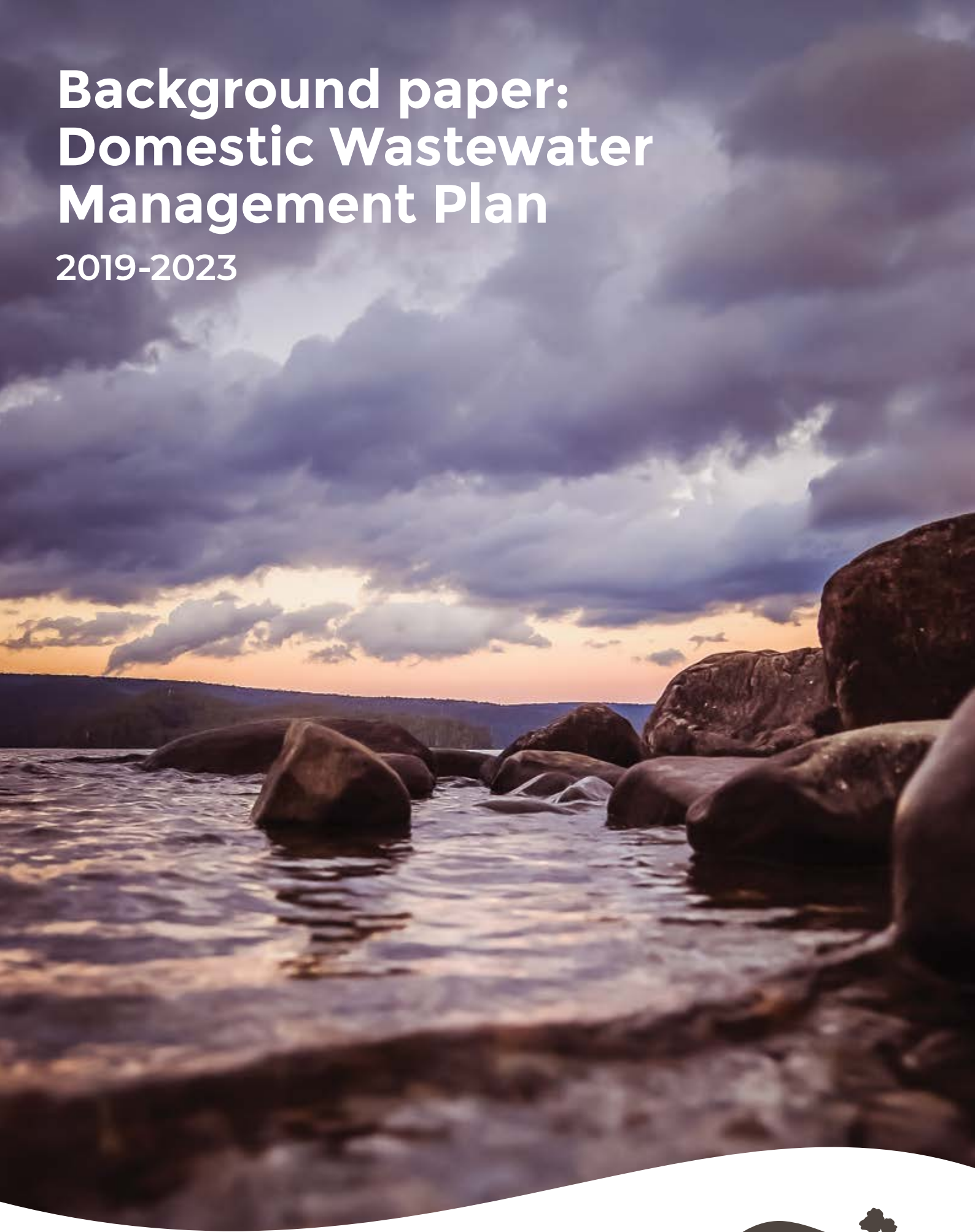
Background paper: Domestic Wastewater Management Plan

2019-2023



Nillumbik
The Green Wedge Shire

Contents

Acknowledgement of traditional owners
Nillumbik Shire Council acknowledges the Wurundjeri people who are the Traditional Custodians of Land known today as Nillumbik. We pay respect to the Elders both past and present and extend that respect to other Indigenous Australians.

Analysis and Review Of 2015-2018 DWMP

Analysis and review of the 2015-2018 DWMP reveals an ambitious document that attempted to table and cover off all conceivable wastewater issues within the Shire of Nillumbik and some larger systemic issues, external to Nillumbik. The resulting Action Plan presented more as a 'wish-list' than a structured and targeted strategic document. The ability to complete the actions outlined in the Action plan, was too ambitious and unrealistic to achieve within the 3 year timeframe.

The structure of the document was sound, however the strategies and actions appear to have been developed and included in isolation from the rest of the organisation and key external stakeholders including the community. There was limited internal and external consultation and no community engagement.

Some of the strategies and actions listed within the Action Plan appeared unfocussed or unclear, which led to some duplication across both. This creates additional confusion around the specific intent of these strategies and actions. Frequent use of more general terms and language allows ambiguity to enter into their interpretation. Focussed and unambiguous language was seen as a key need of the document; and in particular, the Action Plan.

Changes in State legislation, policies, standards and guidance have meant that the approach of many of the strategies and actions now require change in order to adapt to the new authorising environment.

Throughout the 3 year timeframe of the Action plan, many actions were commenced however not completed. The funding provided by Council's New Initiative process, enabled all existing historical records to be digitised and entered into Council's application management program; Pathway. This has provided considerable assistance in identification of the remaining information gaps.

However, many actions within the 2015-2018 Action Plan remain outstanding. The late adoption of the Plan meant that commencement of many actions was delayed by 3-6 months, including the appointment of a Domestic Wastewater Officer to facilitate the implementation of the actions. Throughout the 2015-2018 period, a dedicated Domestic Wastewater Officer was engaged for only 18 months, prior to the review and development of the new Plan.

Detailed analysis of the 2015-2018 DWMP Action Plan is shown in Table 1. This Table includes critical analysis of the value of each action, it's current relevance and the progress achieved to date.

Table 1: 2015-2018 Domestic Wastewater Management Plan: Action Plan Assessment & Progress (as of October 2018)

2015-2018 DWMP Actions & Strategies				Progress Assessment & Action Analysis				
No	Strategy	Actions	Responsibility	Action Status Code	Description of Progress to Date	Critical Analysis of Action Validity & Issue Identification	Action still Relevant? (Y/N)	Remaining Tasks
Information and Data Collation								
I1	Current septic system information collection requirements are relevant.	1. Review and modify all application forms relating to septic tank systems to ensure they are in compliance with: • Land Capability Assessment Framework • EPA Certificate of Approval conditions • EPA Publication 891.3 Code of Practice for Onsite Wastewater Management • Australian Standard 1547:2012	Environmental Health	**BAU**	• Fees adjusted annually. • E-pathway partly available to customers for existing septic plan requests (not available for lodging new septic applications yet). • Minor periodic edits to septic application form. • Major review/edit undertaken in 2017 by the WW Officer.	• Current Application Form is well structured, up-to-date and captures all the necessary information. • No review or modification currently required.	Y	• None
I2	Septic information is readily accessible in a single database and enables identification of areas of critical concern.	1. Validate files containing septic tank system information including paper and electronic formats. 2. Add records to pathway database to ensure all septic tank system details are recorded in single repository, including details of old permit conditions where available. 3. Undertake data cleansing of information already entered into Pathway to ensure accurate information is provided on each system.	Environmental Health Information Technology Records	**AC**	• 7 Boxes of paper septic application records dating back to 2004 scanned into Sharepoint. • Historic paper septic application records prior to 2004 scanned and recorded as follows: – A-L → Infovision – M-Z → Pathway paperclip • All Historic septic application records collected and located so far have been added to Pathway as a Historic application record • Still approximately 1000 existing older septics across the Shire unaccounted for/ unknown. Council has no paper records for these and (obviously) these systems have not been entered into Pathway • All new septic applications entered into Pathway and then scanned/saved into Sharepoint by Health Admin.	• Located Historic records have been added to Pathway but any associated Plans/ paperwork is separately located across Infovision, Sharepoint and Pathway (paperclips). Therefore, all information relating to a septic is still not centrally accessible from a single database (is stored across 3 locations). • Current Applications/Permits have their application info and issued permits in Pathway but scanned Plans and Application form in Sharepoint. • Septic mapping information was intended to be incorporated onto Exponare but to date has not occurred. • If this were to occur it would be a 4th (separate) septic data point (from Pathway, Infovision and Sharepoint data).	Y Y Y	• Further centralisation of data/records required • Further integration of data systems required

Action Status Code Key:

YTB = Yet to Begin
BBI = Begun but Incomplete
AC = Almost Complete
C = Complete
BAU = Business as Usual

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No	Strategy	Actions	Responsibility	Action Status Code	Description of Progress to Date	Critical Analysis of Action Validity & Issue Identification	Action still Relevant? (Y/N)	Remaining Tasks
Information and Data Collation continued								
I3	Options for locating and mapping existing systems are investigated.	1. Investigate feasibility of a service fee for the location and mapping of septic systems and providing a plan for property owners (process already exists for requesting copies of plans from Council). 2. Develop a risk assessment process to more easily identify areas of high environmental or health risk. 3. Develop a layer on the GIS system for high/medium/low risk areas for the installation of septic tank systems. 4. Analyse inspection/maintenance reports to identify properties with failing septic tank systems.	Environmental Health	**BBI**	• Small GPS mapping trial of septic cohort conducted (by WW Officer 2017 using the "Crest" software). The mapped septics were loaded onto Exponare (as a layer). • Inspection/maintenance reports analysed infrequently/sporadically (usually only when an additional resource can be dedicated).	• The feasibility of Action 1 has been investigated to some extent during 2017 on a small/simplistic scale (small GPS septic mapping trial). However, the IT currently available to EH is not enabled to GPS Map septics. • The complete mapping process has not been tested/re-visited recently. Advice needed from IT • The 4 Actions for I3 appear disconnected/unfocussed. Some are duplicated across other sections.	N Y Y Y	• Identify the GPS mapping capability of the new hardware (assistance from IT required). • Develop and define the risk assessment criteria and process that will assign high/med/low risk values to existing septic systems. • Review and confirm what septic and sewer info needs to appear in Exponare. • Re-confirm/ Review whether Exponare is the best/only GIS that can be utilised.
I4	Audit program	1. Develop an issues paper that discusses the feasibility of assessing the performance of septic systems in the Shire. This would include details on current number, type and age/time profiles and installation trends. 2. Investigate various options available to undertake the audit and the associated costs. Options include: • Survey residents to ascertain knowledge of existing septic system details (include plumbers report template). • Refer to Council property files. • Require property owners to provide maintenance report no more than 6 months old and septic tank cleaning/ desludging reports. • Utilise valuers' systems to determine the age of certain estates and then approximate what type of systems would be installed. • Selecting a high risk area at a time and undertaking targeted inspections.	Environmental Health Nillumbik Valuers	**YTB**	• No actions completed to date.	• An issues paper is not required to discuss the feasibility of conducting septic monitoring & compliance activities, as the need for it is unquestioned and proven to provide results. • Action 2 still valid. Deciding on the best process is the main question. • The I4 title of "Audit Program" appears to be confused. The context of (all of) the action items is a Monitoring & Compliance Program (of which Auditing is a component).	N Y	• Develop and define the Compliance Program structure (for 2019-2023 period). • Develop and define the Audit component of the Compliance Program (for 2019-2023 period).

