Sunbury's Water Future

Response to the Community Panel's recommendations

September 2019

Integrated Water Management Forums

Western Water

Melbourne Water
Enhancing Life and Liveability

Acknowledgement of Traditional Owners

Melbourne Water and Western Water respectfully acknowledge Aboriginal and Torres Strait Islander peoples as the Traditional Owners and custodians of the land and water on which all Australians rely. We pay our respects to Wurundjeri, their Elders past, present and emerging, as Traditional Owners and custodians of the land and water on which Sunbury's Water Future relies.

We acknowledge and respect the continued cultural, social and spiritual connections that all Aboriginal Victorians, and the broader Aboriginal and Torres Strait Islander community have with lands and waters, and recognise and value their inherent responsibility to care for and protect them for thousands of generations.

In the spirit of reconciliation, Melbourne Water and Western Water remain committed to working in partnership with Traditional Owners to ensure meaningful ongoing contribution to the future of land and water management.

Introduction

Western Water and Melbourne Water thank the 'Sunbury's Water Future' community panel members for their recommendations around what water management options are best for the community and the environment.

We see value in all the recommendations and minority reports and accept all recommendations for inclusion in the next phase of planning investigations and further stakeholder engagement.

We will adopt an adaptive planning approach for Sunbury's Water Future as outlined in this response paper. Using this approach, all the options recommended by the panel will be considered and further developed to inform our future planning decisions around Sunbury's Water Future.

Furthermore, we commit to providing annual updates on our progress back to panel members including how the panel's recommendations have been incorporated in the integrated water management planning for Sunbury.

Western Water and Melbourne Water are immensely appreciative of the time and commitment of the panel, and acknowledge the important role the panel members have played in shaping the future of Sunbury, and the integrated water management planning for the region.

Context

Strong population growth and climate change will have a significant impact on Sunbury's water supplies, wastewater management and local waterways into the future. Input has been sought and received from the wider Sunbury community and through a community panel which has provided recommendations on what water management options are best for the community and the environment.

The recommendations will help inform the Sunbury Integrated Water Management (IWM) Plan to be developed by Western Water and Melbourne Water.

The development of an Integrated Water Management Plan for Sunbury has been identified as a priority project[1] by the Maribyrnong Integrated Water Management Forum, a Victorian Government initiative being delivered under Water for Victoria.

The community engagement and the panel's recommendations complete an important stage of the Sunbury Integrated Water Management planning timeline (shown below) and will shape further investigations and stakeholder engagement from this point onward.

