

Consultation draft

Integrated Water Management Planning Guidelines

Linking water and land use
planning processes





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Abbreviations

Terminology	Definition
BESS	Built Environment Sustainability Scorecard
BPEM	Best Practice Environmental Management Guidelines for urban stormwater
CBA	Cost-Benefit Analysis
CMA	Catchment Management Authorities
CSIWM	Catchment Scale Integrated Water Management
DCP	Developer Contributions Plan
DCPO	Developer Contributions Plan Overlay
DPO	Development Plan Overlays
DEECA	Department of Environment, Energy and Climate Action
DSS	Development Services Scheme
DTP	Department of Transport and Planning
EPA	Environment Protection Authority
GAIC	Growth Area Infrastructure Contribution
ICP	Infrastructure Contribution Plans
INFFEWS	Investment Framework for Economics of Water Sensitive Cities
IWM	Integrated Water Management
MoU	Memorandum of Understanding
NEICs	National Employment and Innovation Clusters
OMLI	Obligations of Managers of Land or Infrastructure

Terminology	Definition
PAM	Preliminary Assessment Method
PAO	Planning Acquisition Overlay
PPF	Planning Policy Framework
PP	Particular Provisions
PSP	Precinct Structure Plan
RAP	Registered Aboriginal Party
RCS	Regional Catchment Strategy
RWS	Regional Waterway Strategy
SEPP	State Environment Protection Policies
SEVT	Social and Economic Value Tool
SDS	Strategic Direction Statements
SRL	Suburban Rail Loop
SRLA	Suburban Rail Loop Authority
SWS	Sustainable Water Strategies
TN	Total Nitrogen
TP	Total Phosphorus
TSS	Total Suspended Solids
URCRS	Urban Renewal Cost Recovery Scheme
VPA	Victorian Planning Authority
VPP	Victoria Planning Provisions

References

Stead, D. and Meijers, E. (2009). *Spatial Planning and Policy Integration: Concepts, Facilitators and Inhibitors*. Planning Theory & Practice, 10(3), pp.317–332. doi:<https://doi.org/10.1080/14649350903229752>.

Tawfik, S. and Chesterfield, C. (2020). *Facilitating water sensitive urban development through planning integration — A discussion paper*. Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities.

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Consultation draft

Draft version control

Version	Date	Summary of changes
Draft v1.0	19-09-2025	Initial public consultation draft

Acknowledgement

We acknowledge and respect Victorian Traditional Owners as the original custodians of Victoria's land and waters, their unique ability to care for Country and deep spiritual connection to it. We honour Elders past and present whose knowledge and wisdom has ensured the continuation of culture and traditional practices.

We are committed to genuinely partner, and meaningfully engage, with Victoria's Traditional Owners and Aboriginal communities to support the protection of Country, the maintenance of spiritual and cultural practices and their broader aspirations in the 21st century and beyond.



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Executive Summary

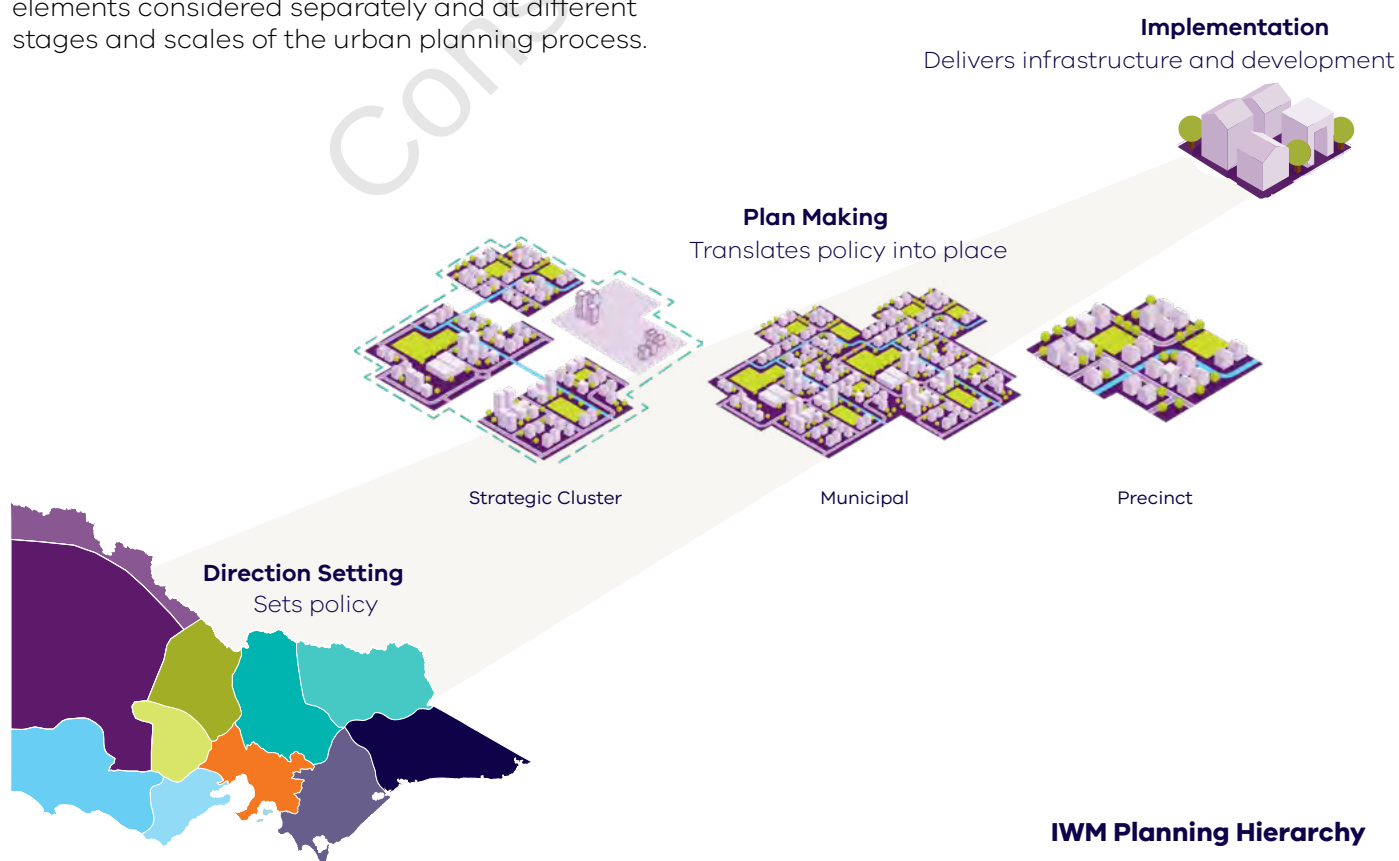
Integrated Water Management (IWM) is a holistic and collaborative approach that brings together management of all elements of the water cycle in the planning and design of places. By considering management of water supply, wastewater and stormwater together, while also influencing urban development and place-making, we can deliver multiple benefits for communities and our environment.

In Victoria, there are a range of agencies that plan for and influence water management. To date, consideration of water in land use planning has also been fragmented, with water elements considered separately and at different stages and scales of the urban planning process.

Purpose of the Guidelines

These Guidelines are a Victorian Government initiative to support water and planning practitioners in enabling IWM outcomes as part of land use planning and development. They provide a step-by-step guide on how to prepare IWM plans and how these can integrate with the planning process. IWM plans outline objectives, explore opportunities and plan implementation of integrated water management and are an important part of place-based planning.

The Guidelines introduce an IWM Planning Hierarchy which aligns IWM planning with relevant planning processes and scales, to ensure the right considerations are made for water at the right time. By aligning these processes, there are also opportunities to better support implementation of IWM and align funding and governance arrangements.



Guidelines

The Guidelines detail each stage of the hierarchy.

Direction Setting

This section summarises the key foundational policy and strategy documents supporting IWM in Victoria, providing a consistent and comprehensive strategic context for practitioners to use to identify key requirements and drivers.

Plan Making

The Guidelines focus primarily on the plan making stage, providing step-by-step guidance on the development and content of IWM Plans at each of the three scales: Strategic Cluster, Municipal and Precinct.



Implementation

The Guidelines outline possible options for implementation of IWM initiatives and infrastructure identified through the plan making process. These may or may not be tied to planning mechanisms, but the guidance helps practitioners to identify, understand and tailor the approach to embed the IWM plan recommendations in the implementation process.

The Guidelines are structured to respond to the following key questions:

Why?

Purpose of IWM plan

Where?

IWM plan location or boundaries

When?

Timing of plan development

Who?

Roles and responsibilities

How?

Embedding IWM plans and actions in the land use planning process

What?

Key steps and content of the plan

Step by step Guidelines for Plan making

[Direct implementation](#)

[Non-statutory planning mechanisms and processes](#)

[Statutory planning mechanisms and processes](#)

[Other processes, governance and funding mechanisms](#)

Implementation mechanisms

Toolbox

Complimenting the guidance is a Practitioner's Toolbox which provides methods and techniques that can be used in preparing IWM plans, and useful examples and case studies.

[Developing a water and pollutant balance](#)

[IWM opportunities](#)

[Preliminary assessment method \(PAM\) for IWM opportunities](#)

[Cost-benefit analysis and cost allocation](#)

[IWM performance measures and targets](#)

[IWM Sprint workshop](#)

[Adaptive planning](#)

[Stakeholder workshops](#)

[Traditional Owner partnerships](#)

Methods and techniques in practitioners toolbox

Introduction to the Guidelines

What is the purpose of the Guidelines?

The Integrated Water Management Planning Guidelines (the Guidelines) are a Victorian Government initiative to support embedding integrated water management outcomes as part of land use planning and development.

The primary focus of the Guidelines is integrated water management (IWM) plans at multiple scales to align with the existing land use planning processes. The Guidelines aim to support IWM outcomes by improving the consistency of how and when IWM plans are created, and by bridging the gaps between established land use planning and IWM processes.

The Guidelines do not explicitly address the broader processes that may support the implementation of IWM, such as funding, governance arrangements and infrastructure delivery. However, where appropriate, the Guidelines comment on how land use planning can contribute to or support these processes.

Who should use the Guidelines?

The Guidelines are for organisations with a specific role to play in integrating IWM land use planning processes, and the practitioners that support them.

This might include: water corporations, state government agencies and authorities, local governments, planning authorities, Traditional Owners, catchment management authorities and land developers.

Navigating the Guidelines

Part 1

Introduction

- Introducing IWM and Land Use Planning

An introduction to IWM, the urban water cycle, land use planning and the challenges and benefits of thinking about them holistically.

- Introducing the IWM Planning Hierarchy

A framework for integrating IWM with land use planning processes at different scales to deliver better outcomes.

Part 2

Guidelines

- Direction Setting

Strategic context, policy and directions for IWM and land use planning in Victoria to inform IWM Plan Making.

- Plan Making

Guidelines for how to develop place-based IWM plans at strategic cluster, municipal and precinct scales, including key content, analysis and outputs.

- Implementation

Summary of possible implementation mechanisms that can be supported by or integrated with the land use planning process.

Part 3

Toolbox

- Practitioners Toolbox

A summary of key methods and techniques that can be used in preparing IWM plans, how they can be applied, and how to derive IWM performance measures and targets.

- Case Studies

Examples of good practice that demonstrate application of various IWM planning processes and aspects discussed in the Guidelines.

- Glossary

User quick reference navigation



I'm wondering



How can the Guidance help me?



Land Use Planning Lead

for a new precinct

What aspects of IWM do we need to consider at a precinct planning stage?

The IWM Plan Making section provides guidance on how to initiate a **Precinct IWM Plan** and what it should include. This could be used for greenfield, urban renewal or small township plans.

If precinct planning is yet to commence, and you believe the precinct could help deliver strategic IWM infrastructure for the area, it would be worth considering initiating a **Strategic Cluster IWM Plan** first.

Not sure? Short on time? Consider holding an **IWM Sprint**.



Local Government

How can we support IWM in my council area? My IWM Forum has set out a vision and targets, but how can I drive local delivery of IWM to support these aims?

The guidance supports Local Government in:

- Setting a local vision and translating targets to a local level through a **Municipal IWM Plan**.
- Providing guidance and setting expectations for infill and growth area development.
- Integrating IWM plans and their recommendations into a local planning scheme, and using the planning process to contribute to IWM outcomes. See the **Implementation section**.



Water Corporation

We are keen to deliver some strategic alternative water supply networks across growth areas and/or reduce the impact of a proposed development on waterways, but our infrastructure planning and investment process takes time. We often feel like we are too late to influence development. What can we do?

Working with stakeholders to develop a **Strategic Cluster IWM Plan** early can help to identify and evaluate strategic IWM infrastructure and help build a business case for investment.

This will help ensure strategic options are ready to be integrated through precinct planning and development planning processes.

Too late to influence precinct planning? Check out the **Implementation section** to explore options available to influence outcomes in the planning application and development stages.



Developer

What does IWM mean for my development context and how do all these IWM plans and strategies relate to each other? Are the requirements different for developments in a regional or metro area?

Check out the **Planning Pathways section** to explore common development contexts, and how the IWM plans relate to each other. This section steps through the context for greenfield precincts, infill development, renewal precincts, and how a regional context might differ.

Not all locations will have IWM plans in place, so its important to check what IWM planning has been done and also review the local land use planning context to understand local objectives and strategic priorities.

Introduction

Part 1

Consultation draft





Image

Kayaking on Ovens River

Photo Credit: Visit Victoria



Introducing IWM and Land Use Planning

An introduction to IWM, the urban water cycle, land use planning and the challenges and benefits of thinking about them holistically.

What is Integrated Water Management (IWM)?

Integrated Water Management (IWM) is a holistic and collaborative approach that brings together management of all elements of the water cycle in the planning and design of places.

IWM considers how different parts of the water cycle, including water supply, wastewater, stormwater and flood management, can be better integrated to enhance environmental, cultural, economic and social benefits.

The IWM approach fundamentally shifts the way that water, land use planning, urban design and development opportunities are understood and undertaken in Victoria. It brings together a range of organisations who influence various parts of the water cycle, and by necessity, it challenges conventional management systems and delivery processes. IWM solutions often deliver multiple and wide-ranging outcomes and their successful delivery requires collaboration, commitment and enhanced capacity in partner organisations.

A holistic approach to IWM can draw on many lessons from Traditional Owners' stewardship of

Country. For tens of thousands of years, Traditional Owners in Victoria have cared for Country through their cultural, spiritual, material and economic connections to land, water and resources. For Traditional Owners, water is a sacred and living entity that is inextricably connected to land and to people — healthy waterways are essential for healthy Country and healthy people. This benefits everyone.

In Victoria, transitioning to IWM as standard practice is not just beneficial—it's essential. By integrating IWM into land use planning, we pave the way for effective and resilient responses to our pressing and complex challenges like climate change, urbanisation pressures, and population growth. IWM can be applied at all scales, from waterway catchments to smaller suburbs and towns, and even down to individual streets and houses.

Solutions identified through IWM can improve water security, reduce degradation of waterways and bays, reduce flood risks, rehabilitate ecosystems, create vibrant open spaces, enhance the health and well-being of communities, enable Traditional Owner self-determination, and support agriculture. IWM calls for the reconnection of water with Country and provides an opportunity for partnership with Traditional Owners. IWM solutions support increased Traditional Owner' self-determination and their access, use and management of water.

The strengthened inclusion of Traditional Owners and their knowledge, values and objectives in water management is critical to healing Country, enabling self-determination, fostering meaningful collaboration, and ultimately embedding a holistic IWM approach in Victoria.

This shift empowers us to proactively tackle these interconnected issues, safeguarding our environment and ensuring sustainable development across the State.

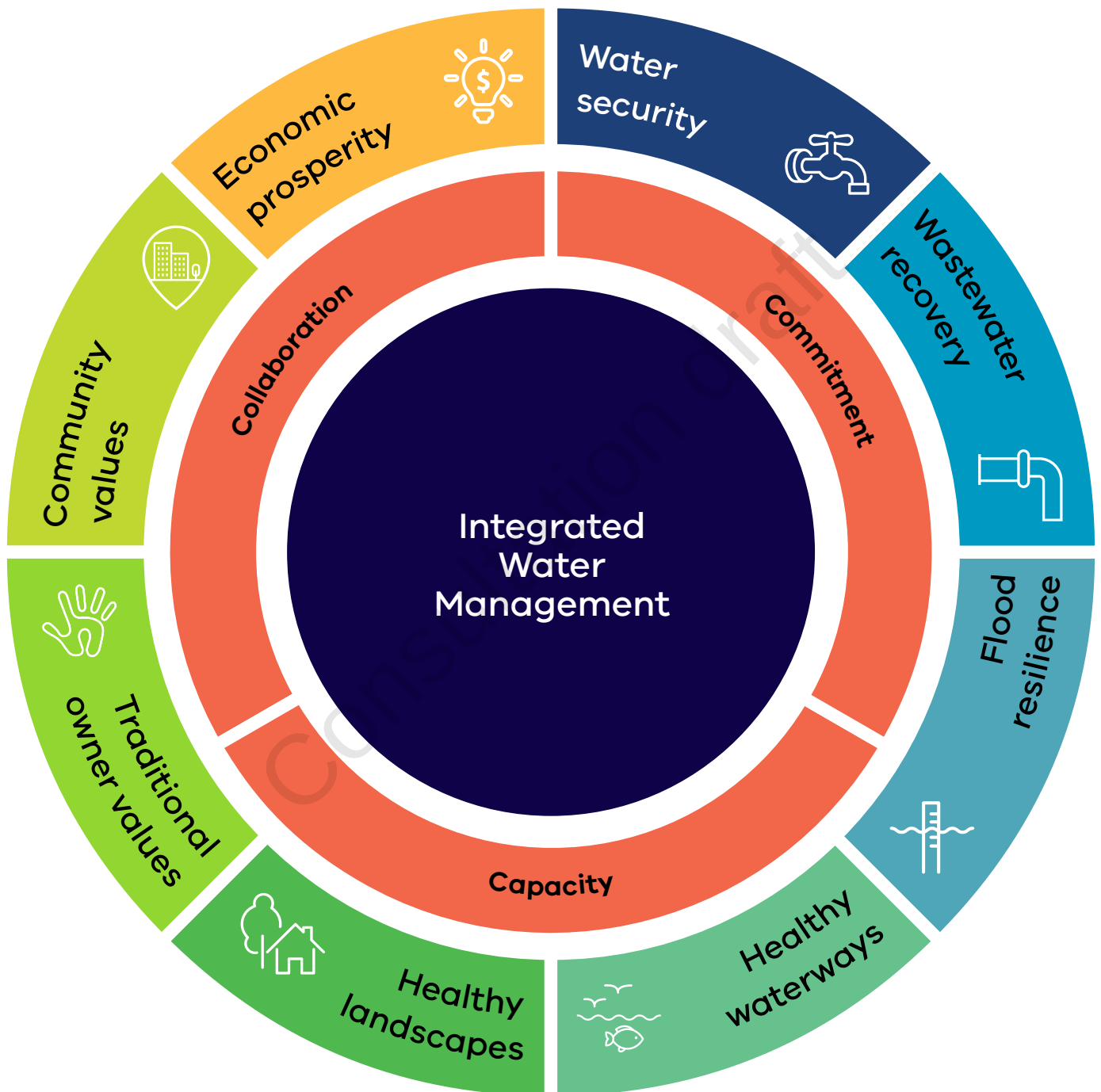


Figure 1
Visualisation of Integrated Water Management
in Victoria, where enabled by collaboration,
commitment, and capacity from stakeholders, IWM
can deliver the strategic outcomes on the outer ring.



The Urban Water Cycle

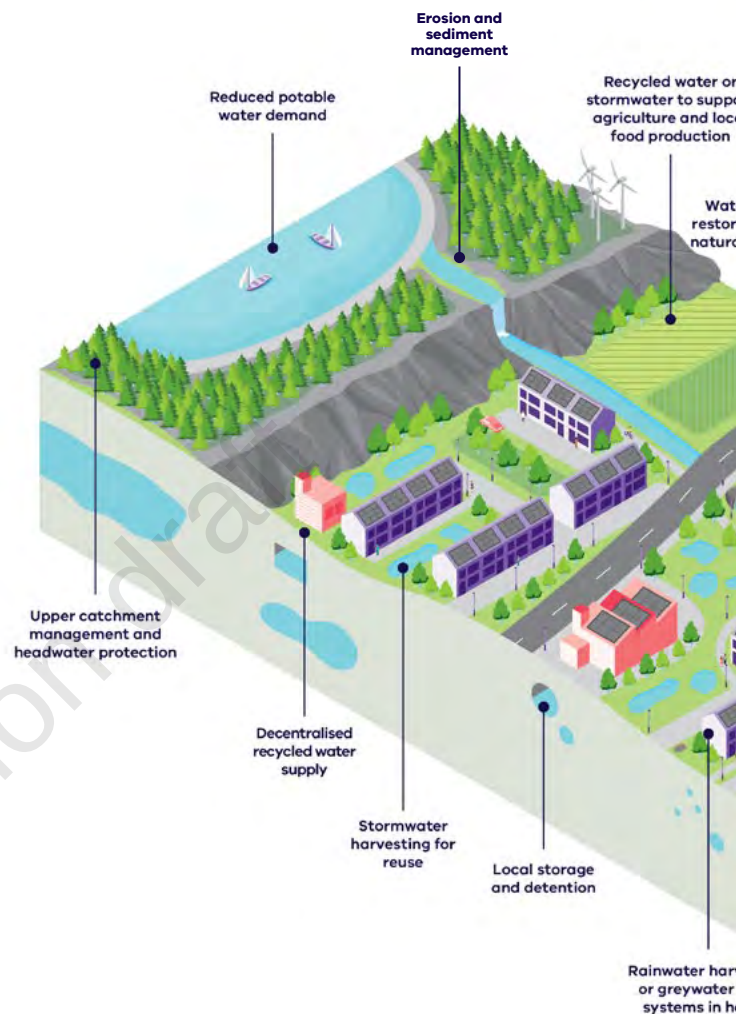
In a built-up environment, it is important to recognise how the water cycle is affected by urbanisation and development. Formalised water supply and management systems, and other built infrastructure like roads, have fundamentally altered the natural water cycle over time, creating an 'urban water cycle'.

In an urban water cycle, water supplies are commonly transferred to an urban area from a distant water supply catchment in a rural or forested area. Growing populations, our patterns of urban development and increasingly dry climate place increasing pressure on these conventional water resources. This imported water is then utilised within communities, generating large quantities of wastewater locally which is also commonly transferred significant distances for treatment and release to the environment. Current approaches to urban development also result in a built environment that is largely impervious, creating large quantities of stormwater runoff which enters local waterways and bays, fundamentally changing water quality and natural flow patterns, while also increasing flood risk.

Over time, the issues associated with the conventional urban water cycle have become evident: stressed water resources, degraded and polluted waterways and bays, and more frequent flooding.

An IWM approach reintroduces opportunities for circularity within the urban water cycle, by utilising local water resources through harvesting stormwater and recycling wastewater, integrating water within the urban landscape, managing erosion and sediment control and enhancing local waterways and environments. In doing so, water can be harnessed to adapt and mitigate climate change induced impacts by increasing infiltration, restoring groundwater recharge and supporting base flows.

The IWM planning process can often identify opportunities to integrate nature-based solutions, that employ natural processes to manage water. These could include use of vegetated systems to treat stormwater or to hold, absorb or utilise water to enhance landscapes. Importantly, an IWM approach can enhance liveability, amenity, greening and community empowerment making a central element in urban design and planning, and a strong influence in place making.



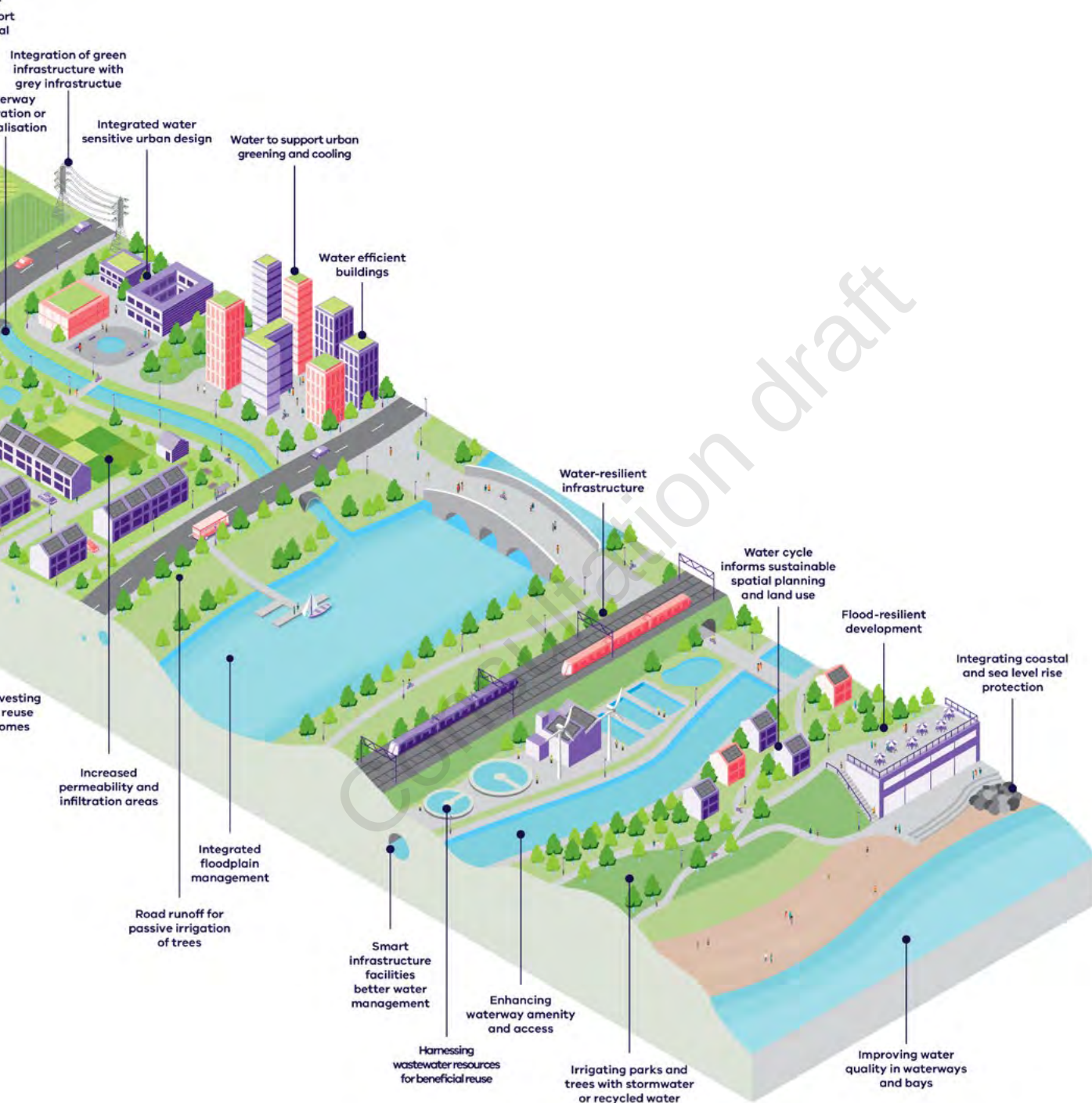


Figure 2
Opportunities for integrated water management, enhanced cultural values, sediment control, biodiversity and connection to nature in an urban context.



What is the role of the land use planning system in delivering IWM outcomes?

Land use planning is about creating plans and policies that guide the use of land and the development of buildings, infrastructure and public spaces, and assessing and approving development in line with these. The land use planning process, including both strategic and statutory planning mechanisms, can be supported through the use of high-level state water policy, governance, tools, infrastructure standards and alignment of various funding sources.

Integrating land use planning processes with IWM is essential for the successful delivery of IWM, allowing places to be designed to, respond to, and enable water-related outcomes, while using water management to deliver co-benefits for liveability, sustainability and place-making objectives. Equally, urban planning processes support the delivery of water management proposals that are well-balanced with other planning priorities, are equitable and fair, and engage with communities providing opportunities to better respond to local context and needs.

How can the land use planning system be used?

The land use planning system provides opportunities to deliver infrastructure that contributes to achieving IWM outcomes. This document seeks to provide guidance on how and when the land use planning system can be used and how IWM processes can be aligned to support a coordinated approach.

In Victoria, the land use planning system and its powers are enabled by the Planning and Environment Act 1987 (the PE Act), which establishes the framework for planning the use, development and protection of land in Victoria in the present and long-term interests of all Victorians. As a result of the passage of the Climate Change and Energy Legislation Amendment (Renewable Energy and Storage Targets) Act 2024, the PE Act has been amended to include an additional objective to the planning framework.

The PE Act has been amended to insert after section 4(2)(d) —

"(da) to provide for explicit consideration of the policies and obligations of the State relating to climate change, including but not limited to greenhouse gas emissions reduction targets and the need to increase resilience to climate change, when decisions are made about the use and development of land; and water sector information to support consideration of climate change issues will support decision making."

The objectives of land use planning in Victoria (as defined by the PE Act), that are relevant to IWM include:

- To provide for the fair, orderly, economic and sustainable use, and development of land;
- To provide for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity;
- To protect public utilities and other assets and enable the orderly provision and co-ordination of public utilities and other facilities for the benefit of the community.

Other acts such as the Water Act 1989 and Marine and Coastal Act 2018 need to be considered in conjunction with the provisions of the PE Act in many instances.

The PE Act establishes the foundation for, and enables, the Victoria Planning Provisions (VPP), which then underpin the local planning schemes in each municipality. These schemes offer a range of statutory mechanisms—such as policies, zones, overlays, and other provisions—that influence land use and development outcomes. They serve as essential tools for implementing policies and guiding decisions regarding how land is utilised and developed within Victoria.

Land use planning, as it is discussed in this document, also refers to the holistic integration and coordination of land use planning through a range of mechanisms to achieve the desired outcomes, including but not limited to those provided for by the PE Act.



Figure 3
Integrating water planning and urban planning (Adapted from Thommsdorf, 2020).

Detailed explanation and guidance on how and when to use the planning system and elements of a planning scheme can be found in:

- **Guide to Victoria's Planning System** – A technical guide to interpretation and administrative procedures about the PE Act and planning schemes.
- **Practitioner's guide to Victoria's planning schemes** – Sets out key rules and helps practitioners formulate and draft planning scheme provisions.
- **Planning Practice Notes** – Advice about the operation of specific Victoria Planning Provisions, planning schemes and planning processes and topics.

Benefits of integrating water planning and urban planning:

- Promote synergies between water management planning and land use planning objectives (win-win solutions).
- Improve the achievement of cross-cutting goals.
- Enhance focus on broader public good agendas rather than narrow sector-oriented goals.
- Avoid duplication and promote consistency between planning instruments from different sectors and/or levels of governance.
- Encourage greater understanding of linkages with other sectors.
- Support innovation in policy making and implementation.

Adapted from Stead and Meijers, 2009, p.319.

Common challenges in integrating water and urban planning

IWM policy and practice have advanced rapidly in Victoria over the past decade. Despite this progress, both water management and land use planning have deep-rooted histories and entrenched conventions, often organised around a 'siloed' approach, including separate silos within water management itself. Consequently, integrating water planning with land use planning has faced common challenges.

This Guidance seeks to overcome these challenges where possible by utilising the land use planning system to enhance and integrate IWM outcomes as far as possible.

Common challenges

How this Guidance helps improve planning integration and outcomes

Holistic approach 	Siloed parts of the water cycle are entrenched in existing policy structures The historical evolution of water management has resulted in siloed policy areas that result in both missed opportunities and conflicting outcomes. An important example is that stormwater policy has evolved with a focus on development scale controls, which has meant that opportunities for regional or catchment scale stormwater harvesting to support and fund alternative water supply plans have been missed (and water corporations have no obligation to consider stormwater at a broader scale). To support good IWM outcomes, land use planning decisions need to be informed by both broad planning policy such as Clause 19.03-3S Integrated Water Management as well as specific development standards (e.g. clause 53.18 Stormwater Management in Urban Development). Attention to specific planning standards in isolation will reinforce siloed outcomes and is not consistent with operation of the land use planning system.	The guidance introduces IWM Plans to communicate IWM objectives and outcomes with urban planning and processes, and provides the recommended structure, content, and timing of <u>IWM Plans</u>, with the intent of driving a holistic approach at key stages of the planning process.
Scale 	A focus on development-scale IWM can miss the bigger picture To date, many IWM plans have been delivered at either a precinct or development scale, as this is the most practical scale to embed IWM in the planning process. However, this approach often limits solutions within the development boundary, missing opportunities to coordinate with neighbouring developments or to drive catchment scale solutions.	An <u>IWM Planning Hierarchy</u> to integrate water planning and urban planning processes at all scales.



Long lead-time and certainty required for investment planning

While development can be a fairly variable process in terms of timing and sequencing, IWM infrastructure planning is often on a much larger scale. Initiatives such as recycled water supply schemes or regional stormwater harvesting are planned within a 50 year timeline and requires certainty and pre-planning to secure infrastructure funding. In contrast, local governments often face shorter planning horizons and limited funding cycles for infrastructure, restricting their ability to undertake long-term projects. Water corporations plan major investments in a 5-year funding cycle, which can limit the potential to deliver opportunistic solutions and opportunities where pre-planning hasn't occurred in a timely fashion.

Early planning is suggested in these Guidelines, particularly in areas where there are strategic IWM opportunities. This is encouraged through the identification and development of a **Strategic Cluster IWM Plan**.

The Guidelines also provide idealised timescales.



Translating strategic direction into place-specific requirements

The issues covered in the Planning Policy Framework often include reference to policy documents 'as relevant', however there are a series of large and complex policy documents that are relevant to IWM. To support the land use planning process, it is important that referenced policy documents clearly identify key content pertinent to land use planning decisions. This will assist in translating important technical and water policy assessments into practical land use planning outcomes in the assessment of development applications. The presence of strategic direction documents, and overarching IWM planning, varies by location, meaning there is often a lack of supporting material and reference documents which can be used to underpin local IWM proposals and requirements. IWM responses at a development scale have often only responded to state-wide requirements, rather than local place-based objectives and needs. With the catchment-scale IWM plans in place initially in metropolitan Melbourne, learnings from metropolitan Melbourne can be used to improve place-based IWM solutions in regional Victoria, particularly at the precinct scale.

Plan making guidance is provided on how to translate strategic directions to a local level and develop place-based objectives and targets for IWM.

The guidance also includes discussion of statutory measures and processes that can assist in driving **Implementation** of IWM through planning.



Implementation 	Intended outcomes outlined at the planning stage often not embedded through delivery and long-term management While intended IWM initiatives were often proposed through planning, many of these solutions were found to be either not delivered, poorly delivered or not maintained in the long term. Rainwater tanks and raingardens on private property are often cited as common examples of this. The capacity to ensure compliance along the various stages was flagged as a major barrier to the delivery of outcomes on the ground. Reliance on these measures needs to be reviewed based on the regulatory situation at the time.	An <u>IWM Planning Hierarchy</u> is set out to encourage integrated plan making at the right time, and the right scale. <u>Implementation</u> measures that can be utilised through the planning process are also explained.
Resourcing 	Time and resources available for IWM planning are not adequate Stakeholders highlighted that organisations lack the necessary resources, both in staff time and funding, to support IWM planning investigations, as these efforts are not considered an essential requirement. As a result, most pre-planning to date has been conducted on a goodwill basis and through pilot collaborations. The Victorian Planning Authority's updated Precinct Structure Planning Guidelines (PSP 2.0) supports PSP preparation based on collaborative consideration of opportunities, but the 18 month timeline for the PSP 2.0 has been flagged as being inadequate to complete the necessary IWM investigations and secure commitments. Commencing preparatory work to support identified PSP processes as early as possible is needed to undertake the necessary investigations , and maintain PSP delivery timelines. Staff resource constraints and availability of engineering skill sets in particular in regional areas were highlighted as constraints.	The time required and the stakeholders involved to complete key tasks are described for each plan in the <u>Plan Making Guidance</u>.

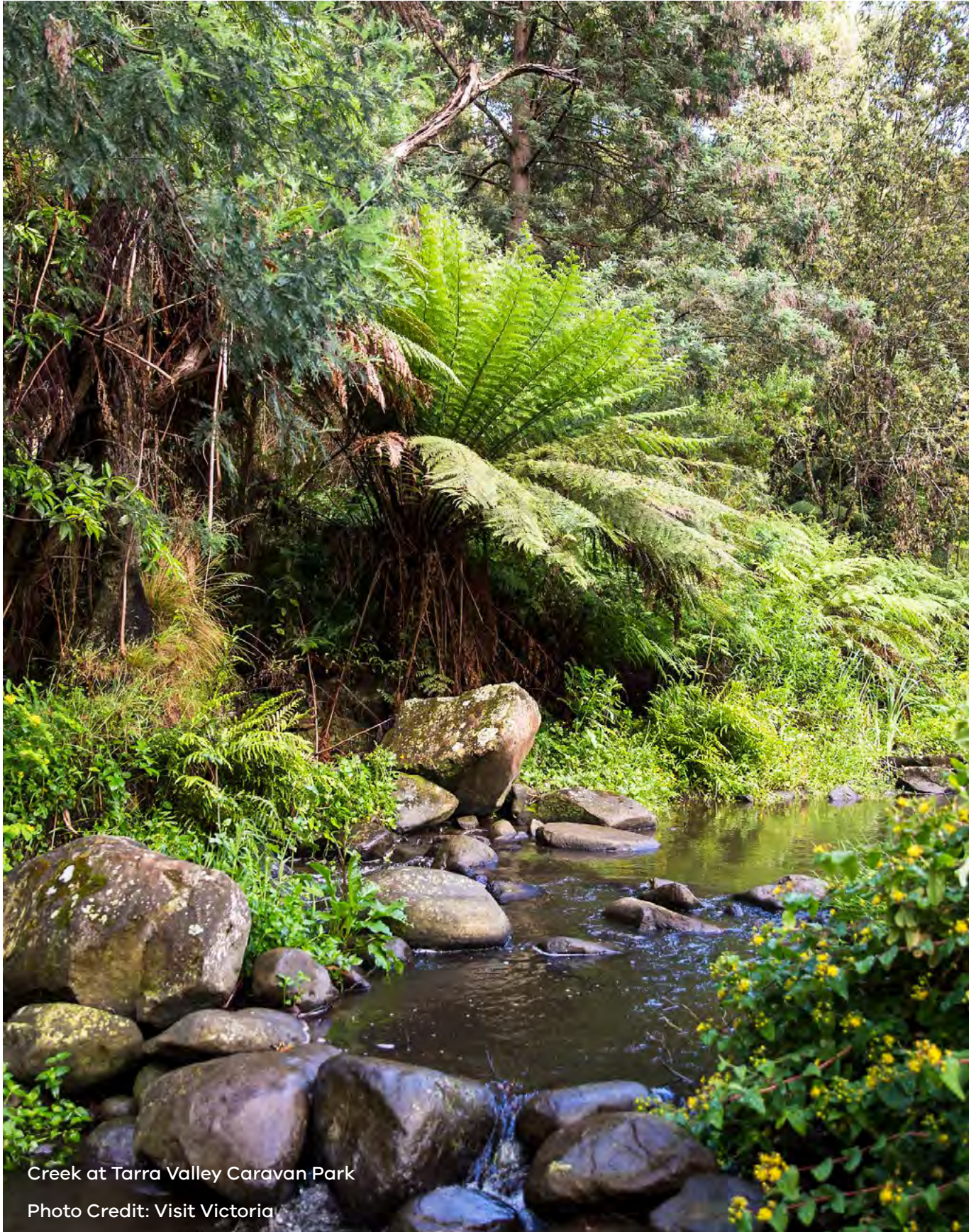


Part 1

Introduction



Introducing IWM and Land Use Planning



Creek at Tarra Valley Caravan Park

Photo Credit: Visit Victoria

Introducing the IWM Planning Hierarchy

A framework for integrating IWM with land use planning processes at different scales to deliver better outcomes.

To embed IWM outcomes in the built environment, IWM planning approaches must be closely aligned with equivalent land use planning processes. This alignment should establish a clear and connected hierarchy, translating high-level strategy at large scales into detailed design and delivery at the implementation scale.

Further, IWM planning needs to provide adequate technical and strategic detail and justification and delivery commitment for some planning mechanisms to be used.

The IWM Planning Hierarchy, sets out how IWM planning and land use planning can be aligned, detailing the key scales of IWM planning required to create a connected hierarchy.

Shown in Figure 4, it is framed around three key spatial scales:

- **Direction Setting:** Policy and strategic directions set out at the state, regional and IWM Forum area.
- **Plan Making:** IWM plans are developed to translate strategic direction to place-specific plans, at the Strategic Cluster, Municipal and Precinct scales.
- **Implementation:** Responding to the statutory triggers set in place by the direction-setting and plan making scales, an IWM solution is developed at the development scale.

