GREATER SHEPPARTON CITY COUNCIL

ONSITE WASTEWATER MANAGEMENT PLAN

2025-2030

GREATER SHEPPARTON

Acknowledgment of Country

We, Greater Shepparton City Council acknowledge the Yorta Yorta peoples of the land which now comprises Greater Shepparton, we pay our respect to their tribal elders, we celebrate their continuing culture, and we acknowledge the memory of their ancestors.

Contents

Definitions

Name	Definition
Authorised officer (AOs)	Environmental Health Officer, Environmental Health Technical Officer or plumber engaged and authorised by Council.
Blackwater	Wastewater directly from the toilet.
Community	Refers to residents, rate payers, business owners, property owners and visitors to the City of Greater Shepparton.
Environmental Significance Overlay (ESO)	To identify areas where the development of land may be affected by environmental constraints and to ensure that development is compatible with identified environmental values.
Onsite Wastewater Management Plan (OWMP)	OWMP outlines Council's plan in relation to onsite domestic wastewater activities. It is also intended to be used as a reference document for external stakeholders, and the community
Enforcement	In this OWMP, enforcement is broadly defined to include informal education and advice to duty holders, through to formal legal directions or orders to compel compliance.
Failed OWMS with offsite discharge	Components of the OWMS are no longer functioning so that untreated effluent is discharging beyond the property boundaries.
General Environmental Duty	Means you must manage your activities to reduce the risk of harm: to human health and the environment. from pollution or waste
Greywater or sullage	Domestic wastewater from bathrooms, kitchens, and laundries.
Land capability Assessment (LCA)	The assessment of the capability of the land to support a particular use and in this case, effluent disposal. The LCA considers the risk of harm to human health and the environment from wastewater, taking into account existing and proposed septic systems.
Onsite wastewater management system (OWMS)	Means an OWMS with a design or actual flow rate of sewage not exceeding 5000 litres on any day and includes all beds, sewers, drains, pipes, fittings, appliances, and land used in connection with the treatment plant.
Treated effluent with onsite discharge	The OWMS is satisfactorily treating the waste, but the distribution of the treated effluent is not functioning satisfactorily and is discharging within the property boundary.
Treated effluent with offsite discharge	The OWMS is satisfactorily treating the waste, but the distribution of the treated effluent is not functioning satisfactorily and is discharging beyond the property boundaries.
Sewage	Means any wastewater containing any human excreta or domestic wastewater, and includes greywater.
Special Water Supply Catchment	An area where water is collected by the natural landscape and all rain and surface water eventually flow to a creek, river, lake, ocean or ground water system.
Stormwater	Rainfall run-off carried through the stormwater system.
Wastewater	Water containing sewage and other human derived waste.

1. Introduction

The Greater Shepparton City Council (Council) is committed to responsible and sustainable onsite wastewater management practices that will protect the health of the community and surrounding environment. In meeting this commitment, Council has developed this Onsite Wastewater Management Plan (OWMP) which:

- Focuses on ensuring public health and environmental risks associated with OWMS are effectively managed
- Confirms Councils strategic plan in relation to onsite wastewater activities
- Provides the framework for consistent regulatory decision-making
- Builds community awareness of the risks associated with onsite wastewater and understanding their obligations under the General Environmental Duty (GED)

Councils first OWMP was developed in 2008 (previously known as a Domestic Wastewater Management Plan) which has been reviewed during the development of this updated plan.

This OWMP has been prepared to recognise, respond to and link with Council policies and strategic plans, and recent changes to *Environment Protection Act 2017* and regulations.

2. Purpose and objectives

The purpose of this OWMP is to:

- Incorporate recent legislative changes, including the *Environment Protection Act 2017* (EP Act), and *Environment Protection Regulations 2021* (EP Regulations).
- Review and update the actions from the previous OWMP (previously referred to as the Domestic Wastewater Management Plan) and set new objectives and actions to support the success of this OWMP.
- Outline a framework for Council Authorised Officers to undertake investigation and enforcement of Onsite Wastewater Management Systems (OWMS) to ensure compliance with the legislation.
- Provide an opportunity to engage with the community, and stakeholders regarding wastewater management that will improve and enhance the public health and environmental protection measures undertaken by Council and the community.

3. Scope

Council's OWMP applies to OWMS that process less than 5,000 Litres of wastewater on any given day.

The OWMP considers and applies the following pieces of legislation, Council plans and strategies:

Legislation

- *Building Act 1993 and Regulations 2018*
- *Catchment and Land Protection Act 1994;*
- *Environment Protection Act 2017 (EP Act) and Regulations 2021(EP Regulations);*
- *Infringements Act 2006 and Regulations 2015;*
- *Local Government Act 2020;*
- *Planning and Environment Act 1987*
- *Public Health and Wellbeing Act 2008 and Regulations 2019*
- *Safe Drinking Water Act 2003 and Regulations 2015;*
- *Subdivisions Act 1988;*
- *Water Act 1989;*

Council Plans and strategies

- *Greater Shepparton Council Plan 2021 - 2025*
- *Greater Shepparton Council Planning Scheme*
- *Greater Shepparton Council Climate Emergency Action Plan*
- *Stormwater Management Plan*
- *Environmental Sustainability Strategy*
- *Climate Adaptation Plan*
- *2030 Zero Emission Plan*
- *Greater Shepparton Public Health Strategic Plan 2018 - 2028*
- *The Shepparton and Mooroopna 2050: Regional City Growth Plan*
- *Greater Shepparton affordable housing strategy*

4. Legislative context

There are a number of key pieces of legislation, policies and guidelines that assist Council and other stakeholders in ensuring best practice management of domestic wastewater. These include:

- *Environment Protection Act 2017*
- *Environment Protection Regulations 2021*
- *Public Health and Wellbeing Act 2008*
- *Local Government Act 2020*
- *Planning and Environment Act 1987*
- *Water Act 1989*
- *State Environment Protection Policy (Waters) 2018 (until July 2023)*
- EPA Guidelines for onsite wastewater management (May 2024)
- EPA Guideline for onsite wastewater effluent dispersal and recycling systems (May 2024)
- Victorian Land Capability Assessment Framework (MAV) (currently under review)
- AS/NZS 1546.1: 2008, On-site domestic wastewater treatment units, Part 1: Septic tanks
- AS/NZS 1546.2: 2008, On-site domestic wastewater treatment units, Part 2: Waterless composting toilets
- AS 1546.3:2017, On-site domestic wastewater treatment units, Part 3: Secondary treatment systems
- AS 1546.4:2016 On-site domestic wastewater treatment units, Part 4: Domestic greywater treatment systems

4.1 *Environment Protection Act 2017* (*EP Act*) and *Environment Protection Regulations 2021* (*EP Regulations)*

The *Environment Protection Act 2017* (EP Act) and *Environment Protection Regulations 2021* (EP Regulations) are the primary pieces of legislation that regulate and control on-site wastewater management in Victoria.

The Environment Protection Authority (EPA) has the overall responsibility for the legislative framework, policies and approval of treatment and disposal systems in Victoria. Only those treatment systems with a Certificate of Conformance issued by an accredited conformity assessment body under relevant Australian Standards can be installed in Victoria.

The EPA is responsible for approving any on-site wastewater systems that treats and disposes more than 5,000 Litres of wastewater a day. This is usually from large commercial and industrial sources.

The EPA delegates responsibilities for on-site wastewater management that treat and disposes less than 5,000 Litres of wastewater a day to Local Government Environmental Health Officers.

A person cannot construct, alter or install a wastewater system up to 5,000 litres a day without a permit from Council.

The *Environment Protection Act 2017* introduces an overarching “General Environmental Duty” for all Victorians to reduce the risk of harm to human health and the environment.

The GED and *Environment Protection Regulations 2021* place obligations on owners and operators of onsite wastewater management systems to ensure they are:

- Maintaining the system in good working order,
- Ensuring those operating the system have the information they need to maintain and operate it effectively, and;
- Responding to any failures.

Under delegation from the Environment Protection Authority, Council can now consider management of onsite wastewater management systems that give rise to risk of harm to human health or the environment. Councils are also responsible for identifying failing wastewater systems that are causing environmental, public health and amenity risks and ensuring owners and operators of onsite wastewater management systems are meeting their maintenance obligations under the EP Regulations and the EP Act.

Council has a duty to exercise its enforcement powers where it knows there is a breach of legislation and there is the likelihood of impact to public health and the environment.

The Environment Protection Act outlines various enforcement tools available to local government to manage risks associated with non-compliance with the EP Act

The *Environment Protection Act 2017* recently introduced an Order for Obligations of Managers of Land or Infrastructure (Urban stormwater management and On-site wastewater management) (OMLI) as a new legislative instrument, under section 156.

The OMLI sets out requirements for councils regarding strategic management of on-site wastewater systems within its municipality and requires water corporations to work collaboratively in response to councils' on-site wastewater management plans. The OMLI replaces clauses which were previously covered in the State Environment Protection Policy (SEPP) (Waters) to ensure water authorities assist council investigate and future plan for sewerage identified as high priorities in Council's OWMP.

4.2 *Public Health & Wellbeing Act 2008*

The *Public Health and Wellbeing Act 2008* enables authorised officers to investigate and remedy nuisances which are, or are liable to be, dangerous to health or offensive. Council has a duty to investigate all complaints relating to nuisance such as the illegal installation, alteration or poorly managed Onsite Wastewater Management Systems (OWMS) and take action to abate the nuisance where necessary.

4.3 *Local Government Act 2020*

The *Local Government Act 2020* outlines the provisions under which council operates, and empowers Council's to have local laws and regulations for OWMS.

4.4 *Building Act 1993*

Licensed Plumbers must submit a compliance certificate upon completion of an OWMS installation before an Occupancy Permit can be issued for a new dwelling.

4.5 *Planning and Environment Act 1987*

The *Planning and Environment Act* sets out the planning provisions, planning schemes, procedures for obtaining permits and enforcing compliance with planning schemes. Planning schemes set out how land may be used and developed.

The *Planning and Environment Act* requires councils to consider the environmental issues when assessing land development in unsewered areas. This includes:

- Any significant effects the use or development may have on the environment or the environment may have on the use or development.
- Any strategic plan, policy statement, code or guideline, which has been adopted by a Minister, government department, public authority or municipal council.

The *Planning and Environment Act* states the objectives for wastewater management for all land use applications is to provide a wastewater system that is adequate for the maintenance of public health and the management of domestic wastewater in an environmentally friendly manner. It also states, wastewater systems must be:

- designed, constructed and managed in accordance with the requirements and to the satisfaction of the relevant water authority and the EPA; and
- consistent with any relevant approved OWMP.

5. City of Greater Shepparton Context

Greater Shepparton is in the heart of the Goulburn Valley and is the fourth largest regional centre in Victoria extending over 2,421 square kilometres. Shepparton is the major population centre located at the confluence of the Goulburn and Broken Rivers. The Goulburn River and Broken River corridors are key natural features, and they provide the most significant stands of remnant vegetation with associated habitat values. Flooding is a feature of the area and thus, poses constraints on development.

Greater Shepparton's population is almost evenly split between the main urban centres of Shepparton, Mooroopna and Tatura (53%) and with the remaining 47% of the population residing in the surrounding rural areas including the smaller townships of Murchison, Dookie, Merrigum, Congupna, Toolamba, Undera, Katandra West and Tallygaroopna.

5.1 Population projections

Summary	2021	2026	2031	2036
Population	68,519	73,072	77,441	81,905
Change in population (5yrs)		4,553	4,369	4,464
Average annual change		1.30	1.17	1.13
Households	26,804	28,564	30,313	32,067
Average household size	2.50	2.50	2.50	2.50
Population in non-private dwellings	1,537	1,637	1,671	1,771
Dwellings	28,798	30,658	32,515	34,368
Dwelling occupancy rate	93.08	93.17	93.23	93.30

Source: Population and household forecasts, 2021 to 2036, prepared by .id (informed decisions), February 2023.

5.2 Residential development projection

Residential development is projected to grow at a steady rate over the next twenty years, with a predicted population growth to 83,000 by 2036.

Residential development forecasts assume the number of dwellings within Greater Shepparton will increase by an average of 374 dwellings per annum to 34,000 in 2036.

Residential development can take various forms depending on the availability of land. These include

- new housing estates on Greenfield sites,
- second dwellings on established sites to ease housing crisis,
- subdivision in existing residential neighbourhoods,
- conversion of industrial lands to residential lands, and
- densification of housing by building up.

5.3 Onsite wastewater profile

The major population townships of Shepparton, Mooroopna, Tatura, Merrigum and Murchison are serviced with reticulated sewerage. Septic tank systems are installed on the urban fringes of these townships, beyond the sewer district.

The municipality has a large proportion of unsewered areas encompassing eight smaller townships and several villages.

Within Greater Shepparton there are over 7,000 septic tank systems across the municipality.

On-site wastewater systems installed prior to 1990's were typically a split system of black water to absorption trenches, and separate greywater disposal most often off-site. The exact number of installations that are discharging off-site (whether with or without approval) is currently unknown. The Septic Tank Code of Practice was introduced in 1990, which lead to conventional 'all waste' septic tank systems being installed and all effluent disposed of within the property boundaries (no off-site discharge).

Council has around 4,500 septic tank records installed from 1975 to 2024. 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. primary treated effluent and trenches.

