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On-site Sewage Management Strategy 2018-2022

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1. Purpose

The purpose of this strategy is to provide a comprehensive process for the management of on-site sewage management systems (OSSMS) in the Federation Council area to ensure any public health and environmental risks are effectively reduced.

2. Background

In the mid-late 1990's concerns were identified by the NSW State Government that OSSMS have failed to satisfy the expectations of unsewered communities. Evidence suggests that many of these systems are not being effectively operated and maintained to prevent public health risks and environmental contamination.

On-site systems are like a miniature sewage treatment plants. If they are misused, overworked, or incorrectly maintained, they will fail. Poorly selected, sited, designed, constructed, operated and maintained systems can cause the following problems:

- Public health risks due of people to exposure to bacteria, viruses, parasites and other disease-causing organisms from sewage. Diseases from exposure to raw sewage include Salmonella, E.coli, Trachoma, Gastroenteritis, Cryptosporidium, Dwarf Tapeworm, Threadworm and Hoookworm;
- Insects and vermin (such as mosquitoes and rats) can also act as vectors of disease where they have access to raw sewage;
- Ground and surface water contamination. Pollution of bore water and creek/river systems;
- Soil and vegetable degradation impacting useability of the land; and
- Local amenity issues such as aesthetics, odour, dust, vectors and excessive noise.

These impacts can be either local to the site or offsite affecting adjoining residents and land owners. A badly maintained septic system can cause environmental problems up to 50km downstream in the right conditions. There can also be significant cumulative environmental and public health impacts from multiple OSSMS in a geographical area. Research from State Government has found that 20% of households in regional NSW own some type of OSSMS and 70% of these failed to meet community expectations for public health and environmental standards. Septic tanks have been in use since the 1920's. They have become more popular over time and were initially designed for rural areas where there was a lot of space for treatment and disposal with little impact on adjoining neighbours and land. However, they were also installed into urban areas as a method of treatment until a centralised sewerage system was installed. In many cases the public infrastructure has not eventuated and a high percentage of septic systems have also not been adequately maintained. This has led to serious drainage issues and has in many instances has posed a major risk to environmental health.

It is estimated there are 1,000 or more properties in the Federation Council local government area that have an OSSMS. There are a number of small communities and townships in the Federation Council local government area that have no reticulated sewerage system. This includes communities of Balldale, Boree Creek, Buraja, Coreen, Daysdale, Morundah, Rand, Rennie and Savernake. In these townships, quite a number of houses have been built on small lot sizes with insufficient space for application of wastewater to land which can cause problems such as effluent runoff into neighbouring properties and overloading of nutrients in the soil. The townships of Boree Creek and Rand are also prone to flooding which can impact on septics, causing overflows and contamination of creeks and surface waters.

In the larger towns in the Federation Council area where the current reticulated sewerage network does not extend to properties on the edge of the town or surrounding rural properties, including Corowa, Howlong, Mulwala, Oaklands and Urana. However, many of these properties consist of larger lot sizes and have more space that will allow for effective disposal of wastewater to land.

Environmentally sensitive areas in the Federation Council area that could be negatively impacted by failed OSSMS's include the Murray River, Lake Mulwala, Billabong Creek, Urangeline Creek, Colombo Creek, Boree Creek and Lake Urana including Urana Aquatic Reserve and Lake Urana Nature Reserve.

The townships of Corowa, Howlong and Mulwala source their town water supplies from the Murray River, Australia's longest and most iconic river. The Murray River is an important river also used by locals for boating, water-skiing, fishing and swimming.

Lake Mulwala is a man-made reservoir that is important for farmland irrigation in the Riverina Plain through to Deniliquin and Murray Valley irrigation area, Yarrawonga to Barmah. Lake Mulwala is also popular for fishing, water skiing, camping and swimming.

Billabong Creek is believed to be the longest creek in the world and is important to the region for agriculture, farming and domestic water supplies for residents in the Greater Hume area and further downstream.

Lake Urana is a 6,100 hectare large shallow intermittent lake that fills every 10-20 years which normally retains for several years after. It includes the Urana Aquatic Reserve, man-made lake which is popular for water skiing, fishing and bird watching and also the Lake Urana Nature Reserve which is a protected reserve important for flora and fauna, providing remnant habitat for native animals and home to the few remaining yellow box in the Riverina area. The Urana area is surrounded by an expansive creek system including Billabong, Coonong, Urangeline, Yanco and Colombo Creeks.

Boree Creek, Urana and Oaklands are supplied potable drinking water from Riverina Water. Their water is sourced from a bore field 30kms west of Wagga Wagga. However, Morundah's potable water is supplied by the Colombo Creek and Rand relies on a groundwater supply. Many properties located on rural properties rely on private bores and dams for their potable water supply which can become contaminated from OSSMS's if poorly managed and maintained.

3. Scope

This strategy relates to all fixed on-site sewage management facilities including public, industrial and commercial systems, which do not discharge directly to a public sewer or are not licensed by NSW Environmental Protection Agency (EPA). This strategy will be used to assess, regulate and manage the design, installation, operation and maintenance of OSSMS's.

For the purposes of this strategy, an OSSMS includes, but not limited to the following:

- Septic tanks with evapotranspiration beds or absorption trenches;
- Aerated wastewater treatment systems (AWTS);
- Wet composting toilet with sand filter and/or wetland/reed bed with sub-surface application system;
- Waterless composting toilet and grey water treatment system;
- Grey water treatment systems;
- Septic tank with sand filter and/or constructed wetland/reed bed with sub-surface application system;
- Septic tank and amended soil mound system;
- Septic tank and pump-out well;
- Commercial or package plant systems; and
- Any other system that stores, treats and/or disposes of sewage and/or wastewater on-site.

This strategy is not applicable for OSSMS's on State or Federal Government owned land and institutions, where State and Federation Government Departments approve on-site sewage management infrastructure and manage their own monitoring and maintenance program (i.e. NSW State schools).

