

City of Whittlesea Domestic Wastewater Management Plan

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1 INTRODUCTION

1.1 Introduction

There are approximately 1,300 domestic septic tank systems in the City of Whittlesea. Without proper care and maintenance, septic tank systems can pose a risk to public health and the environment. A poorly functioning treatment plant can produce effluent that if ingested could be harmful. Effluent surfacing from failing absorption drains can cause odours and other nuisance conditions. Poorly or untreated grey water discharging from properties can pond in open street drains causing offensive conditions and/or flow to watercourses causing contamination and contributing to pollution loads.

The aim of the City of Whittlesea Domestic Wastewater Management Plan (DWMP) is to identify strategies for minimising the public health and environmental risks associated with the operation of domestic septic tank systems. The key objectives of the plan are to:

- Review Council's wastewater management processes and practices and suggest improvements where needed;
- Identify problems associated with domestic wastewater treatment and disposal in the City and recommend solutions;
- Encourage the conservation and reuse of water;
- Promote environmentally responsible development from a wastewater treatment and disposal perspective.

The key outcomes of the plan are:

- A review of Victorian legislation regulating domestic wastewater treatment and disposal in unsewered areas;
- A review of the Whittlesea Council's current approval and inspection processes for domestic wastewater disposal systems;
- The development of an action plan for remedying the problems associated with defective domestic wastewater systems.

1.2 Background

Domestic wastewater is wastewater arising from a domestic dwelling or a dwelling primarily used for domestic purposes. It can comprise black water (toilet waste), grey water (kitchen, bathroom and laundry waste) or both.

As the local public health authority, Whittlesea Council is responsible for ensuring domestic wastewater is either appropriately treated onsite (e.g. by an approved septic tank system) or discharged to a reticulated sewerage system. Council must ensure that household wastewater does not pose any health and environmental threats.

In February 2005, the Municipal Association of Victoria (MAV) and the then Department of Sustainability and Environment (DSE) invited Whittlesea City Council to participate in the Country Towns Water Supply and Sewerage Program. Council accepted this invitation. Council's involvement requires them to develop a domestic wastewater management plan (DMWP). This plan is to be based on the Model Municipal Domestic Wastewater Management Plan produced by the MAV in 2006.

Council has three types of domestic wastewater systems as listed below:

1. All waste septic tank with slotted dispersion lines;
2. All waste septic tank with a packaged treatment plant/sand filter
3. Split systems with toilet waste going to a septic tank and the remaining sullage waste either discharged on-site or off-site;

2 LEGISLATIVE REQUIREMENTS

2.1 Introduction

This section provides a summary of current legislation, codes of practice and government policy relating to domestic wastewater disposal and treatment.

2.2 Current Legislation/Codes of Practice/Policies

Legislation, codes of practice and government policy that govern and control wastewater disposal and treatment are as follows:

2.2.1 Legislation

- *Environment Protection Act 1970 Part IXB – Septic Tank Systems* - Provides for the control of water, air and land pollution, waste and noise. The Act assigns to Local Government the responsibility for approving the installation and alteration of wastewater disposal system for properties which generate 5000 litres of wastewater or less per day. The Act makes provision for Councils to issue infringement notices for breaches in relation to the installation, alteration or use of a septic tank without a permit;
- *Public Health and Wellbeing Act 2008* - Requires Council to seek to 'prevent disease, prolong life and promote public health through programs which control or prevent environmental health dangers and disease';
- *Local Government Act 1989* - Empowers Council to enact local laws and set special charges for Council activities. Council may be able to use these powers to develop local regulations for wastewater management - as long as these regulations are consistent with State policy and legislation;
- *Water Act 1989* - Regulates the Water Industry and describes the powers and responsibilities of Water and Sewerage Authorities. The Act gives Water Authorities control over septic tank systems in their sewer districts;

2.2.2 State Environment Protection Policies

- *Waters of Victoria Policy 2018* - Outlines the State Government's Policy with respect to the protection of waterways and the requirements for managing domestic wastewater;
- *Groundwaters of Victoria Policy 1997* - Outlines the State Government's Policy with respect to the protection of ground water. The goal of the Policy is to protect beneficial

uses of groundwater such as potable water supply and primary contact recreation (e.g. swimming).