Common wastewater issues within Greater Shepparton include:

- the continued use of existing wastewater treatment systems that have exceeded their life expectancy;
- a number of systems in small township zones which were permitted at the time of construction of the dwelling to discharge greywater offsite into the stormwater system ending up in the natural environment and local waterways;
- systems are not being serviced or maintained to ensure wastewater is treated to prescribed standards;
- legacy systems are insufficient in size to treat wastewater generated from increased development activities;
- many properties have insufficient land available for onsite wastewater retention should an upgrade to the current wastewater treatment system be required. This includes the encroachment of built structures over time; and
- OWMS are installed in new housing development beyond the reticulated sewerage township fringes without strategic consideration for the extension of reticulated sewerage services.

5.4 Impacts of climate change on our community

One of the major risk factors for Greater Shepparton City Council is both riverine and overland flooding. In recent years our community has experienced significant flooding and storm events.

OWMS will be adversely affected after a flood and may be impacted after a bushfire. When reviewing all wastewater applications, an important risk factor considered is the land subject to inundation overlay, which is a planning control that identified properties that may be affected by flood.

Secondary Impact Assessments conducted by Authorised Officers after emergencies consider the impact of the natural disaster on OWMS. If required, applications for alteration or a new system may be required.

5.4.1 The importance of preparing for floods

Greater Shepparton is located at the confluence of two waterways, being the Goulburn and Broken Rivers that then feeds into the Murray River near Echuca. The area around Shepparton is predominantly agricultural land with large open plains and relatively flat topography compared to many other regions in Victoria.

The river systems can rise and fall quickly within its banks in response to heavy upstream rainfall. The relatively flat topography means out of bank flooding tends to rise and fall more slowly. However, there are specific points and locations within the region that are more likely to experience more rapid changes in water levels.

In addition to riverine flooding, Greater Shepparton also experiences flash flooding events. The impacts from these types of events can have negative impacts, such as substantial damage to homes, business and agriculture.

Most on-site wastewater systems should not be structurally damaged by flooding, because they are below ground. If a wastewater system has been under flood water, the tank and land application field can fill with silt and debris. Flooding of wastewater systems may wash solids from the tank causing blockages or system damage. Failed systems are not easy to identify, but some indicators of damage include a pungent odour around the tank and land application area, slow to drain toilets and sinks, or sewage overflowing outside from the overflow relief gully, and high sludge levels within the primary tank.

If there is found to be severe damage to an onsite wastewater system, the household could be considered uninhabitable. Failing systems can also have an impact on the environmental surrounds posing potential risks to natural flora and fauna.

Council needs to have an understanding of the OWMS installed in high-risk flooding areas, so that potential public health and pollution risks can be identified. Property owners within these flood prone areas can receive information and advice regarding their obligations in relation to OWMS management during these events.

Image 1: Septic systems (green dots) within areas impacted by October 2022 flood event. Undera North/St Germains on the west side of the Goulburn River and Bunbartha on the right side.

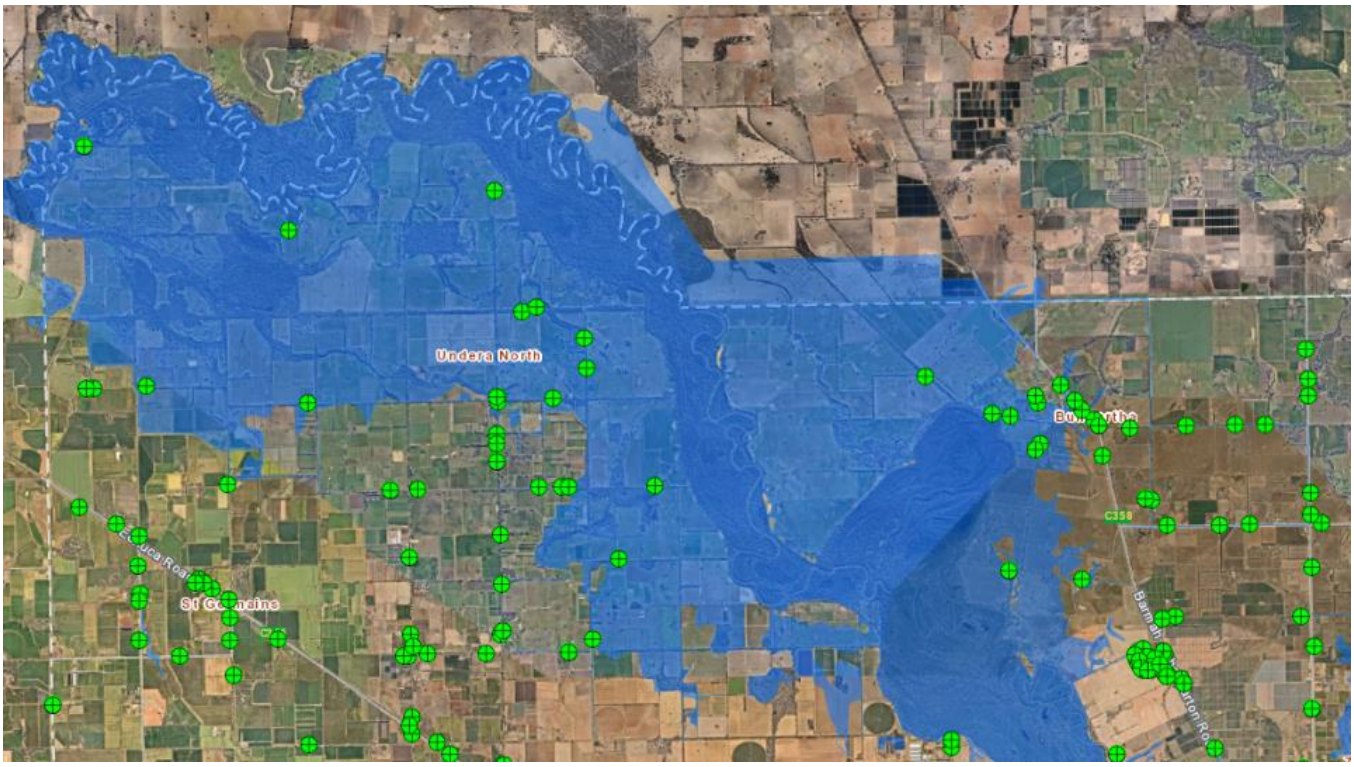
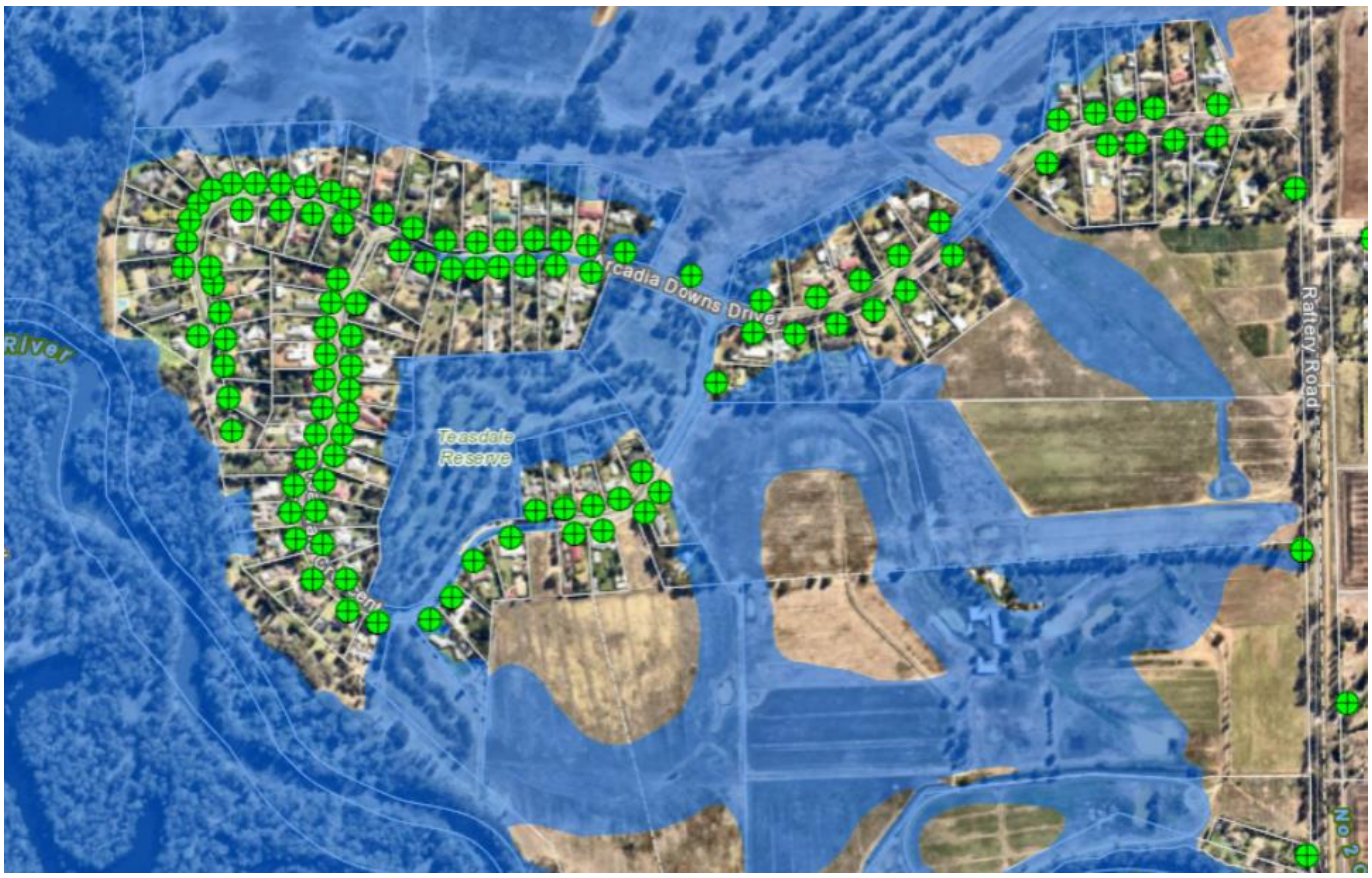


Image 2: Planning and development controls in areas liable to flooding for the Arcadia Downs estate to minimize flooding impacts to dwellings. Knowledge of flood overlays are used to ensure septic tank systems are not install in land subject to flooding.

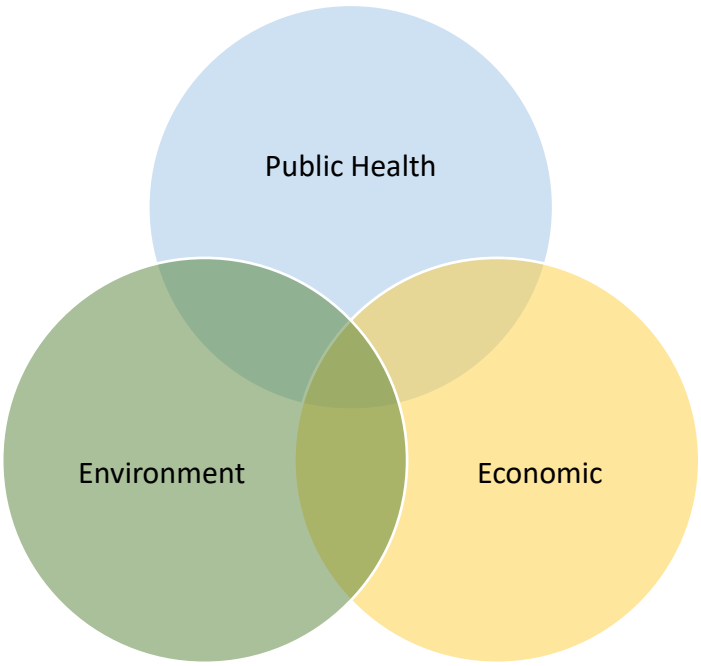


5.5 Why is managing onsite wastewater important?

Council's authorised officers make decisions relating to onsite wastewater systems during -

- applications for subdivision
- applications for new or alterations of existing OWMS
- investigating community complaints relating to OWMS.

While the protection of health and the environment is always at the center of any decision made, authorised officers must also consider economic and legal implications when making decisions.



Public Health

- raw sewage can carry a range of pathogens including bacteria, viruses, protozoa, intestinal worms, and inhaled molds and fungi
- human diseases caused from these pathogens range from mild to severe gastroenteritis, cholera, dysentery, and hepatitis
- septic overflows can cause organically rich pooling of waste water, increasing mosquito breeding sites including those mosquitoes species known to carry disease to humans which are endemic in the Greater Shepparton area.

Environment

- contamination of groundwater by nitrate, ammonia and faecal pathogen
- seepage can raise the groundwater table causing salinity in certain areas
- surface runoff adds nitrogen and phosphorus to water catchments, stimulating algal and weed growth and causes land degradation such as erosion
- effluent carries suspended solids, ammonia, and organic matter, which can affect some aquatic plants, and microorganisms
- effluent can be carried into other bodies of water, causing further downstream pollution

Economic

- for homeowners, replacing failing systems or connection to reticulated sewage can be very expensive
- poor OWMS management decreases land amenity and economic value
- algal blooms or large mosquito outbreaks can impact on tourism potential
- registered food premises may require alterations or replacement of OWMS if practice or capacity changes
- commercial development and growth is limited to the design capacity of the OWMS.

Many aspects of onsite wastewater management are embedded within the Planning Scheme and are well managed by Greater Shepparton City Council. This is particularly the case in relation to ensuring new development is undertaken sustainably.