There are some residential properties that have a pump well to enable connection to the reticulated sewerage system. These systems are not intended to be captured under this Strategy.

OSSMS's in council owned facilities will be managed and maintained under Council's asset management program and is separate to this Strategy. However, it should be noted that Council will endeavour to ensure that any OSSMS located any of its facilities will meet the performance standards outlined in Section 12.

4. Aim

The aim of this Strategy is to provide a management framework which allows Federation Council to effectively regulate OSSMS's and protect the environment and public health of our communities' from risks associated with these systems.

5. Objectives

The objectives of this Strategy is to:

- Create and maintain an up to date register and records of OSSMS's in the Federation Council area;
- Assess the installation of new OSSMS's to ensure they are fit for purpose and represent best practice;
- Implement an approvals program for OSSM's;
- Implement a risk based inspection program of OSSMS's;
- Raise awareness of property owners of OSSMS's about management and maintenance requirements;
- Utilise information and mapping systems to monitor the cumulative impacts of OSSMS's in the Federation Council area; and
- Work with service agents and property owners to improve monitoring and reporting.

6. Legislation

Local Government Act 1993

The design, installation and operation of OSSMS's are regulated under the *Local Government Act 1993* and its associated Regulations. Under Section 68 of the Act, Federation Council approval is required prior to the installation, construction or alteration of a waste treatment device, a human waste storage facility or a drain connected to any such device or facility.

The *Local Government (General) Regulation 2005* sets out specific requirements for OSSMS approvals including matters for Council consideration, performance standards and circumstances where prior Council approval is not required. Part 2 of the Regulation incorporates the requirement for an Approval to Operate an OSSMS. The Regulation provides for greater protection of the environment and public health through tighter control of the performance standards of OSSMS.

The *Local Government Act 1993* also provides the ability to undertake enforcement action through the orders provisions of Chapter 7. These orders permit Council to stipulate the manner in which a system is to be operated, things to be done or refrained from doing. In addition under section 124, Council can order an occupier or landowner to connect to the sewerage system when the property is located within 75 metres of a sewer.

In protecting public health and the environment, the *Local Government (General) Regulation 2005* specifies that an OSSMS must be operated in accordance with the following performance standards:

- The prevention of the spread of disease by micro-organisms;
- The prevention of the spread of foul odours;
- The prevention of the contamination of water;
- The prevention of the degradation of soil and vegetation;
- The discouragement of insects and vermin;
- Ensuring that persons do not come in contact with untreated sewage or effluent (whether treated or not) in their ordinary activities on the premises concerned; and
- The minimisation of any adverse impacts on the amenity of the premises and surrounding lands.

Protection of the Environment Operations Act 1997

The *Protection of Environment Operations Act 1997 (POEO Act)* provides local government with stronger powers to investigate complaints and to issue legally binding notices. Under the Act, Federation Council is responsible for the regulation of activities for which it is the Appropriate Regulatory Authority (ARA). Federation Council is the ARA for activities relating to OSSMS's not regulated or licensed by NSW Department of Industries.

A major component of any modern environmental protection program is efficient surveillance and enforcement to ensure compliance with Federation Council requirements. Where a failing OSSMS is detected during a compliance inspection the following actions are available to Council under the POEO Act:

- Clean-Up Notices – used where a quick response to a pollution incident is required;
- Prevention Notices – where a system is not being operated in an unsatisfactory manner which may or is causing harm to the environment;
- Compliance Cost Notices – allows Council to recover costs and expense it incurs in monitoring action taken under either a Clean-Up or Prevention Notice; and
- Penalty Infringement Notices – on-the-spot fines where an OSSMS is failing or has the potential to discharge effluent to a waterway or the stormwater system.

7. Guidelines and Standards

Environment & Health Protection Guidelines 1998

The *Environment & Health Protection Guidelines* were developed by the Department of Local Government in 1998 with input from EPA and NSW Health. These guidelines provide Councils with the tools for the effective regulation of OSSMS's. In order to achieve this, the guidelines recommend that local governments should:

- Develop, implement and regularly review an onsite sewage management strategy;
- Develop site and system specific conditions of approval to operate OSSMS;
- Consider all relevant issues when approving the installation or operation of OSSMS's, particularly environment and health issue, both within the site and on a catchment wide basis;
- Check that approval conditions are complied with by appropriate auditing and monitoring; and
- Undertake ongoing householder education on issues, including:
    - Statutory responsibilities of householders as operators of OSSMS's;
    - Health and environmental risks associated with system use;
    - Specific issues related to the system installed.

It also recommends that local governments implement a program of OSSMS audits to monitor their performance and the cumulative impacts of OSSMS's on a larger environmental scale.

AS/NZS 1547:2012 On-site Domestic Wastewater Management
This standard provides specific details for a range of domestic on-site sewage management facilities and land application areas.

AS/NZS 1546:1 2008On-site Domestic Wastewater Treatment Units Septic Tanks, AS/NZS 1546:2 2008 On-site Domestic Wastewater Treatment Units Waterless Composting Toilets, ASNZS 1546:3 2017 On-site Domestic Wastewater Treatment Units Secondary Treatment Systems and AS/NZS 1546:4 2016 On-site Domestic Wastewater Treatment Units Domestic Greywater Treatment Systems
These Standards provide technical details for the appropriate design requirements for the various types of on-site sewage management systems including septic tanks, waterless composting toilets and aerated wastewater treatment systems (AWTS).

AS/NZS 3500:2 2018 Plumbing and Drainage Sanitary Plumbing and Drainage
Relevant for plumber's who install or conduct repairs or alterations to on-site sewage management facilities, this Standard covers the requirements for the design and installation of any plumbing and drainage.

8. Overview of Domestic On-Site Sewage Management Systems

An OSSMS is a domestic wastewater management system that receives wastewater generated by household activities. Types of household water includes blackwater, which is wastewater generated from toilets, and greywater, which is wastewater generated from basins, kitchen sinks, showers and laundries. Where a dwelling cannot be connected to the reticulated sewerage network, an OSSMS is required.

