

Sunbury's Water Future

# Community Panel

## PANEL REPORT

29 June 2019

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### OUR CHALLENGE:

*Sunbury's population is expected to double in the next 20 years. We need to meet the growing demand for water, manage the increased wastewater and stormwater and minimise environmental impacts.*

***What water management options are best for the community and the environment?***

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# Introduction

Sunbury's population is expected to double in the next 20 years. Western Water (WW) and Melbourne Water need to meet the growing demand for water, as well as manage the increased volume of wastewater and stormwater. WW and Melbourne Water (MW) have explored potential options to address supply and management of water for the expected growth. As part of the process, WW and MW engaged a third party to facilitate a community consultation panel.

Thirty panelists, representing the demographic spread of the area, were selected to form a community panel. The panel met regularly over two months to discuss the problem and formulate a series of recommendations for WW and MW to consider. The purpose of the panel was to provide a range of recommendations following an extensive educational process.

Two guiding principles were agreed prior to the development of the recommendations, these were:

- Climate change is a fact and as such will impact rainfall and other climate events in the Sunbury region
- The costings of recommendations were not to limit panelists' thinking.

The panel established a series of criteria which became the basis for developing the 9 recommendations. The recommendations include a range of broad and specific solutions which address our initial remit.

# Assessment criteria

The criteria we have used to determine what options are ‘best’ for the community and environment. These do not need to be all met. The proposed solution should ensure a sustainable consistency in water supply, but no proposed solution should be in conflict with one of these criteria.

<b>Topic</b>	<b>Criteria</b>
<b>Water Supply</b>	The proposed solution should ensure a sustainable consistency in water supply.
<b>Environmental benefits</b>	The chosen solution(s) should not negatively impact natural habitats and native species. Where possible solutions with a positive impact and sustainable delivery method should be regarded as favorable.
<b>Stormwater management</b>	The solution(s) should ensure sustainable inflow and water removal process for healthy waterways and environment and contribute to the available water resources for Sunbury.
<b>Planning and development</b>	The proposed solution(s) for new developments meets sustainable best practice standards for water management.
<b>Water usage</b>	The proposed solution(s) encourages the community to use water more efficiently.
<b>Education</b>	The proposed solution(s) can be communicated by way of an educational program or document that is accessible to the wider community of all ages.
<b>Cost-Effectiveness</b>	While taking into account the cost benefit analysis and sustainable energy options: the proposal should take into account cost- effectiveness and fair distribution of costs over time.

# Recommendations

## Sustainable Energy

**Description**

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

**Rationale**

- This idea is important to address the sustainability of the delivery of the recommendation as addressed in the criteria.
- Using renewable energy sources (e.g. wind or solar) may achieve our carbon neutral goal.
- Consider energy storage (e.g. battery storage) solutions to additionally balance the grid.

**Conditions for implementation**

- Track towards being carbon neutral.
- Western Water needs to invest in additional infrastructure.

## Utilising Water Sources

### **Description**

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.

### **Rationale**

- Collecting all water and then controlling outputs relieves waterways from the pressures caused by extreme rainfall events.
- Having the capacity to treat all water to an A plus standard allows it to be stored anywhere including Rosslyne Reservoir.
- Treating all water to an A plus standard allows it to be used anywhere and for any purpose.
- The more efficient use of recycled water ensures security of water supply impacted by climate change.
- Local treatment of water reduces the cost associated with transporting water from the Melbourne Water System.
- This initiative provides an innovative approach for water management and serves as a model to other regions.

### **Conditions for implementation**

- While upgrading or building any treatment facility, building codes and legislative standards need to be adhered to.
- Ensure that waterways are protected and managed to protect natural inhabitants. Supplement flow with potable water produced at this proposed treatment facility.
- Education- prior to introducing wastewater recycling to our system a well-planned awareness campaign needs to be implemented. This needs to highlight the needs and benefits of utilising wastewater.
- If the current facility cannot cope with the larger volumes of water that we propose to capture (stormwater and wastewater), a new facility space needs to be located and a new treatment plant built.
- If a new treatment plant is built, an additional storage area needs to also be considered.
- To establish the amount of water that has to be treated to potable level, consideration will be given to the quantity of water coming into the system at any one time and the capacity to utilise that water. Excess water to these needs will be taken to potable level and held in storage.

## Cost and pricing incentives

<b>Description</b> A discount on bills for using less water than the recommended usage per household
<b>Rationale</b> <ul style="list-style-type: none"><li>● Encourage reduced water use</li><li>● Increase education of water use</li><li>● Environmental benefits of reduced water use</li></ul>
<b>Conditions for implementation</b> <ul style="list-style-type: none"><li>● Need to determine an expected amount of water use per household, per day</li></ul>

## Strategic water storage

**Description**

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

**Rationale**

- Keep the flow as close to natural/at pre-development flow levels (protect the environment).
- Release treated water to waterways at correct time to improve natural ecosystem.
- Provide security of water supply.

**Conditions for implementation**

- Clear business plan with future proofing
- Forward thinking local solutions around managing local flows

## Adaptable storm water and wastewater storage and treatment infrastructure

### **Description**

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

### **Rationale**

- Scalable facilities to treat and be expanded as population increases.
- A simple efficient way of utilising resources already available.
- Protect our valuable waterways by controlling flows.
- Noting that new infrastructure is required at the same time utilising systems that are currently existing (current sewerage plant and existing pipelines to and from Rosslyn Reservoir and Melbourne Water).

### **Conditions for implementation**

- An efficient risk managed system to ensure the quality of the treated water is not negatively impacted upon.
- Utilising existing storage facility on Riddell Road for stormwater.
- Build additional capacity to store excess water during peak flow and rainfall periods.
- Building new modular treatment facilities to accommodate future demand.
- Excess potable water to be piped to Rosslyn Reservoir for storage.
- Also store any excess storm water from other locations for treating and on-selling to other areas as required.

