Back to Basics

Innovative and Alternative Onsite Wastewater Systems

The conventional septic system is still the most commonly used device to treat domestic sanitary wastewater. However, new and innovative devices and components are becoming available that are purportedly capable of performing better, of providing more effective pollution control or perhaps even able to overcome certain site constraints.

Typical Innovative and Alternative Systems include:
- Aerobic Treatment Units
- Denitrification Systems
- Fixed Activate Sludge Treatment (FAST)
- Recirculating Sand Filter
- Raised or Wisconsin Effluent Bed
- Septic Tank Filters

In some cases, claims of performance hold true and a system functions in the manner expected. There are however, many situations where systems are failing to perform to the levels anticipated for a number of reasons.
Essentially there are three distinct areas that make up an effective trouble-free system:
- Design
- Installation
- Maintenance

Inadequate performance in any one of these areas will reduce the chances of the On-Site Sewage System from functioning as it should and could even render it useless in a very short time.

Effluent Services is totally committed to the management of all Domestic & Industrial Liquid Waste with a strong emphasis on Environmental and Health & Safety policy.
To update your knowledge on your septic system or for further information on Effluent Services and how we can be of assistance to you, visit us at:

www.effluent.co.nz

SEPTIC TIMES

CAPTAIN'S LOG www.effluent.co.nz ISSUE 5

HISTORY -
What did Cleopatra use to wipe her...

Methods of waste disposal date from ancient times, and sanitary sewers have been found in the ruins of the prehistoric cities of Crete and the ancient Assyrian cities. Storm-water sewers built by the Romans are still in service today. Although the primary function of these was drainage, the Roman practice of dumping refuse in the streets caused significant quantities of organic matter to be carried along with the rainwater run-off. Towards the end of the Middle Ages, below-ground privy vaults and, later, cesspools were developed in Europe. When these containers became full, sanitation workers removed the deposit at the owner's expense. The wastes were used as fertilizer at nearby farms or were dumped into watercourses or on to vacant land.

A few centuries later, there was renewed construction of storm sewers, mostly in the form of open channels or street gutters. At first, disposing of any waste in these sewers was forbidden, but by the 19th century it was recognized that community health could be improved by discharging human waste into the storm sewers for rapid removal; such a system was devised by Joseph Bazalgette between 1859 and 1875 for diverting rainwater and waste into the lower reaches of the Thames in London. Development of municipal water-supply systems and household plumbing brought about flush toilets and the beginning of modern sewer systems. Despite reservations that sanitary sewer systems wasted resources, posed health hazards, and were expensive, many cities built them.

To be continued

$200,000 or 2 years imprisonment

The Resource Management Act (RMA) is the main law that controls the fate of waste in New Zealand.
The law states, if you hire a contractor and they illegally dispose of the waste then you could be prosecuted for their actions, because they are acting on your behalf.
Under the RMA you can be fined up to $200,000 or imprisoned for up to 2 years if you dispose of waste in a manner that results in water pollution or ground contamination.
Relevant to this is the fact that the "waste generator" remains the owner of the waste for its lifetime. This means that responsibility for disposal remains with the generator.

WHAT THE ...?

Paper that tells a story

Toilet of the Month

Back in New Zealand after years of managing major hotel chains across the globe, Mr Barry Copp declared that one of the more peaceful and pleasantly decorated toilets he had the joy of visiting was that of a local cafe.

The Olde Creamery Café on Kaipaki Road features a homely "throne-room" racing in with the "Bathroom of the Month" prize and giving the "Home away from home" phrase new meaning.
And by the way, the hospitality is delightful, the café' is uniquely old-charm and the coffee equal to the worlds best. Guess you need to try it for yourself to find out more...

How a Septic Tank works: Part 5 - The Filter

Everything that goes down any of the drains in the house (toilets, showers, sinks, laundry machines) travels first to the septic tank. The septic tank is a large-volume, watertight tank which provides pre-treatment of the household wastewater by separating the solids from the wastewater before disposal of the effluent (wastewater) to the effluent (soakage) field.

The outlet device allowing the effluent to exit the tank is designed to retain the solids layers within the tank. A tee or elbow is used with the vertical pipe extending below the solids layer and into the effluent (water) layer.

The elevation of the outlet port is ideally slightly lower than the elevation of the inlet port. This prevents backwater and stranding of the solids in the inlet pipe during momentary rises in the tank liquid level caused by surges of incoming wastewater.

