

Stakeholder Engagement Summary

Improving Stormwater Management Advisory
Committee



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Author

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Executive summary

The Minister for Planning established the Improving Stormwater Management Advisory Committee to provide advice to the Minister for Planning and the Minister for Water on how to improve stormwater management and strengthen the links between planning and urban water management.

The Committee is tasked with advising which types of development, of those currently not subject to Victoria's urban runoff management objectives, should be required to manage their stormwater impacts and how this could be achieved. The Committee was also asked to provide advice on future policy directions on improving stormwater management and strengthening the links between urban water management and the planning and development system more broadly.

In May 2018, DELWP released an Issues Paper highlighting some of the key issues and opportunities relating to how stormwater is or can be managed through the planning system. Stakeholders were asked to provide feedback on the Issues Paper.

DELWP received a total of 47 submissions. The Committee also ran six targeted stakeholder workshops with representatives from the water industry, academia, councils, housing and building industry, environmental groups and government departments.

The consultation demonstrates a strong support for changing the way we manage stormwater in Victoria. The majority of stakeholders support a greater number of development types being captured by stormwater management planning requirements, with many Victorian councils already having taken steps to achieve this through their own local planning schemes.

The increase in imperviousness throughout urban areas in Victoria, and specifically Melbourne, is seen by stakeholders as an issue which needs to be addressed proactively by the Victorian Government.

Throughout the consultation process stakeholders highlighted the environmental benefits of stormwater management and the importance of its management on waterway and bay health. Stakeholders also identified the benefits of stormwater harvesting and infiltration for urban greening and cooling effects, which are both central to maintaining Victoria's liveability.

Stakeholders are, however, concerned about a number of implementation issues associated with the current stormwater management requirements. These include difficulties recovering the costs of public stormwater infrastructure, issues relating to skills, tools and guidance and the need for more clarity around roles and responsibilities. Stakeholders support linking Integrated Water Management (IWM) plans to the planning system. Implementing an offsets regime received qualified support throughout the consultation process with many stakeholders asking for a clear and transparent scheme managed by a reliable authority.

1. Introduction

1.1 Project background

The Victorian Government, in *Water for Victoria*, the *Yarra River Action Plan*, the *Plan Melbourne Implementation Plan* and the *Port Phillip Bay Environmental Management Plan*, has committed to improving stormwater management for greener environments and healthier waterways. Many of these stormwater policies involve changes to Victoria's planning controls.

For this reason, the Minister for Planning established the Improving Stormwater Management Advisory Committee (the Committee) to provide independent advice to both the Minister for Planning and the Minister for Water on planning and development controls for improving stormwater management and strengthening the links between water management and urban planning.

The Committee is tasked with advising which types of development, of those currently not subject to Victoria's urban runoff management objectives, should be required to manage their stormwater impacts and how this could be achieved. The Committee was also asked to provide advice on future policy directions on improving stormwater management and strengthening the links between urban water management and the planning and development system more broadly.

The Engage Victoria website (www.engage.vic.gov.au) contains more information on the Committee, including its terms of reference.

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2. Having your say

2.1 How we engaged

Issues Paper

The Department of Environment, Land, Water and Planning (DELWP) prepared an Issues Paper as a starting point to help the Committee in its deliberations to seek input from interested stakeholders on how to address the issues and opportunities presented. The Issues Paper contained 14 questions (Appendix A).

Throughout June and July 2018, the community and stakeholders were invited to provide submissions in response to the Issues Paper via the Engage Victoria website (www.engage.vic.gov.au). The Issues Paper was also emailed directly to key stakeholders throughout Victoria.

Stakeholder engagement workshops

Following the release of the Issues Paper, the Committee ran six targeted stakeholder workshops. The Committee invited representatives of the water industry, academia, councils, housing and building industry, environmental groups and government departments to the workshops.

Four of the workshops were an opportunity for stakeholders and industry experts to discuss key issues and opportunities in depth with the Committee under the following themes:

1. The expansion and rewording of stormwater planning requirements
2. Linking integrated water management (IWM) and the planning system
3. Offsets and funding
4. Compliance and implementation

Expansion and rewording of stormwater planning requirements

This workshop examined the possibility of expanding the existing stormwater planning requirements (which currently only apply to residential subdivisions and apartments) to a broader range of development types, such as industrial and commercial developments. The workshop tested potential changes to the Victoria Planning Provisions (VPPs), which would require more development types to manage stormwater.

Linking IWM and the planning system

This workshop discussed ways in which IWM could be linked to the planning system, covering aspects such as place-making, information sharing between layers of government (i.e. community, local government and state government), different scales of IWM planning and its linkages to the land use planning system.

Offsets and funding

This workshop examined mechanisms to recover the costs of public stormwater infrastructure and the potential role of offsets to achieve the same or better environmental results in a cost-effective and flexible way.

Compliance and implementation

This workshop explored current barriers to successful compliance and implementation of stormwater requirements. Topics included increased audit capabilities for councils, improved online assessment tools for developers and councils, and community and industry education campaigns.

The remaining two workshops were confined to particular agency types:

