Domestic Wastewater Management Plan 2019-2021

SWAN HILL
Rural City Council

Contents

Introduction

Domestic wastewater management is one of the public health functions delegated to local government under the Environment Protection Act 1970. Under the legislation Council is the permit authority for the installation and use of septic tank systems. There are also further responsibilities outlined in the State Environment Protection Policy (Waters of Victoria).

Purpose

The Domestic Wastewater Management Plan has been redeveloped to assist Council officers in the management of current Onsite Wastewater Management Systems within the municipality and provide guidance for future development and installations. The plan will also assist Council to:

- Minimise potential risks to public health and the environment from the treatment and disposal of wastewater within unsewered areas;
- Assist property owners to prevent the discharge of wastewater beyond property boundaries and prevent individual and cumulative impacts on ground water and surface water quality;
- Provide clear guidance about the requirements for onsite wastewater management system installations within Swan Hill Rural City Council and Councils program for compliance and enforcement of non-compliant systems, and;
- Identify key priority areas and develop long and short-term strategies for the implementation of these priorities.

This new plan will supersede Council's previous DWMP created in 2013. This plan is focused on ensuring that public health and environmental risks associated with individual septic tank systems are managed effectively through a range of internal capacity building and community engagement strategies. These strategies are contained in the Action Plan which forms part of this Domestic Wastewater Management Plan (DWMP).

Background

Wastewater is water-borne waste material and includes all normal wastes from residences, as well as many forms of waste matter from other establishments. Domestic wastewater is derived from household waste streams: kitchen; bathroom (basin, bath and shower); laundry and toilet. Domestic wastewater is commonly described in these three forms:

- Blackwater is defined as water grossly contaminated with human excreta e.g. toilet water, composting toilet leachate;
- Greywater is defined as water that is contaminated but does not contain human excreta e.g. kitchen, bath and laundry water and is also referred to as 'sullage'; and
- Combined which is defined as a combination of both black and grey water.

Public health risks

Raw sewerage can carry a range of pathogens that can cause a range of illnesses from mild gastroenteritis to more serious conditions such as hepatitis, dysentery and cholera. Exposure can occur through contaminated drinking water, recreation in water bodies like dams and reservoirs, ingestion of contaminated foods like shellfish or contact with domestic animals that have been exposed to the pathogens.

Septic overflows can cause organic rich pooling, increasing mosquito breeding capacity resulting in the increase in numbers of a public pest and known disease vector.

Environment and economic risks

- There are a range of risks to the environment and economy including:
- contamination of groundwater by nitrates, ammonia and faecal pathogens;
- rising groundwater caused by seepage resulting in salinity;
- surface run-off adding nitrogen and phosphorous to water catchments, stimulating algal and weed growth whilst also causing land degradation through erosion;
- effluent carries suspended solids, ammonia and organic matter which can affect fish, other aquatic life, aquatic plants and microorganisms; and
- effluent can be carried into other bodies of water and cause further pollution.
- decrease in tourism resulting in economic loss caused by the perception of an area as being unsafe due to contamination, algal blooms or an increase in mosquito breeding and numbers;
- poor onsite wastewater management system maintenance may result in decreased amenity and economic value for affected properties;
- contaminated water bodies can negatively impact on aquaculture or agriculture businesses that use the water for irrigation or other purpose; and
- failing onsite wastewater management systems can be expensive to repair or replace resulting in financial stress.

1. Regulatory framework

Council has a number of public and environmental health legislative requirements to administer however, there is specific legislation for the management of domestic wastewater management systems.

1.1 Environment Protection Act 1970

The management of domestic wastewater is regulated by Part IXB the *Environment Protection Act 1970*. This part applies to all septic tanks systems designed to discharge less than 5,000 litres per day and, amongst other things, requires a permit from council for the installation and use of systems, compliance with any permit conditions, and the maintenance of systems by the occupier. The Council acts as the 'permitting' authority and approves the installation and use of the septic tank system. There is no statutory requirement for councils to monitor compliance after approvals have been issued although, as the permitting authority, council has a responsibility to monitor compliance.

Council must refuse to issue a permit if the proposed septic tank system is not of a type approved by the Environment Protection Authority (EPA), contrary to any State environment protection policy or waste management policy or does not treat all sewage and is located in a specified part of the municipality declared under section 53K.

