

RMCG

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Domestic Wastewater Management Plan 2018

Final (adopted by Council 17 July 2018)

Rural City of Wangaratta

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1 Introduction, overview and background

1.1 WHAT IS DOMESTIC WASTEWATER?

Domestic wastewater is the wastewater from a household. Sources of domestic wastewater include:

- Toilet (sometimes called black water)
- Shower, laundry and kitchen (sometimes called grey water or sullage)

It contains various pollutants such as human excreta, nutrients and salts (e.g. from detergents) that, if not managed appropriately, can pose a risk to:

- Public health
- Natural environment such as soils, plants and animals
- Water supplies both surface and underground
- Aesthetics including visual and offensive odours

1.2 WHAT IS A DOMESTIC WASTEWATER SYSTEM?

For simplicity in this report a single term (“onsite system”) is used generically to describe every type of onsite domestic wastewater system. Onsite systems treat and dispose of domestic wastewater. There are various types of onsite systems used throughout the municipality and these can be characterised according to:

- Whether or not they treat the whole stream of domestic wastewater:
 - All waste systems treat all of the domestic wastewater from a household
 - Split systems deal with the black and grey water separately
- What treatment processes they employ including:
 - Septic tank (anaerobic)
 - Package treatment plant (aerobic)
 - Compost system
 - Reed beds
 - Sand filter
 - None
- Where the treated water ultimately ends up including:
 - Transpiration beds
 - Absorption trenches
 - Irrigation on the surface or subsurface
 - Illegal discharge off site to a drain or creek

This report addresses management of onsite systems in the Rural City of Wangaratta.

1.3 WHAT IS DOMESTIC WASTEWATER MANAGEMENT?

In Victoria, municipal councils are legally¹ responsible for overseeing domestic wastewater management. Domestic wastewater management is the process by which homeowners, occupiers and local government manage onsite systems. Owners of houses in Victoria that are not connected to reticulated sewerage must, by law, treat and dispose of their domestic water within the boundaries of their own property.

1.4 AIM OF THIS PLAN

This Domestic Wastewater Management Plan (DWMP) is a document that sets out the required management processes for Rural City of Wangaratta (Council) to manage domestic wastewater throughout the municipality. This includes all onsite systems, whether they are located on the fringe of a seweraged urban area, in a small town, in a rural residential area or at isolated farmhouses.

The goal of domestic wastewater management is to protect the natural environment, community health, social wellbeing and economic stability against the risks posed by domestic wastewater. The objectives of this DWMP are to:

1. Develop a proactive corporate approach to improve domestic wastewater management
2. Promote ongoing monitoring and evaluation of existing onsite systems
3. Promote sustainable wastewater practices for future development
4. Achieve ongoing compliance with relevant legislation

1.5 CONCEPTUAL FRAMEWORK

Domestic wastewater management relates to premises reliant on onsite systems. That is, dwellings, accommodation, commercial buildings, public buildings and public toilets, not connected to reticulated sewerage. This plan concerns itself with existing and future onsite systems. Domestic wastewater management needs to be tailored to the needs of each municipality because the nature of existing houses, the rate of residential growth and the varying natural environment of each municipality.

Domestic wastewater management aims to ensure that existing and future houses in unsewered areas install and maintain onsite systems that can manage domestic wastewater within the bounds of the property in a manner that protects public health and the environment.

The following matrix (Table 1-1) shows a conceptual framework for domestic wastewater management. Domestic wastewater management falls within one of four cells of the matrix. This DWMP is structured in a way that deals with each of these four categories of houses and onsite systems in turn. The table summarises the generic key actions for local government in each of the four quadrants.

This DWMP includes a tailored 5-year action plan that recognises the current risks and status of domestic wastewater management in the Rural City of Wangaratta.

¹ State Environment Protection Policy (SEPP)

1.6 STRUCTURE OF THIS REPORT

This report (Volume I) is structured in line with the conceptual framework described in Table 1. A summary of the chapter structure is provided below. Actions are identified in the text throughout the report using italics as well as being summarised in the action plan at the end:

- Introduction, overview and background
- Existing onsite systems in unsewered areas
- Future onsite systems in unsewered areas
- Existing onsite systems and future houses in sewerred areas
- Action plan

A separate volume (Volume II) of reports has been prepared which includes:

- Spatial risk assessments
- Stormwater treatment options for Springhurst and Whitfield
- Design considerations
- Stakeholder responsibilities

Table 1-1: A conceptual framework for domestic wastewater management showing local government actions

