

FilterClear®

Harby STW, Phosphorus Removal

Project Description

Harby STW is a small trickling filter works in Nottinghamshire, treating domestic sewage and trade effluent from a cheese factory with high phosphorus concentrations. The works is considered Severn Trent's most challenging for phosphorus removal to date.

In AMP6, under the Water Framework Directive (WFD), the site had to meet more stringent discharge standards, including a new total phosphorus (TP) consent of 0.25 mg/l, and Fe of 2.5 mg/l. To achieve these new consent standards, Nomenca (Severn Trent's main contractor) installed a chemical dosing facility and a 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 fully assembled and hydraulically tested off-site at Bluewater'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 3v2040 plant. Fully automated and instrumented tertiary filtration system for Total Phosphorus removal.

Project Duration

Award to delivery to site ~ 12 weeks

Installation time ~ 4 days

Commissioning time ~ 6 days

Client Contact

Client organisation: **Severn Trent**

Contact person: **Kevin Fobbester**

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Project Name:	Harby STW
Client:	Severn Trent
Capacity:	31 L/s
Main Contractor:	Nomenca UK
Project Scope:	Design, supply & commission

Project Highlights

- Off-site manufacture
- Consent of 0.25 mg/l TP and 2.5 mg/l Fe
- Rapid installation and commissioning
- No separate flocculation tank needed

Harby STW Process Parameters

DWF	1,200 m ³ /d
FFT	2,700 m ³ /d (31 l/s)
Design Influent TSS conc. (incl. chemical solids)	49 mg/L (average) 111 mg/L (95%ile)
Effluent TP consent	0.25 mg/L (average)
Effluent TP achieved (Feb-Mar '20)	<0.1 mg/L (average)
Effluent Fe achieved (Feb-Mar '20)	1.5 mg/L (95%ile)

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A BLUEWATER BIO TECHNOLOGY

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