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Education and Awareness								
E1	Potential and new property buyers are provided educational material regarding the existing septic system and/or maintenance requirements.	1. Section 32 notices to include information on septic systems. 2. Develop a process with Rates to be able to add/remove details on section 32 notices. 3. Develop a process with Rates to identify transfer of property ownership to send information kits to new property owners.	Environmental Health Rates	**BBI**	• Action 1 completed. • Actions 2&3 remaining.	• The septic information will be on the Land Information Certificate (not the section 32). • Written MOU detailing the agreed process details most likely needed formalize the new arrangement (for reference/accountability).	Y Y Y	• Actions 2 & 3
E2	Septic Information Series for new residents includes information on landowner responsibilities and management requirements for septic systems.	1. Review Septic Information Series. 2. Identify gaps in information provided and develop material to fill gaps. 3. Distribute Information Series kits to new property owners purchasing properties with septics once settlement is complete. 4. Provide the information series to property owners when issuing a Certificate to Use a Septic Tank System.	Environmental Health	**AC**	• Actions 1&2 completed. • Actions 3&4 remaining (as the Series is with. Communications waiting for the Council re-brand to occur prior to printing).	• Information Series has been completed but requires corporate re-branding.	N N Y Y	• Actions 3 & 4
E3	Reference material for septic applications is clear, concise and contains regulatory requirements.	1. Review Council's Guide to Domestic Wastewater Treatment and Disposal Systems to ensure the document remains current. 2. Provide the document in electronic format and distribute to plumbers who install septic systems in the Shire. 3. Provide the document to property owners when applying for a planning permit.	Environmental Health Statutory Planning	**C**	• Actions 1, 2 & 3 completed. • Nillumbik Domestic Wastewater Treatment Guide available from the Council website or in hardcopy form.	• No issues as all Actions have been completed (Actions 2 & 3 continue to be implemented as on-going actions).	N Y Y	• None
E4	Householders in unsewered areas are encouraged to reduce their water consumption.	1. Develop and distribute material on water saving options based on local context. 2. Develop material additional to information kits based on achieving environmental best practice for existing septic tank systems. 3. Investigate mechanisms for the effective delivery of education material to residents.	Environmental Planning Environmental Health	**YTB**	• No actions completed to date.	• E4 could be seen as a non-core or lower priority Strategy for the 2019 DWMP (2019-2023). • Actions 2 & 3 are duplicated and achieved in other existing Strategies.	N N N	• E4 to be deleted from 2019 DWMP.
E5	Promote the responsible reuse and discharge of greywater.	1. Review and distribute Nillumbik's Guide for Reusing Domestic Greywater. 2. Promote reuse of greywater in areas discharging greywater into stormwater or open drains as a priority (temporary and permanent diversions). 3. Develop procedure for the re-use/diversion of greywater for all residential properties.	Environmental Health EPA	**BBI**	• Action 1 partially completed (review has been completed, but printing & distribution yet to occur). • Actions 2 & 3 not completed.	• E5 could be seen as a non-core or lower priority Strategy for the 2019 DWMP (2019-2023). • The objectives of Actions 2 & 3 are achieved through other core actions.	N N N	• E5 to be deleted from 2019 DWMP

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Education and Awareness continued								
E6	Education materials available for the operation of septic systems.	1. Develop educational material and investigate most appropriate way to distribute the information. 2. Target specific types of education in different areas based on data obtained from the audit of septic systems in the Shire.	Environmental Health	**BBI**	• No actions completed to date	• E6 is a duplication of several other Education Strategies (E2, E3 & E5). • E6 should be re-worded in the specific context of periodic community/industry information sessions/ workshops on relevant topics (i.e. Plumber's Workshops, Septic Owner requirements).	N Y	• E6 to be re-defined/worded to the periodic information session/ workshop context in 2019 DWMP.
E7	Water quality in high risk areas in the Shire is monitored.	1. Investigate options to link in with the Melbourne Waterwatch community monitoring program and effectively use results. 2. Develop sampling parameters which identify the presence of pollutants from septic systems. 3. Undertake 'snap shot' samples for E.coli in high risk areas. 4. Liaise with other relevant stakeholders (including government departments, catchment management authorities, YVW) on existing water sampling undertaken within the Shire and determine suitable avenues for using this data to reduce impacts of effluent on water quality.	Environmental Health Environmental Planning Melbourne Waterwatch Water EcoScience	**YTB**	• No actions completed to date	• Water sampling activities should be more targeted than a 'snap shot' approach would suggest. Sampling activities should tie in with the auditing, monitoring and compliance activities to provide specific data for a clear purpose (i.e. to ID high risk areas & inform sewer prioritisation). • Development of the sampling parameters should be based upon industry best practice. • Clear Project based objectives and processes need to be developed and properly communicated to EHO's conducting the sampling. • Training or up-skilling may be needed based on complexity.	Y Y Y Y	• Develop and define a targeted Water/effluent Sampling Program (as a component of the Compliance Program). Ensure that the sampling outcomes contribute to the overall Compliance Program objectives. • Training and dissemination of sampling parameters/ processes required across EHOs. • Develop and embed Sampling Information network/contacts and resources.

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Sewer Connection and Backlog Prioritisation								
S1	Advocacy	1. Seek partnerships with other Councils and peak associations to advocate to the State Government to accelerate funding to clear the sewerage backlog program. 2. Advocate for improvements to legislative framework. 3. Provide input into proposed legislation pertaining to domestic waste water or reticulated sewerage. 4. Develop proposals calling for increases in funding and reductions in the timeframes for the provision of sewer to areas on the sewerage backlog program.	Environmental Health Statutory Planning Strategic Planning	**BBI** **BAU**	• EH Participated in the Healthy Waterways Strategy Workshop, 6 June 2018. • EH attended the EHPA Wastewater Forum, 22 June 2018. • EH Participated in the MAV/ EPA EP Act 2017 Reforms Workshop, February 2019 and subsequent working group meetings. • Liaison/communication with other LGs to ensure Nillumbik's views and issues represented in LG & industry (MAV, EHPA) submissions/ commentary into the SEPP (Waters) Draft Review, May/ June 2018. • Action 1 not completed. • Actions 2 & 3 largely completed. • Action 4 partially completed (through Plenty CSP Inclusion Proposal – 21 High-risk property Report submission to YVW).	• Closer engagement between YVW and Nillumbik is necessary to start maximizing the Community Sewerage Program outcomes. This is the most direct way to influence improved outcomes. • More involvement/ collaboration from YVW is also needed in: – DWMP input – CSP Prioritisation • Advocacy actions need to focus almost exclusively on YVW and build a productive/ positive working relationship that shares mutual CSP outcomes.	Y (but minimal) Y (but minimal) Y (but minimal) Y	• Focus advocacy work/effort on YVW. • Define and document YVW Advocacy strategy. Resolve detail down to specific advocacy measures/actions with assigned frequency and target timeframes (i.e. structured and pro-active advocacy program). • Suggested framework: – Regular Meetings on current CSP Prioritisation issues (get our additions on the table & specific info on broader YVW implementation strategy/ intentions) – Monthly Sewer data exchange – Structured/ specific DWMP input from YVW at the necessary stages during it's development • Judicious use of resources and input into the broader state-level advocacy related to Actions 1, 2 & 3. Only where there is impact value.

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Sewer Connection and Backlog Prioritisation continued								
S2	Provide input into YVW's Backlog Sewerage Plan prioritization process (2016).	1. Review requirements for documentation of "areas of consideration" for sewer backlog planning to ensure unsewered areas can be prioritized appropriately. 2. Review and prioritize in accordance with YVW's Risk Prioritisation Schedule. 3. Provide information to Yarra Valley Water (YVW) of those areas in the Shire that have the greatest threat from under-performing septic systems. 4. Identify properties that should be added to existing sewer backlog areas.	Environmental Health People and Place Yarra Valley Water	**BBI** **BAU**	• Information regarding properties for priority connection in Eltham South provided to YVW. • Plenty CSP Inclusion Proposal submitted 3/10/2018 to YVW. • Periodic e-mail & phone communication with YVW regarding CSP implementation and associated issues. • Contributions made to aspects of Actions 1, 2, 3 & 4. However work in this area is on-going in nature.	• YVW CSP Prioritisation method has changed to operating from an area basis to a property basis. • YVW CSP Prioritisation criteria has also recently changed. • Multiple weighting criterion are applied across 15 different sub-measures to individual properties to give them a total prioritisation weighting. • Factor in exploring alternative options to reticulation.	Y Y Y Y	• Utilise Plenty CSP Inclusion Project as the template Report structure for all future CSP property inclusion advocacy. • Define and develop the specific components of the advocacy process (as per S1 – Remaining Tasks).
S3	Maintain database of properties sewered by Yarra Valley Water.	1. Obtain property information data from YVW quarterly. 2. Upload information onto Council's GIS system. 3. Develop a process to update Exponare sewer mapping systems with annual sewer availability data and plans. 4. Develop a process to remove septic information (for section 32 notices) from property database when connection to sewer occurs.	Information Technology Yarra Valley Water	**BBI**	• Actions 1 & 2 complete (but on-going). • Action 3 has been implemented on a monthly basis (by IT). It is on-going. However, it is dependent on YVW continuing to supply the data to Council on a regular basis. • Action 4 has not been completed.	• Review of the extent and 'usability' of the updated information uploaded to Exponare is required (i.e. is it doing what we want it to?).	Y Y Y	• Action 4 remaining
S4	Encourage property owners to connect to the sewer.	1. Follow up all properties that have sewer available but YVW has no record of connection, particularly in backlog areas. 2. Ensure retention of septic tank systems in reticulated/ declared area is based on evidence of compliance with current EPA requirements. 3. Ensure properties that cannot show evidence of compliance are made to connect to the sewer.	Environmental Health Yarra Valley Water	**BBI**	• Limited progress across Actions 1, 2 & 3. • Applications to Retain in Nth Warrandyte have been completed. • Enforcing connection in collaboration with YVW on properties in Research has been completed.	• Actions 1, 2 & 3 are labour intensive and require a dedicated resource to pro-actively implement as a structured and targeted Project. • Property owners need to submit the AtR for the Project to be completed. • AtR Fee should be lowered to reduce disincentive (to apply). • Requires an established, clear and documented enforcement process (post process reviews) that accommodates YVW requirements. • Requires an established/ accessible liaison point with YVW.	Y Y Y	• Dedicated resource required to undertake this as a larger Project • Training and dissemination possibly required across EHOs as well.

