

Hornsey 20" Pipe Bridge Replacement

Client: Optimise, Thames Water

Location: Hornsey, London

Value: £700k

Duration: 3 Months



In Brief...

Barhale through Optimise were instructed to isolate and repair a burst section of a 20" water main as it crossed over the New River aqueduct close to the Hornsey WTW. The Emergency works carried out for Thames Water were completed in 2 phases.

Phase 1 consisted of isolating the water main 500m away from the damaged section using a Linestop and installing a valve arrangement.

Phase 2 of the works included; twice daily infusion works to maintain pressure in the live network behind the newly installed valves, investigative works including boreholes and NDT's and the replacement of the damaged section of the pipebridge.

Technical Features...

- Innovative method of securing socket joints using concrete collars either end of the pipebridge before replacing
- Fabrication of bespoke pipework with non-standard connections
- Planning of difficult lifting operations for the pipework including access to pipe bridge and fragile under-ground GRP water mains
- Installation of floating pontoon for access to the mid span of the pipebridge for slinging duties

Access to Pipebridge...

At either end of the 11.0m pipebridge, 2 no. socket joints connected the 20" pipe span to the existing Cast Iron pipework. As it was crucial not to disturb the socket joints, our designers recommended that the pipe bridge would need to be lifted out in 1 section so as to avoid a cantilever, which would have strained the socket joints. To facilitate the safe lifting of the pipe, the site team installed a floating pontoon to allow access for the slinger/signaller to lift out the pipe.

Customer Benefits...

The team employed an innovative approach to safety when replacing the pipework. The method ensured that the pipe was lifted out without disturbing the existing fragile socket joints or thrust block on either side of the pipe bridge. Due to a history of bursts of the nearby 800mm GRP water mains, Thames Water fully backed the site team's precautionary approach and vigilance in carrying out the replacement. The installation of adjustable ramp allowed Thames Water to carry out their operations within the WTW as normal without having to stabilise the water levels to meet the site team's requirements.