However, at present there is limited information about existing onsite wastewater treatment systems. It is expected that:

- a high percentage of systems have most likely exceeded their life expectancy;
- many systems are not being serviced in accordance with manufacturer instructions and EPA Certificates of Conformance;
- older properties continue to discharge to the roadside or an easement, which was the legal point of discharge at the time of installation – prior to 1988 untreated grey water could be discharged, and prior to 1996 treated wastewater could be discharged;
- there are potentially illegally installed systems, given the size and rural nature of the municipality,
- owners and occupiers of properties with wastewater treatment systems may be unaware of their system type, location, capacity and legal point of discharge; and
- records of systems installed in many older properties will be difficult to identify due to the means of property identification at the time (CA or Pt. CA or lot numbers with many properties along a rural road being described as lot 1).

In addition, older permits were issued in perpetuity, and Greater Shepparton has limited capacity to force compliance with current standards.

5.6 Stakeholders

There are a range of stakeholders that contribute to the protection of health and the environment.

5.6.1 Community

The community is responsible for complying with the General Environmental Duty outlined under the *Environment Protection Act* associated with wastewater, including:

- obtaining the required Permits and Certificates prior to installation and use;
- obtaining a permit to make alterations to an existing OWMS;
- engaging with qualified plumbers and land capability assessors;
- complying with the conditions of the relevant permits and certificates; and
- maintaining existing OWMS as per certificate requirements.

> ***"The general environmental duty (GED) is at the centre of the Environment Protection Act 2017 and it applies to all Victorians, and all businesses located in Victoria. The GED states that you must manage your activities to reduce the risk of harm to human health and the environment from pollution or waste".***
>
> Environment Protection Authority statement

5.6.2 Water Corporations

Both rural and urban water corporations have a responsibility for assessing and responding to all referred applications under clause 66 of Council planning schemes for Special Water Supply Catchments as listed in schedule 5 of the *Catchment and Land Protection Act 1994*.

Water Corporations have a major interest in the correct functioning of onsite systems under the *Water Act 1989* (as amended), the *Planning and Environment Act 1987* and the *Catchment and Land Protection Act 1994*.

The key area of concern is failing onsite systems which may:

1. Impact water quality in waterways, channels and reservoirs especially in Special Water Supply Catchments (This may result in increased health risks to customers and increased operational costs to manage the problems associated with additional treatment of that water.) Note – there are no declared Special Water Supply Catchments within the City of Greater Shepparton. It is acknowledge that the Goulburn River is an important water asset and that the EPA Guidelines for Wastewater Management require septic tank systems to be located 100m from the river.
2. Lead to reviewing the reticulated sewerage network and enforcing connection to the sewer mains within the sewerage district. (This involves major works and a significant capital cost that is ultimately passed on to the community.) If this is not feasible, an upgrade of the existing system will be required.

Section 147 of the *Water Act* gives the Regional Water Corporations the power to require a property to connect to sewer.

Rural Water Corporations

Rural Water Corporations provide rural water services for irrigation, recreation, domestic, stock and bulk water to urban water corporations for drinking water purposes.

Goulburn-Murray Water

Goulburn-Murray Water (GMW) is the largest rural water corporation in Australia, and manages the storage, delivery, and drainage systems for 70% of Victoria's stored water resources, 50% of Victoria's underground water supplies and 35% of unregulated water resources. GMW has functions, requirements, and powers under various Acts, including (but not limited to) the *Water Act 1989*, the *Safe Water Drinking Act 2003*, the *Planning and Environment Act 1987*, and the *Catchment and Land Protection Act 1994*. GMW manages 23 water storages, which can hold approximately 11,400GL of water, and have the responsibility for managing more than 100,000ha of public land surrounding these storages. GMW provides the following customer services:

- irrigation water supply
- domestic and stock water supply
- environmental watering
- supply of bulk water to various urban water corporations for urban water supply

GMW's functions are focused on:

- delivering water services to the region
- monitoring the quality of water
- building and maintaining infrastructure
- managing GMW's water supply
- meeting legislative and reporting requirements

GMW licences and manages services to customers who extract surface and ground water under the *Water Act 1989*. GMW issues and administers groundwater licences and develops and implements management plans on behalf of the Minister for Water.

Water quality and quantity data is available at https://data.water.vic.gov.au/

Urban Water Corporations

Urban Water Corporations provide water supply and sewage service to regional urban customers.

Goulburn Valley Water

Goulburn Valley Water is the Urban Water Corporation that services the City of Greater Shepparton, and provides urban water and wastewater services to a population of nearly 129,000 people, spanning from the outskirts of Melbourne in the south, to the Murray River in the north. GVW manage over 3000 kilometres of water and wastewater pipeline as well as 37 Water Treatment Plants and 26 Wastewater Management Facilities.

The Corporation also provides water and sewerage services to a large and diverse food manufacturing industry in the Goulburn Valley region.

5.6.3 Environment Protection Authority Victoria

The Environment Protection Authority Victoria (the EPA) are the Environmental regulator in Victoria, and their responsibilities relating to this OWMP include:

- administering the EP Act and EP Regulations
- developing policies and guidelines for regulators to apply
- providing guidance material for the community
- provide information regarding the types of OWMS that can be installed in Victoria via the Certificate of Conformance process
- approval of systems discharging more than 5,000 litres per day

5.6.4 Department of Energy, Environment and Climate Action (DEECA)

DEECA is responsible for the management of water resources, climate change, bushfires, public land, forests, and ecosystems in Victoria. DEECA may be referred to by Council for specialist advice in circumstances where OWMS may impact on land or water resources.

5.6.5 Victorian Department of Health

The Victorian Department of Health (DH) have responsibilities under the *Public Health and Wellbeing Act 2008* (PHWA) and administering the *Safe Drinking Water Act 2003.*

5.6.6 Service providers

- Land capability assessors - undertake land capability assessments for OWMS.
- Plumbers – a licenced or registered plumber must install all sanitary plumbing, including septic tank systems and the associated pipework. Only licenced plumbers can issue a compliance certificate for plumbing work.
- Building surveyors - building surveyors must ensure any development with sanitary fixture have appropriate permits/certification before issuing an occupancy permit or a certificate of final inspection
- Service technicians - complete prescribed servicing and provide service reports to Council when required

5.7 Our achievements during the last OWMP

The Greater Shepparton City Council's previous OWMP was published in 2008 (formerly referred to as a Domestic Wastewater Management Plan or DWMP). Throughout the life of the previous plan, Council has continued to make progress in relation to the action items committed, and adapt to ongoing changes relating to wastewater, such as system and legislative changes.

Some of the key wastewater achievements by Council:

- Implementing the new *Environment Protection Act*, and *Regulations.*
- Responding to October 2022 flood event and assisting and supporting the community in preparing/managing the impacts of the flood event on septic systems.
- Completion of the Dookie Groundwater Assessment and report.
- Participation in the EPA funded Officer for Protection of the Local Environment (OPLE) program and with an officer based at Greater Shepparton City Council.
- Responding to complaints, and achieving outcomes that protect human health and the environment.

Other achievements

- Appointment of Environmental Health Support Officer in 2016 whose primary function has been to enter the backlog of septic tank permits onto a corporate database and integrate this data onto Council's GIS system. Currently entered over 4450 old permits and all carbon copy permits from the Shire of Rodney and Shire of Shepparton.
- Backlog data entry of old septic system permits is nearly complete.
- Identification of Council properties not connected to sewer (therefore on a septic system).

5.8 The provision of sewerage infrastructure

The provision of sewerage is an important tool in the management of wastewater in areas where the existing population density is high, new housing developments are planned or high levels of wastewater is generated – including areas popular with tourists. The provision of sewer is generally dependent on a combination of factors including the level of identified risk, the feasibility of installation and cost effectiveness.

Council can work with local water corporations to help identify areas where sewer connection is most needed to help negate the potential risk created by wastewater treatment systems. This may include:

- properties recognised in existing sewerage backlog programs where new issues have been identified that increase the risk or consequences created by wastewater;
- townships that have been identified for increased residential infill development on small allotments (to assist with increase in urban populations);
- providing historical data to water corporations regarding existing wastewater treatment systems; and
- working with the water corporations regarding alternative solutions to wastewater disposal where the feasibility of sewer connection is low.

Council is committed to working with relevant stakeholders to explore (where possible) innovative and cost-effective solutions to wastewater disposal in recognition of potential concerns regarding maintaining public heath, the preservation of the natural environmental and the protection of local amenities.

If reticulated sewerage is identified in the onsite wastewater management plan as the preferred option for improved onsite wastewater management, water authorities, in conjunction with the EPA and Councils, and in consultation with the local community, need to develop and submit to Government a sewerage management plan.

6 Risk Framework

A core component of the OWMP is the locality risk assessment, which is informed by the ISO 31000 risk management process and the *Onsite Wastewater Management Plan Risk Assessment Guidelines Final Report – June 2022*. The locality risk assessment allows Council to evaluate the level of risk for each locality within the municipality into low, medium and high-risk categories.

The key risks from poorly treated and managed domestic wastewater fall into two categories—public health and environmental. To effectively identify and assess risks to public health and the environment from poorly performing onsite systems, councils need to:

- collect and analyse comprehensive information on the number, location and performance of onsite systems and the impacts of poorly performing systems; and
- have an effective risk assessment framework

It is important to highlight the risk assessment serves as a guide to inform decision makers of important wastewater considerations based on a local geographical area. Although this risk assessment may be referred to when assessing an application or when making a compliance decision relating to an individual property, a new risk assessment based on the characteristics and circumstances of the land being assessed will always be made by an officer when considering an application.

Poor wastewater management threatens these values and undermines the municipality's ability to attract more residents, businesses and tourists to the area. It is generally agreed that while all wastewater generation inherently poses a risk to public health, not all risks are equal in likelihood. The assessment of comparative wastewater threats is generally dependent upon three particular variables:

- the proportion of effectively operating septic systems;
- the proportion of the types of systems installed; and
- concentration of effluent within the sub-catchment area.

Council assesses risk across the municipality to provide sufficient information to prioritise areas for targeted management strategies and action plan. Councils should also use an OWMP to identify and refer high-risk unsewered townships to water authorities for inclusion in their sewerage development programs.

6.1 City of Greater Shepparton Risk Assessment considerations

The risk assessment considered the following risk factors:

- Land Characteristics
    - Lot size
    - Topography
    - Soil type
    - Groundwater depth and quality
    - Proximity to watercourse
    - Location of groundwater bores
    - Proximity to floodplains
- Development density and land use
- Weather conditions

6.4.1 Land Characteristics

Lot size

Lot size links to the likelihood of inadequately treated wastewater discharging offsite leading to contamination of water bodies (surface water and groundwater). Smaller lot sizes do not provide an alternative land application area for wastewater disposal, should the system reach its end of design life.

Risk factor bands relating to lot size		
Low	**Medium**	**High**
Greater than 1 hectare	0.4 – 1 hectare	Less than 0.4 hectare

Risk identification method was GIS mapping

Topography

Topography considers the landscape of the area, including mountains, valleys or surface rivers. Site topography can influence the likelihood of untreated onsite wastewater management system run-off entering water bodies.

As the Greater Shepparton City Council area is predominately flat, this risk factor has not been applied.

The risk identification method was the use of contours on GIS mapping.

Soil type

Soil types are an essential indicator for determining appropriate OWMS types. Effluent discharge to soils with low permeability are more likely to travel further with a higher pathogenic/nutrient load and contaminate nearby waterways.

Examples of soil types include:

- Gravels and sands – soil category 1
- Sandy loams – 2a and 2b
- Loams – 3a, 3b
- Clay loams – 4a, 4b and 4c
- Light clays – 5a, 5b and 5c
- Medium to heavy clays – 6a, 6b and 6c

Council receives this information for a given property in the Land Capability Assessment (LCA) report, and it is through a review of LCA's that soil types have been assessed for the purpose of the locality risk assessment.

Risk factor bands relating to soil type			
	Low	**Medium**	**high**
Surface water	Soil category 1,2,3,4	Soil category 5	Soil category 6
Ground water	Soil category 3,4,5,6	Soil category 2	Soil category 1

Groundwater depth and quality

A shallow groundwater depth increases the likelihood of contamination of groundwater. Council has applied the depth from disposal site to highest seasonal water table, and use submitted Land Capability Assessments and the Visualising Victoria's Groundwater mapping tools, which is shown below.

Risk factor bands		
Low	**Medium**	**high**
>10m or confined aquifer	5-10 meters	<5 meters

For the purpose of this risk assessment, all localities will be assessed as medium risk, however, will be assessed on a property-by-property basis.

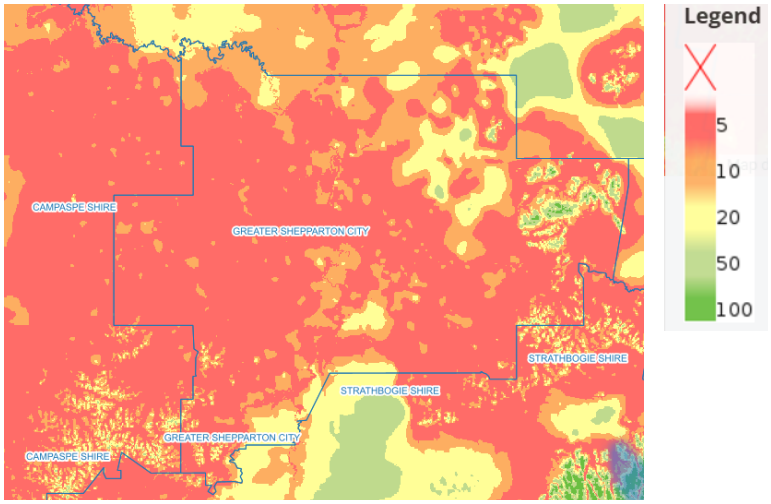


Image 3: Indicator of groundwater depth within City of Greater Shepparton

Proximity to watercourse

Proximity to a potable water supply offtake impacts the likelihood of contamination occurring from onsite treatment system failure in conjunction with risk factor parameters that impact the receptor pathways.