2015-2018 DWMP Actions & Strategies				Progress Assessment & Action Analysis				
No	Strategy	Actions	Responsibility	Action Status Code	Description of Progress to Date	Critical Analysis of Action Validity & Issue Identification	Action still Relevant? (Y/N)	Remaining Tasks
Regulation & Enforcement								
R1	All site developments are capable of adequately treating and containing all effluent on site prior to approval.	1. Maintain up to date and relevant septic specifications and standard conditions for planning permits. 2. Staff to undertake specialist training on waste water management. 3. Develop and implement policy and procedures for assessment of planning applications to ensure new developments retain all wastewater onsite. 4. Advocate for minimum competency standards or accreditation program for LCA consultants. 5. Develop internal procedure for minimum standards guide for accepting LCA's.	Environmental Health	**BBI** **BAU**	• Majority of implementation across Actions 1 & 2. • EH attended the EHPA Wastewater Forum, 22 June 2018. • EH attended the CET AWTS Servicing & Maintenance Course 8-9 August 2018. • Most EHOs have completed the CET Land Capability Assessment for On-site Wastewater Management Training Course.	• Policy/procedure for Action 3 has not been documented (remains informal). • Pursuing Action 4 provides little immediate benefit or guaranteed return to NSC. Other Agencies or Industry Associations are better placed to drive the advocacy and change for this action. • Action 5 is a lower priority action (EH currently has a good understanding of what constitutes an acceptable LCA). • EH team member should be on the Environment SIG (to provide input into these issues and represent/advocate Nillumbik's position).	Y Y Y N N	• Planning Referral Assessment process needs to be developed and documented (as part of overall Process Review).
R2	Consistent application of Council's statutory duty in approving applications to install septic tank systems.	1. Review processes for conducting inspections of septic tank systems to ensure systems being installed meet EPA and Council permit conditions. 2. Review septic tank permits to ensure all relevant conditions are added to new permits.	Environmental Health	**BBI** **BAU**	• On-going un-documented (has not been process mapped) improvement to septic inspection process. • Comprehensive Reviews have not been conducted for Actions 1 & 2.	• Comprehensive review required for Actions 1 & 2.	Y Y	• Comprehensive review required for Actions 1 & 2.
R3	Investigate options for the enforcement of Certificate of Approval conditions and maintenance conditions for septic tank systems.	1. Investigate compliance programs relating to septic tank systems and review implementation across other municipalities. 2. Develop a Business Case to implement a compliance program that includes the resourcing required for a process to require: • Home owners to desludge their septic at least every 3-8 years and provide confirmation to Council • Maintenance of existing septic tank systems in accordance with permit conditions • Options for collecting and recording of maintenance reports • Methods of following up on outstanding reports. • Options for enforcement where septic tank systems are not in compliance with EPA or Council permit conditions	Environmental Health	**YTB**	• No actions completed to date.	• Implementation of the Compliance Program under Action 2 is labour intensive and require a dedicated resource to implement as a structured Project. • Requires an established, clear and documented enforcement process (post R2 reviews) that accommodates the different scenarios that will be encountered.	Y Y	• Small Research Project into Applications that utilise electronic submission (by maintenance providers) and processing of septic maintenance reports. • Select the most appropriate Application & present Business Case.

2015-2018 DWMP Actions & Strategies				Progress Assessment & Action Analysis				
No	Strategy	Actions	Responsibility	Action Status Code	Description of Progress to Date	Critical Analysis of Action Validity & Issue Identification	Action still Relevant? (Y/N)	Remaining Tasks
Regulation & Enforcement continued								
R4	Complaint investigation	1. Investigate all incidents of failing systems and complaints. 2. Pursue legal advice to clarify Council's legislative duty for complex wastewater related issues.	Environmental Health	**BAU**	• Action 1 completed on-going (in the context of all septic complaints and other information received by Council). • Action 2: Legal advice sought periodically on complex wastewater issues.	• Septic complaint process mapping needs to tie in (and be consistent) with the relevant parts of the compliance program processes.	Y(on-going) Y(on-going)	• Ensure that the septic complaint process mapping ties in (and is consistent) with the relevant parts of the compliance program processes.
R5	Options for monitoring and compliance program investigated.	1. Obtain legal advice regarding the introduction of a local law to assist with the regulation of septic system management and ensure such a local law is within Council's power to make and is not inconsistent with any Act. 2. Review local laws developed by other Councils and examine associated implementation and compliance issues. 3. Investigate the options for creating a local law to require owners to connect to sewer where available .	Environmental Health	**YTB**	• No actions completed to date.	• Given that the existing legislation does not provide for a straightforward process across the different scenarios where connection to sewer should occur, Actions 1, 2 &3 still have merit. A local law would provide Council with a less complicated and more direct means of requiring connection (under Council control).	Y Y Y	• Investigate options for a Local Law via methods indicated in Actions 1,2, & 3.
R6	Managing Septic systems involved/ impacted by Emergency events (Fire & Flood).	1. Develop policy on management of septic systems in emergency situations, relating to EPA guidelines and Australian Standards.	Environmental Health Consultation with EPA	**BBI**	• Process/policy in place? • Documented?	• Review of the current provisions/policy is most likely needed. Latest guidance/material from EMV & CFA should be researched along with EPA Guidelines and Australian Standards.	Y	• Inclusion of this scenario in policy/process review.

Policy and Legislative Framework (2019)

Environment Protection Act (1970 & 2017)

At the time of writing this Plan, a major reform of the existing *Environment Protection Act 1970* (EP Act 1970) was partially underway. The Victorian Government was in the process of reviewing the old EP Act 1970 to produce a modern and revised Act. The first stage of taking place in October 2017 with the passing of the *Environment Protection Act 2017* which implemented reforms to the Environment Protection Authority's (EPA) corporate governance structure.

Introduction of the Environment Protection Amendment Bill 2018 in Parliament, which amended the *Environment Protection Act 2017* (EP Act 2017), provided the substantive provisions which 'flesh out' the framework set up by the EP Act 2017. This Bill was passed by Parliament and received Royal Assent in August 2018, becoming the *Environment Protection Amendment Act 2018* (EP Amendment Act 2018).

The new EP Amendment Act 2018 will implement the key reforms of the Victorian Government's response to the 2016 Public Inquiry into the EPA and represents the most significant changes to Victoria's environmental regulatory regime since the introduction of the EP Act 1970, more than 47 years ago.

The cornerstone of the EP Amendment Act 2018 is a new general environmental duty (GED) which will require businesses and individuals conducting activities that pose a risk to human health and the environment to understand those risks and take reasonably practicable steps to eliminate or minimise them. In an Australian first, the GED is criminally enforceable. Failure to comply with this duty could result in civil, or even criminal, penalties of up to
$1.6 million, with higher penalties for aggravated breaches. Whether this GED will apply in some form to off-site discharges and contamination from WTS remains to be seen, as its application to WTS installed across a 60 year timescale under different standards is legally problematic.

The provisions of the EP Act 1970 and EP Act 2017 will remain in effect until 1 July 2020. After this date the new provisions of the EP Amendment Act 2018 will take exclusive effect under the EP Act 2017 and the old EP Act 1970 will be repealed.

The existing framework of the EP Act 1970 provides for the control of water, air and land pollution, waste and noise. Part IXB of the Act outlines Council's responsibilities for the approval and management of WTS. Relevant sections include:

- Section 53L which states that a person must not construct, install or alter a septic tank system without obtaining a permit from Council.
- Section 53MB clarifies that a person must not use a septic tank system until it has been inspected by Council and a certificate approving its use has been issued.
- Section 53N requiring an occupier of premises on which a septic tank is located to maintain it in accordance with the requirements specified in the permit issued by the municipal council for that septic tank system.
- Section 53K also provides for Councils to declare that in any specified part of the municipality all WTS tank systems proposed to be installed for the purpose of treating waterborne wastes, where discharge of effluent from premises is proposed, must be of a type that treats all sewage.

The EPA approves only the *type* of onsite systems that may be installed in Victoria but does not assess or evaluate the different manufactured WTS for minimum performance standards. The responsibility for system assessment and the evaluation of minimum performance requirements sits exclusively with Joint Accreditation System of Australia and New Zealand (JAS-ANZ) and is carried out by the accredited certification body; Global Certification Pty Ltd (GC) under the GC Domestic Wastewater Treatment Units (Septic Tanks) certification scheme. JAS-ANZ utilize the existing published Australian/New Zealand Standards for on-site domestic wastewater as the basis for the performance criteria they apply to their certification scheme (for WTS).

Councils are responsible for the assessment and approval of WTS installations that discharge up to 5000 litres of effluent per day. The EPA is responsible for the approval of system installations that discharge over 5000 litres of effluent per day via their Works Approval process.

The EP Act 1970 has provision for Councils to issue infringement notices for breaches of the Act in relation to the installation, alteration or use of a WTS without a permit.

The exact nature of the impact of any changes resulting from the EP Act reforms to the domestic wastewater provisions of the EP Act 1970 are unknown at the time of writing this Plan, as they had not been fully developed or made public.

However, indications from the EPA, so far, suggest that the new framework will most likely consist of:

- The new (modern) *Environment Protection Act 2017;*
- Sub-ordinate Environment Protection Regulations; and possibly
- Supporting Environment Reference Standards

It is also likely that SEPP (Waters) will be abolished, soon after gazettal, and its provisions transferred to new regulatory instruments and standards supporting the new EP Act framework; due to come into effect by 1 July 2020.

State Environment Protection Policy (Waters)

The EP Act 1970 has provided for the formulation of State Environment Protection Policies (SEPPs) by government. SEPPs are statements of government environmental policy which provide direction for state government agencies, local government, the private sector and individuals in decision making around environmental protection issues.

SEPPs include identification of the beneficial uses of the environment that are to be protected, selection of indicators of environmental quality, a statement of environmental quality objectives, and may describe the program by which the stated environmental quality objectives are to be met.

Between June 2015 and December 2017, the Victorian Government conducted a review of the two relevant SEPPs to on-site wastewater – SEPP (Waters of Victoria) and SEPP (Groundwaters of Victoria). As part of the review, the Department of Environment, Land, Water and Planning (DELWP) and the Environment Protection Authority (EPA) developed the new draft SEPP (Waters). The draft SEPP (Waters) was intended to be a streamlined policy merging the two existing water SEPPs.

In February 2018, the Victorian Government opened the review process up for public submissions and ran a series of public forums. This part of the process closed on 19 June 2018 and the new SEPP (Waters) was finalised and released shortly afterward.

Under clause 31 of the new SEPP (Waters) a property is required to connect to sewer where it is available, unless the wastewater is being reused and retained within the allotment boundaries. Consequently any premises with an offsite discharge or a primary treatment and disposal system must connect to sewer. However, a secondary treatment system can continue to be used if it can be shown that it is beneficially recycling effluent within the boundaries of the allotment.

SEPP (Waters) has more extensive requirements under clause 29, requiring Councils to develop and implement a DWMP. These requirements are more comprehensive than the previous DWMP stipulations under SEPP (Waters of Victoria). Clause 29 of SEPP (Waters) states that where "domestic wastewater management systems" exist within a municipality, Councils must:

- Develop and implement a DWMP
- Prioritise risks and set out strategies for responding to risks (within the DWMP)
- Consult with water corporations, the community and other stakeholders (when developing and implementing a DWMP)
- When developing, revising or implementing a DWMP:

a) identify, assess and manage cumulative risks of onsite domestic wastewater systems discharging waste beyond allotment boundaries; and

b) engage with the Authority and water corporations to identify existing high risk unsewered allotments for inclusion in the DWMP; and

c) identify, cost, prioritise and evaluate options to-
i. provide solutions to prevent discharge of wastewater beyond allotment boundaries; and
ii. provide for the compliance assessment and enforcement of on-site domestic wastewater systems in accordance with the plan; and

d) where applicable have regard to the Guidelines for Planning Permit Applications in Open, Potable Water Supply Catchments and any relevant guidelines authorised by the Authority.

- Review and update the DWMP at intervals of no more than five years
- Conduct an audit to assess progress and report on progress of the DWMP implementation every three years and publish the report on its website.

DELWP and EPA Victoria have been working together to develop subordinate legislation for the new EP Act. As this work proceeds, it is likely that the SEPP (Waters) will be abolished, and its provisions will be reallocated to appropriate regulatory instruments and Environment Reference Standards which will support the new preventative framework for environment and human health protection; coming into effect in 2020.