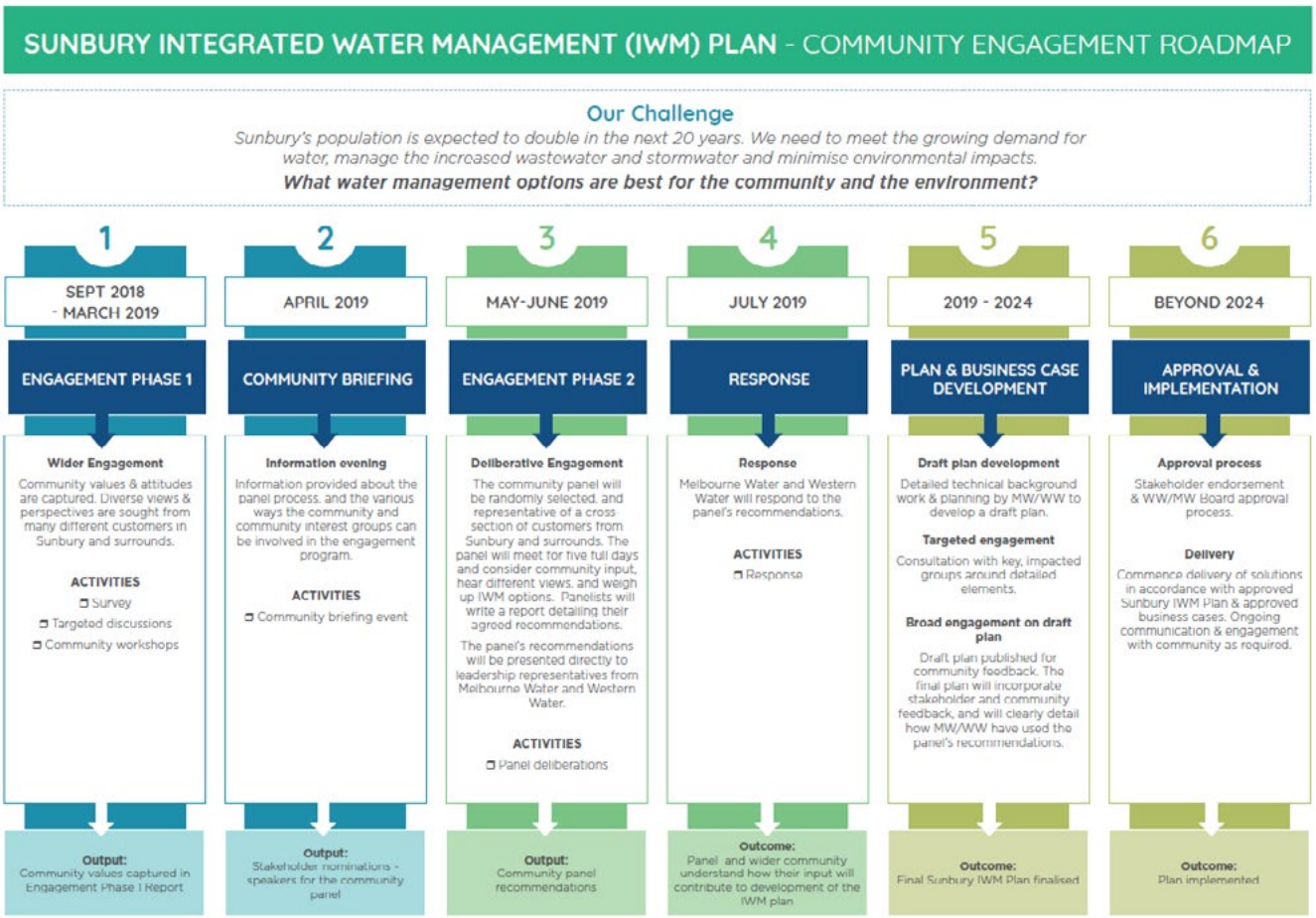
It is important to note that more information is required to assess the feasibility of some recommendations provided by the panel. This information will become available as investigations are completed and further input is received from stakeholders and the broader community in subsequent engagement activities.

While we cannot pre-empt what this further information will tell us, it will provide us with more certainty around the future commitments we make and help us set conditions for implementation.

It is also acknowledged that:

- there are likely to be barriers along the way to implementing some options;
- some decisions will be outside of our control; and
- some options may override others.

However, our commitment is to include and support community preferences through an adaptive planning pathway.



[1] Maribyrnong Strategic Directions Statement Sept 2018.

Adaptive Pathways Planning

Adaptive Pathways Planning is a planning methodology designed to consider many different options, high future uncertainty and multiple plausible futures.

We are using this approach in planning for Sunbury's Water Future to ensure we are well informed and positioned to make the best decisions for the future at the right time. The Adaptive Pathways Planning approach embraces an uncertain future and enables the proactive adaptation and response to changing circumstances and needs.

A key concept of Adaptive Pathways Planning is that the greatest choice in responding to system limits and challenges occurs where there is alignment between our technical understanding (Knowledge), our social norms (Values) and our regulatory settings (Rules). Resolving barriers associated with these in a timely manner ensures that the option remains "real" and part of the adaptive pathway.

Structure of this report

This report outlines the response of Melbourne Water and Western Water to the individual recommendations.

The response to the individual recommendations includes our understanding of the recommendation, what we see as the current and possible barriers to the implementation of the recommendations (classified under Knowledge, Values or Rules) and what we are committing to, over the next five years. Over this period, we are aiming to resolve these barriers and sufficiently understand each recommendation, and how each works with others, to determine whether it should be part of the preferred servicing solution.

While Melbourne Water and Western Water are not currently in a position to finalise the future servicing solution, the adaptive pathway endeavours to keep all the various option elements under active consideration for as long as possible.

