

THE CLIENT

United Utilities (UU) are the 2nd largest water company in England / Wales. They are responsible for an area in the north west of the UK, which includes major cities such as Manchester and Liverpool.

THE WORKS

Wigan WwTW is located north west of Manchester near Parbold in Lancashire. As part of the AMP4 strategy Wigan underwent an overall redevelopment and upgrade including the sludge treatment, storm retention and tertiary nitrification.



Biostyr Plant – Front Elevation



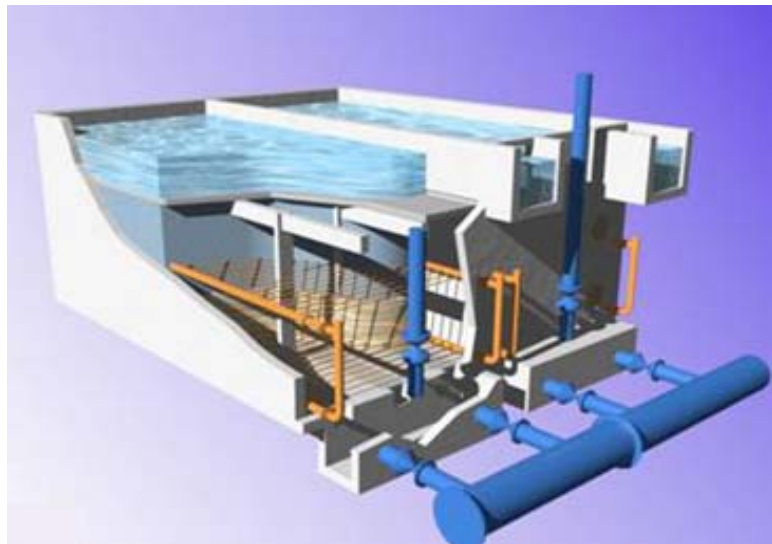
Biostyr plant – Plan View above Filter Cells

THE BIOSTYR® PROCESS

The BIOSTYR® is a highly compact process, which in a single structure allows for the biodegradation of all carbonaceous and nitrogenous pollution together with clarification of the effluent by filtration through the compact buoyant BIOSTYRENE® media bed. Process air is introduced at the base of each unit when required. Oxygen enables the media bed to sustain the ideal environment for biological activity.

PROJECT OVERVIEW

As part of the overall redevelopment and upgrading of the existing Wigan Wastewater Treatment Works, VWS secured the final phase of the works for the supply of a new tertiary nitrification Biostyr BAFF plant. VWS were sub-contracted by the GCA (Galliford Costain Atkins) joint venture who are one of the first tier framework delivery partners for United Utilities and responsible for the UU southern region. The Biostyr plant is constructed at ground level with an open technical gallery to allow easy maintenance and removal of the equipment. The plant itself comprises 10 cells of 84m².



THE CONTRACT

VWS were sub-contractors and were responsible for all aspects of the process and M&E elements of the project.

Value: £3.9m

Award: July 2007



Biostyr Cell Filter Floor
(during construction)



Biostyr Technical Gallery



Biostyr Raw Water Feed
Pipework

The Biostyr plant comprises 10 No. 84m² concrete Biostyr cells for tertiary nitrification (ammonia removal). The plant treats a maximum flow rate of 174MLD with 95% 1st spot sample treated water outlet consent of 3mg/l ammonia, 15mg/l BOD and 45mg/l TSS.

Our scope of works includes all the M&E equipment for the Biostyr plant including the MCC/PLC and full mechanical and electrical installation.

DESCRIPTION OF BIOSTYR® PROCESS PLANT

Influent Criteria:

	<u>Ave</u>	<u>95%ile</u>
BOD	17.5	29.6 mg/l
TSS	17.4	39 mg/l
Ammonia	4	7.5 mg/l

Treated Effluent Consents: (95%ile spot samples)

BOD	15 mg/l
TSS	45 mg/l
Ammonia	3 mg/l

Flow Data:

DWF flow:	840 l/sec
Average flow:	1147 l/sec
Maximum flow:	2091 l/sec

Veolia Water Solutions & Technologies

Aqua House,
2620 Kings Court, Birmingham Business Park
Birmingham, B37 7YE

T 00 44 (0) 1628 896 900

F 00 44 (0) 1628 896 901

www.veoliawaterst.co.uk