MOUNT ALEXANDER SHIRE COUNCIL
DOMESTIC WASTEWATER MANAGEMENT ACTION PLAN
2018 – 2022
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Introduction

Mount Alexander Shire Council (Council), in accordance with the Environment Protection Act 1970 and other environmental protection regulation, leads oversight of domestic onsite wastewater treatment systems (OWTS) within Mount Alexander Shire (the Shire).

Domestic OWTS, commonly known as ‘septic tanks’, are wastewater systems that process flows under 5000 litres each day. They are used at residential, community and business premises where access to the reticulated sewer system is not possible. Systems that handle, or are designed to handle, higher flow rates need EPA approval.

Domestic wastewater systems, treat, then recycle or dispose of:

- greywater, which is non-toilet waste
- blackwater, which is toilet waste
- sewage, which is combined greywater and blackwater.

Domestic wastewater systems include conventional septic tanks, aerated wastewater treatment systems, domestic greywater treatment systems, waterless composting toilets, and worm systems.

If managed inappropriately domestic wastewater may transport nutrients, pathogens and other pollutants to surface waters, and impact on groundwater beneficial uses. This can adversely affect human health, social amenity, and the economy and environment. Properly designed, installed and maintained OWTS can safely treat and dispose of domestic wastewater on-site.

Purpose & scope

The purpose of this municipal Domestic Wastewater Management Plan (the Plan) is to document Council’s approach to protect public health, the environment, and local amenity, from the risks posed by domestic wastewater.

This Plan will ensure that a lack of access to sewer will not unnecessarily impact on development in unsewered areas.

The scope of the Plan is the spatial area of Mount Alexander Shire Council.

Plan development

The Plan has been developed with the assistance of a Project Reference Group comprising representatives from Council’s environmental health, planning and information management areas, and representatives from Coliban Water and Goulburn Murray Water.

Other Council plans and external plans, such as the Loddon Mallee South Regional Growth Plan, have been considered in the development of this Plan.

Council’s environmental health officers (EHOs) will lead Plan implementation.

The Plan will be review by an independent auditor every three years. The water authorities must approve of the auditor.

In accordance with Ministerial Guidelines a process of review and updating (if necessary) the Plan will occur every 5 years.

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1. Coliban Water manages the reticulated sewer system in Mount Alexander Shire.
Terms and Acronyms

Beneficial water source: A water source used for beneficial use/s including drinking water catchments, reservoirs, drinking water take-off points and waters for recreational use.

Effluent: Liquid flowing out of a treatment process.

Groundwater: Water that is found below the earth's surface usually in porous rock or soil or in underground aquifers.

Land capability assessment (LCA): A report prepared by a suitably qualified soil science professional, and submitted to Council by project proponents who plan to use an OWTS such as a septic tank system to treat wastewater.

Open potable water supply catchment: A potable water supply catchment provides water resources to a water storage/s for domestic water supply. Almost the entire area of Mount Alexander Shire is a potable water catchment area.

Runoff: Water that flows across the land surface and does not enter the ground.

Septic tanks: A domestic ‘septic tank’ is a wastewater system that processes flows under 5000 litres each day.

Sludge: Solid matter that is removed during wastewater treatment.

Position Statement

Council’s position is that wastewater should be directed to the reticulated sewer system where Coliban Water indicates that a connection is feasible and Council concurs with this assessment.

In sewered areas OWTS such as dry composting toilets and greywater systems for summer garden watering (with all residual liquid discharged to sewer) can be installed for environmental sustainability or other motivations, but the appropriateness of such systems for a site must be considered carefully through consultation with Council and appropriate Council approvals given.
Context

Shire profile

Mount Alexander Shire is a rural municipality situated approximately 120 kilometres northwest of Melbourne. It is approximately 1530 square kilometres in area.

The Shire encompasses the largely sewered towns of Castlemaine, Harcourt, Maldon and Newstead, and the un-sewered centres of Yapeen, Guildford, Welshmans Reef, Taradale, Elphinstone, Guildford, Vaughan, Fryerstown and Baringhup.

Wastewater management is a constraint to development in a number of smaller towns in the Shire were reticulated sewer is not available and small property lot sizes can mean there is inadequate area available to treat and retain wastewater onsite even with modern OWTS. The extensive farming zone generally has no access to sewer.

Soils in the municipality include granite, alluvial, sedimentary and basalt. These soils have different capabilities in terms of onsite domestic wastewater disposal.

Importantly, almost the entire shire is within an open potable water supply catchment.

In 2011 the Shire had an estimated resident population of 18,400. Forecasting predicts the population will grow by around 175 people per year for the next 20 years, to reach 21,900 in 2031.

As a proportion of these new residents will move to the Shire seeking a lifestyle in the ‘amenity landscape’ there will be ongoing pressure to provide land for smaller lot rural living.

At the current time Council has located approximately 2000 OWTS across the Shire. This number includes approximately 500 added to the septic tank database over the past three years through a concerted monitoring and compliance effort.

Within the Shire it is estimated that there are at least 3000 OWTS. This number is based on the number of residences on Council’s rates database where reticulated sewer isn’t available.

It is estimated that over 45% of all these installations are older than 20 years and are conventional type systems with sub-soil trench disposal. Many systems installed before 1980 would no longer be permitted under current EPA regulations.

Where these systems are in unsewered pockets in sewered townships Council will work with Coliban Water to identify solutions and plan for future rectification.

Community education actions in this plan seek to give property owners and occupiers appropriate information in regards to their responsibilities in installing and maintaining OTWS. Responsibilities will also extend to installers and maintenance contractors.

Case Study – Development in Taradale

Domestic wastewater management is an important issue at the interface between the environment and health. It can have a large impact on small townships without reticulated sewage services.

