

Hartlepool

Multidiscipline solutions create value for social project in County Durham

Hartlepool's Mill House Leisure Centre has been in operation since 1972 and the local council identified in recent years that it no longer has the capacity to support the town's growing population. As such, it was decided that funding would be allocated to create a new, purpose built leisure centre at the Waterfront and Wates Construction were chosen as the main contractor for the scheme.

The groundworks package was a combination of enabling works and foundations, including sheet piling and driven precast concrete piling. Aarsleff Ground Engineering were appointed to deliver both, with our team on site from February to April 2024. In total, 133 sheet piles were installed to form a cantilever cofferdam and 476 driven precast concrete piles were installed to found the building.

For the sheet piling works, 199 8m long AZ12 770 sheet piles and 34 10m long AZ18 700 sheet piles were installed. These form a cantilever cofferdam to retain up to 4.3m. Due to the nature of the ground conditions, pre-boring was undertaken before installation and the sheets were installed using a fixed leader rig with both rotary auger and vibratory hammer attachments. This kept the equipment on

site to a minimum but also ensured that the team had everything they needed to ensure productivity and meet programme goals.

The job was priced on the use of a Movax and a crane to ensure cost efficiency. When we mobilised to site, however, we encountered refusals. To ensure we met production timelines, a leader rig was brought to site to drive the piles down to the correct depth. As we progressed on site, we were moving closer to the harbour and subject to the winds from the water, which would've meant we had to stand as lifting to 12m with a crane would be too dangerous. However, by using the Movax to handle, pitch, and drive the initial few metres of the sheet pile before the leader rig followed to drive down to depth, we negated the need for idle time due to the wind. The Movax's pressurised grip meant it was safe to continue to use and the leader rig could safely follow behind to ensure the piles got to depth. This innovative and quick-thought approach ensured programme was handled efficiently and all site personnel remained safe.



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Regarding the foundation works, a mixture of section sizes were installed to ensure the safest load for the most efficient solution. Driven precast concrete piles were chosen due to their short installation times and easier logistics. Little to no spoil is generated when using a displacement methodology such as precast piling and the offsite nature of their manufacture means there are less deliveries and waiting time during installation. 128 350 sq mm piles, 12 300 sq mm piles, and 336 250 sq mm piles were installed to form the foundations for the leisure centre.

The combined package meant that our client could reduce administrative time and contractual headaches by dealing with one contact throughout the scheme. By offering a full range of solutions as a comprehensive ground engineering contractor, Aarsleff is a logistical partner, not just a subcontractor.



Data

133 driven steel sheet piles
476 driven precast concrete piles

Client

Wates Construction

Type of contract

Design and build contract

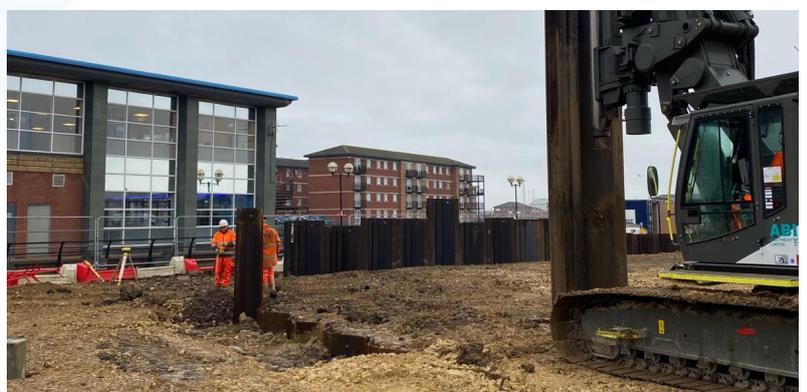
Construction period

February - April 2024



Contact

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