

# GET SEPTIC SMART

## FACT SHEET 1

### WORKING TOWARDS SAFE & RESPONSIBLE ON-SITE SEWAGE MANAGEMENT ON-SITE SEWAGE MANAGEMENT EDUCATION SERIES

#### WHAT IS AN ON-SITE SEWAGE MANAGEMENT SYSTEM?

An OSMS treats wastewater from your home for disposal or reuse within your property boundaries. The most common types of OSMS used within your local council area are:

- Septic tanks with absorption trenches, or
- Aerated Wastewater Treatment Systems (AWTS) with irrigation areas.

#### INTRODUCTION

This information will be of interest if you live on a property that is not connected to a reticulated sewage system. This fact sheet provides an introduction to on-site sewage management and to the Get SepticSmart project.

While people living in areas with reticulated sewage rarely think about what happens after they flush toilets, drain baths or empty kitchen sinks, people in un-sewered areas are responsible for treating and disposing of their own wastewater.

If your house is not connected to the sewer, you probably have an on-site sewage management system (OSMS) to treat the wastewater from your household. You will have an absorption trench or irrigation area to dispose of the treated wastewater (effluent). Effluent contains disease causing bacteria, viruses and other microorganisms and must not come into contact with humans or animals.

The Get SepticSmart Education Series aims to inform households and businesses who are not connected to a reticulated sewage facility about operating their OSMS in a safe, sustainable and responsible manner.

This series of factsheets will explain how an OSMS works and what you need to do to protect your family, your neighbours and the environment.



FOR MORE INFORMATION CONTACT YOUR LOCAL COUNCIL



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1. Introduction
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3. Aerated Wastewater Treatment System (AWTS)
4. Why Should You Maintain your OSMS
5. Responsibilities of OSMS Owners
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## WORKING TOWARDS SAFE & RESPONSIBLE ON-SITE SEWAGE MANAGEMENT ON-SITE SEWAGE MANAGEMENT EDUCATION SERIES

### WHAT IS A SEPTIC TANK & HOW DOES IT WORK?

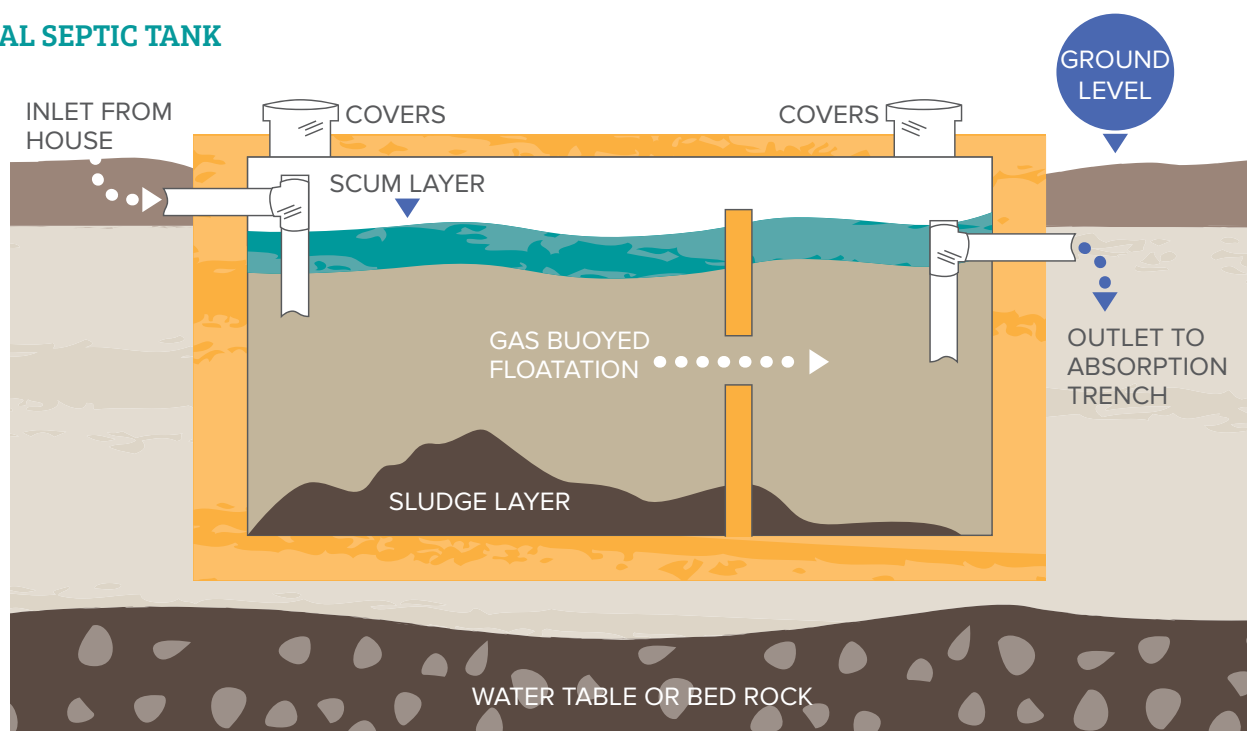
### SEPTIC TANK WITH ABSORPTION TRENCH

This information will be of interest if your OSMS is a septic tank with an absorption trench. This factsheet provides information about septic tanks, how they work and how absorption trenches work.

A septic tank is a watertight vessel that stores and treats wastewater i.e. waste from the toilet, shower, bath, kitchen and laundry. A septic tank is a 'primary' treatment system. Wastewater flows into the tank from the house, and the solid matter settles to the bottom of the tank where naturally occurring bacteria convert the material into sludge.

Fats and grease form a 'scum layer' on the surface of the water. This layer is a normal occurrence and helps to keep odours inside the tank. Under the scum layer is a clearer liquid (effluent) that flows from the outlet of the tank into the absorption trench, each time wastewater enters the tank.

