

# Project Summary

**CLIENT:**

Brisbane Water

**LOCATION:**

Wynnum, Brisbane

**SERVICE:**

Brownfield Upgrade

**CAPACITY:**

36,000ep

**COMPLETION DATE:**

September, 2007

**ISSUES:**

Existing trickling filter plant unable to meet licence.

**SOLUTIONS:**

Construction of new BNR facility within the existing site.

**BENEFITS:**

Product met the requirements for discharge into the sensitive waters of Moreton Bay.

**PRODUCT:**

All mechanical process equipment.

## Wynnum Trickling Filter Plant (BWEA Alliance)

As a result of the success of the Brisbane Water Enviro Alliance (BWEA), the programme was extended to include a 9ML/d replacement of the existing Wynnum trickling filter plant to enable it to meet the standard required for discharge to the sensitive waters of Moreton Bay.

The works embodied the same proven BNR technologies, process equipment and construction techniques as far as possible to maximise the common fleet benefits to the client. The process utilised:

Given the demonstrated capability of the BWEA team and its proven ability to deliver exceptional whole of life outcomes, there were no defined KPIs or energy objectives beyond time and cost. The alliance's exceptional delivery in these areas was recognised through the attainment of the 2008 National Project Management Achievement Award.

The aeration system used cross flow with AquaBlade membrane diffusers delivering exceptionally low energy consumption with transfer efficiencies exceeding 4 kgO<sub>2</sub>/kWh contributing to Brisbane Water's energy reduction goals.

The exceptionally effective project outcome led to the programme of works being again extended to include an additional project A\$27m uF/RO facility to deliver 4.5 ML/d of recycled water from the Wynnum plant to the adjacent Caltex Refinery as part of the Queensland drought strategy.

Actual Effluent Quality BOD <5 mg/L 80%tile SS <10mg/L 80%tile TN <3mg/L 50%tile comfortably exceeded the

Target Effluent Quality BOD 20mg/L 80%tile, SS 30mg/L 80%tile, TN 5mg/L 50%tile

Aquatec Maxcon experienced zero LTIs for the duration of this project.



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