tmsMaritime

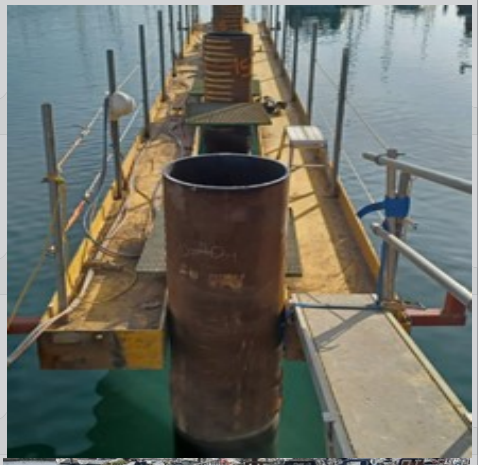
Project Case Study

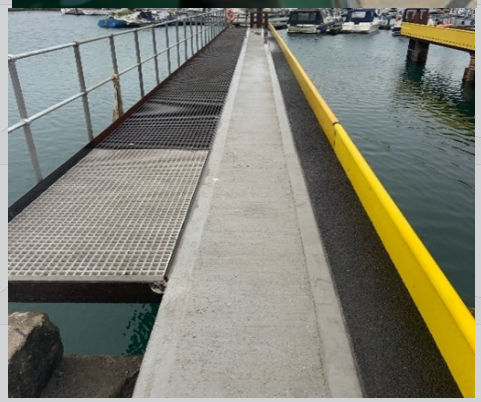
TMS Maritime is a leading UK specialist in marine civil engineering, ancillary floating plant and diving services

Client: Walker Construction (on behalf of Port of Dover) Value: £630,000

Project: Wellington Docks Boat Hoist, Port of Dover 2021, 4 months

Description: As part of the wider Wellington Dock redevelopment works, TMS were appointed by Walker Construction (Principal Contractor) as a specialist Marine Contractor on the construction of a new vertical boat hoist. The full scope of the Project included:





- Procurement and installation of 8no 610mm OD steel tubular piles to support the hoist's dock runway beams.
- Partial demolition of the quay wall by diamond wire sawing to provide through points for the new runway beams;
- Construction of a CFA pile-supported reinforced concrete ground beam bankseat for the runway beams to land on the shore end.
- Fabrication of steel trough composite runway beams including outer pedestrial walkways and inner wheel stops;
- In-situ fabrication of steel runway beam formwork onto the piles and bankseat;
- Casting of the in-situ reinforced concrete runway beam infill to complete the structural runway beams ready for the 250t boat hoist;
- Installation of handrails and anti-slip runway beam surface treatment.

The piling work was undertaken using a 160t crawler crane based on the shore and working at extended radius to avoid using marine plant in the restricted dock. Crane suspended vibro and impact hammers were used to pitch and drive the piles, then to back-drive into the chalk strata.

A bespoke cantilevering pile gate balanced by kentledge was used to ensure accurate pile position and verticality. The gate initially projected from the quay with a temporary king pile prop but was then supported on the driven piles and was pushed seaward to install the next pile in the sequence. Following pile installation, pile cap plates were installed with shear pins, ready to receive the fabricated runway beam troughs. Our reinforced concrete gang excavated, formed and cast a CFA pile supported bankseat beam before the runway beam troughs (weighing 23t each) were lifted onto the piles and structurally welded into position.Our reinforced concrete gang then installed shear studs throughout the beam trough to ensure the beam acted as a composite steel/ concrete beam once concrete was cast. Reinforced concrete was used to complete the composite beams, then finished with handrails and anti-slip surfacing.