

On-site Sewerage Facilities

A large number of properties in the South Burnett are not connected to a reticulated sewerage system. The treatment and disposal of all wastewater generated on these properties must be undertaken by an on-site sewerage facility.

An on-site sewerage facility is any system that stores, treats and disposes of household wastewater on the property. Poorly sited or maintained on-site sewerage facilities can impact on public health and the environment. The owner of the facility is responsible for ensuring the system is maintained and functioning properly.

The disposal of effluent (treated sewage) may occur:

- on the property on a designated area (called a land application area)
- off the premises by a common effluent drainage system
- off the premises by collection from a holding tank by a council-approved liquid waste carrier.

A common effluent drainage system is where two or more premises have their wastewater combined (usually after primary treatment) and transported to a common land application area independent of premises where the wastewater was generated. Such systems over 20EP would also require approval and further monitoring from the Environmental Protection Agency.

Types of on-site sewerage systems

Treatment systems for household waste water include:

- conventional domestic sewerage treatment plants - secondary treatment or better
 - activated sludge system
 - biological trickling filter system
 - extended aeration system
 - aerated/aerobic sand filter system
- septic tanks - primary treatment
 - all-waste septic tank - all household wastewater
 - black water septic tank - toilet, urinal and bidet wastewater only
 - greywater septic tank - sullage wastewater only
- composting systems
 - dry vault system (waterless) - toilet waste only
 - wet system - all household wastewater (may be considered a domestic sewerage treatment plant)
- holding tank
 - off premises by collection from a holding tank by a council approved liquid waste carrier.
- greywater treatment/diversion facility

Although Council approves the installation of an on-site sewerage facility, the treatment system will require product approval from a State Government Department or demonstrated compliance with a manufacturing code of Australian Standard before it is approved.

Types of land application areas

The designated area on a property for application of the treated effluent is as land application area and includes:

- Irrigation system:
 - Surface irrigation - spray above ground
 - Sub-surface irrigation - drippers in shallow trench for a large surface area
 - Covered surface irrigation - drippers on natural ground covered by mulch, woodchip, etc
- Evapotranspiration-absorption trench/bed/mound:
 - Trench or bed - embodies the principles of evaporation, transpiration and absorption
 - Elevated sand mound - especially constructed on natural ground level

The type of land application area will depend on the level of treatment wastewater has received prior to disposal.

What is a Domestic Waste Water Treatment Plant?

It is a system that takes all household waste water, treats it through 4 stages of treatment and recycles the water by irrigation on a landscaped area.

The four stages are:

1. Primary anaerobic digestion and sedimentation
 - In the first stage the breakdown of solids is performed by bacteria, known as anaerobic bacteria, which thrive without oxygen and light within the septic tank. In time most of the solids will decompose or break up; others will not and these collect at the bottom of the tank as sludge.
2. Aerobic biological oxidation of primary effluent
 - In the second stage the effluent from the primary stage still contains dangerous substances which are attacked by aerobic bacteria. Aerobic bacteria require oxygen for their continued existence. The bacteria grow on a filter media which is aerated by a positive blower or aerator, by rotating contractors or by a plastic media trickling filter. These bacteria attack the dangerous substances in the liquid uniting it with oxygen to form harmless nitrates.
3. Chlorination to destroy pathogens
 - In stage 3 the effluent passes over solid chlorine tablets into an effluent storage compartment which provides adequate chlorine contact time.
4. Nutrient removal by transpiration and evaporation
 - Stage 4 is accomplished by an automatic pump distributing the effluent to the irrigated area through an irrigation system.

The build up of sludge in the bottom of the tank must be removed on an average of every 5 to 10 years for small household tanks.

After desludging and cleaning out by pumping, the tanks should not be disinfected or wasted. Simply fill the tank with water to reproduce the bacterial action and keep odours to a minimum.

Care and maintenance helpful hints:

Do:

- Become familiar with how the particular system operates. Know the way it looks, sounds and smells when it is working correctly. This way, problems may be identified before they become serious and can alert your service agent to unusual conditions.
- Use washing and cleaning products recommended by the service provider. Most systems are unable to adequately reduce phosphates, nitrates and sodium, which may impact on the environment. Choose products that are labelled low or exclude these elements.
- Use toilet paper that disintegrates easily.
- Check that all vents are mosquito proofed and properly maintained. Mosquitos can breed in the environment of the tank.
- Ensure that the irrigation system is operated at all times to SPREAD THE EFFLUENT EVENLY over the designated area and AVOID PONDING.
- When a person in the household is taking **antibiotics**, the system should be fed with a cup of **blood and bone** once per week.

Do Not:

- Do not allow roof or surface water to enter the system as it will cause overloading.
- Do not try to save power by switching off the system.
- Do not allow products that may be detrimental to the microbiological processes to enter the system (e.g. bleach, paint, thinners, extremely acidic or alkaline products, pesticides, antibacterial agents, grease, oil). Check with the service provider if unsure of the products to be used.
- Do not use a garbage grinder, as the solids will overload the system.
- Do not use toilet cleaners or Blue Loo, as they will affect the system, or clean paint brushes or use or pour kerosene into the system.
- Do not allow foreign matter such as sanitary napkins, cotton balls/buds, cigarette butts, disposable nappies or nappy liners to enter the system as they cause blockages and add to solid waste.
- Do not cover tanks with earth, concrete, pavers, mulch or other material.
- Do not use the effluent to irrigate fruit and vegetable crops.

Golden Rule: "If in doubt, leave it out."

If you have any queries regarding the use of certain products in your system, please call the system Service Agent.