This response is the first stage in utilising the community panel's recommendations. The commitments we are making in this response comprise a significant undertaking over the next five years that will ultimately determine how the water cycle across Sunbury's growth areas will be managed.

Recommendation 1: Sustainable Energy

What the Panel said:

Using sustainable energy sources to provide energy for the proposed recommendations.

What we have understood:

The panel does not want the servicing solution contributing to climate change, and so recommend that energy for the operation of any infrastructure required for the solution be carbon emission neutral – that is, either it is directly fed from local renewable energy sources or that renewable energy used is sourced from responsible suppliers through the power grid.

Implementation Challenges:

Knowledge:
Understanding the relative costs and risks of a range of renewable energy sources compared to conventional energy sources.

Understanding the role that new technology and innovative asset design and processes can play in improving the energy efficiency of new infrastructure.

Values:
Where costs are greater than business as usual, an understanding of customers' willingness to pay.

Rules:
Demonstrating cost-effectiveness, customer support and policy alignment to the economic regulator.

What we will do:

The use of sustainable energy sources to meet the energy requirements will be embedded as a principle in all further investigations around servicing options that require energy.

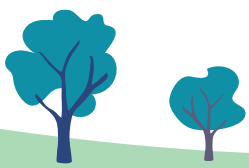
We will adhere to the recommendation as a principle with the details/form of the energy solution to be determined during the future planning phase.

Note:
Both Western Water and Melbourne Water have established pledges around carbon emissions reduction:

Western Water: To address our contribution to climate change mitigation, Western Water has pledged to reduce greenhouse gas emissions by 10% below baseline emissions (an average of 2012-2016 emissions) by 2025. This equates to a 46% reduction on forecast business as usual emissions, when accounting for growth. Further, Western Water has a target of carbon neutrality by 2050.

Melbourne Water: We are committed to reducing our carbon emissions to net zero by 2030. This will be achieved in two stages:

- *a 50% reduction of current emissions by 2025*
- *a further reduction to net zero by 2030.*



Recommendation 2: Utilising Water Sources

What the Panel said:

Collect stormwater and wastewater and have the capacity to store and treat it to a potable standard.

Treated water can then be:

- Released into waterways to supplement and improve on natural flow in dry periods
- Added to our current potable water storage facility for in-house use

This can be done by improving our current water treatment plant or if necessary developing new treatment plants.

What we have understood:

The panel would like to maximise the beneficial use of recycled water and stormwater resources to benefit the waterway environment and potable water security. This would be achieved by augmenting treatment plants and storages to create potable standard water, providing flexibility where water can be directed for greatest benefit.

Implementation Challenges:

Knowledge:
The quality of treatment required for the proposed uses for local stormwater and recycled water will vary depending on the final intended use.

Infrastructure requirements to meet Health and Environmental regulatory requirements.

Quantification of impact on waterway health in minimising stormwater and recycled water discharge, and managing controlled treated water discharges to the waterway (environmental flows).

Costs and benefits in sufficient detail to present a business case.

Values:
Support of customers and community for supplementing potable supply with treated stormwater and wastewater.

Customers' willingness to pay for investment beyond business as usual, (this includes customers of both Western Water and Melbourne Water).

Rules:
State Government Policy to support the concept.

Requirements of regulators to ensure risks are managed.

Partnership arrangement between Melbourne Water, Western Water and Hume City Council.

Funding of any costs beyond a business-as-usual solution.

What we will do:

We will undertake further technical investigations around the use of treated stormwater and recycled water resources for waterways and for potable water and to understand location-specific aspects. Including:

- Understanding water quality
- Understanding infrastructure requirements
- Understanding risks
- Understanding costs and benefits

We will engage with the State Government policy makers and the regulators around the panel's recommendations.

We will further engage with the community to understand the willingness for use of this water for the environment and for drinking.

Recommendation 3: Cost And Pricing Incentives

What the Panel said:

A discount on bills for using less water than the recommended usage per household.

What we have understood:

The panel would like the pricing structure to provide greater incentives for customers to conserve water, and to achieve usage below an agreed reasonable use threshold. The technical challenges in not knowing how many people may be living in a household is acknowledged.