EPA Code of Practice – Onsite Wastewater Management (891.4) July 2016

The intention of the Code of Practice – Onsite Wastewater Management is to provide guidance on the selection, design, construction, operation and maintenance of on-site wastewater treatment systems. It contains information on the roles and responsibilities of relevant agents, treatment and disposal options, the permit process, WTS design and construction, effluent disposal systems design and construction, operation and maintenance, land assessment and soil permeability tests. Most other (historic) EPA publications related to onsite waste water management are now incorporated in the EPA Code of Practice – Onsite Wastewater Management (891.4). Council uses the Code and best practice as a guide when assessing and approving WTS installations.

There is also a likelihood that the Code of Practice will be reviewed and updated under the previously mentioned SEPP and EP Act reforms.

Water Act 1989

The Water Act 1989 requires Council to refer any applications for WTS within a declared drinking water catchment to the Water Authority. There are also powers under the Water Act that allow the relevant Water Authority to require an upgrade at any time to (primary treatment) septic tanks within a sewerage district and enforce connection to sewer where clear evidence of a failure of the existing onsite system exists and is required to avoid an adverse impact on public health or the environment.

Public Health and Wellbeing Act 2008

Section 24 of the *Public Health and Wellbeing Act (PHWA) 2008*, states that it is the function of every Council to seek to protect, to improve and to promote public health and wellbeing in the municipal district. Part 6 of the PHWA deals with nuisances. The Act requires Council's to remedy, as far as is reasonably possible, all nuisances in the municipal district. The nuisance provisions in the *Public Health and Wellbeing Act 2008* are broad in their application and provide Council with a number of ways to manage different nuisances in the Shire, although evidence collected to substantiate a nuisance requires proof that the activity is, or is liable to be, dangerous to health or offensive. This includes (but is not limited to) discharge of wastewater across boundaries and impacts of odour from failing systems.

Council is required to investigate all complaints regarding WTS that may be causing a nuisance.

Where a nuisance is proved to exist, Council may issue an Improvement Notice requiring action to be taken to remedy the nuisance, a Prohibition Notice restricting certain activities from occurring, or a combination of both notices.

Local Government Act 1989

Part 5 of the *Local Government Act 1989* gives Council wide enabling powers to make local laws and set special charges. Councils can use these powers to develop local laws for wastewater management as long as they are consistent with existing state policy and legislation.

Building Act 1993

The relationship between the *Building Act 1993* (Victoria) and WTS resides within the *Building Regulations 2018*. Under Regulation 132, a report and consent of the relevant Council must be obtained for building permit applications that require the installation or alteration of a WTS. This Regulation further states that the report and consent of the relevant Council need not be obtained for the application; only if a permit for the construction, installation or alteration of the WTS that is relevant to the building permit application has been issued under section 53M(5) of the *Environment Protection Act 1970.*

Australian/New Zealand Standards and JAS-ANZ Certification

Standards Australia is the peak non-government standards development body in Australia, recognised through a Memorandum of Understanding with the Australian Government.

Standards Australia develops internationally aligned Australian standards (AS) and participates in standards-related activities that deliver benefit to the nation. Standards Australia and Standards New Zealand work together to develop joint standards (AS/NZS).

There are a number of joint Australian and New Zealand Standards which are relevant to the construction and design of wastewater treatment and disposal systems. These include:

- AS/NZS 1546.1:2008 On-site domestic wastewater treatment units: Part 1: Septic tanks.
- AS/NZS 1546.2:2008 On-site domestic wastewater treatment units: Part 2: Waterless composting toilets.
- AS/NZS 1546.3:2017 On-site domestic wastewater treatment units: Part 3: Aerated wastewater treatment systems.

- AS/NZS 1546.4:2016 On-site domestic wastewater treatment units: Part 4: Domestic greywater treatment systems.
- AS/NZS 1547:2012 On-site domestic wastewater management.
- AS/NZS 3500 National Plumbing and Drainage – Domestic Installations.

Although Standards Australia develops and publishes different standards they are not responsible for enforcing, regulating or certifying compliance with those standards. The responsibility for the system assessment and evaluation of minimum performance requirements for WTS sits exclusively with the accreditation authority JAS-ANZ and is carried out by the accredited certification body; Global Certification Pty Ltd (GC) under the GC Domestic Wastewater Treatment Units (Septic Tanks) certification scheme. WTS that pass the certification scheme are provided with a Certificate of Conformance. JAS-ANZ utilize the (above) published Australian/New Zealand Standards for on-site domestic wastewater as the basis for the majority of the performance criteria applied to their certification scheme (for WTS).

Victorian Land Capability Assessment Framework (January 2014)

The Victorian Land Capability Assessment Framework, released in January 2014, was developed with input from MAV, DEPI and EPA. This framework is primarily used by land capability assessors and local government officers to assess the capability of sites to retain wastewater onsite. The framework effectively supersedes EPA Publication 746 – Land Capability Assessment for On-site Domestic Wastewater Management.

The land capability assessment should be used to ensure that unsewered residential development proceeds only on land that has an acceptable capability for sustainable on-site wastewater management.

Land capability assessors need to provide Council with documentation detailing:

- the land features of the site and surrounds
- the type of wastewater treatment system proposed
- the land capability assessment for the development including any potential impact on surrounding land
- a management program to ensure ongoing environmental sustainability and protection of human health
- location of wastewater envelopes (if required)

Nillumbik Planning Scheme

The Nillumbik Planning Scheme includes a Local Planning Policy Framework which applies to all non-urban areas in the Shire. This policy states that:

- Effluent disposal envelopes should be nominated on proposed lots to provide sufficient areas for the on-site containment of any effluent/sullage generated.
- Applications which propose effluent disposal fields for lots which are unlikely to contain effluent/sullage on-site or may potentially cause problems of effluent/sullage entering watercourses, will not be supported or otherwise require modifications.
- Consideration is given to the location of effluent disposal fields in relation to stormwater drainage areas.
- All subdivisions and developments in low density residential zones (in the absence of reticulated sewerage) must include a Land Capability Assessment that shows that lots are capable of treating and retaining all wastewater on-site in accordance with the State Environment Protection Policy (Waters of Victoria) under the *Environment Protection Act 1970.*

Melbourne Water's Healthy Waterway Strategy 2018

Melbourne Water reviewed their Healthy Waterway Strategy in early 2018 which resulted in the draft Strategy being released for comment in June 2018. The new strategy reflects a fundamental shift in focus to an intentional collaborative and co-design approach that is aspirational in its goals. These goals have been divided into 10 plus and 50 year outcome timescale.

Melbourne Water has recognized that for specific targets across the 5 Major Catchments in the MW Region to be achieved within the 50 year timescale that the on-going funding of the strategy:

- cannot be achieved by Melbourne Water alone;
- will need integrated infrastructure, planning and policy responses across the different institutions;
- aims to be a long-term strategy, not an investment plan;
- requires a dedicated income stream via levying the MW Waterways and Drainage Charge to support healthy waterway outcomes; and
- must encourage and support local investment into waterway and stormwater improvement projects

The HWS focusses its strategic direction around the following broad objectives:

- New stormwater priority areas, intended to yield 80+ GL/y harvested stormwater and ~23 GL/y infiltrated into the landscape;
- New water for the environment – 23 GL annually needed by 2028;
- Significant re-vegetation (1800 km) and 32 fish barriers;
- Wetlands – define targets and performance objectives;
- Bay health is supported through nutrient reduction;
- Supporting traditional owners to protect and promote indigenous water values;
- Community engagement to build local knowledge and capacity;
- Social values – recreational water quality targets and litter reduction; and
- Pollution management – build knowledge about emerging contaminants

There are significant potential opportunities available for Council to partner with Melbourne Water in local healthy waterway projects and initiatives in which stormwater retention and wastewater management play key roles in improving the health of waterways within our catchment area and subsequently further downstream.

VCAT Decisions & Precedents

The Victorian Civil and Administrative Tribunal (VCAT) was established under the *Victorian Civil and Administrative Tribunal Act 1998* and began operations in July 1998. The Administrative Division of VCAT provides a mechanism for the review of government administrative decisions.

Decisions of the Tribunal related to wastewater management issues associated with planning applications impact the ongoing application and interpretation of the legislative framework regarding wastewater management in the Shire of Nillumbik, and throughout Victoria.

Council Plan 2017-2021

The Council Plan sets out five goals and focuses on strategic directions for the Council. These five goals include:

Engaged, connected communities: A place where communities and ideas thrive, underpinned by trust, confidence and continuous learning.

Active and creative people: Active lifestyles and artistic expression are fostered through participation and innovation.

Safe and healthy environments: Healthy and safe communities enjoy living in our iconic Green Wedge environment.

A prosperous economy: A strong local economy that supports business growth, jobs and community wealth.

Responsible leadership: Collaborative and consultative leadership that builds trust and makes the best use of available resources to the benefit of all in the pursuit of excellence.

The objectives of the DWMP incorporates all five Council goals, aligning most closely with *"**Safe and healthy environments"*** (Strategic Objective 3).

The DWMP objectives contribute directly to the following strategies:

1.4 Ensure that the provision of community infrastructure responds to community needs.

3.1 Prepare and develop an improved and holistic approach to strategic planning

3.3 Develop policies, strategies, projects and partnerships to enhance the health and wellbeing of the community.

3.6 Work with the local community to review and implement environmental policies to protect biodiversity and conserve natural resources.
Priority Action 3.6.3
Advocate to Yarra Valley Water for extension of the sewer network

5.2 Advocate effectively for Nillumbik's interests at a state and national level.

5.3 Ensure responsible and efficient management of Council's financial resources

5.6 Plan for the community's future needs for services and infrastructure

5.7 Develop a skilled and efficient Council workforce

5.9 Develop regional partnerships with other government and community agencies to benefit Nillumbik

5.10 Ensure that Council meets its legal responsibilities and manages its risks

Shire of Nillumbik Health and Wellbeing Plan 2017-2021

The vision of the Nillumbik Health and Wellbeing Plan is that Nillumbik is to be Australia's most liveable shire. Many of the social, environmental and economic features that enhance liveability in Nillumbik and make it a desirable place to live, work and play are also the determinants of good public health and wellbeing. The implementation of the strategic objectives of the DWMP contributes to the overall health and wellbeing of the Shire.

Nillumbik Storm Water Management Plan 2002

The Nillumbik Stormwater Management Plan aims to achieve best practice in the environmental management of (mainly urban) stormwater quality within the Shire. The main strategies contained within the document outline catchment management activities that aim primarily to prevent pollution "at the source". Where prevention at the source is not feasible it outlines activities that will mitigate the resultant impacts.

The purpose of the Nillumbik Stormwater Management Plan is to:

- Identify responsibilities, practices, procedures and obligations for urban stormwater management in the Shire of Nillumbik;
- Identify the main values of receiving water environments and the main threats which contribute to poor water quality;
- Establish objectives which aim to protect and enhance water quality; and
- Develop strategies aimed at protecting and improving the quality of urban stormwater and receiving water environments.

Nillumbik Integrated Water Management Strategy 2013

The Integrated Water Management Strategy was adopted by Council in September 2013 and supersedes the Sustainable Water Management Plan. This approach promotes the integration of multi-functional infrastructure that progressively reduces reliance on mains water supply whilst improving the quality of stormwater and flow patterns discharged to receiving waterways.

Integrated Water Management (IWM) recognised projects which deliver multiple benefits such as water security, stormwater harvesting and retention, protection of receiving waters, ecosystem services, social/political engagement, microclimate benefits, improved liveability and community wellbeing.