An important change in statutory septic tank approval arrangements has seen the EPA approving the types of septic systems only that may be used in a domestic setting. Applicants for permits must now provide council with a certificate of conformity from a JAS-ANZ certified conformity assessment body (CAB) for their particular system brand or model. As a consequence of the approval change the EPA no longer provide standard conditions for the installation and use of systems and council must develop their own standard conditions in line with the following Australian Standards:

1. Australian Standard AS/NZS 1546.1: On-site domestic wastewater treatment units — Part 1: Septic Tanks.
2. Australian Standard AS/NZS 1546.2: On-site domestic wastewater treatment units — Part 2: Waterless composting toilets. 3. Australian Standard AS/NZS 1546.
3. On-site domestic wastewater treatment units — Part 3: Aerated wastewater treatment systems. 4. Australian Standard AS/NZS 1546.4 – Greywater Treatment Systems (noting that this standard is yet to be ratified).
4. Australian Standard AS/NZS 4130: Polyethylene (PE) pipes for pressure applications.
5. Australian Standard AS/NZS 1319: Safety signs for the occupational environment.
6. Australian Standard AS/NZS 3500 [set]: Plumbing and Drainage.
7. Australian Standard AS/NZS 1547: On-site domestic-wastewater management.

If required any land capability assessment must also be conducted to council's satisfaction.

1.2 State Environment Protection policies (SEPP)

Division 1 of the Act provides for the formulation and adoption of state environmental protection policies (SEPPs) by government and allows for the declaration of an environment protection policy

> "… to be observed with respect to the environment generally or in any portion or portions of Victoria or with respect to any element or elements or segment or segments of the environment."

Under the SEPP it is recognised that municipal councils play an important role in protecting surface waters through a number of responsibilities including stormwater, floodplain, drainage, and vegetation management, domestic wastewater management, local road management and land use planning.

Generally a SEPP identifies the beneficial uses of the environment to be protected, environmental objectives appropriate to those uses, and plans and programs for the attainment of those objectives.

The SEPP (Waters of Victoria) sets a statutory framework for the protection of the uses and values of Victoria's fresh and marine water environments. The SEPP sets out requirements for managing domestic wastewater. Under this SEPP councils are responsible for ensuring new residential subdivisions are provided with reticulated sewerage at the time of subdivision or that the allotments are capable of treating and containing all domestic wastewater within the boundaries of each allotment.

The occupiers of premises have the responsibility to manage their system in accordance with the permit conditions and the EPA Code of Practice – Onsite Wastewater Management (2016). The SEPP also requires that owners of on-site domestic wastewater systems maintain their systems.

The SEPP also outlines the need for councils to:

- Assess the suitability of the land for an on-site system prior to approving a development;
- Ensure that sewerage is provided at the time of sub-division if the use of on-site systems would result in wastewater being discharged beyond allotment boundaries or would impact on groundwater beneficial uses;
- Ensure that permits are consistent with guidance provided by the EPA and the Code of Practice – Onsite Wastewater Management (Publication 891.4 July 2016). The Code is the guideline for best practice management of onsite wastewater systems and associated land capability assessment;
- Identify existing unsewered allotments incapable of preventing wastewater from being discharged beyond allotment boundaries and/or preventing impacts on groundwater beneficial uses; and
- Where relevant develop a domestic waste water management plan.

The SEPP states:

> *It is important that all relevant municipal councils develop these plans to reduce the impact of failing on-site domestic wastewater management systems on water environments. Assessment of domestic wastewater systems could include site visits by municipal councils or could be limited to requiring owners of septic tanks to have them regularly checked (by a plumber) and then sending a certificate of compliance to the relevant municipality*.

1.3 External regulatory stakeholders

Other than the occupiers of dwellings with septic tank systems, there are other stakeholders having major responsibilities in relation to domestic waste water.

Environment Protection Authority
The Environment Protection Authority (EPA) has the statutory responsibility of overseeing the management of domestic wastewater management in Victoria. The EPA sets the regulatory framework for wastewater and provides advice and guidance to support this framework.

Catchment Management Authorities (Mallee and North Central CMA)
The functions of catchment management authorities include the coordination of the preparation and implementation of regional catchment management strategies. Catchment Management Authorities (CMAs) are a referral authority under the Planning and Environment Act 1987, and also hold an approval role under the Water Act 1989 with respect to works on waterways.

