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Casestudy

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*Raw Water Intake Screens  
Goatbridge, Greater London*



## Goatbridge, Croydon

Client: SES Water

Date: May 2017

Eliquo Hydrok designed, manufactured and installed a simple but effective raw water intake screening solution for SES Water at Goatbridge, Croydon.

SES Water abstract 400m<sup>3</sup>/h of potable water from the River Wandle at Goatbridge near Croydon, Greater London. The point of abstraction is a little less than 15km from the estuary and has very low water levels of between 0.4 – 0.7 metres with a required velocity across the screens of less than 0.15m per second. The nature of the site means no sheet piling can be allowed as the river has to be kept wet to protect the bio diversity and ecology of the site. Compulsory abstraction dictated that over pumping was required, but the site is very close to local housing which created excessive noise pollution, this also needed to be addressed. In addition, the site has a small footprint available which restricts screen area, is difficult to access and SES rate it as a high-risk theft site. The existing system utilised Huber screens depositing river waste into storage bins for disposal.

### Solution

The Eliquo Hydrok design and engineering team's solution was to create bespoke designed 2mm wedge wire screens to deal with low river levels, which also led to the re-design of the airburst delivery pipework. The compressors would be separated from the receiver and located in the existing kiosk further away from the local residents, resulting in reduction of noise pollution. High rated pneumatic hose to be used to keep pressure losses down and maintain efficiency for the 110m between kiosk and receiver.



The pipework and weir wall was designed to route around and beneath existing security fence, thus negating the expensive solution originally planned for replacement and thus reducing disruption to the community. A new weir wall was designed to house the screens and negate major civil works at the intake, with the 4 x 1.5m<sup>2</sup> screens being built off-site in pre-assembled sections. This allowed full river front installation in 2 days, reducing the time sand bags were needed to temporarily dam the river, further alleviating risks to eco system. The screens were designed to be supported by the weir wall attached to existing concrete preventing any disturbance to the river bed. They were also designed to be removable in case of any damage or vandalism, but, the screens and weir wall were fully welded with security nuts used on pipework to prevent theft opportunities.

Unlike the previous system, the new airburst system does not remove debris from river meaning the old Huber screens could be decommissioned and used by SES elsewhere and there is no need for storage bins to collect any debris. The duty standby compressors, along with the 500ltr receiver, supplies airbursts to the 4 x 1.5m<sup>2</sup> screens. A Local Control Panel was specifically designed and manufactured to provide all required signals for fully automated system reporting off site via Profibus, and due to proximity to local housing, it also enabled the system to be inhibited during silent hours. The Goatbridge scheme was installed and operational within 2 days of being on-site and is fully compliant with the EU Habitats Directive and the Eel Directive for England & Wales.

For further information on Eliquo Hydrok Raw Water Intake Screens contact us on 01726 861900 or email [sales@eliquohydrok.co.uk](mailto:sales@eliquohydrok.co.uk)





Clean water screening for extraction from rivers and  
reservoirs for use as drinking water

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**ELIQUO HYDROK LTD**

Indian Queens Ind Estate, St. Columb

Cornwall, England | TR9 6TL

T +44 1726 861 900

sales@eliquohydrok.co.uk | [www.eliquohydrok.co.uk](http://www.eliquohydrok.co.uk)

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