



Stonbury recently carried out refurbishment works to primary, humus and filter tanks within a wastewater treatment facility. The scope of works provided a rehabilitation solution for the client as an alternative to a carbon heavy rebuild, reducing the embodied carbon from 410 to 21 tonnes.

The six tanks play an essential role in transforming effluent into clean water, ensuring that it is safe to be returned to local rivers and streams.

Refurbishments took place on the internal and external brickwork along the perimeter channels of two primary tanks and two humus tanks. Work involved re-pointing, surface preparation, internal rendering, and the application of a flexible membrane system that's designed to withstand the corrosive conditions inside the tank, preventing leaks and providing a lasting protective barrier to the brickwork.

While external works on multiple tanks could be carried out simultaneously, internal works on each tank were performed sequentially to keep the site operational throughout. A tanker was used to carefully pump out the sludge from the bottom of the isolated tanks, and the sludge was transported to a disposal processing facility.

As the two filter tanks on site are essential to the treatment processes, the team were required to carry out live repair works as neither chamber could be removed from service at any time. To achieve this, the team removed the filter delivery siphon, and installed temporary over-pumping to distribute effluent from the primary outlet chamber directly to the filter feed inlet pipework, thereby bypassing the internal walls and floor of the filter distribution chamber, allowing the internal refurbishment work to take place.

Pumps were sized to provide enough pressure to rotate the filter arms and evenly distribute flows to the filter bed. By adjusting the level of the start and stop floats on the temporary pumps, flows were maintained to the other distribution chamber, which stayed online.

Stonbury also excavated and replaced two faulty de-sludge valves in a deep excavation which will allow manual de-sludging of the primary tanks, which hasn't been possible for about a year. Valves have been in operation for about three months.

This project will increase the lifespan of the existing structures by ten to fifteen years and will allow the addition of a ferric dosing upgrade at a big cost saving to the client.