



Otago
Regional
Council

Know how your septic tank works

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A short guide to help you get the most out of your septic tank and look after the environment while doing it.

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How do septic tanks work?

On-site wastewater systems, such as septic tanks, treat domestic wastewater and return it to the environment inside the property boundaries.

A septic tank with a disposal field is the simplest and most basic wastewater treatment system. These systems tend to be older and consist of large tanks underground that collect wastewater from a dwelling on the property. They rely on **good bacteria** to break down your waste.

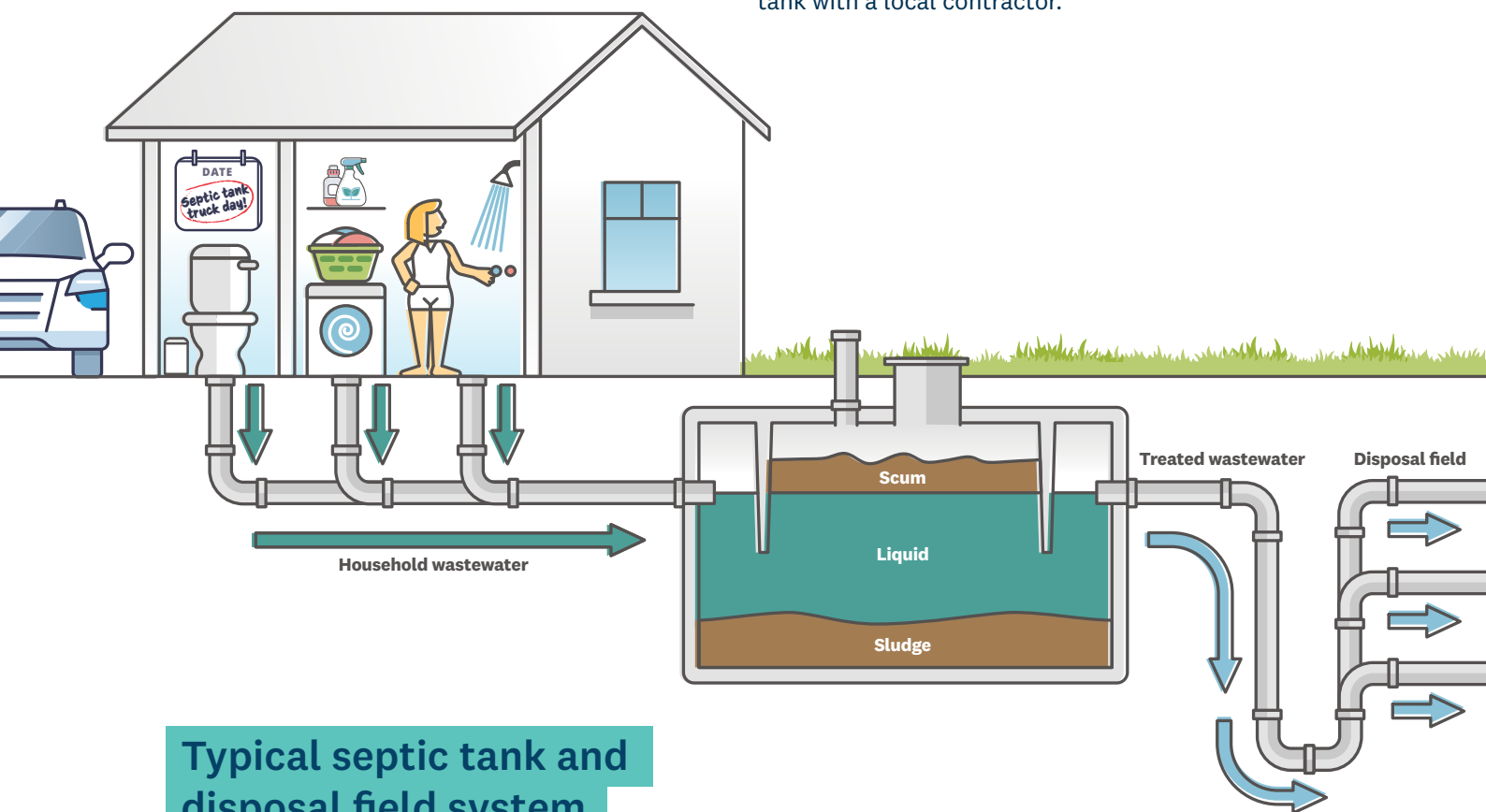
Septic tanks retain wastewater for long enough to settle solids to the bottom of the tank as sludge, while fats and oils float to the top.

The **liquid** is then slowly discharged to a nearby disposal field, where it can soak into the ground.