**DIAGRAM 1:**  
**CONVENTIONAL SEPTIC TANK**





## HOW DOES AN ABSORPTION TRENCH WORK?

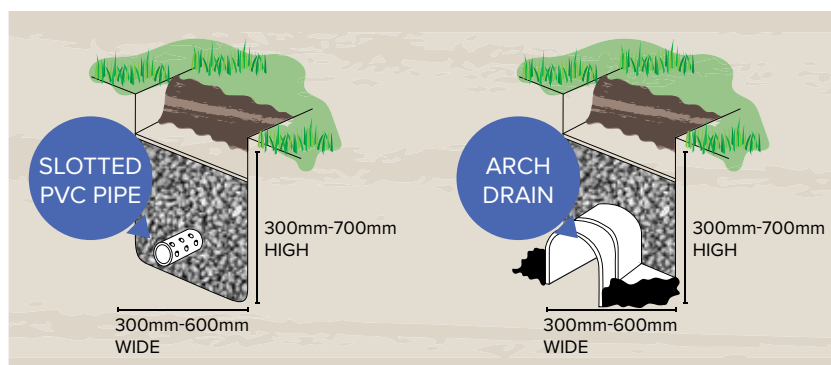
Absorption trenches rely on the porosity of the soil to soak up treated effluent and provide a suitable environment for plants that use the water for transpiration (see separate list of suitable plants - Factsheet 11).

An absorption trench is constructed of a durable self-supporting arch or slotted PVC pipe, filled with aggregate, overlayed with geo-textile and finished with topsoil. A trench should follow the contour of the land so it is level, allowing for even distribution of effluent. Trenches are generally 300-700mm deep to avoid contact and exposure to effluent.

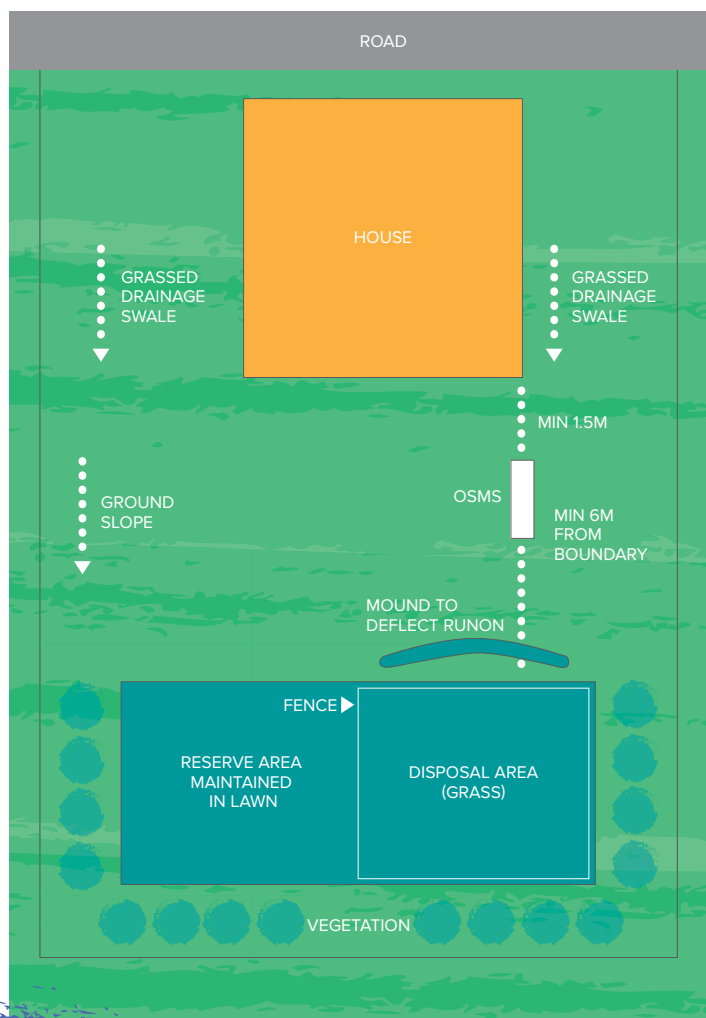
The location and ongoing functionality of absorption trenches is important to protect neighbours and the environment especially as water courses or groundwater nearby may be used for drinking, stock or domestic purposes.

Fruit and vegetable crops intended for human consumption are not to be planted on or within close proximity to an absorption trench. Vegetation with large or invasive root structures should not be planted too close to an absorption trench area so the integrity of the trench can be protected.

**DIAGRAM 2:  
TYPICAL ABSORPTION TRENCHES**



**DIAGRAM 3:  
TYPICAL SITE LAYOUT**



### WARNING!

When the level of sludge exceeds 500mm from the base of your tank, you need to have your tank pumped out by a licensed contractor, as it reduces the holding capacity of the tank.

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## WORKING TOWARDS SAFE & RESPONSIBLE ON-SITE SEWAGE MANAGEMENT ON-SITE SEWAGE MANAGEMENT EDUCATION SERIES