Water Authorities (Lower Murray, Goulburn Murray Water and Grampians Wimmera Mallee)
Water and reticulated sewerage services across the municipality are provided by a number of water authorities. The water authorities have a lead role in the planning and implementation of appropriate infrastructure developments, such as the connection of urban areas to the reticulated sewerage system. Water Authorities provide comments to Councils on planning referrals in relation to their requirements.

Rural Water Corporations provide water services comprising non-potable water supply, for irrigation and domestic and stock purposes.

The responsibilities of these authorities include:

- Managing the delivery of water to irrigation and water districts and maintaining the infrastructure;
- Implementing government regulations and policy for groundwater and surface water management, and;
- Harvesting storing and maintaining water in its reservoirs and dams.

Water authorities are also a referral agency for planning referrals for Onsite Wastewater Management Systems and assist Council with the implementation of setbacks from waterways. If an applicant is seeking a reduced setback from a waterway approval is sought from the Water authority prior to a septic tank permit being issued.

2. Council policy framework

This section briefly outlines Council's policies that relate to and inform the development of the DWMP.

Council Plan 2017-21
Local Government Act 1989 requires the Council to prepare and approve a Council Plan which is the key document that drives the strategic direction of Council for the next four years and beyond. The current Council Plan 2017-2021 has identified the following five strategic goals to describe what it is working towards in achieving the community's vision:

- Economic Growth
- Community Enrichment
- Infrastructure
- Governance and Leadership
- Environment

Public Health and Wellbeing Plan 2017-21
Under the Public Health and Wellbeing Act 2008, Council is required to have Public Health and Wellbeing Plan. Both plans are strongly aligned which provides the strategic direction for how the organisation will work over the next four years. The Plan also acknowledges existing documents and work across the organisation and the role this plays in health and wellbeing.

Environmental Sustainability Strategy 2017-27
The mission of the Sustainable living strategy is to define Council's role in environmental stewardship which underpins municipality's prosperity, social richness and diversity. This is further enhanced by imbedding sustainability considerations into Council's decision-making processes and operational activities and facilitates the achievement of the long-term sustainability objectives. The following five strategic objectives make up the Strategy:

1. Biodiversity protection and enhancement
2. Water security, conservation and quality
3. Energy conservation and local renewable energy generation
4. Resource recovery and waste reduction
5. Building liveable and sustainable communities

Each of these objectives has a range of key directions and aspirational environmental outcomes. One of the outcomes sought under the Water security, conservation and quality objective is to protect public health and prevent the deterioration of water quality.

3. Domestic Water Profile

The Swan Hill Rural City Council municipality is home to the townships of Swan Hill, Robinvale, Lake Boga, Nyah, Nyah West, Piangil, Woorinen, Ultima, Manangatang, Boundary Bend and Tresco.

Swan Hill Rural City Council is located on the Murray River in north-west Victoria. Our region is home to 20,394 people. With an area covering 6,116km2, we have 3,492 kilometres of local roads connecting 11,939 rateable properties.

Agriculture and manufacturing drive the economy. Our region's gross regional product is $1.18 billion. Agriculture accounts for almost 16 per cent of the region's total economic output, with more than 40 products grown commercially in the municipality.

Irrigated farming (including stonefruit, grapes, nuts, olives and vegetable production) accounts for over 11 per cent of the shires economic output, while traditional livestock and broadacre farming accounts for almost four per cent. More than 18 per cent of all jobs in the city are directly related to agriculture.

Tourism and retail sectors are also strong. About 656,000 people visit the municipality each year, injecting about $95 million into our local economy.

Our population statistics shows that community members are 51 per cent male and 49 per cent female. We have a median age of 38 years. Almost 8,000 of the residents are employed and nearly 45 per cent of these individuals work in agricultural, health care or the retail industry.

3.1 Population projections

The Swan Hill region which incorporates Swan Hill, Robinvale and Nyah West comprises just over 20,394 residents. The population is expected to have a small net increase of 314 by 2031. It is also expected that there will be small increase in households with an additional 480 households to be established by 2031.

Summary	2016	2021	2026	2031
Population	20,394	20,437	20,555	20,708
Population in private dwellings	20,107	20,231	20,231	20,351
Households	8,395	8,578	8,724	8,873
Average household size	2.40	2.35	2.32	2.29

There is a small growth projected over the next twenty years. With this population growth also comes a slight increase in dwellings.