Taradale a small town of approximately 500 people on the Calder Highway corridor is an example of a place where development is currently constrained by the lack of a township scale wastewater management option. The many smaller lots zoned for residential use in Taradale were established long ago without consideration of sustainably treating and retaining wastewater within property boundaries through OWTS. This occurred because at the time of town planning the ‘night soil’ would have been collected and disposed of offsite.
Currently, the development of many town blocks is constrained by OWTS feasibility for reasons including small size (less than 1000m²), long and narrow shape, soils which include shallow profiles and rocks and slope, low terrain situations that can become wet and saturated at times, and the potential for incremental effects associated with increasing concentration of OWTS development within the township. Practically, many small blocks do not include an adequate area for wastewater disposal from developments larger than a single bedroom dwelling, and others may not be able to sustain any residential development at all. Existing OWTS are predominantly old and may not be well maintained.

Given this context, a centralised sewer system for Taradale is the most appropriate proposal to enable increased development in this town. To explore options, in 2013 Council commissioned the Taradale Residential Options Study. The Study identified that some form of reticulated sewer could overcome many of the constraints such as soil, slope, climate, drainage and block size, but that retro-fitting a standard sewerage system in the township would involve installation of a network of piping in potentially shallow, rocky profiles in hilly terrain, at a cost deemed to be prohibitive. The Study suggested, as an alternative, a pressure sewer system that would involve connecting existing septic tanks to a pump well which would then direct primary treated wastewater (through subsurface piping) to an appropriately sized secondary treatment plant. The pump would be automatically activated when required. Following secondary treatment, the wastewater would then be dispersed on a suitable parcel of land which would be located outside of the town limits. In the absence of any clear commitment to sewer the township, Taradale’s development future is uncertain.

Figure 2: Land parcels in Taradale
Legislation

Environment Protection Act 1970
The Environment Protection Act 1970 (EP Act) is the primary legislation that regulates and controls OWTS installations. Section 530 outlines the ‘annual returns process’ whereby Council must, in respect of each financial year, lodge with the EPA information about the number of:

- permits issued for OWTS
- OWTS disconnected
- OWTS inspected
- OWTS in use within the municipality

State environment protection policies (SEPPs) are subordinate legislation made under the provisions of the EP Act. The SEPP – Waters of Victoria, section 32 specifies that:

1. Occupiers of premises with an OWTS need to manage that system in accordance with permit conditions and the EPA Code of Practice – Onsite Domestic Wastewater Management.
2. Councils need to:
   - Prior to approving a development, assess the suitability of the land for OWTS. To assist with this the EPA provides guidance including that in the Land Capability Assessment for Onsite Domestic Wastewater Management.
   - Ensure sewerage is provided at the time of sub-division if an OWTS is not practical.
   - Ensure that permits for OWTS are consistent with guidance provided by the EPA including the Code of Practice - Onsite Wastewater Management, Publication 891.4 February 2013 (as amended).
   - Work with the EPA to identify unsewered allotments where wastewater is not managed adequately.
   - Where relevant, develop and implement a domestic wastewater management plan, in conjunction with water authorities and communities, that:
     1. reviews land capability assessments and available domestic wastewater management options to ensure good results
     2. identifies the preferred options, together with the costs, funding needs, timelines and priorities
     3. provides for the assessment of compliance of OWTS with permit conditions

Public Health and Wellbeing Act 2008
The Public Health and Wellbeing Act 2008 states the function of Council is to protect, improve and promote health and wellbeing within the municipal district. This Act authorises officers within local councils to remedy as far as possible all nuisances existing in its municipal district.

The Local Government Act 1989
The Local Government Act empowers councils to enact local laws and set special charges for council activities.

The Building Act 1993
The Building Act requires a compliance certificate from a licensed plumber be issued at the completion of an OWTS installation before an occupancy permit can be issued for a new dwelling.

Planning and Environment Act 1987
The Planning and Environment Act sets out the requirements for obtaining planning permits. Not all unsewered development will require a planning permit.

Australian Standards
The following Australian Standards are of relevance:
AS/NZS 1547 (as updated)  
**Detailed guidance on on-site wastewater management**  
This Australian Standard provides the requirements for treatment units and their respective land application systems to achieve sustainable and effective on-site domestic wastewater management, to protect public health and the environment. This Standard identifies the performance statements that cover the overall design and sustainable management of on-site domestic wastewater systems.

AS/NZS 1546.1,2,3,4 (as updated) **Detailed guidance on construction of OWTS**  
This Australian Standard specifies performance requirements and performance criteria for septic tanks, technical means of compliance and provides test specifications that enable septic tanks to be manufactured to comply with the performance requirements and performance criteria.

AS/NZS 3500.2 (as updated)  
**Detailed guidance on sanitary drainage**  
This Australian Standard specifies the requirements for the design and installation of sanitary plumbing and drainage from fixtures to a sewer, common effluent system or an on-site wastewater management system. It applies to new installations, additions or repairs to existing installations.

**Ministerial Guidelines**  
In November 2012 the Victorian Government released the Ministerial Guideline, ‘Planning permit applications in open, potable water supply catchment areas’ (the Ministerial Guidelines).

The Ministerial Guidelines directed councils to strengthen their domestic wastewater management plans in order to better protect water catchments that provide water for potable use.

Approximately 95% of the Shire is a potable water catchment.

*Figure 3: Open potable water catchment (shaded) overlay on Shire.*

This Plan responds to the Ministerial Guidelines and thereby provides Council with operational confidence. For example, when deciding if a proposed development that includes an OWTS can occur in an unsewered area.

The Ministerial Guidelines called for additional inclusions in DWMPs beyond those set out in the SEPP. The Ministerial Guidelines require:

**Monitoring:**
- The effective monitoring of the condition and management of OWTS including but not limited to compliance by permit holders with permit conditions and the Code.
- That the results of monitoring be provided to stakeholders as agreed by the relevant stakeholders.

**Enforcement:** Compliance action where non-compliance is identified.

**Review:** A process of review and updating (if necessary) of the DWMP every 5 years.

**Audit:**
- An independent audit by an accredited auditor (Water Corporation approved) of implementation of the DWMP, including of monitoring and enforcement, every 3 years.
• That the results of audit be provided to stakeholders as soon as possible after the relevant assessment.

Resources: Councils to demonstrate that suitable resourcing for implementation, including monitoring, enforcement, review and audit, is in place.