## Stormwater flow in new developments

**Description**

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

**Rationale**

1. Better use of untreated stormwater
2. Manages flow of stormwater into waterways
3. Improves the local environment, e.g. ensuring trees don't die, creating green spaces.
4. Reduce impact of stormwater surges into Jackson and Emu Creeks

**Conditions for implementation**

- Regulations for developers, for example consider local topography and vegetation
- Local government required to maintain streetscape after initial build
- This recommendation is a part of the overall solution and needs to be implemented with other recommendations

## Keep it local

**Description**

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

**Rationale**

- Costs of transporting water long distances is reduced or eliminated.
- Sunbury can pioneer a water management plan that can be replicated elsewhere

**Conditions for implementation**

- Only if Sunbury has sufficient water supply and resources to treat and store water
- If other areas are in need, the excess supply could be offered elsewhere

## More efficient use of recycled water

### **Description**

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

### **Rationale**

- To further utilise current recycled water by treating it to a standard that meets the demand and specific end use.
- Preserve dwindling potable water supply by reducing demand.
- Less recycled water discharged into waterways.
- Sustain natural habitats.
- Reduce the requirement for recycled water storage facilities.

### **Conditions for implementation**

- The recycled water to be treated to standards that can maximise its use in new residential and industrial developments.
- Adequate reticulation (piping infrastructure) to new and existing developments long term.
- Educating the community about recycled water use.

## Permeable road and paths

**Description**

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.

**Rationale**

- Allows for a 'natural' like solution to manage stormwater.
- Reduces stormwater volumes and management requirements.
- Improves the local environment, e.g. ensuring trees don't die, creating green spaces.

**Conditions for implementation**

- To be used in suitable environments.
- May require alterations to current Australian Standards for roads.
- This recommendation is a part of the overall solution and it needs to be implemented with other recommendations

# Minority reports

*For a recommendation to be included in the report as a final, agreed, majority recommendation, it must gain 'super majority' (80% or more) support from the panel. Minority reports are recommendations that did not gain support from 80% or more or that outline dissenting views.*

## Minority report 1

<b>Heading</b> Internal Water Usage Monitoring
<b>Description</b> 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.
<b>Rationale</b> It creates awareness of water use within households Ability to set quantitative goals - daily/weekly
<b>Conditions for implementation</b> Would have to be a hydraulic-free installation (don't impact on water pressure to house)
<b>We think this is an important minority report because:</b> It speaks to the criteria regarding education and modernises the approach to water monitoring in a way that is more accessible, desirable and influential to the younger generation. In discussing the opposition to this idea with fellow panel members it was identified that the concern would be about added cost which we believe should not be an influencer to the possible solutions. We can envision families and children having competitions (and engaging on a level like FitBit) about minimising water usage.

## Minority report 2

<b>Heading</b> Smart Tanks
<b>Description</b> All new homes and businesses to have automated internet-connected <i>or</i> 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.
<b>Rationale</b> <ul style="list-style-type: none"><li>• Reduces stormwater runoff and also provide an alternative water supply.</li><li>• It means local water is available for green spaces that doesn't need to be treated or transported.</li><li>• Decreased demand for potable water - provides alternative water supply.</li><li>• Lightens the burden on waterways and stormwater networks</li><li>• Provides local education and ownership on water</li><li>• Reduces water bills</li></ul>
<b>Conditions for implementation</b> <ul style="list-style-type: none"><li>• Potential subsidies/rebates for residential and commercial users to install</li><li>• Change to town planning application conditions if required</li><li>• Education for home and business owners about smart tank maintenance</li><li>• Need reliable internet connections</li></ul>
<b>We think this is an important minority report because:</b> <p>The group consistently talked about the benefits of tanks contributing to in the management of storm water and wastewater. As separate suggestions, tanks and smart tanks both received over 84% approval from the group. However, because the idea of home tanks and smart tanks got conflated, and the purposes of each are quite different, they did not sit well enough to be presented in this form.</p> <p>We recommend that this is still valid. It should be optional for people to choose the use of smart tanks, but households should be encouraged to have tanks of one sort or another. Smart tanks would have to be managed for storm water management purposes by Western / Melbourne Water. The proposal should distinguish between smart tanks, which release water before rainfall events and tanks which are plumbed into the household for grey water to be used for suitable household functions (e.g. toilets, laundry).</p>

## Minority report 3

<b>Heading</b> Utilising Class B wastewater facility
<b>Description</b> <ul style="list-style-type: none"><li>• Keep existing class B wastewater facility.</li><li>• Build a new potable water purification facility.</li><li>• Utilize class B to irrigate parkland and green spaces.</li><li>• Sell class B water to irrigate agricultural land.</li></ul>
<b>Rationale</b> <ul style="list-style-type: none"><li>• Utilize existing Class B resources.</li><li>• Only purify water to potable levels where required to save money.</li><li>• This system will add value to the new potable water treatment plant.</li><li>• Keeps our parks and gardens green at less cost and no water restrictions.</li><li>• Green spaces aid mental health and general well-being.</li><li>• Utilizes transpiration.</li><li>• Aids in agricultural production - sustainability.</li></ul>
<b>Conditions for implementation</b> <ul style="list-style-type: none"><li>• New piping to new developments to be connected to the class B wastewater plant.</li><li>• Council responsibility to maintain usable state of recreation facilities.</li><li>• Piping to agriculture where needed.</li></ul>
<b>We think this is an important minority report because:</b> Because it be would be maximising the use of existing resources and ensuring that green spaces are adequately irrigated during dry periods, making areas more liveable and develops community recreation and aids in mental health.