Risk factor bands relating to proximity to potable water supply offtake		
Low	**Medium**	**high**
Greater than 100 meter	60 - 100 meters	less than 60 meters

Risk identification methods:

- GIS mapping
- Visualising Victoria's Groundwater
- Land Capability Assessment data

Image 4: Groundwater-Surface Water Interaction

Location of groundwater bores

The number of systems within close proximity to groundwater bores increase the likelihood of contamination that can occur in the event of an overflow or seepage through soil from the onsite system.

Risk identification methods:

- GIS mapping
- catchment data from the water authorities
- data sharing with Goulburn Murray Water
- publicly available information such as Visualising Victoria's Groundwater (VVG)

Risk factor bands relating to proximity to bores		
Low	**Medium**	**high**
Greater than 100 meters	50 – 100 meters	Less than within 50 meters

Risk identification methods:

- GIS mapping
- Catchment data from the water authorities

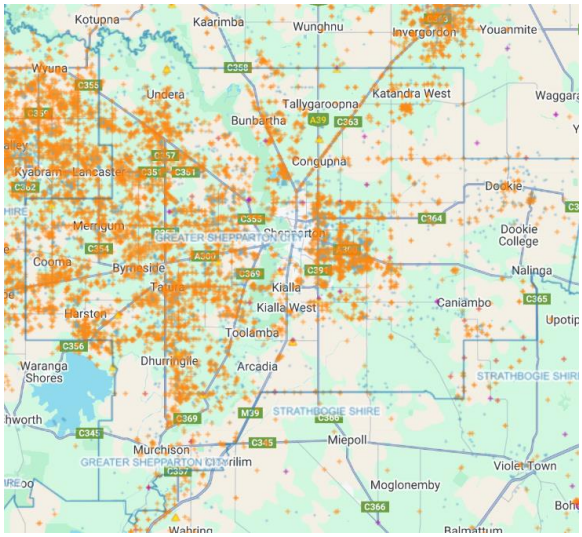


Image 5: Location of Groundwater Bores and Monitoring Status – most of the bores are not routinely monitored

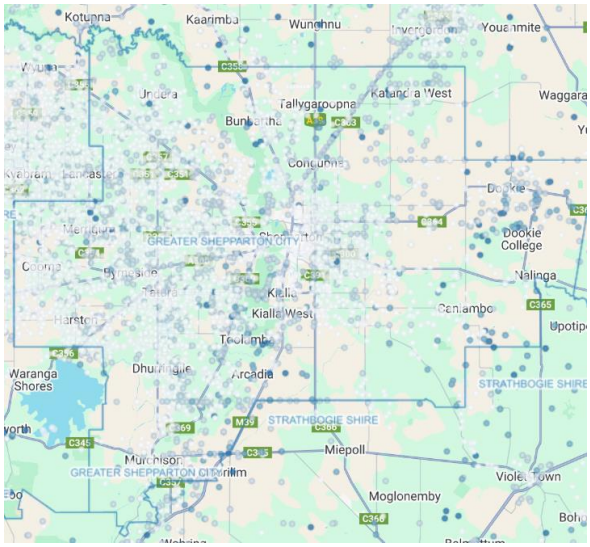


Image 6: Depth of Bores

Proximity to flood plains

Proximity of onsite wastewater management systems to flood plains is a threat to groundwater, surface water and potable water offtakes through inundation of systems and transport of contaminants. The higher the AEP rating the more likely that a flood will occur on the system site and the system may fail.

Data was obtained by assessing the Land Subject to Inundation overlay

Risk factor bands relating to proximity to a flood plain		
Low	**Medium**	**high**
<1% AEP	1 – 5% AEP	>5% AEP

Risk identification methods:

- GIS mapping
- Council Planning Scheme Overlays, such as land subject to inundation overlays

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6.4.2 Development density and land use

Number of onsite systems in the population centre

Increasing the number of onsite systems in a population centre increases the likelihood that contaminants will reach an endpoint. This risk factor is an indicator of density and assumes increased likelihood of contamination in a highly dense area. Calculations of cumulative load is covered through the number of onsite systems and other consequence risk factors.

Risk factor bands relating to OWMS density		
Low	**Medium**	**high**
<10	10 – 200	>200

Risk identification methods:

- GIS mapping
- Council data relating to active systems (certificate to use)

6.4.3 Weather conditions

Rainfall

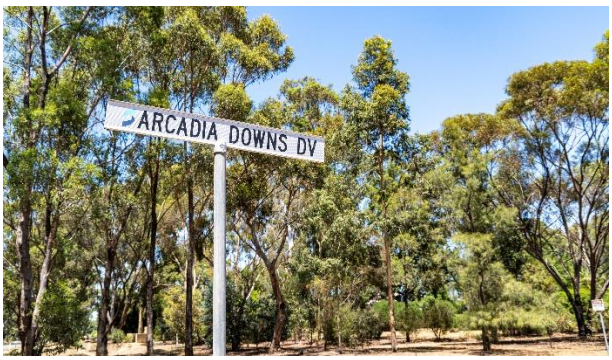
The frequency and level of rainfall events increases the likelihood of contamination occurring, with overland runoff one of the key pathway mechanisms for which contaminants are carried offsite and enter waterways as well as increasing soil infiltration. Increased frequency of rainfall also increases risk of saturation impacting evapotranspiration.

	Risk factor bands		
	Low	**Medium**	**high**
No. of days (annual average) above 10mm	Less than 10 days	10 – 40 days	Greater than 40 days

Risk identification method includes publicly available information at the Australian Government Bureau of Meteorology.

7. Characteristics by priority townships

7.1 Arcadia Downs Drive Estate

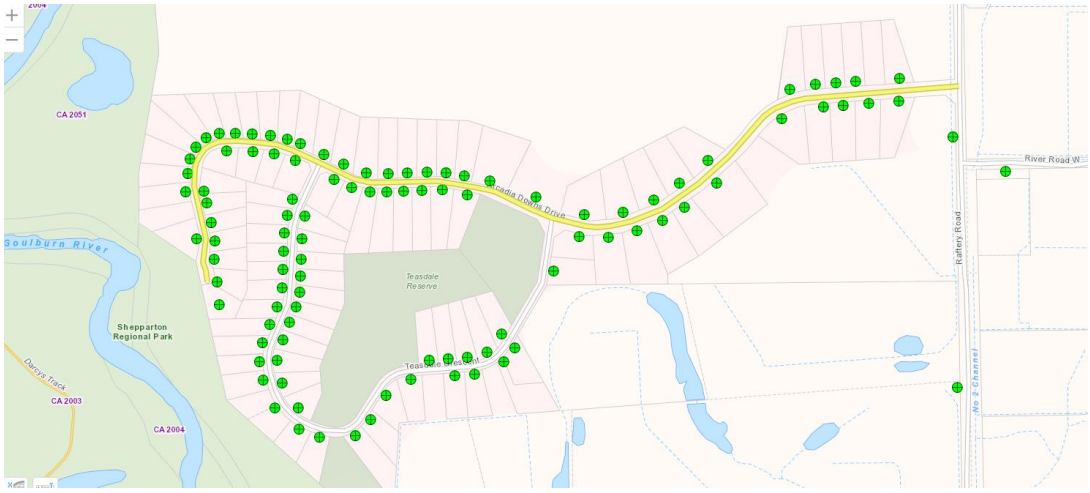


Key features | challenges | priorities

- Large residential sub-division with standard 1 acre allotments.
- Over development of site with additional and larger structures, encroaching on land available for replacement of septic system.
- Many systems are nearing the end of their design life.
- Town water is provided to properties within the estate.
- This estate is located between the Goulburn River on the west, and Sevens Creek to the east.
- There is an old sandbar that runs close to the Goulburn River. Some properties have sandy soil, while others have a heavy clay soil profile.

Permit status

All 166 OWMS on Councils record management system are less than 1000 square meters, which is an important consideration during the risk assessment process



Arcadia Downs	Low	Medium	High
Lot size			X
Soil type		X	
Groundwater depth and quality	X		
Proximity to water source and potable water supply offtake	X		
Location of groundwater bores	X		
Proximity to flood plains	X		
Number of onsite systems in the population centre		X	
Rainfall		X	
Overall Risk Assessment	**High**		

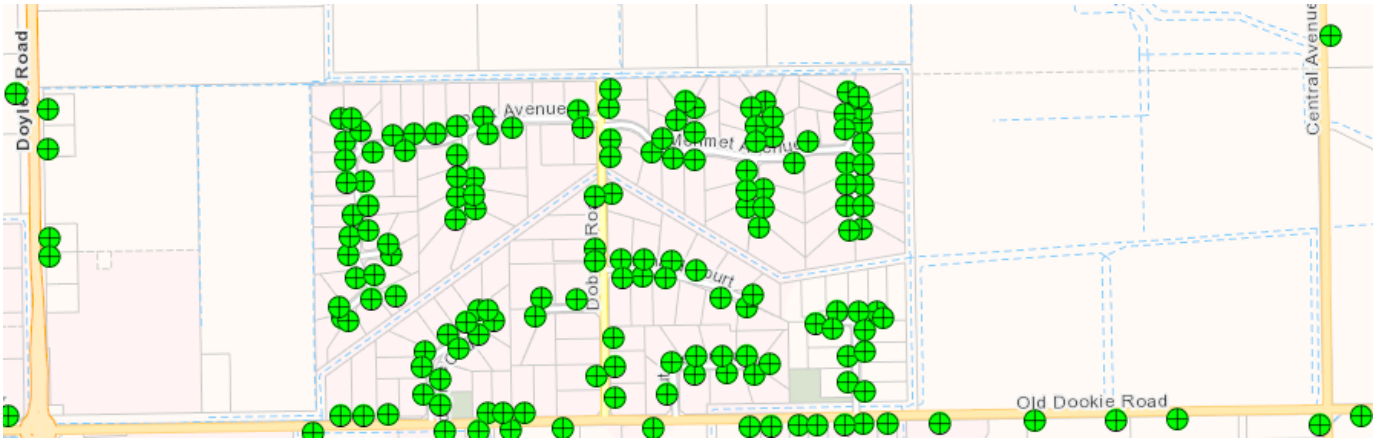
7.2 Dobsons Estate

Key features | challenges | priorities

- Large residential sub-division with standard 1 acre allotments.
- Over development of some properties with additional and larger structures, encroaching on land available for replacement of septic system.
- Many systems are nearing the end of their design life, and some systems have failed in recent years. Due to limited lot sizes, this is becoming problematic when considering available space for replacement systems.
- Town water is provided to properties within the estate. The estate is located on the eastern fringe of the Shepparton township.
- There are no commercial businesses.
- Poor absorption of the soil in the area has resulted in some system failure.

Permit status

There are 144 active OWMS according to Councils record management system.



Dobsons Estate	Low	Medium	High
Lot size			X
Soil type			X
Groundwater depth and quality	X		
Proximity to water source and potable water supply offtake	X		
Location of groundwater bores	X		
Proximity to flood plains	X		
Number of onsite systems in the population centre		X	
Rainfall		X	
Overall Risk Assessment		**High**	

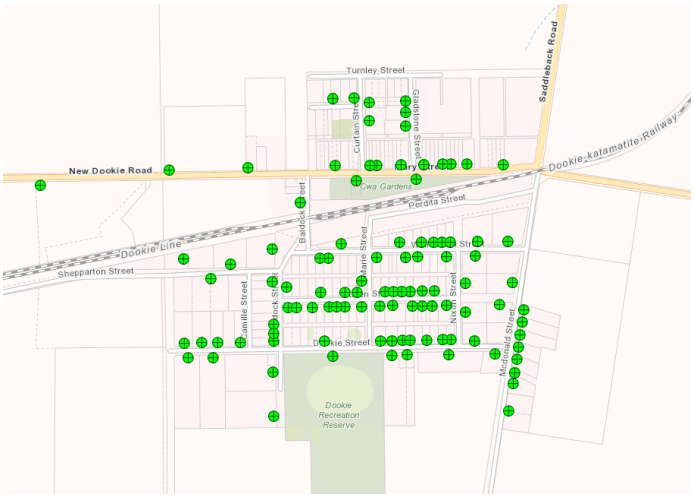
7.3 Dookie

Key features | challenges | priorities

- Dookie has a general store, primary school, pre-school, recreation reserve with ovals and tennis courts. There is also an engineering business and a popular pub.
- There is a strong community support for sewer connection.
- Important natural features include significant slope of the land (not a factor anywhere else in the municipality), rocky outcrops and small allotments. These contribute to challenges in site constraints for new OWMS.

Permit status

There are 150 active OWMS according to Council records. 72 of the OWMS are less than 1000 square meters, which is an important consideration during the risk assessment process.



Properties within the Dookie township with a septic tank system recorded on Council's septic tank database.

Noting that records may exist for other properties under a previous property identification system that has not been matched to current property identification methods.