Collaboration: The DWMP must be prepared or reviewed in consultation with all relevant stakeholders including other local governments with which catchments are shared, the EPA, and local water corporations.

Council plans

Council has a number of policies, plans and strategies that contribute to the vision and objectives of the municipality.

Council Plan 2017-21
The Council Plan guides the work and priorities of Council over the four years from 2017-21. It separates the priorities into three areas – our people, our place and our economy. Whilst there are no direct actions in regards to onsite wastewater the implementation of the DWMP will increase amenity and liveability for the community and visitors.

Density of domestic and commercial development is dependent on the provision of sewage services.

Development impacts on growth and economic opportunity.

Mount Alexander Shire Council Planning Scheme
The intent of the Planning Scheme in relation to domestic wastewater is that all new subdivisions or development have provisions for reticulated sewerage services. However in the absence of a reticulated service wastewater must be treated and retained on-site in accordance with the SEPP and EP Act.

Referrals are made to the relevant water authority under Clause 66.02-5

Mount Alexander Shire Council Rural Land Study 2014
The Rural Land Study looks at options and limitations for future private land use in the Shire. One of the limitations to lot size is the ability to treat and retain wastewater.
Roles and responsibilities

The roles and responsibilities for onsite wastewater management extend to government organisations, private industry and land owners.

Environment Protection Authority
The Environment Protection Authority (EPA) has a statutory responsibility to oversee the protection of the environment.

The EPA publishes a number of policies, and guidance documents for local governments, community members and other stakeholders in relation to domestic wastewater.

In the past the EPA also completed the important role of approving the domestic wastewater systems able to be installed in Victoria under the Certificate of Approval.

However the EPA has transitioned away from this responsibility resulting in a new and significant shift of burden to councils.

Department of Health and Human Services
The Department of Health and Human Services (DHHS) administers the Public Health and Wellbeing Act 2008. DHHS is responsible for providing advice to the EPA and local government about public health policy related to wastewater management.

Municipal Association of Victoria
The MAV has undertaken works in partnership with councils, the EPA, state government, water authorities and other stakeholders to develop a range of planning and management tools to assist councils with the management of domestic wastewater. For example, the Victorian Land Capability Assessment Framework (MAV, 2014) provides an example of an all-encompassing land capability assessment (LCA). It is aimed at providing assessor and stakeholder’s guidance on undertaking LCAs. This guide assists EHOs to assess LCA reports, and simultaneously provide LCA assessors with a model that generally provides adequate information to EHOs to enable a judgment on an application.

North Central Catchment Management Authority
The North Central Catchment Management Authority (NCCMA) is responsible for the sustainable development of catchments, floodplains and waterways.

Goulburn Murray Water
Water authorities can be affected by land use activities within water supply catchments, including unsewered developments. Clause 66.02-5 of the Mount Alexander Planning Scheme stipulates that planning permit applications on land located within a Special Water Supply Catchment Area must be referred to Goulburn Murray Water (GMW) as a relevant water board or water supply authority. Some minor applications are exempted from referral. As a determining authority GMW must refuse to grant the permit if they object to the proposal.

Prior to the adoption of this Plan Council and GMW had a memorandum of understanding in place to address the referral requirements of the Mount Alexander Planning Scheme. Planning applications will continue to be referred to GMW however as part of this Plan Council will seek enter into a Clause 66 agreement with GMW to exempt low risk proposals from referral.

Coliban Water
Coliban Water provides potable water and wastewater services to rural and urban customers in the shire. Planning referrals for subdivisions are referred to Coliban Water in areas were reticulated sewer is available or where the subdivision will require extensions to the existing mains.
Landholders
Those landholders with OWTS are responsible for:

- Connecting to the sewer where it is available (unless otherwise exempted)
- Obtaining an OWTS permit before a building permit is issued and OWTS is installed
- Obtaining a certificate for the OWTS once it has been installed
- Obtaining a permit to make alterations to an existing septic system
- Ensuring system installers are licensed plumbers who have specialist knowledge to install the nominated system
- Maintaining existing systems, including de-sludging at least every three years, or when the tank becomes half full of sludge, and complying with any specified monitoring conditions
- Ensuring the effluent absorption area remains clear from development, unsuitable vegetation, and impermeable surfaces.

Land Capability Assessors
Land Capability Assessors need to have appropriate qualifications, experience and indemnity to undertake their work. They should be able to produce a report that is unbiased and assesses the capability of the land in regards to wastewater disposal, rather than supporting the proposal of a land developer.

Building Surveyors
Building surveyors must obtain a copy of the appropriate septic tank permits for developments in unsewered areas before issuing a building permit, and a copy of the certificate to use before issuing an occupancy permit.

Onsite wastewater system installers
Onsite wastewater systems must be installed by a licenced plumber. Plumbers must ensure that the wastewater system complies with the relevant Australian Standards, Council permit conditions, manufacturer’s specifications and Victorian Plumbing Regulations 2008.

Once installation is complete the plumber must ensure the installed system complies with the Council permit conditions, and provide Council with a certificate of compliance and other paperwork requested in the permit to install.
Achievements and future direction

Previous plans
In 2006 the Victorian Government invited all regional and rural councils to apply for funds to undertake risk assessments that could then be collated to develop a state-wide understanding of the domestic wastewater profile and overall risk.

The funding also included provision for each municipality to develop a DWMP. In 2007 Council successfully applied for this funding and adopted a DWMP.

When the abovementioned plan came to an end Council developed a DWMP for 2012–2015. This plan took a pragmatic approach and included a list of actions, encompassed by four overarching priorities:

1. Monitoring and compliance
2. Information management
3. Communications and engagement
4. Strategic management

Importantly, the DWMP 2012-2015 led to work being undertaken to integrate Council’s databases and geographical information systems (GIS) to enable better records management and accountability, and established an annual OWTS monitoring and compliance program.

Monitoring and compliance program
The annual monitoring and compliance program includes writing to residents in identified inspection area/s, an onsite assessment, recording data and spatial information into GIS, and the development of a final report and recommendations.

