

**80**  
housing units  
completed

**50%**  
improvement  
for design  
efficiency



**SPEEDECK**  
FOUNDATIONS LIMITED



## Project Overview

SPEEDECK accomplished the design and build of engineered foundations for a low-rise residential scheme consisting of 100 units and 80 houses, including associated garages and an apartment block.

# Moorgreen Southampton

**CLIENT TYPE** Regional House builder  
**LOCATION** Moorgreen, Botley Road, West End, Southampton  
**NO. OF UNITS** 80 houses, associated garages and an apartment block

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# The complete solution

The project was split into two areas to optimise the site's topography, and distinct solutions were developed for each section. This was driven by the previous activity on the part of the site, which was used as a spoil tip during the construction of the M27 motorway. A comprehensive analysis of ground gas was conducted, and we improved upon the recommendations within the site investigation. We ensured the raft was sufficiently reinforced to act as a gas barrier, minimising the additional components required.

Clay heave can be a costly problem to solve. After further testing on-site to determine the potential levels of clay heave, we worked to minimise both the quantity and the thickness of the heave precautions required on-site. This resulted in cost savings and the client having to transport less muck away off-site.

The site was divided into several areas, thus optimising the soil profile and design parameters. Continuous Flight Auger Piling (CFA Piling) was a cost-effective solution for the variable soil conditions that could have made construction difficult. We managed to minimise the diameter and depth of the CFA piles, ensuring quicker construction times, less muck off-site, and ultimately reducing costs for the client.

## Design Engineering

The SPEEDECK design team worked through various approvals that the build required with other interested parties, such as consulting engineers and warranty providers. Temporary works calculations were provided to demonstrate that piling mats were not required, with a 50mm concrete working surface sufficient as a piling platform, generating significant savings with the cost and time of the build. Calculations were provided for the relevant CS2 and CS3 gas site gas situations—approvals were obtained from the warranty provider for the client prior to commencement on site.

A heave report was provided to the warranty provider, and approval was gained before commencement on site, realising the savings of mitigating extensive heave precautions. A complete drawing and calculation pack was produced for construction on-site to simplify communication between the Pre-Construction and Construction teams. Working together, the team completed this project on time, within budget and with no variations, despite a wet and cold winter at the time of construction.

