



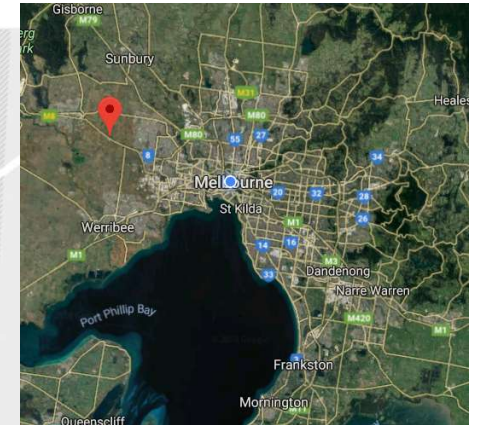
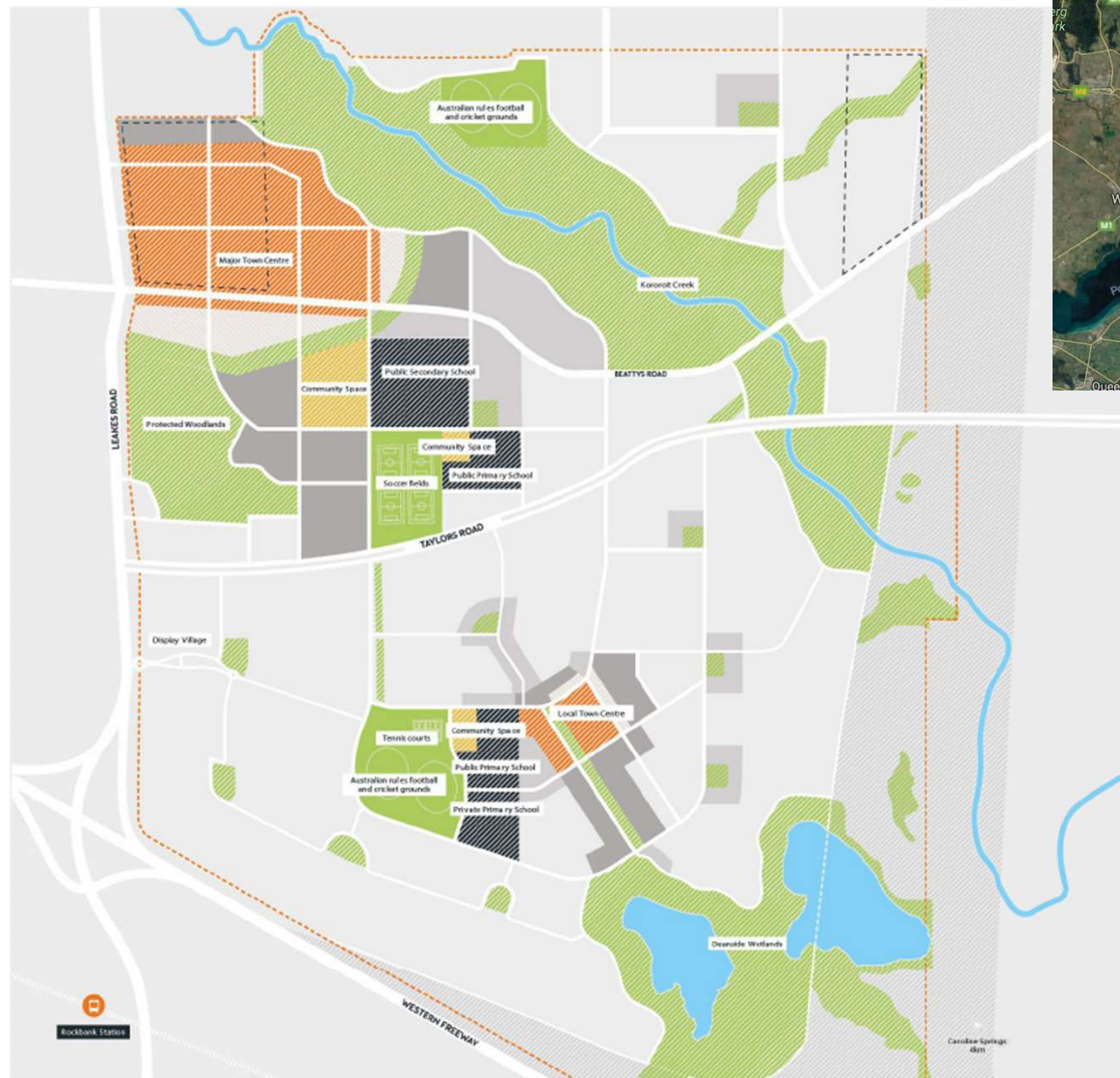
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ARE WE SERIOUS ABOUT IWM?