Implementation Challenges:

Knowledge:
What might a "discount" look like?

What impact might a change like this have on other tariffs under a neutral cost/revenue scenario?

Values:
What is considered reasonable usage per person? Should garden usage be a factor?

What is an equitable tariff structure?

Rules:
How to apportion for various household occupancies.

What we will do:

Western Water will address this recommendation in community engagement about tariff structures.

This work will highlight existing pricing rules that already provide discounts for low water usage and explore what else might be required to meet community expectations and change customer behaviour.

Our proposed solutions will be tested with the tariff structure community panel later in 2019 with the view to inclusion in our price submission for 2020-2023 if supported.

Recommendation: 4 Strategic Water Storage

What the Panel said:

Optimise a local stormwater and treated water storage solution by utilising currently available storage capacity (e.g. Riddells Road Storage Tanks), building new storage (basins, above or underground tanks).

What we have understood:

The panel would like ecologically harmful stormwater volumes to be captured and stored, with the aim to keep flows in the waterways at pre-development levels. The stored water could then be used to provide flows to the waterways when needed, and provide security to the water supply.

This recommendation identifies the currently not utilised Riddells Road tanks as a potential storage site, and also identifies the potential for distributed storages at strategic locations which could be above ground, underground, or within retarding basins.

Implementation Challenges:

Knowledge:
How much stormwater needs to be stored?

What is the most cost-effective way to store this water, and where?

What flows does the waterway need, and what is the maximum it can handle?

What level of treatment is required before releasing this to:

- The waterway as environmental flow?
- Rosslynne Reservoir as potential drinking water (with further treatment)?

Values:
Support of customers and community for supplementing potable supply with treated stormwater and wastewater.

Customers' willingness to pay for investment beyond business as usual.

Rules:
Requirements of regulators to ensure risks are managed.

Partnership arrangement between Melbourne Water, Western Water and Hume City Council.

Funding of any costs beyond a business-as-usual solution.

What we will do:

We will undertake further technical investigations to address the knowledge gaps around storing stormwater, and work with developers, landowners and Council on this.

We will undertake further technical investigations in parallel with stakeholder engagement around the use of alternative water sources for the waterways and other uses to provide water security.

We will engage with the environmental regulator around the panel's recommendations to use the stored stormwater for waterway flows.

Recommendation 5: Adaptable Stormwater And Wastewater Storage And Treatment Infrastructure

What the Panel said:

An efficient risk managed system to collect and treat stormwater and wastewater into various facilities and water grades as demand requires. Capacity to accommodate regional excess for treatment and resale.

What we have understood:

The panel would like to protect the waterways and maximise the use of the stormwater and wastewater resources available.

The panel would like the stormwater and wastewater to be treated to different qualities to match a range of demands, and the storage and treatment to be efficient by utilising existing capacity (Sunbury Recycled Water Plant (RWP), Riddells Rd storage and Rosslynne Reservoir) and tailoring capacity upgrades to population and quality requirements.

The panel also would like the capacity provided to allow for any regional excess to be sold.

Implementation Challenges:

Knowledge:
Understanding the various demands and quality requirements.

Understanding the quality of the existing local alternative water sources and level of treatment required.

Determining cost-effective future local supply scenarios to match future levels of treatment for recycled water and stormwater.

For excess volumes beyond demand for current qualities, determining when and where recycled water should be treated to a Class A or B standard (requiring a separate pipe and storage system) or higher standard to facilitate local use or resale.

Values:
Support of customers and community for supplementing potable supply with treated stormwater.

Customers and community's willingness to accept a fit for purpose product, that is, the minimal level of water treatment required for a given use.

Customer's willingness to pay for investment beyond business as usual.

Rules:
State Government Policy to support the concept of supplying treated alternative water sources via Rosslynne Reservoir.

Water quality risks to be mitigated to the satisfaction of the regulators.

Funding of any costs beyond a business-as-usual solution.

What we will do:

We will undertake location-based assessments on where Class B recycled water and minimally treated stormwater are most cost-effective for local supply.

We will complete the business case investigations for large scale beneficial reuse of Class B recycled water through the Western Irrigation Network (WIN) project.

