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Mogden East Inlet Screen 4a & 4b Upgrades

Careful Planning and Implementation

End User: Thames Water

Client: Thames Water

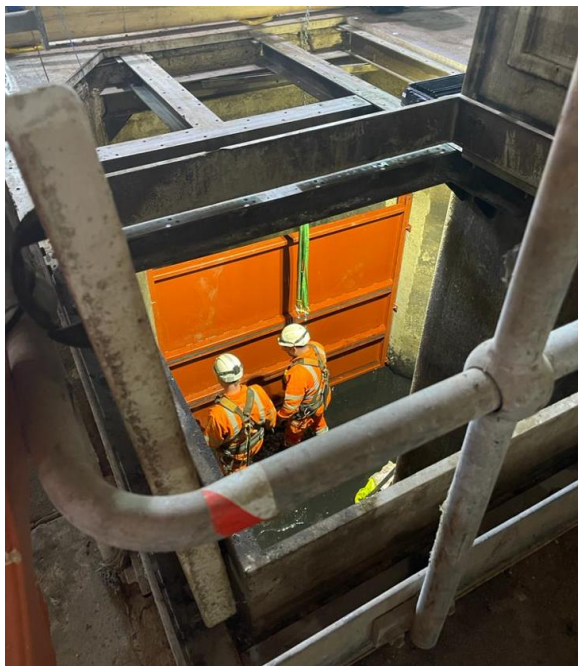
Contracts Duration: 1 year

GEL Expertise:

- Innovative solutions to complex problems
- Electrical and CompEx electrical works, working on ex rated equipment.
- Systems Integration with existing Control Panels and Controls
- Cat 2 Design to fabricate temporary and permanent stop logs frames and Stop logs for secondary isolations to inlet Channel
- Design and manufacture Stop log storage rack
- Removal of Redundant Inlet Screens
- Installation of new Inlet Screens
- Confined space entries.
- Complex Lifts

Scope:

Over a one-year period, **Gel Engineering** completed works on the replacement of Inlet Screens 4a & 4b at Mogden STW.



- **GEL** was asked to design, fabricate, and install a Temporary and a new stainless steel stop log frame and stop logs for future use to the existing inlet channels serving screens 4a & 4b, to allow secondary isolations to the inlet channels. They will also be utilised for future use on screen channels 1a, 1b, 3a, 3b, 5a & 5b.
- The Existing Concrete flooring was modified to allow the installation of the new stop logs and a new removable flooring installed. After surveying the existing penstock, a Cat 2 design 316/A4 Stop Log frame and stop logs were fabricated and installed to the inlet channels. **GEL** also designed and manufactured a 316/A4 Storage rack for the storage of the stop logs when not in use Training was given to the TW operatives were given training of the installation of the new stop logs.



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- With assistance from TW, **GEL** Mechanically and Electronically Isolated Screens 4a & 4b for the safe removal and replacement.
- Screens 4a & 4b were Electrically disconnected to allow the strip out and removal of the redundant screens.
- Complex Confined Space Entry RAMS compiled, liaising with IAB for approval prior to rip out of screens.
- The Screens were stripped out out methodically with complex lifts and use of overhead Cranage inside the buildings.
- The Inlet Channels were prepared and cleaned out prior to the installation of the new screens
- Screens were manufactured and installed as modular units due to existing building constraints.
- **Gel Engineering** completed the full installation of the 2 Inlet screens and wash water pipework with Longwoods on site only for Warranty purposes only.
- 2 New LCP were installed along with new cabling back to the MCC Room where the existing Control Panels is situated.
- Telemetry / Scada full Systems integration completed between the existing Control Panel and Plant to allow the full set up and use of the new inlet screens.
- Dry and Wet testing and Commissioning with representatives from TW and **GEL Engineering**.



Solutions:

GEL were appointed Principal Designer and Principal Contractor under CDM for all these projects and ensured the utmost care went into each stage of planning, from design to implementation. **Gel Engineering's** innovative removal and replacement of the 2 Inlet Screens resulted in speedier commissioning and Handover back to Thames Water.

GEL takes a pro-active approach to maintenance, to try and assure the best possible life cycle on equipment. Over the course of these projects, **Gel Engineering** has always tried to repurpose and repair equipment to full working condition in an innovative way. This ensures that the client is satisfied, as these solutions are more cost effective and completed within a shorter timeframe.

Client Engagement:

Gel Engineering engaged regularly with Thames Water throughout the life cycle of the various projects, building strong relationships that ensured the project's success. Due to this success, Gel was awarded many other refurbishment jobs that were required by the Client





on this site. From inception to design stage, through installation to commissioning we have engaged with the Client to ensure all their requirements were met.



Inlet Screens Completed along with new Control Panels and Starter Panels

Gel Engineering have also worked on other Thames Water sites servicing and refurbishing screens, including:

Mogden STW.

- E Battery screens 1 & 2 refurbishment, 2021.

Deephams STW.

- Secondary screen 1 refurbishment, 2021
- TLL fine screen 1 refurbishment.
- TLL fine screen 2 refurbishments.

Rye Meads STW.

- Various screens emergency repairs, 2020

Nags Head STW.

- Fine screen refurbishment.