IWM GOODWILL

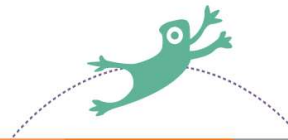


SITE CONTEXT



TIMELINE

WOODLEA



| | | | | | | | | | | |
|------|------|------------|------------|------------|------------|------------|------------|------|------|------|
| 2013 | 2014 | JAN/FEB 15 | MAR/APR 15 | MAY/JUN 15 | JUL/AUG 15 | SEP/OCT 15 | NOV/DEC 15 | 2016 | 2017 | 2018 |
|------|------|------------|------------|------------|------------|------------|------------|------|------|------|

OBJECTIVE SETTINGS



Safe, resilient and
affordable water supplies



Effective wastewater
systems as a resource



Appropriate and functional
stormwater management



Cool and green urban areas
of cultural significance

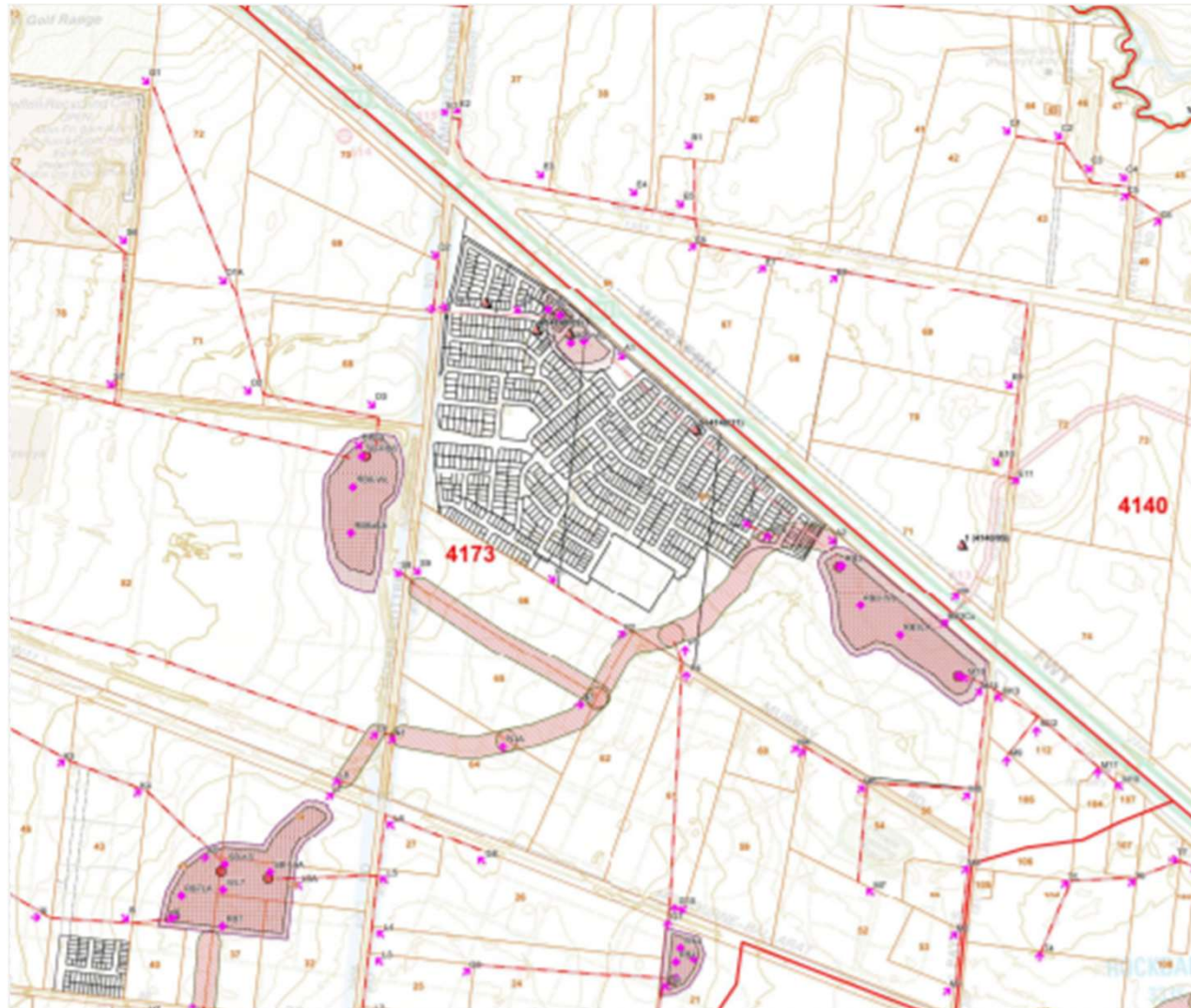


Unique, living and water-
sensitive urban landscapes

ENGAGEMENT PROCESS



BASE CASE



OWNER INCENTIVES

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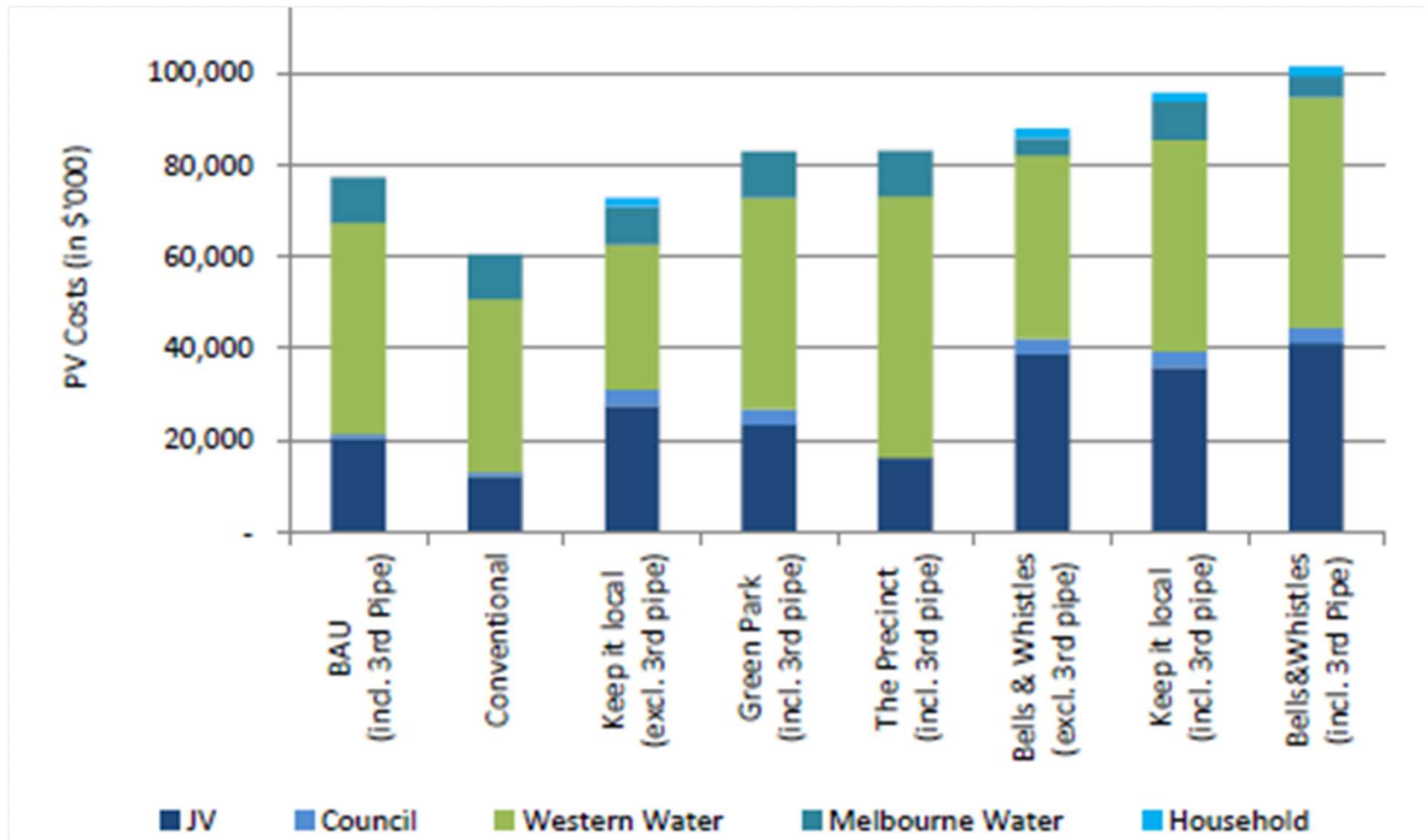
THE OPTIONS ASSESSMENT

