

Ringsend Wastewater Treatment Works Sludge Stream Expansion



In 1999 the DBO Contract for the upgrading of the existing Wastewater Treatment Plant at Ringsend (Contract No.2) was awarded to the ABA Consortium. As part of the ABA Consortium, CAW has been the Interim and Full Time Operator for the Ringsend WwTW since 1999, assuming the role of Full Time Operator in 2003.

Whilst the initial design of the Works, under Contract No. 2 was to provide full treatment for a PE of 1.64m the Works has, on a

regular basis, been overloaded and has had to treat flows and loads equivalent to 1.8m PE. As a result of the increase in plant loading over the years since 2003, CAW, as the Operator of the Works, has delivered, on a design, supply, installation and commissioning basis, c.€53m of capital works improvements, the most significant element of which was the Sludge Stream Expansion Project, delivered as a design and build project over an 18 month period, 2008-2010.

CAW

www.caw.ie

Sludge Stream Expansion Project

The Sludge Stream Expansion Project was procured by Irish Water (Dublin City Council) to provide an increase in the capacity of the existing sludge treatment facilities to treat the additional sludges that were being generated from the increase in load through the Ringsend WwTW, an increase of c.180,000PE.

CAW, as the Works Operator, was employed by Irish Water to deliver the Extended Sludge Plant which incorporated a new third stream CAMBI THP Sludge Plant. The scope of work for this extension included the provision of:

- 3 No. Additional SAS Drum Thickeners with associated plant.
- 1 No. Additional sludge thickening centrifuge with associated plant.
- 1 No. Third stream of CAMBI THP Plant including four reactors to handle an additional 56 TDS/day of thickened sludge with associated plant and additional steam generation capacity.
- 1 No. Additional 4th Digester Tank of 4,500m³ capacity, 1:1 aspect ratio with internal draft tube mixers in upward flow mode.
- 4 No. Digester sludge cooling / recirculation systems.

- Associated instrumentation, electrical cabling, SCADA control and MCC's

The net affect is that the existing sludge processing plant was upgraded to permit the THP Plant to treat 120 TDS/d over a 24-hour per day basis, representing an increase of c.60% in throughput.

The Project was delivered, by CAW, on a design, build, supply, installation and commissioning basis at a capital cost of €18.993m and was delivered by a Project Team, led by a CAW Project Manager, and included CAW Project Engineer(s), Designers, On-Site Manager(s), Supervisory Staff and Commissioning Engineers.

A detailed programme, using Primavera P3e, was developed to enable sufficient information to be available to manage the design, procurement, construction and commissioning of the Plant. A Project Plan was compiled and implemented which comprised a Project Summary, H&S Plan, Environment Plan and a Quality Management Plan.

The Project was successfully commissioned and completed in April 2010, was delivered on time and within budget and has significantly improved the capacity of the Works to process the additional sludge resulting from the increase in load to the main process streams.