The IWM Planning Hierarchy is based on the approach developed by Tawfik and Chesterfield (2020) for integrating water and urban planning. This approach supports a collaborative, context-specific, and integrated method for implementing IWM, identifying the processes, instruments, and mechanisms at each scale where IWM can be integrated.

The IWM Planning Hierarchy is designed to complement the land use planning hierarchy and to feed into the land use planning process at key stages.

Table 1 provides more detail on applying the hierarchy, including the recommended lead organisations for each stage of IWM planning, along with the related land use planning processes, outputs and mechanisms.

Each component of the hierarchy is described in greater detail in Part 2 of this document including:

- the key strategies and policies that provide the **strategic direction for IWM in Victoria**.
- the timing, key content and steps to be undertaken to prepare IWM plans at the **Plan Making** stage and how to embed these in the equivalent land use planning process.
- available statutory and other supporting **Implementation** mechanisms.

Additionally, implementation mechanisms are supported by a toolbox of methods and techniques for preparing IWM plans, along with practical examples and case studies, all provided in **Part 3**.

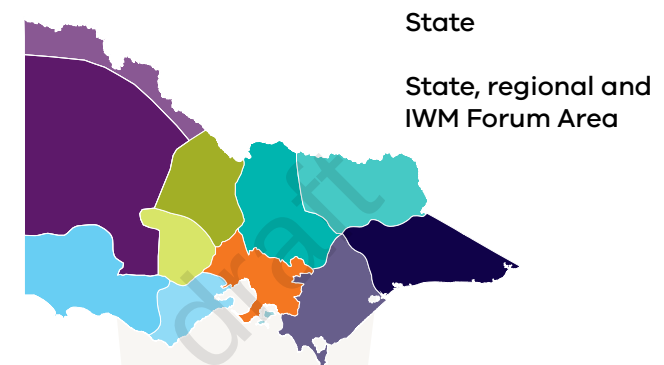
IWM Planning Hierarchy

Direction Setting

Sets policy:

Outlines key strategic directions, policy objectives and targets.

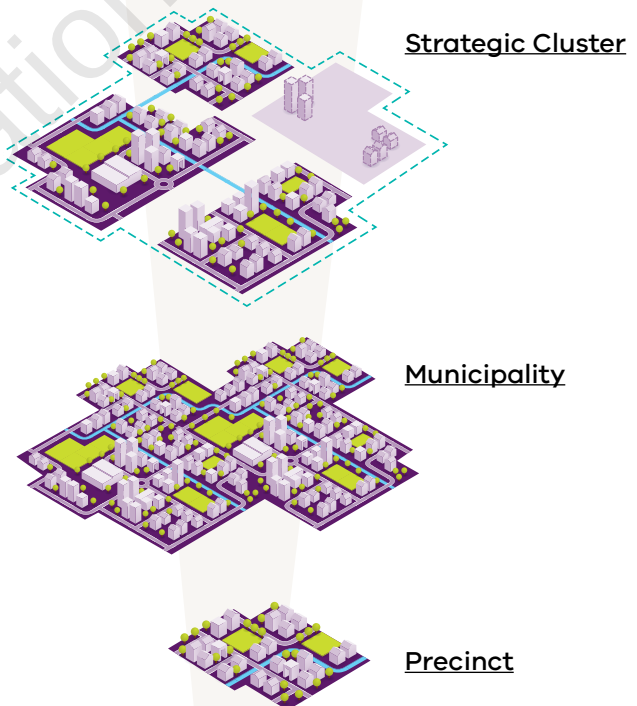
Stages and scales of planning



Plan Making

Translates policy into place:

Establishes place-based objectives, strategies and actions that will achieve policy outcomes.



Implementation

Delivers infrastructure and development:

Design and deliver development, infrastructure and urban design and landscaping that responds to plans and requirements.



Figure 4: The IWM Planning Hierarchy

Policy, strategy and process

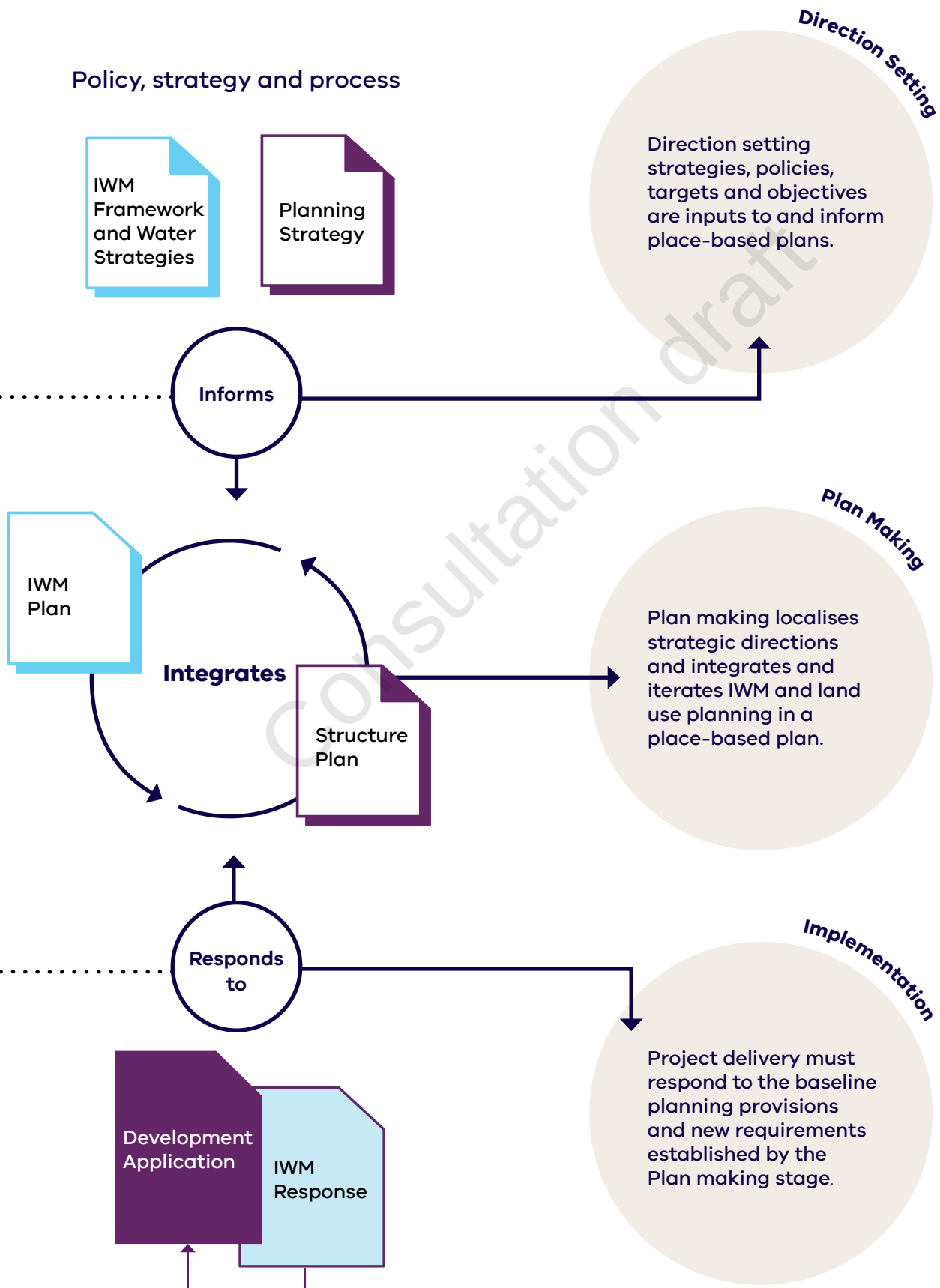




Table 1: Detailed IWM Planning Hierarchy

IWM Planning Hierarchy explained

Planning Stage

IWM planning process

IWM planning scale
At what scale is IWM planning done?

Timing
When should IWM planning be commenced?

Direction Setting

Set key strategic direction and policy objectives. Provides baseline guidance and requirements.



State

30 – 50 year horizon
reviewed every 5 years.

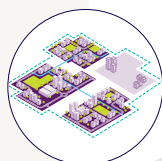
State, regional and IWM Forum area

Every 5 – 10 years

Plan Making

Establish place-based objectives, strategies and actions which contextualise and implement strategic directions.

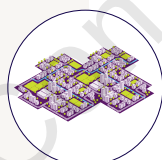
Land use planning and IWM planning should be highly integrated and place-based.



Strategic Cluster

Large areas identified for IWM planning to respond to specific risks or opportunities, such as greenfield growth corridors or surrounding sensitive waterways.

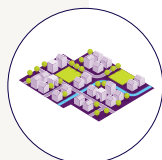
5 – 10 year horizon
with annual reviews to identify areas requiring planning.



Municipality

Local government areas.

Every 5 – 10 years



Precinct

Can include activity centres, urban renewal areas, greenfield areas, and other state designated precincts (e.g. Suburban Rail Loop precincts), in metropolitan and regional contexts.

Approximately 3 - 5 years
prior to development commencing.

Implementation

Design and deliver developments and infrastructure that respond to plans and requirements. IWM outcomes will largely be dictated by the controls established by Plan making led changes to the local planning scheme and existing VPP.



Development

Can include subdivision development, urban infill and single-lot development and the delivery of infrastructure.

Aligned land use planning process

Lead organisation <i>Who leads IWM planning?</i>	Partner organisation <i>Who supports IWM planning and delivery?</i>	Aligned planning process <i>What planning processes and documents are prepared at a similar scale?</i>	Outputs and mechanisms <i>What land use planning mechanisms can be used to implement IWM outcomes?</i>
State Government (DEECA, DTP, VPA)	All Forum partners		Planning Policy Framework (PPF) and Victoria Planning Provisions (VPP) – State.
IWM Forums	All Forum partners	Plan Melbourne and Regional Growth Plans and Plan for Victoria, Strategic Direction Statement, Catchment Scale IWM Plans.	Local and regional Planning Panel Victoria (PPV) and planning provisions where appropriate.
Initiator: IWM Forums	Local Government Traditional Owners Planning Authority	Sub-regional plans such as Growth Corridor Plans.	Metropolitan strategy, other regional land use plans.
Lead: Water Corporations*	Catchment Management Authorities (CMAs)		Regional PPF and planning provisions.
Local Government	Water corporations Traditional Owners CMAs	Council Plan, and other municipal scale plans and strategies such as infrastructure plans and sustainability strategies.	Municipal strategies, investments and services Local planning policy framework and planning provisions where appropriate.
Initiator: Planning Authority	Planning Authority Local Government Traditional Owners CMAs	Visions and Framework Plans. Structure Plans (typically urban renewal areas) and Precinct Structure Plans (Greenfield areas).	Local planning policy framework and planning provisions.
Lead: Water Corporations*			Precinct Plans, Infrastructure Plans and Developer Contributions requirements.
Approvers: Planning Authority Referral Authorities	Community	Development plan. Permit application and assessment.	Planning permit and development plan.
Documentation and delivery: Developer Infrastructure providers			Developer contributions Infrastructure and development delivery.

*In Metropolitan Melbourne, Melbourne Water Corporation is designated to take the lead co-ordination function. They will work closely with the retail water corporations and all relevant partners.



Roles and responsibilities in IWM planning

IWM is a collaborative process. Under the existing legislative and regulatory framework, different organisations (being those stakeholders with a specific role to play in preparing, informing or implementing IWM and land use planning processes) have certain accountabilities for aspects of water management and land use planning. These aspects are inherently linked through the urban water cycle, and IWM provides an approach that brings stakeholders together to identify shared outcomes, coordinate activity and optimise investments. All organisations and Victorians also have a responsibility under the

General Environmental Duty to reduce the risk of harm to the environment.

Table 2 outlines the key organisations, their water accountabilities and their roles in IWM and the integration of land use planning. These organisations contribute beyond the roles listed, including protecting the environment and supporting the health and wellbeing of their local communities. **Part 2** of this document provides further detail on their full scope of contributions, the specific roles that each organisation plays and how they are brought together to implement IWM and integrated land use planning.

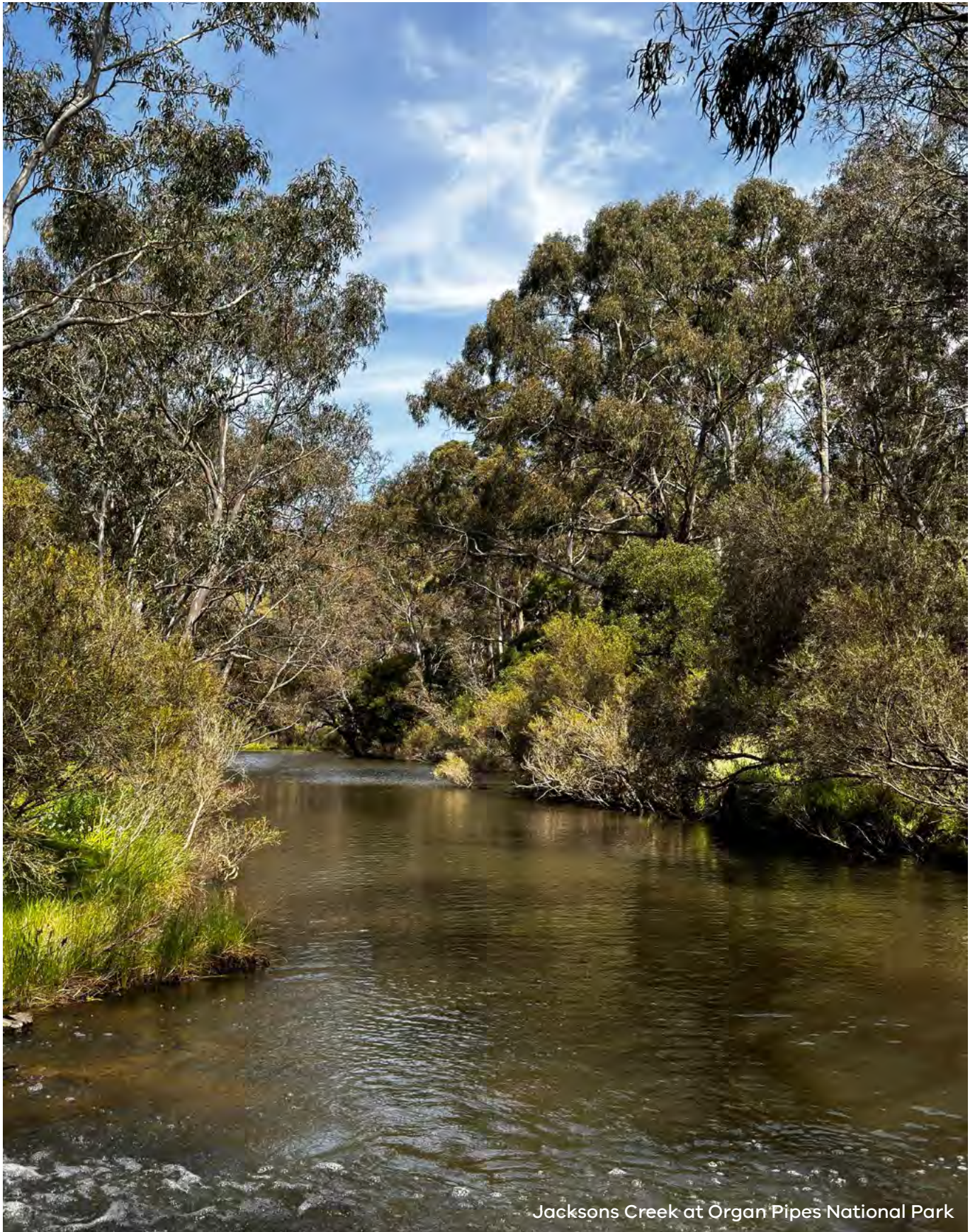
Table 2: Roles and responsibilities in IWM planning

Organisation	Water accountability	Role in IWM planning
Department of Energy, Environment and Climate Action (DEECA)	Legislation	- Set out the strategic direction for water, including IWM planning at a state and regional scale. - Facilitate and support the IWM Forums.
	Policy	
	Regulation	
Department of Transport and Planning (DTP)	Legislation	- Develop long-term, integrated land-use strategies and policies. - Administer statutory planning responsibilities (including oversight of the Victoria Planning Provisions). - Facilitate urban development. - Lead and facilitate land use planning functions.
	Policy	
	Regulation	
	Infrastructure design, delivery and operation	
IWM Forums	Public land management	- Bring key organisations involved in water management together at a strategic level. - Develop strategic direction for IWM at a Forum scale. - Define outcomes, establish collaborative models, prioritise IWM planning activities and share investment in IWM. - Identify and prioritise strategic clusters requiring IWM Plan Making - Initiator for IWM planning at the strategic cluster scale.
	Committed to driving shared outcomes for IWM	

Water Corporations	Urban water supply, including recycled water (Urban Water Corporations) Rural Water Supply (Rural Water Corporations) Wastewater management (including sewerage and sewage treatment) and trade waste management	• Lead partner for IWM planning at a strategic cluster and precinct scale. In metropolitan Melbourne, Melbourne Water Corporation is designated to take the lead co-ordination function. They will work closely with the retail water corporations and all relevant partners. • Supporting partner for IWM planning at a municipality scale. • Referral authority during the IWM planning application process. • Design, deliver and operate water supply and/or treatment infrastructure.
Catchment Management Authorities (inc. Melbourne Water (MW))	Waterway and catchment health Floodplain management Environmental water Major drainage systems (MW only)	• Set out direction at a catchment and regional landscape scale. • Set out direction for specific natural resource management issues. e.g. waterway threats and management objectives. • Supporting partner for IWM planning at a strategic cluster, municipality, and precinct scale. • Referral authority during development planning application process (which may include IWM planning) • Referral authority for flood management. Can also provide advice on stormwater impacts to waterways.
Local Government	Urban stormwater management Parks and gardens management Onsite domestic wastewater management Management of small scale green infrastructure (e.g. raingardens) Urban planning and design Urban growth precinct structure planning Planning approvals	• Lead partner for IWM planning at a municipality scale. • Supporting partner for IWM planning at a strategic cluster and precinct scale. • Initiator for IWM planning at a precinct scale when leading a Precinct Plan. • Planning authority which embeds IWM within the local planning scheme. • Urban growth planning. • Responsible authority for assessing that planning permit applications meet IWM requirements as set out in the planning scheme for a range of residential and non-residential developments, at the subdivision and building and works scale.



Organisation	Water accountability	Role in IWM planning
Victorian Planning Authority (VPA)	Urban growth planning in designated areas across Victoria	- Initiator for IWM planning at a precinct scale in designated or invited areas. - Urban growth planning in designated areas across Victoria.
Traditional Owners	Traditional Owners and Custodians which care for water as the life source of Country, people, flora and fauna, and culture Rights and responsibilities to care for Country Aboriginal cultural values and uses Cultural heritage approvals (specific to Registered Aboriginal Parties) Aboriginal rights to access, hold, use and manage water for self-determined purposes	- Supporting partner for IWM planning at all scales. - Role in IWM planning may vary depending on the priorities and aspirations as outlined in each Country Plan and Catchment Strategy for relevant Traditional Owner group. - Consideration should be given to opportunities for IWM planning to support Traditional Owner self-determination at every scale of IWM planning. - Form a partnership to support decision making processes in IWM planning. - Lead and embed Traditional Ecological Knowledge in IWM processes.
Developers	Design and construction of development scale water infrastructure	- Consultee during IWM Plan making. - Deliver IWM response at a subdivision scale as it relates to private development. - Support IWM plan implementation.
Property Owners, Residents, Community Groups and Businesses	Meeting terms and conditions of services provided Following permit conditions Onsite domestic water management, e.g. rainwater, stormwater	- Participants during IWM Plan making and planning approvals process. - Support IWM Plan implementation as participants.



Jacksons Creek at Organ Pipes National Park



Current state of the IWM Planning Hierarchy

The approach to IWM planning in Victoria has rapidly evolved in recent years, however, without a requirement to plan for IWM at specified stages or scales, the preparation of plans has primarily been driven by stakeholder commitment and goodwill.

The resulting strategic and statutory land use planning has reflected this environment of limited IWM planning.

Figure 5 describes the current approach to when IWM and land use planning occurs and how they are integrated. It shows the baseline for land use planning, how it aligns with the IWM planning hierarchy, and the challenges and gaps it presents.

Place-based plans and strategies are needed to guide how development should be tailored to local conditions, priorities and targets. Without clear 'triggers' for when and where this should occur, however, there is in an absence of IWM planning to inform subsequent place-based land use planning processes. As a result, there can be minimal direction for land use plans for how water outcomes can be delivered.

Without these place-based IWM objectives, the extent to which new development must consider IWM is limited to the State level planning policy and provisions applying to all development. Consequently, IWM responses are limited to the boundary of individual development sites and provide little opportunity for larger-scale IWM opportunities, coordination of development, or consideration of place-based context, priorities and needs.

A summary of the existing land use planning policies and provisions relating to IWM which are included in all planning schemes are summarised in the **Direction Setting** section.

IWM Planning Hierarchy - Current State

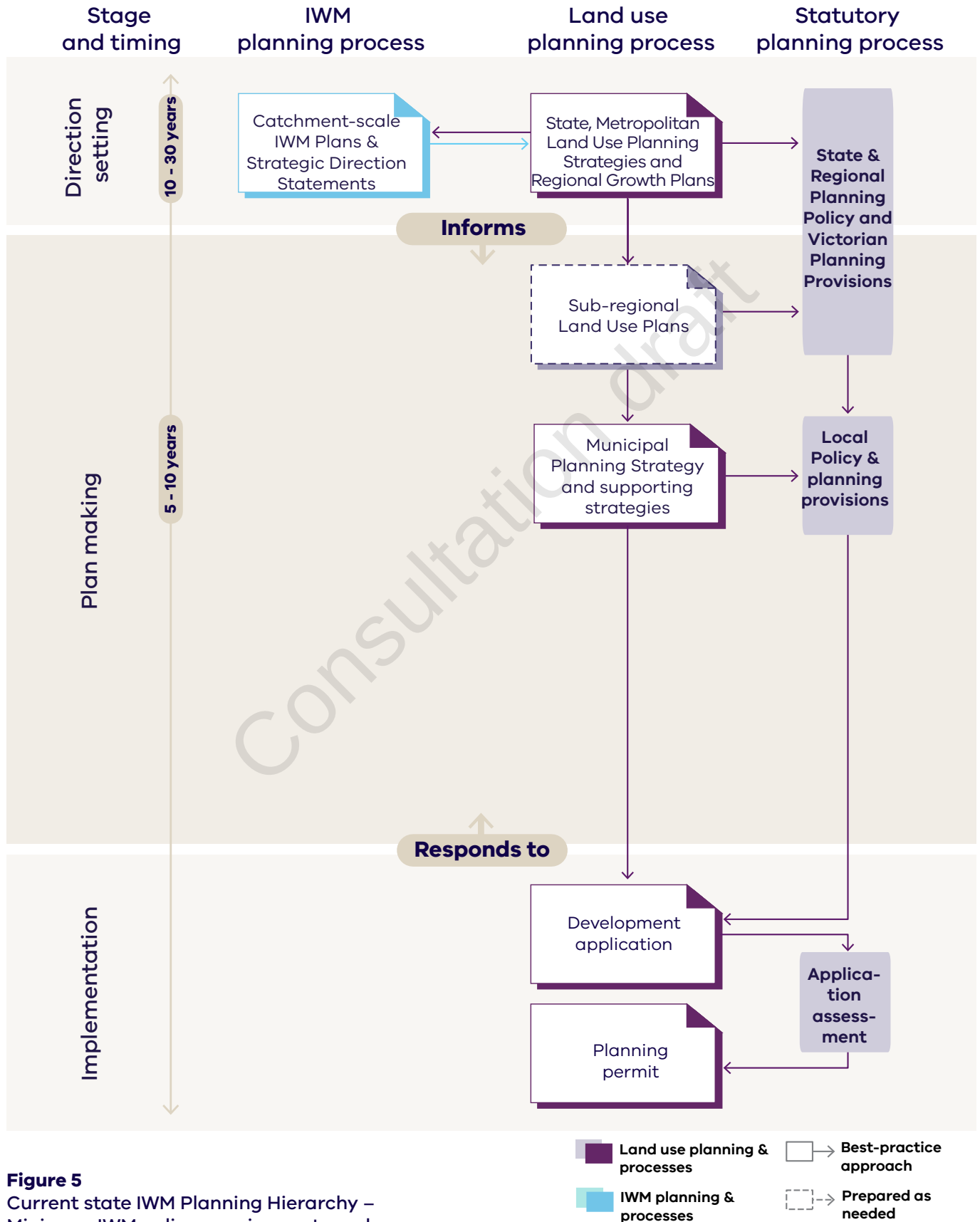


Figure 5
Current state IWM Planning Hierarchy – Minimum IWM policy, requirements and process set out in the Victoria Planning Provisions.



Applying the IWM Planning Hierarchy in typical planning and development contexts

The IWM Planning Hierarchy provides direction on what additional IWM and land use planning processes can occur at each scale to improve IWM outcomes and how they should be integrated.

Three typical planning and development contexts are explored in the following section, showing how the current-state scenario can be improved through application of the hierarchy and how the application might differ according to different development contexts. These contexts are:

Precinct planning

Holistic planning and development of large areas of land, in a greenfield or urban renewal context.

Urban infill planning

Incremental planning and development of targeted sites within established urban areas.

Planning in regional Victoria

Planning and development in areas outside of metropolitan Melbourne, includes a range of unique opportunities and challenges, and can include any of the above development contexts. Regional development may also include planning and development for entire towns dependent on their size.

Information provided throughout this document applies to all contexts except where key differences or additional considerations have been highlighted. The diagrams and descriptions of these contexts on the following pages identify the potential and general IWM and land use planning processes that can occur to improve IWM outcomes.

The approach for individual projects may vary based on the level of planning already in place and the time available to develop IWM Plans, or which is needed or possible to be completed, and should be considered on a case-by-case basis.





Applying the IWM Planning Hierarchy to **Precinct Planning**

Precinct planning describes the possible IWM and land use planning that could occur in greenfield and urban renewal areas, which could be a precinct, an activity centre or major urban developments. Precinct scale IWM plans can build upon the 'baseline' water management scenario by contextualising strategies, targets and requirements to achieve improved, place-based IWM outcomes.

Greenfield urban developments and urban renewal provide opportunities for the holistic coordination of development, infrastructure and services within a defined area and timeframe, providing opportunities to achieve IWM outcomes at a scale greater than a single lot or subdivision, which is referred to as a precinct in these Guidelines.

While key documents and processes involved in precinct planning are similar for greenfield developments and urban renewals, these can differ in practice. Common differences between these include:

- **Greenfield** development often requires substantial amounts of infrastructure to be delivered due to being wholly undeveloped.
- **Greenfield** development has a range of specific land use planning controls and funding mechanisms.
- **Greenfield** planning is commonly in the form of a Precinct Structure Plan (PSP) and prepared in line with the VPA's PSP Guidelines.
- **Urban renewal** developments often have complex challenges, opportunities and stakeholder environments which may require more bespoke planning and consideration.



Case study

Arden Urban Renewal Precinct

Arden is an inner-city urban renewal precinct that integrated precinct IWM planning in its structure plan and a planning scheme amendment. The precinct addresses complex flooding challenges influenced by both stormwater and tidal movement, requiring coordinated efforts among stakeholders to implement effective water management solutions.

IWM Planning Hierarchy - Precinct Planning

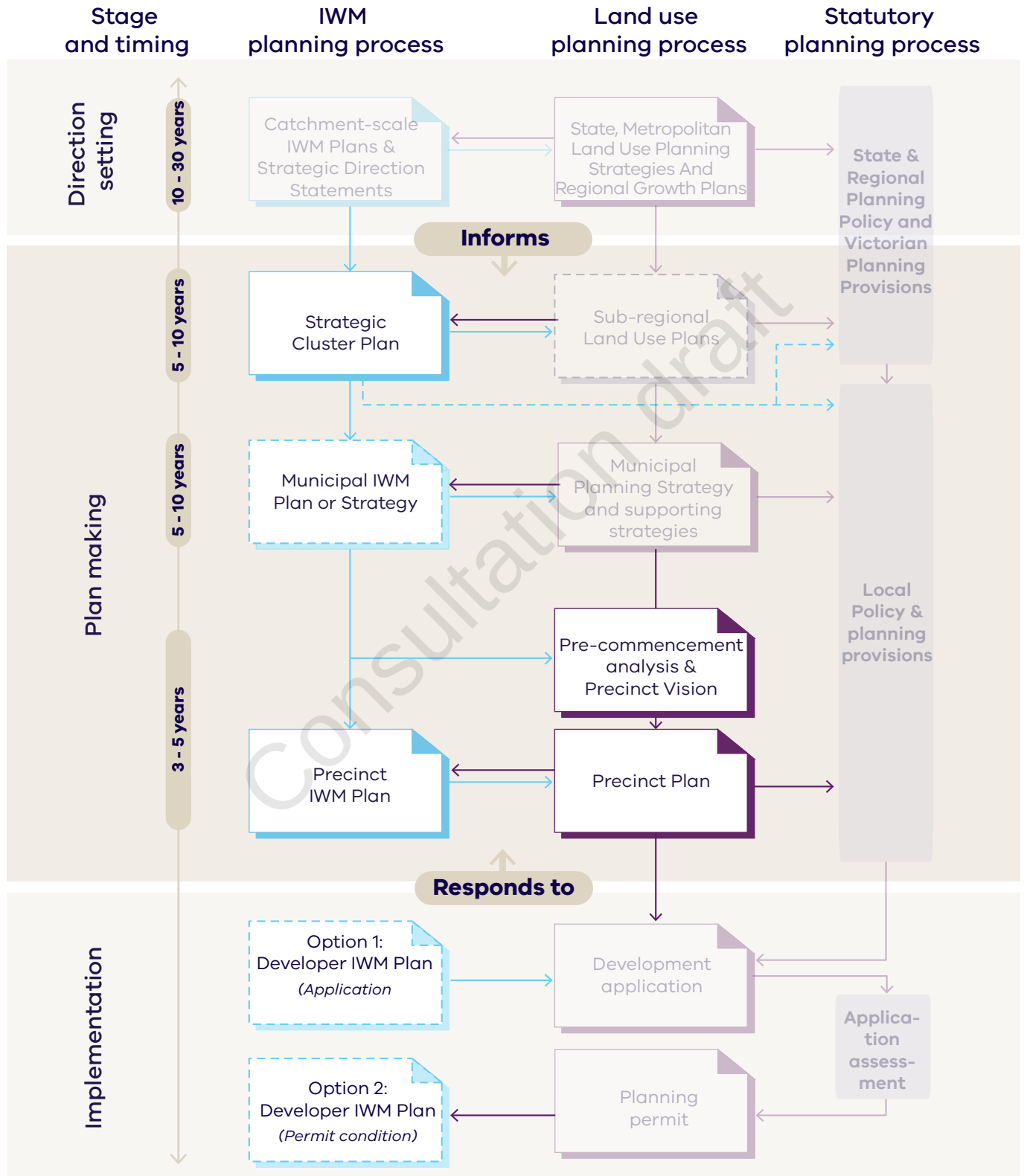


Figure 6
Additional IWM and land use planning integration that can occur in precinct planning through application of the hierarchy in comparison to the current state (indicated by faded elements).



Applying the IWM Planning Hierarchy to **Urban Infill Planning**

Infill development is influenced by existing land uses, infrastructure and communities. While IWM outcomes in infill development are typically achieved on a lot-by-lot scale, they can be enhanced through larger scale strategic IWM planning as described in Figure 7.

Urban infill planning and development refers to development that takes place on single sites in established urban areas, is incremental, and is dispersed across large areas. However, significant IWM outcomes can be driven by influencing infill development through overarching strategic IWM planning and policy development for a municipality or sub-region.

As development of this style is typically dispersed and incremental (at a lot or development scale), holistic place-based plans are less common and so local direction setting and larger-scale strategic IWM planning, such as Municipal IWM Plans, can play an important role in defining local principles, targets, standards and priorities which can be applied across an area to guide development and identify strategic projects that should be coordinated. Figure 7 shows how a Strategic Cluster or Municipal IWM Plan can be used to influence local policy and requirements.

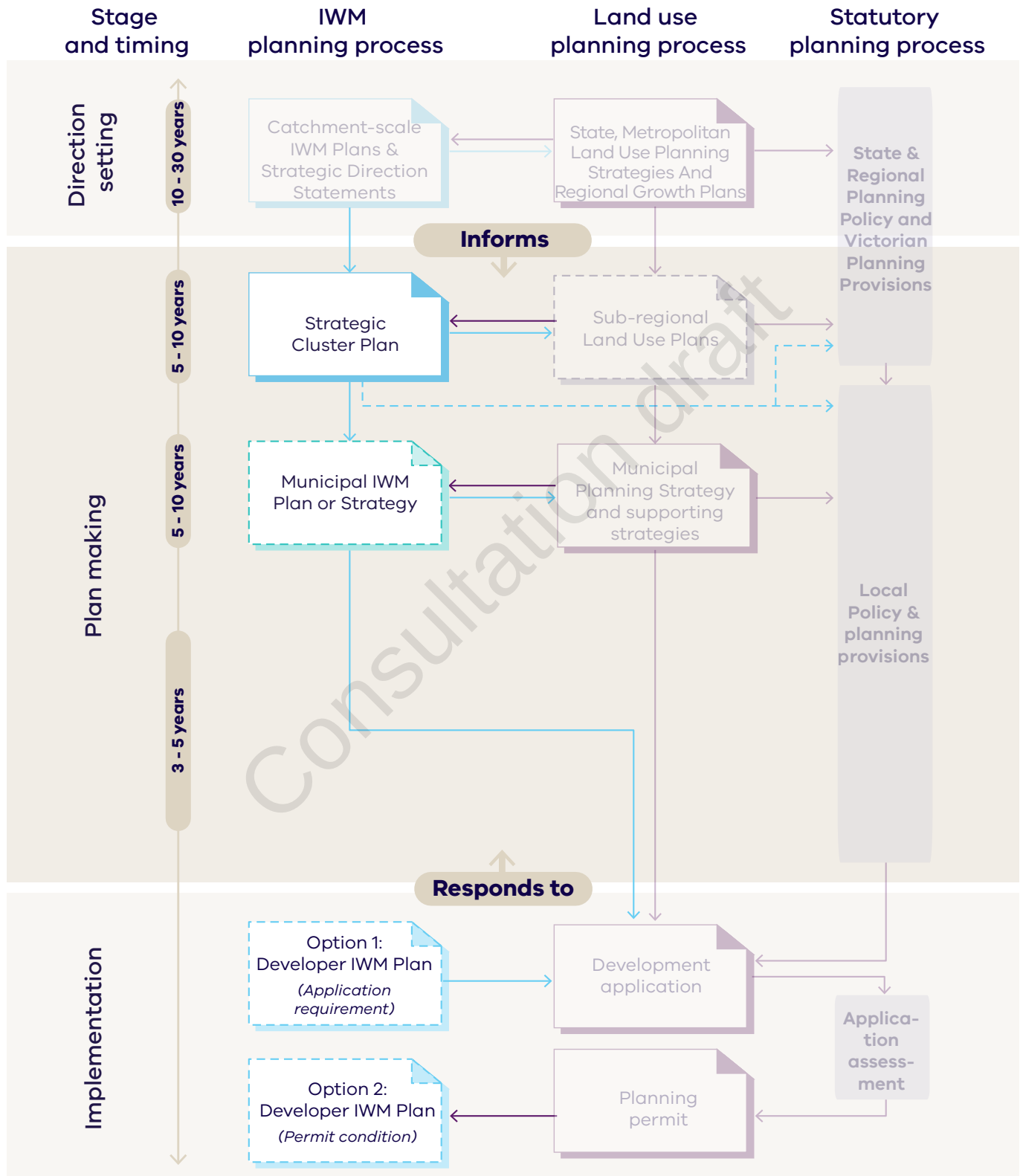


Case study

City of Melbourne IWM Plan

The City of Melbourne's Municipal IWM Plan establishes local targets and objectives, outlines actions for Council assets and land, identifies growth areas for detailed IWM planning and integrates outcomes in planning policy and processes.

IWM Planning Hierarchy - Urban Infill Planning



NB: Municipal plan can play an important role in infill contexts where other processes to consider localised context and place-based policy objectives are limited.

NB: In some circumstances precinct plans may be prepared for an infill context - for example in the Greening the Greyfields project.

Figure 7 Additional IWM and land use planning integration that can occur in infill planning through application of the hierarchy in comparison to the current state (indicated by faded elements).



Applying the IWM Planning Hierarchy to land use planning in regional Victoria

Planning and development in regional Victoria can include any of the previously discussed development scenarios (urban renewal, greenfield growth or infill development) in addition to township planning or planning for larger areas or clusters of townships which may cross municipal boundaries.

Regional contexts face a range of unique organisational and spatial challenges which must be considered, such as resource constrained local governments and developers, large spatial dispersion of populations, and land uses such as agriculture or energy generation.

As a result, detailed and smaller-scale plan making can be challenging to complete or may occur only opportunistically. Therefore, direction setting documents and larger-scale strategic IWM planning can play an important role in providing a baseline of IWM objectives and directions to support informed IWM decision making. Direction setting documents also play an important role in prioritising resource allocation for IWM planning, coordinating where it should occur, and identifying opportunities for efficient IWM planning, such as through resource sharing or the use of less-detailed IWM plans where appropriate.

IWM and land use planning in regional Victoria also includes planning for towns – following a process similar to precinct planning for smaller towns, while for larger towns, it may involve strategic planning at the entire town scale with specific precincts identified for more detailed planning as needed, described in Figure 8.



Case study

Bannockburn IWM Sprint

An IWM sprint was held to establish directions and opportunities for an IWM plan to inform growth planning in the small town of Bannockburn in regional Victoria. Due to limited resources for a comprehensive plan, the sprint offered an efficient and rapid alternative to meet the immediate need.

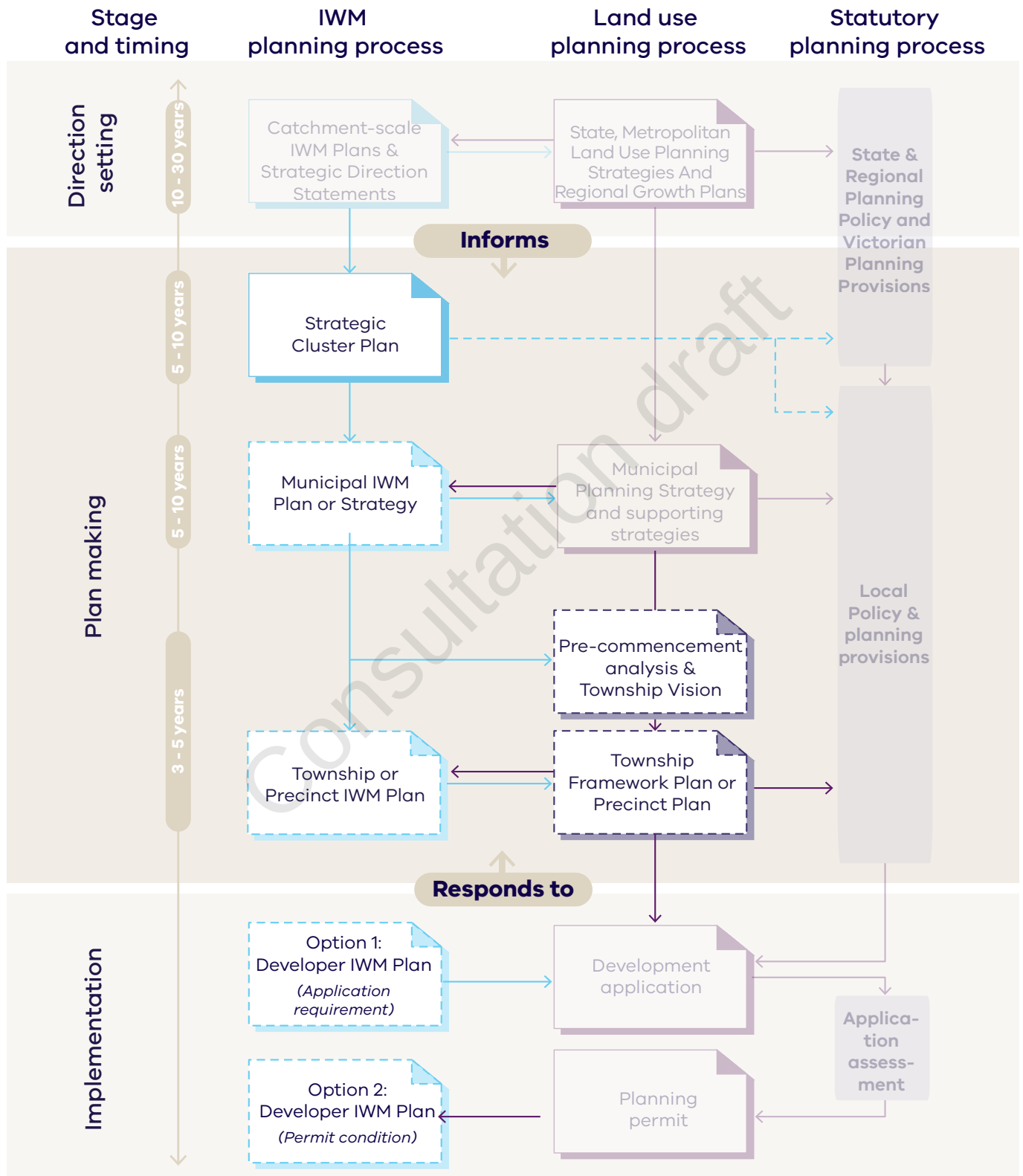


Best practice tip

Place-based approach

The **Great South Coast and Goulburn Broken IWM Forums** have developed 'Supporting actions for enabling IWM in regional Victoria'. It includes 17 supporting actions to enable the planning and delivery environment, covering priority areas including: leadership and collaboration, policy and planning, technical guidelines, capacity building, resourcing and community engagement.

