

## **PORTLAND DEEP WATER BERTH**

**Client:** Knights Brown

**Value:** £370,000

**Duration:** Sept 2022- Feb 2023

### **Project Detail**

Portland Port redeveloped its existing “Deep Water Berth” to create a new extended berth. The redevelopment involved demolishing the existing pier structure before piling and infilling to establish a new, larger solid quay structure. The aim of this redevelopment was to accommodate the growth of Portland Port’s cruise and cargo handling operations while continuing to provide services to vessels, including those from the Royal Fleet Auxiliary and the Royal Navy.

Suttle Piling installed:

- Sheet piling, consisting of AZ18-700 7m long sheet piles as an anchor wall for a new tubular combi wall
- 12m long, 600mm diameter tubular piles as corner anchors
- Anker Schroeder tie rods and a fabricated waler system.

There are 23m anchor rods between the main retaining wall (the tubular combi wall) and the anchor wall. The purpose of the anchor wall is to improve the design of the main wall. As this was a coastal project, bio-oil was a requirement on site, already used as standard in the plant and machinery due to the extensive marine and coastal work undertaken.

Our team worked on a stone platform built by the client, but due to tidal changes, the water level had to be closely monitored which meant that occasionally the team had to de-mobilize during high spring tides and during times of high swell.

Another challenge that arose due to the location of the site, was that it was constantly exposed to the elements. The team had to monitor the weather at all times, as wind conditions could create unsafe conditions for lifting operations and rain meant that hot works (welding & cutting) could not be carried out. To address this, the team acquired a specialist hut to facilitate hot work regardless of rain; however, this hut could not be used if the wind was too strong. By closely monitoring the weather, they were able to adapt to the conditions and maximize the use of the hut to minimize disruption to the works.

Our team utilized our Komatsu PC490 50-tonne excavator with a Movax SG75V attachment to install the sheet piles, along with a DH25 impact hammer for refusals. This Komatsu is one

of the largest side-grip rigs currently available in the UK at over 50 tonnes. Despite the challenges faced, the team completed the project ahead of schedule.

**Photographs:**



Figure 1: The sheet pile wall



Figure 2: The Anker Schroeder tie rods



Figure 3: The tubular piles



Figure 4: The sheet piles and tubular piles with the anchor rods between