

CASE STUDY



PROJECT BRYN ESTYN WTP
PRODUCT Granular Activated Carbon (GAC)
INDUSTRY Municipal
LOCATION Plenty, TAS

BACKGROUND

The Bryn Estyn Water Treatment Plant (BE WTP) is greater Hobart's primary source of drinking water. It provides approximately 60% of the water to the seven local government areas of Hobart, Glenorchy, Kingborough, Brighton, Derwent Valley, Southern Midlands, and Sorell. It was originally constructed in 1962, with capacity augmentations completed in 1972 and 1992.

Due to the water quality of the Derwent River and the condition of some of the plant infrastructure, the plant's effectiveness was being impacted. TasWater's BE WTP upgrade project aims to increase treatment capacity and resilience, enabling the plant to be operated at its original design capacity of 160 ML/d, with expansion capability to meet future water supply demands up to 200 ML/d. This involves constructing new treatment units adjacent to the current plant, retaining existing assets where appropriate.

The selected process technology for the BE WTP upgrade project, includes clarification, ozonation, biological activated carbon filtration, ultraviolet irradiation, and chlorination. The BE WTP upgrade project commenced early works in 2020 and will be completed in 2023.

The TasWater Capital Delivery Office (CDO) is responsible for the planning, development, design, construction, and the upcoming commissioning of the BE WTP. The TasWater CDO awarded the granular activated carbon (GAC) supply contract to MAK Water.

SOLUTION

MAK Water partnered with Calgon Carbon, the world's largest manufacturer, reactivator, and supplier of more than 100 types of granular, powdered, and pelletised activated carbon. For this project Calgon Carbon manufactured a variation of their standard FILTRASORB GAC media that fully conforms to the very stringent material properties specification.

PROJECT SCOPE

- Manufacture and supply 690 metric tons of GAC media
- Undertake all sampling, quality testing & verification, and QA reporting of manufactured GAC prior to shipment
- Undertake all logistics and detailed reporting associated with shipment ex-works US and delivery to site, of 37 sea freight containers loaded with 1,380 supersacks, each with 500 kg of GAC media.



RESULTS AND BENEFITS

- **On Schedule.** All GAC media was delivered to site on schedule over a period of 4 months. Logistics involved management and tracking of 9 vessels sailing from different US ports, each carrying 1 to 5 sea containers of GAC media, unloading of containers at Melbourne port, trucking (via ferry to TAS) and delivery to site.
- **Compliance.** Full compliance with stringent specified quality for all delivered GAC media.