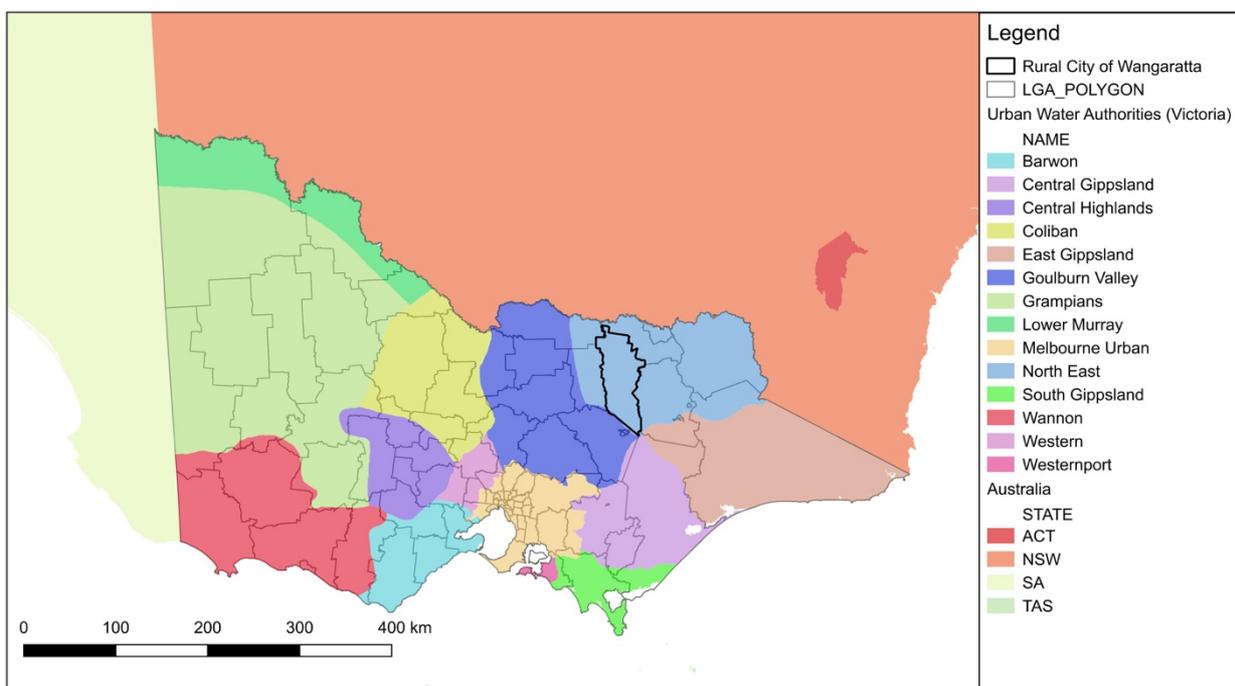
	UNSEWERED LAND	SEWERED (SEWERABLE) LAND
EXISTING ONSITE SYSTEMS	<ul style="list-style-type: none"> ▪ Monitor and audit a sample of onsite systems. ▪ Encourage house owners to achieve compliance and act to rectify non-compliances. ▪ Develop and maintain information management tools (such as an onsite system database) for the purposes of managing existing onsite systems. ▪ Assess existing systems as part of planning processes (such as planning permits and building permits for house extensions and subdivisions) and require upgrades where necessary. ▪ Encourage water authorities to prepare sewerage management plans where the risk posed by a cluster of non-compliant onsite systems may justify the investment. 	<ul style="list-style-type: none"> ▪ Facilitate the abandonment of onsite systems by encouraging owners to connect existing houses to sewer whenever possible.
FUTURE ONSITE SYSTEMS	<ul style="list-style-type: none"> ▪ Comply with relevant requirements such as Australian Standards, EPA code of practice, the planning scheme and ministerial guidelines. Ensure land subdivision creates allotments that can sustain onsite systems. ▪ Ensure new houses and onsite systems comply with best practice requirements from day one considering all of the site characteristics such as soil profile, topography, vegetation and proposed development building and effluent envelopes. ▪ Encourage water authorities to prepare sewerage management plans where the desired urban development density is incompatible with onsite wastewater management. 	<ul style="list-style-type: none"> ▪ Avoid the installation of any new onsite systems in sewerred areas. ▪ Ensure that new houses connect to sewer at the time of their construction. ▪ Liaise with water authorities to establish clear sewerage districts.

1.7 OVERVIEW OF WANGARATTA RURAL CITY COUNCIL

The Rural City of Wangaratta, located in north east Victoria, encompasses a footprint of 3,600 km². The municipality is contained wholly within key stakeholder areas including:

- North-East Water Authority area, as shown on Map 1
- Goulburn Murray Rural Water Authority
- North-East Catchment Management Authority
- Goulburn Broken Catchment Management Authority
- North-East Region Environment Protection Authority

The municipality is characterised by the fertile river valleys of the heritage Ovens River and King River and the foothills of the Great Dividing Range. Productive rural land supports viticulture, agriculture and horticulture, while tourism is also an important local industry. Approximately 70% of the municipality, mostly in the south, is covered by Special Water Supply Catchments. There is a significant amount of public land.



Map 1: Locality map showing Victorian local government and water authorities

Wangaratta is the main urban centre in the municipality, and with a population of 17,000 represents approximately 63% of the total population of the RCW (27,000 people). Other prominent townships and villages include Boorhaman, Cheshunt, Eldorado, Everton, Glenrowan, Oxley, Milawa, Moyhu, Peechelba, Springhurst, Tarrawingee, Whitfield and Whorouly. There are 12,423 dwellings in the RCW (2011 ABS).

Sewered townships in the RCW include Wangaratta, Glenrowan, Milawa, Oxley and Moyhu. All other towns are unsewered; the densest unsewered townships include Springhurst, Whitfield, Eldorado, Tarrawingee, Hamilton Park, Waldara (part) and Whorouly.

Demand for residential opportunities and services that are valued by residents and visitors will continue to grow; growth in the shire is forecast at 2% per annum to 2030 (RCW, Municipal Strategic Statement).

1.8 PROCESS OF DEVELOPING THIS DWMP

This DWMP has had three distinct phases of development: 2007, 2012 and 2018.

Stage 1: Draft DWMP – 2007

The process for completing the 2007 draft DWMP generally involved the tasks listed below:

- Review of existing systems and processes for domestic wastewater management.
- Review of the characteristics of the locality including the location of existing domestic wastewater management systems, identification of planning zones and growth areas, and the identification of areas of environmental, heritage, cultural and recreational value to the community.
- Risk assessment of the potential for domestic wastewater to impact on public health and the environment, especially in the areas of special value identified in the previous step.
- Development of specific management strategies for areas where there were domestic wastewater management risks identified.
- Development of action plans to guide the development and implementation of the management strategies.
- Compilation of the results of each process into a draft DWMP.

The process involved consultation with Rural City of Wangaratta council staff, the community and other stakeholders including North East Water Authority, Goulburn-Murray Water, North East Catchment Management Authority, the Department of Sustainability and Environment, and the Environment Protection Authority.

A number of community workshops were held to engage the community and to allow specific input into the process of developing the draft DWMP. The 2007 draft DWMP examined the townships of Oxley, Milawa, Glenrowan, Eldorado and Moyhu. It contributed to the investigation of sewerage schemes for Glenrowan, Milawa and Oxley.

The 2007 Plan was not endorsed by Council and developments in sewerage planning resulted in the Plan becoming largely out-dated. To broaden the DWMP, it was reviewed and updated in the 2012 version.

Stage 2: Revised DWMP – 2012

The 2012 DWMP review process involved:

- Establishing a steering committee to guide the DWMP update. The steering committee comprised representatives from the Rural City of Wangaratta, Environment Protection Authority (EPA Victoria), Goulburn-Murray Water and North East Water.
- Updating the 2007 draft to reflect changes, especially decisions to implement sewerage at the major towns of Glenrowan, Milawa and Oxley.
- Conducting fieldwork (augers and soil analysis) and preliminary land capability assessments at Whitfield, Cheshunt, Moyhu, Eldorado, Parfitt and Wilson Roads (Wangaratta North) and Springhurst.
- Community meetings held for the residents of Springhurst, Whitfield and Cheshunt.
- Expanding the scope of the DWMP to include the entire municipality.
- Simplifying the risk assessment framework.
- Prioritisation and refinement of the action plans.
- Detailed consultation with relevant Council officers and members of the steering committee.
- Redrafting.

