

STORMWATER POLICY AND STORMWATER MANAGEMENT PLAN – CONSIDERATION FOR ADOPTION

Report Author: Executive Officer Stormwater, Traffic & Transport
Responsible Officer: Director Built Environment & Infrastructure
Ward(s) affected: (All Wards);

The author(s) of this report and the Responsible Officer consider that the report complies with the overarching governance principles and supporting principles set out in the Local Government Act 2020.

CONFIDENTIALITY

This item is to be considered at a Council meeting that is open to the public.

SUMMARY

The Stormwater Policy and Stormwater Management Plan 2024-2034 (SWMP) are designed to strategically manage flood risks while protecting and maintaining the natural water cycle and the health of waterways. These documents establish a framework and action plan to guide the Council in planning for future growth and implementing sustainable stormwater management practices within the municipality.

On 11 June 2024, Council resolved to release the draft documents for a six-week community engagement period, which took place from 12 June 2024 to 24 July 2024.

An objection to the Stormwater Management Plan was received at the Council Meeting on 27th August 2024.

The objection centred on two key concerns – that all information, specifically Appendix D and E, was not available on Shaping Yarra Ranges during the engagement period to help inform community input, and that the documents were referencing data from the previous Housing Strategy 2009, with the perception being that the data referenced was outdated.

In accordance with Council's Community Engagement Policy 2024-2028, which states 'participants taking part in community engagement must have access to objective, relevant, and timely information to inform their participation', all necessary information to facilitate informed community engagement on the SWMP was made available throughout the six-week consultation period.

In relation to the objection that Appendix D and E were not included on the Shaping Yarra Ranges page during the consultation period:

- Appendix D is a “zoomed in” map of each individual catchment shown as an overall map in the draft SWMP on exhibition. An example of such a map was also included in the draft report that was available at the Community Drop-In session on 3rd July 2024 where one on one conversations were held with members of the Stormwater Management team and other key stakeholders.
- Appendix E is a tabulation of the data shown on the Appendix D maps. An example of such a tabulation was included in the draft report that was on exhibition and available at the Community Drop-In sessions as referenced above.

The prioritisation framework informing the SWMP is needed to help prioritise catchments requiring flood modelling due to the high cost of modelling each individual catchment and the need to spread the modelling work over many years.

The approach to determining prioritisation, key input criteria, and importantly, the results, were contained in the body of the SWMP (in particular Figure 7.4), together with Appendices B and C, and this information was also included on Shaping Yarra Ranges throughout the engagement period.

Objective data, such as housing density and level of imperviousness, was also used to help inform the prioritisation approach. The Draft Stormwater Management Plan (SWMP) was released for public consultation on the same day as the adoption of the Yarra Ranges Housing Strategy 2024. As such, data from the Housing Strategy 2009 was initially referenced within the SWMP, which was consulted with the community. With the Yarra Ranges Housing Strategy 2024 since being adopted by Council, the SWMP has been refreshed to incorporate the latest housing strategy data inputs.

During the development of the SWMP, Council entered into an agreement with Melbourne Water to undertake flood modelling across all catchments over a two year period. Minor modifications have been made in the SWMP to make this clear.

Notably the prioritisation approach will be updated following the completion of the catchment modelling.

As part of business as usual, Council will continue to investigate localised areas and assess flooding and potential drainage improvement options. An example of this is Gleghorn Road / Emberson Road/ Monbulk Road, Kallista.

While the SWMP has been designed to ensure ongoing community engagement, in particular, the proposed establishment of a SWMP Community Reference Panel, Council acknowledges that catchment prioritisation and flood modelling can be a complex topic.

In response to this feedback, an additional action has been added into the plan (SWMP32), which commits to updating the catchment prioritisation following

completion of the municipal wide flood modelling, with active participation of the Community Reference Panel to be established under Action 26.

The updated documents are now presented for Council consideration to adopt as final.

RECOMMENDATION

That Council

- 1. Note the community engagement on the draft Stormwater Policy and Stormwater Management Plan 2024-2034.***
- 2. Adopt the final Stormwater Policy and Stormwater Management Plan 2024-2034.***
- 3. Write to all submitters to thank them for their engagement and submissions and advise them of the outcome of the Council meeting.***
- 4. Update the Council website with Stormwater Policy, Stormwater Management Plan 2024-2034, Stormwater Management Plan 2024-2034 Overview document and Engagement Feedback Report.***
- 5. Note Council's partnership with Melbourne Water to undertake flood mapping for all the identified catchments over the next two years.***
- 6. Note the action in the SWMP to establish a Community Reference Panel to provide community input on stormwater projects and studies under the Stormwater Management Plan (SWMP26).***
- 7. Note the additional action in the SWMP following Council Meeting on 27th August 2024 to update catchment prioritisation following completion of municipal wide flood modelling through active participation with the Community Reference Panel.***

RELATED COUNCIL DECISIONS

At the Council Meeting on 11 June 2024, Council resolved to release the draft documents for a six-week community engagement period.

At the Council Meeting on 27 August 2024, Council resolved to defer the consideration of the report in response to objections received from Flood Watch Group representatives.