We will investigate the storage and treatment requirements and costs for recycled water and stormwater in excess of the demand for the current quality. This will include environmental/water quality assessments to support relevant regulatory approvals for storing alternative water in Rosslynne Reservoir.

Recommendation: 6 Stormwater Flow In New Developments

What the Panel said:

Diversion of stormwater for local use, including diverting into streetscape, public areas and wetlands.

What we have understood:

The panel would like stormwater to be diverted away from waterways to reduce the impact of excess stormwater on waterways and improve the local environment and the liveability aspects of new developments.

Based on the conditions for implementation provided with the recommendation, the panel would like any excess stormwater not used locally to form part of an overall solution to be implemented as part of other recommendations.

Implementation Challenges:

Knowledge:
The relevant effectiveness and feasibility of different options to retain natural soil infiltration within new developments having regard to soil types and potential impacts on infrastructure.

The relative contribution of local diversion to achieving waterway protection requirements.

Products and designs available commercially to fulfil these functions.

Values:
Community willingness for streetscape infrastructure to utilise/ infiltrate stormwater.

Developers' willingness to adopt water sensitive urban design solutions beyond current regulatory standards.

Rules:
Guidelines, standards and development conditions that appropriately support the local diversion and uses.

Funding of maintenance of passive irrigation/ vegetation for streetscapes and public open space.

What we will do:

We will work with Hume City Council to consider the opportunities for diversion of stormwater for streetscapes and public open space in new developments. This will include investigation of passively irrigated street trees, infiltration trenches and localised stormwater harvesting from wetlands.

We will work with Victorian Building Authority, Master Builders Association of Victoria, Victorian Planning Authority and DELWP to investigate permeability standards for new developments.

Recommendation 7: Keep It Local

What the Panel said:

Water sourced locally should be treated and stored locally for consumption in the greater Sunbury region.

What we have understood:

The panel would like to maximise the use of local water sources within the Sunbury region and minimise the need to import water from sources outside our region, with any excess being supplied outside the Sunbury area.

This recommendation appears to align with recommendations #5, #6 and #2.

Implementation Challenges:

Knowledge:
Understanding the costs and benefits of sourcing water outside the region versus developing the local sources.

Refer to aligned recommendations #5, #6 and #2.

Values:
Refer to aligned recommendations #5, #6 and #2.

Rules:
Refer to aligned recommendations #5, #6 and #2.

What we will do:

We will investigate the costs and benefits of local and external sources of water to meet future requirements.

Refer to aligned recommendations #5, #6 and #2.

Recommendation 8: More Efficient Use Of Recycled Water

What the Panel said:

Treat stormwater and wastewater (to potable and class A or B) to use more recycled water in both domestic and industrial applications.

What we have understood:

The panel would like the additional wastewater/recycled water and the ecologically harmful stormwater to be treated to varying qualities to maximise its reuse for both domestic and industrial demand.

This recommendation appears to align with recommendations #5, #6 and #2.

Implementation Challenges:

Knowledge:
The opportunities around industrial use of Class A water.

Refer to aligned recommendations #5, #6 and #2.

Values:
Refer to aligned recommendations #5, #6 and #2.

Rules:
Refer to aligned recommendations #5, #6 and #2.

What we will do:

We will investigate the opportunities for both domestic and industrial demand for Class A as part of the investigations under the aligned recommendations.

Refer to aligned recommendations #5, #6 and #2.

Recommendation 9: Permeable Road And Paths

What the Panel said:

Make suitable new roads and paths permeable, including in new developments, to allow stormwater to passively infiltrate into the ground below, mimicking the natural process.

What we have understood:

The panel would like streets and streetscapes to facilitate greater infiltration of stormwater, to reduce the impact of new impervious areas on the natural soil infiltration.

Implementation Challenges:

Knowledge:
The feasibility of possible options given the nature of Sunbury's soils including vulnerability to erosion.

Refer to aligned recommendations #5, #6 and #2.

Values:
Understanding values and support from developers and new communities for innovative approaches.

