



SOMERVILLE WATERWAY RECTIFICATION, WETLAND DESIGN & STORMWATER HARVESTING

**TGA Australia &
Melbourne Water**

**CATEGORY: D.1.h
Waterways and
Environmental**

PROJECT SCOPE

An existing watercourse that runs through a large-scale nursery in Somerville is in poor condition, both in terms of physical form and water quality. This watercourse has been degraded by development in the catchment, which is part of a Melbourne Water Development Services Scheme. While the nursery has made significant efforts to use water efficiently, it still depends on potable water in order to irrigate its stock.

In response to these issues, Engeny prepared a detailed design of drainage works including waterway rectification and stability works, a constructed wetland system and stormwater harvesting works.

The exciting project is about to enter the construction phase and when successfully delivered, it will provide great outcomes in terms of:

- Improved management of stormwater for Melbourne Water.
- Providing an alternative water supply for the nursery and therefore reducing its dependency on potable water.
- Improved waterway health and quality for the community.

As part of the investigations and detailed design, Engeny engaged and worked with a team of sub-consultants to undertake ecological investigations and surveys of aquatic and terrestrial flora and fauna (Ecology & Heritage Partners), geotechnical investigations, field survey and contaminated land assessments.

The key elements of the works designed by Engeny are:

- re-construction of the waterway to improve its stability, hydraulic capacity and safety
- a stormwater treatment train including sediment treatment and wetland
- a stormwater harvesting pond and pump infrastructure

As part of the design work, Engeny has undertaken hydraulic modelling, water quality modelling and water balance modelling to estimate the volume of stormwater that may be harvested while still maintaining environmental flows for the existing watercourse.

Engeny has worked closely with relevant stakeholders, including Melbourne Water, Mornington Peninsula Shire Council and the nursery management.

START DATE

April 2016

COMPLETION DATE

Ongoing

CLIENT CONTACT

Peter Wilkins

Managing Director, TGA Australia

0408 515 355

James Hodgens

Civil Engineer, Waterway and Land, Development Services, Catchment Strategies, Melbourne Water

(03) 9679 7099

RELEVANCE TO CATEGORY

The delivery of the Somerville Waterway Rectification, Wetland Design and Stormwater Harvesting project demonstrates Engeny's expertise in waterway and environmental management and integrated water management, including:

- Investigation and design of stormwater treatment works and Water Sensitive Urban Design initiatives to improve water quality, including MUSIC modelling.
- Environmental investigations, including site surveys, managed by Engeny but undertaken by subconsultant Ecology and Heritage Partners.

PROJECT INNOVATION

A key innovation for this project was the partnership between Melbourne Water and a private company to achieve mutual benefits, particularly in terms of improved stormwater management and reduced potable water use.

Melbourne Water's Development Services Scheme was previously underperforming, leading to poor water quality and waterway degradation due to development within the scheme. The nursery has allowed stormwater management works to be constructed on its land, which has provided Melbourne Water with a cost effective way to improve the performance of the Development Services Scheme, leading to better environmental outcomes. Engeny took an active role in this partnership, with Engeny's preliminary investigations engaged by Melbourne Water and subsequent delivery of the design engaged by TGA Australia.



PROJECT OUTCOME

The detailed design and associated investigations undertaken by Engeny and our partner subconsultants, including Ecology and Heritage Partners, has capitalised on the opportunity to improve the performance of Melbourne Water's Development Services Scheme. This will lead to improved waterway and environmental outcomes, while also achieving a significant benefit for TGA Australia by providing a reliable alternative water supply and reducing costs associated with potable water use.