



SPEEDECK
FOUNDATIONS LIMITED

Completed
on-site in

6

weeks

Fairmile Lane, Cobham, Surrey

CLIENT TYPE	Housing Contractor
LOCATION	Cobham, Surrey
NO. OF UNITS	4 units

Project Overview

Fairmile Lane presented a combination of challenging ground conditions and tree influence, with all four plots falling within the mapped tree influence zone. With clay shrinkage and heave a key consideration, Chartridge Developments required a foundation solution that could accommodate the ground conditions while providing a practical route through to construction.

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Engineering and Design

An initial desk study classified the site as having high volume change potential (HVCP). Rather than designing around that initial classification, further Atterberg testing was undertaken to establish the actual ground conditions. The additional testing refined the classification to low-to-medium volume change potential, allowing the design to be optimised accordingly.

A 160mm voidformer was therefore adopted for the piled raft, providing the required protection against clay heave without the additional depth that would have been required for a high volume change classification. The ground profile comprised Made Ground over the Bagshot Formation, with the underlying strata consisting of gravelly sand, sand and gravel, and sandy to gravelly clay.

Construction

CBR values of greater than 2% across the site allowed SPEEDECK to use a lightweight piling rig, removing the need for an engineered granular piling mat.

The four plots were delivered as a single substructure package, combining piling and raft construction under one scope. SPEEDECK also installed the underslab drainage and services as part of the works.

From the start of piling, just six weeks were allowed to complete and hand back all four plots at structural slab level, ready for the superstructure trades to begin.

The resulting voided piled raft provided a technically appropriate and warranty-compliant solution for the tree-constrained site, while allowing the four plots to be delivered efficiently as a complete substructure package.

