



A BLUEWATER BIO TECHNOLOGY

## Itchen Bank STW, Phosphorus Removal

### Project Description

Itchen Bank Sewage Treatment Works (STW) is a medium sized oxidation ditch site. Under the Water Framework Directive (WFD), the total phosphorus (TP) consent on site has been tightened from 0.6 mg/l to 0.3 mg/l.

To achieve the more stringent TP consent, MWH Treatment (Severn Trent's delivery partner) installed a **FilterClear**® plant with 1<sup>st</sup> point ferric dosing into the oxidation ditch and a 2<sup>nd</sup> point ferric dose into a static mixer upstream of the FilterClear® plant.

The decision was based on a comprehensive whole life cost (WLC) assessment of various tertiary solids removal (TSR) plants.

The **FilterClear**® skid was assembled and hydraulically tested off-site at Bluewater Bio's works, before being transported to site for installation on a flat concrete slab.

### Scope of Works

Design, procurement, manufacture, installation and commissioning of Bluewater Bio's proprietary **FilterClear**® 4V2550 plant. Fully automated and instrumented tertiary filtration system for total phosphorus removal.

### Project Duration

**FilterClear**® delivered: October 2020

Installation time ~ 2 weeks

Commissioning time ~ 2 weeks

Compliant by: April 2021

### Client Contact

Client organisation: Severn Trent

Contact person: Lewis McGregor  
lewis.mcgregor@severntrent.co.uk



Project Name:	Itchen Bank
Client:	Severn Trent
Capacity:	127 L/s
Main Contractor:	MWH Treatment
Project Scope:	Design, supply & commission

### Supplementary information

- Off-site manufacture
- Consent of 0.3 mg/l TP and 4 mg/l Fe
- Rapid installation and commissioning
- No separate flocculation tank needed

### Itchen Bank STW Process Parameters

Average Flow	4,207 m <sup>3</sup> /d
Maximum Flow	10,930 m <sup>3</sup> /d (127 l/s)
Design Influent TSS concentration*	42 mg/L (average) 58 mg/L (98%ile)
Effluent TP consent	0.3 mg/L (average)
Effluent Iron consent	4 mg/L (95%ile)

\*includes an allowance for chemical solids



Winchester House, 259-269 Old Marylebone Road,  
London, NW1 5RA.

UK: +44 (0)845 519 5800  
Int: +44 (0)20 7908 9500

@ enquiries@bluewaterbio.com

www.bluewaterbio.com