

Case Study: River Wall Replacement Scheme, London

Client:

Jackson Civil Engineering

Sector:

Infrastructure

Services Provided:

Piling
Secant Retaining Wall

Location:

London

Value:

£278,000

Year:

2018



Van Elle was selected by main contractor Jackson Civil Engineering to install a hard-hard secant wall on a river wall replacement scheme on Dormay Street in London. This particular solution was chosen in order to meet the requirements of the 65-year lifespan requested by the client..

Van Elle used a Soilmec SR-80 rotary piling rig to install 37No. 1200mm Ø piles, primary 15m depth and secondary 8m depth, with C30/37N concrete. The existing wall was at risk of collapsing into the Bell Lane Creek (which runs into the River Thames) and therefore it was important that suitable mitigation measures were employed to ensure this would not occur.

Challenges

The ground conditions were expected to be heavily disruptive. Van Elle experienced made ground until 7m where London clay was reached. It was important that the piling team got the sequencing correct because of the hardhard nature (high strength gain of the concrete).

Not only did the piles have to be installed in the correct sequence, they also needed to be timed with tidal movements. Van Elle could not carry out works on a high tide because water absorbed into the bank and would have flooded the bottom of the empty pile, resulting in an inconsistency of the freshly poured concrete.

The existing wall was closely monitored by Van Elle throughout this project as it was moving 8mm on high and low tide. A 16mm tolerance limit was put on the wall.

Quality assurance was a strong focus for this project and Van Elle was required to take 6 cubes of concrete from every pile. [Usual specification is 4 cubes for every 70 cube of concrete cast.]

Efficiency

Van Elle's efficient team was onsite for a duration of 2 weeks, saving a massive 3 weeks off the original programme for Jackson Civil Engineering.

Time was saved through a well organised site (very good collaboration with the main contractor), optimum sequencing of works, and good co-ordination with concrete deliveries. Van Elle also utilised the innovative spliced cage system for the steel reinforcement which saved up to half a day per week, over the traditional cages.

Van Elle invested heavily (> £100k) for this project, buying new casings and high quality tools. Not only did these tools help with this challenging project, they also have a long term benefit. Logistics of these tools is more controlled, and eliminating the hire process means cost savings are passed onto the client overall.