In November 2012, the Minister for Water released a State Ministerial Guideline imposing higher environmental standards in Special Water Supply Catchments and requiring more detailed analysis for unsewered development. For this reason, the 2012 DWMP did not progress to Council endorsement or broader community consultation.

Stage 3: Revised DWMP – 2018

This 2018 review responds to the Ministerial Guidelines for Special Water Supply Catchments. The guidelines set out specific requirements for a DWMP.

In 2013-14, a pilot project by water authorities and the Shire of Mansfield developed risk assessment methods that would satisfy the Ministerial Guideline. This DWMP references the Mansfield pilot project as well as other recently developed DWMPs that consider Special Water Supply Catchments.

1.9 DWMP IMPLEMENTATION AND EVALUATION PROCESS

An action plan is presented in Chapter 6.

The DWMP contains many management strategies and specific actions to address the various domestic wastewater management issues identified under this review. The implementation process for the DWMP is essentially the process of undertaking the action steps identified in the timeframes suggested.

Many DWMP actions simply reinforce current practices or enhance existing systems. Some actions, however, will require additional resources if they are to be implemented. Council will need to investigate and evaluate the economic cost of undertaking the action steps, noting that a requirement from the water corporations for the approval of DWMPs is that they are resourced and implemented.

On an annual basis, the action plan will be reviewed, to determine progress against milestones and adapt future actions in response to lessons learned. The plan will be audited by a GMW accredited auditor every three years. The DWMP will be completely re-evaluated every five years; which will require a risk assessment of the domestic wastewater management issues and re-development of the most appropriate action plan at that time.

The key to the successful implementation of the DWMP will be in its flexible and adaptable implementation and the periodic reviews.

1.10 COUNCIL'S COMMITMENT

Rural City of Wangaratta is committed to develop and implement a robust and transparent policy basis for management of domestic wastewater systems.

Action A. Adopt and implement this domestic wastewater management plan 2018, to meet Council's regulatory obligations.

Action B. Employ a part-time DWMP officer for three years to assist in the implementation of the action plan and engage resources as required to follow up compliance matters.

Action C. Undertake annual review and adaptation of the DWMP action plan and report to Council and stakeholders on progress.

Action D. Undertake an independent audit of the DWMP after three years.

Action E. Undertake a full review of the DWMP five years after its adoption by Council.

2 Existing onsite systems in unsewered areas

2.1 INTRODUCTION

This chapter discusses the existing “fleet” of onsite systems in unsewered areas and identifies actions for their improved management, including:

- Monitor and inspect a sample of existing onsite systems.
- Encourage house owners to achieve compliance and require them to rectify non-compliances.
- Develop and maintain information management tools (such as an onsite system database) for the purposes of managing existing onsite systems.
- Assess existing systems as part of planning processes (such as planning permits and building permits for house extensions and subdivisions) and require upgrades where necessary.
- Encourage water authorities to prepare sewerage management plans where the risk posed by a cluster of non-compliant onsite systems may justify the investment.

Council will improve the compliance of onsite domestic wastewater systems through an integrated program of education, monitoring and compliance.

2.2 ONSITE SYSTEM DATABASE

At the heart of good management of the existing fleet of onsite systems is a comprehensive database. Council has information systems suited to the development of a database but a concerted effort is required to design, populate and maintain a database of onsite systems that will become a useful tool for their long-term management. Initially the system would be populated with data extracted from records already held by Council, but over time will also include the results from audits and inspections.

Action F. Design an “Onsite System Database” for all existing onsite systems, integrated with Council’s existing property, rates and mapping systems through Tech One or other suitable software such as Health Manager.

Action G. Develop, populate, maintain and utilise the onsite system database as a tool for improved domestic wastewater management of existing systems and to inform planning decisions about future systems.

Action H. Record reports of the maintenance of onsite systems and the results of compliance actions in the database to facilitate reporting to the EPA.

2.3 PERFORMANCE OF EXISTING SYSTEMS

Approximately 4000 houses in the municipality rely on onsite wastewater systems. Some of the reported issues (2007 and 2012 draft DWMPs) associated with these systems include:

- Odour from sullage pooling in drains and flat areas, caused by split system sullage discharge.
- Inadequate lot sizes and/or poor soils, causing waterlogging, odour, aesthetic issues and surface water pollution.
- Discharge of sullage into drains, creeks and rivers.
- Nutrient contamination of groundwater and surface waters.

Recently installed sewerage schemes in Wangaratta East, Glenrowan, Milawa, Oxley and Moyhu have dramatically reduced the number of high-risk onsite systems in the Municipality. Non-compliances amongst the remaining fleet of onsite systems are isolated and dealt with by Environmental Health Officers as part of their routine work. There is currently no evidence of gross contamination of any areas or ongoing systemic problems with individual or clusters of onsite systems in the Municipality.

Monitoring of onsite systems has not been routine but an inspection program is recommended as an action in this DWMP to provide evidence to support a more informed assessment of the performance of the existing systems. More details of the monitoring program are presented in Section 2.5.

2.4 KEY OBSERVATIONS FROM SPATIAL RISK ASSESSMENT

A spatial risk assessment has been conducted as part of the development of this 2018 DWMP. This is presented in a separate volume (Volume II), and the results are shown in Map 2. Conclusions drawn from the spatial risk assessment include:

1. The municipality is predominantly non-urban (agricultural and public) land.
2. The main concentration of urban land is Wangaratta itself, most of which is connected to reticulated sewerage. All residentially zoned land is sewerage or close to sewerage and properties within this zone should be connected.
3. Urban unsewered land that has the potential for close development of new houses falls into three categories: Township (TZ), Rural Living (RLZ1&2) and Low Density Residential (LDRZ)
4. The largest areas of non-sewered urban-type land are:
 - Northern and southern fringe of Wangaratta
 - Tarrawingee, Hamilton Park, Eldorado, Springhurst and Whitfield
 - Unsewered fringes of Milawa and Oxley
5. The municipality is almost exclusively covered by land parcels greater than 2 ha. While it is always necessary to be careful with domestic wastewater, blocks larger than 2 ha generally provide sufficient space for sustainable onsite management of domestic wastewater and are not likely to present management problems like those seen in closer developed areas. This will depend on the level of development of the site proposed.

The risk assessment shows that the recent construction of sewerage schemes in Wangaratta East, Glenrowan, Milawa, Oxley and Moyhu, has reduced the risk posed by clusters of onsite systems. However, Springhurst and Whitfield, and to a lesser extent Eldorado and Tarrawingee, could benefit from sewerage if it was found to be feasible and affordable.