2.2.3 EPA Codes of Practice

- Code of Practice On-site Wastewater Management Publication 891.4 July 2016 - Describes the measures that should be taken to ensure that domestic wastewater is treated and disposed of in a manner which minimises health and environmental risks

2.2.4 Australian Standards and Other Requirements

- AS/NZS 1547:2012 – On-site Domestic Wastewater Management
- AS 1546 – On-site Domestic Wastewater Treatment Systems
- AS/NZS 1546.2:2008 – On-site Domestic Wastewater Treatment, Part 2 (Waterless Composting Toilets)
- AS/NZS 1546.3:2017 – On-site Domestic Wastewater Treatment, Part 3 (Aerated Wastewater Treatment Systems),
- AS1319:1994 – Safety Signs for the Occupational Environment,
- AS2698.2 – Plastic Pipes and Fittings for Rural Applications
- AS3500 – Plumbing and Drainage Code – Outline standards for the design and construction of septic tank systems. (Domestic installations)

The most important of these documents is AS/NZS 1547:2012 which provides information on the design, performance, operation, and installation of wastewater disposal systems; on-site evaluation processes and selection of systems and education and training related to wastewater management.

2.2.5 EPA Policies, Guidelines and Other Relevant Publications

- The Victorian Land Capability Assessment Framework (2nd Edition 2014) – Assists land capability assessors and Local Government Officers how to develop and interpret Land Capability Assessments (LCAs);

2.2.5 Whittlesea Planning Scheme

- Whittlesea Planning Scheme - Outlines the application requirements and decision guidelines for subdivision of land and the approval requirements for the construction of dwellings and other buildings.

2.3 Impending Legislation/Codes of Practice

There have been many proposed amendments to the septic tank provisions of the Environment Protection Act 1970. To date, these amendments have not been enacted. Some of the proposals include:

- Provision of Councils to require owners to compulsory connect to sewer when it is available;
- Provision for Councils to charge an annual permit fee to cover the cost of fully implementing a DWMP;
- Requirement for property owners to have their septic systems regularly serviced (maintenance program).

2.4 Implications of Legislation and Policy Review

The implications of the review of legislation and policy are as follows:

- Whittlesea Council is required by legislation, codes of practice and policies to ensure the following activities are undertaken:
 - Septic tanks systems are not constructed without a permit to install
 - Septic tank systems are not used without a certificate of approval being issued
 - Nuisances emanating from septic tank systems are remedied
 - Quarterly maintenance reports and annual sample results are submitted to Council for all treatment plants
 - Septic tank systems operate in compliance with their approval conditions
 - All properties that discharge off-site are identified and monitored
 - Septic tanks are desludged on a regular basis (once every three years is suggested).
- The EPA Code of Practice requires Council to have a compliance program in place if it allows properties to install treatment plants and reduce setback distances from boundaries and watercourses;
- Council is required to remedy nuisance conditions 'as far as reasonable' which exist in the municipality. Therefore, Council must act if it is aware of a nuisance condition being caused by a septic tank system. However, the qualification 'as far as reasonable' provides Council with some leeway in determining what to do. In some situations, the solution may be difficult and costly or there may be no practical solution;
- The legislation has the following deficiencies/limitations:

- Councils cannot require the repair, improvement or replacement of defective or inadequate existing septic systems unless the system is causing nuisance conditions or is not operating as per its approval conditions. For example, Council cannot order the upgrade of a split system which is discharging sullage off site (grey water) if it is operating in compliance with its original approval condition
- Councils cannot carry out essential works on septic tank systems and recover costs

In order for any Domestic Wastewater Management Plan to be effective, the above legislative deficiencies need to be addressed through amendments to the Environment Protection Act;

- Council's planning scheme promotes good wastewater management practices. It requires all properties to be able to contain their wastewater on-site, provides for rigorous scrutiny of proposals in environmentally sensitive areas, requires land capability assessments in relevant circumstances and provides for referrals to key agencies for their input;
- The Local Government Act giving Council the power to introduce a special charge on homeowners to fund any 'genuine function if the function benefits the persons being charged'. A legal opinion was obtained from Maddocks (24 April 2008) and it was found that the relevant Sections 161, 162 and 163 were not available options for Council to charge a levy for service provided under the Domestic Wastewater Management Plan;

3 KEY STAKEHOLDERS

3.1 Introduction

This section outlines the roles and responsibilities of the various authorities involved in domestic wastewater management.