The program commenced in 2012 with approximately 20 properties inspected per year. Work was also undertaken to develop background papers for areas to be included in the plan where there may be potential for future inclusion on sewer backlog schemes. The area around Reckleben Street was included as it had previously been identified for a backlog scheme. This area has since been sewered.

In 2014 additional resources were allocated to the assessment program and since approximately 150 additional assessments have been undertaken each year.

Areas targeted for assessment have been based on the potential for onsite wastewater to pose public and environmental health issues. Attributes that have been taken into consideration to target certain areas include:

- Concentrations of dwellings
- Small lot sizes
- Commercial premises
- Assumed age of systems and likelihood of grey water discharge to gutter
- Proximity to water courses
- Unsewered pockets within, and on the edge of, sewered townships

While implementing the monitoring and compliance program has been a big step forward, Council has yet to fully respond to the findings of the compliance and monitoring program.

This Plan includes actions to further develop the appropriate response measures to ensure compliance, with the first step being to develop a risk rating system for unsewered properties/facilities already assessed. The risk rating will enable future monitoring to be based on individual properties rather than geographical areas. It will also enable future strategic work when patterns of high risk are identified e.g. if the age of OWTS correlates to failure rates.
Case Study – Development in Castlemaine

Reckleben Street was an unsewered pocket within the Castlemaine township area. It was first identified in the 2006 Wastewater Management Plan as presenting a high risk from a public health and environmental perspective, however, community consultation at this time failed to gain support for the area to sewered.

In 2012 Coliban Water, Council and the EPA began the process to consider options to provide sewerage services to the Reckleben Street area. With Coliban Water leading the project, extensive consultation with the community and stakeholders was undertaken and sewerage extension works commenced in October 2015. 28 existing homes had reticulated sewerage services made available and several undeveloped lots can now be developed. The new ‘paddock’ eco-sustainable housing estate in Reckleben Street has been enabled by this sewerage extension.

There are still pockets of sewered townships where sewerage services are not available. Where a high risk is identified in these areas Council will continue to work with Coliban Water and the EPA to determine the best management options.
New management approach

Guidance framework
The EPA guidance documents used to plan for and assess onsite wastewater applications are often interpreted as legislation rather than guidance as intended.

Ensuring this Plan uses a strategic risk based approach in conjunction with guidance from such documents enhances Council’s capacity to achieve suitable and sustainable outcomes and avoids confusion for staff and developers.

Council’s risk-based approach
Going forward, Council will consider the following four risk categories in order to plan for and manage domestic wastewater risk in the municipality. The four risk categories are:

1. Existing OWTS in sewered areas
2. Future development in sewered areas
3. Existing OWTS in unsewered areas
4. Future development in unsewered areas

The implementation of the risk-based approach:
• Guides the requirement for a land capability assessment
• Provides an enhanced inspection, audit and compliance program focused on higher risk areas and systems
• Increases capacity to record and follow upon on maintenance and pump outs of installed systems
• Enables ongoing and consistent reporting and liaison between Council and Coliban Water and Goulburn Murray Water; and
• Outlines a range of education and public awareness initiatives for the inspection program and for the basic domestic system maintenance and monitoring requirements

More information about the four risk categories is provided below.

Risk category 1: Existing OWTS in sewered areas
Council will work with Coliban Water to identify properties that have failed to connect to reticulated sewer where it is available. In the event that a secondary treatment OWTS has been installed it may be retained until such time as it fails or subdivision is proposed. The system must be maintained as per the permit and copies of maintenance reports forwarded to Council.

Systems must be assessed whenever a premises extension is proposed and connection to sewer requested if required.

Any system identified in a sewered area should be mapped on Council’s mapping system so that it is clearly evident to planning and environmental health staff when assessing applications.

There is currently no formal process for connection to sewer as it becomes available due to sewer extensions. Council and Coliban Water need to strengthen their policy relationship in this regard, noting the position statement in this Plan (see page 4).

Risk category 2: Future development in sewered areas
New developments in sewered areas can dispose of effluent in the following ways:

• Connection to the reticulated sewer system
• Connection to an EPA licensed private sewer system maintained by a proprietary company
• Installation of a grey water treatment or recycling system and/or dry composting toilet in compliance with EPA Publication 891.4
The connection to sewer must comply with the requirements of Coliban Water.

Permanent grey water irrigation systems in sewered areas can only be installed with a permit from Council. The permit can only be granted if the property has sewer connected, and toilet and kitchen wastewater will be permanently discharged to sewerage. These systems may be used only during dry periods in accordance with EPA Publication 891.4, therefore the option to divert back to the reticulated sewer system must be available and maintained. A suitable backflow prevention device must be fitted as part of the grey water treatment system. The permit will include installation and maintenance conditions.

Waterless composting toilets may be installed if the property is connected to reticulated sewer in accordance with EPA Publication 891.4. A permit from Council is required.

Risk category 3: Existing OWTS in unsewered areas

Strategies to manage existing wastewater systems in unsewered areas of the Shire include:

- Ongoing compliance programs to identify higher risk properties and developing protocols for rectifying non-compliances
- Assessing planning and septic applications for new developments and where premises extensions are proposed, requesting upgrades where required
- Advocate for alternate solutions where there are numbers of non-compliant systems, for example, where a centralised effluent disposal system or reticulated sewer may be considered
- Provide advice for strategic planning on areas of concern and likelihood of further development if areas are not connected to a reticulated sewage system.
- Respond to nuisance complaints from system owners or general public as deemed appropriate.

Where a premises extension or additional plumbing fixtures are proposed the existing OWTS, land size and proximity to waterways need to be taken into account.

Under the Plumbing Code fixtures cannot be plumbed to a non-compliant system.

The location, size and type of system will need to be verified. No part of the system is to be built over. Wastewater systems are generally sized on the potential occupancy of the premises. Where an extension could increase dwelling occupancy the OWTS may need alterations to accommodate the increase. A plumbers report on the type, location, and current operating status of the system should accompany an application. In the event that a new system is proposed the applicant should seek the advice of an EHO regarding the need for a LCA.

Applications for extensions to existing premises that impact on wastewater generation where setback distances cannot be met are unlikely to be approved. Additionally extensions that impact on the ability to retain a reserve area are also unlikely to be approved.