Purpose

The purpose of this report is to summarise the feedback received during the six-week community engagement period, respond to key concerns raised by Lilydale and Kallista Flood Watch Groups at the Council Meeting on 27th August 2024, and present the final versions of the Stormwater Policy (Attachment 1) and the Stormwater Management Plan 2024-2034 (Attachment 2) for Council's consideration and adoption.

Background

The Yarra Ranges municipality is the largest local government area in Melbourne, spanning 2,450 square kilometres. Most of the upper catchment consists of protected forests, while development is spread across rural and urbanised areas.

The population of Yarra Ranges is projected to increase by approximately 20% (an annual growth rate of 0.7%), reaching 180,000 residents by 2041. This growth will not be uniform across the municipality. The highest growth rates are expected in the western, urbanised parts of Yarra Ranges, including Lilydale, Chirnside Park, Mooroolbark, and Kilsyth, where most development opportunities and infrastructure are located. The Council Plan highlights the need to plan appropriately for future growth and consider the impact of increased infill development across the municipality.

When Yarra Ranges was first developed, it was predominantly a farming and mining area, which meant there was lots of open space to absorb water when it rained or space for it to flow into many gullies and creeks. Today, with less open space and more hard surfaces, water flows more rapidly from roofs and roads into underground drainage networks and then into waterways. The impacts of developments and increase in hard surfaces is outlined in Figure 1 below.

We are now seeing an increase in extreme weather events. During heavy rain, the underground drainage system cannot always capture the volume of water hitting the ground. This can result in localised flooding as the water moves through natural flow paths. It is not always possible to fix localised flooding by simply adding new drains or making drains bigger, as this could shift the problem downstream. The best approach is to model and plan for where flooding might occur, allowing for the safe flow of water while minimising the impact on buildings, businesses, and other infrastructure.

Current benchmarking practices to stormwater management consider not only flood hazards but also the impact on the receiving waterways and how it can be best managed to achieve multiple community and ecosystem benefits.

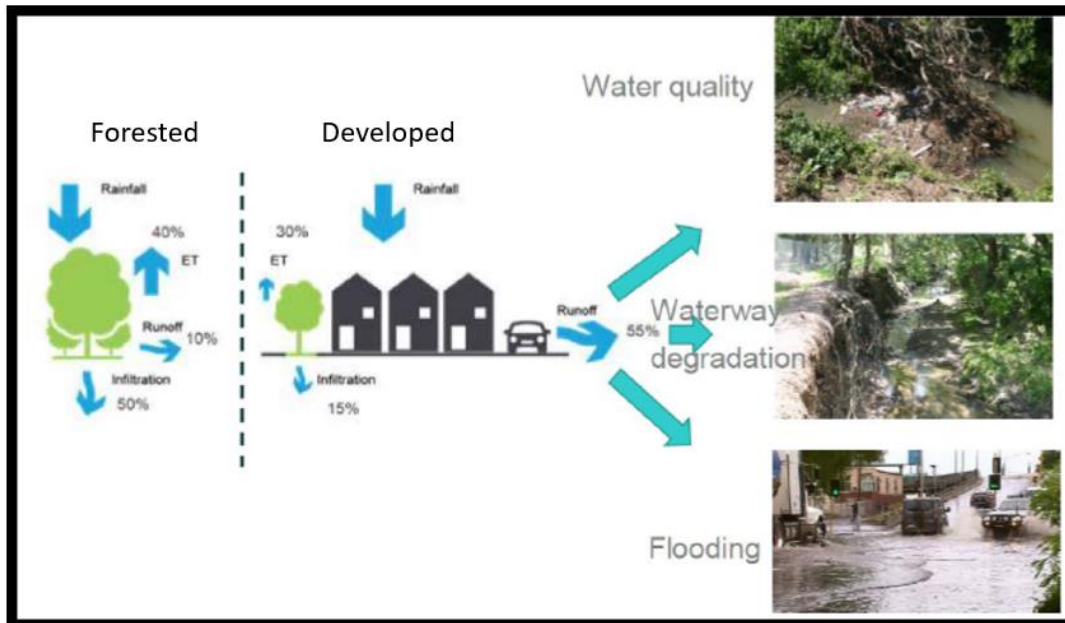


Figure 1: Impacts of increased run-off

The Stormwater Policy and Stormwater Management Plan 2024-2034 aims to strategically manage flood risk and protect and maintain the natural water cycle and health of waterways from urban development impacts. They establish a framework and action plan for the Council to plan for future growth and sustainable stormwater management within the municipality.

Stormwater Policy

The purpose of the Stormwater Policy (Attachment 1) is to:

- define Council’s scope, roles, and responsibilities it relates to stormwater management.
- outline Yarra Ranges Council’s objectives for stormwater management.
- assist Council, manage its legal drainage obligations.
- provide a framework for stormwater management within the municipality.

Stormwater Management Plan 2024-2034

The Stormwater Management Plan 2024-2034 aims to address the challenges of stormwater management within the Yarra Ranges municipality. The detailed Stormwater Management Plan can be found in Attachment 2 to this report. The Appendices of the SWMP can be found in Attachment 3. The overview document of Stormwater Management Plan can be found within Attachment 4.

The plan focuses on balancing flood protection with the preservation of natural waterways, considering the impacts of urban development and climate change.