The **sludge** remains in the tank and needs to be pumped out, along with any excess scum, **roughly every three years**. The time frame depends on what you do to reduce water use and look after the good bacteria in your tank.

This process is the same, no matter what shape or size your tank is.

As a responsible tank owner, make sure you **set a reminder** to arrange the pumping of your septic tank with a local contractor.



Typical septic tank and disposal field system

A septic tank separates wastewater into three layers:

Scum (e.g. paper and fat) — which floats on the surface

Liquid — the middle layer

Sludge — which sinks to the bottom of the tank

It's cheaper to maintain your septic tank than to fix it

Here are some handy tips to help keep your septic tank in good health.



Reduce your water use

- Only wash one load of laundry a day
- Use washing machines and dishwashers only when you have a load
- Use a front-loading washing machine to minimise water usage
- Install water-saving devices
- Fix leaky taps
- Take showers instead of baths
- Don't put large volumes of water through your system (e.g. from spa pools)



Take care what goes down the drain

- Scrape your dishes clean of food and fats before washing them
- Put oils, fats and grease in your bin
- Put coffee grounds in your compost, not down the sink
- Remove sand and soil from your clothes before washing them
- Use a compost bin instead of a waste disposal unit
- Put sanitary products, disposable nappies and 'flushable' wipes in the bin
- Take unwanted medicines to the pharmacy
- Dispose of paints, weedkillers and other chemicals at your local transfer station



Use gentle cleaning products

- Use detergents and cleaners compatible with your system
- Use biodegradable soaps and washing powder
- Don't use strong bleaches, chlorine and disinfectants
- Use homemade cleaning products such as baking soda (for cleaning surfaces), white vinegar (for cleaning tile grout with a toothbrush) or lemon juice (one cup of juice in half a bucket of water instead of bleach). See more on page 4
- If you do use harsher chemicals, please keep these to a minimum, as they kill the good bacteria that break down your waste



Know how your septic tank works

- Get familiar with your septic system, as good maintenance begins with understanding what type of system you have, how it works and where it's located
- Regularly inspect and maintain your septic system
- Protect your septic tanks and disposal fields from vehicle access and large animals to avoid cracking the pipes and tank
- Divert all stormwater away from the disposal field
- Don't plant deep-rooting trees or shrubs over the disposal field and pipes
- Talk with a service provider about improving the system

Options for gentle cleaning products



Here are some household cleaners you can make at home to help look after your septic tank.

Application	Product	Directions
All-purpose cleaner	Baking soda	Apply to a damp cloth to clean surfaces in the kitchen and bathroom.
Toilet cleaner	Borax and lemon juice	Make a paste from borax and lemon juice for cleaning toilet bowls.
Grout and mildew cleaner	White vinegar	Dip an old toothbrush in white vinegar and scrub the tile grout to remove mildew and mould.
Dishwashing detergent	Pure soap; baking soda; vinegar	Use liquid or powdered pure soap and vinegar for washing dishes in your sink. When using your dishwasher, try baking soda in the soap powder compartment and vinegar in the rinse aid dispenser.
Pot cleaner	Baking soda	To remove burnt-on food, cover the burnt area with water, add 2 teaspoons of baking soda and bring to the boil. Leave to cool then scrape off.
Bleach	Lemon juice	Use 1 cup of lemon juice in half a bucket of water and soak overnight.
Stain remover	Eucalyptus oil	Apply a few drops to the stain and let it evaporate before washing.
Laundry detergent	Low-chemical detergents	Choose a detergent with zero phosphate and chlorine content, and the lowest sodium level.

Note: borax is available from most pharmacies and eucalyptus oil from most health stores.

Septic tank maintenance

To ensure wastewater is properly processed and to avoid odours and ponding, your septic tank and disposal field need regular maintenance inspection and servicing by a qualified technician.

Polluting our waterways is not okay. This means it is very important to maintain your septic tank, as poor-performing systems can contribute contaminants to waterways.

Property owners are responsible for maintaining their septic tank, knowing how it works and having issues fixed as soon as possible.

The discharge of wastewater (whether treated or untreated) to water is contrary to tikaka (Māori custom and traditions). It means waterways can't

be used for customary practices, such as mahika kai (food harvesting).

Taking care of your system is not complicated and does not need to be costly. Not taking care of your system can damage the environment and could end up being very expensive, especially if you have to replace the system.

Septic systems have a lifespan of around 20 years. Regular maintenance and care of your system will keep it working effectively for many years to come.



Good bacteria

Septic tanks rely on 'good bacteria' to break down some of the contents. Some sludge is needed in the bottom of the tank to support the good bacteria, but too much will reduce the amount of time the system can hold wastewater for. This means the wastewater cannot be treated properly, which could create an environmental problem.