3.2 Stakeholders

3.2.1 *Environment Protection Authority (EPA)*

The EPA's responsibilities in relation to domestic wastewater disposal are as follows:

- Developing policies and legislation in relation to domestic wastewater disposal;
- Developing and reviewing the Septic Tank Code of Practice and information bulletins;
- Approving the design of domestic wastewater treatment systems via the Certificate of Approval process;
- Promoting the provision of sewerage to unsewered areas where considered necessary;
- Monitoring the performance of local Councils in acting on problems arising from the operation of septic tank systems and carrying out their functions as the approval authorities;
- Providing advice to local Councils where required;
- Monitoring the performance of companies that design wastewater treatment systems;
- Approval of systems discharging more than 5000 litres per day.

3.2.2 *Whittlesea City Council*

Council is responsible for the following areas in relation to the treatment and disposal of domestic wastewater:

- Providing educational information and advice regarding septic systems to the community;
- Ensuring new residential subdivisions in unsewered areas are provided with reticulated sewerage or that the allotments are capable of treating and containing all domestic wastewater on site;
- Issuing permits to install new septic tank systems and issuing certificates to use septic tank systems;
- Refusing permits if not an EPA approved system;
- Refusing permits if the site is unsuitable and/or the area available for the treatment and disposal of effluent is not sufficient;
- Ensuring that septic tank systems are operating correctly;
- Ensuring that any nuisance conditions arising from septic tank systems are abated;

3.2.3 Melbourne Water

Melbourne Water is the regional drainage authority for Metropolitan Melbourne and is also the Waterway Manager for natural waterways within the Melbourne Metropolitan area. Melbourne Water is responsible for:

- Major trunk services for stormwater, sewer and reticulated water;
- Monitoring and maintaining major waterways;
- Providing information on floods and their control.

3.2.4 Yarra Valley Water

Yarra Valley Water provides water and sewerage services to the City of Whittlesea. Yarra Valley Water is responsible for the planning and implementation of appropriate infrastructure developments, in particular the joining of urban areas to the sewerage systems.

3.2.5 Department of Environment, Land, Water and Planning

The Department of Environment, Land, Water and Planning (DELWP) is responsible for the integrated management of Victoria's natural resource base. The Department has ultimate responsibility for groundwater, waterway and land management in the City of Whittlesea and the operation of Yarra Valley Water and Melbourne Water. The Department manages the crown land parcels in the City and has ultimate responsibility for any septic tank systems that are located on these sites.

It should be noted that Yarra Valley Water, Melbourne Water and the DELWP are referral agencies under the Council's Planning Scheme.

3.3 IMPLICATIONS

The review of the role of Council and other agencies shows that other local and regional agencies have an important role to play in wastewater management. Whittlesea Council works closely with these bodies and keeps them fully informed of any actions it is taking which may have relevance to their operations.

4 AUDIT OF SEPTIC TANK SYSTEMS

4.1 Introduction

This section provides information on the type, age and condition of septic tanks systems in the City and Yarra Valley Water's proposed program for supplying reticulated sewerage to areas in the City of Whittlesea which are currently on septic tank systems.

4.2 Unsewered Areas

The majority of properties in the municipality are sewered. The areas that are not sewered are small pockets in Thomastown, Epping and South Morang, the rural districts and villages north of Epping and South Morang (Humevale, Donnybrook and Yan Yean), and the rural residential precincts around the Whittlesea Township. Mernda has been connected to the sewer backlog program in 2010, the majority of these properties are connected to sewer.

4.3 Septic Tank Systems

4.3.1 *Types of Systems*

Early disposal methods in the Whittlesea Municipal Area were split systems with drop toilets, wastewater wells and pan closets with grey water discharging to the surface. These were superseded in 1940s and 50s (in the areas that were not eventually sewered) by split septic systems where black water (toilet waste) was treated and retained on-site normally in an 1800 litre tank and absorption drains and grey water (kitchen, bathroom and laundry waste) was contained on-site or discharged off-site to a stormwater drainage system, land or surface water.