Summary of IWM investigation options for Rockbank North PSP

24 options have been investigated for how to go beyond best practice in managing water in the Rockbank North IWM PSP region. This region has a potential 7700 lots, and a forecast population of 20,000. The region is known to be relatively dry, and the challenge is to create a liveable and prosperous in a region that has an annual rainfall of less than 500 mm a year, and with project climate change may receive more extreme heatwaves, less annual rainfall, and more flash flood events. A range of objectives were put forward as the measure of success. The options are presented as individual options, but a combination of these options will most likely get the best outcome, from an environmental, social and economic perspective. The 21 options were developed in consultation with the Steering Committee. 3 options have been dropped as they were deemed not feasible in the investigation.

| ID number | Theme | Supply of traditional potable water to precinct | Recycled water from WW to precinct (ML / yr) | Rainwater to precinct (ML / yr) | Stormwater to precinct (ML / yr) | Stormwater volume from precinct (ML / yr) | Impact on reducing nuisance flooding (1 is low, 3 is high) | Nutrients from precinct (TSS tonnes / yr) | Green factor (1 = low impact, 3 = high impact) | Ecological habitat (1 = low support, 3 = high support) | GDE (1 = low support, 3 = high support) |
|---------------|---|---|--|---------------------------------|----------------------------------|---|--|---|--|--|---|
| BAU (Stage 1) | BAU | 290.0 | 0.0 | 0.0 | 0.0 | 250.0 | 1 | 54.0 | 1 | 1 | 1 |
| A-1 | Rainwater substitution (2000 L) | 262.1 | 0.0 | 27.9 | 0.0 | 222.1 | 2 | 47.0 | 2 | 1 | 1 |
| A-2 | Rainwater substitution (5000 L) | 237.3 | 0.0 | 52.7 | 0.0 | 197.4 | 3 | 46.0 | 2 | 1 | 2 |
| A-3 | Rainwater substitution and leaking (2000 L) | 266.1 | 0.0 | 23.9 | 0.0 | 226.1 | 2 | 47.0 | 2 | 1 | 1 |
| A-4 | Rainwater substitution (2000 L w RW) | 166.5 | 96.9 | 26.6 | 0.0 | 223.4 | 2 | 47.0 | 2 | 1 | 1 |
| A-8 | Intelligent network of tanks | 264.1 | 0.0 | 25.9 | 0.0 | 224.1 | 3 | 48.0 | 2 | 1 | 1 |
| B-1 | Rainwater to potable | 242.2 | 0.0 | 47.8 | 0.0 | 202.2 | 3 | 46.0 | 3 | 1 | 2 |
| B-2 | Permeable paving | 270.0 | 0.0 | 0.0 | 20.0 | 230.0 | 2 | 51.0 | 2 | 1 | 2 |
| B-3 | Rain gardens | 270.0 | 0.0 | 0.0 | 20.0 | 230.0 | 2 | 13.0 | 2 | 1 | 2 |
| B-4 | Pocket parks WSUD | 290.0 | 0.0 | 0.0 | 0.0 | 240.0 | 2 | 13.0 | 2 | 1 | 2 |
| B-5 | Passive WSUD (altering the back of kerb) | 257.2 | 0.0 | 0.0 | 32.8 | 210.0 | 2 | 47.7 | 2 | 1 | 1 |
| C-1 | Pocket parks – underground storage | 247.8 | 0.0 | 0.0 | 42.2 | 207.8 | 2 | 45.0 | 2 | 1 | 2 |
| C-2 | Precinct harvesting | 247.8 | 0.0 | 0.0 | 42.2 | 207.8 | 2 | 45.0 | 3 | 2 | 2 |
| C-3 | Precinct harvesting w third pipe | 69.7 | 178.1 | 0.0 | 42.2 | 207.8 | 2 | 41.0 | 3 | 2 | 2 |
| C-4 | Precinct harvesting for potable reuse | 62.0 | 0.0 | 0.0 | 228.0 | 22.0 | 2 | 5.0 | 3 | 2 | 3 |
| C-5 | Precinct harvesting for low risk and Open Space | 69.7 | 44.3 | 0.0 | 176.0 | 74.0 | 2 | 16.0 | 3 | 2 | 3 |
| C-6 | Aquifer Storage and Recovery | 69.7 | 195.3 | 0.0 | 25.0 | 225.0 | 2 | 41.0 | 2 | 2 | 2 |
| C-7 | SW to sewer | 69.7 | 140.3 | 0.0 | 80.0 | 171.0 | 2 | 37.0 | 2 | 1 | 2 |
| C-8 | Frog pond | 290.0 | 0.0 | 0.0 | 0.0 | 249.0 | 1 | 54.0 | 1 | 3 | 2 |
| C-9 | Urban sponge | 290.0 | 0.0 | 0.0 | 0.0 | 141.0 | 1 | 10.0 | 1 | 3 | 3 |
| C-10 | Residential third pipe | 69.7 | 220.3 | 0.0 | 0.0 | 250.0 | 1 | 54.0 | 1 | 1 | 1 |
| C-11 | Precinct harvesting with Boulevard watering | 222.6 | 0.0 | 0.0 | 67.4 | 182.6 | 2 | 41.0 | 3 | 2 | 1 |