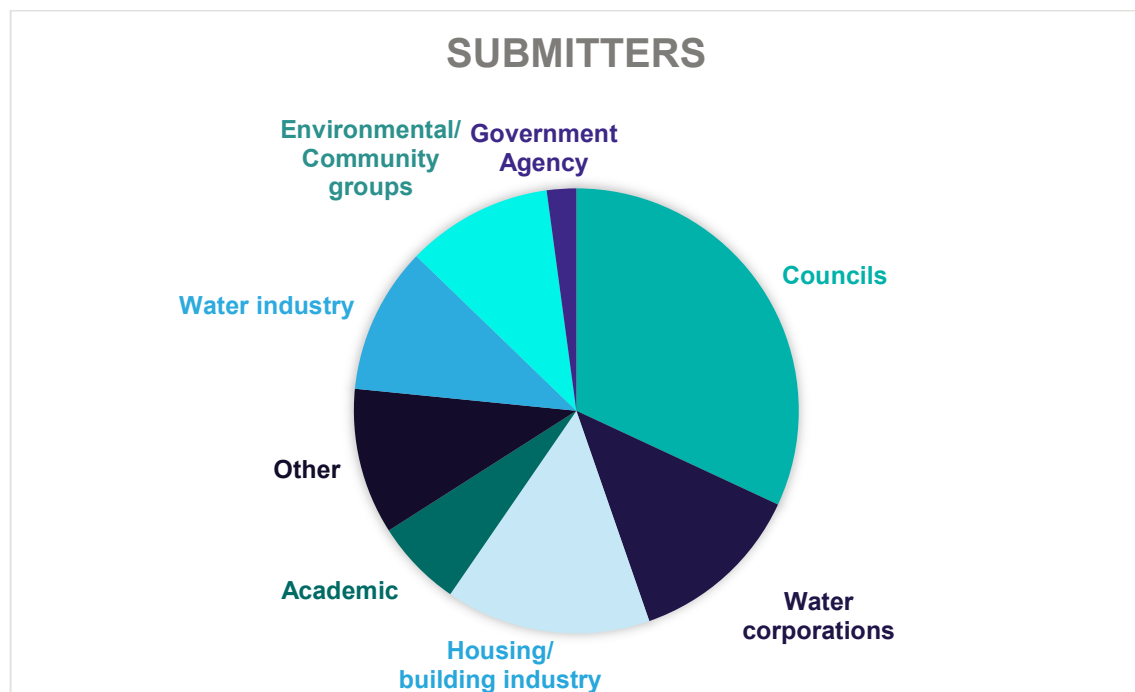
- **Linking IWM and planning policy workshop** – participants from policy organisations only (Victorian Planning Authority, Melbourne Water, Environment Protection Authority). This workshop went into more detail on stormwater’s role within the broader IWM planning framework and how IWM planning could be linked to the planning system.
- **Municipal Association of Victoria (MAV) local government workshop** – organised by MAV, who invited a range of Victorian local government representatives. This workshop examined all four themes outlined above.

2.2 Who we heard from

Written submissions

A total of 47 written submissions were received, including 15 from Victorian local councils, five from water corporations, six from the housing and building industry and seven from environmental and/or community groups. Figure 1 below provides a breakdown of the submitters.

Figure 1



Workshop attendees

A range of stakeholder groups were represented at the workshops, including government departments, water corporations, industry and community environmental groups. The local government workshop was attended by representatives from 15 councils and MAV. A total of 119 people¹ attended the remaining four workshops as follows:

1. See Appendix B for a complete breakdown of workshop attendees.

26 June 2018: Expansion and rewording of stormwater planning requirements (32 attendees)

27 June 2018: Linking IWM and the planning system (39 attendees)

2 July 2018: Offsets and funding (21 attendees)

3 July 2018: Compliance and implementation (27 attendees)

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3. What we heard – responses to the Issues Paper

This section summarises the responses to the 14 questions posed in the Issues Paper. See Appendix A for a full list of the questions.

1. Are there any other key issues or opportunities (that are directly related to the Committee's terms of reference) that the Committee should consider?

Most respondents are supportive of the Committee's terms of reference and agree with the issues raised in the Issues Paper. There are some suggestions for additional elements of stormwater management, such as a 'need for a whole-of-system stormwater management framework'. One municipal council stated that the Issues Paper should have given more attention to the challenges in regional Victoria, for example increasing flood frequency.

Several submitters ask for clarity around roles and responsibilities at all levels. Respondents suggest that the Committee should provide advice on how to connect elements of stormwater management, which are currently dealt with in isolation from one another. For example, flood mapping, emergency management of stormwater run-off and smaller private lot-scale water sensitive urban design (WSUD treatments). A peak building industry body advocates for more centralised planning and alignment of planning and building controls.

Some submitters state that past stormwater actions have been inappropriate and flawed, suggesting that further research and stakeholder engagement are necessary to avoid these mistakes. Others suggest a review of past initiatives to avoid repeating ineffective actions.

Several submissions and participants at workshops suggest the current Best Practice Environmental Management Guidelines for Urban Stormwater (BPEM) are insufficient to address damage caused by stormwater. Some submissions advocate for the consideration of stormwater flow requirements.

One submission notes that soil erosion and a lack of management controls at the construction phase are critical issues, which, when not managed properly, undermine stormwater management. Some submissions and participants at the workshops also highlight the process of construction as being particularly damaging to stormwater quality. Stakeholders are concerned that significant damage is currently being caused by erosion in the construction phase of development and that there are insufficient controls to address this problem. Many suggest that the lack of controls for erosion at the construction phase could undermine the effectiveness of the planning requirements being proposed.

Several submissions and stakeholders at the workshops urge the Committee to address the gap between stormwater requirements for developments in the private versus public realm, for example roads and public buildings.

Stakeholders at the workshops identified infill development, Aboriginal cultural flows and swimming pools as areas for further consideration. Participants highlighted that it is important to consider the context of IWM, not just stormwater in isolation. Some stakeholders requested consideration of Environmentally Sustainable Design (ESD) policies and integration of stormwater requirements into ESD more broadly.

2. What are your views on the planning control option?

Overall, there is strong support from local government, water corporations, industry and the scientific community for extending the VPPs to the conceptual option presented in the Issues Paper. Stakeholders were invited to give feedback on various planning control options at the workshops. The most comprehensive planning control option received the most support from participants at the stakeholder engagement workshops. An anonymous poll taken at the workshop on the expansion and rewording of

stormwater planning requirements showed that 86% of attendees felt that 'Yes, more extensive state-based stormwater requirements are needed', with the remaining attendees voting for 'Maybe, convince me'.

Two submitters do not support the concept of extending the VPPs on the basis that current solutions are failing. They are also concerned about increased red tape where benefits to the community have not been demonstrated.

