# Broad Oak Manor, Merseyside

Left - The development site

**Project Value:** £2.0m
**Client:** Bupa Care Homes
**Architect:** Marsh Associates

**The Project:**

Extension and new residential block. HSP undertook a full geotechnical desktop and exploratory phase investigations along with traffic assessment and flood risk assessment to satisfy local planning conditions.

HSP were instructed to undertake a Phase I Preliminary Sources Report which was followed by a Phase II Intrusive Site Investigation Report in August and September 2008. The Phase I Report highlighted that the site has remained relatively undeveloped from the 1800's until the 1950's when a football pitch and grey hound track were present on site.

The main interest that was flagged for the site during the Phase I Report is that the site may have been effected by historic shallow coal mining. The Phase II Site Investigation was designed with due regard of this and involved the drilling of 6 window sample boreholes and 2 rotary open cored boreholes on the site. The window sample boreholes were undertaken to assess the underlying ground conditions whilst the rotary boreholes were put down to 25m to check for the presence of any voids caused by the coal mining.

The relatively poor ground conditions indicate that a raft foundation solution designed for a ground bearing capacity of approximately 50kN/m2 would be most suitable to the single storey building with relatively low loadings proposed for the site.

Analysis of the chemical testing undertaken on the samples retrieved from the site concluded that there are no risks to the health of the end user and the wider environment therefore no remedial works were required during the development of the care home.

A semi-raft foundation was adopted as this provided most cost effective considering the ground conditions assessed by HPS. Load bearing masonry approach was adopted to suit both the build program while considering cost limitations. HSP designed both the foul and surface water drainage to utilise the existing on site drainage networks, significantly reducing costs.

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