
PROJECT: NEPTUNE QUAY WALLSEND, NEWCASTLE

VALUE: £3.5m
ROLE: MAIN CONTRACTOR
START DATE: NOVEMBER 2010
COMPLETION: MARCH 2011

CLIENT: G O'Brien & Sons (NDC) Limited

- 150m long combi wall
- 36no anchor piles
- 36no tie bars 24m – 35m long
- 27no H Piles
- 600m³ underwater concrete
- 3500m² concrete pavement including a 700m² heavy load out slab
- Hydro-demolition and spray concrete repairs under existing quay.
- Drainage and outfall

Neptune Yard Phase 2 Remediation Works is part of the extensive redevelopment of the former shipyard.

Works included constructing a 150m long quay across the ends of the old slipways and the construction of a heavy load out pad consisting of a 27 m x 27 m concrete platform supported on steel piles capable of carrying a crane lifting loads up to 700 Tons. A combi piled wall with tubular anchor piles and tie rods was installed under the load out quay. The general quay area is surfaced with a 15 m wide concrete slab capable of carrying a load of 50KN/m². The combi wall has four sheet piles between tubular piles and these have been backed with concrete.

The quay is tied back with high tensile steel tie rods (100 mm dia) which are attached to isolated tubular anchor piles. The tie rods to pile connections were formed by an in-situ concrete plug using a method developed by Southbay and used on a number of projects.

A 750Ø outfall for future drainage has been built into the wall. The concrete slab has a cross fall away from the river to provide protection against pollution from spillages.



Installation of combi quay wall

Southbay were contracted to carry out concrete repairs under the existing 150m long quay at Neptune Energy Park in Walker, Newcastle. The works involved hydro-demolition of the existing decaying concrete, replacing corroded reinforcement and installing spray concrete, the repairs were required to maintain the loadings on the quay. Repairs to the soffit totalled 130m² and 80no columns were repaired during the works.

CHALLENGES

Strict environmental conditions were imposed by the Environment Agency and full compliance with the MMO licence was achieved. Working under the existing quay in tidal conditions meant the works had to be planned meticulously in advance in order for the spray concrete sufficient time to cure before being exposed to the tide.

PROGRAMME

A challenging programme was set but the works were complete on programme and to budget.



New heavy load out quay.