The DWMP procedure manual includes a checklist for assessing existing systems, steps for following up non-compliances and template letters.
Risk category 4: Future development in unsewered areas

The provision of reticulated sewage systems is important in supporting smaller residential lot and commercial development. Issues arise in unsewered towns as they are generally older settlements made of smaller lots zoned for residential use. Historically, township lots where established without consideration of sustainably treating and retaining wastewater within property boundaries.

Appendix 1 outlines the process of assessing unsewered townships in regards to growth both with individual OWTS and reticulated or community sewage systems.

In unsewered areas recognising wastewater requirements at the planning permit application stage is a vital step to ensuring sustainable development.

The matrix in Table 1 below has been developed as a guide for use by EHOs, planners and property owners/developers. The matrix indicates information that may be required to accompany a planning permit application that precedes an application to install an OWTS. It does not replace the need to assess individual proposals, and further advice should be sought from an EHO prior to any application being lodged.

Proposals need to be suitable for the selected lot. Some lots will not be able to accommodate on-site waste water treatment and disposal systems. Where reticulated sewer is within proximity and onsite wastewater treatment poses a high risk, connection to sewer will be Council’s recommendation.

Where onsite wastewater management is proposed on commercial or public premises extra consideration must be made in respect to the design, capacity and ongoing maintenance of the system.

Premises dealing with food or other organic matter will need to take into account high and irregular organic loads.

The organic loading rates must be calculated to size the system. Premises that have high peak use periods will need a system designed to cope with these periods.

All unsewered, residential subdivisions should be accompanied by a LCA.

A LCA should contain enough information for Council EHOs to make an informed decision about a particular proposal. The content of the LCA should reflect the number of limiting factors and risks associated with both the land and the proposal.

Table 1 provides guidance on the level of detail required in a LCA. Overall assessment is based on the highest level of risk for all features considered. For example, if most features where low risk but one was high risk (e.g. less than 100m from a watercourse) then the development would be assessed as high risk. In cases where an alternate development plan could affect the risk outcome that information should be provided by the EHO. For example if the highest risk factor is proximity to a watercourse the applicant should be advised that by locating the development more than 100m from the waterway the risk could be reduced. The table is a guide and the assessment of acceptable risk will not guarantee that a permit will be granted as the EHO will also consider the specifics of the setting and proposal.

A reserve area will be required for any
development regardless of the system installed. Reserve areas give a backup area in the event that a wastewater field fails or requires resting. Reserve areas are required for trench and LPED systems in the Code of Practice but in the last revision the requirement to have one for subsurface irrigation was dropped. This was based on the premise that subsurface irrigation doesn’t fail or require resting. Most subsurface irrigation has only been installed in the previous 10 years so the premise has not been adequately tested. Also there have been cases where irrigation has failed due to unexpected weather patterns and increased loads. As applications are assessed to ensure waste water can be sustainably treated and retained on-site enforcing reserve areas for all systems in paramount in future proofing developments.

The DWMP procedure manual outlines how applications are assessed and provides conditions for permits to install and maintain new systems.
Table 1: Decision making matrix for future development in unsewered areas

<table>
<thead>
<tr>
<th>Feature</th>
<th>Low levels of management required</th>
<th>Medium levels of management required</th>
<th>High levels of management required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Capability Assessment requirements</td>
<td>LCA to the satisfaction of the EHO</td>
<td>LCA to the satisfaction of the EHO – must address limiting factors</td>
<td>Comprehensive LCA required - refer to Victorian LCA Framework</td>
</tr>
<tr>
<td>Overall assessment is based on the highest level of risk for any one of the features below e.g. if the property has more than 6 bedrooms it is high risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distance to potable supply reservoir</td>
<td>&gt;1km</td>
<td>500m-1km</td>
<td>&lt;500m</td>
</tr>
<tr>
<td>Community building or infrastructure * Scale &amp; type to be taken into consideration</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Commercial use * Scale &amp; type to be taken into consideration</td>
<td>No</td>
<td>Yes *</td>
<td>Yes *</td>
</tr>
<tr>
<td>House size</td>
<td>1-4 bedrooms</td>
<td>5-6 bedrooms</td>
<td>&gt;6 bedrooms</td>
</tr>
<tr>
<td>Lot size</td>
<td>&gt;2 hectares</td>
<td>0.5 – 2 hectares</td>
<td>&lt;0.5 hectares</td>
</tr>
<tr>
<td>Availability of town water</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Setback to water way in potable water supply catchment (within 1km of reservoir)</td>
<td>&gt;200m</td>
<td>100-200m</td>
<td>&lt;100m</td>
</tr>
<tr>
<td>Setback to water way in potable water supply catchment</td>
<td>&gt;100m</td>
<td>80 -100m</td>
<td>&lt;80m</td>
</tr>
<tr>
<td>Setback to non-potable water way</td>
<td>&gt;100m</td>
<td>60-100m</td>
<td>&lt;60m</td>
</tr>
<tr>
<td>Setback to unmarked drainage line</td>
<td>&gt;40m</td>
<td>20-40m</td>
<td>&lt;20m</td>
</tr>
<tr>
<td>Slope</td>
<td>&lt;10%</td>
<td>10-20%</td>
<td>&gt;20%</td>
</tr>
</tbody>
</table>
**Actions**

In order to implement our commitment to sustainable onsite domestic wastewater management, Council will implement a range of actions. In identifying these actions the Plan addresses the requirements of both the SEPP and the Ministerial Guidelines. These actions are grouped by four overarching priorities:

- Stakeholder engagement
- Administration
- Monitoring and compliance
- Other improvements