Looking into the future, if the findings from the proposed monitoring and compliance program (Chapter 2.5) or any water quality testing indicate significant risk to the environment or public health in any of these towns, full or part sewerage (such as innovative cluster systems) may be part of the solution to resolve those issues and accommodate future growth.

Action I. Subject to outcomes of the monitoring and compliance program, request North East Water to prepare sewerage management plans for Tarrawingee, Eldorado, Springhurst and Whitfield so that Council can make an informed judgement on the costs / benefits of sewerage.

2.5 MONITORING AND COMPLIANCE PROGRAM

Inspection of a sample of onsite systems is recommended to confirm whether the existing systems are performing well or not. Based on the results from the Spatial Risk Assessment, the following towns are recommended as the priority for the inspection program:

- Eldorado
- Oxley
- Tarrawingee
- Whitfield
- Springhurst

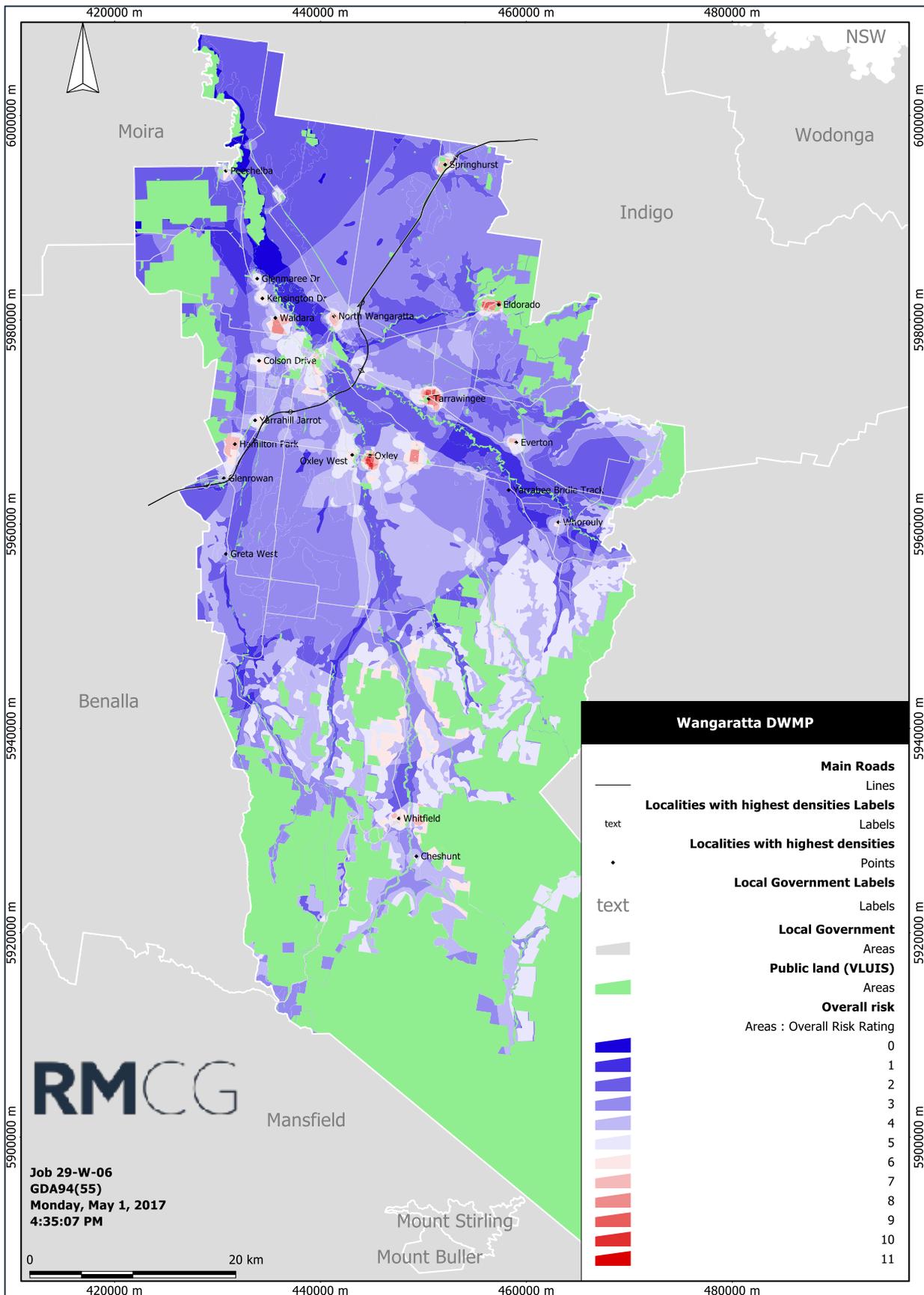
Properties will be selected from these towns for the inspection program. Older systems and those within 100 m of a waterway in high risk areas will be targeted as high priority in the initial monitoring and compliance program.

One hundred properties will be inspected in 2018 and two hundred will be inspected in 2019. Council will assess the results from the inspections in 2019 and review the ongoing monitoring and compliance program. A compliance program with follow up will need to be implemented and resourced.

Inspection protocols developed by other Councils (such as Moorabool and Mansfield) and the inspection form from AS 1547 (see Appendix U) can be used as the basis of a checklist for RCW.

Action J. Design and implement a monitoring and compliance program for onsite systems in high risk areas.

Action K. Enforce maintenance requirements and compliance actions on owners when necessary.



Map 2: Results from spatial risk assessment

2.6 STORMWATER TREATMENT

Concept plans for stormwater treatment schemes have been prepared for Springhurst and Whitfield. These are presented in Volume II of this DWMP.

The logic underlying preparation of the concept plans is that Whitfield and Springhurst:

- Are unsewered, and not likely to be sewerred in a traditional way.
- Have some properties with split systems with greywater running direct to the street drains.
- Have a town core which is “urban” in nature and some formalised stormwater drainage infrastructure.

Any stormwater treatment system needs to be part of an integrated management approach for upgrading or improving onsite management and treatment of domestic wastewater as much as possible over time.

If environmental monitoring, onsite system inspections or community feedback demonstrates effluent reaching the stormwater drains is causing a nuisance, Council should consider these stormwater treatment options.

Action L. Subject to outcomes of the monitoring and compliance program, request North East Water to consider stormwater treatment or other innovative cluster solutions within the suite of options available when preparing sewerage management plans for Whitfield and Springhurst.