Split systems were superseded in the early 1980s by all waste septic systems with effluent retained on-site in absorption drains or given secondary treatment and then retained on-site or discharged off-site. Normally one 3200 litre or two 1800 litre tanks in series were installed. The effluent was then discharged into 60m of relm drain or 90m of slotted PVC. Properties that could not retain waste on-site installed all waste sand filters or package treatment plants. Off-site discharge ceased in 1999 due to EPA guidelines and changes to State-wide planning controls. All new systems now retain wastewater on-site.

Table 2 provides a breakdown of the types of septic tank systems operating in the City of Whittlesea.

Table 2 - Types and number of systems

Type of system	Estimated number
Standard tank and lines	959
Sub surface irrigation	144
Treatment Plants	167
Sand Filter	6
Other – composting toilet/A & A Worm Waste/Bio Remediation Bio Filter	4
Total	1,280

4.3.2 Condition and performance of Septic Tank Systems

Council has no formal process in place for monitoring the condition and performance of septic tank systems. Therefore, the following comments about the state of septic systems in the municipality are based on industry knowledge and experience about the effectiveness of septic tank systems, the age of the systems, the outcomes of investigations in Whittlesea into complaints about malfunctioning septic tanks systems and water sampling results from drains and waterways located in unsewered areas.

4.3.3 Age of Systems

The age of a septic tank system affects its performance. A standard all waste on-site system with suitable site characteristics, normal water uses and proper maintenance could function effectively for 20-25 years before the effluent field would need renewal. This life span would be shortened if the tank was not regularly desludged or the effluent field was flooded or disturbed by tree roots, physical developments such as pathways, stock etc. The life span of an all waste system with shorter lengths of drain may be considerably less.

Packaged treatment plants and sand filters have an estimated life of 20 years. However, their proper functioning is heavily dependent on their standard of maintenance. It is probable that some treatment plants have not been maintained properly and some sand filters are not performing optimally because the filters have been built over or the sand is blocked by tree roots, weeds or scum.

Split systems which contain waste on-site have varying lifespans which depend greatly on the level of maintenance and use. The WC disposal systems can function effectively for 20-30 years if the length of drain is suitable, the tank is regularly desludged, the drains are not disturbed by tree roots or the ground above them is not compacted. The life of the grey water system depends on the type of treatment. Systems discharging above ground can function indefinitely if the disposal field is rotated. Systems discharging below ground will clog up if the kitchen waste is not adequately filtered.

Table 3 below provides an approximate breakdown by age of the systems in the unsewered areas of Whittlesea. The data shows that nearly half of the systems (47%) are more than 20 years old and could be nearing the end of their serviceability. A further 29% will reach this state over the next 10 years.

Table 3 - Age of systems

Age as from 2018	Approximate %
>20 years	47%
11-20 years	29%
5-10 years	11%
< 5 years	13%

4.3.4 Complaints

During the past ten years, Council has received minimal complaints (averaging less than one per year) about to the operation of septic tank systems and the off-site discharge of greywater.

4.4 CONCLUSIONS / IMPLICATIONS

The audit and assessment of the performance of existing septic tank systems indicates the following:

- An estimated 684 systems are in excess of 20 years old and a further 373 are more than ten years old (as from June 2018). The effective life of a well maintained septic tank system is around 20 years. It is likely that many of these systems have either reached or are nearing the end of their effective lives and will need maintenance or replacement;

- It is apparent from inspections from previous Council treatment plant sampling program that many householders undertake practices which detrimentally affect the performance of their septic tank systems such as not desludging their septic tank, building over or disturbing the effluent field using inappropriate chemicals in the toilets or not maintaining their packaged treatment plant.
- The Council Customer Request System indicates that very few complaints are received regarding septic tank systems. This is mainly due to the fact that most of these systems are on broad acres and very few issues would be affecting neighbouring properties;

5 WASTEWATER MANAGEMENT PROCESSES

5.1 Introduction

The purpose of the section is to review the planning, permit and approval processes for domestic wastewater management in the City of Whittlesea.

5.2 Planning processes

Council's Health Services provides advice on domestic wastewater management with respect to the following planning/permit matters:

- The preparation of outline development plans in unsewered low density residential precincts;
- Consideration of applications to rezone land from rural conservation zone to low density residential or green wedge A zone;
- Approval of subdivision plans for all unsewered land;
- Approval of the excision of dwellings on land zoned rural;
- Approval of the construction or extension of dwellings on unsewered land.

