



S P E E D E C K
FOUNDATIONS LIMITED



Watercress Beds, Longparish, Hampshire

CLIENT TYPE	Housing Developer
LOCATION	Longparish, Hampshire
NO. OF UNITS	1 unit

Project Overview

Located in Longparish, Hampshire, the Watercress Beds development involved the sensitive redevelopment of a former watercress bed site for Rivendale Developments.

The project saw the demolition of eleven derelict buildings, replacing them with a single bespoke residential dwelling designed across four linked wings, comprising two single-storey sections and two double-storey sections, together with a detached garage.



An efficient foundation solution

To overcome the challenging ground conditions, we designed a CFA piled raft foundation solution comprising two reinforced concrete rafts serving the main dwelling and detached garage. The total structural foundation area covered approximately 411m², with raft thicknesses ranging from 225mm to 300mm.

The piled raft was supported on 300mm diameter CFA piles, with typical pile lengths ranging between 8.0m and 11.5m and a maximum safe working load of approximately 340kN. The design incorporated a non-voided piled raft solution. This was achieved as the low plasticity clay bands identified during the ground investigation did not require additional heave protection.

A lightweight piling rig was utilised during construction, removing the requirement for a traditional engineered piling mat and helping to minimise site preparation requirements.

The works were completed within a five-week construction programme.

Ground Conditions

The ground investigation identified Made Ground and river terrace gravels overlying chalk at approximately two metres below ground level. Groundwater was recorded at depths between 0.7m and 0.75m below ground level, highlighting the challenges of working within a high water table environment.

The site was classified as DS-1/AC-1 in terms of chemical conditions, with potential chalk dissolution features also identified as a consideration due to the underlying geology.

The shallow groundwater levels meant that a conventional foundation approach would have required excavation below the water table, increasing the complexity of the construction process and potentially affecting the programme.