Dookie	Low	Medium	High
Lot size			X
Soil type		X	
Groundwater depth and quality	X		
Proximity to water source and potable water supply offtake	X		
Location of groundwater bores	X		
Proximity to flood plains	X		
Number of onsite systems in the population centre		X	
Rainfall		X	
Overall Risk Assessment	**High**		

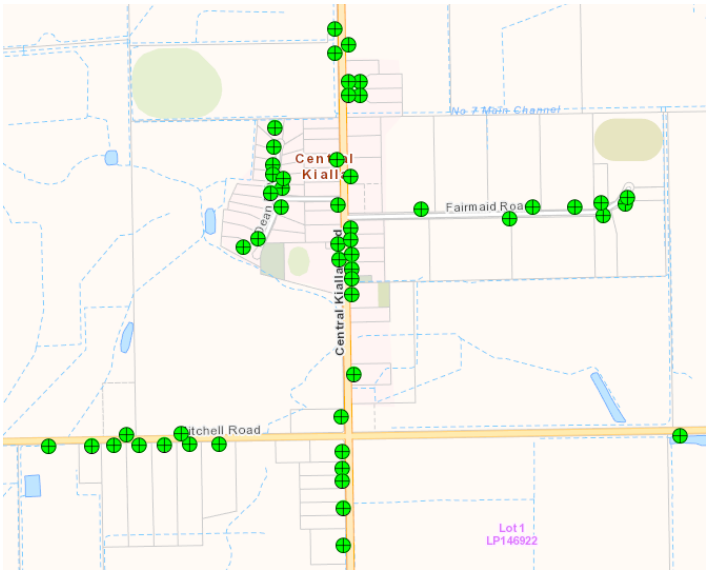
7.4 Kialla Central

Key features | challenges | priorities

- A small satellite district with a primary school and community hall.
- Recent issues related to wastewater containment within the property boundary.
- Large residential sub-division with standard 1 acre allotments.
- Over development of site with limited land available for replacement of septic system.
- Many systems are nearing the end of their design life.

Permit status

There are 65 active OWMS according to Councils record management system.



Properties within Kialla Central with a septic tank system recorded on Council's septic tank database.

Noting that records may exist for other properties under a previous property identification system that has not been matched to current property identification methods.

Kialla Central	Low	Medium	High
Lot size			X
Soil type		X	
Groundwater depth and quality	X		
Proximity to water source and potable water supply offtake	X		
Location of groundwater bores	X		
Proximity to flood plains	X		
Number of onsite systems in the population centre		X	
Rainfall		X	
Overall Risk Assessment	**High**		

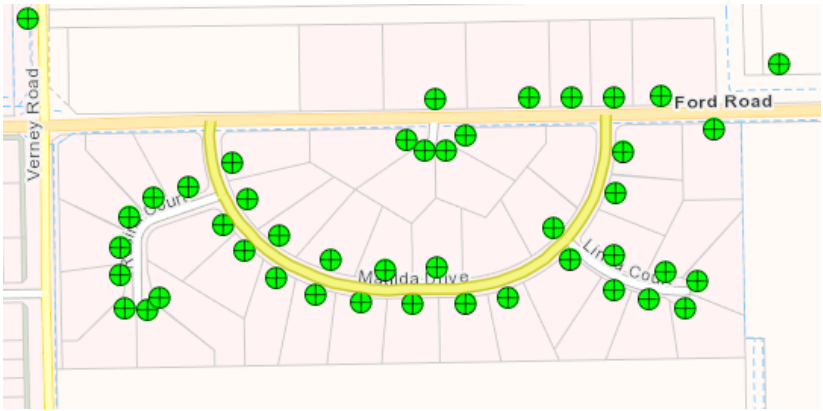
7.5 Matilda Drive

Key features | challenges | priorities

- Medium sized residential sub-division with standard 1 acre allotments.
- This estate is connected to town water supply and on the fringe of reticulated sewer.
- A new estate (The North Quarter) is under construction and adjoins the Matilda Drive estate. The North Quarter is connected to reticulated sewer.
- There are no commercial businesses.
- Poor absorption of the soil in the area has resulted in some system failure.

Permit status

- There are 45 active OWMS according to Councils record management system.



Matilda Drive	Low	Medium	High
Lot size			X
Soil type			X
Groundwater depth and quality	X		
Proximity to water source and potable water supply offtake	X		
Location of groundwater bores	X		
Proximity to flood plains	X		
Number of onsite systems in the population centre		X	
Rainfall		X	
Overall Risk Assessment	**High**		

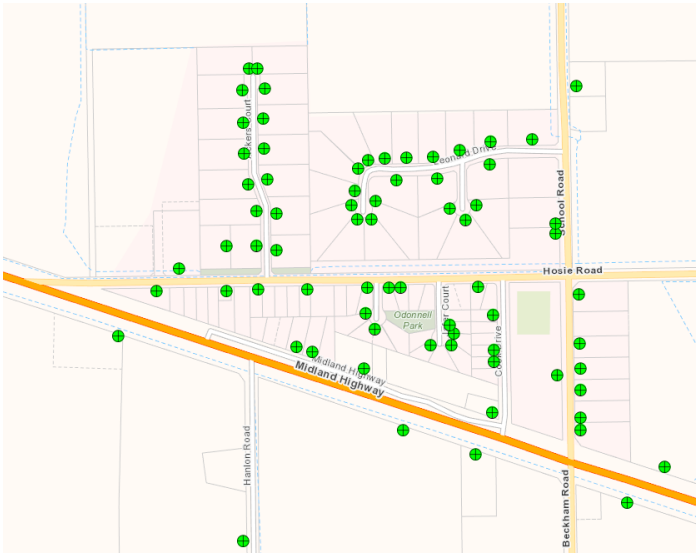
7.6 Shepparton East

Key features | challenges | priorities

- The town has a general store, primary school, community hall, car yard and plumbing supply store.
- Recent issues related to wastewater containment within the property boundary.
- A high number of properties are less than 1000 square meters, which elevates the risk rating.

Permit status

There are 85 active OWMS according to Councils record management system. 38 of these systems are less than 1000 square meters, which is an important consideration during the risk assessment process.



Properties within Shepparton East township with a septic tank system recorded on Council's septic tank database.

Noting that records may exist for other properties under a previous property identification system that has not been matched to current property identification methods.

Shepparton East	Low	Medium	High
Lot size			X
Soil type		X	
Groundwater depth and quality	X		
Proximity to water source and potable water supply offtake	X		
Location of groundwater bores	X		
Proximity to flood plains	X		
Number of onsite systems in the population centre		X	
Rainfall		X	
Overall Risk Assessment	**High**		

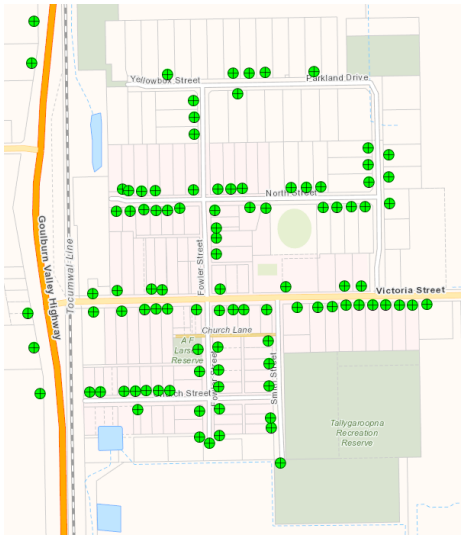
7.7 Tallygaroopna

Key features | challenges | priorities

- The town has a general store, primary school, pre-school, recreation reserve with oval and tennis courts.
- The township is currently experiencing growth with the 46 new housing allotments created in the Woodlands Estate.
- Recent issues related to wastewater containment within the property boundary.
- A high number of properties are less than 1000 square meters, which elevates the risk rating.

Permit status

There are 118 active OWMS according to Councils record management system. 50 of these systems are less than 1000 square meters, which is an important consideration during the risk assessment process



Properties within Tallygaroopna township with a septic tank system recorded on Council's septic tank database.

Noting that records may exist for other properties under a previous property identification system that has not been matched to current property identification methods.

Parklands Estate located to the north is a new housing estate under development.

Tallygaroopna	Low	Medium	High
Lot size			X
Soil type		X	
Groundwater depth and quality	X		
Proximity to water source and potable water supply offtake	X		
Location of groundwater bores	X		
Proximity to flood plains	X		
Number of onsite systems in the population centre		X	
Rainfall		X	
Overall Risk Assessment	**High**		

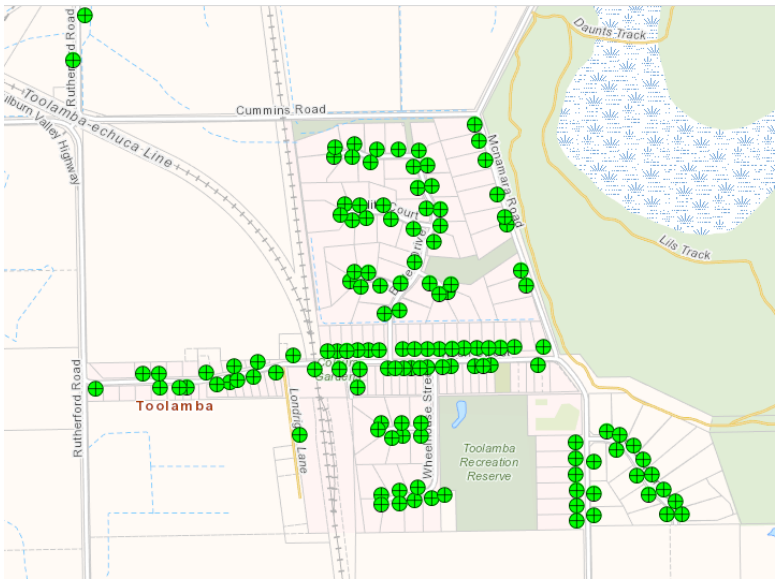
7.8 Toolamba

Key features | challenges | priorities

- The town has a pub, primary school, pre-school, recreation reserve with oval and tennis courts
- Two new multi-lot subdivisions in last 20 years.
- Currently Council is working with consultants to prepare a structure plan for future growth as part of the Toolamba Growth Plan 2020. It is proposed to develop farmland into an estimated 80 – 120 new housing sites of varying lot sizes. The ability to connect new houses to sewer is being investigated.
- Recent issues related to wastewater containment within the property boundary

Permit Status

- There are 114 active OWMS according to Councils record management system.



Properties within Toolamba township with a septic tank system recorded on Council's septic tank database.

Noting that records may exist for other properties under a previous property identification system that has not been matched to current property identification methods.

Council is working on a structure plan as part of the Toolamba Growth Plan 2020 to the west of Toolamba.

Toolamba	Low	Medium	High
Lot size			X
Soil type		X	
Groundwater depth and quality	X		
Proximity to water source and potable water supply offtake	X		
Location of groundwater bores	X		
Proximity to flood plains	X		
Number of onsite systems in the population centre		X	
Rainfall		X	
Overall Risk Assessment	**High**		

8. Risks associated with Existing Onsite Wastewater Management Systems

8.1. OWS operating beyond its design life

All OWMS have a lifespan, and in time systems will become less effective in controlling the risks associated with wastewater management. Although it is the responsibility of all property owners to ensure that their OWMS are working effectively, the Greater Shepparton City Council has an important role in ensuring that these risks are managed, such as:

- providing education to the community about good management practices to avoid system failures;
- investigating community complaints relating to alleged system failures, such as wastewater discharges or odour, and when these occur ensuring compliance is achieved; and
- assisting applicants where new OWMS are to be installed or systems require alteration.

Council will develop an audit schedule to assess compliance of active systems. This audit schedule will prioritise high risk localities, and at-risk properties such as high OWMS density or proximity to potable water source. It is intended that the audit program will provide meaningful data on the compliance of OWMS in use within the municipality and provide opportunities for compliance to be achieved should non-compliance be identified.

8.2. Existing OWMS in declared sewer districts

Council does not have any power under the *Water Act 1989* to direct existing properties with OWMS that fall within an extension to the sewer district to connect to sewer once it becomes available. This is the responsibility of Goulburn Valley Water (GV Water).

Council will recommend to the applicant at the time of a planning application for a proposed new housing estate that abuts a sewer district, to investigate connection to sewer, as reticulated sewer is the best option for managing wastewater in higher density housing estates.

For existing dwellings that have an existing OWMS within a sewer district, Councils approach is that property owners will not be required to connect to sewer unless the property owner cannot manage the risks associated with the OWMS as detailed in their GED obligations, or where it is feasible to connect to new sewer infrastructure provided in growing housing development areas. Council will advocate and work collaboratively with GV Water and property owners in this process of transitioning to reticulated sewer connection if feasible.

For any new dwellings inside a declared sewer district, connection to the reticulated sewer network is a mandatory requirement.

8.3. Existing OWMS with offsite greywater discharge

Properties that were permitted at the time of development to discharge greywater offsite will not be required to upgrade their system once this OWMP is adopted, unless one of the following applies:

- the owner proposes to undertake an extension to the existing dwelling or structure or install a new structure (for example a shed or pool); and/or
- the existing OWS is no longer functioning efficiently.

Council, in consultation with the land owner and Land Capability Assessor, will review options to ensure all wastewater is treated and disposed of within the property boundary that complies with the current Guideline for onsite wastewater management and Guideline for onsite wastewater effluent dispersal and recycling systems.