The Stormwater Management Plan outlines strategies to improve stormwater infrastructure, manage flood risks, enhance water quality, and promote sustainable development practices.

The Key Objectives of the Stormwater Management Plan are:

- Utilising Stormwater as a resource
 - Increase fit-for-purpose use of stormwater and rainwater.
- Existing and future flood risks are managed to maximise outcomes for the community
 - Reduce the impacts of dangerous flooding now and into the future with development and climate change.
 - Increase cross-consideration of flood mitigation and integrated water management.
 - Improve community education around the flood management function of roadways.
- Healthy and valued waterways
 - Reduce the total urban stormwater runoff volume discharged to receiving waters.
 - Decrease pollutants discharged to receiving waters.
 - Protect high value waterways.
- Healthy and valued urban and rural landscapes
 - To minimise increases in stormwater due to development and protect the environmental values and physical characteristics of the landscape from degradation by stormwater.
 - To ensure integrated stormwater management that maximises ecosystem services, such as cooling and local habitat improvement, and provides attractive and enjoyable spaces.
- Community values are reflected in stormwater planning
 - Increase organisational capacity to partner with Traditional Owners to be able to respectfully acknowledge the connection of Traditional Owners to the land and waterways and include indigenous knowledge in stormwater management.
 - Engage with the community during flood mapping and stormwater management projects and studies to support and enhance community connection with and understanding of the water cycle.
 - To enable better asset management with improved efficiencies and overall cost reductions for Council via strategic planning.
 - Respond to climate and climate change related events through resilience planning.

- Strategic Partnerships
 - Increased collaboration with other organisations to support strategic stormwater management

The Stormwater Management Plan implementation plan provides a structured approach to achieving its objectives through thirty-two specific actions. Overview of the key actions are outlined below:

Flood Mapping Program

Under Regulation 148 of the Building Regulations 2018, Council is required to prepare mapping for areas under its control that are liable to flooding.

The Flood Mapping Program is a fundamental component of the Stormwater Management Plan, aimed at identifying flood-prone areas within the municipality. The Flood Mapping Program will be delivered by Melbourne Water in collaboration with Council.

Flood mapping involves the use of historical flood information and modern mapping techniques to accurately predict where water will flow and where flooding may occur during storm events.

Current and reliable flood mapping information is essential to understand and manage flood risk. It is used to:

- Conduct drainage improvement works through Council's Annual Capital Works Program, such as the installation of new drainage, flood retarding basins, and stormwater harvesting/reuse works.
- Maintain and renew drainage assets, including pipe and pit cleaning, street sweeping to minimise leaf debris, and repairing Council-managed stormwater drains and pits.
- Provide flood management and prevention advice to landowners.
- Support the work of the SES in preparing for emergency flood events and providing assistance during events.
- Educate and prepare our community through flood information.
- Ensure that new developments appropriately consider flood events/impact and implement any required drainage upgrades through development construction.

The flood mapping process will also be informed by the latest available data and guidance recommended under the 2019 version of Australian Rainfall and Runoff.

Following the development of the Draft Flood Map, Council will engage with community to understand the impacts on properties and make updates to the draft flood maps accordingly.

Infrastructure Upgrades

Council will be completing thorough surveys of existing drainage assets in critical areas, followed by targeted upgrades based on the findings from risk assessments. A key component of this effort is to develop and prioritise a program of works focused on the mitigation and adaptation of the existing drainage network. Critical areas will be determined through a combination of asset surveys, flood mapping and hazard categorisation assessment (flood depth, flood velocity, and overlays such as EMOs), ensuring that interventions are data-driven and strategically targeted.

Incorporating climate change projections into infrastructure design is essential to future-proof these systems, ensuring they can handle increased rainfall intensity and frequency. These upgrades not only improve flood protection but also enhance the overall reliability and efficiency of the stormwater management system. By proactively addressing the vulnerabilities in the existing drainage network, the municipality can significantly reduce the risk of flood damage and improve the community's resilience to extreme weather events.

Water Sensitive Urban Design (WSUD) and Integrated Water Management (IWM) Initiatives

Water Sensitive Urban Design (WSUD) and Integrated Water Management (IWM) are key strategies for managing stormwater sustainably while improving water quality and overall water resource management. The Stormwater Management Plan advocates for integrating WSUD principles into new developments and public spaces. This includes measures such as permeable pavements, rain gardens, and bio-retention systems that manage runoff at its source. These elements help reduce stormwater runoff, enhance infiltration, and improve water quality by filtering pollutants.

IWM takes a holistic approach to water management, considering all aspects of the urban water cycle, including potable water, wastewater, stormwater, and groundwater. The plan promotes the use of rainwater and stormwater for non-potable purposes, such as irrigation, toilet flushing, and industrial processes in residential, commercial, and industrial areas. This approach not only conserves potable water resources but also reduces the volume of stormwater requiring management.

The integration of WSUD and IWM practices helps create resilient urban environments that are better equipped to handle extreme weather events and changing climate conditions. These practices support the creation of green spaces that enhance urban biodiversity, mitigate the urban heat island effect, and provide recreational opportunities for the community. By incorporating these sustainable water management practices, the Stormwater Management Plan aims to build a more liveable and resilient municipality.