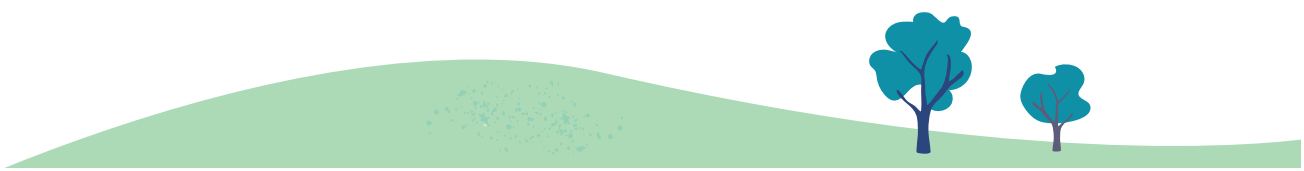
Rules:
Guidelines, standards and development conditions that appropriately support passive infiltration.

What we will do:

We will work with Hume City Council to consider the effectiveness and feasiblity of permeable treatments in Sunbury precincts.

(Please note: all advice to date is that Hume CC doesn't think it's feasible).

We will work with Victorian Building Authority, Master Builders Association of Victoria, Victorian Planning Authority and DELWP to investigate permeability standards for new developments that are applicable to different soil types.



Minority Report 1: Internal Water Usage Monitoring

What the Panel said:

Putting a water meter in a visible internal location to increase personal awareness of consumption over a short period of time.

This may include the creation of an interface that alerts you when you exceed the goal water usage set by you.

What we have understood:

The panel would like to increase customer awareness around water usage through provision of timely water usage information or alerts, from a device installed inside a residence. Such an installation will facilitate both education and conservation of water within the household, leading to improved water efficiency.

Implementation Challenges:

Knowledge:
The accuracy and effectiveness of metering information in meeting the intent.

The optimal interface to display data and alerts.

Values:
Does the community wish to have such devices installed?

Should this option be offered to customers on a voluntary basis?

Should residents pay to receive such devices, or should the broader customer base subsidise installation?

Rules:
Determining accessibility and funding arrangements.

What we will do:

We will explore the latest technology around water meters and conduct a trial if necessary to confirm the effectiveness, community useability and benefit, costs and funding options.

Minority Report 2: Smart Tanks

What the Panel said:

All new homes and businesses to have automated internet-connected or automatic release triggered smart tanks plumbed into grey water and automatically discharging prior to storm events and during summer. Excess water to be stored in a larger community storage facility for local community use.

What we have understood:

The panel would like to see rainwater tanks installed in all new dwellings and business premises. These tanks will collect runoff from roofs and be plumbed into appropriate uses within the household or business including toilet flushing to reduce demand for potable water. These tanks can also be setup to be automatically emptied when appropriate, such as before a rainfall event is to occur. This will improve local stormwater management by maximising the volume available in the tank to collect rainwater, and thus reducing peak stormwater discharge to waterways. (doesn't necessarily reduce volume but the timing).

Implementation Challenges:

Knowledge:
The effectiveness and benefits of an automated rainwater tank control systems.

Viability of household versus centralised control.

Values:
Householder willingness for water in a tank to be released remotely by a centralised control authority.

Rules:
Mandating specific household stormwater management solutions.

Responsibility for operation and maintenance to ensure long term effectiveness.

What we will do:

We will explore the concept of smart tanks for the Sunbury growth area with Hume City Council, developers and technology providers.

Minority Report 3: Utilising Class B Wastewater Facility

What the Panel said:

Keep existing Class B wastewater facility.

- Build a new potable water purification facility.
- Utilise Class B to irrigate parkland and green spaces.
- Sell Class B water to irrigate agricultural land.

What we have understood:

The panel would like the use of Class B recycled water to be maximised to improve liveability, health and wellbeing.

Additionally the panel sees value in extending the use of Class B for agricultural use and if cost-effective, treat it further to potable use.

This report appears to align with recommendations #5 and #8.

Implementation Challenges:

Knowledge:
Refer to aligned recommendations #5 and #8.

Values:
Refer to aligned recommendations #5 and #8.

Rules:
Refer to aligned recommendations #5 and #8.

What we will do:

Refer to aligned recommendations #5 and #8.