The following Integrated Water Management Targets for 2025 are included in the Strategy:

- Mean annual load reduction in:
  - Total suspended solids (TSS) of 11,770kg
  - Total phosphorus (TP) of 15kg
  - Total nitrogen (TN) of 62kg

Improvements in wastewater treatment across the Shire play a major role in the delivery of these targets.

Current and Future Drivers

The cumulative effects of failing septic systems across the Shire

There are a large number of 50-60 year old septic systems across the Shire that are either failing or beginning to fail, which all require upgrading or connection to mains. The cumulative effect of this exerts an increased pressure on Council and YVW to effectively/properly address the issue. Broader-scale auditing, compliance monitoring and targeted testing of systems and Nillumbik waterways will reveal the true extent of failure across these older septic systems in Nillumbik. It will also allow these systems to be rated according to risk, and inform Council on the locations of the highest risk systems to target first.

Community expectations (increased)

Generally, the level of expectation across the community regarding wastewater management standards has increased. The Nillumbik community has always placed a high value on the protection and preservation of the Green Wedge environment. However, other increased expectations relating to:

- Quality of on-site wastewater treatment systems
- Maintenance and servicing standards
- Ability of YVW to 'blanket sewer' all Townships and enforce connection
- Council's level of authority and role regarding sewer provision

The combination of these expectations contributes to a reduced tolerance for old and failing septic systems. These expectations are not always based upon reality or the existing constraints or impediments (many of them legislative) facing the different authorities and stakeholders.

Regardless, community expectation translated into consumer demand is a significant driver of improvements in on-site wastewater management and sewerage provision. This consumer demand provides a significant portion of the market for on-site wastewater solutions and helps drive improvements in the products offered by the wastewater system manufacturers. It also maintains pressure on State and Local Government, system manufacturers and Water Authorities to facilitate and provide a range of sustainable on-site and off-site wastewater solutions.

JAS-ANZ AWTS Certificate of Conformance 2020 cut-off

Under the JAS-ANZ Certificate of Conformance approval framework, AWTS manufacturers must meet the performance criteria specified in the published AS/NZS Standards and have completed and passed a comprehensive 42 week testing program by 2020 to receive an on-going Certificate of Conformance (COC) beyond 2020. Only systems with a valid COC can be installed in Victoria.

Treatment system brands and models must be certified by an accredited conformity assessment body (CAB) as conforming to the relevant AS. This accreditation is provided through JAS-ANZ. As part of a permit application to a council, the applicant will need to include a copy of the COC from the CAB.

Changes in the makeup of AWTS Manufacturers in Australia.

The face of the Australian AWTS Manufacturing market in Australia is currently changing. What began as primarily an Australian based cottage industry is now seeing the increasing introduction of established International manufacturers with much greater financial resources and research and development capability behind them. The higher standard required by the JAS-ANZ COC framework and the Australian Standards is providing an environment where these larger established international manufacturers have a distinct advantage over the smaller Australian manufacturers in having the resources to comply with the Standards by 2020. Many of these international manufacturers (Japanese and European) meet or exceed the Australian Standard already. The predicted trend is that the international manufacturers will begin to dominate the on-site wastewater treatment market, particularly post 2020. It is expected that these new makes and models of wastewater treatment systems will increasingly flood the current market and require LG, EPA, wastewater installers and specialists to become familiar with these new systems and the associated components/technology.

It is accepted that the JAS-ANZ Accreditation requirements for different WTS is improving the standard and quality of manufactured WTS in Australia. For this reason alone, it is a regulatory mechanism that should remain in place at all cost, particularly post any legislative reform.

The cost of compliance with the current onsite wastewater standards

It is currently unknown whether market influences, such as the above, will result in more cost-effective or expensive onsite wastewater solutions for Victorian property owners. As the new international manufacturers move into the Australian market, one of two possible outcomes is likely. Either, the increased resources and efficiencies of these manufacturers will result in a cheaper product, or if they begin to monopolize the market; the product price point could be set at a premium. This is something the ACCC may need to pay particular attention to.

Currently, onsite systems can cost anywhere between $9,000 to $25,000 for a property owner, depending on the type and make of system chosen. Many property owners only consider installation costs when choosing an onsite system, not the ongoing life cycle costs, including maintenance. It is common for property owners to install the cheapest approved onsite systems; however, these systems invariably have higher ongoing costs due to inferior components and more regular maintenance requirements. The more expensive aerated wastewater treatment systems typically have lower ongoing operational costs.

YVW has recently undertaken several projects and evaluations to understand and compare the life cycle assessment costs of connection to sewer against onsite system treatment. The Figure below shows their analysis of the average cost to the customer at each stage of this life cycle.

		Sewer	
Stage	Onsite system	YVW	SEW
Installation	$9 000 to $25 000[(a)]	$1 650[(b)]	$2 500
Connection	$4 000	$5 000 to $15 000	$3 000 to $7 000
Operation	$300 to $500 annually	$457 annually	$370 to $420 annually
Decommissioning	$2 000	Not applicable	Included in connection

(a) Covers a range of wastewater systems, such as septic tanks and trenches, sewage treatment plants, and sand filters and trenches.
(b) Waived if property is connected in first 12 months of access becoming available.
Source: VAGO based on YVW data.

Table 2: Average cost of sewage treatment to the customer

For the property owner these wastewater costs often occur at the same time as larger expenditure on home extension or complete new build costs. This often represents one of the largest and most significant investments they will make in their life. Additionally, the ongoing life cycle costs of installing and maintaining an onsite system compared with providing and connecting to sewer services are not well documented or publicised. Making this information available would better inform property owners' decisions about wastewater servicing options.

New SEPP (Waters)

The suite of DWMP requirements in the new SEPP (Waters) are more specific than the previous SEPP (Waters of Victoria) and will require Councils to undertake a more comprehensive process in developing, adopting and implementing their DWMP. There may also be a new penalty for Councils not developing and maintaining a DWMP written into the new EP Act 2018 (yet to be released); effectively making it a statutory duty that can no longer be delayed or ignored by Councils.

DELWP and EPA Victoria have been working together to develop subordinate legislation for the new EP Act 2018. As this work proceeds, it is likely that the SEPP Waters will be abolished, and its provisions will be reallocated to appropriate regulatory instruments and Environment Reference Standards that will support the new preventative framework for environment and human health protection that comes into effect in 2020.

Environment Protection Amendment Act 2018

A centerpiece of the legislation is a new general environmental duty (GED) which will require businesses and individuals conducting activities that pose a risk to human health and the environment to understand those risks and take reasonably practicable steps to eliminate or minimise them. In an Australian first, the general environmental duty is criminally enforceable. Whether this general environmental duty will apply in some form to off-site discharges and contamination from onsite domestic wastewater systems remains to be seen.

The exact nature of the impact of any changes to the domestic wastewater provisions of the Act are currently unknown as they are yet to play out. But it is likely that the recent reduction of the EPA's role as the peak authority in on-site domestic wastewater standards and direction (for systems under 5000L/day capacity) will be formalised in the content of the new EP Act 2018 and further placed upon Councils to fill that void. As previously mentioned, it is also likely that (SEPP) Waters will be abolished, and its provisions transferred to new regulatory instruments and standards supporting the new EP Act 2018 framework; coming into effect by 2020.

*(**The VAGO October 2018 Report on Managing the Environmental Impacts of Domestic Wastewater spells this out further).*

YVW CSP moving from area to property basis in CSP rollout

To date YVW has committed to inclusion of the following townships in the CSP extension of sewerage infrastructure:

CSP Area	Township/Area	Number of lots	Project dates
BA012	Eltham (North) / Research	180	complete
BA004A/B/C/D	North Warrandyte	975	complete
BA005	Eltham (South)	~300	2018/19
CSA007	Hurstbridge / Wattle Glen / Diamond Creek	~75	2031/32
CSA042	St Andrews	~117	2031/32
CSA041	Panton Hill	~119	2031/32
CSA040	Yarrambat	36	2030/31

Table 3: Current CSP Project timeframes for Nillumbik Townships

To date, Eltham North, Research and North Warrandyte have been delivered, with Eltham South currently in the design phase. Eltham South was due for delivery in 2018/2019 with installation works due to begin September 2018. However, due to community feedback, further investigations have resulted in a completion date in late 2020. Eltham North, Research and North Warrandyte were delivered under the old Backlog Scheme, whereas Eltham South will be delivered under the new YVW Community Sewerage Program (CSP). The key difference with the structure and assessment criteria of the CSP is that now a determination of whether a property is included in the CSP is on a property by property basis; not on a high risk area basis as it was under the Backlog Scheme.

Subsequent reviews of the program undertaken by YVW identified barriers to the cost-effectiveness of the Backlog Program. The reviews also found that some communities were not receptive to the provision of sewer because:

- owners wanted proof that their current system was impacting public health
- or the environment, which could generally not be provided
- certain areas had previously had negative experiences with water authorities
- some communities saw sewerage as an invitation to developers
- some owners wanted a choice in the type of service provided.

*(**The above opinions were shared by a large proportion of the North Warrandyte community and expressed throughout YVW's provision of sewer to North Warrandyte).*

YVW's CSP is aimed at minimising the environmental and health risks caused by approximately 10,900 properties across a range of municipalities and townships with poorly maintained onsite systems yet to be serviced.

Under the CSP approach, YVW identified it could deliver services to the 24 townships involved by 2033; whereas blanket sewering of all remaining unsewered properties under the Backlog Scheme was not likely to be delivered until 2045, extending the risk of environment and health impacts from existing failing onsite systems.

The Victorian Auditor General's 2018 Report into "Managing the Environmental Impacts of Domestic Wastewater" clearly documents the above YVW CSP evolution and provides further insight into YVW's CSP rationale and decision-making process:

"In 2014, YVW identified that, in several high-risk unsewered townships, the cost of delivering sewer services to all CSP properties was prohibitive and the benefits were unclear compared to improving onsite system management or investigating alternative services.

CSP uses a place-based servicing approach to reduce costs for YVW customers. This has meant properties that can contain wastewater safely on site are removed from CSP and those not capable of containing waste on site are provided with a subsidised rate to connect to sewer services. Properties removed from CSP can connect to sewer, but the costs are not subsidised by YVW.....

Based on its 2014 reprioritisation assessment, YVW proposed properties capable of safely treating and containing their wastewater on site be removed from its CSP. As a result, YVW revised the total number of properties on its CSP to 15 742 in Water Plan 4 (2018–23). YVW determined that the properties removed could achieve very high levels of wastewater management through council management without the need for a YVW service.

However, the on/off approach presents equity issues for YVW. Properties unable to contain waste on site are subsidised to connect to sewer. Those that can contain waste on site but still want to connect to sewer are not subsidised. YVW indicated it has received several phone calls from customers questioning why they are no longer on CSP and why their costs are higher if they want to connect. YVW acknowledged that this is a potential issue, but it is attempting to manage this by undertaking a detailed LCA of the property at YVW's cost to review or confirm its initial decision.

YVW developed the measures for its reprioritisation framework in consultation with YRC and the community. It is similar to SEW's framework in that it is based on an LCA and considers environmental, social and economic measures.

However, it differs in the use of social measures—it puts significant weighting on customers' interest in and willingness to connect to sewer, and councils' knowledge of onsite systems and ability to oversee their performance. This results in a more comprehensive assessment approach.

Both water authorities then assign a weighting value to the measures to comprise a total risk score for an area. YVW determines its weightings in consultation with the community and YRC. SEW determines its weightings in consultation with MPSC.