IWM Planning Hierarchy - Regional Victoria



NB: In Regional contexts not all towns will have Township plans. Where this is the case the infill pathway is more typical. Alternatively 'sprints' can be deployed to rapidly prepare IWM plans and priorities in resource constrained contexts. Ideally all towns experiencing new development should have a township plan.

Figure 8 Additional IWM and land use planning that can occur in a regional Victoria context through application of the hierarchy in comparison to the current state (indicated by faded elements).

Guidelines

Part 2

Consultation draft





Image
Maribyrnong River,
Pipemakers Park Footbridge

Direction Setting

Strategic context, policy and directions for IWM and land use planning in Victoria to inform plan making.

This section summarises the key direction setting documents applicable to IWM and land use planning that should be consulted when preparing IWM plans at any scale and incorporated as appropriate.

Foundational policy and strategies for IWM in Victoria

Key direction setting documents

Victorian Planning Policy and Provisions relating to IWM



Arbory Afloat on the Yarra River

Photo Credit: Visit Victoria

Direction Setting

Foundational policy and strategies for IWM in Victoria

This section summarises the key direction setting documents applicable to IWM and land use planning that should be consulted when preparing IWM plans at any scale and incorporated as appropriate.

Strategic directions set out by the IWM Forums

Following the establishment of IWM Forums across Victoria from 2018, the Forums each developed a Strategic Directions Statement (SDS) which sets out an IWM vision and set of strategic outcomes for each IWM Forum area. These documents serve as a useful foundation for the preparation of IWM plans by providing the regional and catchment-based context and IWM objectives.

For further information refer to the [IWM Forums Webpage](#).

In metropolitan Melbourne, the five catchment-based IWM Forums developed Catchment Scale IWM (CSIWM) Plans which set out performance measures and targets relating to the strategic outcomes. These measures and targets can be aligned with assessment and measured performance of opportunities examined in IWM plans in the Melbourne region. Refer to the [Toolbox](#) for more information.

Strategic context for IWM planning in Victoria

In 2016, [Water for Victoria](#) was released. It sets out a commitment to “adopt integrated water planning across Victoria, with place-based planning supporting community values and local opportunities”.

This was supported by the [IWM Framework for Victoria \(IWM Framework\)](#) which set out the IWM Forum governance and an overarching framework for IWM planning. The IWM Framework outlined a collaborative governance model, referred to as IWM Forums, to facilitate transitioning to Integrated Water Management practice across the state. This model was implemented. There are 15 IWM Forums currently in operation across the state. The IWM Forums facilitate government, the water sector, and the community to work together to better plan and deliver water management solutions across Victoria’s towns and cities.

IWM planning in partnership with Traditional Owners

Since colonisation, Traditional Owners have been excluded from the access, ownership, use and management of waterways and Country. Additionally, contemporary water management has considered water in isolation from its surrounding landscapes. This disconnection has contributed to environmental degradation and spiritual, economic and social loss for Traditional Owner communities.

Meaningful collaboration and partnership with Traditional Owners is an important part of IWM planning in practice. Traditional Owners have inherent rights and interests in Victoria's land and waters, and must be enabled as partners who can exercise their rights and determine the appropriate inclusion of their Traditional Ecological Knowledge within IWM processes.

The following direction setting documents inform a successful partnership approach with Traditional Owners:

- Water is Life: Traditional Owner Access to Water Roadmap, 2022.
- Water for Victoria – Chapter 5: Resilient cities and towns and Chapter 6: Recognising and managing for Aboriginal values.
- Victorian Aboriginal Affairs Framework (VAAF) – Goal 18: Aboriginal land, water and cultural rights are realised.
- Pupangarli Marnmarnepu 'Owning Our Future' – Aboriginal Self-Determination Reform Strategy 2020-2025.
- Central and Gippsland Region Sustainable Water Strategy, 2022.

Common challenges

Several factors have hindered effective Traditional Owners partnerships to date, including:

- **Engaging too little or too late:** Engagement can often be 'tick-box' or transactional in nature.
- **Prioritisation of Western knowledge systems:** Despite caring for Country for many generations, Traditional Owner knowledge is often overlooked, mistakenly considered as subsidiary to Western knowledge.
- **Limited resources and methods of engagement:** Traditional Owners are often under-resourced, and this can constrain participation in water planning processes. Timing and methods of engagement may not be culturally appropriate.

Foundational Principles

Supporting Traditional Owner self-determination and leadership

The principle of self-determination recognises that Traditional Owners and Aboriginal people are best placed to make decisions on the matters that affect their lives. Enabling self-determination means strengthening Traditional Owner decision making and leadership in water management, and ensuring that decisions and planning relating to Traditional Owners is based on their free, prior and informed consent. In IWM, this can be achieved through genuine partnership with Traditional Owners to increase their access to water and involvement in water management.

Traditional Owners water rights and justice

For tens of thousands of years, Traditional Owners have cared for Country and maintained their relationship with the land and waters of Victoria. It is critical that water management and planning practices recognise, respect and restore the rights of Traditional Owners. This includes removing barriers to water access and ownership, enabling self-determination, fostering meaningful partnerships and delivering culturally appropriate engagement.

Healthy Water, Healthy Country, Healthy People

For Traditional Owners, water is a sacred and living entity that is inextricably connected to land and to people — healthy waterways are essential for healthy Country and healthy people. In partnership with Traditional Owners, a holistic approach to IWM can recognise and acknowledge the impacts of colonisation and contemporary water management practices on Country. Through meaningful partnership and collaboration, IWM planning can enable Traditional Owner self-determination and the application of cultural protocols and practices in water planning and management.



Tool suggestion

Traditional Owners Partnerships

The toolbox includes suggested approaches and actions to enable a partnership approach with Traditional Owners to improve integrated water management.

Key direction setting documents

Understanding the key direction setting documents, and the directions, strategies, actions and targets they set out, is a key consideration when undertaking an IWM planning process and should be contextualised as part of **Plan Making**.

The table below provides a summary of key IWM and land use planning documents which should be considered when preparing an IWM plan.

Table 3: Summary of key direction setting documents

State-wide policy and strategies		
Key Document	Description	Targets, objectives, and directions to embed in IWM planning
<u>General Environmental Duty under the Environment Protection Act 2017</u> 	The environment protection and planning frameworks interact through roles and requirements set out for decision makers.	The Environment Protection Act 2017 includes objectives that aim to protect the environment and human health. It sets out a duty to reduce the risk of harm to the environment. The General Environmental Duty applies to all Victorians, including organisations responsible for water management, land owners and developers.
<u>Water for Victoria, 2016</u> 	Water for Victoria is a "framework to guide smart water management, bolster the water grid and support more liveable Victorian communities". Water for Victoria identified eight themes and associated actions to implement the policy.	"Resilient and liveable towns and cities" is a key theme and includes commitments to: • "Adopt integrated water planning across Victoria, with place-based planning supporting community values and local opportunities". • "Put integrated water management into practice, working with water corporations to develop a common economic evaluation framework, promoting exemplar projects, building the capacity of the water sector and local government to participate, and continuing research to improve urban water management."

IWM Framework for Victoria, 2017



The IWM Framework provides guidance aimed at helping government, the water sector and the community to work together to better plan and deliver solutions for water management across Victoria's towns and cities.

The IWM Framework supports the establishment of IWM Forums across metropolitan and regional Victoria to identify, prioritise and oversee the implementation of collaborative water opportunities. The Forums bring together key stakeholders with an interest in the water cycle, recognising that each has an important role to play in the management of our most vital resource.

IWM Forum Strategic Directions Statements

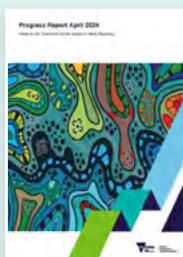


Victoria's IWM Forums have each produced Strategic Directions Statements (SDS) that capture the regional context, a shared vision, and a series of strategic outcomes for each IWM Forum area.

The strategic outcomes provide a framework that recognises the multiple benefits that IWM delivers and drives the creation of holistic solutions. The strategic outcomes vary slightly between IWM Forum areas. The overarching themes are shown in Figure 1.

Many of the SDSs for regional Victoria have been refreshed since initial publication. Practitioners should refer to the most recent and relevant SDS when undertaking an IWM planning process to ensure up to date information is captured.

Water is Life: Traditional Owner Access to Water Roadmap, 2022



Water is Life is a framework to create and maintain a careful and considered balance between Traditional Owner self-determination in water access and management, and the rights and entitlements of a range of stakeholders. The strategy outlines actions to enable deeper involvement of Traditional Owners with decisions around water management to deliver meaningful outcomes.

There are twelve targeted outcomes from the strategy with short to long term actions for implementation.

Key outcomes sought include:

- Increased role in determining how environmental water is used for the purpose of healing Country.
- Increased Traditional Owner involvement in public land management.
- Recognition of Traditional Owners as waterway managers for specific locations.
- Recognition of Traditional Owners as environmental water holders.

Eleven Registered Aboriginal Parties also provided Nation Statements that outlines their key values and expectations from the Water is Life Framework.

Plan for Victoria



The Plan for Victoria sets out a state-wide vision for a more inclusive, liveable, sustainable, prosperous and enriching Victoria by 2050. It presents a set of coordinated actions to guide Victoria's growth and development toward this goal.

Plan for Victoria commits to making the consideration of sustainable water management part of the planning process for new and re-developing precincts to improve the environmental sustainability and climate resilience of residential, commercial and industrial development.

Victoria Planning Provisions (VPP)



The VPPs are a standard set of policies, zones, overlays and other provisions written by the state government for all planning schemes to be derived from. A local planning scheme is comprised of the VPPs which are applied in an area to provide the rules for land use and developments to give effect to the Planning Policy Framework.

Key planning mechanisms provided by the VPPs which are able to be applied in local planning schemes that relate to IWM are detailed below this table.

More information on how statutory planning works is provided in the Implementation section of this document.

Planning Policy Framework (PPF)



The PPF provides the policy content of planning schemes including state, regional and local planning policies.

Key state scale planning policies relevant to IWM are detailed on [p. 59](#).

The Planning Policy Framework provides a context and key policy to inform spatial planning and decision making by planning and responsible authorities.

Water Cycle Adaptation Action Plan



The Water Cycle Climate Change Adaptation Action Plan is one of 7 plans prepared by the Victorian Government for 7 statewide systems. The plans will help ensure Victoria's climate resilience, now and into the future.

The Victorian water sector is actively responding to climate change within the legislative framework established by the Climate Change Act 2017, guided by the state's overarching Climate Change Strategy and specific action plans such as the Water Cycle Adaptation Action Plan.

The current 5 year planning period (2022–2026) is focused on integrating climate change adaptation across all aspects of the Water Cycle system:

- Investigate ways to diversify and augment water supplies, including by enabling greater use of stormwater and recycled water.
- Examine co-investment opportunities to deliver water infrastructure with the community, private investors and government partners.
- Enhance climate-related hazard and risk assessment capabilities to support water infrastructure planning, design and investment decisions.
- Identify opportunities to strengthen the water sector's emergency capability, systems and processes for resource sharing.
- Prioritise greater Traditional Owner participation in water cycle adaptation.
- Explore new water efficiency standards for homes and review existing building and plumbing requirements for rainwater tanks and water efficiency.
- Promote innovation to reduce Victoria's water-related emissions across households and businesses, build climate resilience and transition to a circular economy, including by trialling measures to reduce water-related energy use.

Victorian Waterway Management Strategy



The existing Victorian Waterway Management Strategy (VWMS) was released in 2013, providing a detailed policy framework for managing the health of Victoria's rivers, wetlands, estuaries and floodplains—collectively called waterways—over an 8-year period.

The 2013 VWMS has reached the end of its lifespan and a new VWMS is currently being drafted to ensure we continue to have strong policies in place for managing Victoria's waterways, particularly in the face of our changing population and climate conditions.

A key finding of the independent review of the 2013 VWMS was to bring the new strategy in line with legislative and policy advances, specifically those relating to recreation and Aboriginal water values, and urban waterways and IWM.

Sustainable Water Strategies

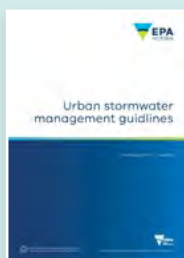


Sustainable Water Strategies (SWS) secure a region's long-term water supply. They are used to identify threats to water availability and water quality, and include policies and actions to help water users, water corporations and catchment management authorities manage and respond to those threats.

There are three regional sustainable water strategies within Victoria for consideration:

- Central and Gippsland Region SWS 2022.
- Northern Region SWS 2009.
- Western Region SWS 2011.

Urban Stormwater Management Guidelines, 2021. EPA Publication 1739.1



The Urban Stormwater Management Guidelines aims to help improve the management of urban stormwater in Victoria by recognising current science and the risk of harm from urban stormwater flows.

The guidance retains the performance objective for suspended solids, phosphorous, nitrogen and litter provided in the Best Practice Environmental Management Guidelines that are referenced in the VPP, but provides updated performance objectives for flow (runoff volume). The updated performance objectives for flow are now provided as two values, being harvest and/evapotranspiration (% mean annual impervious run-off) and infiltrate/ filter (% mean annual impervious run-off). The objectives also differ between priority areas and other areas, and across different rainfall bands. The guidance is not currently referenced in the Victoria Planning Provisions or other regulations, but this document supports relevant parties to minimise risks to the environment, as the General Environmental Duty requires.

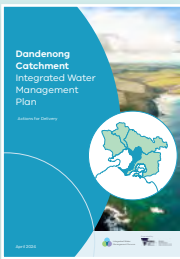
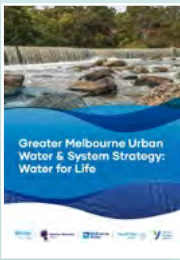
Region, Catchment and Municipal Scale strategies that may provide strategic direction for IWM

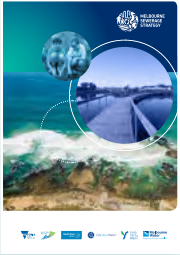
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| <ul style="list-style-type: none"> • Regional catchment strategies • Catchment management plans • Regional growth plans • Growth corridor plans | <ul style="list-style-type: none"> • Urban water strategies • Waterway strategies • Marine and coastal strategies • Flood strategies • Country plans and catchment strategies from each Traditional Owner group | <ul style="list-style-type: none"> • Water resource plans • Urban forest strategies • Open space strategies • Biodiversity strategies |
|---|--|---|

Direction-setting documents will be in place at both a state and local scale. Relevant documents for the region, catchment or municipality, including those listed above, should be identified and reviewed to identify drivers and objectives for IWM.

Some key documents that explicitly outline IWM objectives and targets for the Melbourne metropolitan region are listed in following table.

Examples of key strategic direction documents for the Melbourne Region

Key Document	Description	Targets, objectives, and directions to embed in IWM planning
<u>Catchment Scale IWM Plans for the Melbourne Metropolitan Region – Measures and Targets</u> 	Catchment Scale IWM Plans were developed by IWM Forum members as a strategic planning tool to monitor water resources at catchment scale.	28 performance measures have been established for the Melbourne metropolitan region, with 22 targets for 2030 and 2050. CSIWM Plans are currently only available for the metropolitan region.
<u>Water for Life: The Greater Melbourne Urban Water Systems Strategy 2022</u> 	Water for Life (2022) sets out the strategy for the future of Melbourne's water supply.	The strategy recognises and prioritises IWM with the aim of diversifying water supplies for Melbourne as part of an adaptable and resilient future water supply.

<u>Healthy Waterways Strategy 2018–28</u> 	Establishes a long term vision for managing the health of rivers, wetlands and estuaries within the Melbourne Water region.	There are nine key values the Strategy uses as a measure of waterway values. Each subcatchment has long-term targets and performance objectives to achieve for each key value. In priority subcatchments, stormwater harvesting and infiltration targets are included, which align with those outlined by the Environmental Protection Authority Urban Stormwater Management Guidelines (2021).
<u>Melbourne Sewerage Strategy 2018</u> 	The strategy explores the sewerage system's role in a water sensitive city and in Melbourne's waste management.	A set of actions is included in the strategy, including the aim that "Melbourne will be recognised as a world leader in advancing the circular economy through our commitment to beneficially using 100% of our water and resources while ensuring affordability for current and future generations of Melburnians."
<u>Plan Melbourne 2017–2050</u> 	Plan Melbourne 2017–2050 has been the primary metropolitan planning strategy to manage Melbourne's growth and change over the next three decades. Plan for Victoria, released in 2025, generally supersedes Plan Melbourne and expands its scope to incorporate regional Victoria.	Direction 6.3 of Plan Melbourne is to "Integrate urban development and water cycle management to support a resilient and liveable city". This direction supports the implementation of Water for Victoria and directs planning controls to be updated to require early and whole-of-water cycle considerations in the planning and design of new urban areas. Policy 6.3.2 is to "Improve alignment between urban water management and planning by adopting an integrated water management approach". It states that IWM Forums will identify and prioritise places that would most benefit from the development of place-based IWM plans.

Victorian Planning Policy and Provisions relating to IWM

The VPP and Planning Policy Framework provide the standard state-level set of policy and planning provisions of which planning schemes are comprised of.

Key planning policy and provisions relevant to IWM are shown in Figure 9.

Clause 19.03-3S Integrated Water Management is the primary policy relating to IWM included in all planning schemes and seeks to:

"Sustainably manage water supply and demand, water resources, wastewater, drainage and stormwater through an integrated water management approach."

To achieve this objective, policy identifies "the need to plan and coordinate integrated water management, bringing together stormwater, wastewater, drainage, water supply, water treatment and re-use".

The clause states that planning and coordination should:

- Take into account the catchment context.
- Protect downstream environments, waterways and bays.
- Manage and use potable water efficiently.
- Reduce pressure on Victoria's drinking water supplies.
- Minimise drainage, water or wastewater infrastructure and operational costs.
- Minimise flood risks.
- Provide urban environments that are more resilient to the effects of climate change.
- Integrate water into the landscape to facilitate cooling, local habitat improvements and provision of attractive and enjoyable spaces for community use.
- Facilitate use of alternative water sources such as rainwater, stormwater, recycled water and run-off from irrigated farmland.
- Ensure that development protects and improves the health of water bodies including creeks, rivers, wetlands, estuaries and bays, minimises the potential impacts of water, sewerage and drainage assets on the environment and mitigates litter and other discharges caused by construction.
- Manage stormwater quality and quantity through a mix of on-site measures and developer contributions at a scale that will provide greatest net community benefit.
- Ensure land is set aside for water management infrastructure at the subdivision design stage.
- Protect significant water, sewerage and drainage assets and respond to risks.

Note: VPP policies and clauses (as well as all planning schemes) are subject to periodic updates, so it is important to check the latest **version**. More detail on how statutory planning and planning schemes work in Victoria is provided in the **Implementation** section.

Planning Policy Framework

Clause 12.03-1S	River corridors, waterways, lakes and wetlands
Clause 13.03-1S	Floodplain management
Clause 14.02-1S	Catchment Planning and Management
Clause 14.02-2S	Water Quality
Clause 14.02-3S	Protection of declared irrigation districts
Clause 19.03-3S	Integrated Water Management

Zones

Urban Floodway Zone
 Low Density Residential Zone
 Township Zone
 Industrial 1 Zone and Industrial 3 Zone
 Commercial 1 and Commercial 2 Zone
 Farming Zone

Overlays

Floodway Overlay
 Land Subject to Inundation Overlay
 Special Building Overlay
 Environmental Significance Overlay

Particular Provisions

	Multi unit/apartments (≤ 4 storeys)	Apartment buildings (≥ 5 storeys)	Subdivisions	Non-residential developments (≥ 50m ²)
Treatment of stormwater to best practice requirements	55.05-1 B5-1 57.05-1 E5-1	58.03-8 D13	56.07-4 C25 53.18-4 W1	53.18-5 W2
Maximise infiltration of stormwater into tree pits and permeable areas	55.05-1 B5-1 57.05-1 E5-1	58.03-8 D13		
Contribute to urban cooling, habitat and amenity			56.07-4 C25 53.18-4 W1	53.18-5 W2
Rainwater tanks to toilet/laundry or connect to reticulated recycled water (if available)		58.03-8 D13	56.07-2 C23*	
Prevent toxicants from entering stormwater system				53.18-5 W2
Site management during construction		Clause 65 Decision guidelines	56.08-1 C26 53.18-6 W3	53.18-6 W3

General provisions

including Referral and Notice provisions

Operational Provisions

including Incorporated and Background Documents

*Connection to reticulated recycled water (dual pipe) only.

Figure 9

Summary of baseline IWM related Planning Policy and Provisions.

Plan Making

Guidelines for how to develop place-based IWM plans at strategic cluster, municipal and precinct scales, including key content, analysis and outputs.

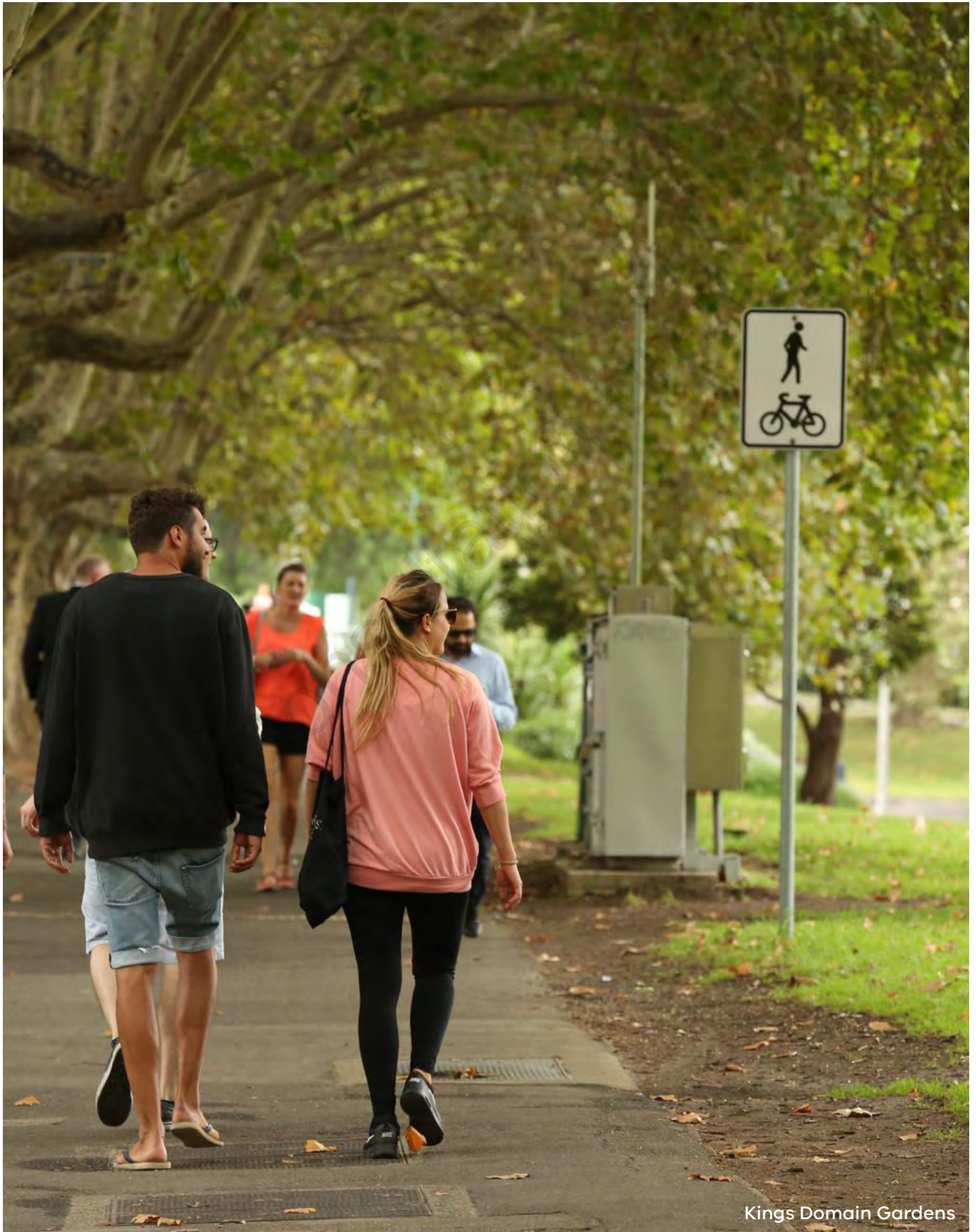
This section summarises the process for developing IWM Plans and the key content of an IWM Plan at each scale. It also provides details on possible implementation mechanisms.

Strategic Cluster IWM Plans

Municipal IWM Plans

Precinct IWM Plans

Implementation Mechanisms



Kings Domain Gardens

Plan Making

Guidance for developing a place-based IWM Plan

These Guidelines set out the key steps for developing IWM plans which translate strategic directions to place-based responses. While the approach to each type of IWM plan is similar, the content and focus will change with scale and development context.

The Guidelines are structured to respond to the following key questions:

Why?

Purpose of IWM plan

Where?

IWM Plan location or boundaries

When?

Timing of plan development

Who?

Roles and responsibilities

How?

Embedding IWM plans and actions in the land use planning process

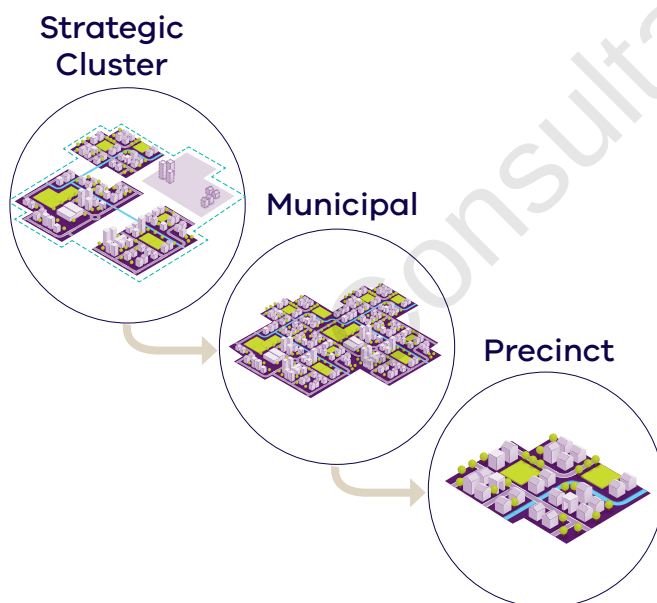
What?

Key steps and content of the plan

Place-based plans are key to translating IWM directions into tangible actions and outcomes while ensuring interventions are place-responsive and fit-for-purpose.

Plan making is a highly iterative and integrative process which balances water objectives with other drivers (e.g. urban development objectives). Effective Plan Making sets the framework for implementation, in particular key infrastructure needs and the requirements for development to respond to.

The Guidelines recommend three key scales for place-based IWM planning:



For each of these scales, these Guidelines recommend IWM plans are prepared following three key steps:

- STEP 1** Develop place-based IWM objectives
- STEP 2** Explore IWM opportunities
- STEP 3** Set out implementation pathways

While the key steps are the same, the focus of each step changes with the plans, aligning with the land use planning process and level of detail which is appropriate at each scale, moving from a focus on strategic investments and action planning at a strategic cluster and municipal scale, to integration of water management assets and place-shaping at a precinct scale.

In line with the IWM Planning Hierarchy, these plans are informed by the direction setting stage, and provide the planning and requirements which development and infrastructure delivery responds to.

This framework for preparing IWM plans and the focus of the key steps in each plan is summarised in Figure 10.

Framework for preparing IWM plans and key areas of focus



Figure 10
Overarching approach to Plan making at difference scales of IWM planning.

by State and IWM Forums

MunicipalPrecinct

Articulate how water can support and enable community value and the **strategic vision for the municipality.**

Articulate the local drivers for IWM, and the relationship with the **place-based vision for development.**

Identify and assess opportunities within a municipality, with focus on those that can be delivered to **existing communities or local developments.**

Identify and assess opportunities within precinct and logical surrounds, with a focus on opportunities that can be integrated into the design of **precinct, street and lot scale development within the plan area.**

Enable coordination, actions and **investment by local government and its partners, and enable opportunities through local planning provisions.**

Influence and **integrate IWM into the land use plan and enable delivery of the IWM objectives for the precinct through the structure plan** and subsequent subdivision and development processes and relevant Planning Scheme Amendments .

of development and infrastructure

At a
glance

Strategic Cluster IWM Plans

Why?

A Strategic Cluster IWM Plan enables co-ordination of growth, water management and infrastructure beyond the boundaries of a single development or precinct.

Key Outcomes

Vision, objectives and priorities

Alignment of objectives and priorities with Forum scale relevant directions

Strategic identification of regional/catchment infrastructure

Defined actions and investigations to enable Precinct scale IWM Planning

Direction of subsequent processes and responsibilities

Coordination and direction for subsequent planning and development

Where?

Large-scale growth areas or other strategic locations.

Multiple PSPs within the vicinity of each other

Townships and peri-urban growth

Large urban renewal areas or programs of renewal

Growth Corridors

Strategic cluster areas could encompass a combination of the above and include sewage treatment plants, irrigation districts or sensitive waterways

When?

Strategic Cluster

2–5 years prior to precinct planning

It should be updated if urban developments do not commence within 5 years.

Precinct Planning

1–3 years prior to development commencing

Implementation

Incremental and ongoing

Who?

Initiator

IWM Forums

Lead Partner

Water Corporations*

IWM Plan Partners

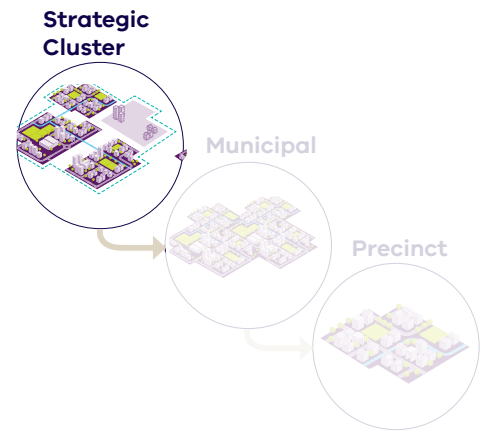
Local Government

Catchment Management Authorities

Traditional Owners

Planning Authority

*In Metropolitan Melbourne, Melbourne Water Corporation is designated to take the lead co-ordination function. They will work closely with the retail water corporations and all relevant partners.



How?

Mechanisms to implement the IWM Plan

Integrate with regional land use planning

Implement via planning scheme amendment

Through funding mechanisms such as the DSS or other appropriate developer contribution schemes

Endorsed by stakeholders

Establish process and governance to deliver IWM Plans (including assets delivery and funding mechanisms)

Delivery through precinct planning and development approvals

Develop an 'adaptive plan'

What?

Scoping and preparation

Identify and define the focus area for the Strategic Cluster IWM Plan

Establish scope and governance arrangements

STEP 1

Develop place-based IWM objectives

Summarise key direction setting context and objectives influencing water

Summarise key inputs from land use planning

Characterise the water cycle and water management within the strategic cluster area

Define the reference case

Develop a cluster-scale water and pollutant balance

Translate direction setting targets and objectives to a cluster scale

STEP 2

Explore IWM opportunities

Develop a long-list of IWM opportunities

Shortlist IWM options for further analysis

Develop high-level concept designs for shortlisted options

Assemble and assess IWM option portfolios

STEP 3

Set out implementation pathways

Develop implementation pathways

Identify an adaptive plan

Develop Strategic Cluster IWM Plan

Draft IWM Plan

Finalise, agree and adopt IWM Plan

Strategic Cluster IWM Plans

Detailed Guidelines

Why?

Purpose of the plan

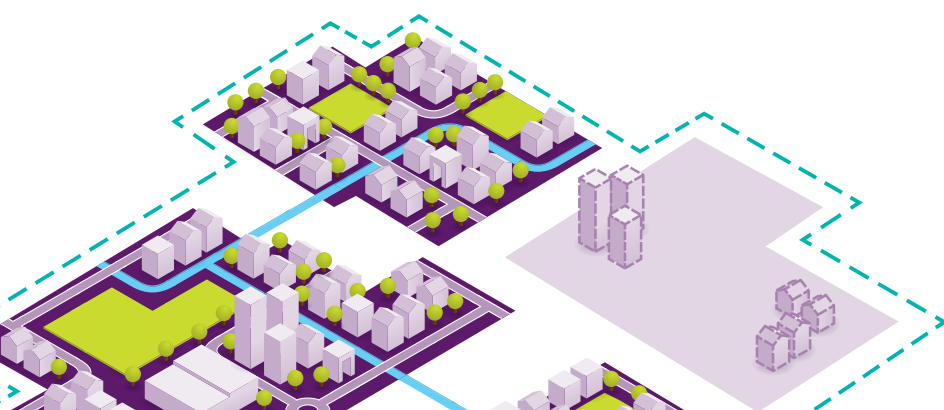
IWM often requires early, large-scale strategic planning to coordinate across boundaries and stakeholders, and identify shared challenges, opportunities and priorities. Many 'missed opportunities' have arisen because infrastructure or opportunities were not planned or coordinated early enough to then be enabled through the planning process. Where this strategic need exists, a Strategic Cluster IWM Plan should be prepared.

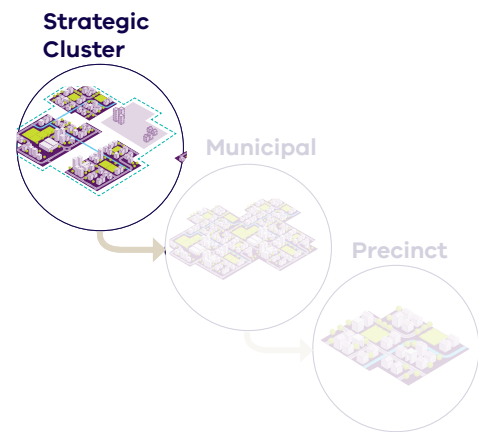
An IWM plan at a strategic cluster scale will enable the coordination of growth, water management and infrastructure delivery at a large, place-based scale. It will identify opportunities for strategic projects such as large-scale alternative water networks and major green-blue corridors, providing benefits for the catchment beyond the boundaries of a single precinct, municipality, or water services area.

These plans can enable precinct scale IWM planning and implementation to be more efficient by sharing resources and collectively addressing shared problems and opportunities. Therefore, more impactful IWM solutions can be identified and implemented. It can also help avoid unintended negative outcomes.

Outcomes of the Strategic Cluster IWM Plan:

- Clear alignment of vision, objectives and priorities across disciplines and organisations to enable collaborative planning and referrals.
- Strategic identification of regional or catchment scale water infrastructure and needs.
- Well-defined actions and further investigation to successfully embed in municipal and/or precinct scale IWM planning.
- Establishment of clear subsequent processes and responsibilities.
- Benefits of integration of water planning and urban planning at a scale appropriate for realising significant benefits through large scale IWM opportunities.
- Provide coordination and clear direction for subsequent precinct planning and infill development.





Where?

Plan location or boundaries

'Strategic cluster' refers to a large-scale area which requires strategic IWM planning and may be identified on a case-by-case needs basis.

Strategic clusters should be identified and prioritised by IWM Forum members annually in partnership with relevant planning authorities (e.g. Department of Transport and Planning and the VPA) and relevant local governments. IWM planning for strategic cluster planning can often be prepared in parallel with regional growth and settlement plans, such as growth corridor planning, to ensure growth is considerate of the natural resources required to support development and to embed IWM priorities into land use planning. Consideration of strategically located assets such as sewage treatment plants, sensitive waterways and irrigation areas may inform the boundary of a Strategic Cluster IWM Plan as shown in Figure 11.



Case study

Southern Macedon Ranges

Identifying strategic clusters through IWM Forums

The southern portion of the Macedon Ranges municipality was identified as being strategically important from an IWM perspective as it forms the upper catchment of the Maribyrnong River. Given the downstream implications of development on waterway and catchment health, the Maribyrnong IWM Forum identified the need to develop a Southern Macedon Ranges IWM Plan.

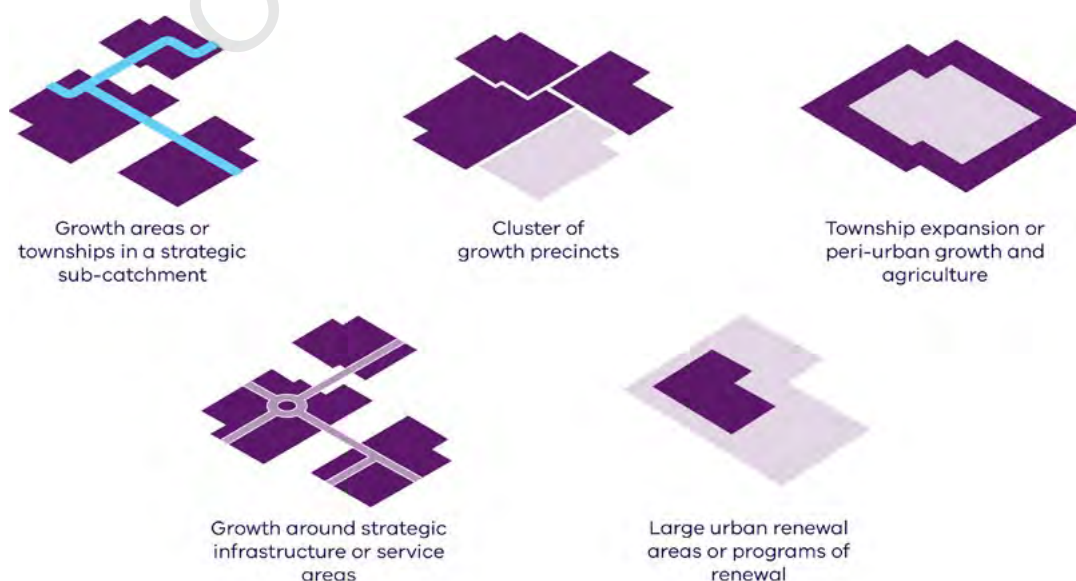


Figure 11
Examples where strategic clusters can be implemented.

When?

Timing of plan development

IWM Forums should undertake annual reviews to identify where the need for Strategic Cluster IWM Plans may be needed and should be prepared, in consultation with key strategic planning and infrastructure planning stakeholders. Cluster scale IWM Plans should be prepared well ahead of anticipated growth and concurrent with broader settlement and infrastructure planning to ensure integration of natural resource management and growth planning.

It is critical that planning for strategic growth areas and clusters allows time for large-scale IWM project opportunities to be developed to a sufficient level of detail to enable them to be integrated in subsequent planning processes.

- For greenfield growth areas and regional township expansion and peri-urban growth, it is recommended to prepare a plan 2-5 years prior to a precinct planning occurring. The plan should be updated or reviewed if the urban development does not commence within 5 years.
- For large, complex and/or multi-staged urban renewal precincts, it may be sufficient for strategic planning to occur as part of pre-commencement studies to determine objectives to inform the vision, with more detailed analysis following to inform precinct planning technical studies.
- For infill development and other regional townships and/or growth around strategic subcatchments, strategic cluster scale IWM plans can be prepared on an as-needed basis according to the priorities and anticipated level of change in the infill area.

Once in place these plans may provide guidance for multiple projects and areas of growths over the course of 5 – 10 years but should be reviewed throughout the course of this period to ensure it remains up to date.

Timing may also be triggered by other strategic needs such as targets relating to key waterways, service planning timelines, the refresh of key direction setting documents, or alignment with land use planning processes.

Who?

Roles and Functions

Relevant water corporation should lead the development of a strategic cluster IWM plan. A project manager should be appointed by the water corporation.

A project working group with all stakeholders should be established to inform the development and implementation of a Strategic Cluster IWM Plan. Stakeholders should ensure there is sufficient commitment and resource allocation to support this, including provision of data and attendance at regular meetings. Resources should also be allocated to ongoing work after the plan's completion to implement recommendations of preferred portfolios and develop actions.