Planning Services refers applications and proposals with septic systems to the Health Services. These systems are endorsed by both Departments and include the following:

- Encouragement by Planning Services to owners and developers to consult with the Health Services prior to lodging their development plans/permit applications;
- The submission of plans showing property boundaries, building envelopes and waste disposal envelopes;

- Where requested or formally required, the submission of detailed land capability assessments (LCA) which identify the capacity of the proposed development/subdivision land to contain and treat wastewater on site. An LCA is usually requested for small blocks or difficult sites (awkward shapes, extreme slopes);
- The referral of this information by the Planning Services to the Health Services.
- The subsequent examination of this material and site visit by the Environmental Health Officer (EHO);
- The communication of the EHOs conclusions/recommendations to the Planning Department.

5.3 Septic Tank Permit, Inspection, Records and Monitoring Processes

5.3.1 *Permits and Inspections*

The permit and inspection process is as follows:

- Prior to installing the septic tank system, the owner or drainer/plumber on behalf of the owner lodges an application to install a septic tank system. The application includes a plan of the proposed system and the required permit fee. In certain areas of the municipality a detailed Land Capability Assessment may be required before any application is lodged;
- Council's Health Services assesses the application against the required guidelines (Code of Practice – Septic Tanks, Relevant Australian Standards, and EPA Certificates of Approval etc). A site inspection is conducted to ensure that the proposal is suitable for the property;
- A permit to install is then issued for the property with a range of conditions;
- During the installation/construction stage, Council's EHOs conduct a number of progress inspections, usually 2 to 3. During these inspections, details of the inspection are recorded, digital photos are taken and the system is mapped;
- A final inspection is conducted to ensure the system has been completely finished. Following this, a certificate of use is issued with appropriate conditions for on-going maintenance of the system. A 'Care and Maintenance Guidelines' booklet is also sent to the homeowner with the approval to use.

The approval process for extension to existing dwellings is similar to that outlined above for new premises. Upgrades of the existing septic tank systems may be required. This often involves negotiation with the owner and finding the most workable and practical solution.

5.3.2 Record's System

- Septic systems installed prior to 1982 have been recorded on a manual card system;
- Septic systems installed from 1982 to 2000 have been added to the Authority Septic Tank database;
- All records since 2000 have been directly imputed into the Authority Septic Tank database as well as providing a hard copy of this information on the relevant property file. The Authority database information includes the following data:
 - Permit to Install and Permit to Use
 - Notes and comments for each inspection
 - Actions recording the service and sampling dates and results for treatment plants
 - Digital photos of each installation;
- Also since 2000, the positions of septic tanks and disposal fields have been electronically mapped on the Council's GIS system. Systems installed prior to 2000 have not been mapped.
- In September 2018 a new database will be implemented Health Manager by Open Office. All active septic tank data from the Authority Database will be transferred. The Health Manager system will allow EHOs to do mobile computing which can be done in real time.

5.3.3 Monitoring Program

Council has no process in place for monitoring the performance and condition of conventional septic tank systems in the municipality. In most instances, Council only becomes aware of defective systems after it receives a complaint about the system or a property owner lodges a permit to extend/alter and the subsequent site inspection reveals the system is malfunctioning. Council is also not formally requiring householders to routinely desludge their septic tank systems.

Council does however have an extensive program in place for the monitoring the performance and compliance of treatment plants with their permit condition. This program involves the following:

- Letters are sent annually to the owners of properties with treatment plants reminding them that their plants must comply with a full compliance program as specified by the certificate of approval issued by the EPA;
- Council records all the quarterly servicing reports and if required, follows up with individual homeowners who are not having their plant regularly serviced or have discontinued the servicing;
- In September each year, letters are sent out to all homeowners with treatment plants to inform them of their annual sampling requirements. They are provided with a list of companies who conduct sampling;
- The results of the sampling program are recorded. If a sample fails to comply with the prescribed standard, advice is provided to the homeowner on how to remedy the problem.

5.4 Education Processes

Under the current program the main educational material on septic tank systems is the 'Care and Maintenance' booklet issued with the certificate of approval. As well as information on how to obtain a septic tank permit on Council's website.