3.2 Reticulated sewerage

The management and type of domestic wastewater treatment varies across the municipality. Larger townships of Swan Hill and Robinvale are serviced with reticulated sewerage. Reticulated sewerage is provided by Lower Murray Water.

3.3 Septic tank systems

There is large proportion of unsewered area encompassing some of the major townships and villages within the municipality. According to Councils database there are around 4,000 recorded septic tank systems within the shire. The age of these tanks ranges from 1960's – 2018. Of these systems, over 50% are older than 20 years based on permits issued annually and available age profiles with the majority of systems being the conventional type i.e. having sub-surface disposal.

Historically the management of domestic wastewater systems within the Swan Hill Rural City Council has been challenging. Local Councils are the regulatory authority for Domestic Wastewater Management and have been limited by time and financial support to implement effective DWMPs actions. Council has mainly focused on an approval scheme for new systems and a basic system monitoring program, as time permits.

The lack of available information about the total number, types and locations of systems installed. Records of installations prior to Council amalgamations in 1994 are almost nonexistent and until such time that older properties are renovated or redeveloped Council is unaware of what Onsite Wastewater Management Systems are in place. Many of the older properties systems are found to be no longer compliant as they have separate black water and grey water systems, majority of which need upgrading to new compliant systems.

It is recognised that many existing septic systems within the area are several decades old and/or are located on properties/parcels that may be unsuitable for Domestic Wastewater Management. Existing systems may be undersized or have direct greywater discharge off-lot, in most cases approved by Council at the time they were installed. These systems can have an adverse impact on public amenity and these may cause a nuisance. Some septic tank systems can also cause pollution from effluent discharges into waterways downstream. The number of installations that are discharging off-site (whether with or without approval) is currently unknown.

While it is now clear that such practices are no longer appropriate and may be creating unacceptable risks, it is acknowledged that many of these problems will take time to rectify. There are financial implications for owners who have a failing septic system and are required to complete upgrade works. New systems can be expensive and some owners may not have the finances to undertake works immediately, resulting in continuing system failures. It is therefore difficult for Council to implement an adequate compliance regime unless there is an obvious breach resulting in visible off-site discharge of effluent.

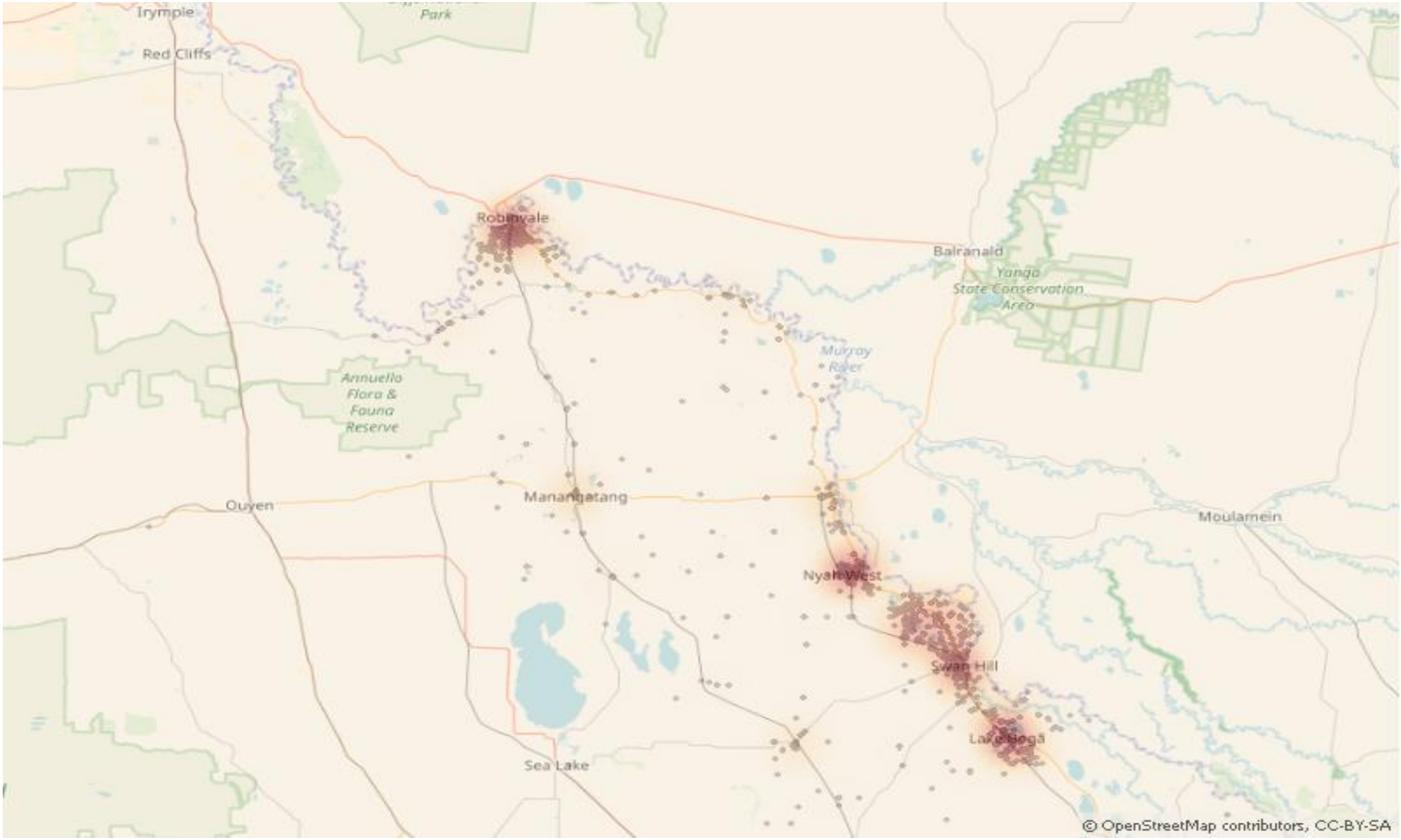
There are also limited cost recovery options for Council to monitor increasingly complex and larger numbers of systems as the peri-urban areas. With this in mind, there is increasing pressure on all Councils within Victoria to improve Domestic Wastewater Management so that existing and future development does not have an impact on public health and the environment.