A septic tank (conventional system) is the most common type of OSSMS that provides the preliminary treatment of wastewater from the household. It is a living ecosystem where bacteria digest waste and treat the water to produce effluent. Heavy solids sink to the bottom of the tank to form a sludge layer and light solids float to the top of the tank to form a scum layer which prevents odours from escaping.

The effluent produced flows out of the tank through an outlet pipe as new wastewater enters the system. In some instances, effluent is stored in a holding tank before being pumped out. However, in most modern systems the effluent is discharged below the surface of the soil in absorption trenches. In the trench, natural soil processes kill off pathogens and break down some of the nutrients that cause pollution. This is a slow process and therefore it is important that the system is not overloaded. This can be achieved de-sludging the tank every 3-5 years, reducing water consumption in the house and being careful of cleaning products and chemicals used that can affect the digestion process.

Some systems, such as AWTS utilise a further treatment and disinfection process, usually chlorination before the effluent is applied to land, i.e. land application area. This treatment systems produces a higher quality of wastewater which allows wider application, including surface irrigation.

Common problems identified with OSSMS's include:

- Too much water going into the system causes effluent to flow too quickly through the septic tank before bacteria have a chance to work. Solids can be pushed through the system, clogging absorption trenches;
- Too much sludge and scum in the tank. Not having a tank de-sludged regularly will result in the tank failing and untreated wastewater with heaving solids flowing out of the tank in the absorption trench; and
- Toxic chemicals going into the system like solvents, oils, paints, disinfectant, pesticides, household cleaning products and bleaches that kill the helpful bacteria in the septic system. This stops the digestion of effluent and pollution of the absorption trenches.

Signs of failing OSSMS's include:

- Water won't drain away easily from basins and sinks;
- Drain pipes gurgling noise;
- Sewage smells from the drains or system;
- Water backing up into sinks or yard gully; and
- Wastewater pooling over the disposal area.

9. Approvals Program

The *Local Government Act 1993* places an obligation on Councils to better supervise OSSMS. Council is obliged to require owners of non-sewered parcels of land with toilets or other improvements to seek approval. The approval process establishes an accountability relationship between the property owner and the Council and will enable Council to ensure that householders and property owners are aware of the maintenance and operating requirements of their system.

There are two separate applications for OSSMS approval:

1. An approval to install, construct or alter an on-site sewage management system; and
2. An approval to operate an on-site sewage management system.

9.1 Approval to Install, Construct or Alter

The Approval to Install, Construct or Alter an On-Site Sewage Management System relates to the installation of a new OSSMS or the upgrade/alteration of an existing system. This application is made under section 68 of *the Local Government Act 1993* and is to be submitted to Council with payment of the appropriate fees prior to any work commencing.

If the installation, construction or alteration works are related to a development application (i.e. new dwellings, alterations to dwellings or change of building use) the proposed system will be assessed for compliance with achieving the performance standards listed in Section 12 as part of the development application process. If

satisfied with the proposed system to be installed, Council will issue an Approval to Install, Construct or Alter at the same time it issues the development consent. Refer to Section 14 for further requirements of development applications and OSSMS information required to be submitted as part of the development application.

Where the installation, construction or alteration works are classed as Exempt or Complying Development, an application for Approval to Install, Construct or Alter will need to be submitted to Council along with details of the proposed system. At a minimum, the following information will need to be submitted as part of the application to enable Council to assess whether it will meet the performance standards:

- Site Constraints Plan - to scale detailing the location of the proposed OSSMS and it land application area, including primary and reserve disposal areas. All buffer distances to all waterways, dams, buildings and driveways, swimming pools, water storage tanks and property boundaries must be shown;
- Drainage Diagram - to scale in accordance with National Plumbing & Drainage Plumbing Code AS/NZS 3500;
- Floor Plan - of any building connected to the sewage management system;
- Manufacturer's Specifications - for the proposed OSSMS;
- Site and Soil Assessment Report - for wastewater disposal conducted by a suitably qualified person and demonstrate compliance with AS1547 and NSW Environment & Health Protection Guidelines; and
- Operations and Maintenance – details of the operation and maintenance requirements for the sewage treatment facility and the proposed operation, maintenance and servicing arrangements;

Where an AWTS is installed, the applicant is also required to supply:

- Detailed design plans and information for the irrigation pipework within the land application area.

Additional information may also be required to accompany the application:

- Cross-sectional drawing through any proposed trenches or beds (including dimensions);
- Manufacturer's specifications for any sub-surface irrigation system;
- Manufacturer's specifications for any distribution boxes or the like where provided to ensure the even distribution of treated effluent within the land application areas; and
- Location and type of any landscaping or vegetation that is proposed.

Where the size of the property where the OSSMS is proposed to be installed is <2000m2, the applicant will also need to provide a geo-technical report for the land and be able to justify that an OSSMS can be installed and effluent effectively applied to the land without any adverse environmental or public health impacts to the occupiers, neighbouring properties and nearby sensitive receptors. It should be noted that the applicant will need to demonstrate that they have space for primary and reserve disposal areas within the boundary of the site.

Refer to Section 14 for further details about information to be submitted with a development application.

Any new onsite sewage management system installed must be a system which is accredited by NSW Health under clause 40 of the *Local Government (General) Regulation 2005*. A full list of accredited systems can be found on NSW Health's website at: www.health.nsw.gov.au/environment/domesticwastewate.

It is an offence under the *Local Government Act 1993* to undertake work to install/construct or alter an OSSMS without prior written approval from Council.

9.2 Approval to Operate

An Approval to Operate an On-Site Sewage Management System (other than renewal) will be issued to the owner of the property where:

1. **For new OSSMS installed** – where a final inspection has been undertaken by Council;
2. **For an upgrade of an existing OSSMS** (resulting in a change to the type of system installed and/or installation of a new effluent land application area) – a final inspection has been undertaken by Council. The new approval certificate will reflect the modified system;
3. **For a property that has an existing OSSMS and is sold** – the new property owner may continue to operate the existing system of sewage management for a period of up to three (3) months but an

application to Council must be lodged (by the new owner) within two (2) months of completion of the sale to enable the OSSMS Approval to Operate certificate to be issued; and

4. **Following initial inspection and risk rating by Council of each OSSMS** - with the rollout of this Strategy over the next three (3) years, each OSSMS will be inspected and provided with a risk rating to determine the frequency of ongoing inspections. The Approval to Operate will then be issued to the owner of the property.