<table>
<thead>
<tr>
<th>Management Priority</th>
<th>Action</th>
<th>Lead Agent</th>
<th>Partners</th>
<th>Timeline</th>
<th>Budget</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stakeholder engagement</td>
<td>1. Provide annual compliance and monitoring report to the EPA, Goulburn Murray Water and Coliban Water</td>
<td>MASC</td>
<td>EPA, GMW, CW</td>
<td>Annual, as part of financial reporting</td>
<td>Existing</td>
<td>Report finalised and distributed prior to the end of each calendar year</td>
</tr>
<tr>
<td>Stakeholder engagement</td>
<td>2. Convene bi-annual meetings with Coliban Water, Goulburn Murray Water and the EPA to share information, develop joint initiatives and provide updates on exiting projects</td>
<td>MASC</td>
<td>CW, GMW, EPA</td>
<td>Every March and September</td>
<td>Existing</td>
<td>Meeting held and minutes and actions distributed.</td>
</tr>
<tr>
<td>Stakeholder engagement</td>
<td>3. Reporting to executive and councillors</td>
<td>MASC</td>
<td>N/A</td>
<td>Annually, after completion of compliance monitoring</td>
<td>Existing</td>
<td>Executive team paper and councillor briefing papers developed and presented outlining overview of compliance monitoring, current issues and update on strategic directions.</td>
</tr>
<tr>
<td>Stakeholder engagement</td>
<td>4. Domestic wastewater management information made readily available to the community and stakeholders</td>
<td>MASC</td>
<td>MASC</td>
<td>Ongoing</td>
<td>Existing</td>
<td>Information included in new residents’ kits and Council website.</td>
</tr>
<tr>
<td>Management Priority</td>
<td>Action</td>
<td>Lead Agent</td>
<td>Partners</td>
<td>Timeline</td>
<td>Budget</td>
<td>Indicator</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------------------------------------------------------------</td>
<td>------------</td>
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<td>----------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Administration</td>
<td>5. Review and update the Domestic Wastewater Management Plan</td>
<td>MASC</td>
<td>DWMP Ref. Group</td>
<td>2022</td>
<td>Existing</td>
<td>Plan reviewed and updated after five years.</td>
</tr>
<tr>
<td>Administration</td>
<td>6. Domestic Wastewater Management Plan and activities independently audited as per the Ministerial Guidelines</td>
<td>MASC</td>
<td>GMW, Auditor</td>
<td>As required</td>
<td>Special project budget</td>
<td>Audit findings considered and recommendations implemented.</td>
</tr>
<tr>
<td>Administration</td>
<td>7. Undertake to send reminder notices for servicing and pump-outs of existing OWTS</td>
<td>MASC</td>
<td>MASC</td>
<td>2018</td>
<td>Existing</td>
<td>Reports and reminder notices sent</td>
</tr>
<tr>
<td>Administration</td>
<td>8. Continue the OWTS monitoring and compliance program</td>
<td>MASC</td>
<td>MASC</td>
<td>Ongoing</td>
<td>Existing</td>
<td>Program completed</td>
</tr>
<tr>
<td>Administration</td>
<td>9. Review procedures and forms to accommodate the changes to the EPA’s involvement in system approvals</td>
<td>MASC</td>
<td>MAV, EPA, DHHS</td>
<td>2019</td>
<td>Existing</td>
<td>Procedures and forms updated to reflect new approval system</td>
</tr>
<tr>
<td>Administration</td>
<td>10. Improve reporting capacity from Health Manager by allocating a risk rating to OWTS as they are accessed.</td>
<td>MASC</td>
<td>GMW EPA</td>
<td>Existing</td>
<td>2018</td>
<td>Risk rating developed and implemented</td>
</tr>
<tr>
<td>Administration</td>
<td>11. Add spatial data to Council’s GIS system to form a layer/s that can provide an indicative desktop assessments for new developments and to be able to easily identify existing OWTS</td>
<td>MASC</td>
<td>MASC</td>
<td>2018</td>
<td>Within special project budget for 2016-17</td>
<td>Spatial data layer added to GIS system in a way that can be easily used to inform LCA requirements.</td>
</tr>
<tr>
<td>Management Priority</td>
<td>Action</td>
<td>Lead Agent</td>
<td>Partners</td>
<td>Timeline</td>
<td>Budget</td>
<td>Indicator</td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
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<td>-------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Risk-based monitoring and compliance</td>
<td>12. Develop, resource and implement a follow up procedure for annual inspections that highlight higher risk systems</td>
<td>MASC</td>
<td>GMW, CW, EPA</td>
<td>2019</td>
<td>Within special project budget for 2016</td>
<td>Procedure developed and follow ups undertaken and reported as part of the annual reporting</td>
</tr>
<tr>
<td>Risk-based monitoring and compliance</td>
<td>13. Continue to resource and implement an annual compliance and monitoring program</td>
<td>MASC</td>
<td>CW, GMW</td>
<td>Annual</td>
<td>Existing</td>
<td>Consultant engaged annually to conduct inspections. Report presented.</td>
</tr>
<tr>
<td>Management Priority</td>
<td>Action</td>
<td>Lead Agent</td>
<td>Partners</td>
<td>Timeline</td>
<td>Budget</td>
<td>Indicator</td>
</tr>
<tr>
<td>---------------------</td>
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<td>----------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>Other improvements</td>
<td>14. Identify enforcement and compliance options and develop procedures/tools</td>
<td>MASC</td>
<td>MAV, EPA, EHPA</td>
<td>2020</td>
<td>Existing</td>
<td>Enforcement tools in place and utilised</td>
</tr>
<tr>
<td>Other improvements</td>
<td>15. Work with Coliban Water to identify properties that have sewer available but are not connected and implement a program to work towards connection</td>
<td>MASC</td>
<td>MASC, CW</td>
<td>Ongoing</td>
<td>Existing</td>
<td>Properties identified and connections occurring</td>
</tr>
<tr>
<td>Other improvements</td>
<td>16. Develop template land capability assessment expectations for high, medium and low risk areas and strongly recommend their implementation</td>
<td>MASC</td>
<td>MASC</td>
<td>2018</td>
<td>Special project budget for DWMP</td>
<td>Templates developed and incorporated into DWMP and available for public use</td>
</tr>
<tr>
<td>Other improvements</td>
<td>17. Continue to advocate to enable local government to levy a charge for domestic wastewater management</td>
<td>MASC</td>
<td>MAV, EPA, EHPA, GMW</td>
<td>Ongoing</td>
<td>Existing</td>
<td>Correspondence sent</td>
</tr>
<tr>
<td>Other improvements</td>
<td>18. Inform other strategies, documents and work plans e.g. economic development, growth corridors and Taradale Mineral Springs Masterplan (provision of safe mineral water).</td>
<td>MASC</td>
<td>MASC</td>
<td>Ongoing</td>
<td>Existing</td>
<td>Participation and feedback.</td>
</tr>
<tr>
<td>Other improvements</td>
<td>19. Investigate options and advocate for reticulated centralised sewer systems in unsewered townships where density of OWTS may have a negative impact</td>
<td>MASC</td>
<td>CW, GMW, EPA, MASC</td>
<td>2019</td>
<td>Special project</td>
<td>Options paper presented to Council</td>
</tr>
<tr>
<td>Other improvements</td>
<td>20. Develop a Clause 66 Agreement between GMW and Council regarding planning referrals so that GMW do not have to assess lower risk proposals</td>
<td>MASC</td>
<td>GMW</td>
<td>2018</td>
<td>Existing</td>
<td>Amendment accepted</td>
</tr>
</tbody>
</table>
Monitoring, evaluation and reporting