5.5 Implications / Conclusions

The examination of Council's domestic wastewater management processes revealed the following:

- The processing of planning applications is handled effectively. Relevant applications are forwarded to Health Services. Sites are assessed and the capacity of the proposed sites to treat and dispose of wastewater in a manner which is safe to public health and the environment is given paramount importance in the assessment. If there is any doubt about the application then further information is sought such as LCA;
- The septic tank approval and inspection processes work effectively and efficiently. Applications are thoroughly examined and detailed inspections are carried out;

- Council's record system is comprehensive. Records are kept manually and electronically and the location of systems are mapped on Council's GIS system;
- Council does not conduct education activities other than meeting owners on-site when the septic system is being installed;
- Council does not undertake regular and routine monitoring of conventional septic tank systems. It inspects systems as a result of complaints, if asked by the homeowner or as part of special investigations;
- Council has a comprehensive monitoring and compliance program in place for treatment plants;
- Council is not sending owners of septic tanks any notification to routinely desludge their tanks but it is outlined as condition in every permit to use.

6 KEY FINDINGS / ACTIONS

6.1 Introduction

This section summarises the key research findings and outlines recommendations in response to these findings.

6.2 Findings and Recommendations

6.2.1 *Legislation and Policy Review*

Findings

- Whittlesea Council is required by legislation, codes of practice and policies to ensure the following activities are undertaken:
 - Septic tanks systems are not constructed without a permit to install
 - Septic tank systems are not used without a certificate of approval being issued
 - Nuisances emanating from septic tank systems are investigated and remedied
 - Quarterly maintenance reports and annual sample results are submitted to Council for all treatment plants
 - Septic tank systems operate in compliance with their approval conditions
 - All properties that discharge off-site are identified and monitored
 - Septic tanks are desludged on a regular basis (once every three years is suggested);
- The Code of Practice requires Council to have a compliance program in place if it allows properties to install treatment plants and reduce setback distances from boundaries and watercourses;

- Council is required to remedy nuisance conditions ‘as far as reasonable’ which exist in the municipality. Therefore, Council must act if it is aware of a nuisance condition being caused by a septic tank system. However, the qualification ‘as far as reasonable’ provides Council with some leeway in determining what to do. In some situations, the solution may be difficult and costly or there may be no practical solution;
- The legislation has the following deficiencies/limitations:
 - Councils cannot require the repair, improvement or replacement of defective or inadequate existing septic systems unless the system is causing nuisance conditions or is not operating as per its approval conditions. For example, Council cannot order the upgrade of a split system which is discharging sullage off site (grey water) if it is operating in compliance with its original approval condition
 - Councils cannot carry out essential works on septic tank systems and recover costs
 - In order for any Domestic Wastewater Management Plan to be effective, the above legislative deficiencies should be addressed through amendments to the Environment Protection Act;
- Council’s planning scheme promotes good wastewater management practices. It requires all properties to be able to contain their wastewater on-site, provides for rigorous scrutiny of proposals in environmentally sensitive areas, requires land capability assessments in relevant circumstances and provides for referrals to key agencies for their input;
- The Local Government Act does not give Council the power to introduce a special charges on homeowners to fund a monitoring program for septic tanks;

Recommendations

- ***To lobby the EPA and other relevant Government agencies to address issues such as:***
 - ***Allowing Council the power to remedy septic tank systems that are operating in accord with their permits but do not satisfy current standards e.g. split systems that discharge sullage to open street drains and watercourses;***
 - ***Allowing Council the power to repair septic tank systems and recover the costs from homeowners;***
 - ***introducing a special charge to fund Council’s wastewater management programs***
- ***Ensure Council operates a comprehensive compliance program for treatment plants;***

6.2.2 Key Stakeholders

Findings

The review of the role of Council and other agencies indicates that other local and regional agencies have an important role to play in wastewater management. Whittlesea Council needs to work closely with these bodies and keep them fully informed of any actions it is taking which may have relevance to their operations.