2.7 RETICULATED WATER AND WATER SAVINGS DEVICES

The coverage of North East Water’s reticulated water networks is greater than the sewerage networks, meaning that quite a few properties are connected to potable water supplies but not sewerage. Of the 3900 onsite systems, approximately 530 have reticulated water supplies. These are distributed as follows:

TOWN / AREA	NUMBER OF UNSEWERED HOUSES CONNECTED TO NORTH EAST WATER RETICULATED WATER
Glenrowan	30
Oxley	60
Whitfield	70
Southern fringe of Wangaratta	60
Western fringe of Wangaratta (Colson Drive area)	70
North Western fringe of Wangaratta (Waldara, Kensington and Glenmaree Drives)	170
Springhurst	70
Total	530

In addition to North East Water’s customers, Milawa has a privately operated reticulated stock and domestic network that may extend beyond the sewerred area, plus stock and domestic groundwater bores are common in Eldorado and Tarrawingee. These properties tend to also be in areas where there is a high density of onsite systems.

There is evidence that houses that rely on onsite water supplies (i.e. tank water) use less water within the home and as a result their onsite wastewater systems are subject to lower hydraulic loads than ones connected

to houses that have reticulated water supplies. The Australian Standard takes this into account as shown in Table 2-1. The standard recommends that an allowance of 25% extra flow be made for residential premises connected to reticulated water supplies compared to those reliant on onsite rainwater tank supplies.

A key method in minimising risk to the environment and public health from domestic wastewater, is to minimize the volume of wastewater produced. This applies to houses with both reticulated water supplies and onsite water supplies, but is more pertinent to the former. Minimising wastewater volumes can be achieved by:

- Use of water saving fixtures and fittings²
- Installation of a dry composting toilet
- Not installing a bath (low flow rate shower only)
- Not installing extra wastewater producing facilities (e.g. spa, kitchen food waste grinder)
- Indoor recycling³ (toilet flushing and/or washing machine use) of advanced secondary treated greywater
- Constructing a house with fewer bedrooms⁴

The following table provides the daily flow rates per person associated with various combinations of water supply and types of fixtures. Figures were derived from AS/NZS 1547:2012.

Table 2-1: Typical Domestic Wastewater Design Flow Allowances

	RETICULATED WATER SUPPLY ⁵	ON-SITE WATER TANK SUPPLY
All wastewater (standard water fixtures)	180	150
All wastewater (water saving fixtures)	150	120
Dry composting toilet installed (with water saving fixtures)	100	70

The number of occupants within a house is a key variable. To calculate total wastewater flow rates, multiply the figures in the table above by the number of bedrooms plus 1. For instance, a four-bedroom house with town water supply and standard water fixtures is expected to produce 900 L/day (180 L/person/day multiplied by 5).

Note that the organic loading rate must be considered as well as the hydraulic flow rate when designing onsite wastewater management systems. The organic loading rate does not change in response to the use of water saving fixtures.

Action M. Incorporate the message about the importance of conservative household water use into all communications related to onsite systems and targeted education programs in all areas, particularly high priority areas.

² Minimum '3 Stars' for appliances and minimum '4 Stars' for all fittings and fixtures based on the Water Efficiency Labelling Scheme (WELS). As directed by the EPA *Code of Practice – onsite wastewater management*.

³ Suitable for single households only (not permitted at any multi-dwelling, business, commercial or school premises)

⁴ Volume of wastewater produced is proportional to the number of household occupants. Regulations use the number of bedrooms within a house as a measure of the number of occupants. A house with fewer bedrooms will produce less wastewater and therefore require a smaller area for treated wastewater application.

⁵ Includes reticulated town water supply, groundwater bores and/or stock and domestic waterway diversion licences (where connected to household use).

2.8 HOUSE EXTENSIONS OR RENOVATIONS

Household wastewater flow rates can increase with a change of ownership, a higher number of occupants, connection to reticulated water supply and/or the addition of a bedroom, bathroom, spa or other water-using fixture. Where the wastewater treatment and/or land application system are not large enough to cope with the increase in flow the system may fail, causing a risk to public health and the environment.

Where additions or renovations require a permit, Council's EHOs can determine whether the onsite wastewater management system needs to be adapted to an increased flow rate. Council may direct the property owner to engage an external expert to consider these issues, design a solution and submit a report to Council.

Where the existing system needs to be altered, the owner must apply to Council for a Septic Tank Permit before the house alterations begin. A Land Capability Assessment will be required to support the application as discussed in Section 3.3 for new dwellings.

2.9 EDUCATION AND ADVICE

Council has a well organised Environmental Health team with a good range of education and information material to help residents manage their onsite systems.

Action N. Adopt the term "onsite wastewater system" as the generic term to describe the various infrastructures used to treat and dispose of domestic wastewater, and use the term "septic tank" only to refer to the treatment chamber in older-style onsite systems.

Action O. Encourage all households to conduct appropriate regular maintenance of onsite systems, noting future monitoring and inspection.

Action P. Continue to provide general community education on the correct operation and maintenance of onsite systems, as well as specific information to householders regarding water conservation.

Action Q. Provide targeted education materials to townships and other areas where older style onsite systems cause social and environmental issues based on information from the onsite system database.

Action R. Investigate the use of land information certificates (Section 32 vendor statements) to alert homebuyers to the existence of an onsite system and the associated domestic wastewater management requirements.

2.10 CONCLUSION

The performance of the existing fleet of onsite systems is thought to generally be good. A risk assessment has been undertaken and has identified four higher-risk towns that will be the priority for inspection programs over the next few years. In addition, further investigation will be undertaken for Springhurst and Whitfield regarding the need for stormwater treatment or a reticulated sewerage scheme.

3 Future onsite systems in unsewered areas

3.1 INTRODUCTION

This chapter addresses the planning, technical assessment and decision processes that Council will undertake, in collaboration with land owners and agency stakeholders, to ensure that onsite systems installed in the future meet best practice.

The objective of this chapter is to identify actions related to future onsite systems that will help Council:

- Comply with relevant planning requirements such as the planning scheme, ministerial guidelines, Australian Standards and EPA codes of practice.
- Ensure land subdivision beyond the sewer districts creates allotments that can sustain onsite systems including the consideration of any potential cumulative impacts.
- Ensure new houses and onsite systems comply with best practice requirements.
- Encourage water authorities to prepare sewerage management plans where the desired urban development density is incompatible with onsite wastewater management.

Council will implement assessment and decision processes for new development to ensure appropriate onsite systems are selected and installed.