It is an offence under the Local Government Act 1993 to operate an OSSMS without a current Approval to Operate issued by Council.

Table 1: Summary of Approval Process

Type of Activity	1. Approval to Install/Construct/Alter	2. Approval to Operate
New OSSMS	• Details of OSSMS submitted as part of a development application; or • Application to Install, Construct or Alter to be submitted to Council (where Exempt or Complying Development).	• Issued after final inspection by Council of works are carried out.
Upgrade or alterations to existing OSSMS	• Details of OSSMS submitted as part of a development application; or • Application to Install, Construct or Alter to be submitted to Council (where Exempt or Complying Development).	• Issued after final inspection by Council of works are carried out.
Existing OSSMS	• Not applicable.	• Application to be lodged (by new owner) within 2 months of sale; and • Application to be lodged following initial inspection and risk rating with the rollout of this Strategy.

9.3 Renewal of Approval to Operate

An Approval to Operate is not unlimited and has an expiry date. Council will inspect each system within the currency period of the approval to check performance, refer to Section 13 for more information. Following expiration of the approval, Council will issue the property owner a renewal notice and they will be required to make application for an Approval to Operate.

10. Commercial Systems

On-site sewage management systems with capacities above 10 equivalent population (EP) and less than 2,500 EP are classed as commercial systems. They are often pre-fabricated or pre-engineered treatment systems designed to accept and treat small to medium wastewater flows independent of the reticulated sewerage system and are often known as 'package wastewater treatment plants'. They are common for cabins, caravan parks, B&B's, hotels, motels and small villages located in areas with no reticulated sewerage system.

Under this strategy, commercial systems will:

- Be required to hold an approval to install, construct or alter;
- Be required to hold an approval to operate;
- Need to be designed to meet the performance criteria outlined in Section 12 and the applicant will need to satisfy Council that they can adequately treat and dispose of the wastewater on-site without creating any environmental or public health risks; and
- Be classed as 'high risk' systems under this Strategy and undergo a higher inspection frequency by Councils staff.

Where commercial or industrial wastewater is produced and proposed to be treated through a system designed for domestic type wastewater (i.e. human waste, household wastewater), such as traditional septic systems or

AWTS, trade waste pre-treatment equipment may be required to be installed. Examples include a grease trap for commercial kitchens and oil/water separator for vehicle wash bays.

Where irrigation of treated effluent is proposed, the design and installation will need to take into consideration the NSW EPA's Guideline "Use of Effluent by Irrigation".

Systems that have an intended processing capacity of more than 2,500 EP or 750 kilolitres per day and that involve the discharge or likely discharge of wastes or by-products to land or waters require a licence with the NSW EPA.

11. Assessment of Risk

To determine the inspection frequency, all OSSMS within the Federation Council area are classified into a rating of either low, medium or high risk depending on the potential public health or environmental risk they pose. The main considerations in determining risk include:

- Location and size of the land;
- System design, condition and observed performance;
- The amount of wastewater generated;
- Soil type;
- Vegetation coverage;
- Slope of the land ;
- Distance to watercourses, drains and property boundaries;
- Surface or subsurface discharge of effluent; and
- Risk of flooding.

The risk rating of an OSSMS will be generally determined in accordance with the criteria outlined in Table 2 below. The risk rating will determine the Approval to Operate expiration, renewal date and inspection frequency. The higher the risk rating, the greater the inspection frequency for that property and the less time between the expiration date of the OSSMS Approval to Operate. Refer to Section 13 for more information.

Table 2: Risk Criteria for Classification of OSSMS

Criteria	Low Risk	Medium Risk	High Risk
Distance from:			
• Environmentally sensitive areas (habitat, wetlands, aquatic reserves, declared wilderness areas)	>100m	Between 40-100m	<40m
• Permanent water (river, stream, creek, dams)	>300m	Between 100-300m	<100m
• Temporary waterway (intermittent gully or creek)	>100m	Between 40-100m	<40m
• Well or bore used for domestic purposes	Nil or >500m	Between 250-500m	<250m
• Closest boundary of neighbouring property to effluent disposal area	>50m	Between 15-50m	<15m
• Closest dwelling (on property or neighbouring property)	>15m	Between 6-15m	<6m
Land area	>10ha	Between 2000m^2 – 10ha	<2000m^2
Flood liable	NO	NO	YES
Meets performance standards / no history of ongoing problems	YES	YES	NO
Effluent ponding on ground surface / wet soggy disposal area	NO	NO	YES
Grazing and other activities restricted in effluent disposal area	YES	YES	NO
Condition of tank and infrastructure	GOOD	GOOD	POOR

When implementing this strategy, Council will aim to inspect and determine the risk rating for each system initially as resourcing permits. Council will focus on high density population areas and areas close to environmentally sensitive areas as a priority. This may take a period of up to three (3) years to implement initially. Risk ratings can be re-assessed from time to time, such as when conditions change, the system operation is improved or the system is upgraded.

The following systems or activities will always be automatically considered high risk and subject to a higher inspection frequency:

- Pump out septic systems given the high maintenance and servicing required for these systems; and
- Commercial properties (such as cabins, caravan parks, B&B's, hotel/motels etc.) given the higher wastewater loads and increased risk of public exposure to un-treated effluent if the system is not managed properly.

Information contained within the Environment & Health Protection Guidelines: On-site Sewage Management for Single Households may also be used to determine risk of OSSMS's, particularly Tables 4 and 5.