Several metropolitan councils support the proposed planning control option. Individual council submissions provide suggestions for improving adoption of the new provisions. This includes the provision of guidance material and options for addressing maintenance.

Many submissions recommend extending the stormwater planning requirements to achieve almost full coverage rather than having exclusions (i.e. developments below 50m² and verandas). They suggest that the requirements should be applied to any increase in impervious area and that roads, schools and hospitals should also be captured. One water corporation raises concerns around exemptions, such as for pergolas and verandas, given that these developments can increase imperviousness. They further suggest that pools and spas should also not be exempt as they often overflow and pollute stormwater in rain events. There are substantial comments on the threshold for extensions (at 50 per cent of the area of the existing structure) as it could result in large increases in imperviousness. Many submissions suggest a 50m² threshold rather than 50 per cent. One submitter proposes that the 50m² threshold be reduced to 20m².

Stormwater requirements for industrial and commercial developments are widely supported with suggestions that all developments should be targeted (as opposed to just subdivision) and that the management of chemicals on-site should be controlled in part through the VPPs. For example, stakeholders suggest that chemicals should be stored only within bunded areas. One water corporation also states that the impacts of existing industrial and commercial developments should be addressed in the planning system to both protect waterways and support safe recreational water activities. Another water corporation is concerned with suggestions that pollutants from industrial and commercial sites be sent to the sewerage system without a comprehensive impact assessment on the sewer system.

Peak building industry bodies express concern for the alignment of the planning changes with the building regulations and the creation of increased red tape. The submissions provide a specific example of the potential implications, noting 32.08-10 application requirements on page 37 of the Draft Stormwater provisions propose that "...construction details of all drainage works, driveways and vehicle parking, loading areas and retention, detention and discharges to the stormwater system..." are to be provided at the permit stage of the application. One peak building industry body states that the cost of providing a full set of engineering drawings so early in the process would increase the overall cost to consumers, which is estimated to be around \$1600 per application for a typical small dwelling.

Some proposals note that stormwater management and WSUD are being considered too late in the planning cycle and that they need to be considered much earlier. Submissions recommend that applicants incorporate stormwater solutions in their planning applications rather than just being considered during the permit phase.

One municipal council believes linking the new state-wide ESD policy with other sections of the planning scheme (including particular provisions and within zones, overlays, etc) is likely to support greater implementation of the stormwater management policy objectives. This suggestion comes from the council's own experience using local ESD policy. The council has observed that integrating local policies

or particular provisions throughout the scheme results in greater policy awareness, uptake, understanding and consistency.

There is general acceptance of BPEM as the standard, and support for the current BPEM review. Some submissions suggest a greater focus on outcomes rather than standards and that impervious thresholds could provide a clear outcome-based approach. One environmental research group suggests ‘the control option could be simplified greatly by focusing on the area of impervious surface being constructed as part of development.’

3. What (complementary) changes to the building and plumbing regulations or guidance, or any other mechanisms, are needed?

Most submissions did not answer this question directly. Those that did suggest the building and plumbing regulations should complement the proposed changes to the VPPs. Some submissions note that not all new developments require a planning permit, so the VPP requirements for stormwater management would not be applied. Therefore, there is a need to require at least these forms of development to meet stormwater requirements through the building permit system.

Submissions suggest that several changes are needed to the building and plumbing regulations to support a more flexible approach to water supply, sewerage and stormwater management. This includes extending the plumbing regulations to include third pipe (non-potable water) as a separate plumbing type, not a subset of stormwater and potable water. This should also include the requirement to install purple pipes when a house is plumbed. This would enable Class A water from either stormwater or sewerage to be provided to a household through the purple pipe at a later stage.

Submissions propose that plumbing regulations for the effective re-use and detention of stormwater need to be reinforced. Stakeholders suggest councils and building surveyors need to ensure that any re-use or on-site detention facilities are designed and built according to the regulations, and that systems need to be developed to ensure installations continue to function.

Submissions request that planning requirements be reinforced by the building permit process, including that works are completed by registered plumbers to ensure they comply with relevant standards. Submissions state that inconsistency with compliance results in the need for local government to work with residents to resolve issues.

One submission suggests the National Construction Code should move beyond its focus on connecting to a legal point of discharge and give more attention to catchment management in infill development.

One submission states that reviewing building regulations and guidance material has merit. It also notes the importance of considering existing provisions within legislation and avoiding duplication.

4. What stormwater planning provisions, or other mechanisms, would help to deliver the broader benefits listed in Section 2.2?

Submissions suggest that performance monitoring of the solutions adopted is essential and that there should be a focus on the quality of the stormwater assets. One submission points to problems with ongoing monitoring and performance of stormwater assets, suggesting that DELWP consider participating in MAV's STEP asset management program to open opportunities for councils to record stormwater assets. Other submissions suggest that digital technology should be used for monitoring and state-wide reporting, including on asset performance.

Some regional councils believe that formal recognition in planning schemes of the Infrastructure Design Manual as a reference document or similar would greatly help deliver the broader benefits listed. It is also

suggested that the manual procedures and criteria could be enhanced to better link the planning of public space with recreational planning.

Many of the submissions propose options to improve stormwater harvesting, including addressing the issues around competition between recycled water and stormwater use, and examining the potential of rainwater harvesting from roofs to reservoirs. Several submissions advocate for the use of rainwater tanks to reduce pressure on the decentralised water supply system.

Another suggestion is to mandate the use of alternative water for industrial and commercial development. Submissions note that this may require a tenant to have a small-scale water treatment plant, an Aerated Wastewater Treatment System sewage plant, or an innovation in solids and effluent separation to retain and treat effluent/leachate generated on-site.

Submissions emphasise that decisions should be based on the whole of community cost and benefit. One submission states that the Committee should consider requirements for litter management and for improved riparian corridors to deliver broader benefits. It points out that litter management is an important part of the Port Phillip Bay Environmental Management Plan.