Action S. Continue to implement and enhance existing decision and assessment processes for new development and onsite wastewater systems.

3.2 COMPLIANCE ON FUTURE ONSITE SYSTEMS IN WATER SUPPLY CATCHMENTS

Council must comply with many and various laws, regulations, guidelines, codes, standards and other instruments.

One of the key requirements related to domestic wastewater management is the 2012 Ministerial Guidelines for onsite wastewater management in Special Water Supply Catchments. These guidelines limit development to a density of less than 1 house per 40 ha, with the exception that water corporations will consider allowing a higher density of development where certain conditions are met. These conditions are outlined in the table below.

Table 3-1: Conditions for implementing a higher development density (than 1 in 40 ha) in special water supply catchments

CONDITION	HOW THIS DWMP MEETS THE CONDITION
The minimum lot size area specified in the zone for subdivision is met in respect of each lot.	Not addressed in this DWMP, but is covered in normal statutory planning assessment processes.
The relevant water corporation is satisfied that the relevant Council has prepared, adopted and is implementing a Domestic Wastewater Management Plan (DWMP) in accordance with the DWMP Requirements.	The relevant water corporations participated on the steering committee overseeing the various phases of development of this DWMP and has formally accepted the final plan.
<p>The proposal does not present an unacceptable risk to the catchment having regard to:</p> <ul style="list-style-type: none"> ▪ the proximity and connectivity of the proposal site to a waterway or a potable water supply source (including reservoir); ▪ the existing condition of the catchment and evidence of unacceptable water quality impacts ▪ the quality of the soil; ▪ the slope of the land; ▪ the link between the proposal and the use of the land for a productive agricultural purpose; ▪ the existing lot and dwelling pattern in the vicinity of site; ▪ any site remediation and/or improvement works that form part of the application; and ▪ the intensity or size of the development or use proposed and the amount of run-off that is likely to be generated. 	<p>This DWMP includes:</p> <ul style="list-style-type: none"> ▪ Spatial risk assessment tools and data that were developed during preparation of this DWMP and are available to Council's planners. ▪ Catchment condition and water quality impacts are addressed in the spatial risk assessment. ▪ Soil, slope, compatibility with adjacent land uses, dwelling densities, site works, development size / intensity are all considered during the land capability assessment processes required for all development occurring in Special Water Supply Catchments.
The DWMP must comprise a strategy, including timelines and priorities, to prevent discharge of wastewater beyond property boundaries; and prevent individual and cumulative impacts on groundwater and surface water beneficial uses.	This strategy includes a 5-Year action plan, a targeted inspection and compliance program and risk assessment that considers impacts to groundwater and surface water beneficial uses.

The Guidelines outline a set of DWMP requirements that must be met in addition to those set out in the SEPP. Table 3-2 summarises the way each of these requirements has been addressed in the preparation of this DWMP.

Table 3-2: Domestic Wastewater Management Plan Requirements (page 4 Planning permit applications in open, potable water supply catchment areas November 2012)

REQUIREMENTS	HOW THIS DWMP MEETS THE REQUIREMENTS
<p>The DWMP must be prepared or reviewed in consultation with all relevant stakeholders including:</p> <ul style="list-style-type: none"> ▪ other local governments with which catchments are shared ▪ EPA ▪ local water corporations. 	<p>The DWMP has been prepared in consultation with Goulburn-Murray Water, North East Water, North East CMA and the neighbouring Alpine Shire.</p> <p>Consideration has been given to the DWMPs in place for the neighbouring municipalities of Mansfield Shire and the Rural City of Benalla.</p>
<p>The DWMP must comprise a strategy, including timelines and priorities, to:</p> <ul style="list-style-type: none"> ▪ prevent discharge of wastewater beyond property boundaries ▪ prevent individual and cumulative impacts on groundwater and surface water beneficial uses. 	<p>A risk-based approach to preventing these type of discharges and impacts is presented in this plan and is ingrained in the day-to-day approach of Council's environment officers.</p> <p>Timelines and priorities are presented in the Action Plan.</p>
<p>The DWMP must provide for:</p> <ul style="list-style-type: none"> ▪ the effective monitoring of the condition and management of onsite treatment systems, including but not limited to compliance by permit holders with permit conditions and the Code ▪ the results of monitoring being provided to stakeholders as agreed by the relevant stakeholders ▪ enforcement action where non-compliance is identified ▪ a process of review and updating (if necessary) of the DWMP every 5 years ▪ independent audit by an accredited auditor (water corporation approved) of implementation of the DWMP, including of monitoring and enforcement, every 3 years ▪ the results of audit being provided to stakeholders as soon as possible after the relevant assessment ▪ councils are required to demonstrate that suitable resourcing for implementation, including monitoring, enforcement, review and audit, is in place. 	<p>Compilation and maintenance of an onsite system database, along with inspections of existing systems, will be undertaken as set out in the Action Plan.</p> <p>Agreements between Council and stakeholders are in place and can be modified from time to time as required.</p> <p>Council has enforcement powers and the Action Plan provides resources for compliance monitoring.</p> <p>The Action Plan provides for updating the DWMP after five years.</p> <p>The Action Plan provides for a three-yearly audit by the relevant water corporation's accredited auditor.</p> <p>The Action Plan provides that the results of the 3-yearly audit will be provided to the relevant water corporations.</p> <p>Resourcing of the Action Plan is discussed in Chapter 5.</p>

3.3 LCA REQUIREMENTS AND REFERRALS

Land capability assessments (LCAs) are required across most of the Shire due to the existence of the Special Water Supply Catchments. It is recommended that the LCA requirements described here are applied to the whole Municipality.

LCAs must be submitted at the planning permit application stage, or if no planning permit is required, at building permit stage with the application for a Permit to Install an on-site wastewater management system.

In order to reduce the financial cost to new home owners and workload on Council and Water Authority officers, it is recommended that the risk ratings developed in this DWMP be used to guide the level of complexity of the LCA and the referrals made to water authorities. Standard proposals in lower risk areas need not have the same detail of assessment as higher risk proposals.

