

Project Overview

SPEEDECK designed & built piled raft foundations for 22 residential units, consisting of 2 storey housing on this first section of the development. SPEEDECK completed all the plots denoted for piling, with the remaining 30% of units being constructed as shallow strip foundations, by others. This marked SPEEDECK's first involvement within this development, with several hundred remaining units remaining to be constructed in later phases of the project.



SPEEDECK
FOUNDATIONS LIMITED



The Meadows Snelsmoor

CLIENT	Bellway Homes (East Midlands)
LOCATION	Snelsmoor, Derbyshire
NO. OF UNITS	22 Units & 6 Detached Garages



Construction & Completion

SPEEDECK successfully completed its scope of works within the programme, delivering 22 units and garages in just 7 weeks, with the first 11 units handed back to the client in under 5 weeks.

Our responsibilities included setting out, installing a 50mm-thick concrete working surface, CFA bearing piles, and heave precautions where needed. We also handled pile breakdown and integrity testing, formed recess toes and downstand details for underbuild requirements, and completed shuttering, steel fixing, and concreting for rafts. Pile attendance, muck away, and underslab drainage were carried out by the groundworker.

Design and Engineering

SPEEDECK identified and mitigated the designs risk by utilising the following techniques and experience:

- Clay heave precautions for much of the site were eliminated by looking in more detail at the tree survey provided and the near surface soil conditions than what had been carried out previously. The extent of heave precautions was reduced by 67% resulting in a considerable saving against the compliant scheme.
- A piled raft solution was chosen, as this reduced the total foundation dig depth required by between 650mm to 875mm. This led to a reduction in muck away quantities and avoided having to manage the shallow groundwater.
- 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 along with localised soil stabilisation to minimise dig depth, muck away and imported aggregate costs.
- Pile lengths & number were iterated to ensure optimum cost & installation speed were obtained.
- SPEEDECK incorporated downstand details within their design to account for site underbuild, upto 675mm deep for this project.

Conclusion

SPEEDECK's success on this project, for saving both time & money, was realised through being awarded the following parcel of works for the next 212 units.

