

Durham Pipe Bridge

Client Name: North East Water

Contractor: ESH / Stantec JV

Project Value: £835,000

Scope of Work: Design, supply and install of 102m long pipe bridge

Challenges:

- **Uneven, Sloped Terrain:** The site was unsuitable for traditional concrete foundations due to its challenging topography.
- **Environmental Constraints:** Working over a watercourse required minimising earthworks to comply with environmental regulations.
- **Complex Pipe Layout:** The multi-directional pipe run added design and installation complexity within tight timescales.
- **Rural Location Logistics:** Developing and executing lift plans in a remote area posed significant logistical challenges.



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Solution:

- **Screw Pile Foundations:** Supported 10 columns without the need for concrete, minimising earthworks and reducing environmental impact.
- **Lightweight Pipe Bridge:** Designed, fabricated, and installed to provide a durable and efficient structure.
- **Enhanced Security:** Incorporated anti-climb deterrents to ensure safety and prevent unauthorised access.
- **Integrated Design Approach:** Coordinated the foundations and superstructure to minimise site preparation, lower risks, and deliver a stable, efficient solution.



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Results:

- **Streamlined Site Preparation:** Minimal groundwork was required due to the screw pile design, reducing disruption and environmental impact.
- **Enhanced Safety:** Risks were significantly reduced through efficient design and construction methods, including the development of lighter, handheld solutions that minimized the need for heavy machinery.
- **Stable, Efficient Structure:** Delivered a robust and reliable solution by seamlessly integrating the foundations and superstructure.