TIP

Avoid harm to the environment by keeping your septic tank and disposal field working well. If you are building a new system or upgrading, check the rules and consent requirements.

Signs your septic tank is failing or needs maintenance

Septic system failure occurs when your septic tank is no longer able to treat its contents. This happens when the good bacteria die off or your septic tank or disposal field is aged, damaged or too small for your family size or household use.

If your septic tank fails, you may need to have it pumped out and get a suitably qualified plumber or drainlayer to inspect your system.

Signs to watch out for:

- Sinks, basins, toilets or showers are slow to drain
- Sinks back up when the toilet is flushed
- Fixtures make a gurgling noise when emptying
- A foul smell around your septic tank or disposal area
- Abnormally high water level in your septic tank
- Your septic tank is overflowing
- A gully trap or tank mushroom is overflowing
- Evidence of discharges around vents or gully traps
- The ground around your septic tank is soggy
- Puddles of (often smelly) standing water in or around your disposal field or where your septic tank is buried
- Broken tank lids
- Pipe blockages
- Scum and sludge build-up in your septic tank. Black and slimy areas around your septic tank or disposal field
- Yellow or dead grass directly over your septic tank or disposal field in the cooler, wetter months
- Lush green grass directly over your septic tank or disposal field during the dryer, hotter months
- Algal blooms in nearby ponds or lakes

Pictured: a disposal field absorbing wastewater. This is fine during dry or hot weather — the grass should recover when the cooler, wetter seasons arrive.



Troubleshooting

The following information should help you prevent common problems. If you still have problems or questions, contact your specialist maintenance contractor.

Issue	Possible causes	How to prevent it
Strong odour coming from tank or disposal field with no visible signs of problems	• Too much of the good bacteria in the tank killed by the addition of chemicals or other substances, causing wastewater to not be treated properly • An increase in the number of people in the household, causing an overload of bacteria in the system	• Use gentler cleaning products suitable for septic tanks • Minimise the use of harsher chemicals in your home • Reduce the amount of water used in the household
Stormwater ponding on surface of disposal field (often very little or no odour)	• Insufficient or inadequate stormwater drainage system • Poor drainage due to soil conditions	• Divert all stormwater away from the disposal field by digging new drains or redirecting existing drains • Plant small, water-tolerant plants (not food crops) on and around the disposal field to absorb water • Use shallow-rooted / broad-leaved plants around disposal field
Wastewater ponding on surface of disposal field (with strong odour around disposal field)	• Overloading of the septic tank system • Disposal field is too small • Disposal field is clogged with solids, scum or unsuitable materials • Poor drainage due to soil conditions	• Reduce your water use • Take care what goes down the drain • Fit an outlet filter to your septic tank to prevent solids entering the disposal field • Install a distribution box to allow parts of the disposal field to be 'rested' • Talk to an expert about other system improvements

Issue	Possible causes	How to prevent it
Overflow of wastewater from tank or gully trap	• Tank overloading • Solids from tank blocking pipes or disposal field drains • Damage to disposal field resulting from plant/tree roots, vehicles or large animals • Poor drainage due to soil conditions	• Reduce the amount of water you use • Scrape all dishes into the compost before washing to remove grease and food scraps • Ensure your septic tank is pumped out at least every three years • Repair or replace broken septic tank lids • Keep vehicles and large animals off the disposal field • Don't allow roof water to discharge into your tank • Plant only small plants on your disposal field • Ensure solid objects (e.g. kids' toys) cannot enter the gully trap on your drains • Fit a septic tank outlet filter to prevent solids entering the disposal field



Signs of a failing disposal field can include wet, soggy areas in or around the drain field (pictured). There may also be odours near the tank or disposal field.

Do I need a consent?

You will need a resource consent if you cannot comply with the permitted activity standards — for example, your new system will discharge more than 2,000 litres per day, or effluent is going onto a neighbouring property.

Rules for on-site wastewater systems, including septic tanks, are covered in section 12.A of the Otago Water Plan at orc.govt.nz/waterplan

- Rule 12.A.1.3 applies to systems installed before 28 February 1998.
- Rule 12.A.1.4 applies to systems installed after 28 February 1998.
- Rules 12.A.1.1 and 12.A.1.2 relate to long-drop toilets.

Any questions?

If you'd like to know more, please don't hesitate to contact us.

For best practice advice:
catchments@orc.govt.nz

For consent-related questions:
consent.enquiries@orc.govt.nz

For compliance-related questions:
compliance@orc.govt.nz



Reporting pollution

If you notice problems with an on-site wastewater system (e.g. a septic tank) or pollution in your community, please contact our 24/7 pollution hotline.

0800 800 033 or email pollution@orc.govt.nz