Department of Health, effluent from greywater treatment systems which meet the

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required water quality criteria can be used for:

- Toilet flushing;
- Unrestricted garden watering;
- Car washing; and
- Laundry use

Effluent quality requirements

Effluent quality requirements are outlined in the 'Draft Guidelines for Permanent Onsite Domestic Greywater System Product Approval' on our [Alternative Onsite Systems](#) webpage.

The Department of Health will determine effluent quality requirements for larger applications on case to case basis.

Plumbing requirements

Plumbing legislation in South Australia requires that any work carried out on sanitary plumbing and drainage systems must be undertaken by a licensed plumber.

Accordingly, all greywater systems must be installed by a licensed plumber in accordance with *AS/NZS 3500*.

Upon the installation of the device, the plumber shall issue a Certificate of Compliance and provide a copy of the documentation to the Department of Health, SA Water (where applicable) and the property owner within 7 days of completing the work.

In SA Water's "proclaimed drainage areas", the plumber must also book an inspection with SA Water.

Public and environmental health considerations

The quality of greywater can vary greatly due to factors such as number of household occupants, their age, lifestyle, health, water source and products used (such as soaps, shampoos, detergents).

Greywater may contain:

- Disease-causing organisms (bacteria, viruses, protozoa) from nappies and other soiled clothing.
- Chemicals from soaps, shampoos, dyes, mouthwash, toothpaste, detergents, bleaches, disinfectants and other products (such as boron, phosphorus, sodium, ammonia and other nitrogen based compounds).
- Dirt, lint, food, hair, body cells and fats, and traces of faeces, urine, and blood.

Owners and users should be mindful of the potential risks to public health and the environmental impact of greywater through incorrectly designed, installed, and maintained systems.

For more information, refer to the fact sheet 'Public and environmental health considerations for greywater use' on our [Alternative Onsite Systems](#) webpage.

Owner obligations

The owner of a greywater system must ensure that:

- Installation approval is obtained from the Department of Health or Local Council for their greywater diversion device or greywater treatment system, prior to installation.
- The system is installed by a licensed plumber
- The irrigation system is fully installed prior to use of the greywater system, in accordance with the installation approval.
- The system is operated and maintained in accordance with the manufacturer's instructions, and any other requirements of the installation approval.
- The system does not compromise public health or the environment.

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Operation and maintenance

The greywater system must be operated and maintained in accordance with the manufacturer's recommendations, Department of Health product approval, Relevant Authority's installation approval and any other SA Water requirements.

Successful operation of a greywater system requires routine maintenance, which may include:

- Maintenance of greywater diversion devices which will usually include regular cleaning of filter devices and in some cases, servicing of irrigation pumps.
- Regular flushing of subsurface irrigation systems. Flush waters must be directed to an approved soakage trench, back to the treatment system (if allowed by the manufacturer) or to other approved discharge points.
- In the case of greywater treatment systems, the owner's entering into a service agreement as per the manufacturer's instructions. The owner must keep copies of any such the service reports.

More information

For information on greywater including product approvals, manual bucketing and temporary diversion go to our [Alternative Onsite Systems](#) webpage.

Fact sheets are also available reedbed systems and composting toilets or other blackwater systems.

Relevant codes are available for download from our [Onsite Systems](#) webpage.

Contact

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