Data from 2001 are able to identify the number of installations and alterations by wastewater system type. The table below highlights townships that have 15 or more septic tanks installed. Any townships under 15 has not been included as it is not certain that the data is correct.

Township	Total	System type		
		Conventional	WWTP	Other
Beverford	87	83	4	
Boundary Bend	58	58		
Castle Donnington	76	75	1	
Chinkapook	15	15		
Kenley	16	16		
Lake Boga	464	441	19	4
Lake Powell	16	16		
Manangatang	139	131	6	2
Murrawee	41	39	2	
Murraydale	33	25	8	
Narrung	21	21		
Nyah	240	239	1	
Nyah West	237	234	2	1
Pental Island	50	50		
Piambe	16	16		
Piangil	149	143	2	1
Robinvale	678	651	27	
Swan Hill	436	354	72	10
Tol Tol	47	47		
Tresco	78	77		1
Tyntynder	230	220	10	
Ultima	71	70	1	
Vinifera	53	53		
Wemen	54	54		
Wood Wood	41	41		
Woorinen	122	120	2	
Woorinen North	17	16	1	
Woorinen South	125	177	7	1

Distribution of septic tanks

The following heat map provides an overview of the septic tanks systems installed within the municipality from 1960 – 2018 (Feb). The heat map provides a visual representation of areas of high concentration of septic tank systems and the proximity to waterways within the municipality.


Irymple
Red Cliffs
Park
Robinvale
Balranald
Yanga
State Conservation
Area
Murray
River
Annuello
Flora &
Fauna
Reserve
Manangatang
Ouyen
Moulamein
Nyah West
Swan Hill
Lake Boga
Sea Lake
© OpenStreetMap contributors, CC-BY-SA

4. Priority towns

From the collective data analysed and the previous DWMP, there are four townships that are considered priority towns of focus. These priority towns have experienced development on smaller allotments and therefore have a higher density of systems that can create potential wastewater issues.

Council must undertake further household surveys to identify what type of systems are installed and if there are any signs of failure.