Table 3-3: Land Capability Assessment requirements and referrals

RISK RATING	QUALIFYING SITES	LCA REQUIREMENTS	REFERRALS	LIKELY REQUIREMENTS FOR LAND OWNERS
Low	Risk rating <4	Description of proposed onsite treatment, land application and management strategies, including design maximum peak daily hydraulic flow and design maximum daily organic load. Plan of proposed onsite system, (including location of reserve land application area where absorption/transpiration trenches/beds are proposed). Confirmation that setback distances meet requirements in EPA Code of Practice (see Table 5 in Code). Onsite system sizing completed in line with the design considerations detailed in Volume II of this DWMP.	None	Land owners must comply with conditions on permits granted by Council.
Moderate	Risk rating between 4 and 7 (inclusive). Slope steeper than 10% Watertable <2m from surface. Category 6 soils ⁶ . Lot size <4,000m ²	As above, plus: Soil profiling and texture assessment in line with site-and-soil evaluation procedures detailed in AS/NZS 1547:2012.	The relevant water corporation - Areas within Special Water Supply Catchments and within 2 km of potable water offtakes.	As above, plus: Traditional septic tanks may not be appropriate to treat wastewater and so more expensive, complex systems may need to be installed. Wastewater volume needs to be minimised on small lots.
High	Risk rating >7	As above, plus: Full feature survey of the site. Detailed soil analysis, including insitu permeability testing. Water and nutrient balance calculations.	The relevant water corporation – Areas within Special Water Supply Catchment and within 2 km of potable water offtakes.	As above, plus: Council will prioritise inspection and monitoring of high risk areas to ensure routine maintenance is undertaken by land owners into the future.

Further guidance on LCAs is provided in the EPA *Code of Practice – onsite wastewater management* (Publication 891.4, 2016, or as amended) and the *Victorian Land Capability Assessment Framework* (MAV, 2014, or as amended).

⁶ As per soil category mapping available from RCW.

Action T. Adopt the risk based land capability assessment and referral approach developed as part of this DWMP.

3.4 MINIMUM LOT SIZE FOR NEW SUBDIVISIONS

In the development of this DWMP, consideration has been given to an appropriate minimum lot size for new subdivisions. Details are presented in Volume II of this DWMP.

Based on nitrogen balance calculations for a four-bedroom house with water saving fixtures and fittings and secondary standard wastewater treatment, a minimum lot size of 4,000 m² is generally sufficient to sustainably manage wastewater flows.

Note that the EPA Code of Practice for onsite wastewater management states the following:

The feasibility of providing a reticulated sewerage system should be seriously considered for the development of individual lots and for subdivision proposals that would result in allotments smaller than 10,000 m² (1 hectare). This area should not be seen as a minimum lot size but as a risk threshold, as lots smaller than 10,000 m² may be unable to retain all wastewater onsite.

It is possible to sustainably manage wastewater on lots smaller than 1 hectare. However, this requires relatively restrictive controls, particularly for high risk sites (e.g. sites with heavy clay soils or sodic soils).

For large scale unsewered subdivision, Council will take a conservative approach to provide greater flexibility to landholders and to minimise both risk and management input.

3.5 DEVELOPMENT OF EXISTING SMALL LOTS

Within the Rural City of Wangaratta there are existing vacant lots that will be difficult to develop with onsite wastewater management due to their small scale. Development of these small lots (defined as less than 4,000 m²) may be considered appropriate only where:

- Onsite soil analysis provides evidence of higher permeability than clay dominated Category 6 soils;
- The wastewater volume to be generated is minimised through use of water saving fixtures, construction of a small house, use of a dry composting toilet, indoor recycling of treated greywater or another alternative approach; and
- Secondary treatment with nutrient reduction and subsurface drip irrigation is used to minimise the land application area required.

OR

- Sewerage is provided.

A pump-out tank may be an option of last resort for an existing dwelling which cannot contain all of its wastewater onsite. The contents of the tank are pumped into a sewage sludge truck and transported for discharge to an approved centralised sewage treatment plant. This is not an option for new dwellings or where additions or renovations will occur that are expected to increase wastewater flows.

It is important to note that development of existing small lots can become an ongoing compliance issue and resource issue for Council to maintain, so care needs to be taken when approving these to avoid creating future legacy problems.

Action U. Explore the possibility of acknowledging wastewater management risk on Section 32 Vendor Statements for existing small lots and recommend that EHOs are contacted for assistance prior to undertaking site development.

3.6 TRAINING AND DEVELOPMENT

Training and information for land capability assessors should result in better LCAs, savings to home owners and efficiencies for Council.

All land capability assessors should meet the requirements of Section 1.8.3 of the EPA Code of Practice with respect to qualifications, experience, professional membership, professional indemnity and independence.

Land capability assessors and Council's EHOs should be encouraged to be active in the Environmental Professionals Association, by attending forums and sharing resources and experiences with neighbouring local government areas.

Action V. Develop and implement a training and development program for relevant staff in the field of onsite wastewater systems.

Action W. Consider facilitating an annual meeting with local/regional land capability assessment providers to discuss issues relevant to locality and to share knowledge.

4 Sewered areas

4.1 EXISTING ONSITE SYSTEMS IN SEWERED AREAS

Existing onsite systems in sewerred areas pose minimal risk.

- There are very few existing onsite systems within the Wangaratta sewerred area.
- Connections in the recently installed sewerage schemes in Wangaratta East, Glenrowan, Milawa, Oxley and Moyhu will progress along the program that has been developed. Where poor performance of an onsite system is identified (such as in the Wilson Road and Parfitt Road area), the connection process will be fast-tracked.
- Good understanding and clear communication links exist between North East Water and the Rural City of Wangaratta, so that issues identified by either will be resolved appropriately.
- No new onsite waste water disposal system permits will be issued for existing dwellings within declared sewerage areas.

4.2 FUTURE HOUSES IN SEWERED AREAS

Clear understanding exists between sewerage planning engineers at North East Water and town planners at Rural City of Wangaratta about which land can be sewerred. As such, it should be rare for any new houses to be approved in these areas without connecting to sewer – noting that the residential zones in the planning scheme do not consider on-site effluent disposal because any new dwelling is to be connected to reticulated sewer when in a declared sewerage district.

Sewerage districts generally indicate the extent of sewerable land, but a review of the mapped sewerage districts is recommended in the following areas:

- Oxley, where the mapped sewerage district extends further south than the current scheme. If this southern area is not intended for sewerage the mapping should be altered.
- Waldara, northwest of Wangaratta, where the sewerage district includes some areas that are already developed with onsite systems and are not likely to be sewerred.

Action X. Request North East Water to revise sewerage districts and provide latest district boundaries to RCW on a biennial basis.

5 Implementation of DWMP

The purpose of this section is to set out the tools and administrative procedures that are required and make clear Council's responsibilities for implementing this DWMP.

Council is committed to implementing the actions identified in this DWMP, and recognises that resources are required. Most of the actions outlined in this plan can be undertaken by existing EHO and planning staff, or are already being undertaken.