Both SEW and YVW completed a reprioritisation process for both Water Plan 3

(2013–18) and Water Plan 4 (2018–23).

PROPERTY SIZE

Under Victoria's planning provisions, 4 000 square metres is considered the smallest property size capable of safely containing wastewater on site. YVW identified that the average lot size of properties it serviced through its backlog program in 2003 to 2008 was 4 800 square metres and, in 2008 to 2013, it was 3 295 square metres, with the average size property remaining on its backlog program identified at 4 300 square metres. In contrast, SEW removes any property over 4 000 square metres from its backlog program in line with the planning controls, however, it has not completed any independent testing to provide justification for this process."

Containment potential	Properties (on remaining program)	Remove from CSP
Able to safely contain wastewater on site to EPA CoP standards and SEPP (WoV) requirements	32	Yes
May be able to contain wasterwater on site to EPA CoP standards and SEPP (WoV) requirements	2 722	Yes
Partially able to contain wasterwater on site, to some EPA CoP standards and SEPP (WoV) requirements	1 621	Maybe
Not likely to contain wasterwater on site to EPA CoP standards and SEPP (WoV) requirements	5 147	No

Note: Not all properties on YVW's remaining program were assessed.
Source: VAGO from YVW.

Table 4: YVW reassessment of properties within high-risk unsewered areas, 2014

There is a greater level of clarity required on specific issues, including:

- How the new weighting sub-measures are applied on a property by property basis and how the results determine the specific wastewater solution/outcome for the property.
- YVW Annual Reports do not separate the annual sewerage extension cost from the annual reticulated water extension cost (they are combined as one item in the Annual Report). It would be helpful to have these two items separated out in the Annual Report, so that annual CSP expenditure can easily be shown and accessed on an annual basis from YVW's public information.

YVW has advised Nillumbik Shire Council that the current forecast for the remaining CSP (with the property classification process applied) is $326M between 2018/19-2023/33 for funded connection of ~8,900 properties. Expenditure on the program in 2018/19 is forecast to be $23.7M, with similar spend in each of the last 4 years.

The North Warrandyte Project was completed at a cost of $23.3M (common infrastructure only) to make sewer available to 985 properties. Properties serviced by pressure sewer units cost an additional $20,000 per property for the pressure sewer unit.

There are also implications arising from the introduction of the CSP framework that will directly affect Nillumbik. These implications include:

- Greater workload on Nillumbik Council to advocate/prove the need of sewerage connection for high risk properties not currently included in the CSP, on a property by property basis.
- A reduction in the number of properties within an area being provided with sewerage connection by YVW.
- Increased cost for properties removed from the CSP to connect to sewer, if the property owner still wants to connect to sewer, as YVW will not subsidise the connection cost.

- For properties within the CSP identified as large enough to retain wastewater on-site, it remains unclear what proportion of the upgrade and on-going maintenance costs property owners will be required to pay, if they choose the on-site treatment option.
- Responsibility for the system long-term (YVW or the property owner). There is currently debate around who should have the on-going statutory authority over new or upgraded WTS installed as part of YVW's CSP (YVW or Council).
- Community backlash to the pairing back of YVW Backlog commitments and the increased cost of connection for properties removed from the CSP.

How these implications are perceived overall by the Nillumbik community can only be gauged through the community engagement process. As a part of the Community Engagement Program undertaken during the development of the DWMP, informal Drop-in Information Sessions were held in townships across the Shire to allow discussion of these and other issues with the community and facilitate discussion/feedback that will help gauge community opinions and positions on these and other wastewater issues important to them.

Throughout the July to September period of 2018 a large piece of advocacy was implemented by Council's Environmental Health Unit; seeking inclusion of 22 unsewered properties in Plenty into YVW's CSP. Council's Environmental Health Unit has engaged with these residents on a continual basis over the last 2 years and recently collated their position on the issue through a targeted survey. This culminated in the submission of a comprehensive Wastewater Summary Report to YVW (at their request) on 3rd October 2018 that included individual reports for each property with individual water balances in lieu of a Land Capability Assessment (LCA). The Summary Report and the individual Property Reports demonstrate that containment of wastewater onsite is not possible for 95% of these properties under current EPA standards, largely due to the physical size of the allotments being too small.

The NSC Environmental Health Team has initiated a series of regular meetings with YVW to discuss aspects of the CSP and DWMP. The purpose of these meetings is to increasingly build the level of engagement between the two authorities to enhance DWMP and CSP outcomes for the Nillumbik community; particularly in the lead up to the next CSP re-prioritisation in 2021. Outcomes from the first of these meetings have already been positive, with YVW providing transparency into their current approach to prioritisation across the CSP, more information on CSP expenditure and progress on current Nillumbik CSP projects.

Along with the CSP sub-measure criteria, YVW has indicated that they will also incorporate a new sub-catchment approach to allow the application of *Integrated Water Management* principles into CSP planning and provision.

Influence of the Park Orchards Trial Project on YVW CSP Planning & Design

There are 100 properties in the trial area surrounding the Park Orchards Primary School and main shops. Of these:

- 84 were assigned on-site wastewater treatment by YVW. Solutions consisted mostly of upgrades to existing on-site systems. Most of these completed as of September 2017. Of these 84 properties, 61 chose to participate in the trial project.
- Nine properties classified as unable to contain their wastewater onsite. This included the shopping precinct and some residential properties in the trial area. A sewer pipeline was designed to service these properties and construction was underway by mid-2018.
- Five properties have been classified as partly able to contain their wastewater onsite. A new type of onsite system was developed for these properties that also connects to the sewer pipeline. Installations are scheduled to commence near the conclusion of the sewer pipeline construction.

Residents outside of the trial area have also been updated about the project by YVW on August 2017 and August 2018.

An environmental monitoring program also commenced in the trial and broader Park Orchards area in July 2018. YVW will continue monitoring for approximately 2 years, until July 2019.

A small sewer extension is planned for the Colman Reserve in Ringwood. This sewer will only provide sewerage services to the reserve and will not impact the outcomes of the trial project.

Upcoming YVW actions are to:

- Finish designing of and construct the sewer, pending relevant approvals.
- Continue environmental monitoring for two years (until at least July 2019).
- Evaluate the trial and determine the best sewerage servicing approach for the 1,200 properties in the Park Orchards and Ringwood North Community Sewerage Area. This may take until the end of 2020.

YVW have currently upgraded and/or installed new onsite systems on all 61 participating properties. Some remaining system optimisation tasks are ongoing, and will be finalised over the coming months. YVW are currently maintaining these on-site systems to gather information about ongoing servicing costs.

Five different onsite systems technologies were installed and YVW plans to compare their performance across different measures including cost, environment, and maintenance requirements.

YVW are also testing a new type of system that doesn't currently exist in the Victorian market, but is used in other countries. The new system will be installed on remaining trial properties. These upgrades will occur at the same time as the sewer construction works.

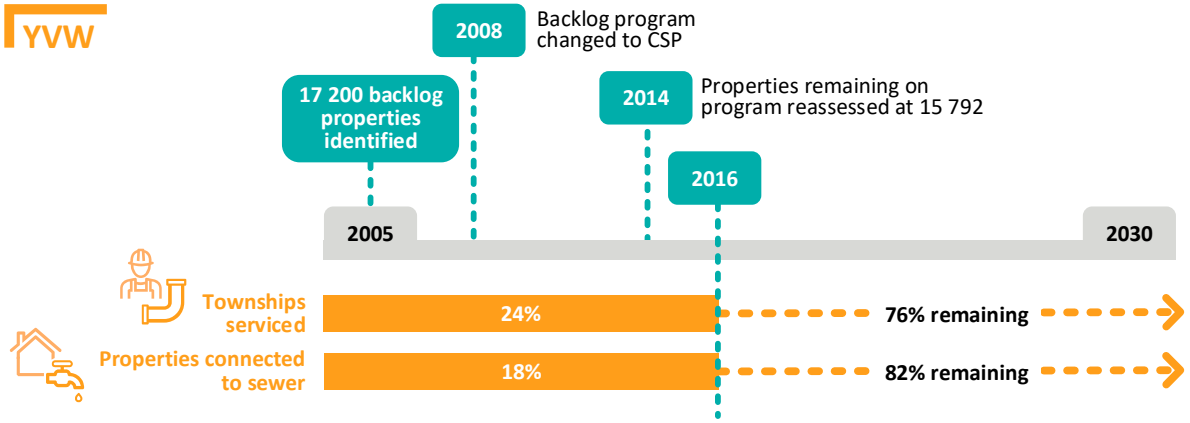
YVW appears to already be putting the Park Orchards Trial Project forward as the model for the new CSP approach to 'sewerage supply', where a much larger percentage of properties within the 'declared area' (under the revised CSP criteria) do not actually receive reticulated sewerage solution. Instead, if a property is deemed to be of large enough size and contains a soil type suitable for retaining wastewater on site, they receive upgraded or new onsite sewage treatment that is initially maintained and managed by YVW. The Park Orchards Trial Project is also heavily referenced in the Victorian Auditor General's October 2018 Report on Managing the Environmental Impacts of Wastewater as a potential model for CSP provision. If deemed successful the intention is to replicate the approach across the rest of the townships included in the CSP across YVW's entire catchment area.

The issues associated with this are:

- The Park Orchards Trial Project has not yet been completed and is already being put forward as the new model of CSP innovation.
- The Park Orchards community cohort is a separate and different cohort from the many other CSP communities across YVW's catchment, which are yet to receive sewerage infrastructure. It is questionable whether this model can be super-imposed onto the majority of other CSP communities/townships remaining, as community preferences, site soil characteristics and property sizes all vary across these townships.
- The primary driver for the majority of the Park Orchards property owners requesting on-site solutions was the fear that provision of reticulated sewerage would open the door to developers sub-dividing and constructing higher-density apartments. They did not want the existing amenity and characteristics of the suburb affected in this way by development. This is not representative of broader community views across the YVW CSP catchment. Many CSP communities want reticulated sewerage infrastructure specifically to be the supply solution.
- The majority of residential properties included in the Park Orchards Project were larger properties on acreage that are able to retain their wastewater on-site. However, a significant proportion of the CSP properties across YVW's catchment are too small to retain their wastewater on-site, as a result of historical sub-divisions which is precisely the reason they have been included in the Program to begin with.

Issues of equity associated with competing LGs for CSP funding and Prioritisation.

A high level of uncertainty remains across most councils in the YVW CSP catchment around the sewerage reprioritization process. This is largely due to CSP delivery dates for townships continually being delayed with each successive round of reprioritisation and no clear public information on how much of the overall $400 million estimated CSP budget has already been expended. YVW Annual Reports do not itemize/separate out the reticulated sewerage extension cost from the reticulated water extension cost as they are combined as one item in the Annual Report. Given that in 2016, approximately 82% of properties in YVW's CSP were yet to be connected, it is understandable that municipalities within YVWs catchment area receiving minimal connections have concerns when the current CSP expenditure is unknown and the CSP delivery timeframes cannot be relied upon.



Note: Most up-to-date connection figures from YVW were from 2016.
Note: Water authorities' benchmark for connection is 80 per cent within 10 years.
Source: VAGO from SEW and YVW data.

