



## CASE STUDY

# VICTORIAN DESALINATION PROJECT

Wonthaggi, Victoria, Australia

Retaining Walls  
TerraPlus®

Owner: Aquasure

Consultants: PBB

Contractor: Thiess Degremont JV

Construction: November 2011 –

April 2012

### Background

Contracted by the Victorian Government the Victorian Desalination Plant is the largest in the Southern Hemisphere. Located on the Bass Coast near Wonthaggi, it has the capacity to supply up to 150 billion litres of drinking water each year if required. This conversion of sea water into drinking water can supplement Melbourne's water supply in the event of future drought crises.

RECO was contracted by Thiess Degremont JV to design and supply retaining walls that would separate the plant from the surrounding parkland and in so doing, provide a visual buffer and soften the effect of the plant on the environment.

### Precasting

An unusual aspect of this project was the detail required in the precasting stage. The retaining walls required a unique architectural finish (which was variable along the structure), a complex panel arrangement, varying panel sizes (between 3 m and 6 m high, which meant that

special moulds needed to be made), as well as five different rubber mats. Additionally, a special concrete mix had to be designed, and RECO provided samples to the client before the job was awarded to us. Subsequently, in close consultation with the client, our precast facility at Albury was mobilised for the works under the direction of Chris Kennedy.

Our Albury precast facility has these features:

- More than 60 years precasting experience on site
- Third party quality certified
- Approved by each state's main road authorities in accordance with rigid technical specifications
- Capable of handling numerous precast products such as parapets, tilt up panels, columns and pits

The main advantage of undertaking the precast works in house was that the flexibility in production and logistics cannot normally be easily reproduced when utilising an external or subcontracted precaster. This also enabled a high level of customer service through



Main and above: The retaining walls at various stages of construction.

Industrial infrastructure



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Left: The unique finish of our retaining walls was to match the greenery of the other architecture, as well as the natural landscape. Above: Our retaining walls were specially designed and precast at our Albury precasting yard. Once onsite, they were able to immediately commence construction.

our regular visits to the construction site. With regard to the irregular sizing required for some of the walls, moulds for the TerraPlus® panels were specifically prepared to undertake the job, which led to a smooth transition from design to construction. This also meant that elements arrived ready for installation, and fast construction saved site costs.

#### Challenges and Solutions

The primary challenges were addressing community concerns about the visual impact of the structure, as well as the complexity of the precasting stage. RECO was required to design and supply a structure that would be visually harmonious with the ecological landscape, and was resistant to exposure despite its proximity to the beach.

The client had a specific focus on the aesthetic aspects of the design prior to getting started, particularly

with regard to the colour of the retaining walls. This specificity proved to be challenging in terms of matching the shade of the walls to the natural landscape, perfecting the detailing of the architectural finish, and procuring the required facing panels.

In response, RECO developed a unique architectural finish – Reckli R’aba Green oxide – in order to match the retaining walls to the existing green buildings near the structure. This shows both the flexibility of the TerraPlus® system as well as RECO’s dynamism in responding to customer needs. In application, this finish was very difficult to perfect as it was very hard to maintain a constant colour throughout the job.

Nonetheless, this challenge was overcome and the final structure was efficiently completed. RECO demonstrated impressive attention to detail and a high level of customer service.

#### Project specifications

<b>System</b>	TerraPlus®
<b>Finish</b>	Reckli R’aba Green Oxide
<b>Structure</b>	Retaining wall
<b>Area</b>	615 m <sup>2</sup>
<b>Height</b>	3 m – 3.5 m
<b>Width</b>	1.5 m (per panel)
<b>Design life</b>	100 years