Other suggestions relate to governance. These include suggestions by some stakeholders to extend the Melbourne Water type management structure to the entire state, review the function of catchment management authorities to include stormwater responsibilities, and review the powers of local government which are found to limit their ability to manage stormwater effectively.

5. Should stormwater standards vary spatially? If so, on what basis and at what scale?

There are diverse opinions on the issue of varying stormwater standards spatially (place-based). There is strong support for both catchment-wide standards, which consider local ecology and other factors, as well as for keeping it simple through a single state-wide standard. Most participants at the stakeholder engagement workshops supported the variation of stormwater standards based on geographical location. Stakeholder feedback on appropriate spatial scales ranges from proposing standards to vary from lot, suburb and catchment scales to targets for each waterway based on the results of the BPEM review.

Some proponents state that a catchment or sub-catchment approach should consider several factors, for example, the environmental context, threats, water ecology, spatial analysis and evaluations, , etc. One submission points to a catchment-wide approach, which would require coordination between different municipalities and jurisdictions, as well as authorities (for example: Melbourne Water, DELWP, EPA, CASBE). One municipal council suggests that DELWP develops catchment management plans for each catchment and provides oversight of implementation. Several submissions put forward precinct structure plans (PSPs) as an appropriate scale at which to implement specific stormwater standards based on location, with some submissions noting that existing PSPs may need stronger consideration of IWM.

One water corporation argues that varying stormwater standards geographically based on existing and potential catchment values is necessary to deliver tangible outcomes. They advocate that the planning system must support the implementation of a place-based approach that enables higher stormwater standards than the minimum in highly ecologically sensitive areas. Other submissions suggest allowing variation for different areas, for example DELWP Planning's inner, middle, outer and growth classifications.

Some community stakeholders, councils and industry experts support one single set of state-wide regulations, stating that this would reduce the costs and confusion and facilitate implementation. Several submissions prefer a single state-wide minimum standard with the flexibility for it to be raised for high value waterways or waterways in need of restoration through overlays or specific local policies in the planning scheme. One water corporation suggests the highest standard of protection should be required

across all Victoria, with exceptions where developers can provide evidence of the need for less stringent measures. Many councils at the workshops advocated that they should be free to pursue individual approaches where suitable.

Workshop participants suggested that IWM planning is needed to translate requirements to PSP level for particular catchments or sub-catchments, which could also be applied to infill and brownfield development. The workshops highlighted the importance of accounting for local characteristics and community, with participants stating that a generic approach would not be effective enough.

6. How can the planning system be used to guide and implement local IWM-related standards?

Fewer respondents answered this question, with some stating they are not equipped to answer specifically but suggesting that using the planning system to guide local IWM-related standards is essential. Respondents who are more familiar with the planning system suggest guiding and implementing local IWM-related standards through planning provisions, PSPs, overlays and zones. Several submissions highlight the work of the IWM forums, suggesting that the forum plans could help identify and support local IWM solutions. At the stakeholder workshops, the Victorian Planning Authority guidelines were also put forward as a way to use the planning system to guide local standards.

One submitter suggests that developers should be required to show how their development is meeting the aims and objectives of any approved IWM plan or framework for the area. They advise that the Infrastructure Design Manual is used by regional councils and has clear standards for all types of development, including industrial and commercial. If incorporated into the planning system, the manual could guide and implement local IWM standards. A selection table in the manual allows for flexibility and varied local requirements.

Respondents suggest the development of urban PSPs (or equivalent) and the strengthening of IWM in growth area PSPs. Redevelopment of existing areas was a concern for workshop participants, who also suggested such areas need PSP guidelines or equivalent. Several respondents put forward the idea of 'place-based targets'. For example, water reuse targets or water quality targets, which would become the responsibilities of councils or other local authorities. Respondents from industry, councils and academia note that the current ad-hoc approach to local IWM-related standards is detrimental to overall objectives.

One respondent found, through a series of interviews it conducted, that there is a lack of coherent and holistic strategy aligned with catchment thinking. It states that greater consideration of the larger urban catchment scale, spanning multiple government areas, would more effectively guide and implement IWM standards. One environmental group also highlights the shortcomings of ad-hoc and piecemeal approaches, advocating for stronger, common rules and approaches. Several submissions advocate for guidance material at the state level to mitigate this.

Submissions state that the planning system should highlight the benefits of on-site stormwater retention and reuse for local areas/municipalities to promote a coherent narrative. One housing industry peak body calls for greater effort to be assigned to a high standard of design, construction and maintenance of local retarding basins within public areas, that does not impede the use of land.

Workshop attendees propose better alignment of duty of care requirements and relevant authorities, for example Melbourne Water, water corporations, councils and EPA. One submission highlights the opportunity to link the planning scheme with the Environment Protection Bill 2018. The Bill establishes a general environmental duty, meaning EPA could play a role to ensure ongoing compliance with standards.

7. How should IWM plans, and or frameworks (Section 1.6), be linked to the planning system?

Submissions identify the VPPs, special overlays and PSPs as possible ways to link IWM plans or frameworks to the planning system. Participants at stakeholder engagement workshops propose that planning should take into account recognised IWM plans. One submission suggests that IWM plans should be linked to the VPPs as incorporated or reference documents. Conversely, a different submission does not encourage adding IWM plans into the planning scheme as an incorporated document. The submission suggests that specific sections of IWM plans relevant to planning are selectively applied through provisions, where relevant, allowing for a more targeted approach.

Some submissions state that better coordination is necessary between local authorities and state government in matters of WSUD and IWM to link IWM plans to the planning system. Submissions state that collaboration at the catchment scale should be maintained, for example through IWM forums. One submission recommends that DELWP continue to support and enable the IWM forum program.

Several submissions state that a consistent planning scheme across Victoria will significantly improve current stormwater management practices. Some submissions advocate the role of councils in providing a link between water corporations, IWM plans and the planning scheme. One submission promotes Melbourne Water as a champion to coordinate the work done in this space by other authorities (DELWP, water corporations, councils etc.).