12. Performance Standards

In protecting public health and the environment, the *Local Government (General) Regulation 2005* specifies that an OSSMS must be operated in accordance with the following performance standards:

- The prevention of the spread of disease micro-organisms;
- The prevention of the spread of foul odours;
- The prevention of the contamination of water;
- The prevention of the degradation of soil and vegetation;
- The discouragement of insects and vermin;
- Ensuring that persons do not come in contact with untreated sewage or effluent (whether treated or not) in their ordinary activities on the premises concerned; and
- The minimisation of any adverse impacts on the amenity of the premises and surrounding lands.

All systems of sewage management must be operated in a manner that achieves the above performance standards. Council staff will use these performance standards to assess the level of compliance of OSSMS's. Where a system is not meeting the above performance standards, it will be deemed to be a failed system and rectification works or upgrades will be required to address the problems identified. Refer to Section 13.1 for more information about failed systems.

All OSSMS's must also be operated in accordance with operating specifications and procedures.
It should be noted that where an OSSMS fails for reasons beyond the control of the person managing the system (i.e. fire, flood, earthquake), this will not considered a breach of the performance standards.

13. Inspection Program

Under the *Local Government Act (General) Regulation 2005*, Councils have a duty to monitor performance of existing systems and take action in relation to defective systems or systems which pose a risk to public health and safety. To ensure each OSSMS in the Federation Council local government area is managed so as to protect public health and the environment, Council undertakes regular inspections of all systems.

Council employs a risk-based inspection program. All systems will be initially evaluated and given a risk rating (either low, medium or high risk) based on the criteria outlined in Section 11. The risk score determines the frequency of inspections as well as the Approval to Operate expiration and renewal date outlined in Table 3 below.

Table 3: Inspection frequency of OSSMS

Risk rating	Frequency of Inspections	Approval to Operate Expires
Low	Every 10 years	10 years after issue
Medium	Every 5 years	5 years after issue
High	Every 2 years	2 years after issue

Prior to any inspections, Council will notify property owners in writing giving a minimum of two (2) weeks' notice of the upcoming inspection. To ensure consistency of approach to inspections of OSSMS's, all inspections will utilise a common assessment checklist. Following an inspection, the landowner will be provided with written correspondence that includes the results of the inspection, any recommended actions, advice and educational information.

While implementing this inspection program, Council will focus on high density population areas and areas close to environmentally sensitive areas, whilst large rural farms and stations may be inspected at a later date when time permits.

This inspection program has been designed with the aim of least intrusion of residents and landowners. The risk of the system to the environment and public health determines the frequency of inspections.

13.1 Failed Systems

Failed systems can only be determined by an on-site inspection and is independent of the systems risk rating. A system is considered failed when it is not meeting the performance standards identified in Section 12.

Failed systems are not acceptable and rectification works or upgrades will be required to ensure compliance with the performance standards. Council will issue an inspection report to the owner of the property outlining the nature of the problem and what is required to rectify the problem. The period of time granted to have the required works completed will be based upon the scale of environmental or public health risk being caused.

Re-inspections will be required of failed systems until the system meets the performance standards. System failure may also result in Council issuing statutory Notices and Orders requiring the owner of the property to conduct the required works to address the problem.

Owners of failed systems will be supported with advice and educational material regarding best practice in operating and maintaining their OSSMS.

Pit (i.e. long drop) and pan toilets will be automatically included as failing systems when they are encountered during the inspection program. These systems cannot meet the required performance standards. If these systems are encountered, rectification works will be required and Council will advise how compliance can be achieved. Other examples of failed system include (but not limited to):

- Systems that have not been de-sludged and/or high sludge levels are impacting on the ability of the system to work effectively;
- There is effluent run-off from the system and/or land application area;
- Excessively muddy or soggy land application areas;
- Die off of plants and trees in the land application area indicating nutrient overloading;
- Discharge of untreated sewage or effluent above ground (where not secondary treatment system is installed that effectively disinfects the wastewater);
- Strong or foul odours coming from the system; and
- Signs of insects and vermin hanging around and being attracted to the system.

13.2 Complaints

In circumstances where a complaint is received about a system, Council will attempt to contact the owner of the property to arrange a mutually agreeable time for an inspection. If the owner cannot be contacted, then written notification will be sent informing the owner of the proposed inspection date and time with a two (2) week notice period. Inspections may be undertaken without notification to the property owner where Council believes that a system is failing and the investigating officer reasonably suspects that pollution has been, is being, or is likely to be caused in accordance with powers of authorised officers under the Protection of the Environmental Operations Act 1997.

13.3 Service Monitoring and Reporting

Council will work with service agents and property owners to support a monitoring and reporting system for servicing of OSSMS's. Provision of service receipts will be encouraged and enable Council to ensure property owners are adequately maintaining their OSSMS from the desktop. Supplied receipts will be entered into Council's database and provide useful information on the current performance of the system and service history. OSSMS's that are identified has having been serviced at regular intervals and performing well based on the receipts from the service agent will be categorised as low risk and subject to less inspections by Council.

14. Development Applications

For developments in non-sewered areas, the following information in relation to the onsite sewage management is required to be submitted as part of the development application.