In recent tank models, the outlet pipe contains a flow inhibitor to buffer large surges of wastewater from the house. This ensures that the flow entering the effluent field is substantially lower than that entering the tank and extended over a longer period of time.

Each effluent field is unique.

An effluent field is a series of drain lines that allow the effluent from the septic tank to drain over a large area of ground. In most cases the lines lay over a bed of gravel within a trench. The length of line will depend upon the size of the home (therefore expected water usage) and soil type.

All lines layed underground should have a crown over the top of the trench to allow storm water runoff away from the trench area. Properly situated lines are located 300mm-400mm below the ground surface, depending on the depth of the tank.

A properly functioning field is well drained, without soggy spots. Most of the effluent should percolate into the ground, but some will evaporate from the surface.

Over time the lines and or the trenches in which the lines lay, can fill with roots or become clogged, resulting in an inconvenient and expensive job of replacing them. This is avoidable with a sensible program (featured next issue) and with good and regular maintenance.

Effluent fields need to be protected from solids and rainfall. If the tank is not maintained regularly, solids can enter the field. Rainfall running off roofs, concrete areas or paddocks/lawns should be drained away from the field to prevent it filling with water. Fields that are saturated with

Quality is remembered long after the price is forgotten *- Gucci family motto*

He who passes wind in church sits in his own pew *- anon*

Grey water – it is pollution!

Grey Water can be used for irrigation throughout the property providing it is adequately treated.

Utilising untreated Grey Water for irrigation of plants etc. is not a solution for getting rid of grey water.

There are two huge risks – health and the environment. All untreated grey water is contaminated with bacteria and other micro-organisms. But more seriously, because of its origin, the grey water is heavily laden with sodium (that is salt), boron and phosphorous. All of which damage plant life and the soil it is applied to. Either way the price is high!

Grey water needs to be treated as does effluent – either via the septic system or preferably through a system of itís own such as a soak-hole.

...and did you know?

Powdered detergents generally contain larger amounts of "salts" than do liquid detergents.

PRACTICAL OPERATING TIPS

REMEMBER - BACTERIA MAKE YOUR TANK WORK!

Killing 99.9% of bacteria with household cleaners is unnecessary;

Don't wash disinfectants down the toilet/sinks;

Practise water conservation where possible, especially in wet seasons;

Avoid showering and bathing while the dishwasher or laundry are in use;

Try to distribute the laundry evenly throughout the week;

Rather than pulling the bath plug out - tilt it to one side to empty the bath;

Don't pour cooking oils, fats or grease down the kitchen sink;

Wipe fatty/oily pans with a paper towel before washing;

Avoid waste disposals - they place extra load on the system;

Don't flush non-biodegradable objects like pads, condoms, nappies etc;

Never flush toxic substances like paint, oil, pesticides, solvents etc;

Never put your head in a septic tank;

Keep a plan of where you septic tank and drains are located;

Have your tank emptied regularly - generally every two years;

Ensure your tank is cleaned correctly;

If you have a filter - clean it regularly (normally 6 monthly);

Don't construct buildings, decks, driveways or paths over the tank;

Plant trees with extensive or deep roots away from the tank;

Divert storm water runoff away from effluent/soakage field;

ACTING SOLICITORS:

When acting for a purchaser of a rural property - do them a serious favour by including a clause to have the Septic Tank cleaned and fully reported on by a Septic Tank Specialist.

BUILDING A NEW HOME?

Burial of access covers to septic tanks is forbidden by all local councils. If your local council allows coverage of septic tanks, they must have watertight riser extensions that allow the access hole to be level with the ground. The Maximum acceptable burial of septic tanks is 500mm.

AS/NZS 1546.1:1998 Section 3.11

"Not many people know that!"

The scoop on Poop

Every day, people throughout the world produce an estimated 5 billion kilos of poop. Microbes recycle this into compost which is returned to the biosphere. Although some places are so dense and have difficulties in treating all this waste, technology is advancing to assist the microbes in completing their work more rapidly.

SURPRISE POOP

You are nowhere near the toilet because you think you are about to pass wind but...oops...a

WORD FINDER

T	S	O	L	F	C	O	L	F
R	T	O	I	L	E	T	I	O
A	O	E	P	Y	G	A	A	O
F	L	O	W	N	D	N	T	P
D	U	M	P	N	U	K	E	S
J	T	N	E	U	L	F	F	E
V	E	N	T	D	S	A	N	D

The most words submitted will receive a free tank clean. • Send word list to PO Box 479 Cambridge.