CASE STUDY

NEATH PORT TALBOT HOSPITAL

RESTRICTED ACCESS PILING

CLIENT

TRJ Construction

SCOPE OF WORKS

109 Pre-Drilled Bottom Driven Cased Piles

KEY ACHIEVEMENTS

Completed on time
Completed on budget
Reduced impact

Project Brief

In 2022, TRJ Construction partnered with Roger Bullivant Limited (RBL) to undertake a project for the Hospital Trust. The objective was to construct a new two-storey building using modular construction techniques, featuring several operating theatres.

The team received instructions to install a total of 109 pre-drilled, 273mm diameter bottom-driven cased piles. These piles were installed to various depths, ranging from 14m to 16m.

ROGER BULLIVANT

T. 0845 838 1801 roger-bullivant.co.uk info@roger-bullivant.co.uk

RESTRICTED ACCESS PILING

Key Issues/Requirements

- The site was situated in a busy hospital environment, requiring both RBL and TRJ Construction to navigate access challenges and accommodate a full programme of appointments scheduled in the hospital adjacent to the site.
- The site conditions posed a significant challenge, with multiple unknown services, requiring meticulous coordination to ensure a seamless transition between different sections and locations of the piles.
- Due to the presence of thick and compacted slag material on the site, the top 2m of the ground had to be predrilled. This step was essential because the ground was too hard to penetrate with augers or drive piles without first creating a pilot hole.

Solution

- RBL installed bottom-driven cased piles with a diameter of 273mm by utilising piloted holes that penetrated the compacted slag surface. This was carried out in preparation for TRJ Construction to proceed with reinforced concrete beam construction, in preparation for the installation of the new modular theatre building.
- The project utilised an open hole drilling rig to pre-drill the pilot holes through the slag and two drop restricted access hammer rigs, each equipped with 1-tonne hammers bottom driving the sectional steel tubes, each section was fully welded as the pile advanced. Collaborating closely with TRJ Construction, the RBL team strategically prioritised specific areas of work at the early stages of the project, ensuring progress and continuity within the tight program schedule and operational restrictions of the hospital.
- The 273mm piles were installed to depths of up to 16m, traversing layers of dense slag material before reaching soft alluvium and ultimately providing support on compacted gravel substrata. The use of restricted access sectional steel piles removed the requirement for heavy plant and machinery associated with larger piling equipment, reducing the impact of the construction process on the day to day operation of the hospital.

ROGER BULLIVANT

T. 0845 838 1801 roger-bullivant.co.uk info@roger-bullivant.co.uk