### WHAT IS AN AERATED WASTEWATER TREATMENT SYSTEM & HOW DOES IT WORK?

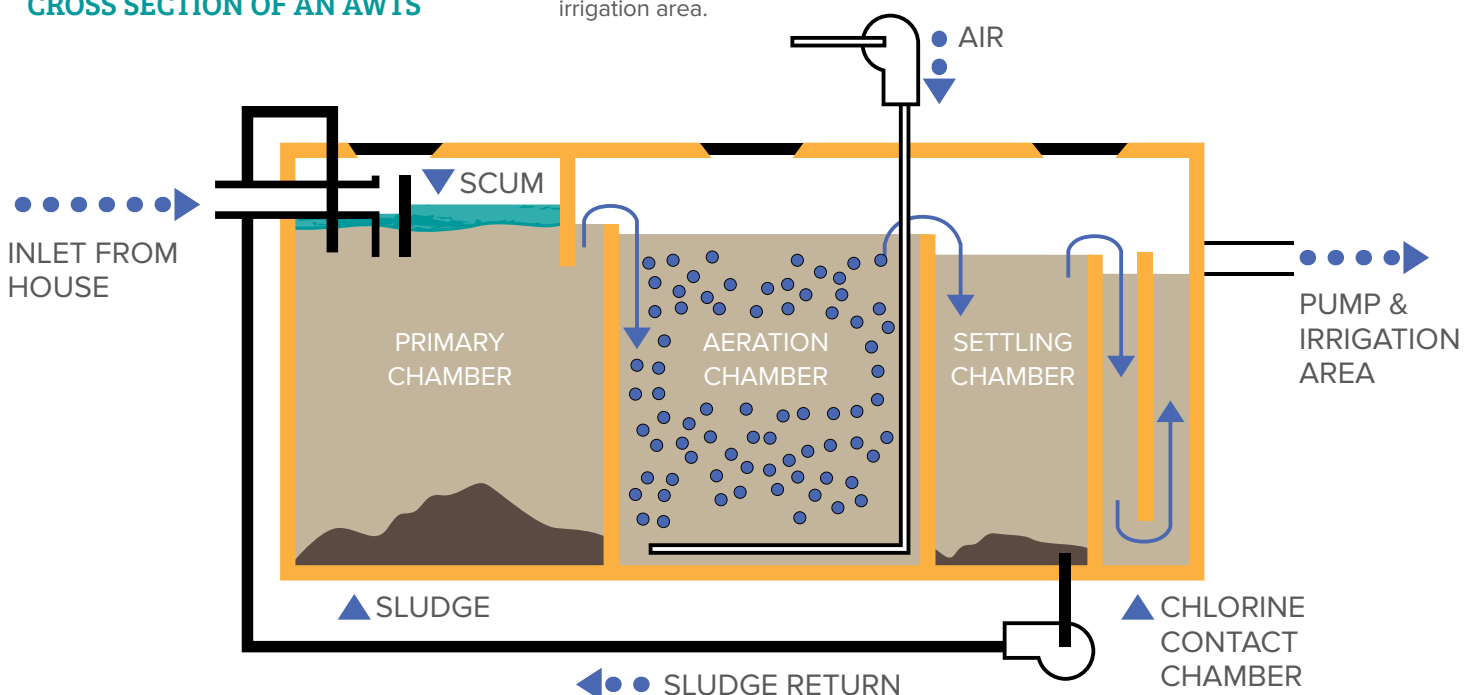
### AERATED WASTEWATER TREATMENT SYSTEM

This information will be of interest if your OSMS is an Aerated Wastewater Treatment System. This factsheet provides information about Aerated Wastewater Treatment Systems, how they work, requirements for the irrigation area and service requirements for the systems.

An Aerated Wastewater Treatment System (AWTS) is designed to treat wastewater to a higher standard than a septic tank.

A septic tank is the first stage of treating wastewater in an AWTS. Wastewater flows into the primary chamber from the house and the solids settle to the bottom of the chamber where naturally occurring bacteria convert the material into sludge. Fats and grease form a 'scum layer' on the surface of the water (effluent). This layer is a normal occurrence and helps to keep odours inside the tank. After primary treatment, the effluent then flows into an aeration chamber where air is pumped through it. Sludge from the effluent is then allowed to settle to the bottom of a settling chamber. The effluent then passes through a chlorine contact chamber where most bacteria and viruses are destroyed (if there is adequate chlorine available). The secondary-treated effluent is then pumped away for surface or subsurface irrigation in the approved irrigation area.

**DIAGRAM 1:**  
**CROSS SECTION OF AN AWTS**



## AWTS SERVICE REQUIREMENTS

**The electrical components and moving parts in an AWTS require regular servicing and have a limited operational life.**

Owners of a property with an AWTS are required to enter into a service Contract for a minimum period of 12 months and ensure that their system is serviced every 3 months for the lifetime of the system. A competently trained service agent or company should be contracted to service your AWTS 4 times a year. A typical 3-monthly service will generally include:

- ▶ Replenishing the disinfectant (e.g. chlorine tablets)
- ▶ Checking pumps, air blower, fan or venturi
- ▶ Checking alarm systems
- ▶ Checking slime growth on filter media
- ▶ Measuring sludge depth in the primary and setting chambers
- ▶ Checking operation of sludge return
- ▶ On-site testing of free residual chlorine, pH and dissolved oxygen
- ▶ Checking the condition of the irrigation area e.g. sprinklers or drippers are not blocked and are working efficiently, the ground is not too damp or waterlogged, and water is not pooling within the area.

Upon completion of the service, the agent will provide you with a copy of a fully completed service report. A copy of this service report is to be provided to your local council within 14 days by the service agent or AWTS owner. If your Service Agent is not adequately completing the appropriate checks and service on your AWTS, please advise your local council and lodge a complaint with NSW Fair Trading.

## REQUIREMENTS FOR AWTS IRRIGATION AREAS

**Whilst effluent from an AWTS has received secondary treatment and is suitable for either above ground or subsurface irrigation, it may still be a health risk to anyone who comes into contact with it.**

Effluent is not to be used to water fruit or vegetable crops for human consumption. Lilac (purple) pipe is required to be used for all distribution lines, fittings and fixtures from an AWTS. Subsurface or drip irrigation are preferred as they eliminate the risk of inhalation of aerosols, however sprinklers that produce coarse droplets are also acceptable. Domestic type garden hoses, taps, fittings, sprinklers and micro/fine mist sprays are not permitted to be used (diagram 4).

At least 2 durable warning signs must be visible within the irrigation areas. The warning signs are to use the wording "Reclaimed Effluent – Not for Drinking – Avoid Contact". Effluent may only be irrigated within the 'designated' irrigation area as identified on the plans approved with your Approval to Operate the OSMS. Suitable plants and vegetation (see separate list of suitable plants – factsheet 11) should be planted in the irrigation & surrounding area to absorb the effluent

**DIAGRAM 2:  
CORRECT SIGNAGE  
WORDING**



**DIAGRAM 3:  
INCORRECT SIGNAGE  
WORDING**



**DIAGRAM 4:  
INAPPROPRIATE DISPOSAL  
OF EFFLUENT FROM AN AWTS  
USING A FINE MIST SPRAY**



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## WORKING TOWARDS SAFE & RESPONSIBLE ON-SITE SEWAGE MANAGEMENT ON-SITE SEWAGE MANAGEMENT EDUCATION SERIES

### WHAT ARE THE BENEFITS OF MAINTAINING YOUR ON-SITE SEWAGE MANAGEMENT SYSTEM?

### WHY SHOULD YOU MAINTAIN YOUR ON-SITE SEWAGE MANAGEMENT SYSTEM?

This fact sheet provides information about the many benefits of properly maintaining an OSMS. The key reasons include saving you money, protecting your property value, keeping you and your neighbours healthy and protecting the environment.

Properties and households with OSMS are required under the Local Government Act 1993 to maintain a properly functioning system. There are also other reasons as to why it is important to maintain your OSMS.