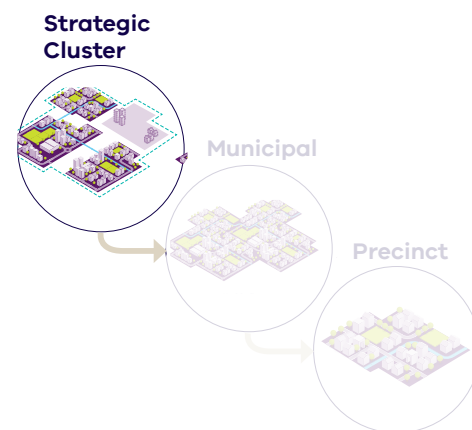


Table 4: Roles and functions within a Strategic Cluster IWM Plan

Stakeholder	Role	Functions
IWM Forums	Initiator	- On an annual basis, work with relevant State Government representatives responsible for growth planning and infrastructure planning to review growth plans and relevant strategies to identify possible strategic cluster areas for investigation. - Through Forum meetings, present this review and identify, prioritise, authorise and commit to resourcing (and if required, funding) for the preparation of strategic clusters IWM Plans. - Establish project group of key stakeholders to deliver Strategic Cluster IWM Plan. - Accountable for delivery of Strategic Cluster IWM plans.
Water Corporations	Lead	- Coordinate collaboration between the key stakeholders and drive development of Strategic Cluster IWM Plan.* - Provide perspective on water supply (including alternative), stormwater management, wastewater resource management and flood mitigation opportunities within the cluster, with a view to identify IWM opportunities that have the potential to contribute to IWM outcomes. - Assess current and future water demand opportunities. - Assess opportunities to enhance liveability outcomes through IWM projects.
Planning Authority (e.g. DTP, VPA, Local Governments)	Partner	- Inform strategic cluster identification and definition for major growth areas and corridors. - Highlight upcoming infrastructure projects for IWM opportunities to align with.
Local Government	Partner	- Provide input on local drainage opportunities within the cluster including flood management, flow management, and water quality. - Provide input on urban design and landscape outcomes that can be achieved through IWM.
Catchment Management Authorities	Partner	Highlight priority waterways to protect or actions from floodplain management and waterway and catchment management strategies.
Traditional Owners	Partner	- Highlight cultural values to protect or enhance and embed objectives and initiatives through the IWM Plan. - Provide input into the management of land and natural resources.

*In Metropolitan Melbourne, while Melbourne Water will take the lead role to coordinate the collaboration between key stakeholders and drive the development of the Strategic Cluster IWM Plan, retail water corporations will support and necessarily undertake many of these functions in conjunction with Melbourne Water (e.g. providing perspectives on water supply, wastewater management and demand opportunities).

What?

Duration



Scoping and preparation

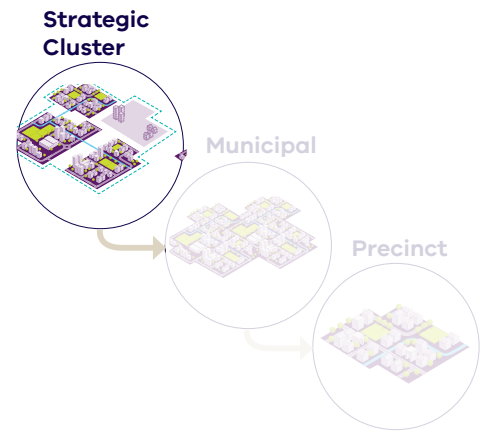
6
months

Stakeholder	Focus activities and resource needs
IWM Forums	Identify and define strategic cluster and commit resources from partners.
Water Corporation	Coordinate collaboration between the key stakeholders and drive development of Strategic Cluster IWM Plan.
Other partners	Assign representatives to project working group.

Identify and define the focus area for the Strategic Cluster IWM Plan

- ☐ The lead partner on behalf of the IWM Forums and other partners, working with land use planning authority should identify and define the boundaries of the plan, considering:
 - policy and regional plans.
 - growth pattern and development setting.
 - local planning zones, precincts and activity centres.
 - major infrastructure locations and investments.
 - subcatchment boundaries and receiving waterways and focus catchments for development of a drainage scheme (where applicable).
- ☐ **Forward plan the path of influence and future timing of planning processes in the strategic cluster area:**

This should include expected timings of precinct planning within the cluster, development of the drainage scheme (where applicable) and price submissions for major water corporation investments. To allow sufficient time for investigations and decision making, a Strategic Cluster IWM Plan should be developed 2–5 years ahead of the commencement of precinct planning.



Best practice tip

Timing

In areas where a drainage scheme is being developed by Melbourne Water or local government, ideally catchment scale drainage infrastructure, 'environmental flow requirements' and waterway improvements have already been identified and integrated with broader IWM opportunities such as stormwater harvesting through the development of a Strategic Cluster plan or early drainage scheme planning. This could streamline processes for allocation of land ahead of precinct planning. Due to the varying roles of these and other stakeholders across development contexts and scales, collaboration is essential to ensure effective management of the water cycle.

Establish scope and governance arrangements

- ☐ **Establish a project working group for the IWM plan:** This should be led by the water corporation.
- ☐ **Co-develop a project plan** or brief for consultants to assist with the plan, agreeing objectives, key tasks, consultation and outputs.
- ☐ **Establish governance** and protocols of the working group.



Best practice tip

Holistic Approach

Consider appointing an independent chair for the project control group to ensure all stakeholder perspectives are brought together. Alternatively, consider sharing role of chairing project meetings if independent chair is not possible.



Tool suggestion

IWM Sprint Workshop

To assist in the determination of whether there is sufficient need to develop an IWM plan for an area, it can be useful to hold an IWM sprint workshop.



Case study

Ballarat City IWM Plan

Establishing a collaborative model

The Ballarat City IWM Plan was a highly collaborative process that was delivered by a project working group comprised of local government, the catchment management authority, the water corporation, state government, and held multiple stakeholder workshops to allow for broader perspectives to be considered.

What?

STEP 1

Develop place-based IWM objectives

Duration

2–4
months

Stakeholder	Focus activities and resource needs
Project Team	Complete Step 1 analysis.
Project Working Group	- Guide and facilitate stakeholder consultation - Confirm the reference case for analysis.

- Existing and proposed drainage networks and assets (including stormwater management and flood management) including any preliminary work conducted as part of drainage scheme development (where applicable).
- Other relevant ecological values and features of waterways and catchment including in-stream ecosystems and water-dependent ecosystems, flora and fauna.

Summarise key 'direction setting' context and objectives

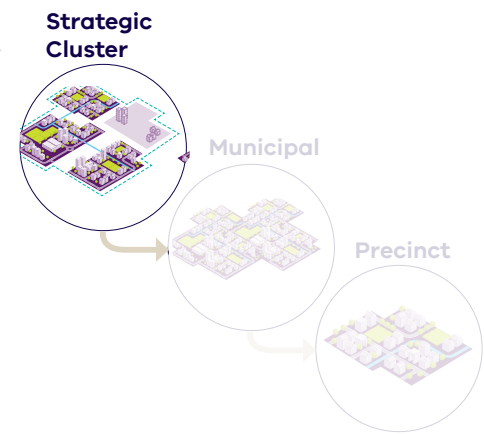
- ☐ **Review and summarise strategic directions** from the relevant key documents outlined in Chapter 2.
- ☐ **Summarise key inputs from land use planning** (if available):
 - Future land use zoning.
 - Precincts and activity areas.
 - Population projections and settlement strategy.

Characterise the water cycle and water management within the strategic cluster

- ☐ **Investigate and summarise:**
 - Waterways and catchment boundaries, including information on waterway health and existing values.
 - Existing water, recycled water and sewerage infrastructure, including local treatment plants, networks and reservoirs.

Define the reference case

- ☐ **Define what would happen in the strategic cluster area without IWM** interventions that could be driven through the plan. The reference case is not a 'do nothing' scenario, but represents what would need to happen to satisfy minimum policy requirements. Key aspects of the reference case include:
 - Expected land use and development densities.
 - Stormwater management, waterway and flood management infrastructure required to meet VPP and any specific requirements in local planning schemes.
 - Inclusion of rainwater tanks or recycled water supply (if mandated through statutory instruments or declared by relevant authority, for example recycled water mandated areas).
 - Water efficiency and demand management measures which are applied through building standards as part of regulatory requirements or 'business as usual' activities.
- ☐ **Articulate how the reference case contributes (or doesn't contribute) to the IWM objectives** and performance measures for the area.



Develop a cluster-scale water and pollutant balance

- ❑ **Model the reference case**, and the future water cycle under the proposed development conditions, including future changes in water demand, wastewater generation, and stormwater generation.
- ❑ **Consider the need to model different scenarios** for example which consider changes in policy or climate change effects.



Tool suggestion

Developing a water balance

As far as possible, develop a detailed water and pollutant balance for each strategic cluster area.



Best practice tip

Resourcing

In the metropolitan Melbourne region, the **Catchment Scale IWM Plans** include water balance data for each subcatchment, based on 2019 data, and projected to 2030 and 2050. This can be used to directly characterise a subcatchment water balance if this is the area of focus for the strategic cluster. This can reduce the resourcing need for this task.

Translate direction setting objectives to a cluster scale

- ❑ **Translate the outcomes and priorities set out at a 'Direction Setting' level IWM plan along with regional land use plans and strategies**, to inform the creation of place-based IWM objectives and measures for the strategic cluster.
- ❑ **Finalise a shared vision** for the strategic cluster areas between key stakeholders.
- ❑ **Create performance measures** to assess IWM options against place-based objectives. Use strategic outcomes set out in the relevant Strategic Directions Statement for the IWM Forum region as key themes.



Tool suggestion

IWM performance measures and targets

Where a forum scale IWM Plan has developed performance measures (such as those for the metropolitan Melbourne region), these can be used as IWM option assessment metrics and set as targets for subsequent plan scales.



Tool suggestion

Stakeholder workshop

Hold a workshop with key stakeholders and partners to define key objectives for IWM in the strategic cluster.

What?

STEP 2

Explore IWM opportunities

Duration

3–5
months

Stakeholder	Focus activities and resource needs
Project Team	Complete Step 2 analysis.
Project Working Group	- Workshop participation and coordination - Review of shortlisted opportunities.

- **Hold a workshop with project partners to identify possible IWM opportunities** and explore their scale and scope.



Tool suggestion

Workshop

A workshop can be used to generate ideas for the long-list and to begin to assess the shortlist by understanding their potential benefits and constraints.

Develop a long-list of IWM opportunities

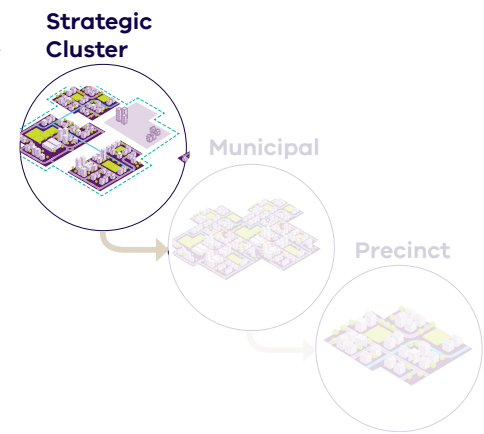
- **Identify possible IWM opportunities across the water cycle at a regional/ catchment, town, precinct and lot scale.** Options examined in a Strategic Cluster IWM Plan should include the opportunities that can be unlocked at a regional and catchment scale in order to influence strategic infrastructure planning and land allocation and ensure these options are sufficiently progressed before precinct and development planning processes are triggered. However, it is also important to understand and quantify performance of IWM opportunities delivered at the precinct and lot scale at this stage for comparison, as regional initiatives may not offer the most beneficial or cost-effective solutions in some cases. Opportunities should consider engineering, nature-based, landscaping and urban design, and operational and behaviour change solutions.



Tool suggestion

Preliminary Assessment Method

The PAM guidance provides a framework for identifying possible IWM opportunities.



Shortlist IWM options for further analysis

- ❑ **Short-list options using a multi-criteria assessment, as outlined in the Preliminary Assessment Method (PAM).** Generally a shortlist of 8-10 options should be examined in further detail. Option performance should be quantified where possible against the objectives and measures for the area using the water and pollutant balance and high-level performance assumptions based on industry learnings and references. The PAM should also be used to consider risks, cost factors and implementation barriers.
- ❑ **Using the PAM, options should not be ranked, but should be assessed in terms of their overall contribution to the IWM objectives** for the area and their relative performance. For example, some options may have minimal overall contribution but address hard to achieve objectives and so should be prioritised to ensure those objectives can be met. Other opportunities may be very similar, and the best performing opportunity in relative terms should be taken forward ahead of others.
- ❑ At this stage you may identify opportunities that offer a significant overall contribution but not require significant additional analysis to define the value or how the option would be delivered (e.g. community engagement in water management). These can be included in recommendations of preferred portfolios without further analysis.



Tool suggestion

Preliminary Assessment Method

The PAM guidance sets out the assessment process for a long list of opportunities with the aim of identifying a shortlist for more detailed investigation.

- ❑ **Hold a workshop to present draft shortlisted opportunities back to stakeholders** and incorporate any feedback into the recommended shortlist. Short-listed options may change based on stakeholder insight into benefits or challenges, which may change the preliminary assessment.



Tool suggestion

Workshop

A workshop can be used to review and refine the proposed shortlisted opportunities. Generally, it is more productive to explore a potential shortlist and confirm the assessment in the workshop rather than completing the assessment in the workshop itself.



What?

STEP 2

(cont.) Explore IWM opportunities

Duration

3–5
months

Develop high-level concept designs for shortlisted options

- ☐ **Develop a high-level concept design for each option**, with the aim of providing enough detail in terms of size, layout and performance to support a preliminary estimate of cost for each option (+/-50%).
- ☐ **Consider urban design and landscaping opportunities** within options which can enhance the IWM outcomes or deliver other benefits such as how green space can be delivered to improve ecologies and urban biodiversity and access to green space for communities.
- ☐ **Complete hydrologic and water quality modeling** using appropriate tools to predict runoff, reuse, and treatment performance.
- ☐ **Size key infrastructure** including pipework, pumps, storages, blue and green infrastructure and waterway improvements.
- ☐ **Assess performance of the options against the IWM objectives and performance measures** based on option design and modeling. A Multi-Criteria Assessment (MCA) approach could be used to consider a broader range of considerations, such as benefit of prevention, environmental obligations, and risk control.
- ☐ **Estimate high-level net present value (NPV)** of lifecycle cost for each option including capital, operating and renewal costs.
- ☐ **Perform a cost-benefit analysis** where benefits delivered by each option are monetised as far as possible and compared with cost to determine a benefit-cost ratio. For non-monetised benefits, ensure development of a good narrative to present alongside BCR of each shortlisted option.

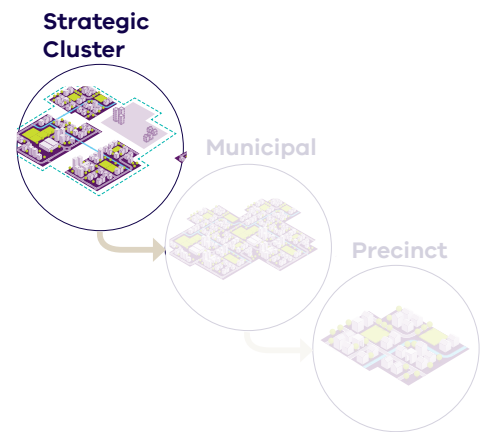


Tool suggestion

Cost-benefit analysis

A range of tools are available to assist with a high-level cost-benefit analysis, comparing lifecycle costs with lifecycle benefits, which are monetised where possible.

- ☐ **Develop a one-page summary** of performance of each option against the IWM objectives, and the benefit-cost ratio. Provide sketch or diagram for each option.



Assemble and assess IWM option portfolios

- **Develop several option portfolios for comparison.** Portfolios are groupings of options that are complimentary and could be delivered together to achieve enhanced outcomes. While the option analysis helps to understand the performance and cost of individual options, portfolios of complementary options can be assembled to meet IWM objectives for the area in the round. Portfolios of options should be defined which can clearly communicate different IWM pathways, and the outcomes they could deliver. The performance and cost of each portfolio should be summarised, and a benefit-cost ratio can be developed for each. It should be noted that the combination of options is often not as simple as adding together the performance of individual options, as options may trigger the same benefits or require modification in order to be combined with other options (if for example they utilise the same water source or demand).
- **Summarise portfolio** performance and cost-benefit.
- **Develop a preferred portfolio** of IWM options for discussion with stakeholders.
- **If suitable, set targets for key IWM performance measures including the cornerstone targets,** to inform planning at subsequent stages. The cornerstone targets of particular relevance at the strategic cluster scale are: mean annual volume of alternative water that substitutes potable water and mean annual runoff reduction.

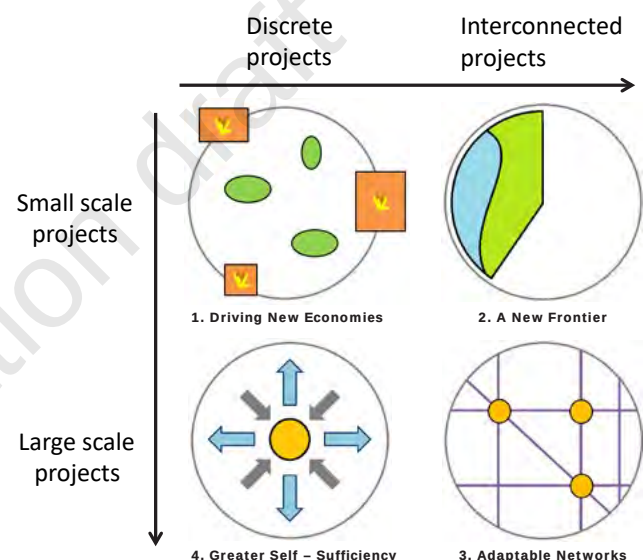


Figure 12
Four option portfolios defined within the Ballarat City IWM plan.



Tool suggestion

IWM performance measures and targets

Cornerstone targets can be defined and set out in the plan to support delivery of the objectives and preferred portfolio.

What?

STEP 3

Set out implementation pathway

Duration

1–2
months

Stakeholder	Focus activities and resource needs
Project Team	Complete Step 3 analysis.
Project Working Group	- Workshop attendance and coordination - Implementation chapter refinement with representative organisations.

- **Highlight where options have significant land take implications** to manage flooding, stormwater runoff, and implement alternative water sources and outline how these should be considered in subsequent precinct and development planning processes.
- **Identify where detailed IWM planning is required** to be completed at the precinct scale.
- **Set actions to support ongoing governance, monitoring and renewal of the plan** and continued partnership working. This should include responsibilities for integration and alignment with future planning processes within the cluster, such as consideration of planning permit and referrals processes.
- **Identify capital resourcing, ongoing resourcing and operational funding needs.**

Develop implementation pathways

- **Conduct a workshop with project partners** to confirm the preferred portfolio of IWM options, and to explore next steps for implementation.



Tool suggestion

Workshop

A workshop can be used to discuss required actions to take forward the recommendations.

- **Develop an implementation pathway that outlines required actions** to progress the preferred options, the lead and supporting partner responsibilities, and the time scales to complete these actions should be outlined in an action plan. This should include:
 - Further design investigations and business case development to support investment from partners for major regional or catchment scale options.

Identify an adaptive plan

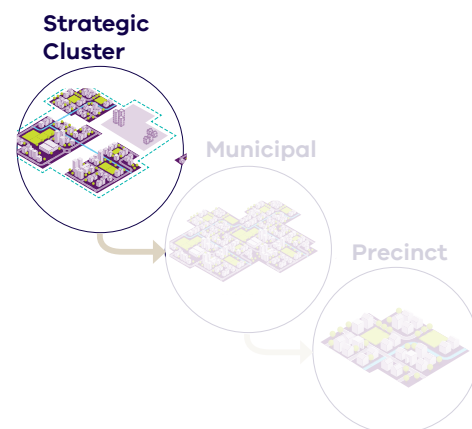
- **Develop an adaptive plan** as part of the **implementation chapter** which identifies key future investigations and decision points which will influence the delivery or selection of IWM options. The plan should show 'back-up' options which would achieve the IWM objectives if the delivery of should a preferred opportunity is not possible or preferable in the future.



Tool suggestion

Adaptive planning

An adaptive planning approach can be used to anticipate various implementation pathways and embed flexibility.



What?

Finalisation Work: Develop Strategic Cluster IWM Plan

Duration

6
months

Endorsement

3–6
months

Stakeholder	Focus activities and resource needs
Project Team	Complete draft and final IWM Plan.
Project Working Group	- Review draft IWM Plan - Facilitate approval, adoption and/or publication of Plan by partner authorities.

Finalise and adopt IWM Plan

- ❑ **Incorporate stakeholder feedback** and update the IWM Plan.
- ❑ **Seek endorsement or adoption of the plan** by project partners through the IWM Forum governance arrangement. Consider publishing the Strategic Cluster IWM Plan online to ensure that it is available and referenceable in future planning processes. If there is no approval from the relevant Forum members for online publication, ensure this Plan is accessible by all relevant IWM partner organisations.

Draft Strategic Cluster IWM Plan

- ❑ **The IWM Plan should be developed into a succinct and well-communicated summary** of the preferred IWM options for the strategic cluster and planned actions for subsequent investigation.
- ❑ Often it is useful to develop a desktop published public-facing summary of the plan as well as some technical appendices that house the background work and analysis.

Strategic Cluster IWM Plan:
Table of Contents

- Executive summary.
- IWM drivers and objectives.
- IWM opportunities for the cluster.
- Assessment process.
- Long-listed opportunities.
- Short-listed options and analysis.
- IWM Portfolios explored.
- Preferred IWM portfolio.
- Implementation including adaptive planning.



Case study

Geelong Northern and Western Growth Areas**Adaptive planning**

The IWM plan for the Geelong Northern and Western Growth Areas included an adaptive plan which mapped out future key decision points and events which would change the IWM proposals for the area. The plan identified a range of strategic IWM opportunities that required investment beyond the boundaries of the two development precincts covered by the plan.

Potential implementation mechanisms for Strategic Cluster IWM Plans

How?

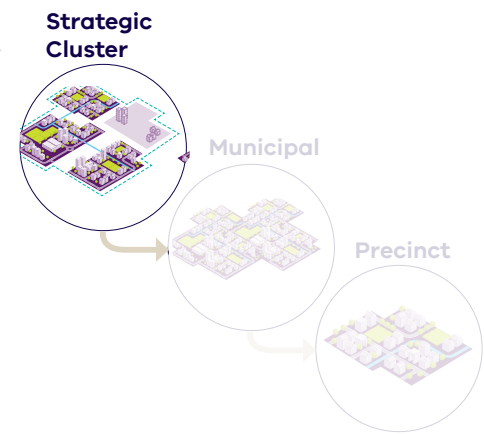
Embedding recommendations of preferred portfolios in the planning process.

Identifying and understanding the implementation mechanisms for the Strategic Cluster IWM Plan should form part of the planning process in order to ensure the final plan has a sufficient level of detail necessary to enable the use of the preferred mechanisms and identifies the necessary next steps.

Key planning mechanisms that can be used to implement Strategic Cluster IWM Plans are summarised to the right. The **Implementation** section provides further information on key implementation mechanisms.

Direct implementation

- Ongoing development of key opportunity projects and initiatives, in particular where clearer detail on the project and its delivery pathway may be needed to support, for example, the use of funding mechanisms or implementation within a precinct plan.
- Develop an adaptive plan which outlines the preferred IWM opportunities and any time-bound key investigations or relevant decisions that may influence the feasibility of delivery of the opportunities. The adaptive plan should outline other back up opportunities to keep 'live' in the planning process, which may take precedence depending on the results of future decisions.



Statutory planning mechanisms and processes

Implement via planning scheme amendment. This may be via a broader land use planning process (as above) or an IWM led planning scheme amendment process. Amendments may include:

- Introducing regional policies to the PPF.
- Introducing local policies to the PPF.
- Introducing specific zones, overlays (such as a Land Subject to Inundation Overlay) or new schedules to these instruments.
- Including the IWM plan or other relevant document as an incorporated or background document in the planning scheme.

Non-statutory planning mechanisms and processes

- Integrate Strategic Cluster IWM Plans within appropriate regional land use planning processes and documents.
- Delivery can also be progressed through precinct planning and development approvals processes as directed by the Strategic Cluster IWM Plan, for example by directing design decisions and site layout, public works, and collecting and allocating developer contributions.

Other processes, governance and funding mechanisms

- Organisational endorsement of the Plan by stakeholders including commitment to resourcing and funding to deliver. This is important to ensure the plan is a public and referenceable document for inclusion in planning processes at a precinct or development scale.
- Plans can be used to justify the implementation of funding mechanisms such as a Development Services Scheme (DSS) or Urban Renewal Cost Recovery Scheme (URCRS) as appropriate.
- Establish ongoing governance arrangements including documents such as Memoranda of Understanding, confirming accountabilities and maintaining the Strategic Cluster IWM Plan working group to progress work and delivery of key opportunity, projects and programs.

At a
glance

Municipal IWM Plans

Why?

A Municipal IWM Plan creates a place-based vision for IWM and drives council-led investments and initiatives within Council boundaries.

Key Outcomes

Setting vision and objectives for the municipality

Informing municipality scale planning and development

Informing council-led investments, actions and processes

Guide how infrastructure and assets support IWM

Where?

Within local government areas.

For municipalities which have distinct urbanised or development clusters, an IWM plan at a strategic cluster may be more relevant than an overarching municipal approach.

When?

Municipal

Revised every 5-10 years

Can be prepared at any time - triggers might include alignment with broader Council planning and strategy or to respond to specific growth or water-related needs.

Implementation

Incremental and ongoing

Who?

Initiator

Local Government

Lead Partner

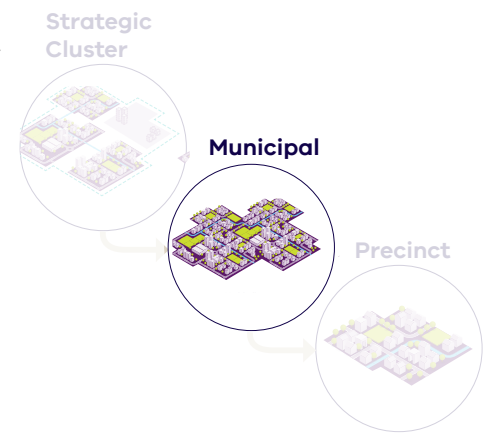
Local Government

IWM Plan Partners

Water Corporations

Catchment Management Authorities

Traditional Owners



How?

Mechanisms to implement the IWM Plan

Integrate with Council Plans

Implement via planning scheme amendment

Endorse as policy/strategy by Council

Establish process and governance to deliver IWM Plans

Delivery through precinct planning and development approvals

What?

Scoping and preparation

Establish scope and governance arrangements

STEP 1

Develop place-based IWM objectives

Summarise key direction setting context and objectives influencing water

Summarise key inputs from land use planning

Characterise the water cycle and water management within the municipality

Develop a municipality-scale water and pollutant balance

Translate direction setting targets and objectives to a municipal scale

STEP 2

Explore IWM opportunities

Identify council-led IWM opportunities

Identify organisational barriers and needs

Identify opportunities for Council to support IWM outcomes in development

Assemble and assess IWM option portfolios

STEP 3

Set out implementation pathway

Define and test targets at a municipal scale

Develop implementation pathways

Develop Municipal IWM Plan

Draft IWM Plan

Finalise, agree and adopt IWM Plan

Municipal IWM Plans

Detailed Guidelines

Why?

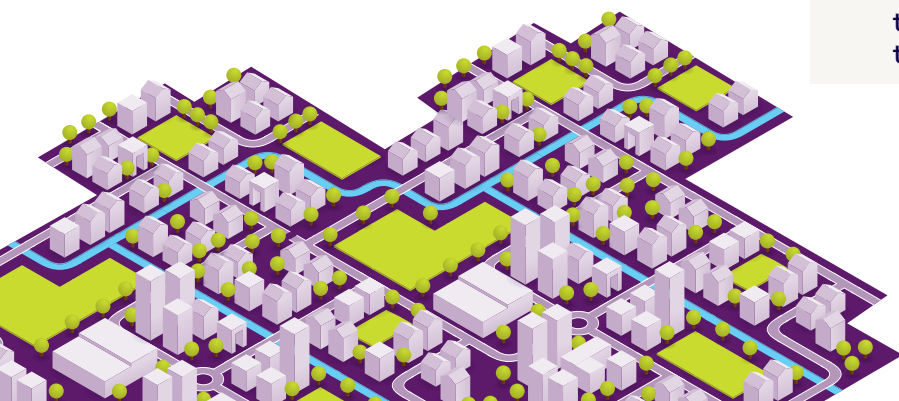
Purpose of the plan

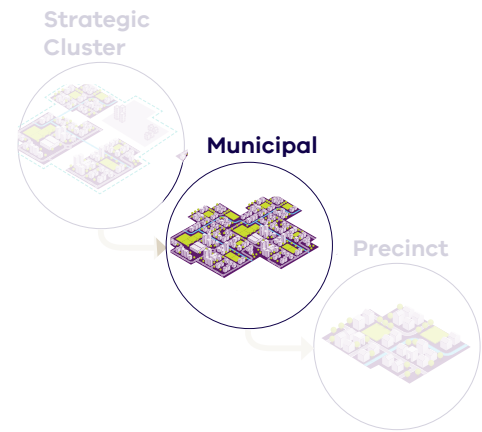
Councils play an important role in both enabling and delivering IWM. IWM approaches should respond to the needs of the local communities, economy and environment and be tailored to the local context. In some cases, councils are also the body responsible for delivery or ongoing management and maintenance of IWM infrastructure, and building clarity around responsibilities, processes and positions relating to IWM can drive better outcomes. Councils are required to develop and publish a plan to manage stormwater risks under the obligations of managers of land or infrastructure (OMLI), an order under the Environment Protection Act 2017.

Municipal IWM Plans should be supportive of direction setting and larger-scale IWM planning and primarily focus on areas of Council control and influence, including as stormwater management, onsite wastewater treatment, open space and public realm management. They also provide an opportunity to link to other strategic municipality water supported targets and strategies, such as climate resilience, sustainable design, biodiversity, canopy cover and greening, and can dictate how other assets and infrastructure management by Council can integrate and support IWM outcomes.

Outcomes of the Municipal IWM Plan:

- Set out the place-based vision for IWM within a municipality, including by translating direction setting objectives at a regional or catchment scale to a local scale and resolving trade-offs between competing objectives within the municipality.
- Inform how IWM will be embedded in local planning and development decisions, processes and guidance.
- Drive council-led investments and initiatives in IWM in the public realm and for council-owned assets and facilities.
- Demonstrate leadership and build buy-in from both internal and external stakeholders to improve and support IWM delivery.
- Guide how broader assets and infrastructure under Council ownership and operation can support IWM outcomes.
- Identify risks posed by stormwater and actions to address those risks in consultation with stakeholders and by considering total water cycle holistically, to satisfy obligations for councils under the OMLI.





Where?

Plan location

A Municipal IWM Plan focuses on a local government area boundary (LGA) and can be used to inform local policy and strategic positions.

While these can be prepared for any local government area, IWM planning at the municipal scale is particularly useful where a council area-specific IWM vision and implementation chapter is needed to respond to local issues and Council responsibilities.

- Municipalities will have different development contexts (such as a greenfield or infill focus) and different water challenges and this will direct the focus of the strategy. The strategy can support council-driven IWM initiatives for public spaces and facilities, inform and support communities in the municipality and can also direct and influence IWM initiatives in new developments through the local planning scheme.
- For regional LGAs that cover large areas of rural land, with dispersed townships and settlements, it may be more effective to develop IWM plans at a strategic cluster scale that focus on the local context around a township or cluster of townships.

When?

Timing of plan development

A Municipal IWM Plan can be prepared at any time according to the needs and priorities of the Council. Municipal plans and strategies are commonly revised every 5 – 10 years.

Reasons that may trigger the preparation of a Municipal IWM Plan may include:

- To inform or align with other council and land use planning timelines and processes, including input into Council Plans which are updated every four years.
- To lead a planning scheme amendment such as introducing flood planning controls.
- To establish endorsed Council policy and positions on key IWM matters to inform anticipated growth and associated IWM issues and development approvals.
- To supersede and consolidate other strategies focused on separate parts of the water cycle (e.g. stormwater management plans, water use plans, irrigation strategies).
- To review and update stormwater management requirements under the OMLI (at least every 5 years).
- To inform and enable the establishment of a stormwater offset scheme.
- To refresh IWM approaches to align and leverage with recently released or amended direction-setting documents.

It is recommended that these guidelines are used where new Municipal IWM Plans are developed, or existing Plans are refreshed.

Who?

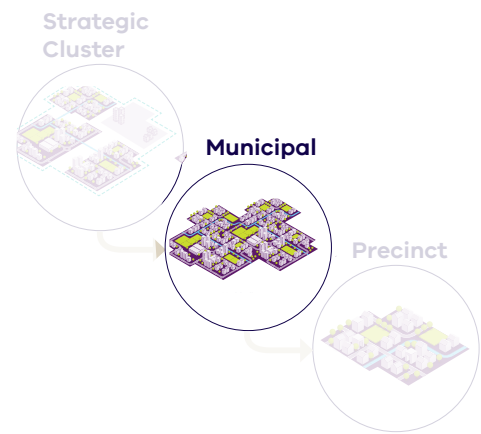
Roles and Functions

Municipal scale IWM Plans should be led and prepared by the local government who is typically also the planning and responsible authority for the local planning scheme and owner and manager of the assets which are the subject of a Municipal IWM Plan.

It is recommended for councils to adopt a dedicated IWM resource to lead the development of the Municipal IWM Plan and who can champion and implement it.

Table 5: Roles and functions within a Municipal IWM Plan

Stakeholder	Role	Functions
Local Government	Initiator and Lead	- Coordinate collaboration between the key stakeholders and drive development of a Municipal IWM Plan. - Internal departments who should be engaged include: - Strategic and statutory planning. - Urban and landscape designers. - Environment / sustainability. - Drainage. - Open space and recreation. - Council facilities management. - Emergency management.
Water Corporations	Partner	- Provide perspective on bulk water supply (inc. alternative water supplies) and wastewater resource management opportunities within the municipality. - Assess current and future water demand opportunities. - Assess opportunities for enhancing liveability through IWM initiatives.
Catchment Management Authorities	Partner	Highlight priority waterways to protect or actions from floodplain management and regional waterway strategies and regional catchment strategies.
Local Community Representatives	Partner	Key community representatives such as existing environmental community reference groups should be invited to workshops or working group.
Traditional Owners	Partner	- Highlight cultural values to protect or enhance and embed objectives and initiatives through the IWM Plan. - Provide input into the management of land and natural resources.



What?

Duration

Scoping and preparation

3 months

Stakeholder	Focus activities and resource needs
Local Government	Coordinate collaboration between the key internal and external stakeholders and drive development of the Municipal IWM Plan.
Other Partners	Assign representatives to working group.

Establish scope and governance arrangements

- ☐ Bring together internal local government stakeholders and external partners to form a working group for the plan.
- ☐ Co-develop a project plan or brief for consultants to assist with the plan, agreeing objectives, key tasks, consultation and outputs.
- ☐ Consider convening a community reference panel to contribute at key stages of the plan via community workshops and review.



Best practice tip

Holistic Approach

Consider convening a community reference panel to contribute at key stages of the plan via community workshops and review.



Case study

Bass Coast Shire IWM Plan**Translating SDS outcomes to local level targets**

Bass Coast Shire Council have developed an IWM plan to guide strategic decision making for water management. The plan outlines specific potable water saving, environmental and flow management targets.

The strategy was developed in line with the Regional Strategic Directions Statements and supports the strategic outcomes.



Case study

Whittlesea IWM Plan**Participatory approaches**

A community panel was established by City of Whittlesea to inform the development of their IWM plan: Whittlesea Water for All (2020). Participation in the panel was advertised through local community groups and facilities, and a group of 20 community members participated. Four community workshops were held in the evening, and participants were provided with travel vouchers and dinner to support their attendance.

What?

STEP 1

Develop place-based IWM objectives

Duration

3–4
months

Stakeholder	Focus activities and resource needs
Project Team	Complete Step 1 analysis.
Project Working Group	- Identify key direction setting council strategies and plans. - Guide and facilitate stakeholder consultation.

Summarise key 'direction setting' context and objectives influencing water

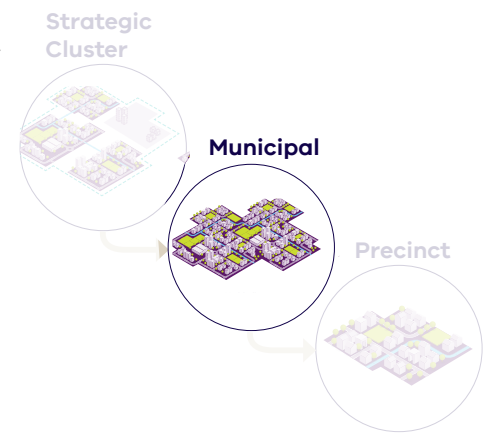
- ☐ **Review and summarise Council Plan objectives** and targets from other relevant municipal planning strategies that influence water management (e.g., policies and strategies regarding on greening, open space, water management, climate change, flood resilience, biodiversity).
- ☐ **Review and summarise strategic directions** from the relevant key documents outlined in the [Direction Setting](#) section.
- ☐ **Summarise land use planning parameters** and projections:
 - Existing and future land uses in the municipality.
 - Key activity areas and focuses for renewal.
 - Population projections.

Characterise the water cycle and water management within the municipality

- ☐ **Investigate and summarise:**
 - Waterways and their catchments, including information on waterway health and existing values.
 - Environmental and ecological setting, including water dependent and environmentally sensitive ecosystems, soils, flora and fauna coverage, visual and landscape amenity.
 - Existing water, recycled water and sewerage infrastructure, including local treatment plants and networks.
 - Existing drainage network, WSUD assets, rainwater harvesting systems, stormwater harvesting systems, including any available information on performance and maintenance.
 - Groundwater levels, monitoring information.
 - Any available flood risk mapping or investigations and describe flood management assets in place.
 - Locations and areas of public open space (active and passive) and existing irrigation provision and protocols.

Develop a municipality-scale water and pollutant balance

- ☐ **At a municipality scale, develop a water and pollutant balance** which summarises the existing and future water cycle.



Tool suggestion

Developing a water balance

As far as possible, develop a detailed water and pollutant balance for each municipal area or for areas which are subject to different planning processes (e.g. growth areas vs infill in existing areas).

- **Consider developing a more detailed stormwater balance** for each land use type (e.g. roads, residential areas, industrial areas etc.) within the municipality, to understand runoff generation and potential to intercept runoff. This can help to identify and prioritise opportunities.



Best practice tip

Resourcing

In metropolitan Melbourne region, the **Catchment Scale IWM Plans** include water balance data for each municipality, based on 2019 data, and projected to 2030 and 2050. This can be used to directly characterise the municipal water balance.

- **Develop a water balance diagram** to summarise the water and pollutant balance for the municipality visually.

Translate direction setting targets and objectives to a municipality scale

- **Create place-based objectives** for the municipality, utilising the review of direction setting context and the municipal water balance.
- **Create performance measures to assess IWM opportunities.** Measures should assess the achievement of the place-based objectives. The strategic outcomes set out in the Strategic Directions Statement for each IWM forum region can be used as key themes to structure objectives and measures.



Tool suggestion

IWM performance measures and targets

Where a Forum scale IWM Plan has developed performance measures (such as those for the metropolitan Melbourne region), these can be used as IWM opportunity assessment metrics.

- **Hold a workshop with key council department representatives** and partners to define a vision and key outcomes for IWM in the municipality.



Tool suggestion

Stakeholder workshop

A workshop with key council department representatives and partners to define a vision and key outcomes for IWM in the municipality.

What?

STEP 2

Explore IWM opportunities

Duration

3–5
months

Stakeholder	Focus activities and resource needs
Project Team	Complete Step 2 analysis.
Project Working Group	- Workshop participation and coordination - Review of IWM opportunities.



Best practice tip

Resourcing

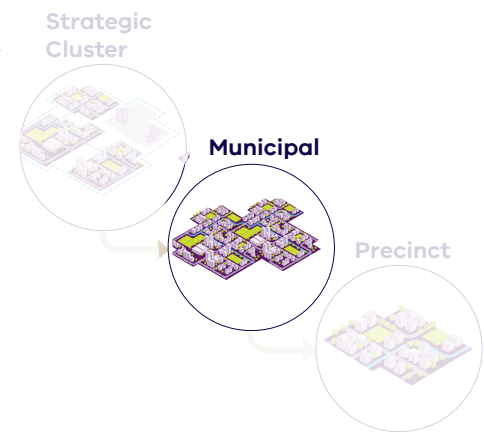
Potential council-led IWM investments and initiatives can be identified and mapped through a combination of stakeholder consultation and analysis. Spatial analysis can be used to identify possible IWM opportunities, considering major council water users, drainage subcatchments, open spaces, road upgrade locations and greening priority areas.

