

Maintenance of aerobic wastewater treatment systems

This fact sheet provides basic information about types of aerobic wastewater treatment systems, obtaining approval to install them and how to operate and maintain the systems to prevent risks to health and safety.

There are basically two types of systems for aerobic wastewater treatment:

- Aerated wastewater treatment systems (AWTS)
- Aerobic sand filters.

What is an AWTS?

An AWTS is designed to treat wastewater to a level suitable for surface irrigation within the site.

Following primary treatment, the effluent is treated by a process of aeration, settling and disinfection and then pumped to a dedicated irrigation area as recycled water.

What is a sand filter?

Sand filters achieve a similar result to AWTS but the treatment process is different.

The effluent from a septic tank is filtered through a sand layer which provides natural aeration and biological oxidation through aerobic and nitrifying organisms.

From the disinfection chamber the recycled water is pumped to the dedicated irrigation area.

Aerobic systems

Both types of treatment achieve a level of water quality that permits the discharge of the recycled water to surface irrigation within a dedicated landscaped irrigation area.

Before an aerobic system can be installed, an approval must be obtained from the local council.

The approval specifies the plumbing and drainage layout, wastewater treatment system and location of the dedicated irrigation area.

The occupier of the premises should have received a comprehensive manual on the care, operation and maintenance of the system when it was installed.

As a condition of approval, the occupier of the premises served by an aerobic system must maintain the system to ensure that recycled water complies with safe water-quality standards. See below for servicing requirements.

An aerobic system may create health risks for the occupants if it is not correctly maintained.

WARNING: To prevent injury or drowning, the access covers for any septic tank and aerobic system chambers must be securely fixed to prevent access by children. Access should only be by service personnel. Damaged covers must be replaced and securely fixed in position.

Operation and maintenance

A correctly operated and maintained aerobic system provides the occupants with a safe means of using recycled water without risk to health and helps conserve water.



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Servicing

AWTS and sand filters must be serviced by an appropriately trained person at specified intervals as recommended by the manufacturer in the service manual. The [SA Health On-site Wastewater Systems Code](#) provides details of the training requirements for service providers.

Maintenance, depending on the type of system, may include checking the blowers, contact media, pipework, valves, diffusers, effluent clarity and sludge return, removal of excess scum, testing the pump and general operation of the system.

Where chlorine tablets are used, the amount supplied must be sufficient to last until the next scheduled service.

Septic tank pump-out

Where installed, a septic tank needs to be pumped out every 4 years or more often according to the installation approval conditions.

Pumping out of the septic tank must be done by a licensed contractor.

Alarm

All aerobic wastewater treatment systems must be provided with an alarm system to alert occupants to an electrical or mechanical malfunction.

The alarm must have an audible and visual (indicator light) component with muting for the audible alarm.

The fault indicators should be located inside the premises, preferably within the kitchen or laundry.

Odour

Slight odour from the system is normal. However, strong persistent odours indicate the system is not functioning correctly.

Irrigation

Remember that the dedicated surface irrigation system and irrigation area

must function every day of the year - rain, hail or shine.

When setting up the irrigation system, the following points should be considered:

- The wastewater engineer specifies the required irrigation area for the system (the size can generally be found on the installation approval).
- The irrigation area must comply with setback distances from the building, boundaries, swimming pools etc..
- The irrigation area must be landscaped with suitable salt and nutrient tolerant plants and must be designed to discourage or prevent access by pets and people.
- The recycled water must be evenly distributed over the whole area without spray drift, pooling or run-off. On some sites the design may specify drippers or sub-surface irrigation.
- The irrigation system must not be connected to the reticulated mains supply or other drinking water supply.
- All distribution pipework for the irrigation system should be buried at least 150mm below the ground surface.
- The recycled water is not to be used for growing food crops.
- Roof and surface waters must be diverted away from the irrigation area.
- The irrigation area must not be located on land subject to flooding or waterlogging.
- The irrigation area should have precautionary signs placed on all sides worded as follows:

**Warning - Recycled water
not suitable for human
contact/consumption**

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The signs should have a white background with red lettering of at least 20mm in height.

- The pump provided in the aerobic system must be of sufficient capacity to ensure an even distribution of recycled water to the whole of the irrigation area and is usually specified by the design engineer.

Aerobic system manual and approval conditions

If you did not receive a copy of the operating and service manual and the approval conditions when you moved into the premises, contact the system installer or the manufacturer to obtain this information.

SA Health codes and forms

This fact sheet is only a brief guide to the basic requirements. For more detailed information on the installation, operation and maintenance of aerobic systems see the [SA Health On-site Wastewater Systems Code](#).

To download the application form for approval to install aerobic wastewater treatment systems go to our [On-site Systems webpage](#).

Further information

Contact the Environmental Health Officer at your local council for further information. Go to the [Local Government website](#) to locate the council responsible for a particular town or suburb.

Contact

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ABN 97 643 356 590

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Last revised June 2013.



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