#### SAVES YOU MONEY

Regular maintenance will cost less than repairing or replacing a malfunctioning system. If excess sludge builds up in the primary septic tank, it may carry over into the absorption trench and result in unhealthy surcharges.

#### KEEPS YOU & YOUR NEIGHBOURS HEALTHY

Household wastewater is loaded with disease causing bacteria and viruses as well as high levels of nitrogen and phosphorus. An OSMS that is working well will remove most of these pollutants. If an OSMS is insufficiently treating wastewater it can cause groundwater contamination, which can spread disease in humans and animals. There is also the risk of surface water contamination, which can significantly increase the chance of any swimmers contracting a variety of infectious diseases, from eye and ear infections to acute gastrointestinal illness to hepatitis.

#### PROTECTS THE ENVIRONMENT

A large amount of effluent is dispersed below the ground's surface every day. Groundwater contaminated by poorly or untreated wastewater or effluent doesn't just pose a risk to drinking water – it poses dangers to the environment. A failing OSMS releases bacteria, viruses and chemicals that are toxic to local waterways. When these pollutants are released into the ground they will eventually reach rivers and lakes where they can potentially harm local ecosystems by possibly killing native plants, fish and more.

#### PROTECTS YOUR PROPERTY VALUE

An unusable OSMS or one that is in poor condition will more than likely lower the value of your property and also increase the chance of a potentially costly legal liability.

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## WORKING TOWARDS SAFE & RESPONSIBLE ON-SITE SEWAGE MANAGEMENT ON-SITE SEWAGE MANAGEMENT EDUCATION SERIES

### WHAT ARE THE RESPONSIBILITIES OF OPERATING AN ON-SITE SEWAGE MANAGEMENT SYSTEM?

### RESPONSIBILITIES OF ON-SITE SEWAGE MANAGEMENT SYSTEM OWNERS

This factsheet outlines the many responsibilities that come with living on a property with an OSMS.

The many responsibilities that come with being an owner and/or operator of an OSMS include:

- ▶ Ensuring you have a current Approval to Operate for your system. If you are unsure if your Approval to Operate is current, please contact your local council.
- ▶ Ensuring your system is operating within manufacturer recommendations and any conditions associated with the Approval to Operate for the system.
- ▶ Having an understanding of the operating requirements of your system and being aware that you may need to alter your household activities to ensure your system operates sufficiently.
- ▶ Using an authorised person to carry out any work on your system. This includes servicing, maintaining, repairing and pumping out of your system.
- ▶ Ensuring you have appropriate approval to carry out any work on your system e.g. an Application to Install, Construct or Alter a Sewage Management System is submitted your local council prior to a new system being installed or an absorption trench being replaced. This application can be obtained by contacting your local council.
- ▶ Ensuring your OSMS does not pollute the environment and/or cause a risk to the public health of the community.
- ▶ Ensuring you do not illegally dispose of your wastewater or effluent e.g. pumping your system out into a nearby water course, drainage or supply channel or other water body.
- ▶ Maintaining a current Service Agreement with an accredited service agent (AWTS only).



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## WORKING TOWARDS SAFE & RESPONSIBLE ON-SITE SEWAGE MANAGEMENT ON-SITE SEWAGE MANAGEMENT EDUCATION SERIES

### WHAT ARE THE MOST COMMON PROBLEMS WITH YOUR OSMS?

### PROBLEMS WITH YOUR ON-SITE SEWAGE MANAGEMENT SYSTEM

This factsheet outlines key indicators that may mean there is a problem with your OSMS and penalties associated with a failing OSMS.

The most common failure associated with an OSMS is associated with the disposal area. Failure can often be linked to large volumes of water going through the system, incorrectly maintained systems or disposal areas, or inadequate size of the disposal area.

Signs that your system isn't working correctly include:

- ▶ Wastewater begins to back up into the household pipes. This is commonly first noticed when fixtures such as toilets or sinks won't drain away easily or you notice sewage overflowing from a small grated pipe located outside the building called a yard gully.
- ▶ The ground becomes soggy around the disposal area and effluent may seep from the soil to the surface or begin to pool in areas. There will usually be an unpleasant smell associated with this and can create a health risk.
- ▶ An unusual/unpleasant odour is detected around the tank and/or disposal area.
- ▶ Alarms are activated on your system (AWTS only).

### PENALTIES FOR POORLY OPERATING SYSTEMS

With failing OSMS systems pollution of stormwater, rivers, groundwater, irrigation and drainage channels can occur.

Water polluters can face costly clean-up notices, on-the-spot fines and significant penalties of up to \$250, 000 for individuals and \$1, 000, 000 for corporations under the Protection of Environment Operations Act 1997.



### WARNING!

If you notice anything different about the way your system is operating, or notice the above occurring, contact a plumber or service agent immediately.



## WORKING TOWARDS SAFE & RESPONSIBLE ON-SITE SEWAGE MANAGEMENT ON-SITE SEWAGE MANAGEMENT EDUCATION SERIES

### THE DO's & DONT's OF OPERATING AN OSMS

This factsheet provides you with information relating to a number of do's and dont's of operating an OSMS.

#### THE DO's

- ✓ Repair any leaking taps and/or toilet cisterns as soon as possible.
- ✓ Use laundry detergents that are low in sodium. High levels of sodium will reduce the life of your disposal area and restrict plant growth.
- ✓ Conserve water – the more water you use, the more wastewater you have to treat and dispose of. Install shower flow restrictors, use front loading washing machines and reduce the water level on your washing machine when washing small loads (top load washing machine).
- ✓ Wash your laundry in stages and not all in one day. This will help to not flood your system.
- ✓ Check the OSMS and seek advice from your local council or a licensed plumber when purchasing or moving to a property that is not connected to the sewer.
- ✓ Understand how your system works and seek immediate help if drains block, odours are evident or water is ponding in the disposal area.
- ✓ Keep a record of inspections (factsheet 13), services, desludging, filter cleaning, any maintenance carried out and dates related to your Approval to Operate.
- ✓ Ensuring that any rental tenants are aware of their responsibility to maintain the OSMS and make them aware of what they can do inside the house to help ensure you get the best results from the system.
- ✓ Ensure that the absorption trench or irrigation area are properly maintained and do not become overgrown with vegetation.
- ✓ Ensure any roof water and surface water is diverted away from the absorption trench or irrigation area.
- ✓ Ensure that your system is constructed 1.5m away from any buildings and 6m away from any boundaries, drainage channels, supply channels and any other water bodies.
- ✓ Use natural cleaning products such as bicarbonate soda and vinegar.
- ✓ Use kitchen sink strainers and lint filters in your laundry.
- ✓ Have a plumber fit an effluent filter to the septic tank outlet to keep solids in the tank and extend the life of your trenches.