Flood Catchment and Waterway Prioritisation

Given the scale and size of our municipality, it is crucial to prioritise catchments for Stormwater Planning Initiatives. The Flood Catchment Prioritisation Framework will

guide efforts such as the Flood Modelling Program (noting that Council is undertaking flood mapping across the entire municipality) and Drainage Asset Surveys.

Additionally, the Stormwater Management Plan (SWMP) includes a Waterway Prioritisation to identify waterways at risk due to development pressures. This will help prioritise Integrated Water Management (IWM) and Water Sensitive Urban Design (WSUD) initiatives to enhance stormwater management and protect vulnerable waterways.

Both prioritisation frameworks integrate data from the Council's Housing Strategy. The Draft Stormwater Management Plan was endorsed for public consultation on 11 June 2024, the same day the Council's new Housing Strategy was adopted. Consequently, the Draft SWMP did not include the 2024 Housing Strategy data. The updated prioritisation maps, which reflect the latest Housing Strategy data, are included in the updated SWMP.

Community Engagement and Education

Engaging the community and educating residents about stormwater management is crucial for the success of the Stormwater Management Plan. The plan emphasises developing and distributing educational materials, such as fact sheets, to inform the community about flood risks, Water Sensitive Urban Design (WSUD), and Integrated Water Management (IWM) practices, and individual responsibilities in managing stormwater. By involving community groups and stakeholders in planning and decision-making processes can foster a sense of ownership and collaboration.

A significant initiative in this regard is the establishment of a Community Reference Panel. This panel will consist of representatives from diverse community groups and stakeholders who will provide input and feedback on stormwater management projects and strategies. The Community Reference Panel will serve as a bridge between the municipality and its residents, ensuring that community concerns and suggestions are considered in the decision-making process. This participatory approach ensures that the community is well-informed and actively contributing to stormwater management efforts, enhancing the plan's effectiveness and community acceptance.

Development Engineering Guidelines

To support the effective implementation of the SMWP, existing policies and guidelines need to be updated and enhanced. The Development Engineering Guidelines play a crucial role in setting the standards for stormwater management practices within new developments. The SWMP calls for revising these guidelines to include:

- A requirement for all applicable development classes to comply with the Best Practice Environmental Management Guidelines (BPEMG) performance requirements.

- Yarra Ranges Planning Scheme provisions and requirements that support sustainable stormwater management.
- Design specifications and requirements for the design of stormwater management systems.
- Examples of acceptable on-lot and street-scale water sensitive urban design options.
- Climate change factors in Permissible Site Discharge and Onsite Detention requirements.
- A requirement that all new developments incorporate an 18.5% increase in rainfall intensity in all designs for the planning horizon of 2100.

The updates will:

- Reflect Council's technical requirements for stormwater and associated works.
- Specifically outline the requirements and create a better understanding for land developers and engineering consultants. This will result in more plans prepared to standard, endorsed with minimum delay and constructed to an acceptable sustainable standard.
- Reflect impacts of climate change and increased urban development. These impacts are likely to be an increased flood risk and pressures on the drainage network.

Council will use the Engineering Guidelines to:

- Communicate its position on stormwater management and linkages with policies, plans, and requirements.
- Communicate the standards and requirements for stormwater management in new developments.
- Provide up-to-date technical guidance and direction to land developers and engineering consultants.
- Clarify the differences in responsibility between private developers and Council in relation to the implementation and management of stormwater assets.
- Outline the approval process required for new developments and contact points between Council and developers. This will help facilitate efficient, equitable and appropriate designs and approvals.

Stormwater Offsets Program

The current Stormwater Offset Program requires developers to make a financial contribution to Melbourne Water, which then allocates funds to councils based on project priorities. However, a Council Offset Program allows the municipality to receive financial contributions directly towards council projects. This program would enable Council to prioritise and fund stormwater management projects that align with local needs and strategic goals.

The funds collected through the offsets program can be used to implement larger-scale stormwater management infrastructure, such as wetland construction, waterway restoration projects, and enhanced flood control measures. This program

ensures that the impact of new developments on the stormwater system is managed, even when site-specific constraints prevent the full implementation of WSUD measures.

The stormwater offsets program encourages sustainable urban development by providing a flexible yet effective means for developers to meet their stormwater management obligations. By updating the Development Engineering Guidelines and implementing the stormwater offsets program, the Council can ensure that all development activities contribute positively to the overall stormwater management goals, promoting a more sustainable and resilient urban environment.

Strategic Partnerships and funding

The success of the SWMP relies on strong partnerships and adequate funding. Strengthening collaborations with agencies such as the Department of Energy, Environment and Climate Action (DEECA) and Melbourne Water (MW) will be crucial for implementing joint stormwater projects.

The ongoing relationships with the Department of Transport Planning (formerly VicRoads), Emergency Management agencies and service authorities are key to enhance infrastructure resilience.

The plan also explores various funding mechanisms, including grants, developer contributions, and stormwater offsets, to support its initiatives. Securing diverse funding sources ensures the sustainability of the program and enables the municipality to carry out the necessary actions to achieve its stormwater management goals.