The Plan will be reviewed by an independent accredited auditor every three years. Goulburn Murray Water must approve of the auditor. Copies of the audit report will be distributed to relevant stakeholders.

In accordance with Ministerial Guidelines a process of review and updating (if necessary) the Plan will occur every 5 years.

Appendix 1

Wastewater options in unsewered township areas

A range of problems can occur in unsewered townships when wastewater systems fail or discharge off-site. The most significant is the issue of public health which can arise when wastewater is not being adequately treated and disposed of, creating the risk of exposure to waterborne pathogens. The most common problem is the loss of amenity through unpleasant odour, unsightly pools of wastewater and drains choked with rank weeds.

Age and use may render disposal fields less able to cope with the wastewater loads delivered to them. Poor maintenance of septic tanks can result in build-up of sludge so that odour problems can be exacerbated and sediment carryover can hasten field decline.

Many old wastewater systems are “split”, designed to retain blackwater on site and discharge all grey water to a gutter or neighbouring land. This untreated waste can find its way to local waterways or groundwater, and can represent a threat to both human and environmental health.

Problems in townships located on soils with low percolations are likely to manifest as pooled wastewater over disposal fields or movement of greywater to town drains. Towns on very sandy soils may still have problems but they could be “hidden” - such as bore water contamination when polluted access groundwater reserves. It is not safe to assume that no obvious wastewater problem means that there are no health and environmental risks. Problem sites could be those with evidence of failure or could also be those mapped as “environmentally sensitive” in the township reports.

Highlighting concerns that can arise in unsewered towns is simple, finding a solution is far more complex. Some possible options for dealing with wastewater are discussed below. There are also suggestions about a range of options that could be considered in the short and long term for some unsewered areas.

Strategies to Consider

If an unsewered community is to remain as a viable township then one or more options may have to be considered.

For small towns full reticulated sewer or a Common Effluent Disposal scheme (CED) may not be realistic, and an approach aimed at “preventing the problem getting worse” will be necessary - existing systems must be supported to work as best they can. This may also be the short term solution for townships awaiting connection to sewer.
As part of this approach Council could look at the following strategies

- Information gathering
- Reducing risk of onsite failure
- Greywater management
- Waterway monitoring
- Management of new developments
- Ongoing review

These are discussed in more detail below.

**Information**
Accurate information assists with good planning decisions and it is suggested that data be gathered on:

1. **Township**
   - population numbers
   - population patterns (seasonal, weekend etc.)
   - population trends (is town growing or contracting)
   - industrial water use
   - stormwater infrastructure

2. **Individual properties**
Concentrate on environmentally sensitive developed blocks and record:-

   - block use (residential / commercial/ community facility etc.)
   - block size
   - house size (BR)
   - occupancy (numbers, full-time or intermittent)
   - wastewater volumes generated (estimated)
   - wastewater treatment & disposal system
   - field and tank location
   - pump out history
   - any “available” area for field renewal or extension

3. **Record Keeping**
Council should maintain records of

   - individual property data (as above)
   - pump out programs for septic tanks
   - maintenance & monitoring programs for aerated plants
   - ownership changes
   - extensions and alterations
   - any anecdotal evidence about “failing systems” or “problems” in particular locations in the town
Strategies for reducing opportunities for onsite failures

Failures are most likely to occur on residential, commercial and public developments in areas where limitations increase the risk of system failure. The following management approaches could be considered:

• pump out of tanks on high risk sites - pump out frequency to be based on risk and monitored over a five year period
• review township situation after 2022
• education delivered during the audit and assessment program needs to be increased for higher risk sites.

Existing resources can be used to highlight the following points:

• water conservation (lower wastewater volumes should reduce impact of onsite disposal)
• water use patterns (try to spread water use across the whole week)
• septic tank education
• disposal field maintenance
• dedicated use of area
• protection from run-on & run-off
• vegetation (species, density, proximity to field)
• problem detection & action
• use of greywater onsite
• education regarding destination of household wastewater (eg potential to access waterways or bore supply)

Management for new developments

• First option is connection to reticulated or community sewerage systems
• LCA to be undertaken as per Council’s DWMP
• Permits and installations to be as per the DWMP and Procedure Manual
• Reserve areas to be required for all OWTS

Management of Greywater

Grey water in gutters is more likely to create a health problem and cause amenity loss if it is left to pool. To allow wastewater to move quickly away from the township Council should:

• clear gutters of debris, silt and vegetation.
• where necessary reset the gutters to allow rapid flow.
• clear out stormwater drains.
• install traps for debris where stormwater meets a creek.

Waterway Monitoring

Waterways can essentially become de facto wastewater treatment systems for the storm water and grey water delivered from town gutters. Whilst the ideal is not have grey water enter a range of measures must be put in place if a creek is receiving town grey water.