However, items such as the monitoring program, enforcement, 3-yearly audit and setting up the database, will require additional resources.

The monitoring and compliance inspections are expected to cost approximately \$15,000 for year one, based on other Councils' experience of approximately \$150 per site with the proposal to increase to \$30,000 in year two as double the number of inspections proposed. An allowance of \$30,000 has been made to continue the program in Year 3.

Based on the experience of other Councils there will also need to be an allocation of resources for enforcement of the compliance actions identified as these will need to be followed up. Other Councils have indicated that this consumes considerable resources in time and funds. A further \$10,000 is proposed for this function alone based on the 100 inspections for year one, this will need to be reviewed for year two.

Experience from other Councils indicates that approximately 2 days per week support will be needed over and above the normal environmental health functions. The estimated cost for this is \$40,000 per year.

A total financial commitment from Council for year one is approximately \$65,000 and this will increase in year two as the inspections double.

Other Councils in Victoria and the MAV have explored options for raising additional funds to cover onsite system management through, for example, a levee or special rate on properties with onsite systems. Council will monitor the progress of these investigations and consider implementation of a domestic wastewater management charge if it is found to be a practical option elsewhere.

Because DWMPs require sign off approval from the relevant water corporation and a condition of such approval is that the plan be implemented and resourced. Should this not occur then the water corporations can revoke their approval.

Action Y. Engage the necessary additional resources to implement the actions identified in this DWMP.

Action Z. Consider implementing a domestic wastewater management charge if MAV or other Councils find this to be a practical means of funding domestic wastewater management.

6 Action plan

Actions identified throughout the DWMP are repeated in the table below, along with details about who is responsible for their implementation, the estimate additional cost to Council and timeframe for their implementation. Actions are designed to be SMART – i.e. Specific, Measurable, Achievable, Relevant and Timed, so that they can be readily implemented and audited.

ACTION NO.	ACTION DETAIL	RESPONSIBILITY	ADDITIONAL COST OVER 6 YEARS	TIMEFRAME
A	Adopt and implement this domestic wastewater management plan 2018, to meet Council's regulatory obligations.	CEO	-	Q1 2018
B	Employ a part-time DWMP officer for three years to assist in the implementation of the action plan and engage resources as required to follow up compliance matters.	Director Development Services(DDS)	\$120,000	Q3 2018
C	Undertake annual review and adaptation of the DWMP action plan and report to Council and stakeholders on progress.	DDS	-	Annually
D	Undertake an independent audit of the DWMP after three years.	DDS	\$10,000	Q1 2021
E	Undertake a full review of the DWMP five years after its adoption by Council.	DDS	\$30,000	Q1 2023
F	Design an "Onsite System Database" for all existing onsite systems, integrated with Council's existing property, rates and mapping systems through Tech One or other suitable software such as Health Manager.	DDS	\$10,000	Q3 2018
G	Develop, populate, maintain and utilise the onsite system database as a tool for improved domestic wastewater management of existing systems and to inform planning decisions about future systems.	DDS	-	Q1 2019

ACTION NO.	ACTION DETAIL	RESPONSIBILITY	ADDITIONAL COST OVER 6 YEARS	TIMEFRAME
H	Record reports of the maintenance of onsite systems and the results of compliance actions in the database to facilitate reporting to the EPA.	DDS	-	Q1 2021
I	Subject to outcomes of the monitoring and compliance program, request North East Water to prepare sewerage management plans for Tarrawingee, Eldorado, Springhurst and Whitfield so that Council can make an informed judgement on the costs / benefits of sewerage.	DDS	-	Q3 2022
J	Design and implement a monitoring and compliance program for onsite systems in high risk areas.	DDS	\$75,000	Q3 2019
K	Enforce maintenance requirements and compliance actions on owners when necessary.	DDS	-	Ongoing
L	Subject to outcomes of the monitoring and compliance program, request North East Water to consider stormwater treatment or other innovative cluster solutions as part of the suite of options assessed when preparing sewerage management plans for Whitfield and Springhurst.	DDS	-	Q3 2022
M	Incorporate the message about the importance of conservative household water use into all communications related to onsite systems and targeted education programs in all areas, particularly high priority areas.	DDS	-	Ongoing
N	Adopt the term “onsite wastewater system” as the generic term to describe the various infrastructures used to treat and dispose of domestic wastewater, and use the term “septic tank” only to refer to the treatment chamber in older-style onsite systems.	DDS	-	Q3 2018

ACTION NO.	ACTION DETAIL	RESPONSIBILITY	ADDITIONAL COST OVER 6 YEARS	TIMEFRAME
O	Encourage all households to conduct appropriate regular maintenance of onsite systems, noting future monitoring and inspection.	DDS	-	Ongoing
P	Continue to provide general community education on the correct operation and maintenance of onsite systems, as well as specific information to householders regarding water conservation.	DDS	-	Ongoing
Q	Provide targeted education materials to townships and other areas where older style onsite systems cause social and environmental issues based on information from the onsite system database.	DDS	-	Q3 2019
R	Investigate the use of land information certificates (Section 32 vendor statements) to alert homebuyers to the existence of an onsite system and the associated domestic wastewater management requirements.	DDS	-	Q1 2020
S	Continue to implement and enhance existing decision and assessment processes for new development and onsite wastewater systems.	DDS	-	Ongoing
T	Adopt the risk based land capability assessment and referral approach developed as part of this DWMP.	DDS	-	Q1 2019
U	Explore the possibility of acknowledging wastewater management risk on Section 32 Vendor Statements for existing small lots and recommend that EHOs are contacted for assistance prior to undertaking site development.	DDS	-	Q1 2020

ACTION NO.	ACTION DETAIL	RESPONSIBILITY	ADDITIONAL COST OVER 6 YEARS	TIMEFRAME
V	Develop and implement a training and development program for relevant staff in the field of onsite wastewater systems.	DDS	-	Q3 2018
W	Consider facilitating an annual meeting with local/regional land capability assessment providers to discuss issues relevant to locality and to share knowledge.	DDS	-	Q3 2019
X	Request North East Water to revise sewerage districts and provide latest district boundaries to RCW on a biennial basis.	DDS	-	Q3 2018
Y	Engage the necessary additional resources to implement the actions identified in this DWMP.	CEO	-	Q2 2018
Z	Consider implementing a domestic wastewater management charge if MAV or other Councils find this to be a practical means of funding domestic wastewater management.	CEO	-	Q2 2020

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