Table 4: Information Required to Be Submitted with Development Applications

Type of development	Requirements
Subdivision; Boundary adjustments; and Rezoning	The development application to include: A **Land Capability Assessment Report** prepared by a suitably qualified person, who has conducted an On-site Sewage Management (OSSM) desktop study of the property, a site inspection and who has assessed any existing OSSMS. The report needs to assess the viability of on-site wastewater management given the risks presented to public health, environment, and local amenity. The report needs to include site-specific limitations for on-site wastewater management, as well as suitable management strategies to reduce impacts of the system on its surrounds. The report must include details of all existing OSSMS on the property (including effluent land application areas), confirm whether existing systems are performing satisfactorily or unsatisfactorily, their location, their condition and if they will affect the proposed development application. If the OSSM report finds that any existing system is unsatisfactory, the report must set out in detail why this should not affect any consent given for the proposed development. For development applications involving the subdivision of land into multiple parcels, the OSSM **Land Capability Assessment Report** will need to include a desktop study, site and soil assessment details and justify that an OSSMS can be installed on the new parcel/s of land. For large subdivisions (>5 parcels of land), the OSSM designer may only need to justify that an OSSMS can be installed on the most limiting (or constrained) parcels within the subdivision.
New Dwellings Located within: • 40m of an environmentally sensitive area (habitat, wetlands, aquatic reserves, declared wilderness areas); or • 100m of a permanent water (river, stream, creek, dams); or • 40m of a temporary waterway (intermittent gully or creek).	The development application to include: A **Land Capability Assessment Report** prepared by a suitably qualified person, who has conducted an On-site Sewage Management (OSSM) desktop study of the property, a site inspection and who has assessed any existing OSSMS. The report needs to assess the viability of on-site wastewater management on the property given the risks presented to public health, environment, and local amenity. The report needs to include site-specific limitations for on-site wastewater management, as well as suitable management strategies to reduce impacts of the system on its surrounds.
New Dwellings >2,000m2 lot size	The development application to include: • **Site Constraints Plan** - to scale detailing the location of the proposed OSSMS and it land application area, including primary and reserve disposal areas. All buffer distances to all waterways, dams, buildings and driveways, swimming pools, water storage tanks and property boundaries must be shown; • **Drainage Diagram** - to scale in accordance with National Plumbing & Drainage Plumbing Code AS/NZS 3500; • **Floor Plan** - of any building connected to the sewage management system; • **Manufacturer's Specifications** - for the proposed OSSMS; • **Site and Soil Assessment Report** - for wastewater disposal conducted by a suitably qualified person and demonstrate compliance with AS1547 and NSW Environment & Health Protection Guidelines; and

	• **Operations and Maintenance** – details of the operation and maintenance requirements for the sewage treatment facility and the proposed operation, maintenance and servicing arrangements; Where an AWTS is installed, the applicant is also required to supply: • Detailed design plans and information for the irrigation pipework within the land application area. Additional information may also be required to accompany the application: • Cross-sectional drawing through any proposed trenches or beds (including dimensions); • Manufacturer's specifications for any sub-surface irrigation system; • Manufacturer's specifications for any distribution boxes or the like where provided to ensure the even distribution of treated effluent within the land application areas; and • Location and type of any landscaping or vegetation that is proposed.
New Dwellings **<2000m2 lot size**	In addition to the information required to be submitted for New Dwellings on a lot size of >2,000m2 above, the applicant will also need to: • Justify that an OSSMS can be installed and effluent effectively applied to the land without any adverse environmental or public health impacts to the occupiers, neighbouring properties and nearby sensitive receptors. • The justification is supported by a suitably qualified person. It should be noted that the applicant will need to demonstrate that they have space for primary and reserve disposal areas within the boundary of the site. If a reserve disposal area cannot be provided within the lot due to limitation of space, a higher level of wastewater treatment (i.e. secondary or advanced) is performed to ensure longevity of the disposal area. It is also recommended that wastewater is alternated into a different section of the disposal area after each pump cycle (using an indexing valve), thereby allowing each area to have a rest in an unsaturated state for significant periods during the day.
Alterations and additions to existing dwellings (which will increase wastewater generated)	For alterations and additions to existing dwellings where there is a proposal to increase the wastewater (e.g. additional bedrooms, attached studio) or an intention carry out plumbing and drainage works (e.g. ensuite) the following is required: • A suitably qualified person is to provide a report to justify that the existing OSSMS is operating satisfactorily, can treat the additional wastewater load and apply the effluent to the land, or confirm that the existing OSSMS will need to be upgraded, or that a new OSSMS will need to be installed; and • If a new OSSMS is required the information to be submitted with the development application will be the same for New Dwellings listed above.
Change of Building Use (which will increase wastewater generated)	A suitably qualified person is to provide a report to justify that the existing OSSMS is operating satisfactorily, can treat the additional wastewater load and apply the effluent to the land, or confirm that the existing OSSMS will need to be upgraded, or that a new OSSMS will need to be installed; and If a new OSSMS is required the information to be submitted with the development application will be the same for New Dwellings listed above.
Commercial package plants or treatment systems	A **Land Capability Assessment Report** prepared by a suitably qualified person, who has conducted an OSSMS desktop study of the property, a site inspection and who has assessed any existing OSSMS. The report must include details of all existing OSSMS on the property (including effluent land application areas), confirm whether existing systems are performing satisfactorily or unsatisfactorily, their location, their condition and if they will affect the proposed development application. The report will also need to include details of the proposed new system, including: • **Site Constraints Plan** - to scale detailing the location of the proposed OSSMS and it land application area, including primary

	and reserve disposal areas. All buffer distances to all waterways, dams, buildings and driveways, swimming pools, water storage tanks and property boundaries must be shown; • Drainage Diagram - to scale in accordance with National Plumbing & Drainage Plumbing Code AS/NZS 3500; • Floor Plan - of any building connected to the sewage management system; • Manufacturer's Specifications - for the proposed OSSMS and treatment system; • Site and Soil Assessment Report - for wastewater disposal conducted by a suitably qualified person and demonstrate compliance with AS1547 and NSW Environment & Health Protection Guidelines; and • Operations and Maintenance – details of the operation and maintenance requirements for the sewage treatment facility and the proposed operation, maintenance and servicing arrangements. The report will also need to include: • Type of effluent quality required to achieve development objective; • Type of system that can treat the maximum quantity of wastewater generated; • Type of land application for wastewater disposal (i.e. surface, sub-surface irrigation) to match the effluent quality produced; • The location and dimensions of the area to be irrigated; • Detailed design plans and information for the irrigation pipework within the land application area; • Cross-sectional drawing through any proposed trenches or beds (including dimensions); • Manufacturer's specifications for any irrigation system; • Manufacturer's specifications for any distribution boxes or the like where provided to ensure the even distribution of treated effluent within the land application areas; and • Location and type of any landscaping or vegetation that is proposed; • Details of storage tanks for treated wastewater and holding capacity during periods of wet weather; • How stormwater will be diverted around the irrigation area to prevent pollutant runoff and contamination of stormwater; • Details of how the public will be restricted from access to the system/plant and irrigation areas; and • Details of signage and information that will be displayed to inform people that reclaimed effluent is in use in the irrigation area. •

15. Decommissioning

Decommissioning of on-site sewage management systems will be required when:

- The property is connected to reticulated sewage; or
- An old on-site sewage management system is replaced with a new one.

