

CASE STUDY



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COMMERCIAL SYSTEMS

Indirect Boosted System with UV Disinfection



National College for High Speed Rail, Doncaster

Commercial Project for Briggs & Forrester



Client Requirements

Client: Briggs & Forrester Engineering Services

Remit: To supply a rainwater recovery system to provide water for flushing of WCs and urinals within the college building.

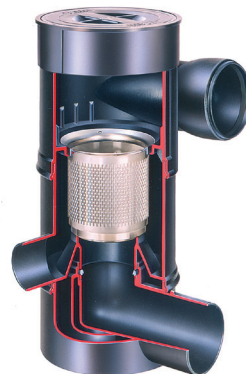
Commissioned: May 2017

Design data

- Roof area: 727m²
- Annual rainfall: 575 mm
- Outlets served: 28 WCs 21 urinals

Equipment Supplied

- 15,000 litre GRP underground tank
- Wisy® WFF150 280µ Vortex filter
- Multigo 80/12 multi-stage submersible pump c/w floating suction filter
- 750 litre one-piece break tank c/w Wisy® mains water top-up unit
- ESPA CKE variable speed booster set with Techno 25.5 pumps and ESD inverter drives
- Saphir 10 Pro UV disinfection unit c/w 5µ pre-filter



Vortex filter

The Doncaster campus of the National College For High Speed Rail is part of the HS2 programme and was opened in October 2017. We were approached by our client to provide a rainwater harvesting solution to comply with the specification drawn up by designers *Buro Happold*. Working closely with the contractor, a suitable design was developed to fulfil the consultants' requirements in order to achieve a BREEAM Excellent rating.

Rainwater is collected from the building's roof through a high efficiency Vortex filter. This is a self-contained unit independent of the underground tank, offering safe, easy access for filter maintenance. The filtered water is then diverted to the storage tank until required.

From here the water is pumped to a break tank in the ground floor plant room. The tank is equipped with an automatic

back-up from the mains water supply for times of low rainfall.

Water from the break tank is then pumped on demand by the variable speed booster set via a UV disinfection unit.

Rainharvesting Systems were also subcontracted to carry out the internal installation work.

The system is predicted to save in the region of 330,000 litres of water per annum.

Break tank & booster set in plant room →