4.1 Priority areas

Further analysis was undertaken of the data to determine the priority towns for this DWMP. A priority rating was given to towns with the following features:

- Age of septic tank system;
- Allotment sizes
- Geography of township

The priority areas identified include:

Location	No of properties	Allotments <1,000m² or >1000m²	Age of Septic tanks	Town characteristics	Public health concerns
Manangatang	273	30% of properties are smaller than 1000m²	1960s – present	The township is in a natural basin with soil characteristics that are not favourable to wastewater.	Large number of smaller allotments, poor soil types and houses within close proximity could result in wastewater nuisances that could have an impact on neighbouring properties and health.
Boundary Bend	45	20% of properties are smaller than 1000m²	1970s – present	The township is located along the Murray River including many of the houses. Large agricultural industries in town.	With a fluctuating population (seasonal), the age and size of the systems may not be able to cope with use over a long period of time which could result in failing systems and potential spread of disease.
Woorinen South	156	10% of properties are smaller than 1000m²	1960s – present	The township is located close to a Natural reserve, which can be indicative of poor soil types. Allotments are dependent on Domestic Wastewater treatment. Most of the allotments within the township are small. Development within this area is consistent.	Poor soils and aging septic tank systems could lead to potential septic tank failure.
Piangil	77	10% of properties are smaller than 1000m²	1960s – present	The township is located within 800m of the Murray River. Smaller ¼ acre blocks left to develop. Under current guidelines would not be suitable for Domestic Wastewater Treatment.	With 50% of current septic tanks are over 30 years old there is a concern that there could result in failures and potential spread of disease.

Currently Council is reliant on older data (circa 2005 – 2008) that have been used to derive the priority areas. As this review has identified, it is imperative that Council undertake surveys within these priority areas to gain a better understanding of the overall wastewater profile for these townships and also the scale of offsite discharge and the impacts this could be having on the receiving environment. Additional funding would be required complete a survey of these townships and collate data collected.

5. Management strategies

This section outlines Council's approach to the management of domestic wastewater issues that have been identified through the review of the DWMP. Council's management strategies for wastewater continue to be informed by three factors:

1. Council's statutory duty
2. Council's capacity to undertake wastewater management services
3. The risks posed by ineffective septic tanks systems

The revised DWMP priorities will be focused on the development of council's capacity to manage and monitor waste water systems in order to discharge its obligations under the State Environment Protection Policy (Waters of Victoria) and therefore meet the expectations of other stakeholders reliant on council doing so.

The capacity of council to undertake these activities and services requires a range of resources including:

- the collection of appropriate data at the point source through an ongoing monitoring program, development of a domestic wastewater information management system, and analysis of this information;
- review and development of operating policies and procedures,
- to ensure that the DWMP is strategically linked to other Council plans, and;
- the development of, and access to, a range of information by owners of septic tank systems and other stakeholders.

The following wastewater management priorities have been identified.

5.1 Monitoring and reporting

The effectiveness of the DWMP will be measured by a comprehensive monitoring and reporting process. Monitoring of existing systems and compliance of new installations are considered the highest priority for Council officers in relation to Onsite Wastewater Management. Officers do not proactively inspect existing systems due to staff capacity. Ongoing compliance is managed through complaints received about potentially failing or non-compliant systems as well as through planning referrals for extensions to homes or subdivisions of properties. Proactive routine inspections of existing systems would be costly to Council given that there are over 4,000 systems installed throughout the municipality, and many older systems that may not have permits on record.

Ensuring that all new installations and alterations to existing systems are compliant is a more efficient way of managing the risks associated with wastewater. All new applications, planning referrals and complaints are assessed against current legislation and land owners are provided details of what they are required to do in order to ensure the system is compliant.

Ongoing monitoring of existing systems only occurs when following up complaints or when further development to homes is planned. An audit of existing systems is an option that would provide Council with a picture of the current operation of systems throughout the municipality and may also identify any issues. Prior to determining if all onsite wastewater systems should be audited for compliance Council officers can determine the level of risk through the audit of a randomly selected sample of older onsite wastewater systems. Council may choose to consider the appointment of an officer to complete this project.

5.2 Development of operational policies and procedures

This Domestic Wastewater Management Plan proposes the development and review of operational policies and procedures to ensure that Council has a consistent and transparent way of approaching all new installations and ensuring they are all in compliance with the legislation.

These guiding documents will provide officers with workflows to approve systems and set out specific requirements relating to land size, capability and overlays. This will ensure that a consistent approach is taken and that all decisions made by Council officers are supported by approved organisational policies.

5.3 Communication and education

To ensure systems are being installed in accordance with the relevant legislation and Australian Standards, communication and education for the community should be a key priority. The development of a suite of septic tank management information for land owners (website, newsletter, pamphlets) highlighting ownership responsibilities regarding Onsite Wastewater Management Systems may reduce the number of failing systems and minimise the impact to health and wellbeing and the environment.