ECONOMIC ANALYSIS



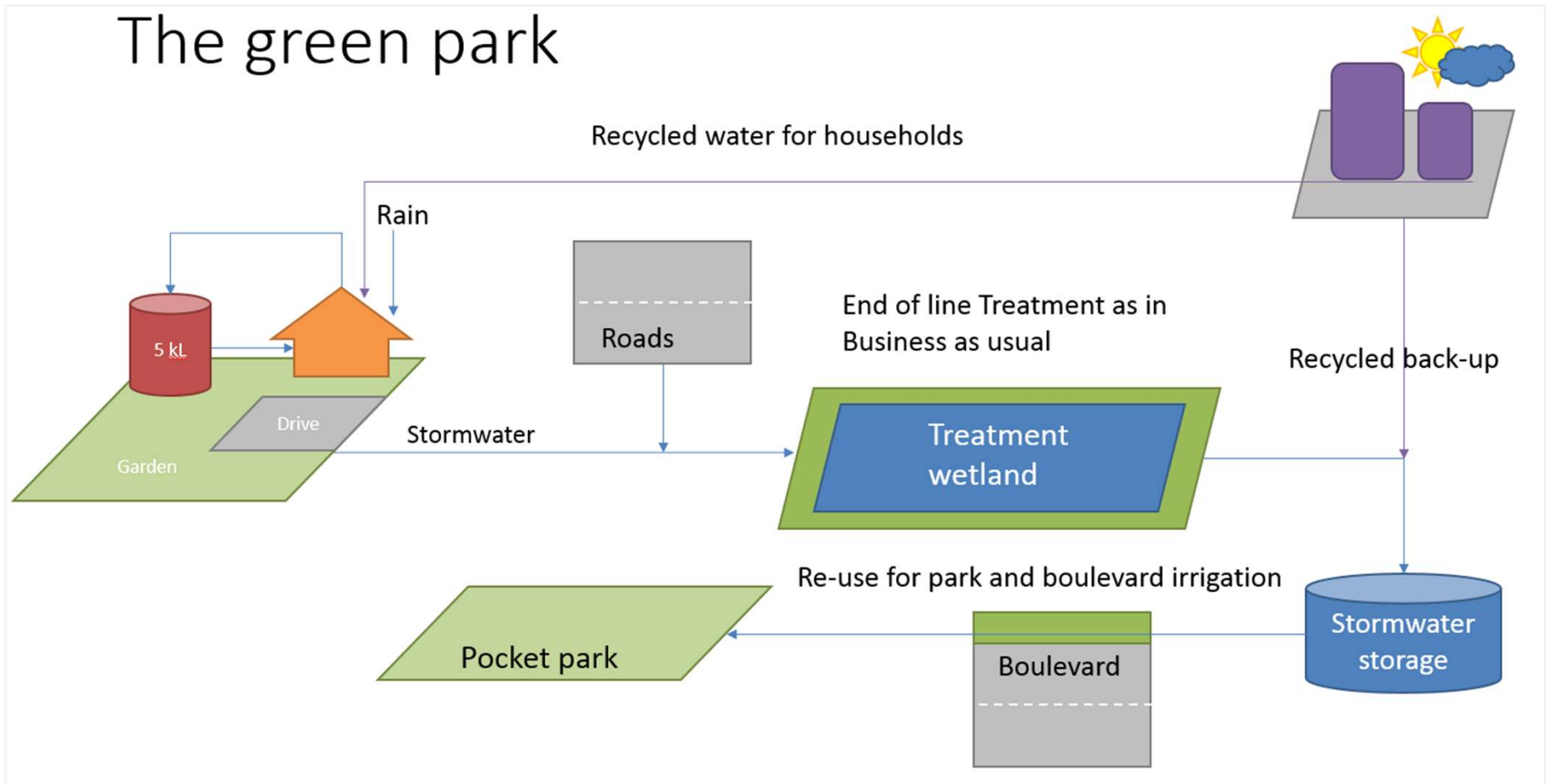
Source: Marsden Jacob Associates

THE COMMENT

“ We don’t irrigate our
greenspaces now, so why
should we do any different