Identify council-led IWM opportunities

- **Engage with internal stakeholders and partners** to identify possible council-led IWM opportunities. Councils are able to influence IWM delivery directly through the management of public spaces and council facilities or regulation of development through the planning scheme, in particular:
 - Street, car park and road design, which provides opportunity for integration of WSUD and passive irrigation of trees.
 - Open space management, including use of alternative water sources for irrigation, water efficiency techniques and integration of WSUD assets within open space.
 - Waterway and water body management and naturalisation, linear blue-green corridors.
 - Improvements to the drainage system and flood management.
 - Council facilities, and inclusion of water efficiency, alternative water supplies and pool backwash reuse.
 - Broader community engagement and demonstration of water initiatives in public areas.

Identify organisational barriers and needs

- **Identify the types of barriers hampering the integration of IWM** practices and processes within the municipality and between organisations. Typically these can be related to enabling factors which support the delivery of IWM, including capacity building, council commitment and resourcing, collaboration models, tools and systems, internal champions, legacy engineering, landscape and design standards, maintenance costs and funding.
- **Hold a workshop or conduct interviews** with each council department and partner organisation to explore barriers and opportunities for IWM in the municipality. This can be a useful way to engage different parts of council and to highlight interconnections between roles to enable IWM and to identify actions and priorities.



Tool suggestion

Workshop

A workshop can be used to generate ideas for the long-list and to begin to assess the shortlist by understanding their potential benefits and constraints.

Identify opportunities for Council to support IWM outcomes in development

□ Review local IWM policy opportunities.

Planning at a municipal scale provides a key opportunity to influence infill development and sub-division. While some councils will already have Integrated Water Management policies integrated within their Planning Schemes, the development of a Municipal IWM Plan is a good opportunity to review and update local policy or introduce new policy where there is an evidence base to demonstrate the need for a locally-driven response. This could include the introduction of planning overlays in focus areas, for example where there is a sensitive waterway or downstream flood risk area, where a particular development response is needed. The IWM plan should identify possible policy inclusions for integration into future planning scheme updates.

- **Develop principles and preferences for IWM assets** that may be adopted by council. As council often receives assets, such as WSUD assets, stormwater harvesting schemes and water bodies created by developers as part of their IWM response, a Municipal IWM Plan should outline council preferences, requirements and protocols to inform asset design and adoption.
- **Identify areas where further IWM planning is required** or a priority and establish a vision and policy objectives for those areas.
- Council also has an opportunity to drive and deliver IWM initiatives through development on their own land and in their own capital works. The IWM plan should identify opportunities and commitments for council-led development and works.



Best practice tip

Place-based approach

The **Great South Coast and Goulburn Broken IWM Forums** have developed 'Supporting actions for enabling IWM in regional Victoria'. It includes 17 supporting actions to enable the planning and delivery environment, covering priority areas including: leadership and collaboration, policy and planning, technical guidelines, capacity building, resourcing and community engagement.

What?

STEP 3

Set out implementation pathway

Duration

2–3
months

Stakeholder	Focus activities and resource needs
Project Team	Complete Step 3 analysis.
Project Working Group	- Workshop attendance and coordination - Implementation refinement with internal and external stakeholders.



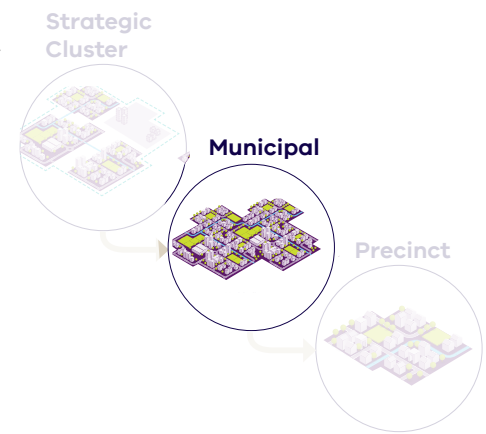
Tool suggestion

IWM performance measures and targets

In the metropolitan Melbourne region, the Catchment Scale IWM Plans include measures that are suitable for setting municipal scale targets for 2030 and 2050. Councils may also wish to set their own targets to contribute to other objectives to complement these and define their contribution to catchment-scale targets but also to address local priorities.

Develop and test targets at a municipal scale

- **Targets should be set out for the period of the IWM plan, usually a 5 or 10 year plan,** which allow councils to track their impact and progress against their objectives. Targets can be set for some of the IWM measures and objectives set out by Direction Setting documents. The key target measures and their magnitude should be developed with internal stakeholders and partners in a workshop, and designed to be SMART (specific, measurable, achievable, realistic, timely).
- **To test and evaluate possible targets, a series of scenarios can be tested for the municipality, to test and define an achievable target.** Scenarios could anticipate the likely cost and timeline for the council-led IWM opportunities, the impact of development-led IWM initiatives and the impact of council policy. Scenarios can test what could reasonably be delivered in the plan timeframe, possible stretch targets, and to explore disruptive events such as alternative climate change scenarios and events. Through scenario testing, council is able to consider the likely impacts for budgeting and resourcing and provide a platform for participatory discussions of key issues such as the impacts of climate change on local planning, infrastructure and community priorities.
- **Monitoring and evaluation protocols,** including refresh frequency and target reporting should be outlined in test the Plan.



Develop implementation pathways

- ❑ **Set out a series of actions for council departments** to support delivery of IWM. Actions can include:
 - Capital and maintenance allocations for IWM initiatives.
 - Strategic planning for IWM initiatives in opportunity areas or renewal area in the municipality
 - Enabling actions to overcome barriers and enhance opportunities
 - Actions should be defined with the working group, and allocated a time-frame, responsibilities, resource and funding allocations.
- ❑ **Identify how outcomes will be embedded within internal processes**, including providing sufficient resourcing for IWM expertise to support implementation, establishing internal referral protocols, and embedding IWM expertise in precinct planning processes.
- ❑ **Hold a workshop with council departments** and partner organisations to review and develop actions.



Case study

City of Melton IWM Plan

Embedding standards in the planning scheme

The IWM plan was developed to provide municipal wide guidance for significant population growth, urbanisation and increasing water and climate challenges. The IWM plan was used to inform precinct planning and included design standards in the scheme such as for the provision of passive irrigation for street trees.



Tool suggestion

Workshop

A workshop can be used to identify key roles and responsibilities, timeframes and synergies.

What?

Duration

Consultation

Finalisation work: Develop Municipal IWM Plan

2-3
months

3-6
months

Stakeholder	Focus activities and resource needs
Project Team	Complete draft and final Plan.
Project Working Group	- Review draft IWM Plan - Facilitate approval, adoption and/or publication of Plan by Council.

Municipal IWM Plan: Table of Contents

Executive summary.

Water management in the municipality.

- Our local context.
- Our water cycle.
- Water and pollutant balance.
- Our journey so far.

Our vision and objectives.

Our commitments and targets.

Implementation.

Draft Municipal IWM Plan

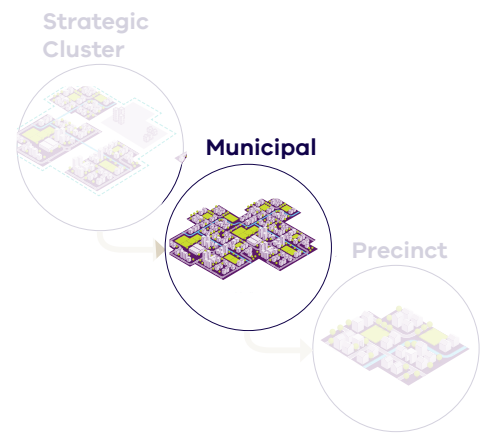
- ☐ **The IWM Plan should be developed into a succinct and well-communicated summary** of the council's vision and planned actions for IWM.
- ☐ Often it is useful to develop a desktop published public-facing summary of the plan as well as some technical appendices that house the background work and analysis.

Consult on Municipal IWM Plan

- ☐ **To enable adoption of the plan by Council, the plan will undergo a public consultation process.** At a minimum, the draft plan should be made available for comment on the Council website.
- ☐ Partner organisations may wish to input further and cross-endorse the plan.
- ☐ Council may wish to also hold a series of engagement activities to invite comment and explore IWM opportunities with communities.

Finalise Municipal IWM Plan

- ☐ **Incorporate and update the Plan** to include feedback.
- ☐ **Include as a reference document on Council website** and support awareness through coordinated launch and distribution.



Jogger by the Maribyrnong River

Implementation mechanisms for IWM Municipal Plans

How?

Embedding recommendations in land use planning process

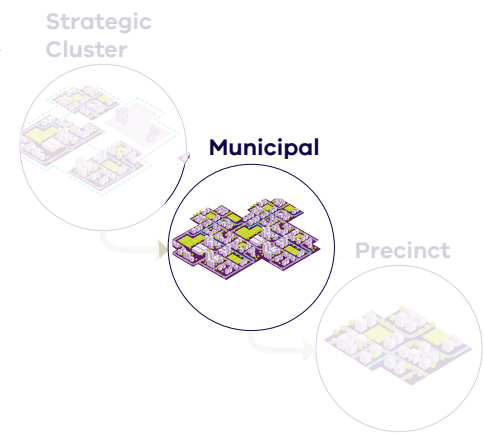
Direct implementation

- Progress work and delivery of key projects and programs.

Statutory planning mechanisms and processes

Implement via planning scheme amendment. This may be via a broader municipal planning process or an IWM led planning scheme amendment process. Amendments may include:

- Introducing local policies to the PPF.
- Introducing specific zones, overlays (such as a Land Subject to Inundation Overlay) or new schedules to these instruments.
- Including the IWM plan as a background document in the planning scheme.



Non-statutory planning mechanisms and processes

- Integrate with Council Plan, Asset Plan, and Capital Plan, and throughout other municipal strategy and policy. Timing of the IWM Plan is important to link to these overarching plans for the municipality. It is important to draw on and integrate the overarching outcomes and objectives for the municipality into an IWM plan to drive a place-specific response. The visioning stage of the plan can be used to explore and align objectives.
- Delivery will also be progressed through precinct planning and development approvals processes as dictated by the plan.

Other processes, governance and funding mechanisms

- Adopt the plan as endorsed policy / strategy of Council.
- Allocation of funding to projects within Council budget and identification of other co-funding opportunities and grant opportunities.
- Establishment of internal processes and governance including appointment of IWM resources to deliver the IWM plan and outcomes.
- Establishing clear internal referrals processes and resourcing for IWM officers to review and advise on key IWM planning matters.
- Implementation of funding mechanisms such as a Development Contribution Plans (DCPs) as appropriate.

At a
glance

Precinct IWM Plans

Why?

Precinct IWM plans are prepared to identify and integrate IWM opportunities within precinct plans.

Key Outcomes

Setting place-specific vision, objectives, strategies, targets and actions that align with strategic directions and Strategic Cluster IWM plans (if available).

Integrating IWM objectives with competing land use and development objectives

Identifying required infrastructure, services, land take and implementation plan

Providing evidence base for elements of the IWM plan to be included in the local planning scheme

Where?

A precinct is an area identified for detailed place-based strategic planning with a defined boundary.

A precinct could include activity centres, National Employment and Innovation Clusters (NEICs), urban renewal areas, greenfield areas, greyfield precincts, and other state designated precincts and projects (e.g. Suburban Rail Loop).

The process can also be used for township planning in regional contexts.

When?

Strategic Cluster IWM Plans

2-5 years prior to precinct planning

Precinct Planning

3-5 years prior to development commencing

Prepared as part of technical studies to inform the final precinct plan. Ideally, precinct plans would be preceded by a strategic-cluster IWM plan to enable early analysis and decision making to take place.

Implementation

Incremental and ongoing

Who?

Initiator

Planning Authority

Lead

Water Corporation*

IWM Plan Partners

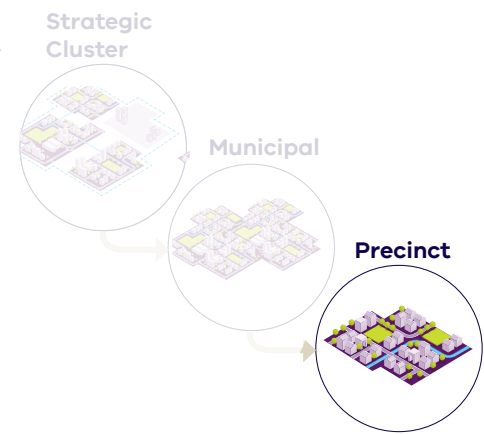
Planning Authority

Local Government

Catchment Management Authorities

Traditional Owners

*In Metropolitan Melbourne, Melbourne Water Corporation is designated to take the lead co-ordination function. They will work closely with the retail water corporations and all relevant partners.



How?

Mechanisms to implement the IWM Plan

Implement via planning scheme amendments

Prepare guidance documents

Establish process and governance to deliver IWM Plans

Delivery through precinct planning and development approvals

Delivery through key projects and programs

What?

Scoping and preparation

Establish scope and governance arrangements

STEP 1

Develop place-based IWM objectives

Summarise key direction setting context and objectives

Summarise key inputs from land use planning

Characterise the water cycle and water management within the precinct

Define the reference case

Develop a precinct-scale water and pollutant balance

Develop a situational analysis report

Develop a shared IWM vision and objectives for the precinct

STEP 2

Explore IWM opportunities

Develop a long list of IWM opportunities

Shortlist IWM options for further analysis

Assess and compare shortlisted options

Assemble and assess IWM option portfolios

STEP 3

Set out implementation pathway

Develop recommendations for the Precinct Plan and subsequent implementation

Develop Precinct IWM Plan

Draft Precinct IWM Plan

Finalise, agree and adopt Precinct IWM Plan

Precinct IWM Plans

Detailed Guidelines

Why?

Purpose of the Precinct IWM plan

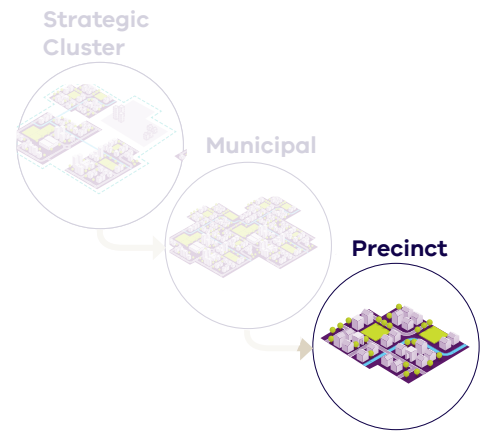
A Precinct Plan (e.g. structure plan, PSPs) will be prepared for a precinct through the land use planning process, which provides an integrated strategy for land use and development and seeks to balance how competing objectives will be achieved. A Precinct IWM Plan can identify and plan for IWM opportunities, ensuring that water cycle management is considered at the precinct scale and that land take and infrastructure locations are planned for.

A Precinct IWM Plan can be prepared as a technical document to inform how IWM is integrated into the Precinct Plan, while also identifying actions and strategies which will be implemented independently. Where appropriate, the Precinct IWM Plan can also support the translation of relevant elements of the Precinct Plan into the planning scheme via a planning scheme amendment.

- In Greenfield precincts, a standardised approach to precinct planning is typically used owing to undeveloped precincts having common issues and needs. Greenfield growth also tends to require more infrastructure to be delivered. These plans are typically guided by the [Victorian Planning Authority's PSP Guidelines](#).
- In Urban Renewal contexts, precinct planning tends to be more complex due to the existence of established development, infrastructure and communities, and may require more bespoke plans and approaches to be developed to suit the needs of the place.

Outcomes of the Precinct IWM Plan:

- Development of a precinct-specific IWM vision, objectives and targets.
- Identification and evaluation of possible IWM opportunities that could be delivered.
- Integration of IWM objectives with other land use and development objectives, recognising interactions with placement or size of other land uses and features (such as streets and parks) or influence on built form, or layout.
- Integration of any land take requirements and locations of key IWM infrastructure which are confirmed and supported by stakeholders.
- Integration with natural ecological conditions within the precinct including natural water bodies, waterways and water-dependent ecosystems.
- Provide strategic justification and evidence base for any components of an IWM plan proposed to be included in the local planning scheme.
- Set out a collaborative implementation plan, including actions to support implementation of IWM opportunities, including key responsibilities and further work required.



Where?

Plan location

A precinct refers to an area identified for detailed place-based strategic planning with a defined boundary. They can include activity centres, National Employment and Innovation Clusters (NEICs), urban renewal areas, greenfield areas, greyfield precincts, and other state designated precincts and projects (e.g. Suburban Rail Loop).

Precinct planning occurs in both metropolitan and regional contexts.

Precinct IWM plans should be prepared where precinct planning is being undertaken as well as directed by Municipal or Strategic Cluster IWM Plans or direction setting documents.

In addition to the above, in regional Victorian contexts, the precinct IWM planning process can be used to prepare IWM plans for smaller towns. These could include detailed township plans or higher-level framework plans. For larger towns, precinct IWM planning may be used to prepare plans for anticipated growth areas of a town, informed also by the relevant Urban Water Strategy.

Who?

Roles and Functions

IWM Plans should be prepared by designated partners working collaboratively and in consultation with all key stakeholders. Establishing a shared vision and direction will support implementation and enforcement.

When?

Timing of plan development

Precinct IWM Plans should be prepared in alignment with the precinct structure planning process as shown in the VPA's PSP Guidelines. Precinct planning may occur 2 – 5 years prior to commencement of development on a site dependent on its complexity and urgency.

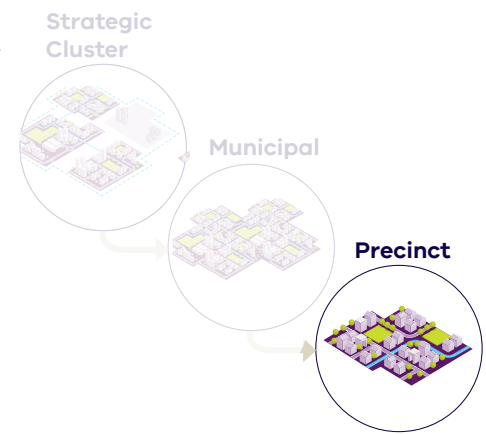
It is important for sufficient IWM work to be undertaken, or to have previously been undertaken, at the pre-commencement stage of precinct planning to provide direction to the precinct planning process, which will further test and resolve directions and plans to a level of detail required for the plan. Pre-commencement activities shape the scope, vision and objectives of the precinct - inclusion of IWM within this can help to prioritise IWM targets and objectives in the precinct and through the planning process. Having pre-agreement and commitment to strategic IWM opportunities is also important to secure land allocations and to integrate key infrastructure or initiatives within the urban layout.

Following this, a detailed IWM study and plan should be included as part of a suite of technical studies prepared as part of the precinct planning exercise and to inform the development of the precinct plan.



Table 6: Roles and functions within a Precinct IWM Plan

Stakeholder	Role	Functions
Planning Authority (e.g. VPA, DTP, Local Government or specialist authorities such as SRLA)	Initiator	- Initiate a Precinct IWM plan by informing the lead partner of precinct planning pre-commencement. - Coordinate collaboration between the planning authority and lead agency responsible for developing the Precinct IWM Plan to initiate development of a Precinct IWM Plan. - Advise on land use budget for precinct. - Integrate IWM plan into broader precinct planning process.
Water Corporations	Lead	- Provide perspective on water supply (including alternative water resources), wastewater management, and water efficiency within the precinct. - Consider strategic stormwater harvesting networks that could be delivered on a precinct or regional scale - Integrate with modeling of current and future water demand for the area. - Integrate with infrastructure planning for potable water, wastewater and alternative water services. - Identify opportunities for delivering liveability outcomes through IWM. - In metro Melbourne, flood, stormwater and waterways management opportunities that can integrate with IWM.
Local Government	Partner	- Provide local perspective on local stormwater opportunities within the precinct including flood management, water quality, stormwater harvesting for open space irrigation and flow management, as well as local open space and ecological opportunities that can integrate with IWM. - Integrate with planning of future public assets, including open space, green infrastructure in both public and private realms, streetscapes and local waterways.
Catchment Management Authorities	Partner	Highlight priority waterway values to protect and opportunities for flood management and floodplain integration.
Traditional Owners	Partner	- Highlight cultural values to protect or enhance and embed objectives and initiatives through the IWM Plan. - Provide input into the management of land and natural resources.



What?

Duration

Scoping and preparation

3 months

Stakeholder	Focus activities and resource needs
Planning Authority	When a Precinct Plan is identified for pre-commencement (or as soon as planning timetable is clear), notify the Lead partner to ensure an IWM Plan can be programmed and resourced in a timely manner.
Water Corporation	Coordinate collaboration between the key stakeholders and drive development of Precinct IWM Plan. Coordinate integration and timing with the Planning Authority.
Other Partners	Assign representatives to working group

Establish scope and governance arrangements

- ☐ **Develop a project plan or brief to develop a Precinct IWM Plan** as a key technical study for the Precinct Plan, in preparation for the commencement of a precinct planning process. The brief should outline objectives, key tasks, consultation and outputs in line with these Guidelines.
- ☐ **Establish a working group for the plan** in line with the IWM Forum Governance structure, who will provide input to the plan, advise on strategic directions and regional infrastructure, and to prepare for delivery of required capital infrastructure and ongoing maintenance of IWM opportunities outlined in the Plan.



Best practice tip

Integration with drainage scheme planning

In areas where a drainage scheme is being developed by Melbourne Water or local government, ideally catchment scale drainage infrastructure and waterway improvements have already been identified and integrated with broader IWM opportunities such as stormwater harvesting through the development of a Strategic Cluster Plan or early drainage scheme planning.



Case study

Aviators Fields IWM Plan

The importance of early planning

The Precinct IWM Plan for Aviators Field (a greenfield development) was developed well in advance of the PSP process to identify opportunities and inform stakeholders of issues that require resolving. This provides stakeholders with more time to undertake necessary investigations and resolve issues to a sufficient level of detail for commitment to be included in the Precinct Structure Plan.

What?

STEP 1

Develop place-based IWM objectives

Duration

2–4
months

Stakeholder	Focus activities and resource needs
Project Team	Complete Step 1 analysis.
Project Working Group	- Guide and facilitate stakeholder consultation - Confirm the reference case for analysis.

Characterise the water cycle and water management within the precinct

☐ Investigate and summarise:

- Topography and natural drainage paths.
- Catchment context and receiving environment.
- Waterways and their catchments, including information on waterway health and existing values.
- Flood paths and extent, any existing precinct or downstream flood risk.
- Existing and proposed drainage networks and assets (including stormwater and flood management) including any preliminary work conducted as part of drainage scheme development (where applicable).
- Existing water supply, recycled water and sewerage infrastructure, including constraints to supply or infrastructure capacity.
- Water dependent and environmentally sensitive ecosystems and ecological values.
- Soils and permeability, including presence of sodic soils or erosion issues.
- Groundwater levels and aquifer characterisation.
- Visual and landscape amenity values.
- Cultural heritage values.

Summarise key 'direction setting' context and objectives

- ☐ **Review and summarise strategic directions from the relevant key documents** outlined in the Direction Setting section.
- ☐ If a Strategic Cluster IWM Plan or Municipal IWM Plan exists, then the objectives of the Precinct IWM Plan should adopt their objectives, as well as with the objectives of Precinct Planning. If a Strategic Cluster and/or Municipal IWM Plan exists, they can contribute to identifying any identified IWM opportunities relevant to the precinct.
- ☐ **Summarise land use planning parameters** and projections:
 - Anticipated number of dwellings and forecast population
 - Preliminary land use budget and land use plan (i.e. urban form).
 - Relevant planning overlays such as Land Subject to Inundation Overlays (LSIO) that show the location and extent of land subject to flooding.

Define the reference case

- ☐ **Define what would happen in the precinct area to satisfy current policy and regulatory requirements.** Key aspects of the reference case include:
 - Stormwater treatment, waterway and flood management infrastructure required to satisfy the Victoria Planning Provisions.

Where a drainage scheme is being developed by Melbourne Water or the local government authority, this will form the reference case. Where this isn't available, a stormwater strategy should be developed for the site to define required drainage and flood management infrastructure to meet the VPPs.

- Inclusion of rainwater tanks or recycled water supply (if mandated through statutory instruments, or encouraged through local Planning Scheme guidance).
 - Water efficiency and demand management measures which are applied through building standards or 'business as usual' activities.
- **Articulate how the reference case contributes (or doesn't contribute) to the IWM objectives** for the precinct to satisfy minimum policy requirements.

Develop a precinct-scale water and pollutant balance

- **Model the existing situation, and the future water cycle** for the proposed precinct development, including future changes in water demand, wastewater generation, and stormwater generation.



Tool suggestion

Developing a water balance

Develop a detailed water and pollutant balance for the precinct area based on the land use budget and urban form provided by the Planning Authority.

Develop a situational analysis report

- **Bring together the key contextual information for the precinct and overarching drivers**, to provide a clear evidence base to inform the development of a precinct-specific IWM vision and objectives.
- **Circulate the summary to stakeholders** for comment and input.

Develop a shared IWM vision and objectives for the precinct

- **Create place-based IWM objectives** for the precinct, utilising the review of direction-setting context, and the precinct context analysis.

- **Translate the outcomes and priorities set out at a 'Direction Setting' level or through Municipal and Strategic Cluster IWM Plans, to create place-based IWM objectives for the precinct.** These objectives should also consider the detailed constraints and drivers identified through the precinct context characterisation.
- **Create performance measures** to assess IWM opportunities against the place-based objectives. Use the strategic outcomes set out in the Strategic Directions Statement for each IWM forum region as key themes.



Tool suggestion

IWM performance measures and targets

Performance measures can be defined to translate objectives. Common measures are provided in the toolbox. Some of these can be set as targets in the Plan to drive implementation of key objectives.



Tool suggestion

Stakeholder workshop

Hold a workshop with key stakeholders and partners to define key objectives for IWM in the precinct. This could be combined with a workshop to identify IWM opportunities.



Best practice tip

Integration with place-making objectives

Explore how precinct IWM objectives interact with the broader place-making and planning objectives for the precinct. These could be explored through co-design workshops undertaken as part of the precinct planning process. Working with urban designers, planners and landscape architects, can identify opportunities to integrate blue-green corridors, multi-functional landscapes, enhanced waterways and ecosystems and water sensitive urban design. Often strategic green infrastructure initiatives require integration with land use or layout at a precinct planning stage.

What?

STEP 2

Explore IWM opportunities

Duration

2-4
months

Stakeholder	Focus activities and resource needs
Project Team	Complete Step 2 analysis.
Project Working Group	- Workshop participation and coordination - Review of shortlisted opportunities.



Tool suggestion

Workshop

Conduct workshop with key stakeholders to present the key constraints and opportunities for the site. A workshop will also be an opportunity to discuss potential opportunities that stakeholders envision for the site.

Develop a long-list of IWM opportunities

- **Identify possible IWM opportunities across the water cycle at a precinct and lot and street scale.** Also identify and incorporate regional or catchment IWM opportunities that have been explored through a Strategic Cluster IWM Plan for the area or through regional planning activities. Consider IWM options that can be delivered by water agencies, but also those which can be managed locally by communities and residents. This should include both engineering and urban design and landscaping solutions which can generate a broader array of social and environmental benefits. Evaluation should consider approximate land required to deliver them.
- **Hold a workshop with project partners** to identify possible IWM options and explore their scale and scope.



Tool suggestion

Preliminary Assessment Method

The PAM guidance provides a framework for identifying possible IWM options.

Shortlist IWM options for further analysis

- **Shortlist options using a multi-criteria assessment, as outlined in the PAM.** Option performance should be quantified where possible against the objectives and measures for the area using the water and pollutant balance and high-level performance assumptions based on industry learnings and references. The PAM process should also be used to consider risks, cost factors and implementation barriers.
- Using the PAM, options should not be ranked, but should be assessed in terms of their overall contribution to the IWM objectives for the area and their relative performance. For example, some options may have minimal overall contribution but address hard to achieve objectives and so should be prioritised to ensure those objectives can be met. Other options may be very similar, and the best performing opportunity in relative terms should be taken forward ahead of others.

- At this stage you may identify options that offer a significant overall contribution but not require significant additional analysis to define the value or how the opportunity would be delivered (e.g. community engagement in water management). These can be included in recommendations of preferred portfolios without further analysis.



Tool suggestion

Preliminary Assessment Method

The PAM guidance sets out the assessment process for a long list of opportunities with the aim of identifying a shortlist for more detailed investigation.

- **Hold a workshop to present draft shortlisted options back to stakeholders** and incorporate any feedback into the recommended shortlist. Short-listed options may change based on stakeholder insight into benefits or challenges, which may change the preliminary assessment.



Tool suggestion

Workshop

A workshop can be used to review and refine the proposed shortlisted options. Generally, it is more productive to explore a potential shortlist and confirm the assessment in the workshop rather than completing the assessment in the workshop itself.

Assess and compare shortlisted options

- **Undertake hydrologic and water quality modeling** to predict runoff, reuse, and treatment performance.
- **Utilise the demand and supply analysis from the water and pollutant balance to estimate performance** of alternative water supply options.
- **Quantify the contribution of the shortlisted IWM opportunities** to IWM targets and objectives.



Best practice tip

Comparison of opportunities

While the assessment compares the benefit of options, a high-level costing exercise can be undertaken to also compare the costs of each option. A high-level concept design for each option, with the aim of providing enough detail in terms of size, layout and performance to support a preliminary estimate of cost for each option (+/-50%). Costs can be compared with benefits using a cost-benefit analysis.



Tool suggestion

Cost-benefit analysis

A range of tools are available to assist with a high-level cost-benefit analysis, comparing lifecycle costs with lifecycle benefits, which are monetised where possible.

Assemble and assess IWM option portfolios

- **Develop several portfolios for comparison** which combine possible options. While the opportunity analysis helps to understand the performance of individual opportunities, portfolios of complementary opportunities can be assembled to meet IWM objectives for the area in the round. Portfolios of opportunities should be defined which can clearly communicate different IWM pathways, and the outcomes they could deliver*.
- **Summarise portfolio performance and cost-benefit.**
- **Develop a preferred portfolio** of IWM options for discussion with stakeholders.
- Consider stakeholder insight into benefits or challenges, which may change the assessment

*It should be noted that the combination of opportunities is often not as simple as adding together the performance of individual opportunities, as opportunities may trigger the same benefits or require modification in order to be combined with other opportunities (for example, alternative water supply opportunities may utilise the same water demand and need to be modified to be combined, or several stormwater management opportunities may be linked in a treatment train, changing the overall performance).

What?

STEP 3

Set out implementation pathway

Duration

2-3
months

Stakeholder	Focus activities and resource needs
Project Team	Complete Step 3 analysis.
Project Working Group	- Workshop attendance and coordination - Implementation refinement with representative organisations.

Develop recommendations of preferred portfolios for the Precinct Plan and subsequent implementation

- **Conduct a workshop with project partners** to confirm the preferred portfolio of IWM options, and to explore next steps for implementation through planning controls.



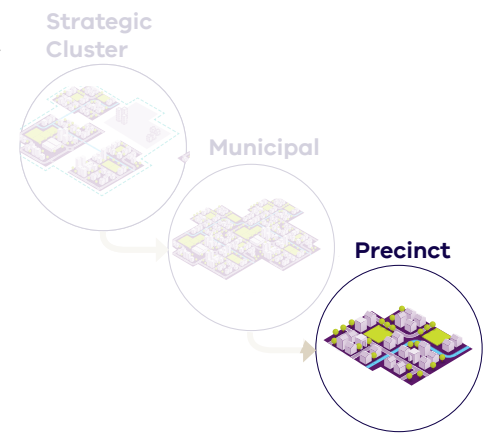
Tool suggestion

Workshop

The workshop should explore implementation pathways for the preferred IWM options and roles and responsibilities for stakeholders in delivery and maintenance.

- **Provide guidance and principles to developers and authorities tasked with delivering water-related infrastructure** to the precinct that can be integrated with the Precinct Plan's objectives, requirements and guidelines.

- **Identify preferred precinct scale IWM infrastructure** proposals that require land allocation, impact urban layout or types and densities of development. These proposals should be included in the land use budget and land use plan included in the Precinct Plan. This should include:
 - Drainage and waterway corridors,
 - Stormwater treatment and volume management,
 - Flood mitigation and floodplain integration,
 - Permeability and water sensitive urban design measures at a lot and street scale,
 - Integration of alternative water supply infrastructure, including necessary storages, treatment infrastructure, and transfer easements, and
 - Synergistic locations of land uses to utilise local water resources.
 - Identify how outcomes will be embedded within internal processes, including providing sufficient resourcing for IWM expertise to support implementation, establishing internal referral protocols, and embedding IWM expertise in precinct planning processes.
- **Include these IWM proposals within the land budget and land use plan.** A spatial plan should be produced indicating land required for IWM initiatives and indicate the location of major IWM infrastructure. In some cases, the further detailed design of proposals is required to confirm land take, but an estimated land allocation can be made. In this case, the purpose of land allocations needs to be defined and the intent confirmed through a written statement from the proposed asset manager (e.g. water corporation, drainage authority or local government). If the land allocated becomes unnecessary or is reduced



through subsequent design processes and confirmation of delivery of infrastructure, it can be redistributed.

- **Outline the preferred IWM options to be delivered at a precinct and lot/street scale** and how these interact, and the roles and responsibilities of agencies, developers and housebuilders in delivery and management. This should include expectations at the lot and street scale to be explored and implemented through subsequent planning and design.
- **Outline where further detailed design is required at a development scale** or where there is desire to provide developers with flexibility in the IWM initiatives delivered at a local scale. The Precinct Plan can make provisions for developers to respond to the Precinct IWM Plan by making a requirement for complying with the Precinct IWM Plan through the planning application process, by preparing a developer IWM plan outlining:
 - Which IWM opportunities will be included in development design (if flexibility is provided in the Plan)
 - How the development will respond to the IWM objectives for the precinct, and
 - Detailing the proposed design of strategic assets, and integration to precinct scale systems (if applicable).
- **Outline when and how the developer response will be required** in the Precinct Plan and the process for assessment.



Best practice tip

PSP Integration Guidance

For Precinct scale IWM Plans that will inform a Precinct Structure Plan for which the Victorian Planning Authority is the planning authority, reference should be made to the [VPA Integrated Water Management Guidance note \(2024\)](#), which:

- Describes the targets for IWM in Precinct Planning, including targets relating to the use of alternative water for trees and open space,
- Outlines the process and content of IWM Plans for PSPs,
- Utilising an innovation pathway for a PSP to deliver significantly elevated performance outcomes, and
- Describes how the VPA will interpret and apply the outcomes of the IWM Plan to the PSP.



Tool suggestion

Adaptive planning

An adaptive planning approach can be used to anticipate various implementation pathways and embed flexibility.

What?

Duration

Integration

Finalisation work: Develop Precinct IWM Plan

1-2
months

3
months

Stakeholder	Focus activities and resource needs
Project Team	Complete draft and final IWM Plan.
Project Working Group	Review draft IWM Plan
Planning Authority	Facilitate integration with the Precinct Plan and planning scheme amendments.



Best practice tip

Comparison of options

Develop a memo or chapter in the plan with a summary of the recommendations and inclusions to be transferred into the Precinct Plan and subsequent implementation mechanisms. This should include:

- Precinct-specific IWM vision and objectives
- Description of preferred IWM options (or possible options where there is flexibility)
- A key diagram showing spatial placement of key IWM options
- Objectives, Requirements and Guidelines for the responsible authority to assess whether subdivision proposals suitably respond to, deliver, or are 'generally in accordance with' the intent of the Precinct Plan.
- Land use budget allocations for IWM infrastructure (where there is stakeholder commitment to delivery of the IWM opportunity).
- Planning scheme amendment.

See Figure 13 (right)

Draft Precinct IWM Plan

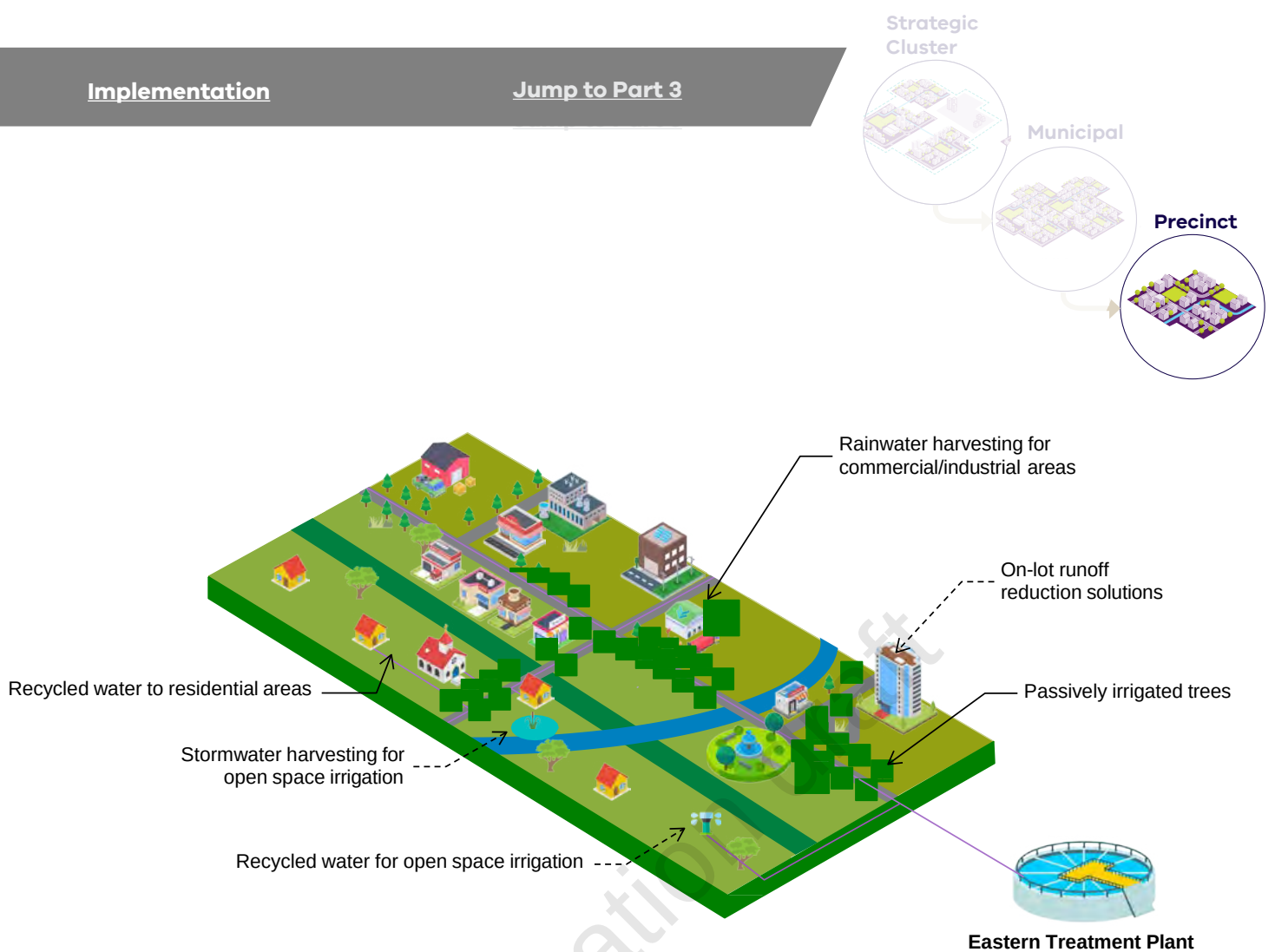
- ❑ **The IWM Plan should be developed into a succinct and well-communicated summary** of the IWM objectives for the precinct and the proposed IWM options to be delivered through development and the requirements for detailing or selection of IWM initiatives within the subsequent planning and development processes. This should include the land required to deliver projects which should be reserved, and its preferred location.

Precinct IWM Plan: Table of Contents

- Executive summary.
- Precinct water cycle and context.
- IWM vision, objectives and targets for the precinct.
- IWM opportunities for the precinct.
- Recommended IWM options.
- Implementation.
- Precinct Plan recommendations of preferred portfolios.

Finalise and integrate IWM Plan

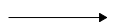
- ❑ **Incorporate stakeholder feedback** and update the Precinct IWM Plan.
- ❑ **Integrate recommendations** into the Precinct Plan.



Non-infrastructure IWM solutions as put forward in the Shared IWM Vision Workshop

-  Encouraging high water usage industries to the PSP.
-  Building efficiency & education for circular water usage.
-  Provide information, education and communication around alternative water to increase its uptake.
-  Encouraging businesses to provide sustainable practice.
-  Monitoring and evaluation of stormwater runoff (i.e. checking water quality).

Core recommendations



Adaptable recommendations
(based on further
engagement with water corps
and Council)



Figure 13
Summary diagram of IWM opportunities,
both preferred and flexible.

Implementation mechanisms for Precinct IWM Plans

How?