In these instances, Council will instruct the owner of the property to decommission the system. The owner must decommission the system in accordance with Council's requirements so as to prevent any future safety, environmental or public health risks. Council can provide information on the steps that need to be followed to decommission an on-site sewage management system.

Derelict houses with a system connected are not required to be decommissioned. However, these systems still need to be notified and remain on Council's register. The contents of these systems should be pumped out by a service agent and disposed of appropriately. They should be filled with water to prevent damage/cracking and

rising out of the ground. The annual management fee on the rates will be applicable. See Section 16 for more information.

16. Fees and Charges

Under this Strategy, the following fees will be applicable:

Annual Management Fee

Owners of properties that have an OSSMS pay an annual management fee. This fee will be listed on the Rates Notice and will be a minimal charge to enable Council to obtain the necessary revenue to supervise and manage the OSSM program (i.e. staff, resources, equipment, maintain a register, risk assessment, performance monitor/audit existing systems, approval to operate renewal process, education information etc.). The *Local Government Act 1993* permits a charge to be levied with rate assessments for work associated with OSSM.

Application Fee for Approval to Install, Construct or Alter

A fee for a Section 68 application under the *Local Government Act 1993* is applicable. Application fees are to be paid up front upon submission of the application to Council.

Application Fee for Approval to Operate

There will be no fee applicable for an Approval to Operate while Council is rolling out this Strategy. This will allow all OSSMS's to be initially inspected and provided with a risk rating which will determine the expiration of the approval period. It is anticipated that it will take Council approximately three (3) years to rollout this Strategy. Following this period, a fee for an Approval to Operate will be required for:

- New OSSMS;
- Sale of properties with an OSSMS, where the new owner will be required to apply for an Approval to Operate;
- Renewal of an Approval to Operate following expiration of the initial approval.

Inspection Fee

Council will invoice the property owner where an inspection is undertaken of a medium or high OSSMS's. There is no inspection fee for low risk OSSMS's, however if issues are identified during an inspection, a re-inspection fee may apply.

Re-inspection Fee

If the inspection reveals that the system is failing and requires rectification works, re-inspection fees will apply. If more than one re-inspection is required, the owner will be charged per re-inspection.

Table 5: Summary of Fees and Charges

Activity	Fees and Charges Applicable	Commencement
Annual fee	Applies to all properties with an OSSMS. Minimal fee levied on the rates.	1st July 2019
Application for Approval to Install, Construct or Alter	Fee applicable for the installation of a new OSSMS or alterations to an existing system.	1st January 2019
Application to Operate	No fee applicable for first three (3) years while Strategy is rolled out. Following this period, a fee will be applicable.	1st July 2021
Inspections	Applicable for medium and high risk OSSMS's. No fee applicable for low risk OSSMS's.	1st January 2019
Re-inspections	Applicable where re-inspections are required for failed systems to ensure rectification works have been undertaken within required timeframes.	1st January 2019

17. Council Reticulated Sewer

Connection to Council's sewerage system, where available, is required to ensure appropriate management and treatment of sewage to prevent public health risks and environmental contamination. In accordance with the *Local Government Act 1993*, it is mandatory for all premises located within 75 metres of Council's sewerage infrastructure to connect to the reticulated sewerage system.

Premises not connected to the sewerage system will be identified during regular smoke testing and appropriate action will be taken to require the owner of the property to connect. This will involve issuing the owner statutory Notices and Orders directing them to connect to Council's sewerage system within a stated period of time. If a property owner fails to comply, Council will pursue further compliance action which may involve on-the-spot fines and/or court action.

The Strategy will also assist Federation Council to identify priority areas to extend or improve the current reticulated sewerage infrastructure where funding allows. Risk ratings and inspection data will be used to highlight problems areas that would benefit from the extension of current reticulated sewerage network.

18. Mapping

Council's mapping system will be utilised to provide an aerial perspective of the location of each OSSMS and assess the cumulative impacts that OSSMS's may have on environmentally sensitive areas, permanent waters, temporary waterways as well as municipal water supplies. This will be an important risk assessment tool in relation to understand the local environmental and public health risks in our communities.

19. Education Program

Property owners and householders will need to take an active role in the management of their OSSMS. It is therefore essential that they are aware of their responsibilities and have access to relevant information. Council will have a strong focus on providing information and advice when implementing this Strategy.

Council will make the following information available:

- Health and environmental risks of OSSMS's and how to manage them;
- System operation and maintenance requirements;
- Performance standards of OSSMS's;
- Wastewater minimisation principles (to improve the performance of their OSSMS); and
- Where they can access further information.

This information will be provided through factsheets, information on Council's public website, newsletter articles and flyers. Property owners will be notified and sent information prior to an inspection. During routine inspections, Council staff will place an emphasis providing information and advice wherever possible. Information packs will be designed and provided to residents during routine inspections.

In the initial stages of implementation of this Strategy, Council will hold community workshops to assist them with understanding:

- Their responsibilities;
- Health and environmental risks;
- How to operate and maintain their system;
- How to identify failed systems; and
- How to fix these common problems.

Responsibilities of Property Owners

Owners of a property with an OSSMS are responsible for:

- Ensuring their house drains properly and their tank isn't leaking;
- Getting anything fixed if it isn't working properly;
- Keeping their system well maintained;
- Ensuring their system is checked regularly;
- Getting the septic tank pumped out (de-sludged) when it becomes too full;
- Maintaining and protecting the absorption trenches and land application area;
- Conserving water where possible to aid their system in working effectively;
- Undertaking regular checks of their system; and
- Complying with Council's requirements for installation, maintenance service and operation.