9. Onsite Wastewater Management System Applications

This section of the OWMP provides an overview of the required steps by applicants, and Council to ensure compliance with the relevant Acts and Regulations

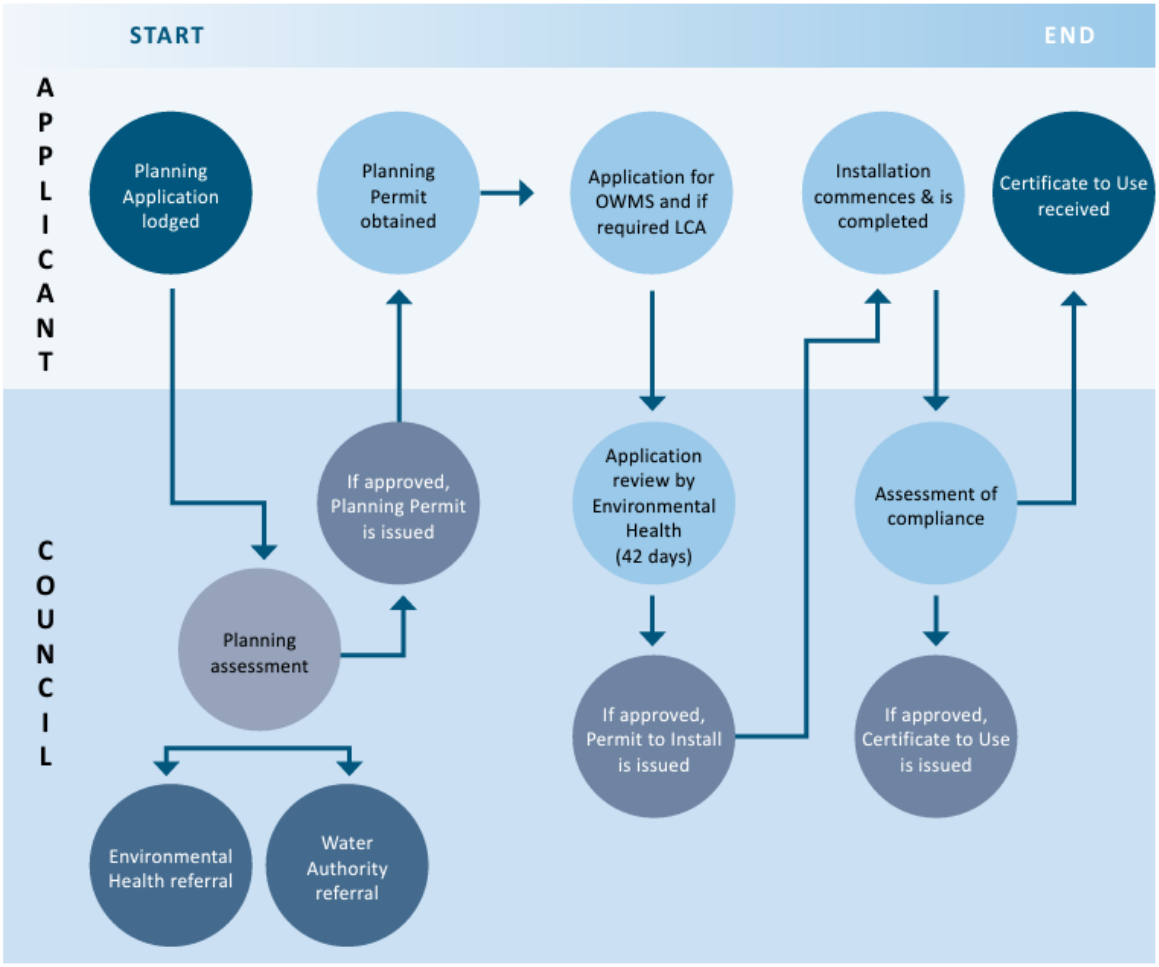
Under the *Environment Protection Act 2017*, Greater Shepparton Council can only approve the installation of wastewater treatment plants that has a current certificate of conformance with the relevant Australian and New Zealand standard. The Environment Protection Authority maintains a list of these on its website. If an application to install a treatment system does not appear on this list, then Council cannot accept the permit and the applicant asked to amend the application.

For all new installations and alterations of existing OWMS with a daily design or actual flow rate of wastewater not more than 5000 L/day, landholders must apply for a permit from their Local Council.

The figure below provides an overview of the different applications that are lodged to Council when a property owner or developer is considering the development of land, the construction of a new building, housing or accommodation, or the alteration of an existing building or dwelling.

Greater Shepparton City Council has established internal referral procedures across the relevant Council departments to facilitate consistency and quicken the application process.

Council can refuse a permit if the proposed OWMS does not meet the *Environment Protection Act's* requirements (outlined below).



PLANNING APPLICATION

What are the wastewater considerations during the Planning Permit application process?

The Planning and Environment Act 1987 requires Council to consider environmental issues in decision-making. This is done via a Planning Referral to the Council's Environmental Health Officer who assesses the proposal against the requirements of the legislation.

At this point, Council's Environmental Health Officer may advise the Planning Department of any conditions that may be required on the Planning Permit.

PERMIT TO INSTALL OR ALTER OWMS

What is a Permit to Install or Alter a OWMS?

Under the EP Act, a permit is required from Council before the installation or alteration of an OWMS. This permit is a homeowner's opportunity to inform Council of their intentions, such as:

- Details of what is proposed, such as a new dwelling, building or extension of existing dwelling.
- Descriptions and details of the number of habitable rooms.
- Confirmation of OWMS proposed, and plumber details.
- Site plan, including where the OWMS will be located.

How do I lodge a Permit to Install or Alter?

Applications are available via:

- Council's website.
- Customer service.
- Phone request to Council's Environmental Health Officer.

Council must assess this application within 42 business days of the submission.

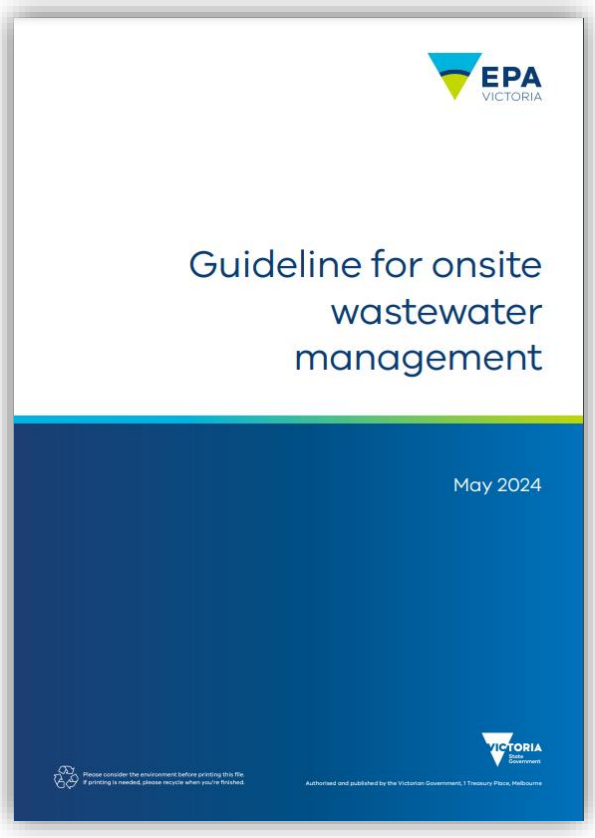
APPROVAL OF AN OWMS - CERTIFICATE TO USE

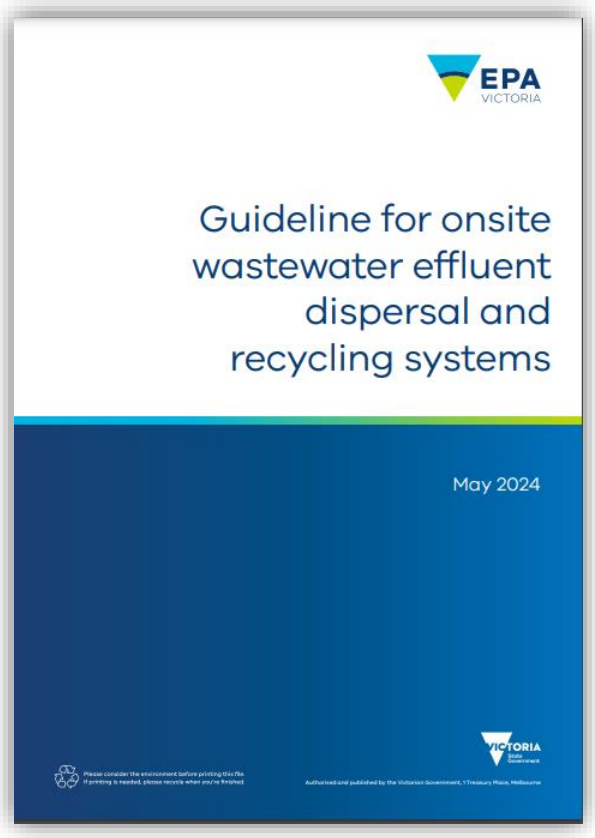
What is a Certificate to Use an OWMS?

Before using an OWMS, Council must inspect the OWMS, preferably during the installation process. If Council is satisfied that the OWMS complies with the Permit to Install, a Certificate to Use will be issued after receiving the as-installed plans of the OWMS, commissioning certificate, and plumbing compliance certificate. In some instances, electrical compliance certificate may be required.

A Certificate of Use which details the conditions of compliance will be sent to the applicant within 7 days of approval

Council's Environmental Health Officers consider and review applications for the alteration or installation of an OWMS in accordance with the *Environment Protection Authority Guidelines for Onsite Wastewater Management (May 2024)* and *Guideline for Onsite Wastewater Effluent Dispersal and Recycling Systems (May 2024)*.





A Permit to Install/Alter a septic tank system is valid for 2 years. The septic tank system may not be installed in the same year the permit was issued.

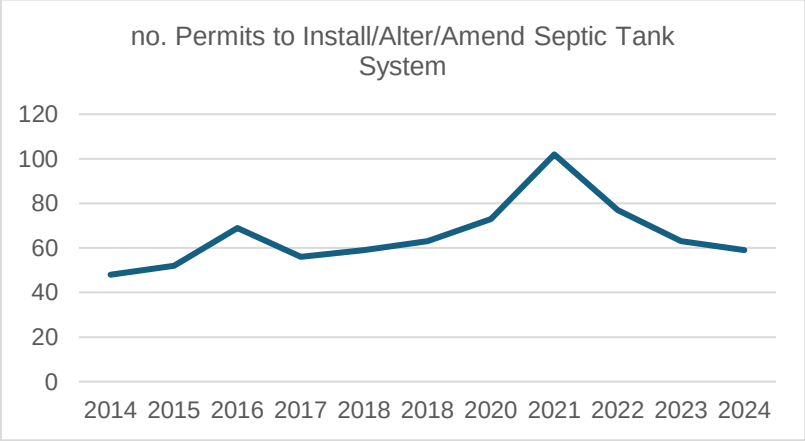


Table 1 – Number of Permits to Install/Alter a septic tank system

In June 2020, the Federal Government announced grants available to homeowners for new building construction and renovations to bolster the construction industry following Covid. This saw a spike in Applications for Permits to Install/Alter.Past 10 year trend for the number of septic tank Permits to Install/Alter, inspections conducted and Certificates to Use issued by Council is outlined below.

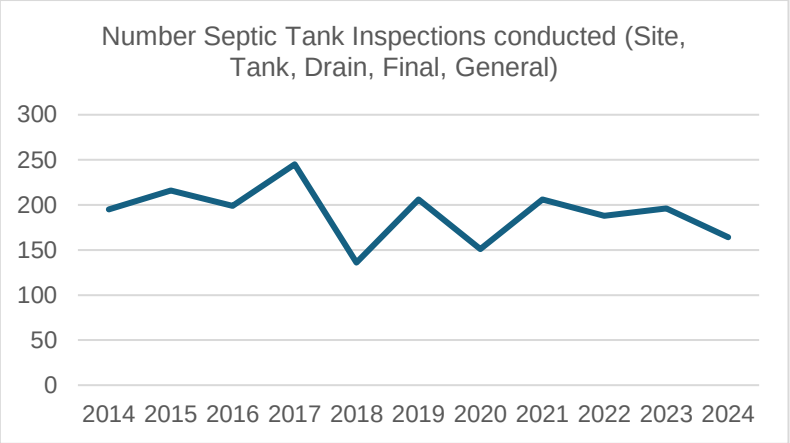


Table 2 – Number of Inspections conducted by Environmental Health Officers

Inspections include initial site visits, to assess the site prior to the granting of a permit. As well as inspections conducted during installation and a final inspection when all works are complete.

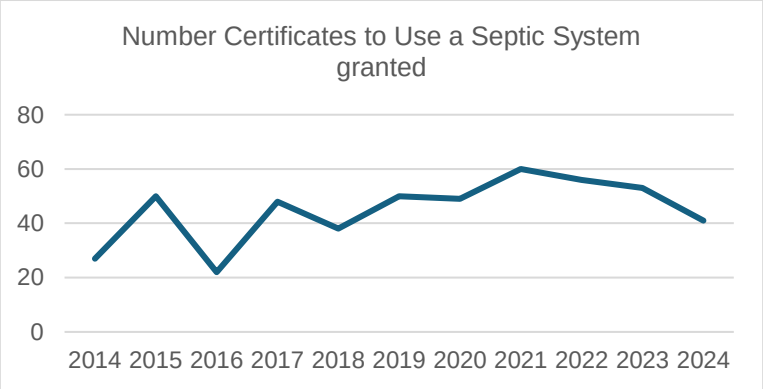


Table 3: Number of Certificate to Use issued

A Certificate to Use a Septic System must be granted before occupation of the dwelling, often 12 months after the Permit was granted.

10. Commonly installed wastewater treatment and effluent disposal systems

Below are examples of the most common wastewater treatment and effluent disposal systems installed within Greater Shepparton. Other types of systems are also considered, in accordance with the Guidelines for onsite wastewater management and Guideline for onsite wastewater effluent dispersal and recycling systems.