for this project? ”

THE PREFERRED

The green park



CONSTRUCTION COMMENCES

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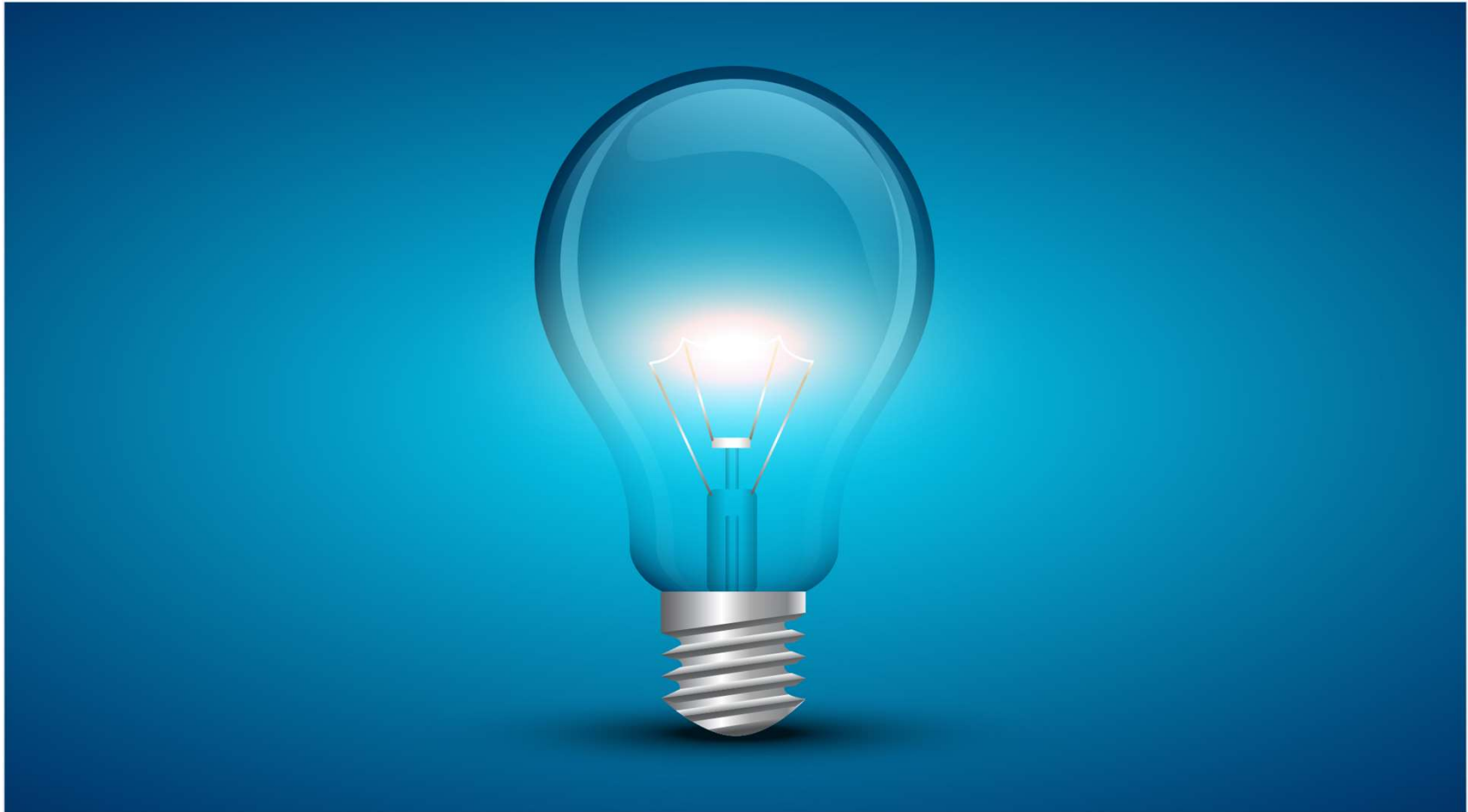


