



**SPEEDECK**  
FOUNDATIONS LIMITED

Completed  
on-site in

**12**  
weeks



# Luxborough Towers

## Westminster, London

**CLIENT** Wates Construction  
**LOCATION** Luxborough Street, Westminster, London  
**NO. OF UNITS** 1 Commercial Floor & 14 Residential Units,  
6-Storey in total

## Project Overview

SPEEDECK was tasked with the design and construction of piled raft foundations for a 6-storey mixed-use building. The scope included slab steps, lift and inspection pits, thickenings, and the base for a tower crane. Situated in a dense urban environment in Westminster, the site presented significant logistical challenges due to restricted access.





# Construction

SPEEDECK's scope of works consisted of:

- All setting out to facilitate our works
- Installation of Concrete Working Surface, giving a piling mat 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
- Formation of lift pits & tank chambers, 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.

Close collaboration with the client ensured that site access was consistently maintained, enabling smooth progress despite spatial constraints. SPEEDECK completed the project within 12 weeks, meeting all program requirements.

SPEEDECK's innovative solutions and attention to detail delivered a foundation system that balanced structural integrity, cost-effectiveness, and constructability. Despite the challenges of working on a constrained urban site, the project was completed on schedule and signed off by both the client and warranty provider.

This success underscores SPEEDECK's capability to tackle complex foundation projects with precision and efficiency.

## Design and Engineering

SPEEDECK leveraged its expertise to effectively address and resolve these challenges:

- **Pile Optimisation:** Load testing informed a combination of 300mm and 400mm diameter piles, achieving cost efficiency by refining both length and diameter.
- **Slab Design:** The slab depth was maintained at 250mm, with localised thickenings up to 350mm and, in some cases, 500mm below SSL, minimising excavation requirements.
- **Pile Installation:** A CFA pile system was employed, utilising a lightweight rig to balance installation speed and reduced mat thickness. SPEEDECK's approach minimised excavation depth, waste removal, and aggregate importation.
- **Advanced Modeling:** BIM was used to design within the constraints of tight access, party wall requirements, and proximity to subsurface utilities, ensuring optimal pile layout without clashes.
- **Additional Structures:** SPEEDECK designed and installed service trenches, lift pits, and tank chambers to integrate seamlessly into the foundation design.