

## Officer Stormwater Retention Tank

**Date:**

January – November 2014

**Location:**

Siding Ave, Officer Victoria

**Client:**

Places Victoria

**Project value:**

\$5.1M

**Project Details:**

Contracted as Principal contractor by Places Victoria, JAYDO successfully fulfilled this role. As part of this, JAYDO were responsible for the planning, management, coordination, control and supervision of the works and the workforce how ever so engaged and utilised in the delivery of the works, through appropriate management and supervisory resources on and off site. This included responsibility for all Industrial relations and on site compliance with the National Code of Practice for the Construction Industry. This project was a vital part of infrastructure for Officer Area, providing flood protection for a 1 in 500 flood event and enabled continued growth in the area once completed.

The construction of a rising main, mains drainage, electrical and communications services. The scope of works included:

- Excavation to a depth of 16 metres below ground level, with the removal of 8000 m3 of clay from the site,
- Construction of an in-situ reinforced concrete well (24m long, 14.7m wide and 10.6m deep) with an active stormwater storage capacity of 2.6 Mega litres.
- Over 1220 m3 of concrete placed in the floor slab, ring beams, capping beam, roof area, etc.
- Installation of three Flygt submersible 58kw pumps comprising of two duty pumps and a standby pump, the combined minimum flow rate of the duty pumps will be 700lt/sec.
- An 800mm diameter rising main (130m in length) discharging into a receiving stormwater chamber with ultimate discharge into Gum Scrub Creek



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- A 200m in length stormwater gravity main ranging from 900mm diameter to 1200mm diameter and construction of six 1200m x 900mm junction pits.
- A power and control cubicle with a three phase power supply to adequately operate pumps, pump controls and telemetry equipment.
- A 200kVA diesel back-up generator in the event of loss of power during a storm event.
- Telemetry installation for remote monitoring and control of pump faults and levels within the wet well.
- Flow metering installed and monitored remotely, a gross pollutant trap (GPT) installed prior to the pump well

### Key Challenges:

At tender JAYDO recognised that the geotechnical information available indicated potential for sand lenses within the clay that would result in significant uncontrolled groundwater ingress during the works, JAYDO's solution was re-engineering the piling design to suit the ground conditions and protect the works whilst under construction the use of Secant piling method ensured that this did not occur. JAYDO's innovative approach when it came to the design and type of piling required for this project produced a safe and efficient outcome for the client.

A mains power connection was not available at the construction site, JAYDO worked together with the client to engineer a temporary electrical supply solution, which enabled the pump station to become operational upon completion. This in turn allowed the local Cardinia Civic Centre to open on time.

Safety is a way of Life is JAYDO's motto the safe access to the interior of the tank was a priority and JAYDO's use of a cantilevered access scaffold allowed the staged excavation to progress without the need to constantly remove and rebuild the scaffold.

### Project outcomes:

Our involvement in high-level discussions with our client in the early stages of design ensured a clear concise understanding of requirements. This meant that a greater knowledge of the method and requirements by all parties, and it turn, this was incorporated into design thereby mitigating potential construction, safety, environmental or design risks and issues during construction.

### Client Feedback:

The superintendent of the works Manager of Operations for Calibre Consulting, John Coleiro and the project initiators were delighted with the quality and timeliness of the project. John stated that the way the project team managed the various challenges to re-engineer and construct the new pump station was impressive.



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