There are 2 parts to an on-site waste water disposal system used to treat wastewater from a dwelling -

Part 1 - A tank or series of tanks that collects the wastewater from the dwelling and treats it. Common methods used are

- **Septic Tank** (otherwise known as a conventional all waste septic tank). This tank collects all waste from the dwelling and separation of the floaty fats to sit on the surface and form a crust and the heavy solids to settle at the bottom. The size of the tank allows water to remain in the tank for the anaerobic bacteria to digest the effluent. This process is referred to as primary treatment and produces a grey looking effluent.
- **Treatment Plant** (otherwise known as a secondary treatment plant or aerobic wastewater treatment plant). These systems do the same work as a septic tank, but also aerate the effluent in another chamber that allows aerobic bacteria to further digest the effluent. After this process, chlorine is applied. This is a mechanical process and is referred to as secondary treatment. It produces a clearer effluent for disposal. This type of treatment process requires quarterly servicing as part of the Certificate of Conformance under the Environment Protection Act, which the homeowner must pay.

Because Shepparton is relatively flat, the tanks are buried deep in the ground. A pump well is used after the septic tank to provide additional storage after treatment of a capacity of half the estimated daily flow. Pump wells are useful for regulating the dosing of effluent to the disposal trenches.

All lids of the septic tanks, pump wells and distribution pits must be finished above natural ground level to assist with servicing.

Images below are examples of a conventional all waste septic tank with a pump well.

Image 7 – Septic tank with riser lids finished at ground level. All waste septic tank with risers extended to ground level to ensure access for pump out and other maintenance. Pump well installed at the outlet of the septic tank to pump to effluent disposal trenches.

Image 8: Only the lid of the septic tank and pumpwell with alarm are visible when backfilled.

The image below is an example of secondary wastewater treatment plant.

Image 9: Top of a packaged treatment plant – only the lid, control box and filter visible once backfilled

Part 2 – Disposal of effluent to land

The choice of effluent disposal depends on the method of treatment. The effluent is either disposed of into

- A series of **disposal trenches** of different widths, lengths and construction methods (evapotranspiration trenches or Wick trenches). The maximum length of each trench is 30m to ensure the effluent reaches the end of the trench. A distribution pit is use to interlink each trench. Trenches are spaced 2m apart (trench wall to trench wall). The trenches must be laid along the contours of the land. Either method of trenching requires a reserve area of land for future effluent disposal for when the trenches reach the end of their design life (around 30 years). See diagram below for a cross section of each type of trench.
- **Pressurized sub-surface drip irrigation**. A series of interconnected purple pipe buried just below the root zone of grass approximately 200mm below surface of the ground. The maximum length of each line is 50m long. This method does not require a reserve area of land and can be located closed to site limiting features and is often used in these situations.

Images below are examples of standard evapotranspiration trenches installed after a conventional septic tank.

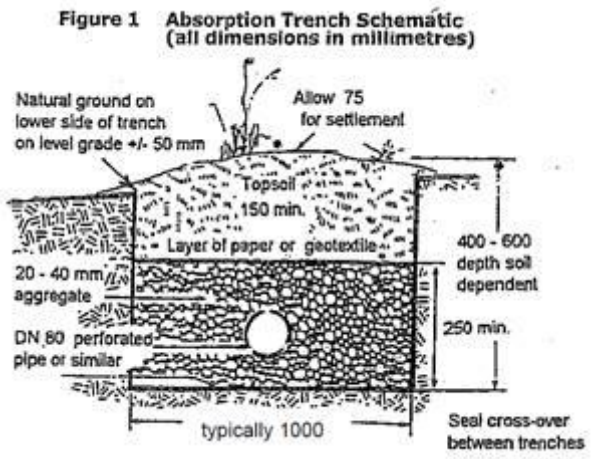


Image10: Evapotranspiration trenches are installed after a septic tank and are 400mm deep and 1m wide. A deeper trench would be used if the absorption of effluent into the structure of the soil was utilized. In Shepparton, the evaporation rate is high making it ideal for transpiration.

Image 11: Evapotranspiration trench with gypsum sprinkled along the bottom of the trench. Trench is 400mm deep and 1m wide

Image 12: Rock that is 20 – 40mm in size and free from dust and fines is used to backfill trenches

Image 13: Inside the distribution pit installed at the beginning of each trench.

Image 14: An example of trenches laid in a series, spaced 2m apart.

Image 15: Completed work – top of each trench is domed above natural ground so that surface water/rain does not sit on top of the trences.

Images below are examples of effluent disposal using Wick Trenches installed after the secondary wastewater treatment plant

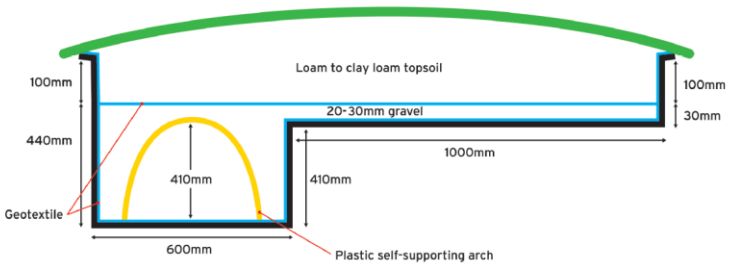


Image 16: Excavation for a Wick Trench

Image 17: Backfilling of Wick Trenches, with Geotextile fabric lining the trench before backfilling with suitable sized rock and arch drain.

Image below shows the installation of pressurized sub-surface drip irrigation lines installed after the secondary wastewater treatment plant
(top left of image).

Image 18: pressurized sub-surface drip irrigation

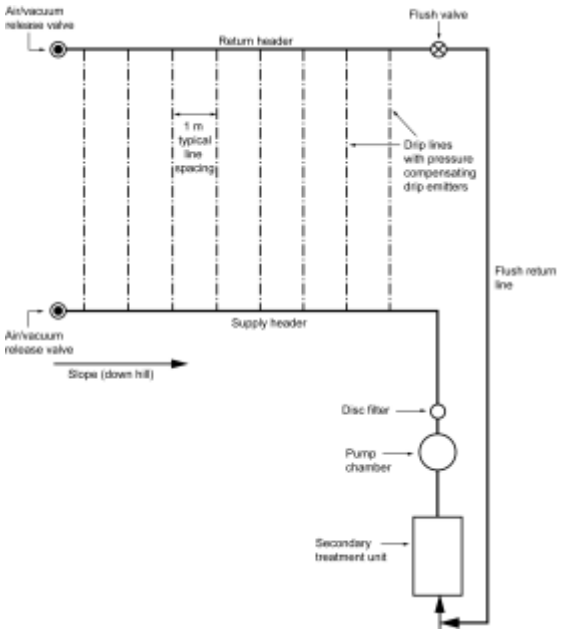


Image 19: Diagram of pressurized sub-surface drip irrigation

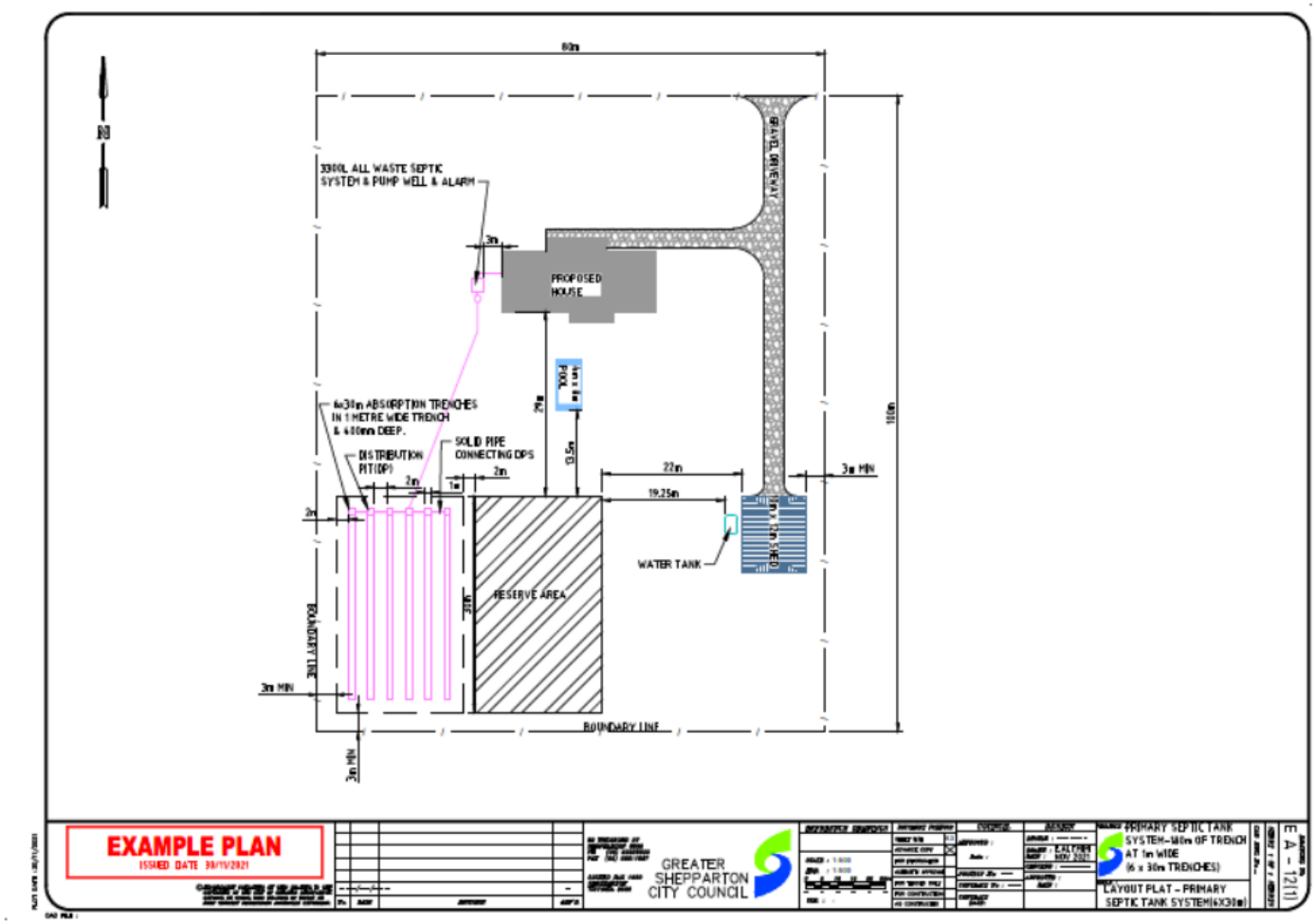


Image 20 – An example of a proposed site plan showing built structures, septic tank syslem and land required for effluent disposal

11. Land Capability Assessments (LCA)

An LCA assist applicants, Council and Water Authorities by providing specific and relevant information about the ability for wastewater to be contained on the property.

The table below outlines the information required to be provided within an LCA.

LCA Topics	Examples
Background and proposal detail	• overview of the proposal • limitations and assumptions
Land features	• topography and drainage • soil characteristics, soil permeability and vegetation across the site. With a focus on the land capability areas • average rainfall, and flooding potential • catchment area • bores, dams and groundwater • building envelope • erosion potential • local climate and aspect of the site
Site information	• property location • property title • easements • zoning and overlays • land use (past and present) • use of surrounding areas
Infrastructure	• available services
Land capability	• land constraints • soil percolation • risk rating and summary • management protocols
Recommendations	• recommended OWMS • OWMS design and specifications including scaled site plan of proposal system recommendations • disposal fields and reserve area allocations
Management and maintenance	Ongoing management, maintenance, reporting and other requirements
Supporting data and mapping	• accurate mapping • supporting soil classification test data
Site plan	• to scale • direction of north • identification of property and owner • version/revision number

Council will require the owner of land that cannot connect to reticulated sewer, to obtain a land capability assessment (LCA) from a suitably qualified assessor in circumstances such as:

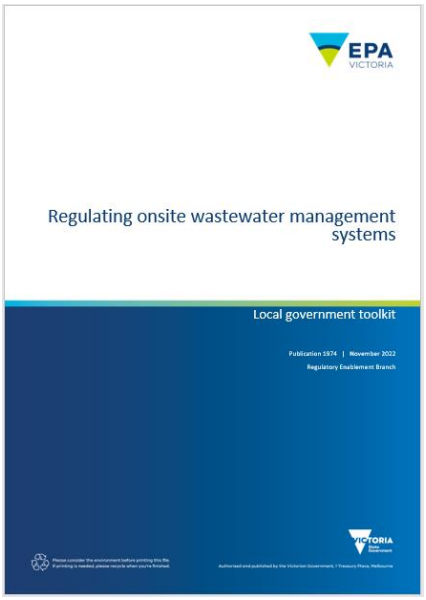
- as part of a proposal to sub-divide land for housing, or proposal to create housing lots under 1 hectare;
- on vacant land under 1 hectare;
- a proposed extension to an existing dwelling or structure, or new structures on land under 1 hectare;
- when extensions or new structures impact on any component of the existing OWS;
- when the OWS is no longer functioning effectively and investigations reveal the OWS is at the end of its designed life (wastewater is surfacing and measures to remedy this have failed) and an upgrade is required;

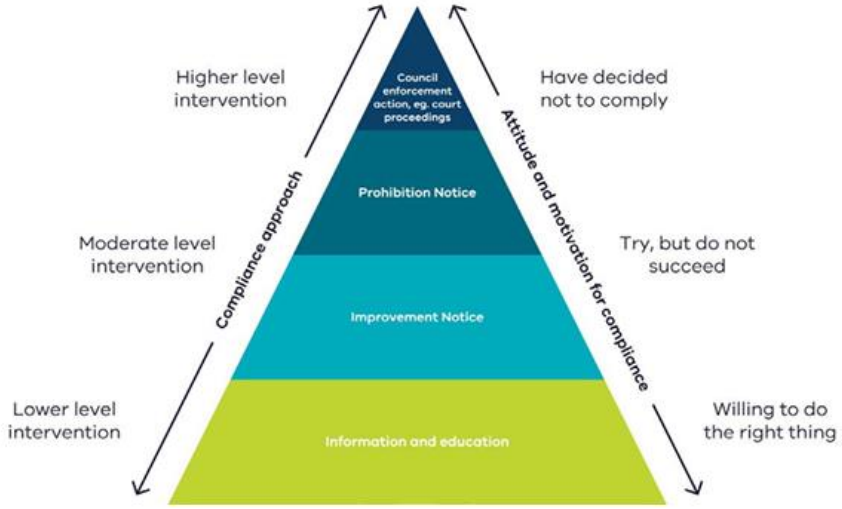
- where they may be site limited features on the parcel of land or adjoining the parcel of land that indicate a conventional septic tank system cannot be installed; and
- any other situation recommended by Council's Environmental Health Officer to achieve the compliance with the current Guideline for onsite wastewater management and Guideline for onsite wastewater effluent dispersal and recycling systems.

