LAND & WATER
Innovation. Inspiration. Results.

WROUGHTON RESERVOIR

Land & Water Services (LAWS) were contracted by Eight2O JV on behalf of Thames Water Utilities Limited (TWUL) to improve the overall safety of Wroughton WTW. This would assist in the ongoing maintenance and better enable surveillance inspections to the raw water reservoir. Upon award LAWS worked closely with both Atkins and Eight20 to review the scope of works and identify opportunities to increase the sustainability of the project by:

- Carried out alternative works design to substantially reduce the quantity of imported fill
- Identified opportunities to carry out ground investigations to allow for the creation of onsite borrow pits to reduce lorry movements into and out of site
- Established and maintained a lowered water level within the reservoir using gravity fed systems rather than more conventional means during the programme of works

LAWS designed, implemented, and maintained a syphoning system which was in place continually operating 24/7 between August 2020 – April 2021 - at its peak transferring a controlled 150 l/sec over the embankment. It is estimated that a total of 90tons of carbon was saved when compared to a more conventional diesel powered pumps.

A temporary haul road was created to allow access for deliveries to the north east corner of the reservoir, consisting of timber mats and stone ramps. Long reach excavators situated on the embankment crest served the removal of defective areas of embankment and provided materials at the point of need. Excavators were utilised as kentledge to enable a safe system of work to be established with stone masons working on the embankment face fitted with harnesses and inertia reels to prevent uncontrolled falls from height.

Significant changes in ground levels combined with limited space required a detailed temporary works design to be developed between LAWS and its TW designer to enable the replacement bypass pipework installation closely ensuring that buildability was at the fore front of the final solution.

Given both site and programme constraints LAWS set out to fully self-deliver the installation of the HDPE scour pipework, although passing surface water the specification for the joint connections required welding in accordance to potable water supply with full control point Q&A in-situ testing.

With the reservoir reflooded, the controls were fitted using divers.100 year's worth of accumulated sediment was locally air lifted around the base of the stack to allow the original lower valve to become operable.

Wroughton Reservoir remained a fully operational TWUL site during the works and from time-to-time TWUL required emergency access to areas in and around the working area. On these occasions TWUL were given top priority and were provided with suitable provisions to grant access to emergency circumstances. Delivering a tight programme with numerous specialist activities running concurrently became increasingly challenging at times whilst maintaining effective COVID protocols.

Project Particulars

Client: Eight2O (Costain, Atkins, Black & Veatch Unincorporated Joint Venture)

September 2020 - May 2021

PROJECT VALUE: **£907,205.00**

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