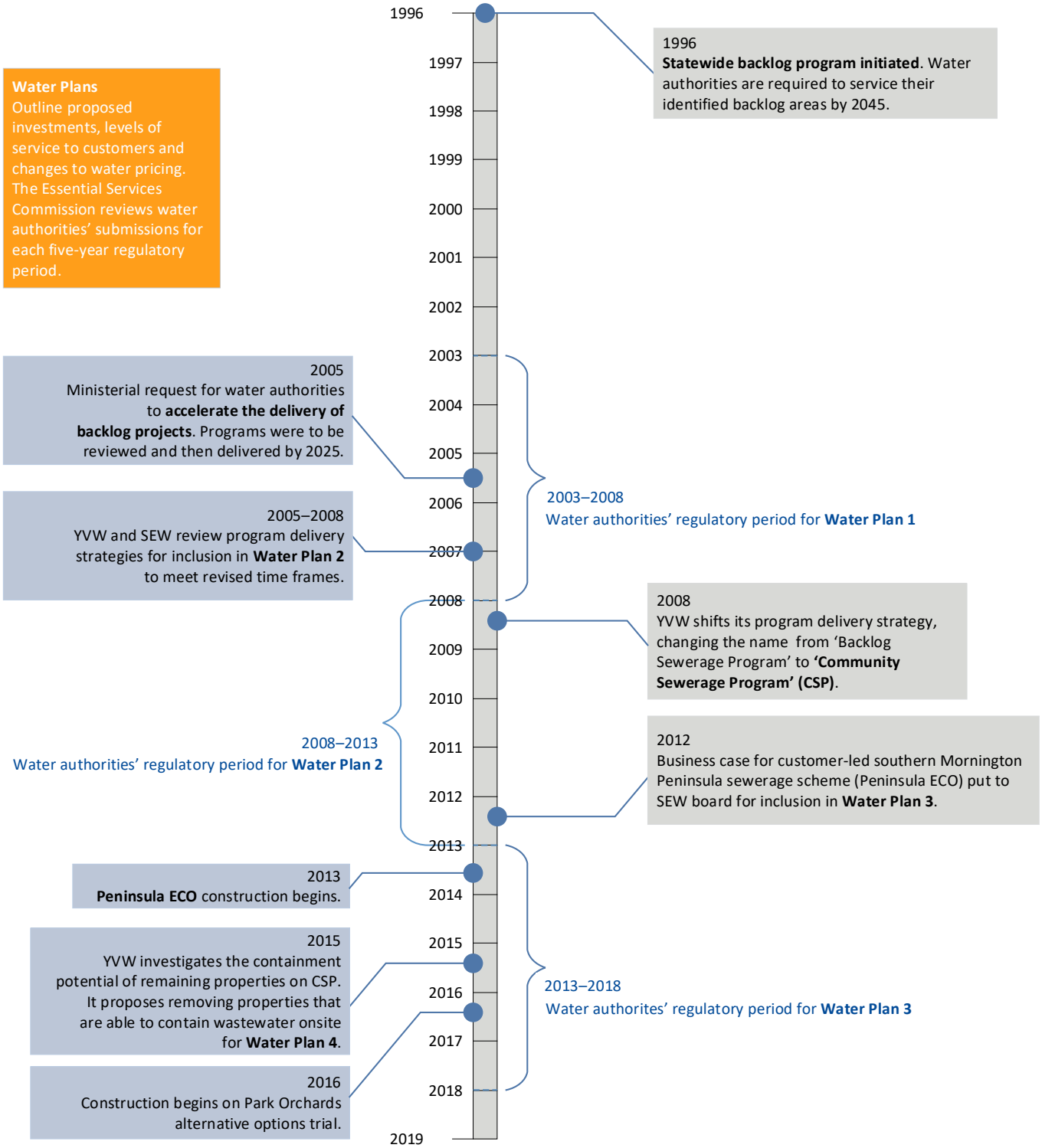
Figure 1: YVW CSP progress to date

With regard to the relative priority rating of Nillumbik's CSP Townships, the last YVW CSP Reprioritisation process resulted in Nillumbik Townships ranking on the lower 'rungs' of priority as shown in the Table below:

CSA Code	Community Sewerage Area	Council	No. of Lots	Rank	Final Score
CSA037	Briar Hill	Banyule	2	1	3.48
CSA049	Park Orchards / Ringwood North (Middle)	Manningham	1105	2	3.23
CSA022	Warburton	Yarra Ranges	436	3	3.20
CSA030b	Olinda (South)	Yarra Ranges	263	4	3.19
CSA030c	Olinda (North)	Yarra Ranges	303	5	3.19
CSA030a	Sassafras (East)	Yarra Ranges	230	6	3.17
CSA026	Emerald (South) / Clematis	Cardinia	404	7	3.16
CSA014	Healesville (Central)	Yarra Ranges	449	8	3.00
CSA019	Silvan	Yarra Ranges	114	9	2.99
CSA016	Mount Evelyn	Yarra Ranges	177	10	2.84
CSA033	Sherbrooke / Kallista (West)	Yarra Ranges	327	11	2.82
CSA013	Chum Creek / Healesville (West)	Yarra Ranges	278	12	2.75
CSA029	Ferny Creek (North) / Sassafras (South)	Yarra Ranges	447	13	2.72
CSA009	Epping	Whittlesea	13	14	2.63
CSA025	Emerald (North)	Cardinia	499	15	2.57
CSA028	Ferny Creek (South)	Yarra Ranges	581	16	2.53
CSA020	Woori Yallock	Yarra Ranges	129	17	2.49
CSA031	Olinda (South) / Monbulk (West)	Yarra Ranges	356	18	2.44
CSA038	Bayswater North (West) / Croydon	Maroondah	12	19	2.42
CSA046	Donnybrook	Whittlesea	13	20	2.41
CSA034a	The Patch (West)	Yarra Ranges	318	21	2.36
CSA034b	Kallista (North)	Yarra Ranges	174	22	2.36
CSA039	Heathmont	Maroondah	4	23	2.35
CSA023	East Warburton	Yarra Ranges	407	24	2.34
CSA047	Selby	Yarra Ranges	166	25	2.33
CSA018	Montrose / Kalorama	Yarra Ranges	193	26	2.33
CSA040	Yarrambat	Nillumbik	39	27	2.32
CSA003	Warranwood / Ringwood / Ringwood North (East)	Maroondah	66	28	2.32
CSA027	Menzies Creek (South)	Yarra Ranges	256	29	2.31
CSA010	Yan Yean (South)	Whittlesea	21	30	2.29
CSA042	St Andrews	Nillumbik	128	31	2.29
CSA024	East Gembrook	Cardinia	212	32	2.25
CSA041	Panton Hill	Nillumbik	148	33	2.20
CSA017	Kilsyth South / Bayswater North (East)	Maroondah	58	34	2.00
CSA007	Diamond Creek / Wattle Glen / Hurstbridge	Nillumbik	91	35	1.95
CSA044	Humevale	Whittlesea	30	36	1.91
CSA048	Mernda	Whittlesea	19	37	1.86
CSA045	Yan Yean (West)	Whittlesea	3	38	1.84
CSA011	Whittlesea	Whittlesea	62	39	1.77

Table 5: Current YVW CSP Township priority rankings

This means that currently these Nillumbik Townships also have the longest CSP delivery timeframes compared to most of the other CSP Townships. The only way to improve the rankings is through comprehensive advocacy into YVW's Prioritisation Process, presenting evidence-based arguments for increasing the priority ratings of individual townships. Council's advocacy into this must be synchronized with the 5-year timescale of the YVW Prioritisation Process and be structured as a strategic and multi-staged advocacy program.



Source: VAGO.

Figure 2: Timeline of the Backlog Program in Victoria

The Findings & Recommendations of the Victorian Auditor General's October 2018 Report on Managing the Environmental Impacts of Domestic Wastewater

A general summary of the Victorian Auditor General's October 2018 Report is listed as extracts below:

"Since the (first) 2006 VAGO audit some progress has been made but it is too little to sufficiently protect the environment and public health, and longstanding issues remain. Agencies are still not adequately managing the individual and cumulative risks and impacts from poorly performing onsite systems despite their attempts.

The ongoing issues are partly the result of poor leadership and limited collaboration between EPA and DELWP who are responsible for overseeing the regulatory framework that councils and water authorities use to manage the risks posed by poorly performing onsite systems. This has resulted in:

- *an overly complex, onerous and duplicative regulatory framework*
- *a continued lack of clarity around roles and responsibilities*
- *regulatory tools that do not adequately drive property owners' compliance with planning permits and legislation*
- *councils not being held to account for their role in domestic wastewater management.*

As a result:

- *we cannot be assured that the responsible agencies are adequately identifying and assessing the risks from onsite systems in unsewered areas across metropolitan municipalities*
- *property owners and councils take limited accountability for the ongoing performance and management of onsite systems*
- *EPA and DELWP do not monitor and report on the performance of the regulatory framework and its tools for identifying, assessing and managing risks*
- *the gaps and issues identified in the regulatory framework by our 2006 audit, internal reviews and councils have yet to be effectively addressed.*

SEW and YVW's backlog programs for connecting high–risk unsewered townships to sewer have generally been successful. Both water authorities have implemented a range of innovative projects and actions to improve the timeliness and cost effectiveness of their services and sewer schemes, aimed at improving environmental and public health benefits. However, overall connection rates and the time taken to reach optimal sewer connections to mitigate risks vary significantly.

SEW and YVW are exploring alternative service options for suitable properties in high–risk areas to improve the cost effectiveness and timeliness of services while achieving environmental and health benefits equivalent to sewer. However, regulatory barriers and gaps in governance and approval processes are hindering the timely implementation of these approaches."

The specific recommendations for the Councils involved in the Audit were as follows:

"We recommend that Mornington Peninsula Shire Council and Yarra Ranges Council:

1. *consult with water authorities, the Environment Protection Authority, the Department of Environment, Land, Water and Planning, and other key stakeholders in undertaking integrated water cycle management planning processes for their municipalities so that the management of domestic wastewater risks is not planned in isolation of the management of stormwater, floods, alternative water supplies and drinking water supplies (see Section 5.8)*
2. *implement a rolling annual program of compliance inspections in high–risk properties and townships to bring onsite systems in line with permit and/or policy requirements and follow–up noncompliance (see Section 3.3)*
3. *develop and implement a data management plan to collect accurate information on the number, location and performance of onsite systems—data collection should be prioritised using a risk–based approach to identify areas for collection based on highest to lowest risk (see Section 2.2)*
4. *develop an education plan to inform property owners of their responsibilities and requirements to maintain and upgrade their onsite systems as required, which must include an evaluation framework to assess its effectiveness (see Section 3.5).*

We recommend that Yarra Ranges Council:

5. *finalise its domestic wastewater management plan by 2019 identifying high–risk unsewered townships for servicing in collaboration with Yarra Valley Water, the community and other key stakeholders (see Section 2.2)."*

VAGO expectation that Councils conduct auditing activities to address wastewater information gaps.

The Victorian Auditor General's October 2018 Report on Managing the Environmental Impacts of Domestic Wastewater was pointed in its emphasis of the universal need for Councils to audit their existing septic information/records to identify the information gaps. Once the gaps in wastewater information have been identified, the auditing process must then extend into the field to locate and verify the previously unknown septic locations and configurations.

This process is labour and time-intensive, requiring dedicated resources in the form of additional project-based EFT and current GIS/GPS enabled technology that can easily integrate with the chosen licensing database.