If a property owner has installed an AWTS system, they will be required to enter into a service agreement with an authorised service agent to conduct regularly inspections and checks of their system at a frequency recommended by the manufacturer of the system. Most manufacturers recommended a service frequency of every three (3) months. AWTS are a more sophisticated system reliant on electrical components, pumps and dosing equipment to work effective, hence the need to increased frequency of servicing. A copy of the service agreement will need to be provided to Council.

20. Success Measures

Measures of success for this Strategy will include:

- Number of inspections = target of 150 per year;
- Level of compliance:
    - 50% of all systems inspected in 2019 comply with performance standards
    - 60% of all systems inspected in 2020 comply with performance standards
    - 70% of all systems inspected in 2021 comply with performance standards
    - 85% of all systems inspected in 2022 comply with performance standards
- Maintenance of the register;
- Implementation of an education program; and
- Implementation of an approvals program.

21. Reporting

A report will be provided to Council Elected Representatives on an annual basis that outlines the progress of implementation of this strategy as well as achievement with the above identified success measures. This report will be provided in the first quarter of the new financial year and report on the preceding year's achievements.

22. Resources

Council has assigned a staff member to be responsible for the implementation of this OSSM program. Their duties include:

- Complete programmed inspections;
- Initiate actions for failed systems;
- Assist assessing applications for the installation of new systems;
- Maintenance of the register and issuing approvals; and
- Providing education and guidance.

This person is also responsible for a number of other public health and environmental duties and OSSM will not be their sole focus.

23. Definitions

Absorption Trench – a trench located below ground level designed to transpire and absorb effluent discharged from the septic tank. A trench must be installed correctly or pollution of ground water can occur.

AWTS – Aerated Wastewater Treatment System is a wastewater treatment process typically consisting of:

- Primary settling of solids and flotation of scum;
- Secondary oxidation and consumption of organic matter through aeration;
- Clarification by additional settling of solids;
- Disinfection of wastewater before surface irrigation; and
- Mechanical operation of air pumps and pressure pumps which must be serviced quarterly.

De-sludging – withdrawing sludge, scum and liquid from a tank by a qualified service agent licensed to transport and dispose of liquid waste.

Effluent – wastewater discharging from a sewage management facility.

Land application area – the area over which treated wastewater is applied

Nutrients – chemical elements that are essential for sustained plant or animal growth, the major nutrients essential for plant growth are nitrogen, phosphorus and potassium, in excess, nitrogen and phosphorus are potentially serious pollutants and encourage nuisance growths of algae and aquatic plants in waters and (in the case of nitrate) posing a direct human health risk.

Pathogens – micro-organism that are potentially disease-causing include bacteria, protozoa and viruses.

Potable – water of a quality suitable for drinking and domestic use that does not deteriorate on storage and that does not contain pathogenic organisms.

Run-off – the part of the precipitation and/or irrigated effluent that becomes surface flow because it is not immediately absorbed into or detained on the soil.

Scum – material that collects at the top of primary wastewater treatment tanks, including oils, grease, soaps and plastics.

Septic Tank – wastewater treatment device that provides a preliminary form of treatment of wastewater, comprising sedimentation of solids, floatation of oils and fats, and anaerobic digestion of sludge.

Sludge – mainly organic semi-solid product produced by wastewater treatment process.

Vectors – insects or animals, such as flies, mosquitos or rodents, that are attracted to putrescible organic material in wastewater and wastewater treatment systems, and that spread disease.

24. References

- Department of Local Government NSW (January 1998) Environment and Health Protection Guidelines: On-site Sewage Management for Single Households, Department of Local Government.
- Department of Local Government NSW (2000) The Easy Septic Guide, Department of Local Government.
- Department of Health NS W(February 2016) Sewage Management Facility Vessel Accreditation Guideline
- Department of Health NSW (May 2018) Secondary Treatment System Accreditation Guideline (AWTS, Sand Filter, Reed Beds)
- Department of Health NSW (May 2005) Waterless Composting Toilet Accreditation Guidelines
- Department of Health NSW (April 2000) Greywater Reuse in Single Domestic Premises
- Department of Health NSW (February 2005) Domestic Greywater Treatment Systems Accreditation Guidelines
- Environmental Protection Agency NSW 2003 Guideline: Use of Effluent by Irrigation.
- Local Government Act 1993 (copies can be searched and downloaded from www.legislation.nsw.gov.au)
- Local Government (General) Regulation 2005 (copies can be searched and downloaded from www.legislation.nsw.gov.au)
- Protection of the Environmental Operations Act 1997 (copies can be searched and downloaded from www.legislation.nsw.gov.au)

- AS/NZS 1547:2012 On-site Domestic Wastewater Management (copies can be searched and accessed from www.standards.org.au)
- AS/NZS 1546:1 2008 On-site Domestic Wastewater Treatment Units Septic Tanks (copies can be searched and accessed from www.standards.org.au)
- AS/NZS 1546:2 2008 On-site Domestic Wastewater Treatment Units Waterless Composting Toilets (copies can be searched and accessed from www.standards.org.au)
- AS/NZS 1546:3 2017 On-site Domestic Wastewater Treatment Units Aerated Wastewater Treatment Systems(copies can be searched and accessed from www.standards.org.au)
- AS/NZS 1546:4 2016 On-site Domestic Wastewater Treatment Units Greywater Treatment Systems (copies can be searched and accessed from www.standards.org.au)
- AS/NZS 3500.2 2018 Plumbing and Drainage Sanitary Plumbing and Drainage (copies can be searched and accessed from www.standards.org.au)

25. Document History

Version	Date	Changes / Amendments
1.0	May 2018	Initial Draft
1.1	June 2018	Amended Draft (Following Internal Consultation)
1.2	September 2018	Amended Draft (Following Public Exhibition)

26. Reviews

Federation Council is committed to continuous improvement in the regulation of OSSM. This Strategy will be reviewed, at minimum, every five (5) years.

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