12. Our approach to compliance and education

Greater Shepparton City Council is committed to fair and consistent application of legislation relating to OWMS.

To achieve this commitment, authorised officers will make compliance and enforcement decisions in-line with guidance published by the Environment Protection Authority – Regulating Onsite Wastewater Management Systems (November 2022).





Council is committed to developing education material that is consistent with resources prepared by Environment Protection Authority.

Following are examples of how Council may apply various education, compliance and enforcement options outlined in the Environment Protection Act:

Compliance and Enforcement tools	Scenario
Education	"I called the owner of the property and reminded them that the quarterly reports are required to be submitted."
Notice ordering maintenance	"After notification of an OWMS overflow, a Notice ordering maintenance was issued providing a direction for desludging."
Official Warning	"As the permit condition was breached, Council issued an Official Warning to the property owner."
Improvement Notice	"As the permit condition was breached, Council issued an Improvement Notice on the property owner."
Prohibition Notice	"Due to the public health risk, a Prohibition Notice has been issued. This means the OWMS cannot be used until compliance has been achieved."
Infringement Notice	"Due to the owner of the property not complying with the Improvement Notice, Council is issuing an Infringement Notice under the EP Regulation 163(4) - Comply with Council notice requiring maintenance."
Prosecution	"The occupier continued to use the OWMS after the Prohibition Notice had been issued. Council has decided to support a prosecution."

13. Onsite Wastewater Management strategies

This section outlines Council's approach to the management of onsite wastewater issues that have been identified through the review of the OWMP.

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.

Given the diversity of wastewater management performance in our townships, the OWMP identifies the current challenges being experienced, the wastewater management designs or requirements, and any recommended system improvement options. This OWMP identifies six key strategies for the management of wastewater systems within Greater Shepparton.

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;
- ensure that the OWMP 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.

Council commits to implementing these strategies to improve the management of wastewater across the municipality. The success of this OWMP relies upon the active involvement of all stakeholders and Council. Actions identified will contribute to the implementation of these strategies and will be monitored annually and reviewed every five years.

Our onsite wastewater strategies for the period 2025-2030 include:

Strategy 1 – Information Management

To create a well-developed, centralised and comprehensive Onsite Wastewater Systems (OWS) dataset that supports the Environmental Health Unit.

Strategy 2 – Education

To develop and implement a comprehensive range of education resources about on-site wastewater systems to ensure property owners fulfil their obligations under the EP Act to prevent risks to public health and the environment.

Strategy 3 – Strategic planning, infrastructure development and stakeholder engagement

To investigate innovative and sustainable community onsite wastewater treatment and water cycle management solutions for small townships, in partnership with key stakeholders.

Strategy 4 – Environmental monitoring program

To develop an environmental monitoring program including stormwater and groundwater sources, and to actively engage with other agencies and community groups to allow for the collection, storage, analysis, and sharing of environmental data that monitors the impacts of on-site wastewater systems.

Strategy 5 – Policy and regulatory management

To develop Council policies and procedures to manage wastewater reflecting regulatory frameworks and utilising available tools to assist with clear, accountable, transparent decision-making and enforcement.

Strategy 6 – Reporting, audits and review

To report on the actions within this Onsite Wastewater Management Plan (this plan), and review procedures and policy annually. A full audit of the OWMP is to be conducted every four years.

In order to achieve these strategies, Council has developed a number of specific actions to be completed over the course of this plan and are further outlined in the following table.

Strategy 1 - Information Management

A well-developed, centralised and comprehensive Onsite Wastewater Systems (OWS) dataset that supports the Environmental Health Unit (EH Unit) that:

- Is easily accessible and supported by current software systems
- Improves processing of applications
- Capable of generating various maps and reports (such as the ongoing maintenance of OWS, identification of systems that have reached their operational end of life and heat maps of system types in certain areas)
- Facilitates the review of processes and staff resources needed to respond to changes to legislation, policies, system design, growth and development
- Assist in strategic wastewater planning to include a response to the impacts of climate change

Goals	Proposed actions	Timeframe
Goal 1: Effectively manage the installation, servicing/maintenance and reporting of OWS within the municipality.	• Utilise data management system for monitoring the servicing and maintenance of systems, generation of reports and letters to owners.	Year 1/Ongoing
	• Utilise data management systems to transition to a streamlined electronic application and permitting process that complies with legislation, guidelines and policies.	Year 1
Goal 2: Identify areas of concern due to site limiting features, soil types, age of OWS, and restriction of further development due to allotment size.	• Investigate costs and potential benefits of GIS based wastewater mapping system for new installations and inputting retrospective data entry.	Year 2
	• Investigate costs to implement “in-field” ICT tools to efficiently collect and store wastewater data (such as GIS plotting of individual OWS installations) and record on-site wastewater treatment systems that are known to be failing and causing risks to public and environmental health (low, medium, low-risk rating).	Year 2
Goal 3: Assist in the review and preparation of risk mitigation strategies, especially in times of climate emergencies (flood events).	• Conduct a wastewater risk profile across the municipality that investigates data sources for groundwater levels, soil types, effective transpiration rates, treatment ability, and impacts of flood events to identify high-risk areas.	Year 2
Goal 4: Identify, plan and advocate for the provision of sewerage infrastructure in growth areas	• Investigate alternative, community scale treatment systems for priority townships, and availability of funding in collaboration with water corporations.	Year 3
	• Liaise with appropriate departments to ensure that planning and infrastructure proposals adequately address wastewater management needs for townships.	Ongoing

Strategy 2 – Education

To implement an efficient and comprehensive program of education, facilitation, and enforcement to ensure property owners fulfil their responsibilities for the maintenance of their on-site wastewater systems by the Council's Wastewater Management Policy to prevent risks to public health or the environment.

Goals	Proposed actions	Timeframe
Goal 1: Provide fair, accurate, and accessible information on good wastewater management principles, practices, and improvement options	• Develop a suite of education resources to assist developers, plumbers and property owners to understand and comply with their legal responsibilities for monitoring and maintenance of their wastewater systems, including ➢ website, factsheets, ➢ installation guide, ➢ DWMP, ➢ approvals process, ➢ connect to sewer information, ➢ development of content that can be used for various media platform	Year 1
Goal 2: Raise profile of wastewater system operation and maintenance requirements within the municipality and region	• Implement targeted education campaigns to property owners, occupiers and agents in high-risk areas at appropriate times. • Provide readily accessible wastewater management information in other languages and in both hard copy and web-based formats.	Year 2 Year 2
Goal 3: Provide regular opportunities to improve community and stakeholder understanding and support of improved wastewater management projects and programs.	• Provide information on septic tank system best practice to property owners via community outlets and Council publications. • Liaise with communities and local water authorities to progress community sewerage, where appropriate. • Work with the EPA, Water Authorities, Catchment Management Authorities (CMAs) and other interested stakeholders to achieve shared goals. • Establish an audit and enforcement program to ensure that property owners and service technicians or agents adequately fulfil their respective responsibilities	Year 2 Year 3 Year 3 Year 2

Strategy 3 – Strategic planning and Infrastructure development

Investigate innovative and sustainable community onsite wastewater treatment and water cycle management solutions for small townships, in partnership with key stakeholders.

Goals	Proposed actions	Timeframe
Goal 1: Utilise a Risk Management Framework to identify townships and high-risk sites that require a review of their wastewater treatment and disposal options to enable long term sustainability and future growth of townships.	• Investigate innovative and sustainable community-scale or on-site wastewater treatment and water cycle management solutions in partnership with key stakeholders • Regularly engage with relevant water authorities to discuss sustainable and future on-site wastewater disposal system needs for townships and high-risk sites that reduce environmental impacts.	Year 4 Year 2
Goal 2: Liaise with appropriate departments to ensure that planning and infrastructure proposals adequately address wastewater management needs for townships	• Assess existing block density in unsewered townships and investigate options to reduce density to sustainable levels. • Develop clear policy guidelines for future developments with unsewered townships and for unsewered allotments within sewered townships. • Review Planning Scheme and other relevant Council policies to identify opportunities for improvements to existing wastewater management clauses and/or policies. • Continue to investigate and update appropriate design standards for high-risk townships so as to inform any future improvement plans.	Ongoing Year 1 Ongoing Ongoing
Goal 3: Reduce impact of off-site discharges through available mitigation remedies	• Investigate health protection measures to address high-risk and accessible contaminated stormwater drains or groundwaters. • Seek improved maintenance and development of stormwater drainage in priority townships in partnership with Council's Projects and Infrastructure departments.	Year 4 Year 4

Strategy 4 – Environmental Monitoring Program

To develop an environmental monitoring program including stormwater and groundwater sources, and to actively engage with other agencies and community groups to allow for the collection, storage, analysis, and sharing of environmental data that monitors the impacts of on-site wastewater systems.

Goals	Proposed actions	Timeframe
Goal 1: Improve electronic data capture and storage to maximise administrative efficiencies and assist in appropriate targeting of resources	• Combine data sets from other Council teams, Water Authorities, Catchment Authority, community and environmental groups to assist in understanding wastewater threats and proposing solutions.	Year 2
	• Explore the integration of messaging services to notify landowners of septic tanks systems in an extreme event i.e. fire, flooding	Year 4
	• Identify source locations for environmental monitoring and produce a publicly available map which shows these locations.	Year 4
Goal 2: Develop an environmental monitoring program in collaboration with other agencies.	• Implement a comprehensive environmental monitoring program including the collection of water samples from selected locations and arranging their analysis at a NATA-approved laboratory.	Year 4
	• Prepare an annual report outlining the results of the environmental monitoring program and any improvements that have been made.	Year 4
	• Seek and source an ongoing funding stream for environmental monitoring sampling and analysis	Year 4

Strategy 5 – Regulatory Management

To develop Council policies and procedures to manage wastewater reflecting regulatory frameworks and utilising available tools to assist with clear, accountable, transparent decision-making and enforcement.

Goals	Proposed actions	Timeframe
Goal 1: Develop Council wastewater policy through evidence-based investigation, including enforcement protocols	• Wastewater policy to include: ➢ New OWS approvals process, including the introduction of a fee structure to address human wastewater from large scale commercial, industrial or agricultural development ; ➢ Upgrade OWS approvals process; ➢ Transition from existing OWS to upgrade and connection to sewer process; ➢ Changes to permits (eg system changes, transfer property ownership) ➢ Non-permit (eg older dwellings with no records) to permit process ➢ Rebuilding of dwellings destroyed by fire/flood; ➢ Enforcement (eg failing/aged/non-maintained systems) process; ➢ Green energy home design and greywater reuse; ➢ EHO training procedures (including induction)	Year 1
Goal 2: Explore alternative or innovative uses of existing legislative provisions to enhance wastewater management processes	• Develop and implement a septic tank inspection program (prioritised by risk, including age of system) to gather system details at property level. • Influence and assist Government agencies and other stakeholders to improve the regulatory framework within which the Council operates.	Year 2 Ongoing
Goal 3: Establish an audit and enforcement program to ensure that property owners and service technicians or agents adequately fulfil their respective responsibilities	• Advocate to government agencies and other stakeholders to improve the regulatory framework within which Council operates. • Develop robust wastewater compliance processes including procedures for managing non-compliance. • Introduce procedural fairness into regulatory management/enforcement.	Year 2 Year 1 Year 1

Strategy 6 – Reporting, audits and review

To prepare annual reporting against the actions in the Onsite Wastewater Management Plan (this plan), procedures, and regular review and auditing of the plan. An audit of the plan is to be conducted every four years.

Goals	Proposed actions	Timeframe
Goal 1: Determine priorities for implementation and recommend to Council for consideration via the annual budget process as a result of the annual review.	• Annual review of the action plan and reporting to Council and stakeholders on progress, including results of inspection and monitoring program. • A full review of the OWMP (including independent audit) four years after its adoption by Council.	Year 1 - 4 Year 44
Goal 2: Develop and strengthen external stakeholder relationships and collaboration.	• Identify shared water/ wastewater objectives and strategies with external water authorities and stakeholders. • Promote and facilitate ongoing coordination of internal resources into wastewater management strategies and projects. • Develop and strengthen external stakeholder relationships and collaboration on wastewater management projects and programs.	Year 1 Ongoing Year 1

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