Reporting on the Implementation Plan and Ongoing Review of the Plan

The delivery of the SWMP implementation actions will be guided by the Community Reference Panel (CRP), which will provide a community voice on for the SWMP Implementation Plan. Additionally, Council's Stormwater Management team will engage with the broader community during the delivery of relevant actions to ensure wider input.

The SWMP implementation status will be reported to Council biennially. The reporting will detail completed actions, upcoming milestones, and any necessary adjustments to align with strategic objectives. This approach ensures transparency, accountability, and timely interventions, thereby maintaining the effectiveness of the implementation process.

The comprehensive review of the SWMP, scheduled for the halfway mark of the plan. This is crucial for ensuring the plan remains relevant and effective. This review will incorporate updates based on completed actions and any changes to relevant policies, legislation, strategies, plans, and frameworks. It will also consider integration of new benchmarking practices. This review will ensure that the SWMP adapts to changing conditions and continues to meet its goals of strategically managing flood risk and protecting the natural water cycle and health of waterways from the impacts of urban development.

COMMUNITY ENGAGEMENT

The Draft Stormwater Policy and Stormwater Management Plan was released for a six-week community engagement period from 12 June 2024 to 24 July 2024. The Engagement Feedback Report can be found in Attachment 5 of this report.

Engagement Activities

A dedicated webpage with comprehensive information on the Stormwater Policy and the Stormwater Management Plan was actively promoted using various tools outlined in the project's Communications Plan. During the engagement period, the project's Engagement page attracted 718 visitors, with 28 people following the page.

A drop-in information session was held on 3 July 2024, featuring representatives from the Council's Stormwater Engineering, Strategic and Statutory Planning, Risk, and Customer Liaison teams. The session also included representatives from Project Consultant (RAIN), VICSES, Melbourne Water, and Windemere (Counselling Service for Flood Recovery Support). The purpose of this session was to provide a platform for the community to share their experiences of flooding, gain insight into the roles and responsibilities of various agencies, and enhance understanding of Stormwater Management within Yarra Ranges. A total of 30 attendees participated in the session.

Additionally, the project team hosted five "Meet the Stormwater Engineer" sessions at each of the Link offices.

During these sessions, the project team engaged with 17 residents, providing advice on their drainage issues.

Furthermore, the project team presented to both the Indigenous Advisory Committee (IAC) and the Sustainable Environment Advisory Committee (SEAC) to further involve and inform these key stakeholder groups.

Engagement Feedback

During the comprehensive six-week engagement period, 38 comments were received. Key feedback and the officer's response are outlined below:

1. Home Insurance Premiums and Property Devaluation Concerns.

Engagement feedback indicated that home insurance premiums have increased due to existing flooding, rendering some properties uninsurable. Additionally, there are concerns within the community around the impact of Flood Mapping on home insurance and property values.

The Australian insurance industry has been scrutinised over community expectations on responding to extreme weather events. The broad feedback has been that insurers should improve catastrophe planning to meet community expectations of operating in the Australian environment, including preparedness for, and stress testing against, extreme catastrophes.

The Yarra Ranges Flood Mapping Program will identify flood-prone areas across the municipality, serving as a crucial tool to inform Council's flood mitigation works planning.

While the specific impact of flood data on premiums is a matter for the insurance industry, anecdotally premiums may vary between insurers due to differing underwriting processes and business models. The Insurance Council of Australia, which monitors the market response to new data closely, has developed a fact sheet on premium changes and flood information (Refer to Attachment 6).

The insurance industry has developed and licensed the National Flood Information Database (NFID) to determine the flood risk for individual properties. Using available information, insurers can gauge current annual average damages for specific catchments. This database includes claims histories for properties and flood mitigation works.

Following the development of the Draft Flood Map, Council will engage with the community to understand the impacts on properties and make updates to the draft flood maps accordingly (Refer to Implementation Plan Action - SWMP21).

2. Drainage Maintenance

In line with the Council's Road Management Plan, the Council undertakes maintenance of all Council Drainage assets upon request. If there is a blocked stormwater drain, a maintenance request can be lodged through the Yarra Ranges Council's Customer Service Team at 1300 368 333.

Additionally, the Council conducts proactive inspections of known drainage hotspots. These hotspots have been identified based on past records of flooding issues and are considered to have an increased risk of failure.

It is important to note that maintenance of drainage within private property and the clearing of crossover (driveway) culverts are the responsibility of the property owner (refer to Figures 2 & 3 below).

The Yarra Ranges Flood Mapping Program includes conducting blockage analysis via computer modelling to identify critical infrastructure and support a proactive maintenance program. This information is then to be verified in the field by officers and ensures the drainage system operates at optimal capacity and addresses any issues promptly. Within the SWMP Implementation Plan, SWMP 23 has been updated to include proactive maintenance. The updated description is as follows:

SWMP23 - Incorporate key findings from the catchment flood mapping projects into the Municipal Flood Management Plan and include critical infrastructure identified through the blockage analysis in the Proactive Maintenance Program.