Embedding recommendations in land use planning process

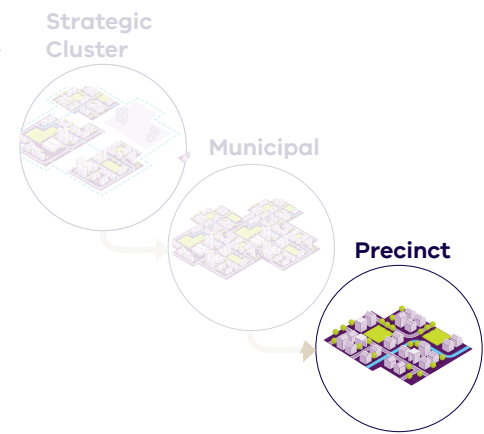
[Direct implementation](#)

- Progress work and delivery of key projects and programs including any landtake requirements for projects to be included in planning.

[Statutory planning mechanisms and processes](#)

Implement via planning scheme amendment for precinct plan. Amendments may include:

- Introducing local policies to the PPF.
- Introducing a suite of zones and overlays to guide land use and development, including the potential to introduce schedules which allow for place-based requirements and objectives to be included to support the zones and overlays.
- Requirements to prepare Developer IWM Plans as application requirements which respond to the Precinct IWM Plan.
- Including the IWM Plan as an incorporated or background document in the planning scheme.
- The process for engagement and finalisation of the precinct plan is outlined in the [PSP 2.0 Guidance Note](#).



Non-statutory planning mechanisms and processes

- Preparation of developer guidance documents specific to the precinct as identified within the plan.

Other processes, governance and funding mechanisms

- Establishment of internal processes and governance to support the implementation of the plan.
- Implementation of funding mechanisms such as DCPs and DSSs, as appropriate.



Case study

Arden Structure Plan

Embedding IWM planning in land use planning and planning scheme amendments

The Arden structure plan included detailed direction on precinct-scale and development IWM strategies and requirements. This was informed by an underlying IWM assessment and strategy. The subsequent planning scheme amendment embedding IWM objectives in local policy and included the IWM plan as a reference document.

Implementation

Summary of possible implementation mechanisms that can be supported by or integrated with land use planning process. The implementation mechanisms available depend on the type of IWM Plan and the related planning process, as described in the [Plan Making](#) guidance.

Delivering IWM through the planning and development process

Implementation refers to the delivery of new development and infrastructure and the planning processes associated with this, such as the permit application and assessment process, developer planning, design, funding and delivery of infrastructure. A typical planning approvals and development pathway, and how IWM Plan Making can influence this, is described in Figure 14.

First and foremost, effective implementation is achieved through the timely and collaborative preparation of high-quality IWM plans which identify and coordinate what IWM actions are needed, the tools and actions needed to deliver these and the roles, responsibilities and commitments of key stakeholders. These plans contribute to the strategic justification, evidence base, and certainty required to utilise many of the implementation mechanisms described in this chapter.

A summary of the potential implementation

mechanisms discussed in this section are shown below.

The primary focus of these Guidelines relates to implementation through the land use planning system, however, other related or relevant mechanisms are also acknowledged and briefly described.

This section should be read in conjunction with the Plan making section of this guide which identifies for each type of IWM plan what mechanisms may be appropriate for implementation.

The implementation strategy, including the intended implementation mechanisms and the requirements for using these, should always be considered as part of the Plan making stage.

Summary of potential implementation mechanisms for IWM plans

Direct implementation

Infrastructure delivery

Statutory planning mechanisms and processes

Planning scheme amendments

Permit conditions

Referrals and notices processes

Section 173 Agreements

Non-statutory planning mechanisms and processes

Integrating with land use planning

Developer IWM plans

Developer guidance documents

Other delivery mechanisms

Governance and collaboration

Funding mechanisms

Sustainable ratings tools

Non-planning regulations and standards

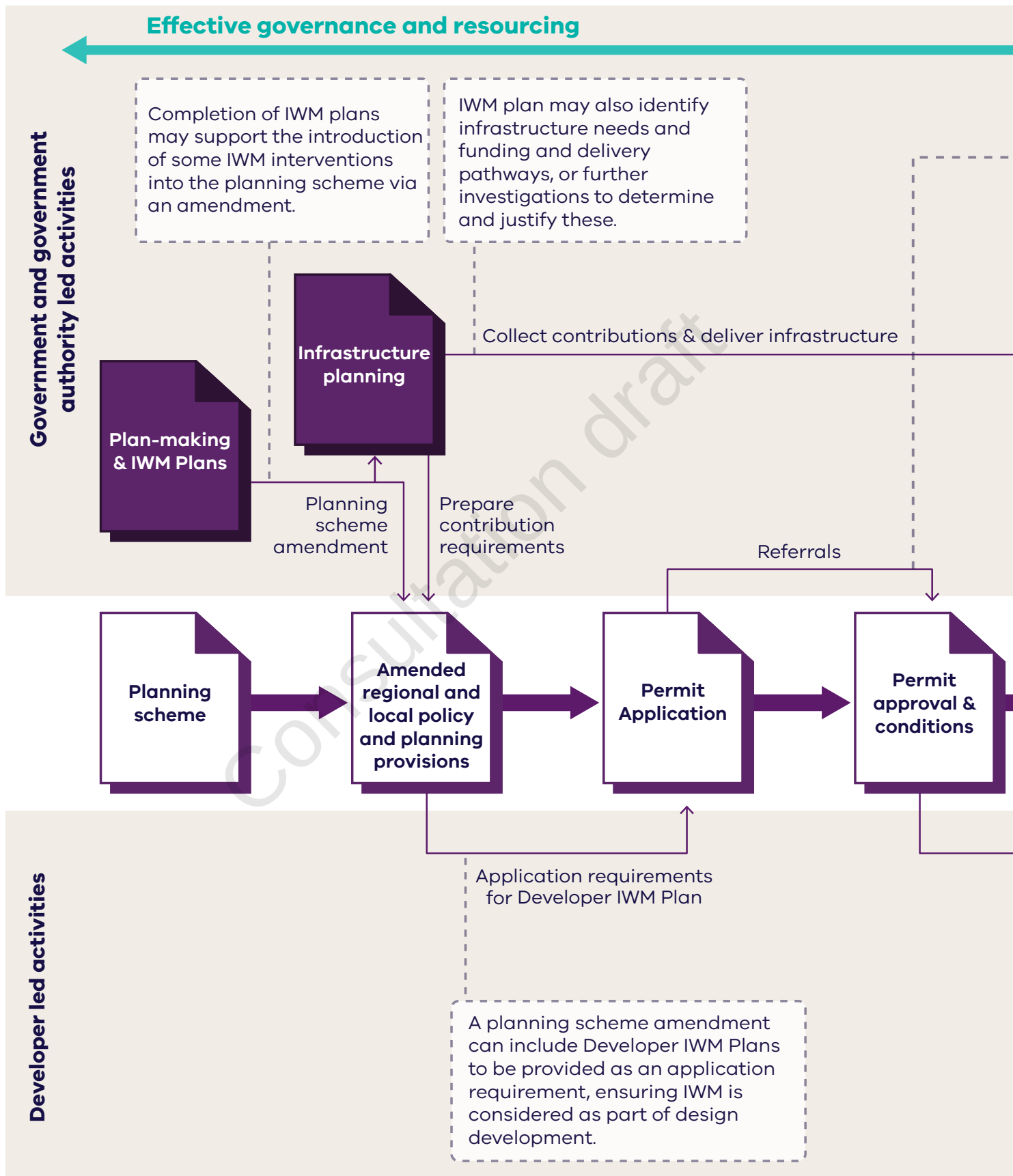


Figure 14
Implementation mechanisms across land use planning and development process.

IWM planning can enable shared priorities and objectives to be determined across stakeholders which can be included in permit referrals, and build the processes, relationships and resources to support this.

Effective governance, resourcing and relationships supports all implementation activities, ensuring strategic intent aligns with delivery and resources and skills are efficiently shared.

Subdivision

Building
permit app
and decision

Develop and
occupancy
permit

Permit conditions for Developer IWM Plan

Other post-permit activities:

- Other permit conditions
- S173 negotiations
- Developer contribution payments

Permit assessment and approval triggers a range of opportunities including introducing permit conditions for the preparation of IWM plans, negotiation of voluntary agreements, and collection of contributions.

Building and
plumbing
regulations

Enforcement and
certification, incl.
building permits

A range of opportunities exist post-permit approval for further consideration of IWM (mainly relating to certification) such as building permitting and certification and infrastructure and utilities approvals and connections.

Direct implementation

Mechanisms relating to the direct delivery of IWM infrastructure and projects, and the activities required to develop these.

Infrastructure project development and delivery

Direct implementation largely refers to the actual delivery of IWM infrastructure by developers or agencies. Infrastructure requirements may include:

- Minimum improvements required to make sites developable.
- Additional infrastructure and embellishments which produce enhanced outcomes beyond the minimum requirements.
- Alternative infrastructure options to meeting the intended or enhanced outcomes.

Minimum infrastructure requirements are typically established by statutory mechanisms and land use planning processes (such as precinct planning) and have clear delivery and funding pathways and delivery responsibilities.

Where additional or alternative infrastructure is proposed, such as IWM infrastructure identified through the IWM planning process, details of such infrastructure must be sufficiently developed and justified in order to effectively embed them within land use plans and subsequent statutory planning requirements. Without this, proposed infrastructure may face opposition from stakeholders and community through the planning process.

Proposed infrastructure should ideally establish:

- Consensus amongst stakeholders.
 - Strategic and technical justification and detail.
 - A clear delivery pathway, including lead delivery party, funding source and delivery timeline.
- Land use and IWM planning play a role in identifying IWM infrastructure opportunities, coordinating stakeholders and establishing strategic justification, and integrating infrastructure with broader planning objectives and spatial needs. Further investigations are usually required to develop a clear evidence base for the scheme and develop design, funding and delivery details. Further investigations should include identification of land required for key projects which can be included within the precinct plan, and should identify next steps and key timing for infrastructure opportunities to be progressed. The planning process can identify these next steps and must allow sufficient time following plans for infrastructure opportunities to be developed.

Additional or alternative infrastructure needs can be delivered by developers or public authorities depending on the type of infrastructure. The extent to which developers can be required to contribute to infrastructure funding or delivery is typically determined by the nexus between the development and the demand that the development generates for infrastructure or the extent to which the development benefits from the infrastructure. Infrastructure funding mechanisms are discussed briefly in the funding section below.

Statutory planning mechanisms

Mechanisms relating to statutory planning policy, controls and processes contained within the planning scheme and other legislative instruments derived from the Planning and Environment Act 1987.

Understanding statutory planning and the planning scheme

Statutory planning mechanisms refers to mechanisms governing land use and development enabled by the PE Act. A planning scheme is a statutory document that provides the rules and policies which govern how land is used and developed. Each local government area has its own planning scheme.

Planning schemes and the way in which they influence land use and development can be used to contribute to achieving IWM related objectives, to the extent permitted by the PE Act.

As statutory planning mechanisms are governed by the PE Act, there are strict requirements for how the planning scheme can and can't be used and any proposal to utilise statutory planning mechanisms should engage the necessary skills and disciplines.

All planning schemes by default are comprised of:

- The Planning Policy Framework, which includes:
 - **State level planning policy** which all planning schemes must include and align with.
 - **Regional and local policy** which is set according to the needs of local areas but which must align with state planning policy and the objectives of the PE Act.
- Provisions derived from the VPPs, the standardised planning scheme set by the State Government, and including:
 - **Zones and Overlays** which are selected and applied to give effect to the objectives of the planning scheme and the PE Act.
 - **Particular Provisions, General Provisions and Operational Provisions** which must be included in full in all planning schemes.
 - **Schedules** which can be introduced to local planning schemes to vary provisions where permitted by the VPPs for local context and need.

A summary of the baseline planning policies and provisions is provided in **Direction Setting**.

Planning scheme amendments

What is a planning scheme amendment and how can it be used?

Where Plan making has occurred, planning scheme amendments can be undertaken to alter the local planning scheme. Amending the planning scheme to incorporate elements of IWM and land use plans, such as objectives, maps, standards or requirements, can provide a statutory mechanism to enforce or influence outcomes as they relate to land use and development, to the extent permitted under the PE Act.

A planning scheme amendment can be used to:

- **Introduce local or regional policy** that reflects more localised IWM and land use planning and strategy. For example:
 - At a local scale, Amendment C127Wsea introduced a local policy Clause 22.02 Integrated Water Cycle Management to the City of Whittlesea planning scheme.
 - At a regional scale, Amendment VC201 updates 13 planning schemes across Melbourne's west to introduce a regional policy (Clause 12.03-1R) derived from the Waterways of the West strategic waterway planning, including objectives, strategies and incorporated documents, and introduces new Significant Landscape Overlay schedules for the affected areas.
- **Apply zones and overlays to specific locations** For example Amendment C69 Moyne updates flooding controls to identify areas subject to the combined effects of riverine flooding and coastal inundation under localised sea level rise projections.
- **Introduce schedules to zones and overlays** to customise the provision (to the extent allowed by the VPPs) to allow for local planning circumstances and objectives.

Schedules can provide opportunities to introduce specific IWM objectives, standards and considerations, permit requirements, application requirements to provide specific plans or information, and standard permit conditions. For example, a schedule to a zone could be included through a planning scheme amendment to introduce an application requirement to provide a Developer IWM Plan as part of any permit application and specify the required content of this Plan.

- **Introduce plans as background documents or incorporated documents** to be referred to within the planning scheme, such as a floodplain development plan, a guidance document or a precinct plan. For example, the C69 Moyne amends the Schedule to Clause 72.04 to include the Port Fairy Coastal and Structure Plan (Moyne Shire Council and Hansen Partnership, 2018), Translation of Port Fairy Coastal Hazard Assessment - Port Fairy Coastal and Structure Planning Project (Cardno, 2019) and Moyne Amendment C69 Flood Summary Report (HARC, 2021) as background documents.
- An incorporated document forms part of and carries the same weight as other parts of the planning scheme and can only be changed by a planning scheme amendment. Incorporated documents are provided for in Clause 72.04 of the planning scheme. The decision to incorporate a document should only be considered when there is no suitable alternative in the scheme to achieve the required outcome and the document is essential to effectively administer the planning scheme.
- A background document is a document which is referred to in a planning scheme but has not been formally incorporated. Background documents are provided for in Clause 72.08 of the planning scheme. It can be used to provide context and assist the understanding of the provisions within the planning scheme, or which has informed the preparation of a planning scheme amendment. It does not carry statutory weight unlike an incorporated document.

Amendments to the planning scheme apply in addition to the Particular Provisions which are standard across all planning schemes and which include a range of clauses relating to IWM.

How is a planning scheme amendment implemented?

Planning scheme amendments are led by the Planning Authority, typically the local government, who is responsible for managing the planning scheme. Planning scheme amendments are one of the most significant tools to shape local planning and decision making, but are time and resource intensive processes and the suitability and extent to which they are used to facilitate IWM objectives should be considered carefully during the Plan making stage.

Amendments must have clear strategic and technical justification. This can be provided by the IWM and land use Plan making and direction setting phases or more detailed investigations subsequent.

It is important that implementation mechanisms of a plan are considered during the Plan making stage to ensure that the delivery mechanisms are feasible, an appropriate level of analysis and documentation is prepared to support these, and that sufficient time is allowed for this.

Planning scheme amendments also benefit from the support of impacted stakeholders who may be entitled to make a submission or object to the proposed amendment and which can add significant time and cost to the process or may result in the failure of the amendment all together.

Further detail on the amendment process and its requirements can be found at: <https://www.planning.vic.gov.au/planning-schemes/amendments/amending-a-planning-scheme>.

Permit Conditions

What is a permit condition and how can it be used?

Permit conditions are requirements that can be included as part of an approved planning permit. They enable the approval of planning applications subject to the satisfaction of permit conditions that are specified in the planning permit.

Permit conditions can be introduced to help to ensure the approved plans align with the objectives and requirements of the planning scheme, recommendations of referrals authorities, and other conditions the responsible authority may think appropriate.

For example permit conditions are sometimes used to require an applicant to complete a Developer IWM Plan, to amend a proposed plan in order to achieve a planning objective, or to enter into a voluntary Section 173 Agreement.

If a condition is expected to be recurring and included in all developments, it is recommended that it should be included within the planning scheme to enable the objective to be met prior to lodging a permit application. For example conditions to provide a Developer IWM Plan could instead be included as an application requirement in the planning scheme.

How is a permit condition implemented?

A permit condition can be identified and included in a planning permit as part of the permit assessment and approval process. Planning applications are evaluated by the responsible authority, who are responsible for administering and enforcing the planning scheme. Typically this is the relevant local government. A permit condition can be required as part of the assessment of the permit application. A permit may also be referred to another determining or recommending authority (refer to Referrals and notices section below) who may direct or request a permit condition be included on the permit.

Four basic principles have been established for determining the validity of permit conditions. Any condition must:

- Be related to the planning permission being granted.
- Fulfill a planning purpose.
- Be reasonable.
- Accurately convey its intended effect and avoid uncertainty and vagueness.

It is generally not appropriate for a condition to require unqualified compliance with other documents as it is too vague and specific standards or sections must be identified and relevant in order to be lawfully included as a permit condition. Generally conditions should relate to the purpose and requirements of the planning scheme or at minimum an approved document, however permit conditions with lower levels of statutory justification may risk being challenged and overturned by the applicant.

Referrals and notices processes

What is a referral and how can it be used?

Referrals refer to requirements for the responsible authority to give a copy of planning permit applications to the authorities specified within Clause 66 of the planning scheme for advice on whether a permit should be granted. Referral authorities can object to the grant of a permit, decide not to object to a permit or specify conditions to be included on a permit. They can also request further information from the applicant in order to provide their advice. Referral authorities may be determining authorities whose advice must be complied with, or recommending authorities whose advice must be considered.

A referral might be included to provide technical advice on the impact of an application on a stated policy relating to IWM, the satisfaction of a proposal with standards or criteria of other applicable legislation or regulations, the impact on public assets including waterways, or other specialist advice.

The referral authority may, in addition to giving directions to the council, provide any other advice which it believes is relevant to the application and may assist the council in reaching its decision. Such advice should be clearly distinguished from any directions that must be complied with.

What is a notice to an authority and how can it be used?

Alternatively, a planning scheme may require that other authorities are given notice of specified applications or that the views of other authorities be considered. A notified authority may lodge an objection to the application at their discretion. Objections will be considered by the responsible authority under the same review rights as any other objector.

Providing notice of an application may be more appropriate where an authority needs to be aware of an application but does not need to always receive a copy of an application or provide advice.

How is a referral or notice requirement implemented?

Specified referral authorities and requirements for notice of permit applications for a variety of development application types are listed in Clause 66.01, 66.02, 66.03 and 66.05 of the planning scheme. Local governments may include additional referral or notice requirements for specific permit application types through a planning scheme in a schedule to Clause 66.04 and Clause 66.06 respectively.

Permit conditions can be introduced to help to ensure the approved plans align with the objectives and requirements of the planning scheme, recommendations of referrals authorities, and other conditions the responsible authority may think appropriate.

Where a referral requirement exists, a copy of the permit application and supporting prescribed information must be provided to the authority for their advice to be provided. The effect of this advice is dependent on whether the referral authority is a determining or recommending authority.

Section 173 Agreements

What is a s173 Agreement and how can it be used?

Section 173 (s173) Agreements refer to agreements that can be entered into with landowners to set conditions or restrictions on the use or development of land or to achieve other planning objectives in relation to the land. S173 Agreements are enabled by the PE Act and attach conditions to the land title and so is binding for future landowners and developments. It also has a strong statutory basis that supports enforcement.

S173 Agreements can be used in a wide variety of ways as their purpose is to enable bespoke detail and issues to be voluntarily dealt with. Examples of how they could be used in relation to IWM include:

- Coordination of development with adjoining landowners or other regulatory authorities, for example the delivery of IWM infrastructure across multiple properties within an urban renewal precinct or urban infill development context.
- To provide for staged developments, for example to ensure early provision of precinct-scale IWM infrastructure to enable lot-scale responses to the availability of that infrastructure.
- Rehabilitation of property, repair of the environment, heritage protection or vegetation protection, for example the protection of specific waterways or management of runoff into nearby waterways.
- Provision of specific development infrastructure, such as IWM infrastructure.
- Securing developer contributions under a contributions plan or contributions toward IWM infrastructure.

How is a s173 agreement implemented?

S173 Agreements can be entered into by any two parties but typically are negotiated between the responsible authority and the landowner. Due to their flexibility, they can be well suited to addressing specific planning objectives for an area or a site or include a level of detail that is not possible under the existing provisions of the planning scheme or through a permit condition.

The requirement to enter into a s173 Agreement can be included as a permit condition or included in a planning scheme via an amendment, however the details of the agreement are subject to negotiation. Typically, negotiation of a s173 Agreement occurs prior to the commencement of a specific use or development in a time defined by the permit condition or the planning scheme.

However, s173 Agreements can be complex and costly to draft and execute, and once implemented difficult to change. If drafted poorly they can also lead to further dispute or delay and poor enforcement. A s173 Agreement should not be used if the objective can otherwise be met through the established planning provisions or use of permit conditions.

Further detail on how voluntary agreements operate and can be used can be found in **Chapter 8 of the Guide to Victoria's Planning System.**

Further references

Detailed explanation and guidance on how and when to use the planning scheme can be found in:

- **Guide to Victoria's Planning System** – A technical guide to interpretation and administrative procedures about the planning act and planning schemes.
- **Practitioner's guide to Victoria's Planning Schemes** – sets out key rules and helps practitioners formulate and draft planning scheme provisions.
- **Planning Practice Notes** – Advice about the operation of specific Victoria Planning Provisions, planning schemes and planning processes and topics.



Case study

Greening the Greyfields

Embedding IWM objectives in the planning scheme

Ringwood and Croydon South were part of the Greening the Greyfields project which aims to improve the outcomes delivered by infill redevelopment by supporting lot amalgamation and precinct outcomes including relating to IWM. Precinct plans were prepared which included IWM strategies and were directly included in the planning scheme using Development Plan Overlays, Developer Contribution Overlays and local policy.

Non-statutory planning mechanisms

Mechanisms relating to strategic land use planning processes and practices outside of the planning scheme and which can support design and development decisions and processes.

Preparing and integrating IWM plans within land use planning

Outcomes at the implementation stage of the IWM process can be significantly improved by completing IWM Plans within the Plan making stage and is a primary focus of these Guidelines.

These plans provide the direction, strategic justification and underlying and supporting analysis to influence development and infrastructure delivery. Completing IWM Plans and integrating them within land use planning helps to integrate outcomes with competing objectives of place, and provides a pathway for key projects to be developed, including identifying delivery and funding pathways. In addition, integrating IWM Plans with land use planning processes provides opportunities for outcomes to form part of a planning scheme amendment where appropriate.

Detailed guidance on preparing IWM Plans is provided in the [Plan Making](#) section.

Developer IWM Plans

Ideally, IWM opportunities are explored early in the planning process and embedded in the planning scheme through precinct or municipal plan making processes. Accordingly, the development scale IWM response are prompted by the subsequent planning application and development delivery processes and their responses to planning requirements set in place by the Plan making stage.

However, in cases where further exploration of IWM opportunities is required at a subdivision or development scale, a Developer IWM Plan can be prepared for submission to relevant authorities. A Developer IWM Plan can either be:

- **Required through an application requirement** within the planning scheme, which can be included through a planning scheme amendment. Where this is the case, Developer IWM Plans must be submitted as part of a planning application, encouraging IWM to be considered as part of the design process.
- **Required through a permit condition** during the permit application assessment process, for submission post-planning application. Considering IWM in later stages of design can make changes more difficult to incorporate.



Case study

Arden Urban Renewal Precinct

Arden is an inner-city urban renewal precinct that integrated strategic cluster and precinct IWM planning in its structure plan and a planning scheme amendment.

The contents of a Developer IWM Plan should be specified through these mechanisms, differing depending on the scale and detail of previous work in the area. Content of a Developer IWM Plan could generally include:

- ❑ Description and detailing of IWM opportunities proposed for delivery in the development.
- ❑ How the proposals respond to place-based conditions, and any objectives or guidance outlined in Precinct or Municipal Scale IWM Plans (where applicable).
- ❑ Spatial integration, phasing and adoption arrangements for proposed IWM infrastructure and services, including:
 - Water supply (potable and alternative).
 - Wastewater management.
 - Stormwater management.
 - Flood management.
 - Waterway protection and improvement.
 - Water management to support urban amenity and open space.



Case study

Developer IWM Plan Guidance

To ensure developers maximise opportunities and respond to the overarching plans for precincts and the municipality, the City of Melton created a requirement for developers to produce a development scale IWM Plan as a planning application requirement. This was supported by a guidance document prepared in partnership with Greater Western Water to set out how to prepare these IWM Plans.

Developer guidance documents (including the Infrastructure Design Manual)

Guidance can be prepared to provide more specific design standards or spatial guidance on key outcomes and requirements, such as spatial plans or infrastructure design standards. These can also be used to support interpretation of planning controls through concepts and examples that reflect preferred outcomes.

The Infrastructure Design Manual (IDM) is a joint initiative of Victorian rural and regional Councils working together to formulate and maintain a set of consistent requirements and standards for the design and development of infrastructure. Similarly the Engineering Design and Construction Manual for Subdivision in Growth Areas (EDCM) was developed by the VPA in collaboration with a number of growth-area municipalities to provide standards, specifications and processes for the planning, design and construction of subdivision infrastructure.

IWM Plans may also identify the need for more specific guidance documents to be created to respond to specific issues, such as the 'Greening the Greyfields' playbooks created to guide responses to the planning scheme. See case study, [p. 127](#).

Guidance documents can be included as a reference document within the planning scheme or as a resource to support developer infrastructure delivery separate to the planning scheme – however it is not recommended that Guidelines be introduced as incorporated documents at this stage.

Refer to www.designmanual.com.au/ for further detail on the IDM, and <https://vpa.vic.gov.au/strategy-Guidelines/engineering-standards/> for further detail on the EDCM.

Other delivery mechanisms

Mechanisms not specifically relating to land use planning but which are important and related parts of delivering IWM outcomes.

Governance and collaboration

Governance describes the frameworks for allocating roles and responsibilities and processes for making decisions. Because the responsibilities, benefits, and impacts of IWM are spread among multiple stakeholders across sectors, government, community and industry, effective governance is critical to establishing shared objectives and coordinating implementation activity to deliver these.

Key governance initiatives to support implementation include:

- Developing shared visions, priorities and objectives to inform Plan making and ensure consistent advice and activity across organisations (discussed in [Plan Making](#) section).
- Overseeing the implementation of an IWM plan including delegating responsibility for developing and implementing key actions and being a point of contact and deliberation regarding the IWM plan.
- Establishing agreed processes for collaborating across organisations or disciplines, for example how planning applications should be evaluated or referred, monitoring outcomes and ensuring enforcement and compliance.
- Sharing resources, for example establishing a cross-organisational practitioner forum which can advise infrastructure projects, discuss planning applications, and share knowledge and problem-solving.

Collaborating with developers

Early involvement of developers in IWM planning and optioneering can support delivery and inspire innovation. There are opportunities to establish long-term relationships with developers, sharing new practices and approaches that can be used across multiple developments.

This may be particularly effective in regional Victoria where practitioners may be consistently dealing with the same developers or builders, creating an opportunity to establish productive relationships and a shared practice.

Requiring Developer IWM Plans at early stages of design can provide opportunities for developers to propose and discuss IWM ideas for specific developments with authorities and ensure there is alignment across all place-based objectives.

Funding mechanisms

Identifying funding sources for key IWM infrastructure projects is an important component of providing certainty of delivery to support the ability to direct development to respond to this infrastructure. Funding sources might include public and private funding or a combination of both. While funding is beyond the scope of these Guidelines, key funding sources have been summarised below. Each of these provide potential funding options but have strict limitations and use requirements that must be considered.

Further guidance on cost allocation and funding arrangements for IWM can be found in the [Toolbox](#).

Development services schemes (DSS)

Development services schemes are used in the Melbourne region to plan, fund and deliver stormwater drainage infrastructure for new urban development to address flood protection, water quality and waterway health. DSSs are currently only administered by Melbourne Water, as its unique dual role as both a wholesaler and a catchment management authority enables it to do so. Outside the Melbourne region, urban drainage is managed by local government utilising developer infrastructure contributions.

Drainage schemes are a masterplan and strategy for infrastructure requirements to service and are typically prepared at the catchment scale. They provide functional designs of key infrastructure including pipelines, overland flow paths, retarding basins, wetlands, floodways and other drainage and waterway quality treatment measures.

A DSS is funded by contributions paid by new development when development occurs and

reflects the apportioned costs of the identified infrastructure. Contributions include a hydraulic component funding flood protection, and water quality component which funds water quality treatment works. Contributions are typically collected prior to certification of subdivision. They cannot fund resourcing or operational costs.

Typically, the remit of a DSS is limited to meeting specific objectives in response to minimum planning requirements. Accordingly, in many cases it cannot be used to fund broader IWM initiatives and infrastructure, though it can often be planned and delivered in a way that supports IWM. For example, stormwater treatment wetlands are commonly funded and delivered through a DSS, and these can be planned and designed to integrate stormwater harvesting, however additional infrastructure required to facilitate harvesting would typically not be funded through the DSS.

DSSs are most effective where they are prepared in advance of precinct and township Plan making and so any land-take and developer levy requirements are incorporated into those plans. DSS funds can also be used to fund IWM infrastructure where those IWM assets can be shown to be substituted for infrastructure permitted within the DSS parameters and are of comparable function and cost.

Infrastructure may be delivered by developers as works-in-kind or with reimbursement from the DSS funds, or by the water corporation.

In some circumstances alternative contributions schemes have been prepared by water corporations that allow a wider range of infrastructure to be included within the scheme. The URCRS applied to the Arden Urban Renewal Precinct provides an example.

Developer infrastructure contributions

Developer infrastructure contributions refer to funds collected from developers to fund and deliver shared infrastructure. They typically fund infrastructure requirements that are required to support the establishment of a new community and which is shared across multiple landowners, such as schools, open spaces, stormwater drains, and roads and paths. Developer contributions may be used to fund some IWM infrastructure needs – however depending on the contribution mechanisms available, these can be very prescriptive regarding what can and can't be funded.

Developer contributions require infrastructure to be strategically justified and to have a clear nexus between the funded infrastructure and the demand generated for it by new development.

Common developer contributions schemes include developer contributions plans (DCP) and infrastructure contribution plans (ICP) which can be varied to reflect specific infrastructure requirements however may not be available to be used in all areas. DCPs and ICPs can be introduced via a planning scheme amendment through the application of an overlay. The Growth Area Infrastructure Contribution (GAIC) fund serves a similar function however is fixed in amount and areas it applies to and has less scope to support IWM initiatives.

A summary of what is and isn't permitted to be funded by the DCPs and ICPs is provided in the following table – there are strict requirements and detailed conditions for how these funding mechanisms and detailed guidance should be consulted if being considered. Refer to Table 7 (right).

Infrastructure may be partially funded by developer contributions and supported by additional funding from other sources.

Further information can be found on the [**DTP Website for Infrastructure Contributions.**](#)

Public funding

The above mechanisms describe means for collecting funds from developers to fund infrastructure provision. These can also be funded by public funding from government or government agencies and authorities.

In addition, public funding plays a critical role in funding the preparation of plans, ongoing operation and maintenance of assets, and resources required to support key planning processes. Proposals for IWM infrastructure or processes should ensure they consider the need for funding for the ongoing operation and resources required to support them.

Table 7: Summary of key differences between Developer and Infrastructure Contribution Plans

	Developer Contribution Plans (DCP)	Infrastructure Contribution Plans (ICP)
Allowable Infrastructure	- Construction of roads, including bicycle and footpath. - Construction of public transport infrastructure. - Basic improvements to public open space - Drainage works. - Buildings and works for specific community uses. - Acquisition of land for, but not limited to, the above.	- Community and recreation infrastructure. - Transport infrastructure. - Drainage infrastructure. - State infrastructure. - Land contribution or funds for the acquisition of land for use for allowable public purposes, such as for public open space, community and recreation facilities, transport infrastructure or other essential infrastructure for the development of the ICP area.
Other Notes	A maximum levy for community infrastructure applies.	An ICP can only be applied in development 'settings' specified in the Ministerial Direction on the Preparation and Content of Infrastructure Contributions Plans. This states that the ICP can only be applied to metropolitan Greenfield Growth Areas.

Sustainability ratings tools

A range of sustainable rating systems are available that provide a framework to address a range of sustainability objectives including those relating to IWM, often including guidance and certification processes. Examples include:

- Green Star ratings.
- Built Environment Sustainability Scorecard (BESS).
- Sustainable Subdivisions Framework.
- Infrastructure Sustainability Rating Scheme

In some situations, third party tools or targets can be referenced in planning schemes as a means of demonstrating a development proposal achieves the objectives or standards of a planning provision. This will require a planning scheme amendment. Their use to support best practice project design can be encouraged through guidance and other non-statutory processes. Sustainable ratings tools provide an accessible means to provide direction on best-practice and measuring compliance. They are also dynamic and are updated as new technology and practices emerge. This changeability may mean they are difficult to introduce into the planning scheme however and so may be better suited to use separate to the planning scheme.

Non-planning regulations and standards

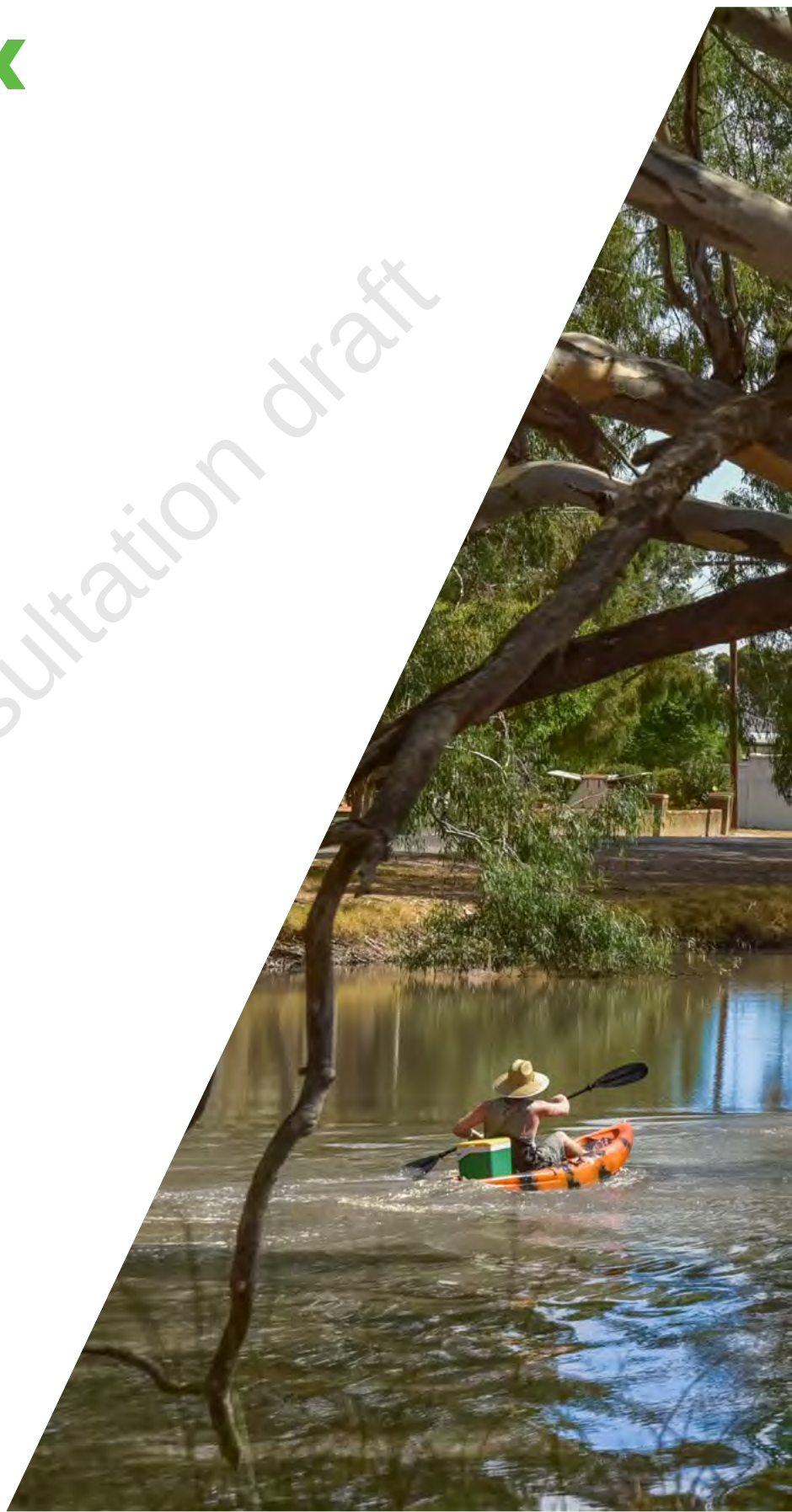
Water corporations provide conditions for connection which must be satisfied in order to receive water, recycled water and sewerage connections. These provide an opportunity to direct and check delivery of IWM measures within a water corporation's control and could provide an implementation mechanism for lot scale water management measures where they are deemed appropriate. However, it would be best practice to highlight these requirements much earlier in the process.

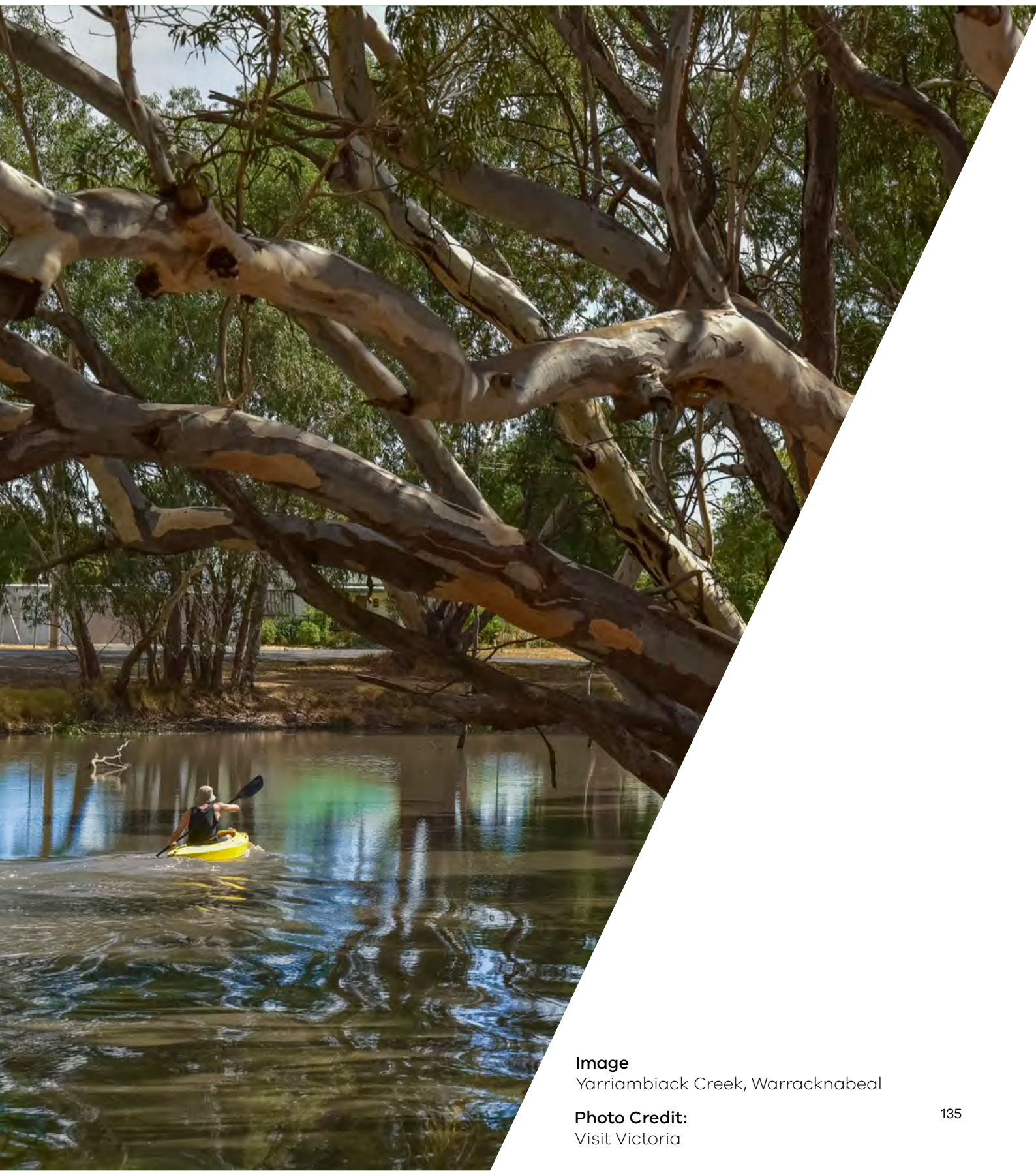
In addition, building and plumbing regulations can influence outcomes as part of the broader development process. Once a planning permit has been issued, development applications are required to obtain a building permit by submitting plans that demonstrate compliance of designs with relevant construction standards. Additionally, designs for infrastructure such as roads and open spaces may require authorisation with the relevant authorities prior to commencing construction.