Participants at the stakeholder engagement workshops stated that developers should demonstrate how they are achieving IWM targets or IWM plans at the planning response stage of a planning permit application, as well as encouraging councils to develop place-based IWM plans together with water corporations. One environmental consultancy suggests the establishment of neighbourhood environmental overlays as a mechanism to enable IWM or stormwater management plans to be applied to high value, or threatened, areas. A council suggests IWM plans be used to set an elevated stormwater management response through overlays/zones. One submission states that IWM plans could become a permit requirement, absorbing a suite of other reports and plans currently required (flooding management, stormwater etc.)

8. What mechanisms should be used to strengthen the links between water management and public realm planning or the planning system more broadly?

Submissions and workshop participants suggest a need for a holistic approach to IWM and more guidance and management from a responsible authority (such as the Victorian Government). Clarity around roles and processes involved in water management would strengthen the links between water management and the planning system.

Capturing large development projects, including public projects, particularly roads, is considered a necessity. One submission states that there should be measures to ensure that public land managers, and those responsible for roads or other large impervious areas, meet stormwater management requirements. One submission states that there would be significant benefit in clarifying roles, obligations and cost sharing arrangements for major infrastructure implementation, as well as employing aspects of the *Transport Integration Act 2010* to enable holistic water planning as part of major transport projects.

Some submissions suggest that greater awareness of waterways could be gained by using the planning system as a way to link planning and water management. One submitter sees the lack of comprehensive land capability assessments as the biggest gap in public realm planning, and suggests revisiting completed PSPs to address this issue. One municipal council suggests that mandatory responses to a larger comprehensive stormwater management plan would link land use with stormwater infrastructure requirements.

Submissions outline the importance of involving strategic and statutory planners in the development of strategies for each catchment. This will help ensure a holistic approach to water management. One water consultancy proposes the idea of 'community water' to create a link between residents and IWM assets.

Several submissions highlight the opportunity to better link planning of public spaces and IWM by requiring councils to incorporate WSUD into council projects. Submissions note the importance of using public land for stormwater solutions and urban greening.

Workshop participants identified BPEM as a way to set state-wide strategic priorities to protect the environment and encourage good IWM practice. One submission specifically references BPEM, suggesting that broadening its scope would help strengthen the links between water management and the planning system.

One water corporation summarises its requirements for developers to compile a development IWM plan. This plan outlines how the entire water cycle will be managed across the development as a condition on their planning permit. The submission suggests that similar approaches could be embedded in the planning system, to require new developments across the state to produce a development IWM plan.

9. What guidance material or tools are needed to help implement stormwater management through the planning system?

Submissions suggest one of the major shortcomings with urban stormwater management over the past two decades has been implementation of requirements, strategies, policies or relevant plans. One environmental group recommends that a performance audit or evaluation of existing stormwater management instruments is undertaken.

One submitter states that many landowners still do not understand the roles that each element plays in an approved stormwater quality enhancement system, and/or the importance of maintaining the overall integrity of that system. Additionally, often the community has not been brought along in the process, so there is no real acceptance of the requirements and responses by the public. Consequently, smaller elements, such as vegetated swales, are often filled in or not maintained, and councils receive regular complaints about small rain gardens and associated pipe and pit systems, even when those systems are operating as designed.

Drawing on international experience, the notion of making WSUD mainstream in developments is supported. One submission notes that a framework like that used in Germany – where biodiversity and water quality requirements are integrated into the planning system – would help implement stormwater management in Victoria.

To aid effective implementation of stormwater management controls, many submissions identify the need for updated guidance materials and stormwater modelling software tools such as MUSIC and STORM. One water corporation notes that a revised planning practice note needs to be linked to IWM plans and that a national protocol and verification method for stormwater quality improvement devices (SQIDs) would assist implementation.

Submissions identify the need for updated guidance relating to sediment and erosion control during the construction phase of development to protect the integrity of constructed WSUD treatment systems. One submission identifies that a big weakness is the implementation of WSUD elements too early in the development phase where their integrity suffers due to sedimentation and lack of adequate environmental controls.

Many submissions note a need for access to reliable and readable information to provide to applicants, builders, occupants and officers that details all the design, construction and operational information on WSUD assets.

Materials that would assist council discussions on stormwater design issues with developers include:

- Guidance material on how to prepare a design response which includes design controls, maintenance plans, as constructed plans, asset handover/compliance procedures
- Current and sophisticated tools that clearly enable demonstration of compliance with the standards
- Training in how to use these tools
- Deemed to comply solutions.

One submission notes that while requiring drainage documents at planning permit stage can be onerous for planning applicants, it has the advantage of coordinating WSUD/stormwater detention at the early design stage and would encourage civil/hydraulic engineers to work with WSUD requirements. Having WSUD assets and their design details included on plans and reported on prior to endorsement of plans would ensure they cannot be compromised by changes to plans.

10. Where are the weakest links in the chain of compliance and implementation of stormwater management requirements (including design, operation and people-related issues)?

Stakeholder feedback consistently identifies that any changes to planning controls will require an appropriate delivery model. There are many issues with current practice (particularly on private lots) that need to be rectified. While there are significant issues, the overwhelming evidence is that these implementation issues could be overcome.

Many submissions identify the weakest link as being the lack of a state-wide policy that requires application of stormwater management across all land uses

Many submissions identify enforcement of standards and protection of assets during the construction phase as a key issue. There is a need to ensure that what has been designed is constructed in accordance with the standards and then operated and maintained to ensure that water quality standards are achieved. Submissions identify the need for better linking the construction phase with building surveyors to overcome the disconnect between the design of the stormwater system (council) and approval of construction by the building surveyor and the lack of regulation surrounding the legal point of discharge.