## THE DONT's

- ✗ Don't use caustic soda or drain cleaners to unblock pipes and drains.
- ✗ Don't pour fats, oils or grease down the sink.
- ✗ Don't leave taps running unnecessarily e.g. when brushing your teeth or washing dishes.
- ✗ Don't flush antibiotics or other medication or excessive amounts of chemicals such as bleach, nappy sanitiser, caustic chemicals, corrosive fluids or pesticides down the drain as they can destroy the bacteria that breaks down the wastewater.
- ✗ Don't use garbage disposal units or put food scraps down the drain.
- ✗ Don't flush nappies, tampons, condoms or other large items down the toilet as they can block drains and don't break down in the OSMS.
- ✗ Don't allow livestock, children, pets or vehicles to drive or park on disposal areas as they may damage them. Fencing of the disposal area may be required to restrict access whilst still maintaining inspection and service access.
- ✗ Don't use water from a bore located within 250 metres of a disposal area for drinking or food preparation as it may contain faecal contamination.
- ✗ Don't plant large trees in or too close to the disposal area as they can shade the area and the roots can damage the absorption trench or irrigation system.
- ✗ Don't cover your septic tank lid with vegetation or plants that will make it difficult to access for maintenance or inspections.
- ✗ Don't water fruit and vegetables with your effluent, as this can pose serious health risks.
- ✗ Don't allow effluent to pool on your property. Contact a plumber or service agent to fix the issue.
- ✗ Don't dispose of wastewater or effluent off your property.
- ✗ Don't try to make any repairs or pump your system out yourself. Use a licensed plumber, service agent or licensed pump out contractor.
- ✗ Don't allow wastewater or effluent to enter stormwater drains, water courses, drainage or supply channels or other water bodies as it contains material that can harm the environment and you may also be found guilty of committing an offence under the Protection of Environment Operations Act 1997.



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## WORKING TOWARDS SAFE & RESPONSIBLE ON-SITE SEWAGE MANAGEMENT ON-SITE SEWAGE MANAGEMENT EDUCATION SERIES

### DO YOU HAVE APPROVAL FOR YOUR ON-SITE SEWAGE MANAGEMENT SYSTEM?

### APPROVAL TO OPERATE YOUR OSMS

**This factsheet provides information on approval requirements for OSMS's, including AWTS's serviced by a service agent.**

**The Local Government Act 1993 requires councils to regulate the installation, monitor the operation and keep a register of all OSMS within a local government area. Under this legislation, your local Council regulates the installation and operation of OSMS.**

Approval is required for:

1. The installation or construction of an OSMS
2. Alteration of an OSMS, and
3. The on-going operation of an OSMS.

The Approval to Install or Construct an OSMS is a one-off approval.

The Approval to Alter an OSMS is required when any work is being done to the existing system (e.g. replacement of an absorption trench, upgrades to the OSMS, or additional plumbing fixtures and bedrooms being added to the house).

The Approval to Operate an OSMS is an on-going approval that is required at a frequency which is dependent on the risk category (high, medium or low) of your OSMS (refer to factsheet 9). The Approval to Operate is valid for the period of time stated in the approval. If the Approval to Operate is no longer valid, the owner of the OSMS must reapply for the approval. Approval to Operate is also required to be renewed when/if the property changes ownership. The requirement for ongoing approval ensures that an OSMS is continuing to meet environmental and health performance standards.

### YES!

Even though your AWTS is regularly serviced and checked by a service agent and a copy of the report is forwarded to your local council, you are still required to have a current Approval to Operate. The internal components of an AWTS are checked by service agents however service agents do not always check the public health and environmental impacts of the effluent disposal or irrigation system.

As an AWTS has the ability to dispose of the effluent above ground there is more chance of it coming into contact with humans or running off to a water course, drainage or supply channel or other water body and adjoining land. If the treatment system isn't working adequately, this can pose a serious risk to the environment and the public health of the community.

### DO I NEED TO APPLY FOR AN APPROVAL TO OPERATE IF MY AWTS IS REGULARLY SERVICED BY A SERVICE AGENT?

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## WORKING TOWARDS SAFE & RESPONSIBLE ON-SITE SEWAGE MANAGEMENT ON-SITE SEWAGE MANAGEMENT EDUCATION SERIES

### WHAT TO EXPECT WHEN YOUR OSMS IS INSPECTED BY COUNCIL

### WHAT TO EXPECT WHEN YOU'RE INSPECTED BY YOUR LOCAL COUNCIL

**This factsheet provides information about what you can expect when your OSMS is inspected by your local council. It outlines the risk classification used for an OSMS and what inspectors will be looking for when onsite.**

**Having your OSMS inspected by your local council officers is just part of living with the system; every system is required, by legislation, to be inspected. The frequency of the inspections depend on the risk classification of your system.**

OSMS's are classified as follows:

- ▶ High Risk - an area that is highly vulnerable comprising sensitive environments such as villages and areas in close proximity to water bodies
- ▶ Medium Risk - an area that is vulnerable, but of lower risk of pollution because of location in the landscape, suitable soil types and lower housing density
- ▶ Low Risk - an area with suitable soil types located away from water bodies, other houses and sensitive environments

High-risk systems will be inspected more frequently than low-risk systems. Prior to your system being inspected, you will be contacted by a local council employee. If a complaint is received about your OSMS, an unannounced inspection may be conducted. The inspection of your system will include but is not limited to:

- ▶ Physical condition of your tank
- ▶ A check inside on the health and capacity of your tank
- ▶ A check on the condition of any fixtures such as the yard gully, vents, inspection openings, exposed pipes
- ▶ Detection of any strong odours from the tank or disposal area
- ▶ Check on the condition of the disposal area
- ▶ Signs of any wastewater or effluent pooling above ground
- ▶ Any signs of inappropriate wastewater & effluent disposal occurring
- ▶ Check of current service agreement (AWTS)
- ▶ Check appropriate (and durable) signage is in place (AWTS)
- ▶ Assessment of risk classification

Following your inspection, you will be advised whether your system has been found to be satisfactory or unsatisfactory. If your OSMS is found to be operating satisfactorily, then an Approval to Operate will be issued. If it is found to be operating unsatisfactorily, then you will be advised of what you need to do to bring it into compliance. Once a re-inspection has determined your system to be operating satisfactorily, an Approval to Operate will be issued.