Figure 2: Council's responsibilities within the road reserve

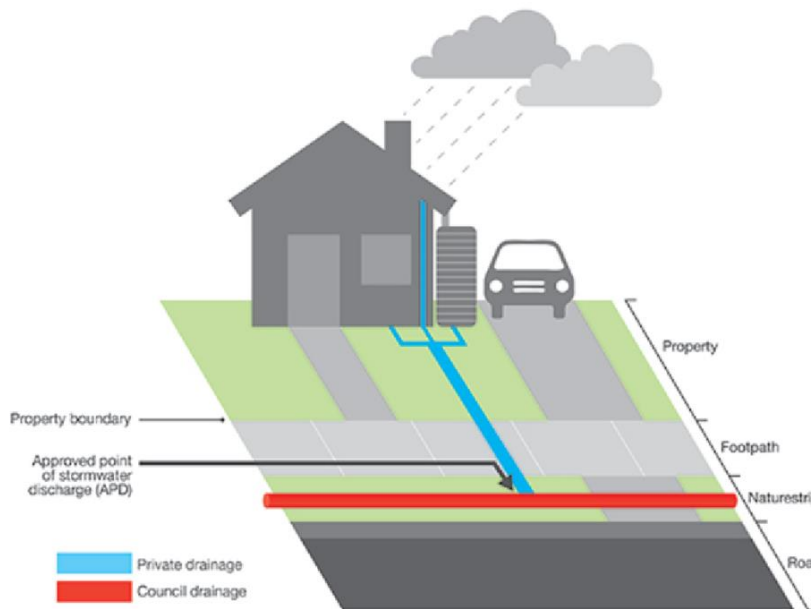


Figure 3: Private Drainage versus Council Drainage

3. Drainage issues associated with Unsealed Roads – Gravel Run off, blockages

Within the Yarra Ranges, there are approximately 715 km of unsealed roads. These roads and its associated drainage systems are maintained in accordance with the Council's Road Management Plan.

The Road for Community Initiative was a critical infrastructure funding opportunity aimed at sealing roads across the municipality and simultaneously addressing localised drainage issues. Unfortunately, the Federal Government's decision to withdraw its support has significantly impacted Council's ability to deliver the projects.

In response to this funding cut, the Council is reviewing its approach to Unsealed Road Management. This review encompasses an approach to future road

construction, taking into account factors such as abuttal density, maintenance issues, the Council's Special Charge Scheme policy, and the availability of capital budgets for upgrading Council assets across the municipality.

The Stormwater Management Plan (SWMP) Implementation Plan includes an action to consider drainage infrastructure for new unsealed road upgrade programs (SWMP8).

4. Drainage issues due to increased Development

Recognising the need to plan appropriately for future growth and the impact of increased in-fill development across the municipality, the SWMP Implementation Plan includes an action to update the Development Engineering Guidelines (SWMP2). Refer to the section on Development Engineering Guidelines above for more information.

The development of flood maps within the municipality (SWMP4) will ensure that new developments appropriately consider flood events and impacts. This will help ensure that any necessary drainage upgrades are implemented as part of the development.

Additionally, fact sheets will be developed as part of the implementation of the SWMP to detail how the Council manages new developments in respect to flooding (SWMP18).

5. Issues with Development approval process

The SWMP Implementation Plan includes actions to update the Development Engineering Guidelines (SWMP2) and review and improve the development approval process (SWMP3).

Additionally, the Council will be developing Water Sensitive Urban Design (WSUD) Guidelines to outline workable options for on-lot WSUD assets (SWMP10).

6. Flood impacts from neighbouring properties

Stormwater nuisances from adjoining land are regulated under the Water Act 1989. The Council is not designated under this legislation to enforce nuisance flooding compliance between two private properties and cannot request an adjoining owner to comply with this Act. This has been stated in both the Stormwater Policy and the Stormwater Management Plan.

The SWMP Implementation Plan includes an action to develop fact sheets to outline this information (SWMP19).

7. Flood Impacts and Lack of Coordination Among Drainage Authorities

The drainage network within the Yarra Ranges is managed by various drainage authorities. The Council manages the local drainage network, Melbourne Water manages waterways and regional drains, and the Department of Transport and Planning manages the drainage assets along the major road network.

The SWMP identifies the need for all authorities to work together in responding to drainage issues and jointly deliver stormwater projects. Refer to Implementation Plan Actions SWMP28-31.

8. Landslip Risk

Concentrated stormwater flows and run-off within EMO areas can increase the likelihood of, and trigger landslips. The development of flood maps will assist in understanding where these concentrated flows occur, helping to identify and prioritise necessary drainage upgrades.

To further clarify this item, SWMP7 has been updated as follows:

SWMP7 – Develop and prioritise a program of drainage upgrade works focused on reducing risk to properties. Critical areas will be determined via a combination of flood modelling (SWMP4) and hazard categorisation assessment (flood depth, flood velocity, and overlays such as EMOs).

9. Advisory Committee Feedback

A summary of the feedback received from the Sustainable Environment Advisory Committee (SEAC) include:

- The Stormwater Management Plan document is too technical in the language it uses to convey its purpose.
- There is an overly urban focus on the plan's actions, whereas we are concerned our rural landscapes are being overlooked.
- Insurance impacts to the community.