5.4 Strategic management

Council's other strategic documents will need to be considered to ensure that they reference this Domestic Wastewater Management Plan and relevant legislation, where appropriate. This will provide currency to the new plan and ensure that consideration needs to be made to onsite wastewater management at a Strategic level.

This Domestic Wastewater Management Plan will also be required to be reviewed on an annual basis as well as at the end of the life of the plan. This will ensure that all actions are being addressed and completed within the allocated timeframes.

6. Management and Action Plan

The action plan is underpinned by four key objectives in line with the management strategies highlighted in the previous section. These objectives are;

1. To develop and maintain a comprehensive waste water management data base;
2. To develop appropriate domestic waste water policies and operating procedures for the management of permit applications;
3. To develop a community engagement, education and information for the management of septic tank systems, and;
4. To maintain currency of domestic waste water management plan

Objective 1: To develop and maintain a comprehensive waste water management data base				
Actions	**Responsibility**	**Timeline**		
		2019	**2020**	**2021**
		Month	**Month**	**Month**
a) Input all data from records & STEM system	Public Health Services		**January**	
b) Validation (data cleansing) of inputted data	Public Health Services		**March**	
c) Integrate system with council's GIS • Inputting of all available recorded data • Inputting of specialised data – sewer maps, connections, HEAT Map data	Public Health Services Partners GIS Officer		**May**	
d) Devise a strategy for the ongoing collection of system service data from service providers and input	Public Health Services		**November**	
e) Review risk data profiles for each priority town	Public Health Services	**January** **June**		
f) Conduct a septic tank system survey in a priority town *Note: Subject to funding*	Public Health Services			
g) Conduct surveys of local surface water conditions in priority towns *Note: Subject to funding*	Public Health Services			
h) Input survey data *Note: Subject to funding*	Public Health Services			

Objective 2: To develop appropriate domestic waste water policies and operating procedures for the management of permit applications				
Actions	**Responsibility**	**Timeline**		
		2019	**2020**	**2021**
		Month	**Month**	**Month**
a) Develop and review council policies on permit conditions for installations and alterations in priority towns and high-risk areas including: • land capability assessments • grey water re-use • new developments • application fees and ongoing monitoring fees • non-compliance	Public Health Services	**May**		
b) Develop and review council policies on permit conditions for installations and alterations in low risk areas: • land capability assessments • grey water re-use • new developments • application fees and ongoing monitoring fees	Public Health Services	**May**		
c) Conduct consultations with appropriate internal and external stakeholders on draft policies	Public Health Services	**May**		
d) Review operating policies and procedures for septic tank system and greywater re-use applications (installation, use and alterations)	Public Health Services	**May**		
e) Investigate possibility of joint application management protocols with council's planners	Public Health Services	**April**		
f) Review operating policies and procedures for septic tank & grey water system monitoring/auditing program including data entry	Public Health Services	**May**		
g) Liaise with local water authorities and communities to progress community sewerage, where appropriate	Public Health Services			**February**

Objective 3: To develop a community engagement, education and information for the management of septic tank systems				
Actions	**Responsibility**	**Timeline**		
		2019	**2020**	**2021**
		Month	**Month**	**Month**
a) Review Council's suite of septic tank management information for residents (website, newsletter, pamphlets)	Public Health Services	**August**		
b) Review Council's engagement strategy on septic tank system maintenance, legal obligations and council policy with residents in high risk areas	Public Health Services	**August**		
c) Review Council's communication strategy for third party service providers (installers; maintenance technicians)	Public Health Services	**November**		
d) Implement targeted education campaign to property owners, occupiers and installers in high risk areas at appropriate times	Public Health Services		**March**	

Objective 4: To maintain currency of domestic waste water management plan				
Actions	**Responsibility**	**Timeline**		
		2019	**2020**	**2021**
		Month	**Month**	**Month**
Conduct an evaluation of DWMP including: • Data management and reports • Effectiveness of community engagement strategy • Results of monitoring/auditing program • Results of environmental testing • Implementation of policies and procedures	Public Health Services			**January** **July**
Draft a report on the evaluation of the DWMP and recommendations	Public Health Services			**August**
Draft the 2021-24 DWMP	Public Health Services			**November**