It was raised that there is no surveillance of privately owned WSUD assets to ensure they have been constructed as per approved design and maintained. There are concerns that the existing stormwater requirements are often being circumvented to avoid having to manage assets. Ongoing maintenance costs are a major consideration as is the reliability of the solutions currently being implemented for the management of stormwater quality. Workshop participants recommended that maintenance plans be required as part of the approvals process. Submissions note that commercial areas usually have maintenance contracts so a maintenance regime for WSUD assets could be built into this existing process.

There needs to be a funding mechanism to provide surveillance to ensure assets are operating as intended. WSUD solutions have been flawed and ever changing, with the development industry bearing the legacy of these issues.

There is a lack of incentive for councils to enforce planning controls and an absence of meaningful penalties for non-compliance. Levels of relevant knowledge and expertise vary dramatically between councils and developers, making a consistent approach almost impossible.

11. What actions are the most critical to improve compliance and implementation?

There is no adequate compliance check or auditing in place to hold the development industry, stormwater managers and private asset owners accountable. There is currently no dialogue with plumbers relating to the legal point of discharge. There are no consequences for non-compliance, and few incentives for being compliant.

One submission suggests the need for an overarching government-led compliance auditing and enforcement system to facilitate improved application and quality of stormwater management actions. Several submissions recommend a stormwater practitioner certification and compliance system, similar to the system in place for the plumbing industry through the Victorian Building Authority. This could provide a suitable quality control system to ensure stormwater systems are only designed and constructed by suitably qualified practitioners and would be expected to result in improved confidence and cost reductions. There is an issue with a lack of consistency and resourcing between councils. Many submissions identify the need for a state-wide approach to improve clarity and consistency. One submission suggests looking at opportunities to increase consistency in regulation to ease regulatory burden on developers and landowners.

Design is identified as a key issue in both written submissions and stakeholder workshops. Councils officers, such as planners, need education to assess good designs and building surveyors need education in WSUD and stormwater harvesting to adequately review plans. Workshop feedback highlighted that WSUD is not integrated into overall design and plans need to be referred to a drainage engineer or a trained WSUD officer.

Submissions note the need for simple, sustainable solutions and for stormwater management controls to be linked into the building process. There is a need for deemed to comply solutions and quality assurance/quality control procedures. There is no certification/registration of WSUD systems (e.g. on title or within council databases). Another recommendation is to establish a register of the stormwater mitigations required and built which is updated by the regulatory agency.

One submission notes the need for early intervention to ensure the WSUD asset is included prior to permit issue and that it is located optimally (in some cases WSUD assets can be located uphill). Several submissions recommend embedding IWM champions within local government and point to the success of officers appointed through Melbourne Water's Living Rivers Program funding that have since become incorporated staff within council. There is a need for someone to have carriage of the whole process to ensure greater communication between council teams. This will remove the disconnect between design and construction elements. Many stakeholders identify the need for public education and capacity building.

Submissions note that local government has been applying planning policies to a broader range of development types for many years and has been an effective testing ground. Many councils use their local policies to require developers to manage stormwater appropriately and already apply BPEM more widely. The state should look to these municipalities and apply these learnings to a state planning framework. To address the lack of enforcement of planning permit requirements, the following two case studies, presented in the submissions, identify how some municipalities are addressing this issue:

- Moonee Valley's WSUD Education and Compliance Officer checks compliance with WSUD endorsed in the planning permit and has played a key role in resolving problems on-site that aren't picked up at permit stage. The role has improved internal council processes and provides builders with a known point of contact. Compliance with permit controls has improved significantly since the officer's appointment, and the municipality is seeing better educated builders who are coming onboard and committing to the desired WSUD outcomes. Participants at the workshop on

compliance and implementation showed strong support for stormwater officers, with a high degree of knowledge on stormwater and IWM to support and advise councils on compliance and implementation.

- Moreland City Council has introduced an ESD compliance regime whereby the ESD officer is given 'powers of entry' to assess compliance with a planning permit. Information to demonstrate compliance includes a visual inspection, photographic and/or invoice-based evidence from the developer. A key point of note from this council's experience is that industry has seen the requirements as a business opportunity and upskilled to meet these new requirements. One submission further notes that a state-wide policy would enable this approach to be facilitated more effectively.

Submissions emphasises that state support for councils to introduce similar compliance regimes would be of great benefit and this may include:

- Training for planning enforcement officers to include sustainability inspections as part of any routine on-site checks
- Training for ESD officers to conduct on-site inspections and utilising a three-step process:
 - Drainage inspection (cannot be fully checked once development is complete)
 - Landscape inspection
 - Final inspection prior to occupancy.

12. What would help responsible authorities to determine and communicate the costs and benefits of public stormwater infrastructure?

Submissions recognise there is a gap in understanding the true costs of operating and maintaining water treatment elements. One submission notes that some councils are approving treatment elements without considering the future renewal and ongoing maintenance costs. 'Councils need to know the costs and benefits of the treatment themselves before they communicate it to the public. Whilst there is some information available it is very broad and difficult to apply to particular locations'

Several submissions highlight the importance of developing community understanding of cost. Submissions suggest that if WSUD was a mandatory requirement, councils could then communicate the environmental benefits and how compliance is achieved. This could include the re-use of stormwater as a valued resource. One submission suggests that the community is well positioned to communicate the benefits of stormwater management.

One water corporation suggests '...mapping the level of service provided to any particular area to enable community to see and change it. This would enable clarity and transparency on the impact of planned works on the level of service and allow the public to indicate their willingness to pay for improvements.'

Some submissions propose a volumetric reduction criterion as a simplified approach, which will be clearer to developers and the community, rather than a reduction of nitrogen and phosphorous levels. This approach would increase understanding of stormwater management, provide an opportunity to reduce costs and allow development of more pragmatic approaches, and perhaps encourage innovation.

One council believes '...simplicity is the key. We need to avoid costs created by complexity. A simple volumetric requirement across Victoria would provide a lot more clarity for the development of solutions and significantly reduce implementation costs.' Others suggest that there is a need to concentrate on getting the science and engineering right to be able to implement cost-effective solutions that have reduced operational costs.

