



SPEEDECK
FOUNDATIONS LIMITED



Completed
on-site in

11

weeks

Pocket Living

Waltham Forest, London

CLIENT	PDR Construction
LOCATION	Waltham Forest, London
NO. OF UNITS	90 Units within a 5-storey building

Project Overview

SPEEDECK designed & built piled raft foundations for 90 residential units, inclusive of tank room & bin store foundations, lift pits & a foundation for the Tower Crane.

The site involved restricted access, meaning the foundations needed to be constructed over two phases to ensure site access could be maintained.

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Construction

SPEEDECK's scope of works consisted of:

- All setting out to facilitate our works
- Installation of Concrete Working Surface, giving a piling matt thickness of 50mm.
- Installation of CFA Bearing Piles to support pile loads specified by SPEEDECK.
- Pile Attendance excluding muck away
- Breakdown & Integrity Testing of Piles.
- Installation of underslab drainage & services
- Installation of heave precautions.
- Formation of lift pits & upstands, cast in waterproof concrete.
- Shuttering, steel fixing and concreting to rafts.
- Installation of crane base
- Starter bars were installed within our works for the columns from schedules provided by the structural engineer.

Concept Design

The challenges on this site prompted PDR to approach SPEEDECK for a more efficient solution. The consulting engineer's foundation design appeared potentially inefficient, leading the client to seek improvements. Additionally, they wanted to explore ways to expedite build times while minimising excavation requirements due to site constraints.

Design and engineering

SPEEDECK identified and mitigated the risks above utilising the following techniques and experience:

- Slab depth kept to a minimum 250mm to limit reduced dig, only providing thickenings where absolutely necessary, these were a maximum of a further 350mm below SSL.
- A CFA pile was chosen using a lightweight rig, which optimised for pile speed installation while maintaining minimal pile matt requirements. SPEEDECK utilised their CWS directly on the ground to minimise dig depth, muck away and imported aggregate costs.
- Pile lengths & number were iterated to ensure optimum cost & installation speed were obtained, this was particularly important due to the high loads and weak nature of the London Clay. A significant cost saving was achieved by keeping piles to 300mm diameter throughout.
- The crane base was designed to minimise both thickness and pile numbers.
- Due to the level of the drainage external to the site, it was determined that all drainage needed to be hung from the slab and incorporated within the slab design.
- Service trenches, lift pits and substation slabs were all designed & installed by SPEEDECK.

SPEEDECK successfully completed their scope of works within programme, delivering the 90 unit apartment block within 11 weeks. The project is fully complete and signed off by the client and warranty provider.