Toolbox

Part 3

Consultation draft





Image

Yarriambiack Creek, Warracknabeal

Photo Credit:

Visit Victoria

Practitioner's Toolbox

A summary of key methods and techniques that can be used in preparing IWM plans and how they can be applied.

There are a range of tools, methods and guidance which can assist with the development of an IWM plan. This toolbox brings together key reference material and insights for eight activities.

Developing a water and pollutant balance

IWM performance measures and targets

IWM opportunities

IWM Sprint

Preliminary assessment method for IWM opportunities

Adaptive planning

Cost-benefit analysis and cost allocation

Stakeholder workshops

Traditional Owner partnerships



Developing a water and pollutant balance

A water and pollutant balance is required when developing an IWM Plan as it describes the local water cycle, both now and in the future. It characterises the changes that development, climate change and urbanisation make to the local water cycle.

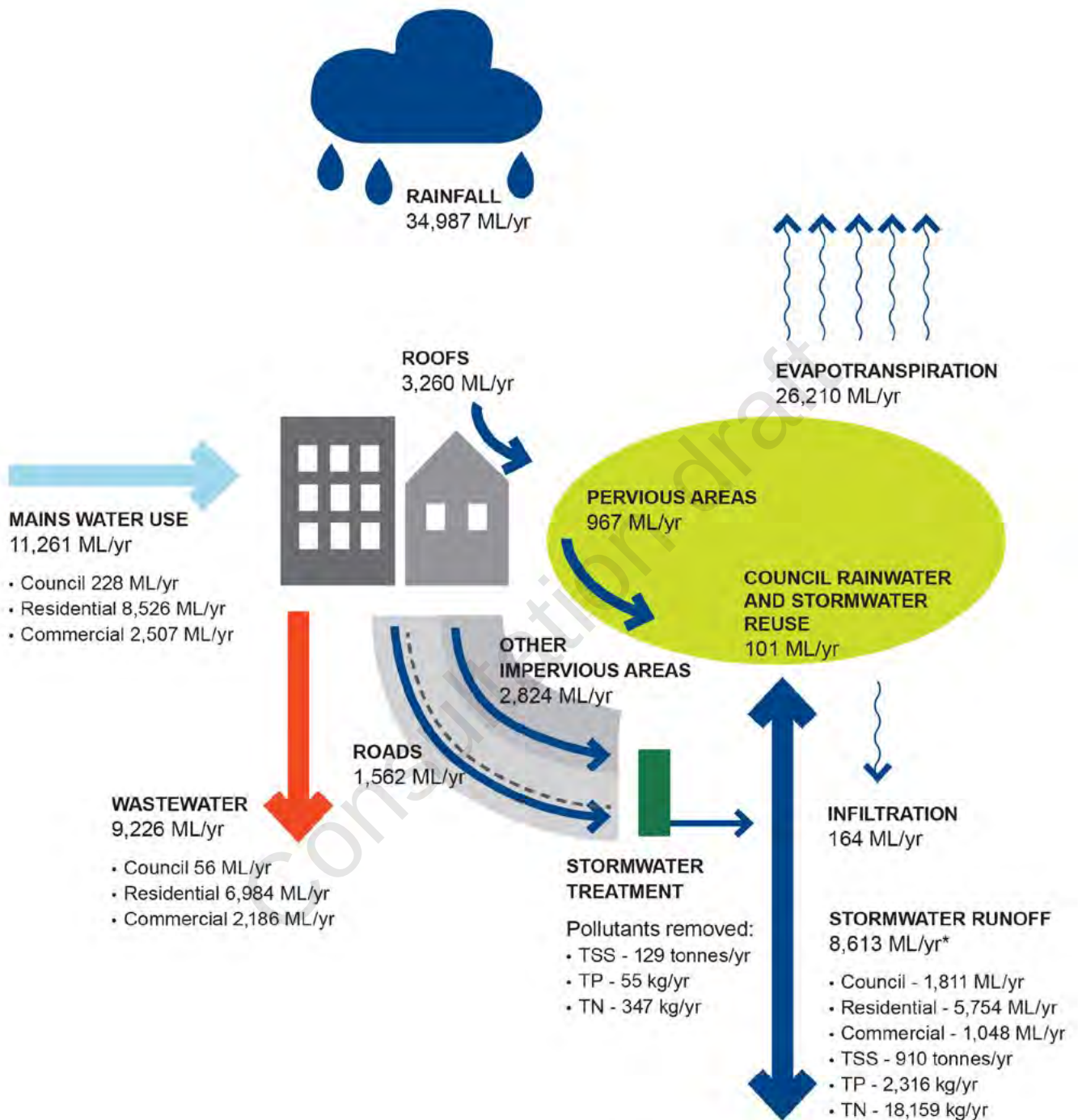
The type of information and level of detail captured in a water and pollutant balance depends on the scale of plan or project and the development context. For example, a Strategic Cluster IWM Plan may only be interested in the overall water demand and volume of stormwater and wastewater generated from the area, while a Municipal or Precinct IWM Plan may be interested in delineating the water balance according to land use and location (e.g. existing areas vs new

development, private vs public realm, or areas of residential, commercial or industrial development). Industrial precincts should consider the need to structurally isolate runoff from some land uses with particular pollutants from the stormwater system and the potential need for speciality trade waste agreements to address this particular load. Figure 15 is an example of a water and pollutant balance for the City of Darebin IWM Plan, where the impacts on the water cycle were understood for council assets, and for different types of land use. In this case, the delineation helped council to determine areas to target to achieve the most benefits.

Table 8 below describes the key elements to include in a water and pollutant balance and how to calculate them.

Table 8: Elements to include in a water and pollutant balance

Water cycle element	How to calculate
Potable and non-potable water demand	Potable and non-potable water demands for a site depends on land use, and local population / dwelling projections. These inputs are required to perform a water balance under existing and future conditions. - Estimates of potable and non-potable demand rates for different end uses can be agreed with the local water corporation. - Population and dwelling projections can be agreed with the relevant planning authority.
Wastewater generated	An industry standard assumption is that 80% of total water demand will be turned into wastewater.
Stormwater runoff generated from impervious and pervious areas Stormwater pollutant concentrations	Both pre-development and proposed development conditions, as well as climate change scenarios should be modeled to determine stormwater runoff volumes and pollutant loads from the site. A suitable hydrological and water quality model should be used to complete this modeling. Model for Urban Stormwater Improvement Conceptualisation (MUSIC) is a commonly used model for this purpose. While MUSIC is commonly utilised, there are also other modeling approaches available. eWater Source modeling might be suitable for larger catchments. Melbourne Water have developed Guidelines to provide guidance on modeling approaches and input parameters for MUSIC models within Victoria. The Guidelines should be used to provide guidance on the following input parameters: - Rainfall and evapotranspiration templates (preferably 10-year period). - Impervious fractions for different land uses. - Soil parameters.



Key:

TSS = Total Suspended Solids

TP = Total Phosphorus

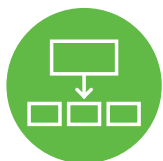
TN = Total Nitrogen

ML / yr = Megalitres per year

*pre development runoff is estimated to be 1/4 of current runoff volume

Figure 15

A water and pollutant balance summary diagram for City of Darebin (Watershed: Towards a Water Sensitive Darebin 2015-2025) Policy and Provisions.



IWM Performance Measures and Targets

The IWM Forum's Strategic Directions Statements commonly set out a set of seven strategic outcomes aiming to be achieved by adopting IWM. Some Forums have expanded this to eight strategic outcomes, incorporating an additional focus on achieving self-determined Traditional Owner priorities and aspirations, as well as integrating Traditional Owner knowledge and values. It's worth noting that the IWM Framework initially included only five outcomes, indicating the evolving nature of IWM practice in the state.

The five IWM Forums in the metropolitan Melbourne region collaborated to develop Catchment-Scale IWM Plans, which set out a series of performance measures and targets to track progress towards these strategic outcomes. These are articulated in the Catchment scale IWM Plan: Targets Driving Outcomes for each catchment, published in 2022 and available on the [Victorian Government website](#). The targets were predominantly set out at a region (i.e. metropolitan Melbourne region) or catchment scale, with some targets for greening and stormwater management set at a municipality scale by considering the evidence available at the time of development of targets (i.e. in 2021).

These strategic outcomes and the associated measures provide a valuable framework for assessing the performance of IWM options during plan development. While some measures are

only relevant at a regional or catchment scale, others can be evaluated at a more localised level (Strategic Cluster, Municipality or Precinct).

Table 11 suggests assessment measures suitable for the plan making scale to make comparisons between IWM opportunities. By utilising a consistent set of measures for plan making it will assist with monitoring of progress and assessment of contributions to regional or catchment targets where these are in place.

Setting place-based targets in IWM Plans

Targets can be set out in Cluster, Municipal and Precinct IWM Plans, and applied at the plan scale, or set out for smaller scales to be delivered under the plan (e.g. lot scale). Targets are commonly set through planning, and can be an effective way of demonstrating performance against objectives, while also embedding flexibility for developers to propose various solutions that will result in the desired outcome. Planning schemes often set targets for various land development aspects, such as affordable housing proportions or the proportion of open space. Ultimately, the meeting of targets are considered alongside other site constraints and planning drivers, and are assessed through the planning approvals process.

In setting a target, it must be measurable, understandable and easy to assess so that developers can demonstrate compliance, and planning authorities can review applications accordingly. Table 11 suggests seven cornerstone targets (CT1-7) which could be set out in IWM Plans and the following tables describe how these targets could be derived during the Precinct IWM Plan development process, and embedded in subsequent implementation processes.



Table 9: Suggested plan making scale IWM measures to align with strategic outcomes in metropolitan Melbourne

Strategic outcome	Parent CSIWM measure	Suggested plan making IWM measure	Units	Suggested Precinct IWM Plan Cornerstone Target (CT)
Safe, secure and affordable supplies in an uncertain future	1.1a, 1.1b	Reduction in potable water use due to water efficiency measures	Megalitres/ year	Yes - CT1
	1.2b	Reduction in potable water use due to alternative water supplies	Megalitres/ year	Yes - CT2
Effective and affordable wastewater systems	2.1a	Volume of recycled water delivered to customers.	Megalitres/ year	No
Existing and future flood risks are managed	3.1, 3.2	Rating of impact of downstream pluvial flood mitigation.	High/ Medium/ Low	No
Healthy and valued waterways and marine environments	4.1	Reduction in mean annual runoff volume.	Megalitres/ year	Yes - CT3
	4.2a	Total Suspended Solids (TSS) prevented from discharging to receiving waters.	Tonnes/ year	No
	4.2b	Total Nitrogen (TN) prevented from discharging to receiving waters.	Tonnes/ year	No
Healthy and valued urban and rural landscapes	5.1	Number of street trees supported by an alternative water source.	Number	Yes - CT4
	5.2a	Area of active open space supported by an alternative water source.	Hectare	Yes - CT5
	5.2b	Area of active open space supported by an alternative water source.	Hectare	Yes - CT6
Traditional Owner values, opportunities and inclusion	6.1a, 6.1b	Rating of degree that Traditional Owner values are embedded in the opportunity.	High/ Medium/ Low	No
Community values are reflected in place-based planning	6.2	New blue-green infrastructure created or enhanced.	Hectare	Yes - CT7
	6.3	Rating of contribution to community literacy.	High/ Medium/ Low	No
Jobs, economic benefits and innovation	7.1a	Volume of alternative water supplied to agriculture.	Megalitres/ year	No
	7.1b	Volume of alternative water supplied to businesses and industry.	Megalitres/ year	No

Table 10: Recommended derivation methods and precedents for seven cornerstone place-based targets

Cornerstone target CT1	Reference target	
Volume of potable water reduced through water efficiency measures Existing requirements: 3-star showerheads (9.0 l/min) 3-star toilet (6.0 l/flush) 2-star urinals (non-residential) 3-star kitchen and laundry taps (9.0 l/min) 3-star basin taps (9.0 l/min)	Achieve a 12% reduction in potable water use in new residential and non-residential buildings compared to buildings meeting existing minimum water efficiency fixture requirements as per the 2022 National Construction Code.	
	Example requirements to meet the performance target for residential buildings: 4-star showerheads (6.0–7.5 l/min) 4-star toilet (4.5 l/flush) 2-star urinals (non-residential) 4-star kitchen and laundry taps (6.0–7.5 l/min) 5-star basin taps (4.5–6.0 l/min)	For non-residential buildings, compliance is deemed satisfied if the following are implemented: 4-star showerheads (6.0–7.5 l/min) 4-star toilet (4.5 l/flush) 5-star urinals 4-star kitchen and laundry taps (6.0–7.5 l/min) 6-star bathroom basin taps (4.5 l/min)
What is the process to drive the target at a Precinct scale?	How should the target align at different planning scales? The reference target should be set out as an ambition in the objectives for the precinct plan and then tested and refined through the IWM plan development process. Water efficiency initiatives should be considered as options explored in the IWM Plan, and included in the recommendations where found to be deliverable and beneficial. The CT1 target should be considered in tandem with the CT2 to reduce potable water demand through the use of alternative sources. The precinct scale target will help achieve overarching targets for litres/person/day (l/p/d) potable water use have been set out for the Melbourne Metropolitan Region in the Water for Life strategy: 150l/p/d for residential use and 225l/p/d for total use by 2030. Water efficient new developments are a key initiative to reduce potable water demand. In regional Victoria, water corporations are now setting their own equivalent per capita targets reflective of local conditions. Precinct scale targets should align with any targets or objectives set out at the strategic cluster or municipal scale.	
Who enforces the target?	How could the target be implemented through the planning process? Planning scheme amendment Target could be implemented through a planning control, which would then be demonstrated at a development scale. Feasibility testing and a clear evidence base is needed to underpin the requirement. Developer guidance documents Development design guidelines can be developed to provide design standards and outline proposals for water efficiency measures.	

Cornerstone target CT2	Deemed-to-comply example
Alternative water sources that substitute potable mains water supply	Utilise non-potable water source by achieving at least one of the following: a. Project mandates through design guidelines, covenants or encumbrances rainwater tanks on lots over 300m2 which are plumbed to dwellings. b. Non-potable source service that is plumbed to dwellings. c. Development includes a central storage facilitate which capture either stormwater or rainwater for reuse. This example from the EnviroDevelopment Rating System demonstrates a Deemed to Comply approach.

Suggested process to derive a target at the Precinct Scale	Alignment with targets at different planning scales
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A reference target isn't specified as a suitable target depends on the potential to utilize alternative water supplies. Set out a place-based target for the precinct for potable water use reduction which can be enabled through supply of alternative water sources. This should consider on lot water demands as well as public realm water demands that could be supplied by recycled water, rainwater or stormwater.

Method 1: Best practice performance target

Define a target per home (or m2 of non-residential development) based on suitable development references or modeling that shows the expected potable use reduction from feasible alternative water supplies. Estimate the potential public space irrigation demand that could be met by an alternative supply. A precinct scale target can then be derived and defined for subsequent development scales (e.g. by lot or public space).

Method 2: Define acceptable 'deemed to comply' solutions

A target can also be defined using example solutions or combinations of solutions that would be deemed to comply with the target, without requiring the developer to model or calculate performance. An example target is provided here which provides flexibility in the alternative supply provided at a property scale.

The CT2 target should be considered in tandem with the CT5 and CT6 targets for alternative water supplies to open spaces, and CT4 target for support of street trees.

Overarching targets have been set out for the Melbourne Metropolitan Region for alternative water use in the Catchment Scale IWM plans and the Water for Life strategy. New precincts play a key role in planning the delivery and connection of new development to alternative water supplies.

Precinct scale targets should align with any targets or objectives set out at the strategic cluster or municipal scale.

How could the target be implemented through the planning process?

Planning scheme amendment

Target could be implemented through a planning control, which would then be demonstrated at a development scale. Feasibility testing and a clear evidence base is needed to underpin the requirement, along with a clear understanding of what is required at a lot and precinct scale.

Developer guidance documents

Development design guidelines can be developed to provide design standards and outline proposals for elements including rainwater tanks.

Who derives and sets the target?

The lead organisation (water corporation) and partners of the IWM Plan collaboratively derive and set the target for the precinct, with endorsement from IWM Forum Partners.

Cornerstone target CT3	Reference target
Reduction in mean annual runoff volume	Reduction in mean annual runoff (MAR) volume is a target defined by the Urban Stormwater Management Guidelines (see Direction Setting) for priority and other areas. Targets are set out as a percentage reduced through harvesting and infiltration.
Suggested process to derive a target at the Precinct Scale	Alignment with targets at different planning scales
The reference target should be set out as an ambition in the objectives for the precinct plan and then tested and refined through the IWM plan development process. Through the IWM planning process the feasibility of meeting the MAR targets should be considered, including: • Opportunities to harvest stormwater, including lot scale rainwater harvesting, precinct scale or regional scale stormwater harvesting, and other measures to harvest runoff via evaporation and evapotranspiration. • Opportunities to infiltrate stormwater and/or support baseflows, at lot, street and precinct scales. • The IWM Plan should outline the proposed infrastructure and initiatives to meet the agreed target, or where multiple solutions are feasible, the plan should outline the possible options and the MAR reduction that should be achieved at subsequent development scales (e.g. lot scale). If the reference target isn't found to be economically feasible, a revised target should be set out in the IWM Plan which is considered to be reasonably practicable (in line with the General Environmental Duty).	Precinct scale targets should align with any targets or objectives set out at the strategic cluster or municipal scale. How could the target be implemented through the planning process? Integrating with land use plans During the precinct planning process, consider additional land area required to enable harvesting and infiltration, including potential storages. Easements to support transfer of harvested water should also be considered. Infrastructure delivery In order to allocate land for infrastructure in a precinct structure plan, the infrastructure proposal should be designated, the delivery body should be identified, and reasonable commitment should be made. Planning scheme amendments An agreed target, and the planned initiatives to achieve the target, can be referenced by the planning scheme through the incorporation process for the precinct plan.
Who derives and sets the target?	
The lead organisation (water corporation) and partners of the IWM Plan collaboratively derive and agree a target for the precinct. The target should be developed in collaboration with waterway managers and endorsed by IWM Forum Partners.	

Cornerstone target CT4 Reference Target

Number of street trees supported by an alternative water source.

Precinct planning provides an opportunity to embed new alternative water supply infrastructure to support street tree irrigation (through either passive or/and active irrigation).

A target of 100% of street trees should be set out and explored through the Precinct IWM planning process. This aligns with the [VPA's PSP guidelines](#).

Suggested process to derive a target at the Precinct Scale

Alignment with targets at different planning scales

The reference target should be set out as an ambition in the objectives for the precinct plan and then tested and refined through the IWM plan development process. Through the IWM planning process the feasibility of supporting street trees with alternative water supplies should be considered:

- In areas where a reticulated alternative water supply is available, it may be possible to include a reticulated active irrigation supply to street trees in priority streetscapes.
- In other areas, passive irrigation of street trees through design of tree pits to receive road runoff should be physically achievable in most cases, though this will need to be considered through streetscape design and consultation with the local authority to ensure acceptable designs can be delivered and adopted.
- In some cases, local councils may also have nearby storages or fill up points where trucks can access alternative water sources for tree irrigation.
- If the reference target isn't found to be economically feasible, a revised target should be set in the IWM Plan. The CT5 target should be considered in tandem with the CT2 target for alternative water supply.

Targets have been set out for the Melbourne Metropolitan Region by the CSIWM Plans, ranging from 21%-30% at a catchment scale.

Precinct scale targets should align with any further targets or objectives set out at the strategic cluster or municipal scale.

How could the target be implemented through the planning process?

Integrating with land use plans

During the precinct planning process, consider how streetscapes can be designed to harness alternative water supplies, and adjust street width and cross-sections to accommodate provisions.

Developer guidance documents

Integrate with design guidance for public realm and streetscapes set out for the development area.

Who derives and sets the target?

The lead organisation (water corporation) and partners of the IWM Plan collaboratively derive and set the target for the precinct. The target should be developed in collaboration with streetscape manager (e.g. local government) and endorsed by IWM Forum Partners.

Cornerstone target CT5	Reference Target
Area of active open space supported by an alternative water source	Precinct planning provides an opportunity to embed new alternative water supply infrastructure to support active open space irrigation. A target of 100% of the active open spaces in a precinct should be set out and explored through the Precinct IWM planning process.
Suggested process to derive a target at the Precinct Scale	Alignment with targets at different planning scales
The reference target should be set out as an ambition in the objectives for the precinct plan and then tested and refined through the IWM plan development process. Through the IWM planning process the feasibility of supporting active open spaces with alternative water supplies should be considered: - In areas where a reticulated alternative water supply is available, the reference target should be achievable. - In areas where decentralised stormwater harvesting schemes are required to support open space, a supply network may be able to be extended to the majority of open spaces located near identified stormwater treatment assets or storages which could become harvesting locations. - If the reference target isn't found to be economically feasible, a revised target should be set out in the IWM Plan. The CT5 target should be considered in tandem with the CT2 target for alternative water supply.	Targets have been set out for the Melbourne Metropolitan Region by the CSIWM Plans, ranging from 40%-54% at a catchment scale. Precinct scale targets should align with any further targets or objectives set out at the strategic cluster or municipal scale. Precinct scale targets should align with any further targets or objectives set out at the strategic cluster or municipal scale. How could the target be implemented through the planning process? Integrating with land use plans During the precinct planning process, consider how open spaces can be located to harness alternative water supplies. Infrastructure delivery Establish a delivery pathway including lead delivery party for the alternative water supply, funding source and delivery timeline. Developer guidance documents Integrate with design guidance for public realm and open space design set out for the development area.
Who derives and sets the target?	
The lead organisation (water corporation) and partners of the IWM Plan collaboratively derive and set the target for the precinct. The target should be developed in collaboration with the open space managers (e.g. local government, Parks Victoria, private land managers or waterway managers) and endorsed by IWM Forum Partners.	

Cornerstone target CT6 Reference Target

Area of passive open space supported by an alternative water source

Precinct planning provides an opportunity to embed new alternative water supply infrastructure to support passive open space irrigation.

A target of 50% of the passive open spaces in a precinct should be set out and explored through the Precinct IWM planning process.

Suggested process to derive a target at the Precinct Scale

Alignment with targets at different planning scales

The reference target should be set out as an ambition in the objectives for the precinct plan and then tested and refined through the IWM plan development process. Through the IWM planning process the feasibility of supporting passive open spaces with alternative water supplies should be considered:

- In areas where a reticulated alternative water supply is available, the reference target should be achievable.
- In areas where decentralised stormwater harvesting schemes are required to support open space, a supply network may be able to be extended to the majority of open spaces located near identified stormwater treatment assets or storages which could become harvesting locations.

In some cases it isn't desirable to irrigate passive open space, if it will not provide significant outcomes for the community in terms of amenity or cooling, where the surface doesn't require irrigation (e.g. paved squares, or playgrounds) or if it would have adverse impacts on the ecological value of the space (e.g. native grasslands). If the reference target isn't found to be economically feasible or drive desirable outcomes, a revised target should be set out in the IWM Plan. The CT5 target should be considered in tandem with the CT2 target for alternative water supply.

Targets have been set out for the Melbourne Metropolitan Region by the CSIWM Plans, ranging from 10%-54% at a catchment scale.

Precinct scale targets should align with any further targets or objectives set out at the strategic cluster or municipal scale.

Precinct scale targets should align with any further targets or objectives set out at the strategic cluster or municipal scale.

How could the target be implemented through the planning process?

Integrating with land use plans

During the precinct planning process, consider how open spaces can be located to harness alternative water supplies.

Infrastructure delivery

Establish a delivery pathway including lead delivery party for the alternative water supply, funding source and delivery timeline.

Developer guidance documents

Integrate with design guidance for public realm and open space design set out for the development area.

Who derives and sets the target?

The lead organisation (water corporation) and partners of the IWM Plan collaboratively derive and set the target for the precinct. The target should be developed in collaboration with the open space managers (e.g. local government, Parks Victoria, private land managers or waterway managers) and endorsed by IWM Forum Partners.

Cornerstone target CT7	Precendent Performance Measure
New blue-green infrastructure created (in the private realm)	The Green Factor tool was developed by City of Melbourne, and is currently being considered as an amendment to the local planning scheme. It includes a target score for the 'green factor' for developments, which can be met through integration of various greening and biodiversity initiatives. A green factor score is submitted as part of the landscape documentation for relevant development applications.
Suggested process to derive a target at the Precinct Scale	Alignment with targets at different planning scales
An ambition for enhanced blue-green infrastructure in the private realm should be set out as an ambition in the objectives for the precinct plan and then tested and refined through the IWM plan development process. A reference target is not specified, as a suitable target depends on the development potential to incorporate green-blue infrastructure within the private realm. The example target provides a possible approach to consider. Through the IWM planning process the feasibility of implementing blue-green infrastructure in the private realm, including consideration of: - Blue-green initiatives such as: on-lot trees, increased permeable areas, green roofs or walls, on-lot raingardens or infiltration areas. - How a target could be defined to support specific initiatives or provide flexibility to achieve an overall outcome. The example target shows how a flexible approach has been taken. - The evidence base available, demonstrating the benefits that initiatives would deliver and that the target is feasible and deliverable in the development setting. - The process to support compliance and assessment through the planning process.	Precinct scale targets should align with any further targets or objectives set out at the strategic cluster or municipal scale. How could the target be implemented through the planning process? Planning scheme amendments Objectives and targets that are sufficiently evidenced and agreed can be referenced by the planning scheme through the incorporation process for the precinct plan. Developer guidance documents Integrate with design guidance for developments set out for the development area.
Who derives and sets the target?	
The lead organisation (water corporation) and partners of the IWM Plan collaboratively derive and set the target for the precinct, with endorsement from IWM Forum Partners. The target should be developed in collaboration with the planning authority to ensure it can be adequately assessed through the planning process and implemented by developers.	



IWM Opportunities

The initial stages of development of an IWM plan require consideration of possible IWM opportunities, and the assessment of a long list. The following table provides a long list of common types of IWM options. The list is not exhaustive and possible opportunities should be identified and further detailed through site specific analysis.

Consultation draft

Table 11: Potential IWM options and opportunities

Water Cycle Aspect	IWM Options
Potable	Advanced water efficiency household fixtures and fittings.
Rainwater	- Rainwater harvesting using tanks for non-potable uses in buildings and gardens. - Rainwater harvesting using tanks for hot water. - Rainwater harvesting for potable supply (future option). - Rainwater harvesting using tanks for reuse and slow discharge to vegetated area including smart meters for harvesting and discharge optimisation.
Stormwater	- Stormwater management devices delivered at lot, street or precinct scale, including: - Raingardens / biofiltration. - Green roofs. - Passively irrigated trees. - Wetlands. - Swales. - Permeable paving. - Infiltration/evapotranspiration basins. - Stormwater harvesting for open space irrigation. - Stormwater harvesting for non-potable uses in buildings. - Stormwater harvesting for potable supply (future option). - Stormwater harvesting for agricultural irrigation. - Treated stormwater for environmental flows in waterways. - Treated stormwater for aquifer recharge/storage.
Wastewater	- Treated greywater use for irrigation / non potable uses in buildings. - Class A recycled wastewater for household supply (3rd pipe). - Recycled water for open space irrigation. - Recycled wastewater for potable supply (future option). - Treated wastewater distributed to environmental flows in waterways. - Treated wastewater for aquifer recharge/storage.
Land and waterways	- Waterway remediation. - Waterway naturalisation. - Integration of blue-green corridor and overland drainage pathways. - Increased proportion of permeable space (public open space or private garden space).



IWM Sprint

An IWM Sprint workshop should be considered as an alternative to conducting the three recommended workshops discussed above, where resource or other constraints require a less holistic approach. It can be a useful tool to explore the Strategic Cluster IWM Plan or to help define its boundaries and focus. This is also an opportunity to ensure opportunities are integrated early into strategic planning processes and other land use and development considerations.

The aims of the sprint workshop are to:

- Develop a high-level IWM Plan;
- Develop a vision, key outcomes and list of potential projects; and
- Identify likely actions and owners, risks and mitigation strategies, and resources and commitment.

Prior to the workshop, a rapid review of context can be collated, then confirmed with stakeholders in the workshop before exploring possible IWM opportunities and their benefits to determine if there are 'game-changer' opportunities to be explored by an IWM plan and then define the focus and boundaries of plan, or to identify possible IWM opportunities that can be explored by agencies or developers without the need for a formal IWM plan.



Case study

Bannockburn IWM Sprint

An IWM Plan was needed to inform growth planning for the small town of Bannockburn in regional Victoria. An IWM Sprint was held to rapidly and efficiently establish directions and opportunities to inform the plan and direct where further work was needed.

Limitations of IWM Sprints

IWM Sprints should only be considered when there is insufficient time or funding to complete a full IWM Plan.

IWM Sprints lack the thoroughness of comprehensive IWM planning, as they depend on readily available information and often exclude crucial stakeholders like the community and Traditional Owners. Although beneficial when time or resources are constrained, their limited scope and inclusivity make them suitable primarily for preliminary explorations or when the alternative is having no IWM Plan at all. As IWM practices mature and become standard, the use of sprints should decrease.

Where possible a full IWM Plan should still be completed at some stage of IWM and land use planning process and the IWM Sprint could include setting out the pathway and commitment to doing this.



Preliminary Assessment Method for IWM opportunities

IWM plans can include a wide range of management opportunities that can affect one or multiple aspects of the water cycle. Opportunities can be implemented at a range of scales, from regional to precinct to lot. They can utilise different sources of water, satisfy different demands for water, and use a range of local or regional infrastructure for storage and treatment.

The **Preliminary Assessment Method** provides guidance on shortlisting opportunities, brings together lessons and data from previous IWM strategies, and provides a methodology to aid comparison and shortlisting in a time-effective yet robust manner. The PAM includes a simple multi-criteria assessment, which can be combined with the IWM performance measures described in this toolbox.



Adaptive Planning

Adaptive planning is a strategic process to identify different pathways to achieve project outcomes. It is effective at communicating various project risks and mitigation strategies by considering alternative future scenarios such as:

- Policy change.
- Climate change.
- Resourcing or funding constraints.
- Lack of commitment.
- Time constraints.

Refer to **Water Services Association of Australia's Principles** and best practice for water utilities document for a guide in understanding how adaptive planning can be utilised in planning. The Climate Adaptation Lens set out in the **Natural Environment Climate Change Adaptation Action Plan 2022-2026** should be applied to natural environment management decisions.

Developing an 'adaptive plan' can be a useful strategy for an IWM Plan where there is further work required to inform the recommendations or preferred IWM opportunities or where there are future uncertainties. By articulating the interdependencies between future decisions and influences, the plan can lay out a clear action plan and preferred opportunities under differing scenarios.

However, it should be noted that the planning system relies on a degree of certainty. Once planning permits are granted, they are generally fixed, leaving limited scope for flexibility if an alternative approach becomes necessary.



Case study

Geelong Northern and Western Growth Areas

Adaptive planning

The IWM Plan for the Geelong Northern and Western Growth Areas included an adaptive plan which mapped out future key decision points and events which would change the IWM proposals for the area. The plan identified a range of strategic IWM opportunities that required investment beyond the boundaries of precincts.



Cost-benefit analysis and cost allocation

A cost-benefit analysis (CBA) is a useful way to compare IWM investments in terms of the relative return on objectives (benefits) compared with whole of life cost. The proposed opportunities are compared with a 'base case' to show the incremental costs and benefits.

Benefits can be monetised into a dollar value through various techniques, including 'benefit transfer' methods where studies have established a monetary value for certain benefits in a similar situation where the findings are transferable.

Cost-benefit tools

Reference studies and monetary values for common benefits related to integrated water management have been assembled into a database, known as the **INFFEWS Value Tool** developed by the Cooperative Research Centre for Water Sensitive Cities. This tool can be used in conjunction with the **INFFEWS Benefit-Cost Analysis Tool** which is an excel template which can be used to calculate net present costs and benefits and calculate a benefit-cost ratio.

Melbourne Water has built on the INFFEWS Value tool to create its developed Social and Economic Value (SEVT) tool, which provides a consistent framework for assessing the values associated with waterway and IWM related projects in the Melbourne Region.

Cost allocation and funding

An IWM solution may lead to costs that would typically not have been incurred by the project partners through conventional projects. However, the additional costs do not necessarily change at the same scale as additional benefits, and can be concentrated on one or two specific entities. Funding streams and cost recovery mechanisms are not always apparent. This can present a barrier to some IWM projects.

The **Victorian State Government has developed a cost-allocation framework** to respond to this issue. This provides a process to guide decision making on funding arrangements in such situations.

The **'Bridging the integrated water management funding and financing gap guide'** provides practical advice and a structured process to ensure practitioners who design and collaborate on IWM projects are able to:

- Understand the funding and financing context and have clear objectives.
- Consider a wide range of funding and financing options and their features, which can affect decisions.
- Develop a context appropriate and implementable funding and financing plan.



Stakeholder Workshops

Workshops are an effective method of encouraging collaboration and facilitating discussions between different stakeholder groups. They are also important in capturing local knowledge to develop place specific IWM objectives and opportunities.

In developing an IWM Plan, the following types of workshop activities could be used to shape the plan at key stages:

1. Developing a vision and key outcomes.
2. Optioneering.
3. Implementation mechanisms.

Workshop 1: Developing a vision and outcomes

The aim of this workshop is to:

- Discuss the key site constraints and identify any additional constraints to the background research.
- Define a vision and objectives for the site, aligning with desired outcomes from strategic direction setting documents and previous IWM planning.

A background analysis of the site should be completed and provided to attendees prior to the workshop to understand the site context and constraints identified. This will also provide an opportunity to identify additional constraints.

Workshop 2: Optioneering

The aim of this workshop is to:

- Develop a long-list of IWM opportunities.
- Agree assessment measures to be used to assess and compare opportunities.

A list of assessment criteria can be shared with attendees prior to the workshop. The criteria should align with the key outcomes identified from the visioning workshop.

Workshop 3: Implementation mechanisms

The aim of this workshop is to:

- Discuss benefits and constraints of each shortlisted opportunity.
- Develop a list of short- and long-term priority actions.
- Discuss commitment and funding requirements.
- Develop an recommended portfolio of IWM options.
- Develop an adaptive plan to support the recommendation, and to communicate interdependencies and other options that may be delivered in response to future events or decisions.

A list of short-listed IWM opportunities and possible portfolios of options should be developed and presented to attendees prior to this workshop.



Traditional Owners Partnerships

Partnership with Traditional Owners is vital for enabling self-determination and ensuring the appropriate inclusion of Traditional Owner knowledge, water rights and increased access to water through IWM. The following are considerations on how to approach engagement and partnership with Traditional Owners:

- **Having cultural awareness:** before beginning engagement, it is essential to understand and reflect on our own cultural awareness and knowledge regarding Traditional Owners' relationship with water and land, respecting their unique cultural expressions in water management processes. By acknowledging our own cultural understanding, we can identify gaps and approach partnerships with openness and honesty.
- **Knowing who to engage with:** it is important to identify which Country your project is on and connect with the appropriate Registered Aboriginal Party (RAP) or Traditional Owner Corporation (TOC). RAPs often have their own Country Plan, outlining their vision, objectives, and goals for their Country. Considering the objectives of these Country Plans in your projects is essential, as each RAP has its own unique priorities and needs. If your project is on Country without formal recognition, any Traditional Owner groups with an interest must be included and engaged with. Some RAPs may also have an interest in these areas.
- **Understanding any planning triggers and cultural significance:** it is valuable to recognise the cultural significance and historical stories of a place from pre-colonisation. Areas of Cultural Sensitivity, which include locations with tangible Aboriginal cultural heritage such as objects and intangible heritage such as stories and spiritual meaning, are often near waterways, water bodies, and creeks due to their essential role in sustaining life and maintaining cultural connections. These areas are protected, and any 'high impact activity' planned in an area of cultural heritage sensitivity triggers the need for a Cultural Heritage Management Plan to assess the potential impact on Aboriginal cultural heritage.
- **Engage early and genuinely, respecting intellectual property:** it is crucial to include TOCs and RAPs from the project's inception, collaborating on timelines, resources, budgets, and expectations as project partners. This enables them to incorporate culturally appropriate decision making processes, determine their level of involvement, and monitor the engagement process. Engagement timing and scheduling should remain flexible and adaptive, with resources such as dedicated funding to support Traditional Owner engagement. Throughout the engagement, follow the principles of free, prior, and informed consent, actively asking questions and listening to feedback rather than making assumptions. Respect for intellectual property is key; ensure any shared cultural knowledge or practices are protected, credited, and only used with permission. After engagement concludes, apply a 'closing the loop' approach, informing Traditional Owners of how their input, needs, and intellectual property have been integrated into the project.
- **Enable Traditional Owners self-governance:** it is valuable to transform the narrative of IWM process from a planning process to holistically Plan for Country. This includes recognising that water and Country are living entities, and acknowledging the pre-colonial landscape, how water moved across Country and how this has changed over time. Embedding a place-based approach that empowers Traditional Owners to govern how land and waterscapes should be managed and monitored is essential. As well as recognising Traditional Owners inherent rights and connection to land, waterways and Country, this approach can strengthen Traditional Owners' decision making, raise cultural awareness and the inclusion of Traditional Ecological Knowledge into IWM processes.

- **Provide and support economic opportunities for Traditional Owners:** identify and support economic opportunities within the IWM process that empower Traditional Owner communities and enhance project outcomes. Examples include employing Natural Resource Management crews for implementation, establishing land-sharing agreements, and supplying recycled water for initiatives like First Nations-led plant nurseries on treatment plant sites. These opportunities promote sustainable economic development, support local stewardship, and strengthen Traditional Owners' roles in Caring for Country.

Actions to support a partnership approach and embed Traditional Owner values through IWM planning

- ☐ Use the [Victorian Registered Aboriginal Parties online map](#) to identify which Country the intended IWM planning area is on.
- ☐ Understand what relationships have been established and any ongoing engagement with Traditional Owners related to the IWM planning area and related water management.
- ☐ Reach out to the relevant Registered Aboriginal Party or Parties as a key stakeholder from the beginning of the IWM planning process.
- ☐ Engage early, engage genuinely and throughout the process.
- ☐ Understand applicable Country Plans and Traditional Owner Nation Statements and embed their visions, objectives and values in the IWM planning process and resulting IWM Plan.

- ☐ Understand the pre-colonisation landscape, how water moved across Country and how this has changed over time, the relationships between ecological systems, and inherent cultural values of landscapes and waterways.
- ☐ Account for cultural heritage considerations, and any planning triggers such as Areas of Aboriginal Cultural Sensitivity.
- ☐ Recognise the important relationship between people and Country, and that water and waterways are living entities.
- ☐ Support and strengthen First Nations leadership, representation and decision making in water management and planning, as well as the delivery of projects and infrastructure.

Case Studies

Examples of good practice that demonstrate application of various IWM planning processes and aspects discussed in the Guidelines.

A range of case studies have been provided here and which are referred to throughout this guide which demonstrate some of the key planning activities and concepts which enable to successful IWM outcomes.

[Southern Macedon Ranges IWM Plan](#)

[Ballarat City IWM Plan](#)

[Bannockburn IWM Sprint](#)

[City of Melbourne IWM Plan](#)

[Geelong Northern and Western Growth Areas IWM Plan](#)

[Bass Coast Shire IWM Plan](#)

[Whittlesea Water for All, 2020 – 2030](#)

[Aviators Field IWM and Precinct Structure Plan](#)

[Arden IWM and Structure Plan](#)

[City of Maroondah – Greening the Greyfields](#)

[Melbourne's Western Growth Areas Developer Guidance](#)

[City of Melton IWM Plan](#)



Bacchus Marsh

Southern Macedon Ranges IWM Plan

IWM Forums identify a strategic cluster in Southern Macedon Ranges

The southern portion of the Macedon Ranges municipality was identified as being strategically important from an IWM perspective as it forms the upper catchment of the Maribyrnong River. Given the downstream implications of development on waterway and catchment health, the Maribyrnong Catchment IWM Forum identified the need to develop a Southern Macedon Ranges IWM Plan. The plan developed a set of IWM objectives and key projects across four major townships (Gisborne, Riddells Creek, Romsey, and Lancefield).

A strategic cluster approach was needed due to:

- The close proximity of the towns and the substantial growth expected for each town;
- The shared receiving waterway; and
- The shared water supply and wastewater transfer infrastructure being planned regionally that could enable IWM opportunities.

An IWM Plan was developed for the cluster to strategically identify IWM opportunities within and across each township. The IWM planning was led by Macedon Ranges Shire Council, in close collaboration with Greater Western Water, Melbourne Water and Southern Rural Water.

