

# Project Summary



**CLIENT:**  
TasWater

**LOCATION:**  
Fingal and Bracknell, TAS

**SERVICE:**  
Water Treatment Plants

**CONTACT:**  
Anthony Davey

**PRODUCT:**  
DAFF Plant

**COMPLETION DATE:**  
August 2014

## Fingal and Bracknell Water Treatment Plants

The Bracknell and Fingal Treatment Plants treat surface water from the Liffey River and South Esk River respectively using the Dissolved Air Flotation-Filtration (DAFF) process. The purpose of this contract is to design and construct a complete water treatment plant based on the DAFF process and include all appurtenant chemical systems, civil works mechanical works, and electrical and control. Each plant delivers 1.0 ML/d of treated water to ADWG standards.

The DAFF plant process will primarily consist of:

- Soda Ash dosing (pre pH correction)
- Alum dosing (coagulant to achieve micro-floc formation)
- Two stage Flocculation
- Polyacrylamide dosing (coagulant aid, flocculant aid, filter aid)
- DAF process, for removal of colour, turbidity, and algae
- Dual media filtration, for removal of residual floc and suspended matter not removed in the flotation process
- Chlorine gas disinfection (dosed pre CWS)
- Soda Ash dosing (final pH correction)
- Wastewater handling system

Filtered water is pumped from the filtered water balance tank to a new 660 kL (Fingal) and 430 kL (Bracknell) Clear water storage (CWS) tanks. The effective capacity is 693 m<sup>3</sup> allowing 500 mm freeboard. Backwash water is pumped from the CWS tank to the filter backwash inlet. Waste wash water is balanced in the wash water balance tank and thickened using an up flow lamella gravity thickener. Thickened sludge is then dewatered using geobags. Supernatant from the sludge thickener and geobags is pumped to an open raw water storage tank. Wash water holding tank overflows drain to the existing stormwater drain. The geobags are emptied from skips every 6 months off site.

The Aquatec Maxcon DAFF process offered an efficient and economic solution for treatment of low to moderately turbid raw waters to ADWG standards. The process is ideally suited to source waters with significant algal cell content, which would otherwise be difficult to settle by traditional sedimentation equipment. This is ultimately reflected in plant performance achieved and surety of target water quality parameters being met.

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