



Eastern Treatment Plant—Aeration Tanks

Melbourne Water has contracted Structural Systems to design and construct four aeration tanks to add to the six existing tanks at the Eastern Treatment plant in Bangholme, south east of Melbourne.

The job entails the design and construction of four tanks, each approximately 92.5 x 49.5 x 5.4 metres. Inside each tank are 162 precast elements comprising of 74 baffle walls, 49 tie beams and 39 walkway panels. These precast elements will provide a feeding system for the aerated water through the four channels in each tank.



Structural Systems have made a significant contribution to this project through the design and use of a unique formworking system. Four gantry systems have been designed to facilitate wall pours of 5.4 metres high, 20.5 metres long and 550mm thick, and comply with the strict requirements of a 100 year water retaining structure. So far we have achieved 10 pours with four to five day turnarounds.

Around the perimeter of the tanks is a 520 metre channel, and a further two 300 metre channels that will be linked back to existing ones. Fabrication of two 'rolling' formwork soffit tables was designed to be stripped, rolled to the next adjoining slab and then re-formed for the adjacent pours.

This project has given Structural Systems the opportunity to deliver a full structure package outcome for our client. A range of construction technology was used on the project including standard and multi-strand post-tensioning systems in the slabs and in-situ walls. SSL designed and manufactured in-house the unique rolling formworking system used for the in-situ wall construction.

The use of post-tensioning and the project design developed by Structural Systems has enabled us to reduce the quantities of concrete and steel reinforcement requirements, with very large joint-free floor areas being achieved. The design has also allowed us to significantly reduce the overall duration of the project.



Project Data Sheet

Year:
2007-2008

Location:
Bangholme, Victoria

Client:
Melbourne Water

Division:
Structural Systems
(Construction) Pty Ltd

Scope:
Structure Package

Ph: 1300 SSL GRP (1300 775 477)
Web: www.structuralsystems.com.au

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