



## Septic Systems

In unsewered areas, the proper treatment and re-use of household wastewater on-site is critical in ensuring minimal impact to public health and the environment. Septic systems have been developed as a way of achieving this.

### What is a septic system?

A septic system consists of septic tank combined with a soil absorption system and/or transpiration beds or pump out connections. The system enables people living in unsewered areas to treat and and disperse their sewage.

A septic tank is a structurally sound watertight tank used for the treatment of sewage and liquid wastes from a single household or multiple dwellings.

### How does a septic system work?

All the wastewater from a household enters the tank. Most of the solids settle to the bottom and are retained in the tank, forming a sludge layer, whilst fats and greases collect at the top in a scum layer.

Bacteria in the septic tank break down the solid matter in the sludge and scum layers. Material that cannot be fully broken down gradually builds up in the tank and must be pumped out periodically.

There are three ways to handle septic tank effluent:

### On-Site Application

The effluent flows from the septic tank to transpiration and/or absorption trenches. Here the effluent is mainly absorbed into the soil and partly evaporated by the sun and used by vegetation.

**Such application systems have the potential to contaminate groundwater and are not recommended in sensitive locations or in higher density developments. Further treatment followed by subsurface irrigation should be considered.**

### Pump Out

The effluent flows from the septic tank into a collection well or holding tank. At regular periods, a tanker pumps out the holding tank and transports the effluent to an off-site management facility.



### Common Effluent System (CES)

The treated wastewater is transported to an off-site management facility through a network of small diameter pipes.

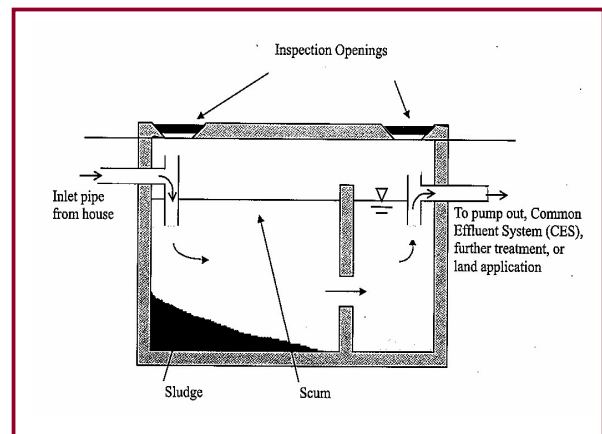
### Regulations and Recommendations

An on-site septic system requires approval from the local Council before it is put in place. The regulations that apply to single household systems differ from those for multiple dwellings. The Environment Protection Authority (EPA) is responsible for approving septic tanks used to treat wastes generated by multiple dwellings like caravan parks, commercial and industrial premises. The NSW Department of Health determines the design and structural requirements for septic tanks and collection wells.

Local Council's have the authority to approve systems certified by the NSW Department of Health for individual properties and ensure the systems do not have adverse impacts on health and the environment. Local Council's are responsible for ensuring that the approved system is installed according to specifications and any special conditions, and is maintained and serviced correctly. You should consult your local Council on the regulations that apply to you.

Care of the septic tank is only a part of the maintenance of your septic system. Management of the treated wastewater from your septic system is your responsibility and is discussed in the pamphlet "Your Land Application Area". Heavy fines may be imposed if the effluent is managed improperly.

### Cross Section of a Septic Tank



**Maintaining your septic system**

The effectiveness of the system will, in part, depend on how it is operated and maintained. The following is a guide on how to achieve the most from your system

**DO**

- Have your septic tank desludged every three years to prevent sludge build up, which may 'clog' the pipes and absorption trenches.
- Have your septic tank serviced annually by contractors to check scum and sludge levels, and the presence of blockages in the outlet and inlet pipes.
- Have your grease trap (if installed) cleaned out at least every two months.
- Keep a record of pumping, inspections and other maintenance.
- Learn the location and layout of your septic system and land application area.
- Check household products for suitability for use with a septic tank.
- Use biodegradable liquid detergents. Such as concentrates with low phosphorous.
- Ensure your tank is mosquito-proofed.
- Conserve water.

**DON'T**

- Put large quantities of bleaches, disinfectants, whiteners, nappy soakers and spot removers into your septic tank via the sink, washing machine or toilet.
- Put fats, oils and food wastes down the drain.
- Install or use a garbage grinder or spa bath if your system is not designed for it.
- Allow any foreign material such as nappies, sanitary napkins, condoms and other hygienic products to enter the system.
- Use more than the recommended amounts of detergents.

**Reducing water usage**

Reducing water usage will lessen the likelihood of problems such as overloading with your septic system. Overloading may result in wastewater backing up into your house, contamination of your yard with improperly treated effluent, and effluent from your system

contaminating groundwater or a nearby river, creek or dam.

Conservative water use around the house will reduce the amount of wastewater which is produced and needs to be treated.

Your septic system is also unable to cope with large volumes of water such as several showers or loads of washing over a short period of time. You should try to avoid these 'shock loads' ensuring water use is spread more evenly throughout the day and week.

**Warning signs**

You can look out for a few warning signs that signal to you there are troubles with your septic tank. Ensure that these problems are attended to immediately to protect your health and the environment.

Look out for the following warning signs:

- Water that drains too slowly.
- Drain pipes that gurgle or make noises when air bubbles are forced back through the system.
- Sewage smells, this indicates a serious problem.
- Water backing up into your sink which may indicate that your system is already failing.
- Wastewater surfacing over the land application area.

**Trouble shooting guide**

If there are odours, check the following areas:

- Greasetrap (if installed), is it full or blocked?
- Absorption field, is it wet or soggy?
- Has there been recent heavy rain?

Odour problems from a vent on the septic system can be a result of slow or inadequate breakdown of solids. Call a technician to service the system.

**Help protect your health and the environment**

Poorly maintained septic tanks are a serious source of water pollution and may present health risks, cause odours and attract vermin and insects.

By looking after your septic system you can do your part in helping to protect the environment and the health of you and your family.

**For further information and advice on****Your Septic System  
Contact:**

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