13. What mechanisms should councils use to recover the construction and maintenance costs of public stormwater infrastructure?

Submissions propose a number of processes for funding, including special charge schemes for residents on the basis that the benefits of stormwater management extend to the whole community. Another common theme is the reintroduction of development funding schemes for infill development, similar to Melbourne Water's model.

Submissions suggest that where new assets are necessary to achieve substantive changes, funding sources will be required across the sector. One submission proposes that service charges could be introduced where the local community is willing to pay for specific stormwater management solutions. Service charges are possible through the *Local Government Act 1989* and are being proposed under Section 106 of the Local Government Bill 2018, currently being considered by the Victorian Parliament. Submissions advocate for establishing a consistent, sustainable funding model which is separate from council rates.

One real estate peak body does not support the introduction of a new drainage services levy or charge, arguing the industry is already contributing to a myriad of taxes, fees, levies and charges. However, they recommend additional resourcing for local government to help process its current workload, and any additional workload brought about by these proposed changes to help local government effectively administer any new requirements.

Other submissions propose using an existing mechanism in the planning system to recover construction costs via a Development Contributions Plan Overlay. Submissions note that such an overlay is in place in Bayside (Bayside Drainage Development Contributions). This type of overlay could be applied to collecting funds where a planning permit is not required for a development. These funds will not cover the long-term maintenance of the relevant infrastructure. In these instances, there is potential for Melbourne Water offsets to be redistributed to cover maintenance costs.

Income generating proposals are also suggested, including stormwater harvesting by councils and the sale of the water to local commercial operators (e.g. golf courses). This income could be used to partially offset the operating and maintenance costs. Submissions also suggest that stormwater harvesting should be part of PSPs, as harvesting can usually only be undertaken at the regional level.

One submission proposes that an additional funding source for public stormwater infrastructure could be the certification and compliance of on-site facilities and fines or rate surcharges, which can in turn be allocated to stormwater improvement works. Another submission suggests that councils should be funded where savings in water treatment costs are offered to catchment management authorities and water corporations by council projects. They further suggest that the freeing up of funding from ratepayer revenue will need to come from councils more efficiently delivering stormwater services.

One council suggests that low cost systems with very few demands on maintenance should be sought. This would also be supported by the use of volumetric requirements.

A number of councils highlight the difficulty in funding new initiatives and suggest that government funding would be needed. One submission suggests that funding for stormwater infrastructure be provided to councils in similar ways to road funding. This would fill a gap in funding, particularly to rectify issues within established areas. Several submissions also suggest that there should be a commitment to joint funding proposals being developed which could include government. One water corporation suggests trialling the extension of Development Service Schemes to IWM servicing schemes based on sub-catchments and that this could capture the investment needs in an area across multiple public authorities and developer contributions.

A different water corporation suggests that it is important for IWM projects be able to capture multiple benefits provided by stormwater infrastructure. Some possible ways are via an encumbrance on a property or a charge to reflect the level of service provided to an area.

14. Should offsets be used to improve stormwater management? If so, how should they be used?

Offsets generally receive qualified support. Submissions note that Melbourne Water and a number of metropolitan councils are either using offsets or looking at developing offset schemes.

One water industry submission expresses substantive concerns for the use of offsets which are used as revenue raising tools that offer very little environmental gain. Some councils are also not supportive of offsets, arguing that once permeability is lost in a municipality there is little opportunity for the inner areas of the city to make it up elsewhere. One council also states that offsets do not encourage developers to appropriately manage WSUD on-site, encouraging them to instead put pressure on the council.

A number of submissions propose that offsets should only be used as a last resort. The majority of submissions that support offsets suggest that funding raised should be used in the local area or sub-catchment area. One consultancy suggests that 'proof that stormwater cannot be managed on-site must first be provided. If they are allowed they should be applied to mitigate threats and risks to the local area or a significant regional risk.'

An environmental research group gives very qualified support, noting the lessons of the past need to be heeded. The group recommends the use of a mitigation hierarchy (avoid, minimise, mitigate) and as a last resort offset residual impacts. Offsets should only be used where there is a genuine downstream/off-site solution. Clarity on outcomes of stormwater offsets needs to be ensured with the minimum acceptable objective being 'no net loss.' The submission also recommends identifying 'no-go zones.'

One submission notes that some councils are using voluntary offsets and that some councils are of the view that offsets can't be implemented due to lack of space, risks around flooding and site constraints. Kingston City Council has introduced a voluntary 'in-lieu' contribution scheme, which is available to sites that are required to deliver stormwater assets on-site to allow contribution to off-site public assets. The charge covers capital and operating costs. Indications are that the in-lieu payment process will deliver the same or better outcomes for stormwater management at approximately half the cost to the developer when treating stormwater on-site. Submissions note that the City of Greater Geelong has a voluntary offset policy to provide developers of smaller sites, infill and brownfield sites the opportunity to participate in an appropriate catchment response.

One submission notes that some regional councils already allow developers to make a cash contribution to the value of works that they would normally be required to construct. This type of scheme presently operates outside the formal planning system through individual agreements between councils and developers. Many councils require S173 agreements² to be entered into for the design and maintenance of stormwater management. These agreements are seldom, if ever, enforced. It is noted that it would be advantageous if the practice could be formalised.

One council suggests that offsets may be used effectively in some situations, however are not appropriate in other situations. Offsets are useful if sufficiently high to cover the price of buying land on which to locate the offsetting stormwater infrastructure and if it is technically feasible to implement such stormwater infrastructure upstream of the waterway that is identified for protection. Where this cannot be achieved, stormwater offsets are not appropriate and on-lot solutions should be enforced.

²A Section 173 Agreement between a council and landowner places requirements on how the land can be used.

4. Conclusion and next steps

This summary report, the submissions from the online consultation process, and the findings of the stakeholder engagement workshops will be shared with the Committee to inform their deliberations. The consultation process will feed into the Committee's advice to the Ministers for Water and Planning. DELWP would like to thank all participants who took the time to respond to the Issues Paper and attend the stakeholder engagement workshops.