A summary of the feedback received from the Indigenous Advisory Committee (IAC) include:

- The impact of colonisation on natural water flow paths, causing flooding and degradation needs to be highlighted.
- There is a need to identify natural flow paths to prevent future flooding.
- We need to work with the natural elements of Country to ensure sustainable outcomes and the ongoing health of Country, especially with the growing impact of climate change.
- Highly effective land management such as traditional cultural fire practices and innovation need to be incorporated.

In response to SEAC's feedback about the technical nature of the Stormwater Management Plan, the language has been revised to make it more accessible and updated the overview document to emphasise key information from the plan.

To address SEAC's concern about rural landscapes, the updated plan emphasises the protection of these areas, aiming to preserve their environmental values and physical characteristics from stormwater-related degradation.

Incorporating IAC's feedback, a new section titled "Indigenous Water Knowledge" has been added to the Stormwater Management Plan to reflect traditional insights and practices.

Flood Watch Groups (Lilydale & Kallista) – Feedback and Objection

In addition to the feedback received during the six-week community engagement period, Lilydale and Kallista Flood Watch Groups outlined the following concerns at the Council Meeting on 27 August 2024. Officer responses are provided in the table below:

1. Lack of information on Flood Mapping Catchments and Prioritisation

Appendices A, B, and C were available on the Shaping Pages in the community consultation. These covered background information on the SWMP, Catchment Prioritisation Criteria and Results table. Notably section 7.4 of the Plan outlines the prioritisation process and results.

Appendices D is a 'zoomed in' version of Figure 7.4. Appendix E are the map highlights in tabulated form.

The 6-week consultation included multiple face to face sessions, including one with the consultant and project team where 'zoomed in' detailed of Appendix D and E was available for viewing in digital format.

No community feedback was received regarding the catchment prioritisation or waterway prioritisation framework during the engagement period. This is notable given the process and results were available.

Appendices A–E are now included as Attachment 3 to this report.

2. Priority Catchment Areas need to identify flooding locations and protocols for investigation of flooding issues is not included within the SWMP

The 49 priority catchments cover the entire municipality except for forested catchments.

Stormwater drainage network issues will be investigated using flood modelling, asset surveys, and local knowledge collected via drainage complaints and post-flood event data, providing 'pulse checks' of the stormwater drainage network.

Management of Drainage and Flood Requests is covered within section 7.3 within the SWMP for more information.

Relevant actions within the implementation plan - SWMP4, SWMP6, SWMP7, SWMP15-19

3. Oversight reporting to Council for SWMP implementation and ongoing operations/delivery

The SWMP implementation status will be reported to the Council biennially, detailing completed actions, upcoming milestones, and any necessary adjustments to align with strategic objectives. This ensures transparency, accountability, and timely interventions.

A comprehensive review of the SWMP is scheduled for the halfway mark of the plan, incorporating updates based on completed actions, relevant policies, legislation, strategies, plans, and frameworks, and integrating new benchmarking practices.

4. Lack of specific measures and targets for SWMP Implementation

Objectives, measures, and targets are outlined in section 7.2 of the SWMP.

These objectives align with the Yarra and Dandenong Catchment Integrated Water Management (IWM) Plans and the Council's IWM Plan.

The targets outlined within the SWMP help meet the overarching goals to reduce Annual Average Damage (AAD), consider IWM and flood mitigation for projects, and reduce annual mean run-off.

5. Administrative errors

The document has been updated to correct any identified administrative errors.

6. Lack of information on the management of areas not designated as Priority Catchments over the next ten years

At the commencement of the SWMP, an approach to prioritising flood modelling was needed because the high cost to model each catchment (approx. \$300k), meant the work needed to be spread over many years.

However, Council have now entered into an arrangement with Melbourne Water to model all 49 catchments over 2 years. Therefore, from a modelling perspective the matter of prioritisation becomes redundant.

Actions in the plan, notably Actions 21, 22 and 23 outlines what happens next with modelled catchments.

In recognising the feedback through the objection of the SWMP, an additional action has been added in the plan (SWMP32), which commits to updating the catchment prioritisation following completion of the municipal wide flood modelling in consultation with the Community Reference Panel to be established under Action 26.

7. Outdated references to the 2009 Housing Strategy

The SWMP has been updated to reflect the 2024 Housing Strategy data.

8. Lack of detail on Melbourne Water's Flood Mapping Survey Method, and no endorsement of Melbourne Water on the SWMP being presented to Council evidenced

Council has entered into an agreement with Melbourne Water to flood map the entire municipality.

It is not the purpose of the SWMP to describe the detailed modelling methodology. The purpose is to note the modelling work is required.

Notwithstanding this point we are confident that a fit for purpose, industry accepted approach is being used (Melbourne Water will use hydrology (RORB) and hydraulic (TUFLOW) modelling to develop the flood mapping. Jacobs Consulting has been engaged to perform the detailed flood modelling work).

A Community Reference Panel will guide the development of the Yarra Ranges flood mapping program.

Melbourne Water's feedback has been incorporated into the SWMP, and they supported Council's engagement efforts, including the drop-in session on 3rd July. No explicit endorsement of the plan is expected from MW.

9. Insufficient detail on the governance framework in alignment with the Housing Strategy

The delivery of the SWMP implementation actions will be guided by the Community Reference Panel (CRP) and Council's Stormwater Management team, ensuring broader community engagement.

