

# CASE STUDY

## WATERFRONT PLAZA, EDINBURGH



## PILING

### CLIENT



### MAIN CONTRACTOR



### SCOPE OF WORKS

Driven piling steel



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## Project Brief

Roger Bullivant Limited (RB) was employed to install 594 No. 178mm tubular steel piles and 626 No. 244mm tubular steel piles required to support the new housing development at Waterfront Plaza, Leith, Edinburgh on behalf of Cala Homes (East) Scotland and Port of Leith Housing Association.

The Waterfront Plaza is a residential transformation of long-term disused land at a prominent section of Leith's waterfront. The creation of 388 new homes along with 1500sq.m of flexible workspace, inspired by The Arches at Market St near Waverly Station; is designed to give vibrancy to the waterfront area and give added momentum to the regeneration of Edinburgh's Waterfront.

## Key Issues/Requirements

- RB provided a design methodology to suit the underlying ground conditions using both information provided by the client, along with the local knowledge of the area and the extensive experience of the RB Scotland team. The ground conditions comprised an upper covering of made ground, overlying stiff CLAY to depths of circa 34.00mbgl. Consideration of the piling technique and system required were considered pre-tender, to cater for deep made ground overlying stiff cohesive strata. Engaging with Goodson Associates Consulting Engineers at an early stage was paramount, due to the underlying ground conditions.
- RB recycled steel piles were specified - 178mm dia and 244mm dia tubular steel piles for 300kN and 600kN SWL respectively.
- Consideration had to be given to the proximity of the neighbouring Ocean Terminal Shopping Centre and the offices of the Scottish Government. This prompted consideration over piling technique / piling equipment. The RB Quiet Hammer piling rigs were to be utilised to ensure minimal disturbance and nuisance during the time on site.
- The site was located within the former Victoria Dock, causing risk of obstructed piles.



# PILING



## Solution

- RB installed 178mm and 244mm dia tubular steel piles to varying depths for compression loads up to 300kN and 600kN respectively. Maintained load testing of piles returned excellent results, well within tolerances set by the Project Engineer.
- The tubular steel pile was selected due to the deep made ground and underlying stiff CLAY. All piles were driven to design length into the underlying stiff CLAY.
- The works were undertaken utilising 2 No. RB Quiet Hammer piling rigs to ensure the piling works remained on programme for Cala Homes (East).
- Upon commencement of piling operations, it was concluded that the stiff CLAY in some areas was extremely hard. As such, pile design lengths were slightly reduced and static testing was carried out to prove the revised design.
- RB Graduate Engineer, Megan Cairney, was on site full-time and gained valuable experience of driving steel piles in Edinburgh stiff CLAY.
- With RB management and operatives proactively promoting Safety 1st; Cala Homes (East) named RB Safety Contractor of the Month for November 2018.



**Feedback received from Cala Homes (East) was extremely positive.**

**"I have been extremely impressed at the professionalism throughout. Delighted to have the RB team on board and look forward to the next phase of the works".**

**John Higgins, Contracts Manager Cala Homes (East)**



**ROGER BULLIVANT LIMITED**

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