Case Study:

Flushing Gates—Storm Tank Flushing System

CSO Group
AD & Pollution Solutions

Site:	**Ray Hall**
Client:	**Severn Trent Water**
Project:	**Gate Flush storm tank flushing system**
Main Contractor:	**McNicolas**
Consulting Engineers:	**SevernTrent Engineering**
Completion Date:	**May 2010**

Scope of Contract:

Design, manufacture, supply, offload, install, test and commission a complete automatic tank flushing system to 3 No. storm tanks and 1 No. feeder channel.

Background:

Ray Hall WWTP is owned and operated by Severn Trent Water.

The storm tanks required an automatic flushing system to prevent the build up of sludge on the base of the tank floors that would both reduce storage capacity and raise the potential for odour issues.
A number of solutions were considered. Given the shallow depth of the tank and the relatively small gradient of 0.54% flushing gates were the preferred solution due to the capability to effectively flush the 69m tank length. The gates are mounted on a dividing wall at the shallow end of each flushing lane. Hydraulic pressure closes the gate and storm water is stored behind them. The gates are closed for the duration of the storm even and released only when the tank empties and on receipt of a signal from the tank level sensors. Each lane is flushed sequentially to minimise the receiving sump volume.

Tank Details:

3 No. 18m wide x 2.56m deep x 69m long storm tanks with a fall of 0.4%.

Each tank was divided into 3 No. 6m wide lanes by 100mm high dwarf walls to maintain velocity of the flush.

Product Details

9 No.	400mm wide 304 stainless steel flushing gates to flush the 9 flushing lanes.
1 No.	Power pack to drive the tank flushing gates.
1 No.	200mm wide 304 stainless steel flushing gate to flush the feeder channel.
1 No.	Power pack for the feeder channel flushing gates.
1 No.	Kiosk to house power packs and ancillary hydraulic hose and connection.

For further information on flushing gates please contact us by:

Email:	sales@csogroup.co.uk
Phone:	+44 (0) 1732 700011
Web:	www.csogroup.co.uk