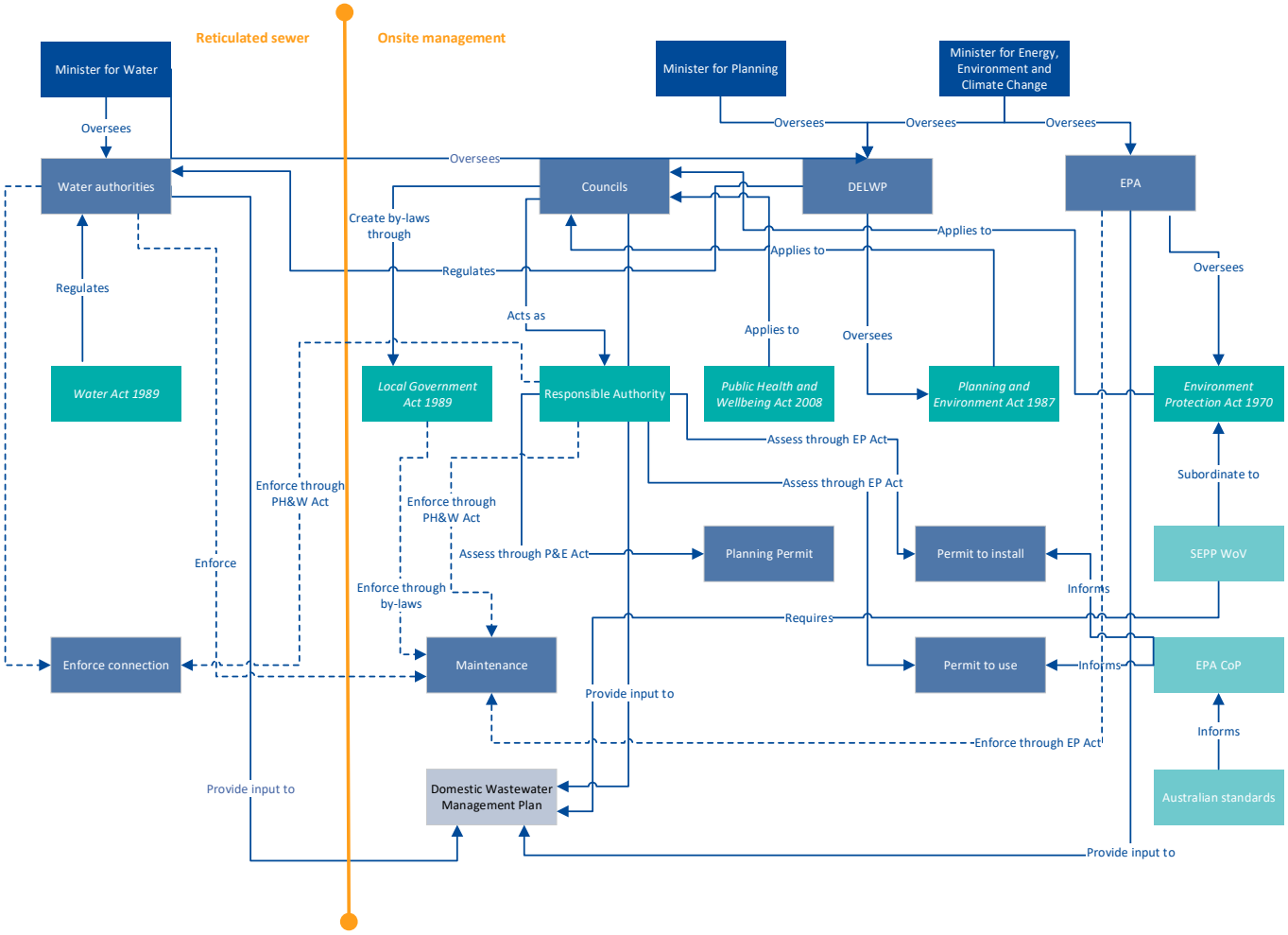
Overly complex, onerous and duplicative regulatory framework creates a continued lack of clarity around roles and responsibilities

The cumbersome nature of the current regulatory framework is described clearly in the below extract from the the Victorian Auditor General's October 2018 Report:

"The overlapping and complex nature of the approval processes for onsite systems requires approvals under three different Acts—the EP Act, P&E Act and the Building Act 1993. For councils, administering this process is resource intensive and complex. The bulk of council effort and resources focus on approving new systems rather than ensuring compliance with permit conditions, addressing legacy system issues, or taking enforcement action where needed.

Councils and water authorities are still unclear about:

- *how to require the upgrade of legacy onsite systems discharging offsite with an approved permit*
- *the mechanism to require the upgrade of old systems that do not have a permit*
- *their enforcement powers for failing onsite systems*
- *forcing property owners to connect to sewer—there is a lack of a shared and agreed approach between the responsible agencies and a reluctance by water authorities to force connection where the power exists*
- *whether there is a need to collect information on legacy systems*
- *water authorities' responsibility to service properties that have a low to medium risk of discharging wastewater offsite or that are capable of containing wastewater on site*
- *ongoing governance responsibilities for alternative wastewater treatment systems installed by water authorities."*



Source: VAGO.

Figure 3: Complexity of current regulatory framework

Melbourne Water's Healthy Waterway Strategy 2018

Melbourne Water reviewed their Healthy Waterway Strategy in the first half of 2018 which resulted in the draft Strategy being released for comment in June 2018. The new strategy reflects a fundamental shift in focus to an intentional collaborative and co-design approach that is aspirational in its goals. These goals have been delineated into 10 plus and 50 year outcome timescale.

With the revised Health Waterway Strategy 2018 there are significant potential opportunities available for Council to partner with Melbourne Water in local healthy waterway projects and initiatives in which stormwater retention and wastewater management play key roles in improving the health of waterways within our catchment area and subsequently further downstream.

Greater level of expertise required

Generally, a greater level of expertise is required now to assess the increasing complexity and range of issues inherent in providing wastewater solutions to existing properties and new developments. Wastewater Plumbers, Land Capability Assessors and Council Officers now need to be wastewater specialists with knowledge/experience across many different system types and the correct application of the different legislation and standards.

Recommendations

Arising from all of the preceding analysis; the following 14 recommendations have been identified, fitting within 5 key areas as follows:

Information and Data Collation

- Collation and auditing of all current and historic WTS information into a single information management system to identify information gaps, provide status reports, improve risk assessment data and accuracy of information on WTS currently operating within the Shire.
- Enhancing GPS Mapping Application technology to assist with information gathering and recording.

Education and Awareness

- Implementation of wastewater education and information strategies for WTS owners in Nillumbik to achieve increased awareness of their responsibilities and improved WTS maintenance management practices.

Sewer Connection and CSP prioritisation

- Continued advocacy and promotion of sewer connection via participation in YVW's Community Sewerage Program (CSP) and increased collaboration and partnership with YVW.
- Continued partnerships with other Councils and peak associations to advocate to the State Government to accelerate, resource and maximise the CSP.

Regulation and Enforcement

- Investigation into the provision of an automated reporting application to manage Council's statutory duty to monitor and regulate compliance with the WTS maintenance reporting requirements and assist residents with their maintenance obligations.
- Developing a targeted monitoring and compliance program, including auditing and sampling activities to identify and assess the high risk WTS areas within the Shire.
- Investigation into the provision of specific Local Laws relating to current WTS legislative requirements.
- Enhanced cross collaboration across Council to ensure land development pressures are addressed appropriately, recognising the real constraints associated with land-based factors and sewer provision.
- A regulatory approach that applies the principle of "natural justice" when bringing old (legacy) WTS up to current standards. This approach will apply:
  - risk-based assessment to identify the high-risk legacy WTS within the Shire
  - logical, fair and explained upgrade triggers consistent with legislative requirements
  - a phased, transitional approach to upgrade requirements, recognising the significant costs involved for Nillumbik residents.

Collaboration and Review

- Review of all wastewater operational policies and procedures to ensure that they are current and address all the relevant legislation; including legislative change and reform.
- A comprehensive and formal DWMP review and auditing cycle that complies with the SEPP (Waters) requirements, and annual internal review and assessment of the DWMP Action Plan progress.
- Strengthening Council's internal stakeholder relationships, capacity, resources and processes to provide an integrated approach to wastewater management and regulation.
- Advocacy for improvements to the legislative framework pertaining to on-site domestic wastewater and reticulated sewerage provision and participation in reform opportunities.

These 14 recommendations form the basis of the strategies and actions detailed in the Nillumbik Domestic Wastewater Management Plan 2019 Action Plan.

Timeframe for the next DWMP 2019

The timeframe needed to effectively implement the actions of the next DWMP and to provide the best position for Council for the next CSP reprioritisation in 2021 will be extended from 3 years to 5 years. The next DWMP will cover the 2019-2023 period.

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- *Your Pressure Sewer System: An owner's guide*, YVW
- *Using My Sustainable Sewerage System: Home owner's manual*, YVW
- Wikipedia

Glossary

AWTS: Aerated Wastewater Treatment System. AWTS are a type of secondary treatment system

CSP: Community Sewerage Program

COC: Certificate of Conformance (provided by Standards Australia)

Desludging: The removal of sludge and sediment from the tanks of a wastewater treatment system.

DELWP: Department of Environment, Land, Water and Planning

Domestic Wastewater: Wastewater arising from a domestic dwelling. Domestic wastewater can comprise of blackwater (toilet waste) or greywater (sullage waste from bathrooms, laundry and kitchen appliances), or a combination of both.

DWMP: Domestic Wastewater Management Plan

Effluent: Combined wastewater coming from (leaving) a domestic residence and/or coming from (leaving) a wastewater treatment system. It is a direction-based term used for wastewater exiting a household or treatment system.

EPA: Environment Protection Authority

GIS: Geographic Information System

Greywater: Domestic wastewater that does not contain toilet waste. Also known as sullage.

Influent: Combined wastewater entering a wastewater treatment system or land disposal system. It is a direction-based term used for the wastewater entering a wastewater treatment or land disposal system.

Joint Accreditation System of Australia and New Zealand (JAS-ANZ): Is an accreditation authority and framework, with the purpose to enhance national, trans-tasman and international trade via accreditation to achieve international recognition for the excellence of Australian and New Zealand goods and services. JAS-ANZ provides a certification mark for use on goods and services that meet their accreditation requirements.

Land Capability Assessment (LCA): A method used to assess the capability of land to manage on-site wastewater disposal, which recommends whether effluent can be adequately treated and retained on-site.

MAV: Municipal Association of Victoria

MW: Melbourne Water

Percolation: The filtration of liquid through soil

Permeability: The rate at which water moves through a soil profile. Fast permeability rates will not allow for adequate remediation, slow rates may give rise to soil waterlogging.

Primary Treatment System: A wastewater treatment system that treats the effluent to a primary standard.

Secondary Treatment System: A wastewater treatment system that treats the effluent to a secondary standard.

SEPP: State Environment Protection Policy (Waters)

Septic tank system: A primary wastewater treatment system for the bacterial, biological, chemical and physical treatment of sewage including all tanks, beds, drains, pipes, fittings, appliances and land used in connection with the system. Septic tank systems treat the influent sewage primarily through anaerobic processes.

Sewage: Any wastewater containing human excreta or domestic wastewater.

Sewerage: The infrastructure system (drains etc.) used to carry, treat and dispose of sewage.

Sullage: See greywater. Household greywater that does not contain toilet waste, but may still contain many of the harmful pathogens, nutrients and other chemicals contained in blackwater waste, presenting a similar hazard.

YVW: Yarra Valley Water

WISS: Water Industry System Solutions

WTS: Wastewater Treatment System. This is the generic term used to refer to all available types of on-site wastewater treatment and disposal systems (across both primary and secondary treatment systems).

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