Recommendation

- ***Give consideration to holding regular and formal meetings with the agencies to discuss wastewater management issues.***

6.2.3 Audit of Septic Tank Systems and Wastewater Management Processes

Findings

- There are around 1,300 septic tank systems in Whittlesea. The predominant system type is all waste on site absorption systems;
- An estimated 682 systems are in excess of 20 years old and a further 373 are more than ten years old (as from June 2018). The effective life of a well maintained septic tank system is around 20 years. It is likely that many of these systems have either reached or are nearing the end of their effective lives and may need maintenance or replacement;
- It is apparent from routine inspections and complaints investigations that many householders unknowingly undertake practices which detrimentally affect the performance of their septic tank systems such as not desludging their septic tank, building over or disturbing the effluent field, using inappropriate chemicals in the toilets or not maintaining their packaged treatment plant;
- The processing of planning applications is handled effectively. Relevant applications are forwarded to the Health Services. Sites are assessed and the capacity of the proposed sites to treat and dispose of wastewater in a manner which is safe to public health and the environment is given paramount importance in the assessment;
- The septic tank approval and inspection processes work effectively and efficiently. Applications are thoroughly examined and detailed inspections are carried out;
- Council's wastewater record system is stored in several different formats. Some records are kept manually on a card system, these are being progressively added to the electronic database, the majority can be found on property files. Records since

1982 are on an electronic database and the location of systems are mapped on Council's GIS system since 2000;

- Council does not conduct formal education activities other than meeting owners on-site when the septic system is being installed;
- Council does not undertake regular and routine monitoring of conventional septic tank systems. It inspects systems as a result of complaints, or because of an alteration to an existing system, or if asked by the homeowner or as part of special investigations;
- Council has a monitoring and compliance program in place for treatment plants;
- Council is not sending correspondence to owners of septic tanks to routinely desludge their tanks.
- A general information description is attached to all unsewered Rates records. This information is included with all legal requests for property information as part of a Section 32 notice.

Recommendations

- ***Assign a risk classification to each property based on the type, age and condition of the septic tank systems and site characteristics (size of block, suitability of soil type, topography, proximity to watercourses etc);***
- ***Continue to require owners of treatment plants to comply with the conditions of their permits with respect to maintenance and effluent water testing;***
- ***Introduce a wastewater management community education program. The components of the program should be as follows:***
 - ***Transformation of Council's 'care and maintenance' document into an education kit for homeowners on the proper use and maintenance of septic tank systems. The kit should be specific to the type of systems on the properties and be also available on Council's website. This should include statements/information on:***
 - ***The importance of knowing the location of the septic system and making sure it is accessible and what type of septic tank system has been installed and how it functions***
 - ***The importance of not driving over the septic tanks system and of considering the septic tank when planning any extension to the house or other project which might impact on the septic tank system***
 - ***The importance of water conservation and advice on water conservation practices***
 - ***The importance of regularly desludging septic tanks and emptying grease traps***

- *The things that could typically go wrong with the system and how the homeowner should respond*
- *The things that do go wrong when owners attempt to repair or upgrade systems without reference to experienced drainers/plumbers and Council*
- *A notice indicating that systems cannot be altered without Council's consent and a suggestion that they always contact Council before undertaking any works other than basic repairs on their systems*
- *Advice to owners of treatment plants that they must comply with the conditions of the permit to use with respect to quarterly maintenance tests and annual effluent tests*
- *Advice on how to re-use grey water;*
- *Meeting owners of new systems on-site to explain the operation of and how to best maintain their systems. Provision of an education kit to these homeowners which provides the same information as above;*
- *Use Council's Health Manager system to establish an integrated septic tank database which has the capacity to:*
 - *Issue permits to install and certificates of approval*
 - *Issue notices to desludge systems*
 - *Record all application, permit, inspection and approval information*
 - *Record and track maintenance and sample results of all treatment plant systems.*
 - *Provide reports on the number and types of systems installed.*
- *Use of Council's Rates System to provide wastewater information*
 - *Identify and provide relevant information on vacant blocks*

7 STRATEGY PLAN

7.1 Introduction

This section outlines the goals and objectives of the wastewater management plan, describes Council's role in wastewater management and outlines the actions that Council are recommended to undertake to achieve sustainable wastewater management in the City of Whittlesea.

7.2 Goals

Council's goals with respect to domestic wastewater management are as follows:

- The minimisation of damage to the environment resulting from the treatment and disposal of domestic wastewater;
- The minimisation of public health risks associated with the treatment and disposal of domestic wastewater;
- The promotion of environmentally responsible development in unsewered areas;
- The encouragement of the conservation and reuse of water;
- Improved relationships between all the parties involved in domestic wastewater management.

