



Case Study

Thames Water – East Hyde, Luton

HydroFLOW® reduced struvite scaling in a sewage centrate line, improving centrifuge efficiency, extending service intervals, and lowering maintenance over a six-month trial.

Overview

Thames Water is the UK's largest water and wastewater services provider, supplying 15 million customers across London, Luton, Surrey, and the Thames Valley. At the East Hyde Sewage Works near Luton, the centrate line from a primary Alfa Laval centrifuge was experiencing heavy struvite scaling, causing blockages and maintenance challenges.

To address the problem, a *HydroFLOW* unit was installed upstream of the centrifuge on an accessible section of pipework. The goal was to prevent further scale buildup, improve centrifuge operation, and reduce the need for frequent maintenance.

Challenge

The primary centrifuge at East Hyde was suffering from severe struvite scale buildup in the centrate line, leading to restricted flow and increased maintenance. Scale deposits forced the site to reroute flow through a bypass line, causing operational inefficiencies.

Additional challenges included:

- Frequent maintenance to clear blockages
- Risk of scaling within the centrifuge itself
- Inefficient operation and downtime
- Difficulty accessing pipework for internal cleaning

The objective was clear: find a non-invasive solution to control scale buildup and maintain continuous, efficient operation.

Solution

A *HydroFLOW* unit was installed in 2023 on the sludge feed pipe supplying the Alfa Laval centrifuge at East Hyde. The installation point was selected inside the adjacent building to ensure easy access to 110V power and avoid disturbing external pipe insulation.

As part of the trial, a section of the centrate line was cleared of debris to allow visual monitoring of scale formation. The system was observed over a six-month period to evaluate the effectiveness of the *HydroFLOW* treatment in controlling struvite buildup without requiring chemical changes.

Results

Following six months of operation, the *HydroFLOW* unit demonstrated clear and consistent performance:

- **Scale Control** – No additional struvite buildup was observed in the centrate line.
- **Maintenance Savings** – Centrifuge service intervals were extended and cleaning requirements reduced.
- **Operational Efficiency** – The centrifuge ran more smoothly, maintaining steady performance.
- **Customer Satisfaction** – The unit was purchased based solely on maintenance savings, independent of chemical optimisation.

The trial confirmed *HydroFLOW* as an effective, non-invasive solution for reducing scaling and maintenance demands in wastewater treatment systems.

Before *HydroFLOW*®



Struvite scale was building up in the centrate line from the centrifuge, causing flow restrictions and increasing the need for manual maintenance and pipe bypassing.

After *HydroFLOW*®



Following installation of the HydroFLOW unit, no additional scale formed during the six-month trial. The pipeline remained stable, centrifuge performance improved, and maintenance intervals were extended.

Summary

The benefits of using *HydroFLOW* technology to control struvite scaling in sewage centrate lines were evaluated at Thames Water's East Hyde Sewage Works. Over a six-month period, the system was monitored for scaling prevention, centrifuge performance, and maintenance savings.

All operational goals—including scale control, extended service intervals, and improved efficiency—were achieved without requiring chemical optimisation.

Most significantly, the use of *HydroFLOW* resulted in measurable improvements in reliability and cost savings:

- Struvite buildup successfully controlled without chemicals
- Centrifuge maintenance frequency significantly reduced
- Continuous, efficient operation maintained throughout trial
- Unit purchased based solely on maintenance savings

The results confirm *HydroFLOW* as a reliable, low-maintenance solution for scaling issues in wastewater treatment systems.



HydroFLOW® units are working all over the world on multiple applications, treating carbonate and non-carbonate scaling and filtration issues in a wide variety of industries.

- From homes to heavy industry
- From spas to steel mills
- Suitable for any pipe material
- From 15mm to 1500+mm OD pipe diameter

Would you like a free consultation?

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