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## WORKING TOWARDS SAFE & RESPONSIBLE ON-SITE SEWAGE MANAGEMENT ON-SITE SEWAGE MANAGEMENT EDUCATION SERIES

### WATER CONSERVATION TIPS

This factsheet provides information about how you may be able to conserve water around your home to reduce the amount of wastewater flows into your OSMS. Tips include how you can save water from your shower, toilet, kitchen, laundry and general cleaning.

#### WATER SAVING TIPS IN THE SHOWER

- ▶ Have shorter showers. By having a shower in 5 minutes or less, you may save up to 40 litres of water each time you shower.
- ▶ Ensure you have a water-efficient shower head. Older (non-water efficient) shower heads use 20-30 litres of water per minute compared to approximately 9.5L per minute for water efficient shower heads.

#### WATER SAVING TIPS FOR THE TOILET

- ▶ Try to reduce the number of times you flush a toilet.
- ▶ Ensure you have a Dual-flush system.
- ▶ Don't flush any unnecessary items (tissues etc.) down the toilet.

#### WATER SAVING TIPS FOR THE LAUNDRY & HOUSEHOLD CLEANING

- ▶ Only run the washing machine when you have a full load or adjust the water level.
- ▶ Use any water saving features on your machine.
- ▶ Consider purchasing a Water-efficient washing machine when it comes time to update your washing machine.
- ▶ Use a bucket to hold water when cleaning instead of using running water.

#### WATER SAVING TIPS IN THE KITCHEN

- ▶ Scrape food waste off dishes, instead of rinsing them off with water.
- ▶ Don't wash or rinse your dishes with running water; use a tub or plug the sink.
- ▶ Only run your dishwasher when you have a full load, or adjust the water level to suit the size of your load.
- ▶ Consider purchasing a water-efficient dishwasher when it comes time to update your dishwasher.
- ▶ Don't rinse fruit and vegetables under running water, use a bowl of water.
- ▶ Keep a bottle of drinking water in the fridge instead of always running the tap for water.

#### BE SURE TO FIX ANY DRIPPING TAPS AS SOON AS POSSIBLE TO PREVENT UNNECESSARY WATER FROM ENTERING YOUR OSMS.

By saving water, you might also notice a saving in your energy costs as it takes energy to heat, treat and transfer water. Therefore the less water you use, the less energy you should use. When upgrading anything in your house to do with water (washing machine, dishwasher, toilet, shower head etc.) look at the 'star rating'. The more stars, the more water efficient the product.

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## WORKING TOWARDS SAFE & RESPONSIBLE ON-SITE SEWAGE MANAGEMENT ON-SITE SEWAGE MANAGEMENT EDUCATION SERIES

### PLANTING LIST

**This factsheet provides a list of plants that are suitable for planting within your disposal and surrounding areas to help absorb the effluent being discharged.**

**The following is a list of suitable plants for planting within your disposal & surrounding areas aimed at providing suitable vegetation to help with absorbing the effluent within your disposal and surrounding areas.**

Only low growing plants, included in this list, such as grasses, sedges and groundcovers are suitable to plant directly over the absorption trench or subsurface irrigation. All other vegetation such as trees and shrubs must be planted at a distance away from the absorption trench that is equivalent to the expected height

of the plant. Any plants with an invasive root system should not be planted on or close to the absorption trench or subsurface irrigation system, as the roots may block or interfere with the functioning of the system.

Following is a list of vegetation that is recommended for the disposal and surrounding area of your OSMS. Please note, not all plants will be suitable for all local climatic conditions. If you require further advice on plant selection, please contact your local council.

#### GRASSES

Botanical Name (e=exotic)	Common Name	Approximate Height (m)
Carex spp.	Sedge	variable
Lomandra longifolia	Spiny-head mat-rush	1.0
Microlaena stipoides	Weeping grass	0.7
Pennisetum alopecuroides	Available as lawn turf	0.4-0.8
Poa lab	Illardieri	0.3-0.8
Stipa spp.	Stipa	variable
Stenotaphrum Secundatum (e)	Buffalo	0.15
Pennisetum Clandestinum (e)	Kikuyo	0.15

#### GROUNDCOVERS

Botanical Name (e=exotic)	Common Name	Approximate Height (m)
Acanthus mollis (e)	Oyster plant	0.8
Coprosma x kirki (e)	Small leaf looking grass plant	1
Grevillea poorinda	Royal mantle	Prostrate
Isotoma fluviatilis	Blue star creeper	Prostrate
Liriope muscari (e)	Lily Turf	0.3-0.6
Ophiopogon japonicas (e)	Mondo grass	0.2-0.4
Scaevola albida	White fan-flower	0.50
Scaevola ramosissima	Purple fan-flower	0.40
Veronica plebeian	Trailing Speedwell	0.15
Viola hederacea	Native violet	





## CLIMBERS

(only suitable for planting within the surrounding areas and not directly over an absorption trench or subsurface irrigation area.)