THE LETTER

“ This configuration jeopardises the financial viability of the investment in the recycled water network.....

and in its current proposed format is not acceptable.”

A MOMENT OF REFLECTION



A NEW CHAPTER IN IWM



IWM GUIDELINES

WESTERN WATER

Integrated Water Management Developer Guidance

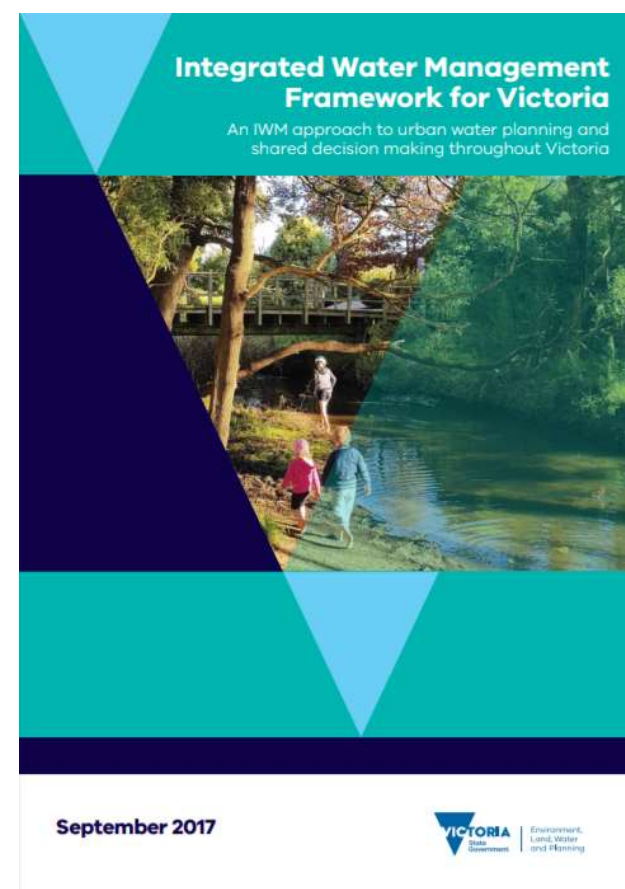


City of Melton

Draft Integrated Water Management Plan

March 2018

For more information call 1300 650 422
or visit us at WesternWater.com.au



THE NEW IWM

IWM PLAN OVERVIEW

RESILIENT | EDUCATIVE | ADAPTABLE | MULTI-PURPOSE

LEGEND

- Active open space
- Indoor sports / community
- School
- Native vegetation
- Passive open space
- Growing Grass Frog pond
- Stormwater Treatment Asset
- Constructed waterway
- Recycled water
- IWM Area
- Shared path
- Passive Irrigation
- Precinct 3 boundary



PASSIVE IRRIGATION

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IWM INNOVATION AREA



WOODLEA EDUCATIONAL TRAIL

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LOT SCALE

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SCALE: SITE VS REGIONAL



FINAL THOUGHTS

- People create change, understand what motivates them and their organisation
- More than goodwill is required, clear accountabilities are essential
- Closer cooperation with water businesses required
- Volume issues can be alleviated if we repurpose water
- Future is unpredictable, allow for alternate water
- Resilience and Livability will cost more unless we bend the rules

QUESTIONS

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