Towns included in the Southern Macedon Ranges IWM plan which lie within the Maribyrnong catchment.

For more information, see: [Southern Macedon Ranges IWM Plan](#)



Figure 16
Southern Macedon
Ranges catchment area.

Ballarat City IWM Plan

Establishing a collaborative model for Ballarat City IWM Plan

This Strategic Cluster IWM Plan explored IWM opportunities for the existing Ballarat area, its major growth areas, and for the regional water systems and waterways related to Ballarat.

The development of the plan was managed by a project working group and led by an independent chair to ensure all perspectives were equally heard. The City of Ballarat, Corangamite Catchment Management Authority, Central Highlands Water and the former Department of Environment, Land, Water and Planning all had representatives on the project control group with technical support from staff, Glenelg Hopkins Catchment Management Authority and Southern Rural Water.

Two stakeholder workshops, with over 30 attendees in each, were held in October 2016 and May 2017 to inform the development of this IWM plan. The purpose of the workshops was to confirm the vision for IWM in Ballarat and to scope and refine potential IWM projects and initiatives. The draft Ballarat City IWM Plan was made available for public comment throughout November 2017. This feedback was valuable in helping to shape the final version of the Plan.

The stakeholder groups invited to participate included:

- Traditional Owners;
- Committee for Ballarat;
- Local developers and consultants;
- Volunteer groups;
- Educational institutions; and
- Large water users.

For more information, see: [Ballarat City IWM Plan, 2018.](#)

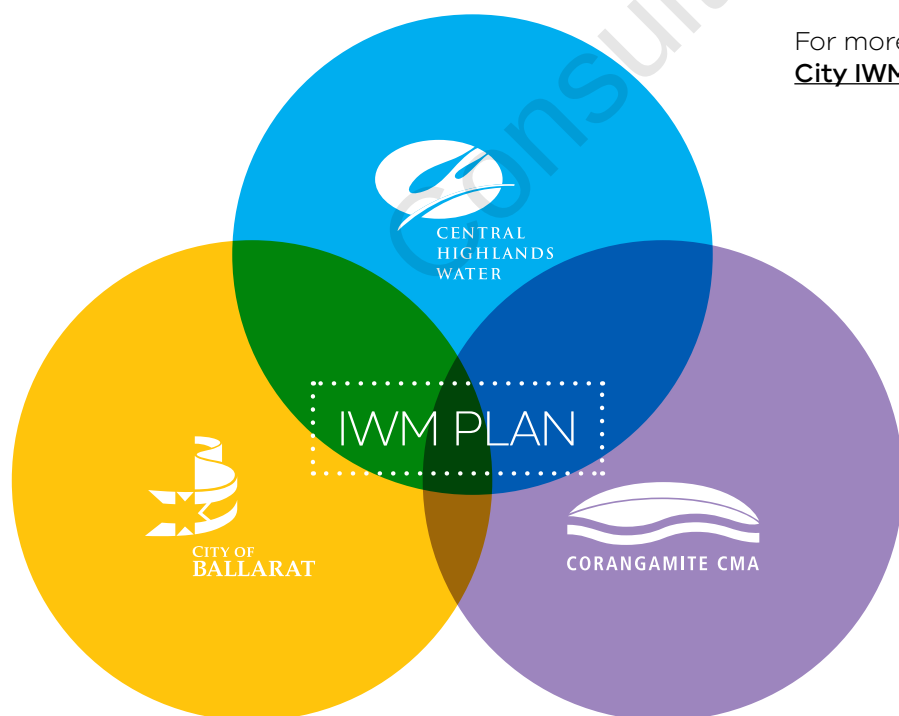


Figure 17
Collaborative model for the
Ballarat City IWM Plan.

Bannockburn IWM Sprint

Golden Plains Shire and Barwon Water undertook an IWM Sprint to rapidly inform regional growth planning.

Bannockburn is a small town of approximately 8,000 people located in Golden Plains Shire. As part of growth planning in 2020 for the township which was planning to grow to 20,000 people. Barwon Water recommended an IWM Plan be prepared to inform the growth plan, which was a commitment in the Barwon Water 2030 Strategy. While the Barwon Water Strategy provided the prompt, the project lacked the resources and time to complete a full IWM Plan. Instead an IWM Sprint was undertaken instead, which rapidly analysed the IWM challenges, priorities and opportunities of the township over a short-period of intensive work.

The sprint comprised a half-day workshop with defined pre- and follow-up work, and which importantly got a broad range of informed stakeholders and practitioners in the room that had a detailed understanding of the township and region and the key processes that drive IWM and land use planning.

The sprint provided a structured means to rapidly work through the stakeholder and IWM landscape, undertake SWOT (strengths, weaknesses, opportunities, threats) analysis, and identify shared objectives and potential projects for IWM in the town.

The outputs of the sprint localised the broad Strategic Direction Statement for the region to develop principles and priorities for IWM in the town. These were used to inform the growth plan and provide direction for where and how more detailed IWM plans and analysis should be prepared as the town grows and structure planning and development occurs.

For more information, see:

[Bannockburn Growth Plan, 2021.](#)

City of Melbourne IWM Plan

The City of Melbourne's Municipal IWM Plan establishes local targets and objectives, actions and processes for managing reliance on potable water, improving water quality, and managing flood impacts for the entire municipality. The plan sets the tone for the practice of IWM across the entire local government area and through all of the Council's processes.

The Municipal IWM Plan also identifies areas of acute water related challenges and where development is expected to occur, including renewal precincts and infill areas, and sets out the key priorities and challenges facing these areas. Actions in these areas and across the municipality including additional or updated flood modeling, establishment of working groups, installation of water storage tanks, and developing guidance documents, enables improved IWM outcomes in infill development.

Elements of the plan were translated into the planning scheme, enabling the recognition of these policy objectives when considering development applications, in particular in Clause 22.23 Stormwater Management (Water Sensitive Urban Design) and Clause 22.19 Energy, Water and Waste Efficiency.

In addition, the commitment to IWM at a municipal scale has supported further investment in internal resources which are able to work across Council and with Council partners to embed and champion IWM outcomes, including through strategic planning and development application assessment processes and governance structures and dedicated cross-industry IWM working groups.

For more information, see: **City of Melbourne IWM Plan, 2017.**

Geelong Northern and Western Growth Areas IWM Plan

Adaptive planning to set out key timelines and decisions in Geelong

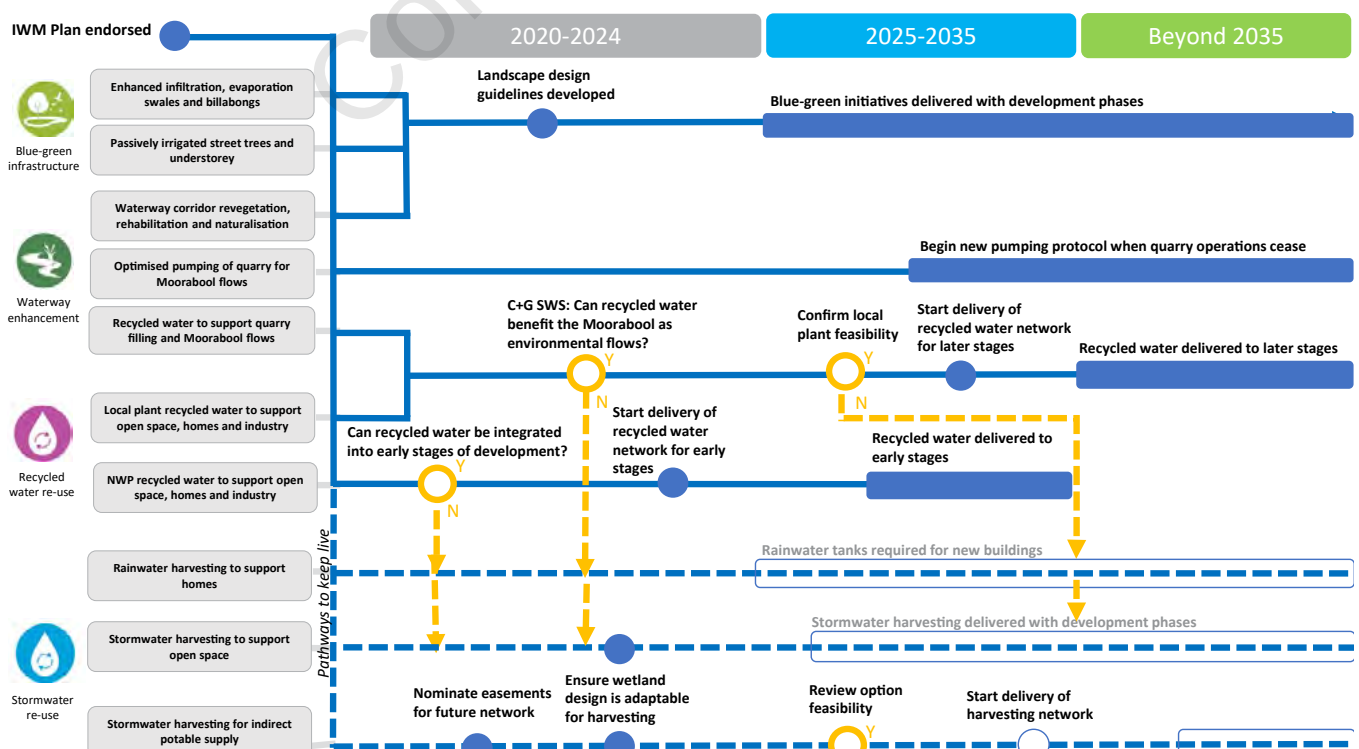
The IWM plan for the Geelong Northern and Western Growth Areas included an adaptive plan which mapped out future key decision points and events which would change the IWM proposals for the area. The plan identified a range of strategic IWM opportunities that required investment beyond the boundaries of the two development precincts covered by the plan. These strategic opportunities included:

- Long term construction of a decentralised recycled water plant to manage wastewater and supply recycled water to the area;
- Transfer of recycled water from an existing plant in northern Geelong;
- Collection and transfer of stormwater for reuse outside of the precincts;
- Supply of alternative water resources for rehabilitation of an adjacent quarry; and
- Provision of environmental flows to the Moorabool river.

The feasibility of many of the preferred IWM opportunities identified depended on the results of future investigations and business cases, along with some external factors regarding recycled water availability and the legislative drivers for stormwater reuse. Accordingly, the adaptive plan outlined the 'preferred pathway' and other delivery pathways to 'keep live' through planning as alternative pathways should they be required based on the results of future investigations and influences. This allowed stakeholders to embed a level of flexibility in the precinct planning and to have an agreed and time-bound plan for IWM integration.

For more information, see: [Northern and Western Geelong Growth Areas Integrated Water Management Plan, 2022.](#)

Figure 18
An adaptive plan diagram for preferred and back-up IWM opportunities (Northern and Western Geelong Growth Areas IWM Plan).



Bass Coast Shire IWM Plan

Translating Strategic Direction Statement targets to local place specific targets for Bass Coast Shire

Bass Coast Shire Council have developed a Municipal IWM Plan to guide strategic decision making for water management. The plan outlines specific potable water saving, environmental and flow management targets.

The strategy was developed in line with the region's Strategic Directions Statements and supports the strategic outcomes.

The plan identified 14 IWM targets for the municipal to achieve which include:

- Reducing potable water use.
- Increasing alternative water use.
- Encouraging rainwater tanks.
- Maintaining and constructing WSUD assets as designed.
- Reducing pollutant loads.
- Increasing biodiversity.
- Increasing collaboration with water corporations, catchment management authorities and Melbourne Water.
- Supporting Traditional Owners and their values in water management.

For more information, see: [Bass Coast IWM Plan, 2020](#).

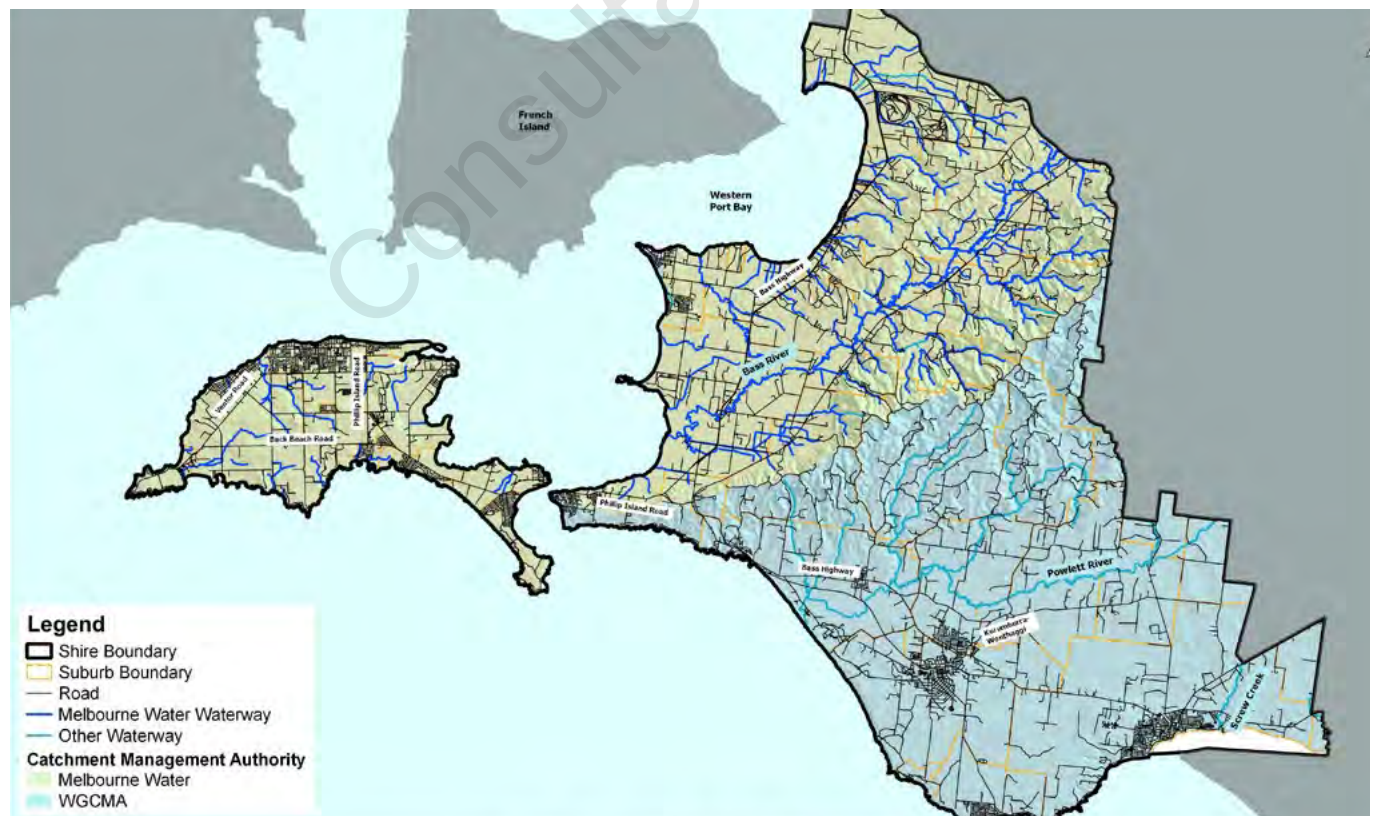


Figure 19
Bass Coast Locality Plan.

Whittlesea Water for All, 2020 – 2030

Community Panel established to inform the Whittlesea IWM Plan

A community panel was established by City of Whittlesea to inform the development of their IWM Plan: Whittlesea Water for All (2020). Participation in the panel was advertised through local community groups and facilities, and a group of 20 community members participated. Four community workshops were held in the evening, and participants were provided with travel vouchers and dinner to support their attendance.

The IWM Plan was shaped by extensive data collection and analysis, and a broader community survey. To inform the priorities for action, a place-based evidence base for IWM was assembled to enable changes and updates to the Local Planning Scheme that support delivery of IWM through development (where suitable).

By asking agency partners, as well as local community, businesses, developers and experts in water, environment, community, planning and infrastructure, for ideas on how to deliver Whittlesea's goals for water. These ideas were refined into actions and prioritised based on how well they help to deliver the established goals and outcomes.

For more information, see: [Whittlesea Water for All, 2020 – 2030.](#)



The community panel
final water workshop

Figure 20
Whittlesea Water for All - Community panel workshop.

Aviators Field IWM and Precinct Structure Plan

Early IWM planning to influence Aviators Field PSP

It is important to begin conversations and investigations of strategic IWM opportunities early to inform precinct planning. Unresolved issues or uncertainty regarding delivery of key projects undermines the ability to integrate IWM objectives and actions into the PSP and its implementation.

Recognising this challenge, the Precinct IWM Plan for Aviators Field (a greenfield development) was developed several years in advance of the PSP process to ensure IWM investigations sufficiently progressed to be included in the Precinct Structure Plan.

A working group was created to develop and guide the IWM Plan which included state and local government, water corporations and catchment management authorities. In undertaking this early planning process, the working group identified the following recommendations to support IWM planning within PSP planning processes:

- Develop an IWM implementation strategy in advance of PSP completion with key roles and responsibilities for contributions to support development.
- Discussions about asset delivery, adoption and maintenance are important at the planning stage to support early commitment and support for IWM opportunities. It was especially important to engage with the local municipality to discuss delivery and adoption of green infrastructure and stormwater management.
- Create dedicated IWM resources within key water planning bodies to support consideration of all strategic outcomes identified in the IWM Forums.

Arden IWM and Structure Plan

Using planning scheme amendments to implement IWM in Arden Precinct

Arden is an inner-city urban renewal precinct that underwent structure planning and a planning scheme amendment. The site is on low-lying flood affected land requiring a range of infrastructure and design responses to enable the site to be developed and to create a high quality place. Water was identified as a key issue as part of the development of the Arden Vision, which set the priorities for the precinct and recognised water as something to be resolved.

This early commitment provided the remit for detailed flood investigations to be undertaken. By collaborating with Victorian Planning Authority, the City of Melbourne, Melbourne Water and Greater Western Water, a broader study was initiated which considered the wider region's flooding challenges and which could enable larger scale responses to be put in place. Visioning and investigations were also informed by existing work, strategies and partnerships with community groups, such as the Friends of Moonee Ponds Creek group, Waterways of the West project, the Moonee Ponds Creek Strategic Opportunities Plan, and the City of Melbourne IWM Plan.

When the detailed structure planning process occurred, these established studies and the Vision set the direction for how the precinct should manage water, focusing on IWM and precinct scale solutions, with a clear understanding of the broader regional IWM strategies and projects. These earlier studies also placed an emphasis on IWM solutions that delivered co-benefits across other planning priorities, by delivering sustainability and cooling benefits, recreation infrastructure, and active transport connections, in addition to flood management and water treatment.

The Arden IWM Plan identified the need for a range of storage tanks, flood retention basins, flood conveyance paths, upgraded pipes and pumps and levees, and identified potential required finished floor levels and project opportunities for an alternative water treatment plant.

The precinct IWM Plan was translated into the final structure plan, and a planning scheme amendment was undertaken which included the IWM Plan and structure plan as background documents. The amendment reflected key water policy outcomes in the local planning policy framework and introduced acquisition and funding mechanisms that contribute to IWM infrastructure such as the Planning Acquisition Overlay (PAO) and Developer Contributions Plan Overlay (DCPO). There is also an Urban Renewal Cost Recovery Scheme (URCRS) proposed for Arden managed through Melbourne Water which will be similar to Development Services Schemes (DSS) which allow Melbourne Water to recoup costs for flood and drainage infrastructure in greenfield areas. The Arden DCP will be used to work in conjunction with the URCRS, both mechanisms will collect financial contributions from developers to contribute towards the construction of essential infrastructure projects for the Arden Precinct.

The cross-government working group established through the project has allowed ongoing collaboration to discuss planning applications, manage the delivery of IWM infrastructure, and preparation of design Guidelines, both for the precinct and broader shared areas.

For more information, see the [VPA Arden project website](#).



Figure 21
Flood management strategy from Arden Structure Plan.

City of Maroondah – Greening the Greyfields

Supporting IWM outcomes with Planning Scheme Amendments in Maroondah

Ringwood and Croydon South were part of the Greening the Greyfields project which aims to improve the outcomes delivered by infill redevelopment by supporting lot amalgamation and supporting precinct outcomes. By amalgamating individual lots into a larger parcel of land, a 'precinct' approach can be adopted to provide benefits for residents and the community.

IWM outcomes were integrated into the precinct design framework and concept plan through a planning scheme amendment. The amendment included rezoning and schedules, Development Plan Overlays (DPO), Developer Contributions Plan Overlay (DCPO), and new local policies

Lot amalgamation is actively encouraged through these planning controls, requiring subdivisions to provide plans that align with the overarching precinct plans, ensuring coordinated and consistent development aligned with precinct goals.

For more information, see: [Maroondah Greening the Greyfields Project](#).

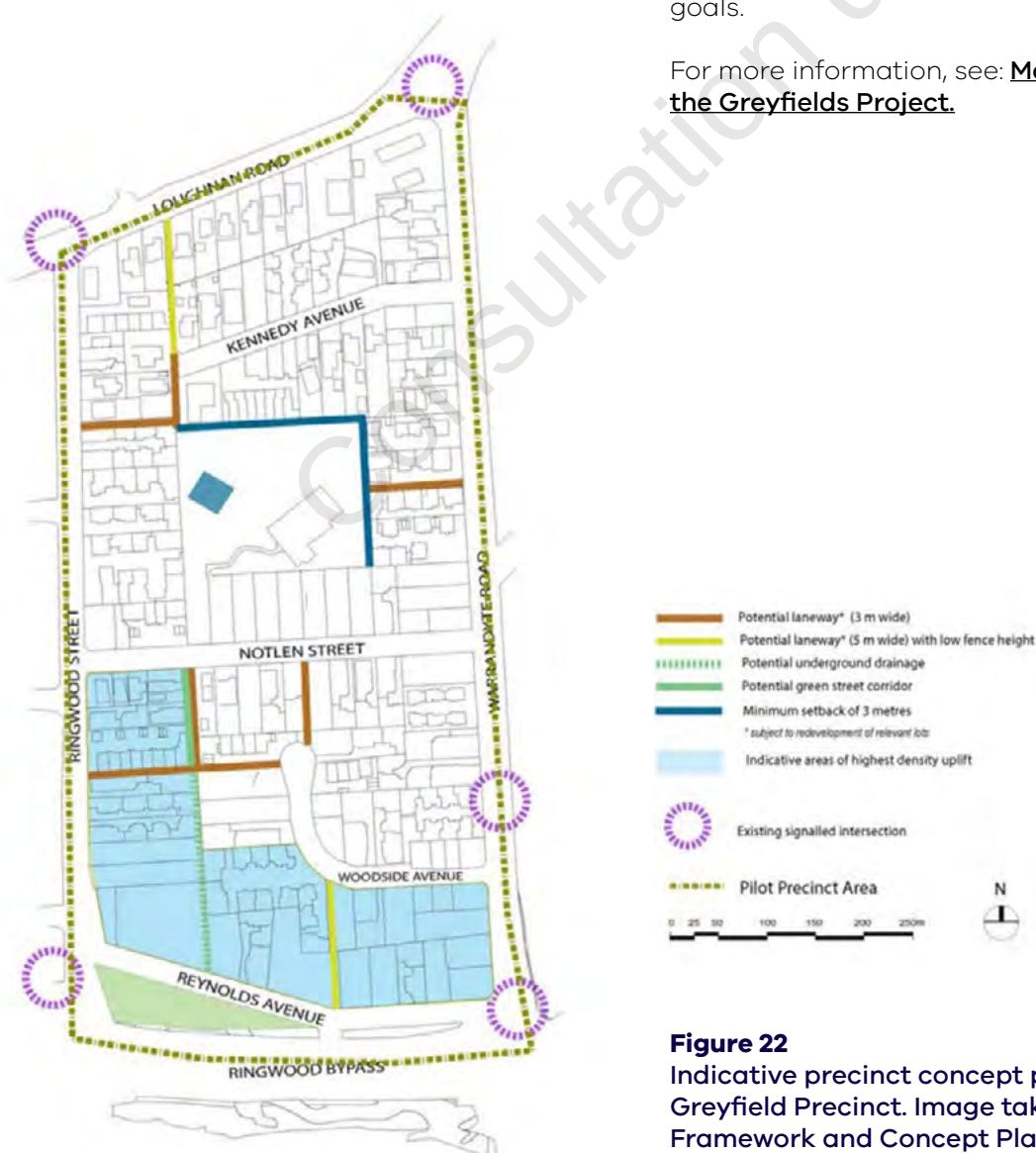


Figure 22
Indicative precinct concept plan for Ringwood Greyfield Precinct. Image taken from Design Framework and Concept Plan.

Melbourne's Western Growth Areas Developer Guidance

Permit conditions and Developer IWM Plan guidance in Melbourne's Western Growth Areas

To ensure developers maximise opportunities and align with overarching plans at both the precinct and municipality scale, the City of Melton have created a requirement for developers to submit a development scale IWM plan as part of their planning application. This requirement applies to development scale IWM responses and subdivision and lot scale approvals.

To support developers in this process, Greater Western Water has produced a guidance document demonstrating how to create effective IWM Plans for new developments. This guidance assists developers in designing water management solutions that reflect community values and align with larger scale IWM objectives.

For more information, see: [GWW Developer Guidance for IWM Plans](#)



Figure 23
Developer guidance for IWM Plans
by Greater Western Water.

City of Melton – IWM Plan influencing the planning process

Municipal IWM Plan was developed to guide City of Melton towards becoming a Water Sensitive City in the context of significant population growth, urbanisation, and climate change. The IWM plan noted key objectives and outcomes:

IWM outcomes were incorporated into the precinct design framework and concept plan through a planning scheme amendment. The planning scheme amendment included rezoning and schedules, Development Plan Overlays (DPO), Developer Contributions Plan Overlay (DCPO), and new local policy.

Under Objective 3, the IWM plan states action 3A to “Incorporate passive (or stormwater) irrigation into all street tree design.” Through this action, Council has incorporated a requirement for all new developments to include passive irrigation opportunities into IWM plans that developers are required to submit to council. This action helps Council to be embedded in the planning process and reach their overarching objectives and outcomes.

More information can be found at: [City of Melton Water and Waterways](#).

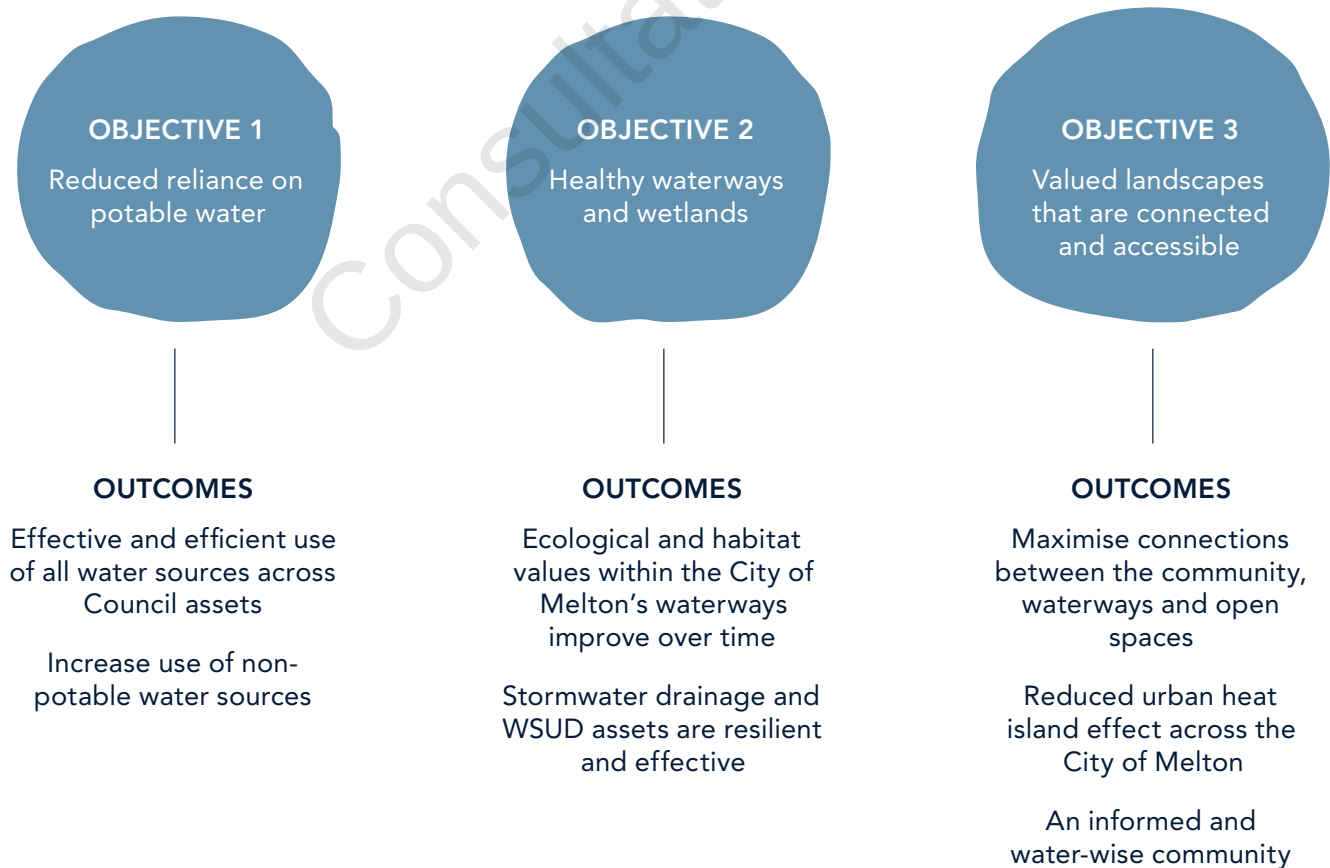


Figure 24
City of Melton IWM Plan objectives and outcomes.



Melton Reservoir

Glossary

Terminology	Definition
Activity Centres	Metropolitan Melbourne has a network of activity centres. This network is defined within Plan Melbourne and is classified into three main types: Metropolitan Activity Centres, Major Activity Centres and Neighbourhood Activity Centres. Includes current and future activity centres. As the metropolitan area grows, new activity centres will be needed to serve new and changing communities. Government policy seeks to increase the concentration of activities within the network of activity centres, both existing and planned. Activity Centres provide a focus for services, employment, housing, transport and social interaction. They range in size and intensity of use from smaller neighbourhood centres to major suburban centres and larger metropolitan centres. Purpose is to provide a diverse range of jobs, activities, and housing for regional catchments that are well served by public transport. These centres will play a major service delivery role, including government, health, justice and education services, as well as retail and commercial opportunities.
Alternative water supply	A water supply from rainwater, stormwater or recycled wastewater, treated to a standard which is fit-for-purpose. These supplies are predominantly used in place of supplies from surface water, groundwater or desalinated water, which are considered conventional sources of water.
Catchment Scale Integrated Water Management Plans (CSIWM Plans)	The metropolitan Melbourne Integrated Water Management Forum boundaries are aligned with the five major waterway catchment boundaries within the Port Phillip and Western Port region. Following the release of their Strategic Directions Statements in 2018, the five metropolitan Melbourne Integrated Water Management Forums worked together to develop Integrated Water Management Plans for the Werribee, Maribyrnong, Yarra, Dandenong, and Western Port Catchments (Catchment Scale Integrated Water Management IWM Plans). These plans provide a consistent framework to coordinate action by all organisations involved in the management of the water cycle. Each Integrated Water Management Forum will continue to identify on-ground projects and initiatives that will progress the vision, strategic outcomes and targets for their catchment.

Framework Plan	A framework plan is an overarching land-use plan that establishes a vision and spatial structure for an area. Typically provides higher level direction setting and more commonly used in regional contexts or early stage documents in metropolitan contexts and detailed projects.
Greyfield and Infill Precincts	Residential areas where the building stock is near or has ended its useful life and land values make redevelopment attractive. Infill refers to development of unused or underutilised land to accommodate growth and increase density within existing and established urban areas.
Greenfield Precincts	Greenfield precincts refers to undeveloped land identified for residential or industrial/commercial development, generally on the fringe of metropolitan Melbourne and larger urban centres in regional Victoria.
Impervious Fractions	The impervious fraction is the proportion of a catchment area that is impervious to rainfall, resulting in significant surface runoff. It represents the percentage of the catchment covered by surfaces that do not allow water to infiltrate, such as roads, roofs, and other paved areas
Integrated water management (IWM)	A holistic and collaborative approach that brings together the planning and management of all elements of the water cycle - including water supply and treatment, wastewater management, stormwater and flood management - to enhance environmental, cultural, economic and social benefits.
IWM Forums	The IWM Forums have been established across the state to identify, prioritise and oversee the implementation of collaborative water opportunities. The IWM Forums bring together all organisations with an interest in the water cycle, recognising that each has an important role to play in the management of our most vital resource. In metropolitan Melbourne, IWM Forums are organised by catchment boundaries, while in regional Victoria, organised largely by urban water corporation boundaries.
IWM Framework	In September 2017, the former Department of Environment, Land, Water and Planning released a document titled Integrated Water Management (IWM) Framework for Victoria. The IWM Framework provides guidance aimed at helping government, the water sector and the community to work together to better plan and deliver solutions for water management across Victoria's towns and cities. The IWM Framework supports the establishment of IWM Forums in each region to drive coordinated delivery of IWM.
IWM Opportunity	An IWM Opportunity refers to a potential project, initiative, or collaborative action developed through an IWM planning process. It identifies water management solutions that aim to optimise the use, management, and shared benefits of water by holistically addressing specific water servicing needs or water cycle challenges.

IWM Outcomes	IWM Outcomes refer to the tangible benefits achieved through taking a collaborative, holistic approach to managing all aspects of the water cycle. Each IWM Forum has agreed on a set of 7-8 strategic IWM outcomes which reflect the priorities of the Forum region. While there are minor variations between Forums, the core outcomes remain consistent. The following outcomes reflect the collective priorities across all 15 IWM Forums - 1. Safe, secure and affordable water supplies, 2. Effective and affordable wastewater systems, 3. Flood management, 4. Healthy and valued waterways and water bodies, 5. Healthy and valued landscapes, 6. Community values reflected in place-based planning, 7. Jobs, economic opportunity and innovation, 8. Strong partnerships with Traditional Owners.
Major Urban Renewal Precincts	Major urban renewal precincts refers to the process of planning and redeveloping underutilised medium and large-scale urban areas, precincts or sites for mixed land-use purposes. They are often, but not always, industrial sites. Their purpose is to take advantage of underutilised land close to jobs, services and public transport infrastructure, to provide new housing, jobs and services. Major urban renewal precincts will play an important role in accommodating future housing and employment growth and making better use of existing infrastructure.
Monitoring, Evaluation, Reporting and Improvement	Alongside the metropolitan Melbourne Catchment Scale IWM Plans and Action Plans developed under the IWM Framework, a Monitoring, Evaluation, Reporting and Improvement (MERI) Plan is being developed to track progress against the performance targets and prioritised actions. The MERI Plan aims to support each metropolitan IWM Forum to demonstrate accountability by monitoring and transparently reporting on progress towards the 2030 and 2050 performance targets set out in the CSIWM Plans, and other performance measures nominated for monitoring only. The MERI Plan also helps understand how prioritised actions have contributed to achieving the 2030 and 2050 catchment performance targets, as well as evaluating the appropriateness, effectiveness, efficiency, impact and legacy of the implementation of the Catchment Scale IWM Plans and Action Plans.
Municipal Planning Strategy (MPS)	The Municipal Planning Strategy (MPS) is a component of the local planning content provided by the relevant planning authority and supports the Victoria Planning Provisions. The Planning Policy Framework and MPS will work together to form the strategic basis of a planning scheme. The MPS will be a succinct expression of the overarching strategic policy directions of a municipality. It will provide for the planning scheme's policy foundation, based on the municipality's location and regional context, history, assets, strengths, key attributes and influences.

National Employment and Innovation Clusters (NEIC)	A significant proportion of jobs in metropolitan areas are located in the suburbs within distinctive clusters of employment and business activity centred around medical, research and tertiary institutions. These clusters serve as local and regional destinations while also holding nationally significant due to their role in attracting workers, students and visitors from across Australia and overseas. There are seven National Employment and Innovation Clusters (NEIC) identified in Plan Melbourne 2017-2050 which will be a focus for jobs growth and strategic infrastructure investment to help expand employment opportunities.
Planning Authority	A planning authority is a body with the power to prepare or amend a planning scheme.
Planning Policy Framework (PPF)	The Planning Policy Framework is the policy content of planning schemes. It forms part of the VPP and includes state, regional and local planning policies. The state, regional and local levels of policy are grouped by theme with directly relevant regional and local policies 'nested' under the corresponding state planning policy. For more information refer to Statutory Planning Mechanisms in the Implementation chapter.
Planning Scheme	A planning scheme is a legal document prepared by the local council or the Minister for Planning, and approved by the Minister. It contains policies and provisions that control land use and development. Planning schemes apply to all private and public land in Victoria and are generally binding on everyone, with some exemptions. The administration and enforcement of a planning scheme is the duty of a responsible authority. In most cases this will be a local council, but it can be the Minister administering the Planning and Environment Act 1987 or any other Minister or public authority specified within the scheme.
Precinct Structure Plan (PSP)	A Precinct Structure Plan (PSP) is a land use and infrastructure plan to guide the development of an area over time. It provides certainty for community members and developers by providing a long-term vision for how an area will develop in the future. A PSP sets out the preferred locations of residential and employment land and infrastructure, and provides guidance for transport and parking, urban design, heritage and character, open spaces and integrated water management. Together with the broader planning framework, precinct structure planning is an important part of the Victorian Government's strategy to address population growth, housing and employment demands.



Project Team	The team of professionals preparing the IWM plan.
Project Working Group	A group comprised of all key IWM plan partners, jointly responsible for directing the development of a IWM plan.
Regional Growth Plan	Regional Growth Plans provide broad planning directions for land-use and development across eight regions in Victoria. These plans are developed through partnerships between local governments, state agencies, and authorities, ensuring coordinated regional development and sustainable growth.
Regional Cities, Centres, Towns and Small Towns	Regional cities, centres, towns and small towns refer to settlements in regional Victoria. There are 10 regional cities defined by Regional Development Victoria across Victoria's five regions (excluding metropolitan Melbourne). Regional centres, towns and small towns are identified within individual Regional Growth Plans.
State Designated Projects	State designated projects refer to projects and places that may be subject to specialised planning and statutory powers or frameworks that may affect the planning process and the integration of IWM. Approaches described in this Guideline document may need to be adapted to the specific circumstances. Examples include Suburban Rail Loop precincts, areas surrounding the Level Crossing Removal Project, Big Housing Build projects, and other State projects designated under Clause 52.30 of the planning scheme.
Strategic cluster	A scale of IWM Planning referring to the planning of large-scale areas of growth or change which require strategic IWM planning to harness key opportunities. They can be identified on a case-by-case needs basis.
Strategic Directions Statement (SDS)	Victoria's IWM Forums have produced a Strategic Directions Statement that captures the regional context, and sets out a shared vision and strategic outcomes for each of the Forum areas across Metropolitan Melbourne and Regional Victoria. Each Strategic Directions Statement includes a list of IWM opportunities collaboratively developed by the Forum to bring local community views, values and priorities into practice through IWM.
Strategic Outcomes	Strategic Outcomes are shared goals agreed upon by each IWM Forum in their Strategic Directions Statement. These outcomes encompass environmental, social, cultural and economic objectives that can be supported and achieved by IWM approaches.

Structure Plan	A Structure Plan defines a council's preferred direction of future growth within an activity centre and provides guidance on how it will be managed. These plans give effect to the policies and objectives set out for activity centres in state policy and provide for changing community needs. They guide the major changes to land use, built form and public spaces that together can achieve economic, social and environmental objectives for the centre. To improve development within centres, state policy encourages local governments to review the purpose and function of individual centres, and revise local planning policies through structure planning for each of their activity centres.
Victoria Planning Provisions (VPP)	A set of standard provisions for planning schemes called the Victoria Planning Provisions (VPP) is created by the Minister for Planning under the Planning and Environment Act 1987. These provisions form a template for all planning schemes. It provides the framework, State planning policy, and standard provisions such as zones and overlays. The planning authority (usually the local council) must provide the local planning policy content and select the appropriate zones and overlays from the VPP for inclusion in their planning scheme. They may also prepare schedules to planning provisions that vary the requirements to address local needs and issues. Particular Provisions are planning controls (objectives and standards) that apply only to certain uses and development or to particular aspects of certain uses and development. They are specific prerequisites that must be supplied to support a development application.
Water Sensitive Urban Design (WSUD)	Water sensitive urban design (WSUD) uses better urban planning and design to slow, treat and reuse stormwater, stopping it from reaching our waterways by mimicking the natural water cycle as closely as possible.

References

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