Botanical Name (e=exotic)	Common Name	Approximate Height (m)
Bougainvillea spp (e)	Bougainvillea	1.0-12.0
Hardenbergia violacea	Happy wanderer	6
Hibbertia scandens	Snake vine	2.0-5.0
Jasminum polyanthum	Jasmine	3
Kennedia rubicunda	Dusky coral pea	4.0
Pandorea jasminoides	Bower of beauty	1.8

## SEDGES/GRASSES/SMALL PLANTS

Botanical Name (e=exotic)	Common Name	Approximate Height (m)
Agapanthus preacox (e)	Common agapathus	0.8-1.0
Anigozanthus flavidus	Kangaroo paw	2
Baumea acuta	Pale twig-rush	0.3
Baumea articulate	Jointed Rush	Sedge
Baumea juncea	Bare twig-rush	Sedge
Baumea nuda		Sedge
Baumea rubiginosa	Flat leaf twig-rush	Sedge
Baumea teretifolia		Sedge
Blandfordia grandiflora	Christmas bell	0.3-0.9
Blandfordia nobilis	Christmas bell	0.3-0.9
Brachyscome diversifolia	Native daisy	0.45
Canna x generalis (e)	Canna lily	1.0-3.0
Carex appressa	Tall sedge	Sedge
Cotula coronopifolia	Waterbutton	0.1-0.2
Crinum pedunculatum	Swamp lilly	<2.0
Cyperus polystachyos	Field sedge	Sedge
Dianella caerulea	Blue flax lilly	1.0
Epacris microphylla	Coral Heath	0.5-1.0
Fern		
Gahnia spp.	Sawsedge / Tall grass	sedge
Hibbertia stellaris	Star guinea flower	0.5
Juncus spp.	Rush	0.5
Lobelia trigonocaulis	Forest Lobelia	0.05-0.1
Lomandra spp.	Mat-rush	Grass
Patersonia fragilis	Native iris	0.5
Patersonia glabrata	Native iris	0.5
Patersonia occidentalis	Native iris	0.5
Ranunculus graniticola	Granite buttercup	0.2-0.3
Restio australis	Mountain Cordrush	Reed
Restio tetraphyllus	Tassel cordrush	1
Sowerbaea juncea	Rush lily	Sedge
Tetralthea juncea	Black-eyed susan	<0.3
Xyris operculata	Tall yellow eye	<1.0

## SHRUBS

(only suitable for planting within the surrounding areas and not directly over an absorption trench or subsurface irrigation area.)

Botanical Name (e=exotic)	Common Name	Approximate Height (m)
Abelia x grandiflora (e)	Abelia	1.8
Agonis flexuosa nana	Willow peppermint	2
Astor novi-belgii (e)	New York aster	0.1-0.9
Baekea linifolia	Flax-leaf heath myrtle	1.0-2.5
Baekea utilis	Mountain heath myrtle	1.0-2.5
Baekea virgate	Twiggy heath myrtle	<4.0
Banksia aemula	Wallum banksia	1.0-7.0
Banksia robur	Swamp banksia	0.5-2.0
Bauera rubroides	Dog rose	0.5-1.5
Callistemon	Burgundy	2.0-3.0
Callistemon	Eureka	2.0-4.0
Callistemon	Harkness	3.0-4.0
Callistemon	Kings park special	3.0-4.5
Callistemon	Mauve mist	2.0-3.0
Callistemon	Red clusters	1-2.5m
Callistemon	Reeves Pink	2.0-3.0
Callistemon citrinus	Austraflora firebrand	0.5-0.8
Callistemon citrinus	Splendens	2.0-4.0
Callistemon citrinus	White ice	0.6-1.0
Callistemon linearis	Narrow-leaved bottlebrush	1.0-3.0
Callistemon macropunctatus	Scarlet bottlebrush	2.0-4.0
Callistemon pachyphyllus	Wallum bottlebrush	2.0-3.0
Callistemon pallidus	Lemon bottlebrush	1.5-4.0
Callistemon pinifolius	Pine-leaved bottlebrush	1.0-3.0
Callistemon rigidus	Stiff bottlebrush	1.5-2.5
Callistemon salignus	Willow bottlebrush	3.0-10.0
Callistemon shiresii	White bottlebrush	4.0-8.0
Callistemon sieberi	River bottlebrush	1.5-2.0
Callistemon sieberi	Austraflora little cobbler	0.5-0.8
Callistemon subulatus	Dwarf bottlebrush	1.0-2.0
Callistemon viminalis	Captain cook	1.0-2.0
Callistemon viminalis	Dawson river	5.0-10.0
Callistemon viminalis	Hannah ray	3.0-5.0
Callistemon viminalis	Little john	0.5-1.0
Callistemon viminalis	Rose opal	1.5-2.0
Callistemon viminalis	Western glory	2.0-3.0
Ceratostigma (e)	Plumbago	1
Chaenomeles Lagenaria (e)	Flowering quince	2
Chrysanthemum maximum (e)	Shasta daisy	0-0.9
Correa alba	White correa	1.5
Cuphea ignea (e)	Cigar plant	0.6
Euonymus japonicas (e)	Japanese spindle	2.0-8.0

## SHRUBS

(only suitable for planting within the surrounding areas and not directly over an absorption trench or subsurface irrigation area.)

Botanical Name (e=exotic)	Common Name	Approximate Height (m)
Euphorbia millii (e)	Crown of thorns	1.5
Goodenia ovata	Hop goodenia	1.0-1.5
Hebe speciosa (e)	New Zealand hebe	1.0-2.0
Hibiscus	Swamp hibiscus	1.0-2.0
Jasminum officinale 'Grandiflorum' (e)	Jasmine	1.1
Kunzea capitata	Pink kunzea	1.0-2.0
Leptospermum flavescens	Tea-tree	<2.0
Leptospermum juniperinum	Tea-tree	1
Leptospermum lanigerum	Wooly tea-tree	1.0-2.0
Leptospermum squarrosum	Peach blossom tea-tree	<2.0
Melaleuca alternifolia	Narrow-leaved paperbark	4.0-7.0
Melaleuca decussate	Cross-leaved honey myrtle	1.0-2.0
Melaleuca lanceolata	Moonah	4.0-6.0
Melaleuca squamea	Swamp honey-myrtle	1.0-2.0
Melaleuca thymifolia	Thyme-leaf honey-myrtle	0.5-1.5
Nerium oleander (e)	Oleander	6
Plumbago auriculata (e)	Blue plumbago	6
Salvia x superba (e)	Hybrid sage	1
Stokesia laevis (e)	Stokes aster	0.3-0.6
Thunbergia alata (e)	Black-eyed susan	4
Westringia fruticosa	Native rosemary	2

## TREES

(only suitable for planting within the surrounding areas and not directly over an absorption trench or subsurface irrigation area.)