• Goulburn Murray Water(GMW), Catchment Management Authority (CMA), Department Water Environment Land Planning(DELWP) and Coliban Water involvement
• regular monitoring of creek water quality (faecal coliforms & nutrients) upstream & downstream of town
• ongoing review of the situation and rapid response to unacceptable changes

Review
The ideas above could be part of an approach to wastewater management in unsewered towns. They do not all comply with EPA guidelines but are born of necessity. These strategies are an attempt to improve a difficult situation. They will need constant review and modification as township situations change. A town-based review group could be established as follows

• Establish a working group comprising Council, GMW, CMA, DELWP and Coliban
• Review township situation in 2 - 5 years for:
  - growth
  - water use patterns
  - stream quality
• Determine wastewater program for next 5 years

The strategies that have been discussed above are now presented in tabulated form on the next page.
## Summarised Strategies and Comments for Unsewered Towns

<table>
<thead>
<tr>
<th>Number</th>
<th>Option</th>
<th>Comments</th>
</tr>
</thead>
</table>
| 1      | Investigate full reticulated sewerage (triggered by population size and density) | • expense  
• time delay  
• extravagant for small populations  
• problems in hilly terrain  
• difficulties may arise with low flows |
| 2      | Investigate Community Effluent Disposal                                | • expense (though less than above)  
• cost for owners (unit, pump, power)  
• can target particular parts of townships  
• less disruption than full sewer  
• can more readily negotiate obstacles |
| 3      | Waterway Monitoring                                                     | • CMA & DEWLP input required  
• may involve private land  
• will require very high management levels |
| 4      | Identify problem sites and  
• install an aerated system  
or  
• extend existing fields or  
• create a new “fresh” field | • may be little available area = no solution?  
• problems locating & connecting to existing system  
• disruption to buildings/garden/paths etc.  
• high owner expense  
• high level of Council involvement if a lot of upgraded systems are installed (maintenance and monitoring requirements) |
| 5      | Start pump out program. Add system types, locations and disposal methods to Council’s database  
Council to follow up on systems where pump outs and maintenance records are not submitted | • relatively cheap for owners  
• requires big commitment from Council  
• benefits slow to become apparent |
| 6      | All new development to be sustainable and comply with EPA Publication 891.4.  
Reserve wastewater fields for all new development.  
New wastewater systems to be on strict pump out or maintenance & monitoring programs. | • will not address existing problems  
• will reduce likelihood of new developments adding to township wastewater problems |
| 7      | Education program                                                      | • to reduce wastewater loads  
• to improve management of treatment & disposal systems  
• to heighten awareness of risks |
| 8      | Do nothing                                                            | • problems could escalate |
The following table brings together townships (both sewered and unsewered) reviewed as part of the Mount Alexander Shire DWMP.

The risk ranking takes into account the size, location, zoning, lot size and growth rate of the town coupled with very broadly with soil and landscape features. 1 is regarded as a low risk for continuing unsewered development while 2 is moderate and 3 is high.

For each township a range of strategies (identified by number) are suggested to manage wastewater issues in the short and long term. These strategy numbers relate to tabulated options which appear earlier, in the preceding table.

If anticipated growth patterns change, the strategies will need to be reviewed.

### Possible Approaches for Individual Township Areas

<table>
<thead>
<tr>
<th>Town</th>
<th>Risk Rating</th>
<th>Expected growth</th>
<th>Short term strategies</th>
<th>Long term strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elphinstone</td>
<td>2</td>
<td>Possible</td>
<td>6 &amp; 7</td>
<td>2, 4, 5, 6 &amp; 7</td>
</tr>
<tr>
<td>Taradale</td>
<td>2</td>
<td>Possible – most likely seasonal</td>
<td>5, 6 &amp; 7</td>
<td>2, 3, 4, 5, 6 &amp; 7</td>
</tr>
<tr>
<td>Yapeen</td>
<td>2</td>
<td>Minor – but land available</td>
<td>5, 6 &amp; 7</td>
<td>2, 4, 5, 6 &amp; 7</td>
</tr>
<tr>
<td>Guildford</td>
<td>2</td>
<td>Minor but permanent</td>
<td>3, 5, 6 &amp; 7</td>
<td>2, 4, 5, 6 &amp; 7</td>
</tr>
<tr>
<td>Barkers Creek</td>
<td>2</td>
<td>Minor</td>
<td>3, 5, 6 &amp; 7</td>
<td>2, 4, 5, 6 &amp; 7</td>
</tr>
<tr>
<td>Welshmans Reef</td>
<td>2</td>
<td>Minor seasonal</td>
<td>3, 5, 6 &amp; 7</td>
<td>2, 4, 5, 6 &amp; 7</td>
</tr>
<tr>
<td>Newstead ext&lt;sup&gt;n&lt;/sup&gt;</td>
<td>2</td>
<td>unsewered pockets</td>
<td>5, 6 &amp; 7</td>
<td>1, 2 &amp; 4</td>
</tr>
<tr>
<td>Campbells Creek ext&lt;sup&gt;n&lt;/sup&gt;</td>
<td>2</td>
<td>unsewered pockets</td>
<td>5, 6 &amp; 7</td>
<td>1, 2 &amp; 7</td>
</tr>
<tr>
<td>Fryerstown</td>
<td>2</td>
<td>Minor</td>
<td>4, 5, 6 &amp; 7</td>
<td>4, 5, 6 &amp; 7</td>
</tr>
<tr>
<td>Vaughan</td>
<td>2</td>
<td>Minor</td>
<td>4, 5, 6 &amp; 7</td>
<td>4, 5, 6 &amp; 7</td>
</tr>
<tr>
<td>Ravenswood South</td>
<td>2</td>
<td>Minor – larger lot sizes</td>
<td>5, 6 &amp; 7</td>
<td>5, 6 &amp; 7</td>
</tr>
<tr>
<td>Maldon</td>
<td>2</td>
<td>unsewered fringes</td>
<td>5, 6 &amp; 7</td>
<td>1, 2, 6 &amp; 7</td>
</tr>
<tr>
<td>Baringhup</td>
<td>1</td>
<td>Minor seasonal</td>
<td>6 &amp; 7</td>
<td>4, 5, 6 &amp; 7</td>
</tr>
</tbody>
</table>