Biennial reporting will provide transparency, accountability, and necessary adjustments to maintain the effectiveness of the implementation process. The comprehensive review of the SWMP, scheduled for the halfway mark of the plan, will ensure it remains relevant and effective.

Both Housing Strategy and the SWMP are aligned through the Action Plans.

10. No evidence of a Gender Impact Assessment

A Gender Impact Assessment (GIA) for the SWMP has been completed, considering gender-specific needs and promoting equitable benefits across all community groups.

GIA has been developed in line with Gender Equality Act (2020) and in consultation with Council's Gender Equity and Inclusion team.

The GIA completed for the project informed key decisions on the project and will continue to inform the implementation plan.

11. New building regulation requirements are not referenced within the SWMP

SWMP references that under regulation 148 of the Building Regulations 2018, Council is required to prepare mapping for flood-prone areas.

The Flood Mapping Program, a core component of the SWMP, identifies flood-prone areas to inform building requirements and prevent exacerbation of downstream flooding issues.

12. Clarification on Criteria for Priority Catchment Areas in SWMP

The Flood Catchment Prioritisation process considers the entire municipality except for forested catchments.

As outlined in section 7.4 of the Plan, criteria used include Flood Hotspots, Housing Strategy Precincts, Vulnerable Facilities, Directly Connected Imperviousness (DCI) percentage, DCI percentage change values, and Flood Hazard Analysis. These criteria were publicly exhibited in both the Plan and Appendix B for six weeks.

Actions in the plan, notably Actions 21, 22 and 23 outlines what happens next with modelled catchments.

In recognising community concerns around the catchment prioritisation, an additional action has been added in the plan (SWMP32), which commits to updating the catchment prioritisation following completion of the municipal wide flood modelling in consultation with the Community Reference Panel to be established under Action 26.

FINANCIAL ANALYSIS

The Stormwater Management Plan (SWMP) includes a comprehensive implementation plan with detailed costings for each proposed action. These actions will be funded through a combination of existing budget allocations, future budget submissions, and external funding grants.

The SWMP equips Council with a robust, evidence-based framework to prioritise and justify the delivery of actions within the Implementation Plan. Additionally, the SWMP positions Council to effectively pursue external funding opportunities, including grants with short application timeframes. Notably, even in its draft form, the SWMP has already enabled Council to secure several funding grants from Melbourne Water.

SUSTAINABILITY IMPLICATIONS

Economic Implications

The Stormwater Management Plan outlines various economic implications that focus on both short-term costs and long-term savings. Implementing effective stormwater management practices can lead to significant economic benefits by reducing flood damage to infrastructure and private properties, which can otherwise lead to costly repairs and insurance claims. Furthermore, the plan includes exploring funding

mechanisms such as stormwater offsets, developer contributions, and grants to support sustainable stormwater management initiatives.

Social Implications

Social implications of the Stormwater Management Plan include improved community health and well-being through the reduction of flood risks and enhancement of green spaces. The plan emphasises the importance of integrating WSUD to create urban environments that are more liveable and resilient to climate change. Greening urban areas and supporting tree canopies contribute to cooling urban heat islands, which can significantly improve the quality of life, particularly during extreme heat events.

A Gender Impact Assessment for the Stormwater Management Plan has been completed that considers gender-specific needs and promote equitable benefits across all community groups. Additionally, transparent communication about climate change impacts and involvement of community groups in stormwater management projects foster a sense of ownership and collaboration.

Environmental Implications

From an environmental perspective, the Stormwater Management Plan aims to protect and restore natural habitats, improve water quality, and enhance the health of urban waterways. The plan supports actions such as stormwater harvesting and the integration of urban development with water cycle management to create a resilient and liveable city. By adopting WSUD and IWM initiatives, the plan seeks to mitigate the impacts of urbanisation on natural water cycles, reduce runoff, and enhance biodiversity. The focus on climate change adaptation ensures that the infrastructure and ecosystems are resilient and capable of withstanding future climate conditions, thereby preserving the environment for future generation.

COLLABORATION, INNOVATION AND CONTINUOUS IMPROVEMENT

The project team has conducted an extensive literature review and engaged with key stakeholders, including Councillors, MW, various Councils, DEECA, the Yarra Ranges Council (YRC) Sustainable Environmental Advisory Committee, the YRC Indigenous Advisory Committee, and Development Engineering Consultants. These activities aimed to identify gaps in stormwater management and benchmark best practices, informing the development of the draft Stormwater Policy and Stormwater Management Plan.

CONFLICTS OF INTEREST

No officers and/or delegates acting on behalf of the Council through the Instrument of Delegation and involved in the preparation and/or authorisation of this report have any general or material conflict of interest as defined within the *Local Government Act 2020*.

ATTACHMENTS TO THE REPORT

1. Stormwater Policy
2. Stormwater Management Plan 2024 – 2034
3. Stormwater Management Plan 2024 - 2034 - Appendices
4. Stormwater Management Plan 2024 - 2034 – Overview
5. Stormwater Management Plan 2024 -2034 - Engagement Feedback Report
6. Insurance Council of Australia Fact Sheet