

HAMER CONSULTING LTD
STRUCTURAL & CIVIL ENGINEERS

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Ref: 3037

Daniel Benton
51 Aldenham Avenue
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Dear Daniel

Re: 51 Aldenham Avenue, WD7

The foundations for the new property is a deep reinforced concrete raft foundation.

There are several reasons why this solution has been adopted:

- The ground level varies considerably across the footprint of the building and therefore the foundations need to be placed at the lowest level in order to ensure the foundation remains stable and avoid significant changes of level.
- The nature of the ground on this site is highly variable, as confirmed by the soil investigation reports that were carried out. Therefore by placing the foundation at one level we achieve a consistent bearing medium for the foundation.
- It was necessary to inspect the nature and condition of the soil at bearing level, again due to the variable soil across the site. This could only be inspected by digging out to the bearing level.
- The foundation depth also had to take into account the effect that nearby trees will be having on the clay content within the soil, i.e. of sufficient depth to avoid heave and settlement.
- This method of foundation construction was the solution recommended by the soil investigation company.

Piling was considered as an alternative, but dismissed for a number of reasons:

- Due to the highly variable nature of the soil not only across the site but also with depth, there is no means of checking what the individual piles would be bearing into. Not only could this lead to inadequate bearing but more importantly it could lead to variable bearing of the piles across the site and consequential differential settlement.
- The raft foundation was considered the safer option as the bearing of the raft across the site was visually checked for soil type and consistency during construction.
- The depth of piling needed would have required a large piling rig. The site has severe access restrictions as the access road is a narrow driveway serving just a few houses. Transporting suitable machinery would have been very difficult and risked damaging other properties in the process.
- The drainage runs under this driveway and is shallow. There was concern that moving of heavy plant could damage the drain.
- Once on site using a piling rig would have been impractical due to the variable nature of the site. A considerable amount of work would have been required to prepare the site to a suitable condition that would allow such a machine to operate.

Therefore, taking all the above points into consideration, the deep raft foundation solution was considered to be the safest, most reliable and most practical solution.

Yours faithfully



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