

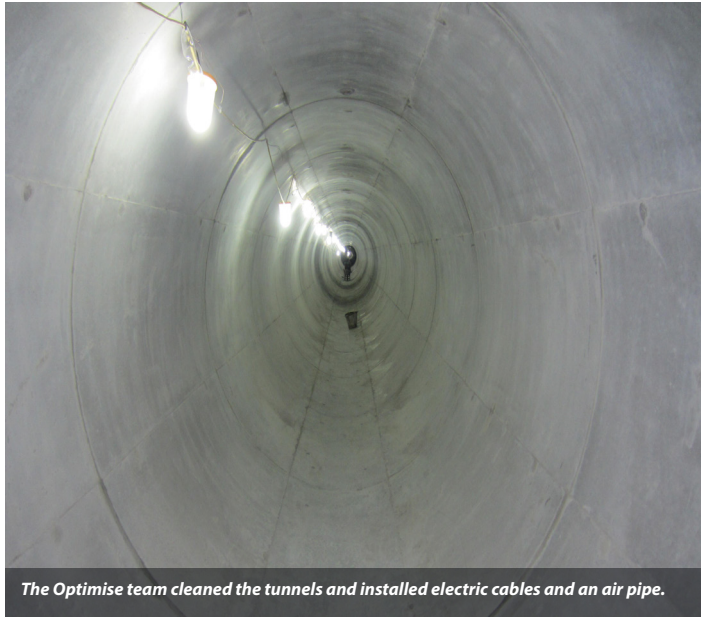
Datchet Tunnel Relining

Client: Thames Water

Location: Datchet, Oxfordshire

Value: £3.9m

Duration: 7 Months



In Brief...

Datchet Pumping Station (PS) is a key asset and up to 60% of London's daily water demand can be met by the twin intakes from the Thames. When the decision was taken to switch it off, to enable Barhale (via the Optimise joint venture) to complete the essential Tunnel Relining project, Thames Water needed to grasp the opportunity to successfully complete all outstanding remedial work in the station at the same time.

The Datchet project is part of a programme of relining being carried out by Optimise. With 3km relining at Wraysbury and 1km from Queen Mother Reservoir to the pumping station already completed the Datchet stretch will be followed by a 3km section from the Queen Mother to the outlet.

Customer Benefits...

The old lighting system in the tunnel lacked protection around the bulb, resulting in the exposed hot bulbs regularly breaking, leaving glass fragments and exposed live electrical contacts. The risks to the workforce were: burns, cuts and electric shock.

Trying to be safe, efficient and responsible, a better alternative was sought. The Optimise team installed a safer, energy efficient lighting system with new protective cover bulbs that are 78% more efficient (13 Watts compared to 60 Watts).

Technical Features...

The project involved the double isolation of the tunnel to secure a safe working environment for skilled operatives to reline the twin 1100m of tunnel, between the River Thames in-take and Datchet Pumping Station.

Teams access the tunnels through a 1800mm diameter access hatch via a manrider cage and mobile crane. The team cleaned the tunnels and installed electric cables and an air pipe through the whole length of the tunnel. The team then set the steel reinforcing, followed by the shutters installation, just like a production line. 40lm of concrete was poured each day and the shutters were built overnight ready to pour concrete the next day.

Other work at the pumping station included: Rewiring work to the Valve Chambers and PS electrical system, surge vessel inspections, valve chamber inspections and high voltage cable installation.