Botanical Name (e=exotic)	Common Name	Approximate Height (m)
Acacia elongate	Swamp wattle	>2.0
Acacia floribunda	Gossamer wattle	2.0-4.0
Acmena smithii	Lilli pilli	10.0-20.0
Agonis flexuosa	Willow myrtle	5.0-6.0
Allocasuarina diminuta	Sheoak	1.5
Allocasuarina paludosa	Swamp sheoak	0.5-2.0
Angophora costata	Smooth barked apple	25
Angophora floribunda	Rough-barked apple	30
Angophora subvelutina	Broad-leafed apple	12.0-20.0
Callicoma serratifolia	Black wattle	<6.0
Casuarina cunninghamiana	River she-oak	10.0-30.0
Casuarina glauca	Swamp oak	6.0-12.0
Casuarina stricta	Drooping sheoak	10
Elaeocarpus reticulatis	Blueberry ash	15
Eucalyptus amplifolia	Cabbage gum	30

## TREES

(only suitable for planting within the surrounding areas and not directly over an absorption trench or subsurface irrigation area.)

Botanical Name (e=exotic)	Common Name	Approximate Height (m)
Eucalyptus botryoides	Bangalay / Southern mahogany	40
Eucalyptus camaldulensis	River red gum	15.0-20.0
Eucalyptus elata	River peppermint	20.0-30.0
Eucalyptus grandis	Flooded gum	10.0-20.0
Eucalyptus longifolia	Woollybutt	20
Eucalyptus pilularis	Blackbutt	30.0-40.0
Eucalyptus punctata	Greygum	<35.0
Eucalyptus robusta	Swamp mahogany	20.0-30.0
Eucalyptus tereteicornis	Forest red gum	30.0-40.0
Eucalyptus viminalis	Ribbon gum	20.0-40.0
Flindersia australis	Native teak	<40.0
Hakea salicifolia	Willow-leaved hakea	5.0-8.0
Hakea saligna	Fine leaf willow-leaved hakea	5.0-8.0
Hymenosporum flavum	Native frangipani	3.0-6.0
Leptospermum petersonii	Tea-tree	5
Melaleuca armillaris	Bracelet honey myrtle	3.0-4.0
Melaleuca decora	White feather honey myrtle	4.0-7.0
Melaleuca ericifolia	Swamp paperbark	6
Melaleuca halmaturorum	Salt paperbark	4.0-6.0
Melaleuca hypericifolia	Red-flowered paperbark	2.0-3.0
Melaleuca linariifolia	Snow in summer	4.0-8.0
Melaleuca quinquenervia	Broad paperbark	5.0-7.0
Melaleuca squarrosa	Scented paperbark	6
Melaleuca stypheloides	Prickly paperbark	6.0-15.0
Melia azedarach	White cedar	15.0-20.0
Nyssa sylvatica (e)	Tupelo	25
Photinea x fraseri 'Robusta' (e)	Red-leaf photinia	8
Pittosporum spp.	Pittosporum	2.0-30.0
Syzygium paniculatum	Bush cherry	8.0-10.0
Tristania laurina	Kanuka	5.0-15.0
Tristaniopsis laurina	Water gum	4.5-9.0
Viminaria juncea	Golden Spray	2.0-6.0





## PLANTS FOR MY ABSORPTION TRENCH AREA

[illegible]

## PLANTS FOR MY SURROUNDING AREA

[illegible]

FOR MORE INFORMATION CONTACT YOUR LOCAL COUNCIL

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## WORKING TOWARDS SAFE & RESPONSIBLE ON-SITE SEWAGE MANAGEMENT ON-SITE SEWAGE MANAGEMENT EDUCATION SERIES

### ARE YOU FAMILIAR WITH THESE OSMS TERMS?

### COMMON TERMS ASSOCIATED WITH ON-SITE SEWAGE MANAGEMENT SYSTEMS

**Absorption Trench** - A designated area where effluent is released into the soil. Soil processes, natural organisms and plants in the area further purify the effluent before it enters the wider environment.

**Aerated Wastewater Treatment System (AWTS)** – An OSMS that treats wastewater to a Secondary standard so that the effluent can be used for irrigation on your property (refer to factsheet 3).

**Blackwater** – Wastewater from toilets. Wastewater from your kitchen sink is also treated as blackwater in OSMS, because it can be highly contaminated with food particles, cooking oil and grease.

**Disinfection** – The treatment of wastewater to destroy or reduce pathogens to an acceptable level.

**Disposal Area** - An area where treated effluent is deposited to after-treatment in an OSMS. Disposal areas include a septic tanks absorption trench and an AWTS irrigation area.

**Effluent** - Wastewater that has been treated in and discharged from an OSMS or sewage treatment plant.

**Greywater** - Household water from baths, showers, hand basins and washing machines that does not include toilet discharge.

**Irrigation Area** – A designated area where effluent is irrigated, using drip irrigation or sprinklers that produce coarse droplets, following treatment in an AWTS.

**Primary treatment system** - The separation of suspended material from wastewater in septic tanks, primary settling chambers, or other structures, before effluent discharge to either a secondary treatment process, or to a disposal area (refer to factsheet 2).

**Secondary treatment system** - Aerobic biological processing and settling or filtering of effluent received from a primary treatment unit followed by disinfection (usually by chlorine) before discharge to a disposal area (refer to factsheet 3).

**Septic Tank** – An OSMS that treats a household's wastewater to a Primary level (refer to factsheet 2).

**Sewage** – Untreated (raw) wastewater from households or commercial premises that is discharged to a reticulated sewer system where available, or treated and disposed of on-site in OSMS.

**Transpiration** – The process where plants absorb water through the roots and then give off water vapour through pores in their leaves.

**Wastewater** - Used water that goes down sinks, toilets and drains and flows into your OSMS.

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# RECORD SHEET

WORKING TOWARDS SAFE & RESPONSIBLE ON-SITE SEWAGE MANAGEMENT  
ON-SITE SEWAGE MANAGEMENT EDUCATION SERIES

## ON-SITE SEWAGE MANAGEMENT SYSTEM RECORD SHEET

Type of On-site Sewage Management System:.....

Date Approval to Operate Issued:..... Expiry Date: .....

Issued by:.....

Diagram of your OSMS Layout including Disposal Area:

### IMPORTANT CONTACT DETAILS

Type of Contact	Name & Contact	Address	Phone Number
Local Council			
Plumber			
Service Agent (AWTS)			
Pump Out Contractor			

## OSMS MAINTENANCE RECORD

[illegible]

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