

Ashbourne STW HYBACS Upgrade

Project Name:	Ashbourne STW
Client:	Severn Trent Water
Capacity:	6 MLD/ 35,000 P/E
Project Value:	£465k
Main Contractor:	MWHT
Project Scope:	Design, supply & commission
Contract Conditions:	NEC3 Option A

**Project Description**

Ashbourne STW in Derbyshire is a municipal sewage treatment works (STW) which receives a large proportion of industrial effluent from a chicken processor in the town. Severn Trent Water received an application from the chicken processor to double production capacity.

A subsequent review indicated that the oxidation ditches were already operating at 95% of their capacity and an upgrade was required. The objective was to boost treatment capacity from 25,000 to 35,000 population equivalent (PE), a 40% increase.

The HYBACS® upgrade at Ashbourne STW comprised four SMART™ units installed upstream of the oxidation ditches at the point where the return activated sludge (RAS) mixes with the settled wastewater. The addition of the SMART™ units enabled the existing oxidation ditches and associated aeration system to be retained, without modification, as part of the upgraded works.

Scope of Works

BwB supplied 4 of its proprietary SMART™ units and associated control system, and provided design, commissioning and training services. The main contractor, MWH, built a concrete slab and associated pipework and cabling for the installation of the SMART units. No modifications were required to the aeration tank, clarifiers or RAS pumping station.

Project Duration

Installation time 2 weeks;
Commissioning time 2 weeks

Client contact

Client organisation: Severn Trent Water

Contact person: Peter Vale
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Project Highlights

- Off-site assembly
- 28% CAPEX saving (see table)
- Units installed and commissioned in 2 weeks
- 8 week saving from original programme

Ashbourne STW Optioneering

Item	Unit	Option1: HYBACS	Option 2: Additional oxidation ditch	Saving
Capital Cost ¹	£k	1031	1438	28%
Duration of site work ²	weeks	8-10	24-40	70%
Embodied Carbon ²	tCO ₂ e	91	955	90%

¹ Severn Trent estimates, OPEX includes power, labour & business rates

² Bluewater Bio estimates, using Environment Agency calculator

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