



## Aims and Objectives

The Roof Water Harvesting Project (RWH) aims to develop and communicate an innovative working model of the utilisation of the roof area in new subdivisions as a dispersed catchment supplying centralised storage, treatment and reticulated water supply systems. The project is a water supply augmentation project which combines the strengths of Wannon Water's water management capabilities with a "new take" on rainwater collection through a devolved collection system which will maintain high standards with cost effective delivery.

### Primary objectives are:

- Construction of the necessary infrastructure to capture and transfer rain water collected on new household roofs to existing centralised storage and treatment facilities, avoiding the need to transport this volume of water from a river system over 100 km away.
- Identifying other cities or towns with high potential for adoption (primarily in coastal eastern Australia) and the provision of a tool-kit for locality-specific identification of application.
- Identification of any other regulatory or other barriers to the widespread adoption and uptake of this "alternative source of supply".
- Reporting of yield, quality and cost information to support adoption of this principle for water supply.

# The Benefits

Warrnambool's continued expansion will require increased water resources to meet the increasing demand. The 50 year supply strategy to satisfy the increased demand requires increased extraction of Gellibrand River water up to the Bulk Entitlement limit and utilisation of two groundwater resources located 50 and 90 km from Warrnambool.

Pumping water these distances requires significant energy inputs and will ultimately require the construction of millions of dollars of works. Climate change predictions also suggest that there will be increasing pressure on the availability of the current supply source.

## Benefits of the Roof Water Harvesting project include:

<b>Economic:</b>	<b>Environmental:</b>
<ul style="list-style-type: none"> <li>• RWH is a more consolidated and effective manner to harvest and use rainwater than the approach of individual landowners installing individual tanks, pumps and pipework on their land</li> <li>• RWH is able to be implemented progressively as development and consequential demand proceeds in the growth corridor</li> <li>• Reduces operational costs of transporting water long distances</li> <li>• Defers the need to augment the existing raw water delivery system and the need to develop and harvest water from new groundwater resources. If this principle were adopted in other growth corridors with new development being close to "water demand neutral", the time period of deferring augmentation would be very long</li> <li>• Reduces the works required for stormwater management for Council and developers e.g. size of stormwater detention basins and treatment systems</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces the energy use and associated greenhouse emissions for transporting water for use in Warrnambool</li> <li>• Diverts water to a beneficial use instead of running to waste and causing a downstream flooding and negative impact on local estuarine stream systems</li> <li>• Improves the environmental flows in the Gellibrand River</li> </ul>
<b>Social:</b>	<b>Indirect:</b>
<ul style="list-style-type: none"> <li>• Ensures meeting of the <i>Australian Drinking Water Guidelines 2004</i> and public health standards for drinking water</li> <li>• Landowners will not be responsible for ongoing maintenance of an on-site harvesting and reuse system</li> <li>• Is an innovative approach to sustainable use of water resources, and promotes community consciousness of innovative outcomes that can be achieved in the water cycle</li> </ul>	<p>The design and construction of a working example of how such a roof water harvesting system would work will provide the following indirect benefits:</p> <ul style="list-style-type: none"> <li>• Demonstrate to developers that such a system is workable and does not impose unreasonable requirements on their development</li> <li>• Demonstrates to developers of new urban estates, Water Authorities, Councils, Catchment Management Authorities and the community that roof water harvesting is a sustainable, cost effective, environmentally friendly solution to reduce the reliance on other sources of water</li> </ul>

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