

# BARRIER GARDENS PIER

PORT OF LONDON AUTHORITY

PROVIDING ADDITIONAL BERTHING CAPACITY

Frankham were commissioned by the Port of London Authority to design an extended pier to berth vessels including the flagship London Titan at Barrier Gardens, Woolwich just downstream of the iconic Thames Barrier.

The objective of the project was to provide additional berthing capacity as well as improved environmental performance, reduction of noise generation and enhanced crew safety.

Some of the services provided by Frankham on this project included the preparation of:

- A desk study to establish the extent of any reliable geotechnical information.
- A ground investigation specification to allow for pile design.
- The general arrangement of the new "Bawley Bay" pontoon with a mooring layout for the approved by the PLA Marine Services Manager.
- Supporting information for statutory consent applications to the Environment Agency and Marine Management Organisation
- Detailed design and specification for the manufacture and installation of restraint piles, pile keeps, brows and its bearings.
- Undertake the duties of Principal Designer as defined by the Construction (Design and Management) Regulations 2015.

The River Thames is the UK's busiest inland waterway and the PLA has a fleet of over 30 vessels which serve a range of river users from commuters to cargo handling and recreational users. These vessels and investments on infrastructure projects demonstrate the PLA's commitment to their "Vision for the Tidal Thames" framework which sets the following key goals:

- Port of London – More trade and more jobs
- Inland freight – Moving goods off the road and onto the river
- Passenger transport – More journeys
- Sport and recreation – More participants
- Environment and heritage – Improved tidal Thames environment
- Community and culture – More people enjoying the Thames

Frankham were presented with several design challenges. One challenge was the poor ground conditions of the typically soft riverbed. The solution was the design of two 38m long tubular steel piles that could be driven deep enough into the riverbed to resist berthing and environmental loading. To minimise potential noise disruption, the piles were driven by vibration until hammer driving was required to gain the required depths.

The Barrier Gardens Pier extension project has a direct influence on the "Vision for the Tidal Thames" by striving towards net zero carbon targets. The new facilities will enable the London Titan and other vessels to charge equipment from the more environmentally friendly onshore supply instead of the previously used generators.



FRANKHAM

Client:  
Port of London Authority

Sectors:  
Transport - Port/Marina  
Industrial - Maritime

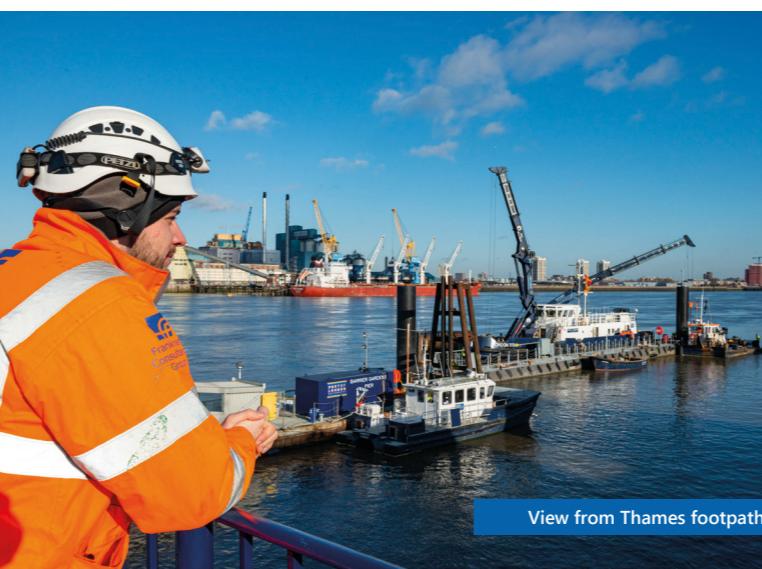
Services:  
Civil Engineering



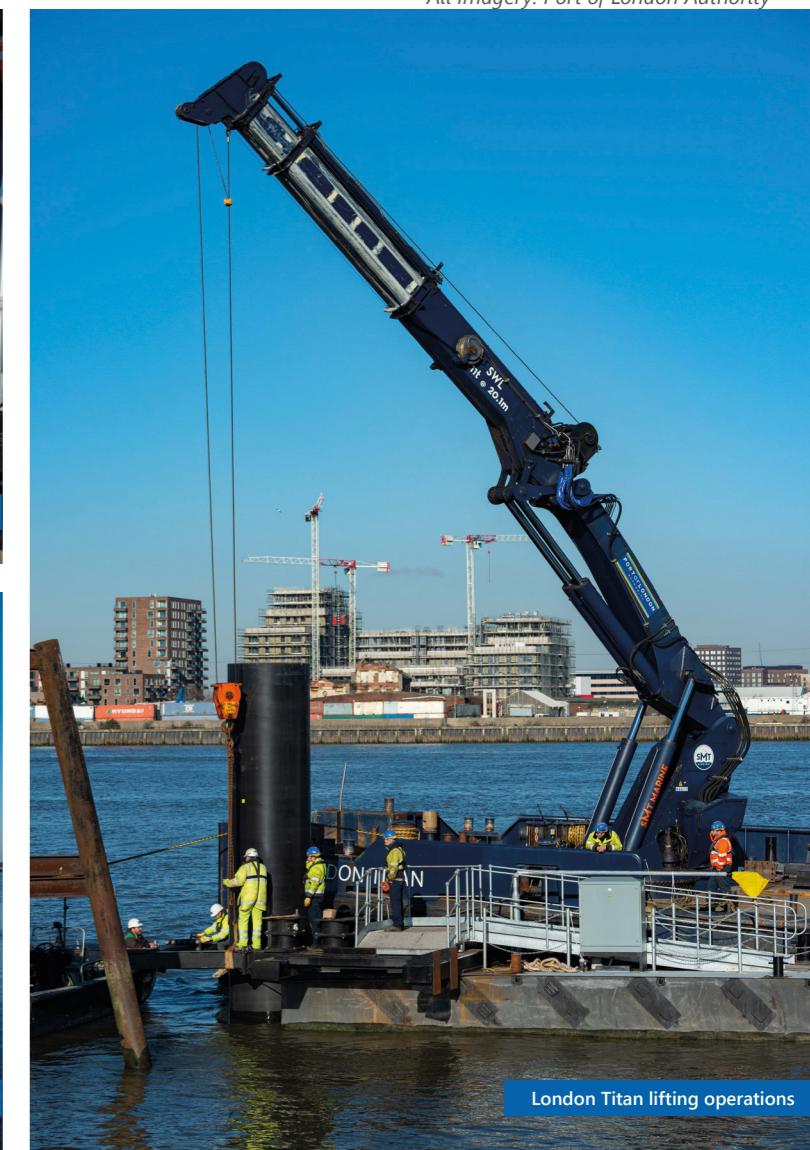
Bawley Bay Pontoon towed to site by London Titan



Installation of pile keeps



View from Thames footpath



London Titan lifting operations