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Appendix A. Engagement questions

The following questions were included in the Issues Paper, which people were asked to respond to in their submissions.

1. Are there any other key issues or opportunities (that are directly related to the Committee's terms of reference) that the Committee should consider?
2. What are your views on the conceptual planning control option?
3. What (complementary) changes to the building and plumbing regulations or guidance, or any other mechanisms, are needed?
4. What stormwater planning provisions, or other mechanisms, would help to deliver the broader benefits listed in Section 2.2?
5. Should stormwater standards vary spatially? If so, on what basis and at what scale?
6. How can the planning system be used to guide and implement local IWM-related standards?
7. How should IWM plans, and or frameworks (Section 1.6), be linked to the planning system?
8. What mechanisms should be used to strengthen the links between water management and public realm planning or the planning system more broadly?
9. What guidance material or tools are needed to help implement stormwater management through the planning system?
10. Where are the weakest links in the chain of compliance and implementation of stormwater management requirements (including design, operation and people-related issues)?
11. What actions are the most critical to improve compliance and implementation?
12. What would help responsible authorities to determine and communicate the costs and benefits of public stormwater infrastructure?
13. What mechanisms should councils use to recover the construction and maintenance costs of public stormwater infrastructure?
14. Should offsets be used to improve stormwater management? If so, how should they be used?

Appendix B. Stakeholder engagement workshop participants

	Session	Date	Participating Organisations	Participants
1.	Stakeholder engagement workshop: Policy	8 June 2018	DELWP, Environment Protection Authority, Melbourne Water, Victorian Planning Authority	12
2	Stakeholder engagement workshop: MAV local government workshop	25 June 2018	Ballarat City Council, Bayside City Council, Casey City Council, DELWP, Frankston City Council, Greater Dandenong City Council, Hume City Council, Kingston City Council, Maroondah City Council, Melbourne City Council, Moreland City Council, Mornington Peninsula Shire Council, Port Phillip City Council, Wyndham City Council, Yarra Ranges Shire Council, Monash City Council, Municipal Association of Victoria	18
3	Stakeholder engagement workshop: Expansion and rewording of stormwater planning requirements	26 June 2018	Association of Land Development Engineers, Bayside City Council, City of Boroondara, City of Casey, City of Darebin, City of Greater Dandenong, City of Monash, City of Moonee Valley, City of Port Phillip, City West Water, Clearwater, DELWP, Environment Protection Authority, Housing Industry Association, Master Builders Association of Victoria, Melbourne University, Melbourne Water, Moreland City Council, Mornington Peninsula Shire Council, South East Water, Spire/Urban Development Institute of Australia, TPV policy reform, VicRoads, Victorian Planning Authority, Wada Wurrung	32
4	Stakeholder engagement workshop: Linking IWM and the planning system	27 June 2018	Association of Land Development Engineers, Bayside City Council, Cardinia, City of Darebin, City of Greater Dandenong, City of Melton, City of Port Phillip, City West Water, Clearwater, CRC water sensitive cities, Darebin Creek Management Committee, DELWP, Environmental Land Management, Environment Protection Authority, Glen Eira City Council, Kingston Council, Knox City Council, Loci Environmental Place, Melbourne Water, Melton City, Merri Creek Management Committee, Moonee Valley City Council, Moreland City Council, Mornington Peninsula Shire Council, South East Water, South East Water, Spire Urban Design Institute of Australia, Streamology, University of Melbourne	39
5	Stakeholder engagement workshop: Offsets and funding	2 July 2018	Aither, Bayside, City of Boroondara, City of Casey, City of Manningham, Clearwater, DEDJTR, DELWP Building, Environment Protection Authority, Kingston City Council, Melbourne Water, Moonee Valley City Council, Municipal Association of Victoria, South East Water, Spire/Urban Development Institute of Australia, University of Melbourne, Victorian Planning Authority, Yarra City Council, Yarra Ranges Council	21
6	Stakeholder engagement workshop: Compliance and implementation	3 July 2018	Aquatic Systems Management, Bayside City Council, City Boroondara, City of Melbourne, City of Melton, City of Monash, City of Port Phillip, City West Water, DELWP, Environment Protection Authority, Greater Dandenong, Melbourne Water, Merri Creek Management Committee, Moonee Valley City Council, Moreland City Council, South East Water, Spire/Urban Development Institute of Australia, University of Melbourne, Victorian Planning Authority	27

	Session	Date	Participating Organisations	Participants
7	Engage Victoria: Submissions responding to the Issues Paper	Consultation period: 1 June 2018 - 3 July 2018	Alluvium (2 Submissions), Aquatic Systems Management, Association of Consulting Surveyors Victoria, Association of Land Development Engineers, Bass Coast Shire Council, Bio2Lab Pty Ltd, Building Designers Association of Victoria, City of Boroondara, City of Kingston, City of Melbourne, City of Port Phillip, Dr. Peter Coombes, Council Alliance for a Sustainable Built Environment (CASBE), CRC Water Sensitive Cities, University of Melbourne, Environmental Justice Australia, Environment Protection Authority, Fraenkiche, Friends of Dandenong Creek, City of Greater Geelong, Greater Dandenong Council, Housing Industry Association, The Institution of Surveyors Victoria, IVWater Solutions, Kingspan Water and Energy, Local Government Infrastructure Design Association, Manningham City Council, Master Builders Association of Victoria, Municipal Association of Victoria, Melbourne Law School, Melbourne Water, Merri Creek Management Committee, Monash University, Moreland City Council, Mornington Peninsula Shire Council, Nursery and Garden Industry Victoria, One Water, Organica Engineering, Property Council of Australia, South East Water, Stonnington City Council, Victorian National Parks Association, Victorian Water Industry Association, WERG, Western Water, Wyndham City Council, Yarra Valley Water,	47

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