7.3 Objectives

Council's specific objectives in relation to domestic wastewater management are to

- Demonstrate best practice in wastewater management;
- Ensure that all septic tank systems approved for installation in the municipality meet the relevant legislative requirements, standards and codes of practice;
- Ensure that all systems are installed in accordance with the approved plans, legislation and codes of practice;
- Ensure that all new and existing systems operate effectively and in a manner that does not cause nuisance conditions or environmental damage and in accord with their permits to use;
- Encourage and educate owners of septic tank systems to achieve greater levels of water conservation and wastewater re-use;

7.4 Functions of Council

The specific functions of Council with respect to domestic wastewater management are to:

- Enforce legislation, standards, plans and codes of practice;
- Coordinate the approval and inspection process for septic tank systems;
- Educate property owners in the proper operation and care of septic tank systems;
- Monitor the performance of septic tank systems and take action to rectify any problems;

7.5 Co-operation with Other Agencies

Council recognises that other local and regional agencies have an important role to play in the protection and conservation of the environment (Melbourne Water, Yarra Valley Water, EPA etc). Council will work closely with these bodies and keep them fully informed of any actions it is taking which may have relevance to their operations.

7.6 Action Plan

A detailed action plan is provided in Table below. It lists the actions that Council will undertake in response to the findings of this service review and gives priority to these actions.

Council's Heath Services will have primary responsibility for the coordination and implementation of the recommendations. Council's Planning; Engineering, Building and GIS staff will assist Heath Services. Other external agencies such as Melbourne Water, Yarra Valley Water and the EPA will be involved in the implementation of the recommendations.

Action Plan

ACTION	YEAR	COUNCIL DEPT	EST. COST \$
<p>Legislation/Codes of Practice</p> <p>To actively lobby the EPA to give consideration to the following legislative and policy changes:</p> <ul style="list-style-type: none"> • Giving Councils the power to remedy septic tank systems that are operating in accordance with their permits but do not satisfy current standards • Giving Councils the power to repair septic tanks if their owner fails to do so after being instructed by Council and to recover the cost of repair from the owners • Giving Council the power to charge a fee on householders to fund the implementation of its Domestic Wastewater Management Plan 	Ongoing	Health	Nil
<p>Internal processes</p> <p>Hold meetings between the Health and Planning Units to discuss/remedy any concerns they have about the process of referring planning applications for development in unsewered areas</p>	Ongoing	Health Planning	Nil
<p>Monitoring/maintenance activities</p> <p>Continue to require the owners of treatment plants to comply with the condition of their permits with respect to maintenance checks and testing of effluent</p>	Ongoing	Health	Nil
<p>Septic Tank Database</p> <p>Improve the functionality of Council's septic tank records with the implementation of the Health Manager database :</p> <ul style="list-style-type: none"> • Issue notices to desludge systems • Record and track maintenance and sample results of all treatment plant systems. • Provide detailed reports on different aspects of the septic program i.e. the number and types of systems installed 	September 2018	Health IT	Approved IT funding

ACTION	YEAR	COUNCIL DEPT	EST. COST \$
<p>Education programs</p> <p>Introduce a wastewater management community education program. The components of the program should be as follows:</p> <ul style="list-style-type: none"> • An education kit for homeowners on the proper use and maintenance of septic tank systems (the care and maintenance document could be refashioned into this kit). The kit should be specific to the types of system installed at the property and should include statements/information on: <ul style="list-style-type: none"> – The importance of knowing the location of the septic system and making sure it is accessible and what type of septic tank system has been installed and how it functions – The importance of not driving over the septic tanks system and of considering the septic tank when planning any extension to the house or other project which might impact on the septic tank system – The importance of and advice on water conservation practices – The importance of regularly desludging septic tanks and emptying grease traps – The things that could typically go wrong with the system and how the homeowner should respond. – The things that do go wrong when owners attempt to repair or upgrade systems without reference to experienced drainers/ plumbers and Council – A notice indicating that systems cannot be altered without Council's consent and a suggestion that they always contact Council before undertaking any works other than basic repairs on their systems • Developing an education kit for new homeowners which provide the same information as above. Meeting each new owner to explain kit and providing information on Council website. 	<p>October 2019</p>	<p>Health</p>	<p>Within existing budget</p>