

CSO Case Study

Retrofit Heliscreen® Upgrades Yorkshire CSO

Hydro
International
turning water around ...

Project Profile:

- Watercourse protection.
- Retrofit into existing CSO chamber.

Product Profile:

- Self-cleansing - by rotating helical brushes.
- All screenings retained on foul side of the weir.
- Low headloss.
- Operates under surcharged conditions.

As part of its programme to upgrade Combined Sewer Outfall facilities under AMP3, and improve the region's water quality to the Environment Agency's standards, Yorkshire Water Services Ltd have installed a Heliscreen® in the wet well of an existing pumping station at Pastures Road on the outskirts of Sheffield.

The pumping station is sited in a field adjacent to a suburban area, with an intake of local domestic and trade effluent. Previously, solids had been retained within a sump to be pumped to the treatment works but, in severe storm conditions, the overflow had been discharging to the watercourse.

To upgrade this to a positive screening method at an economical cost, Yorkshire Water installed a patented Heliscreen®. This 1000 mm x 3000 mm Heliscreen® is designed for a maximum intake flow of 934 l/s (1 in 5 year), and a maximum screened flow of 714 l/s (1 in 5 year), and is incorporated into a single high-sided weir, with pumped continuation flow control to treatment.



A Heliscreen® in operation.

Yorkshire Water's Contracts Manager, Peter Myerscough, commented: "The Heliscreen® is an efficient, versatile and cost-effective unit".

Hydro International's patented Heliscreen® is a self-cleansing, low head loss screening device that protects CSO outfalls by retaining all matter greater than 6 mm (in 2 directions) in the foul continuation flow to the treatment works. The robust, minimal maintenance Heliscreen® works effectively even in totally flooded chambers with surcharged outflow pipes and is able to handle high screening concentrations.



The Heliscreen® uses a semi-cylindrical perforated stainless steel plate on the foul side of the overflow weir of the screening chamber, which is cleaned by an efficient rotating helical brush mechanism triggered when the water level reaches weir level. Debris is brushed from the screen and is carried away with the foul flow.

The main contractor on the Pastures Road site was ETM.

Hydro International offer a complete range of screening and treatment devices for combined sewer overflows. These include:

- Hydro-Static® Screen - Simple screening.
- Hydro-Jet® Screen - Non-powered, self-cleansing screening.
- Storm King® Overflow with Swirl-Cleanse™ Screen - Storage, treatment and screening.

This information is for guidance only and not intended to form part of a contract. Hydro International pursues a policy of continual product development and reserves the right to amend specifications without prior notice. Equipment is patented in countries throughout the world.

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