engineers **Haskins Robinson Waters**

IStructE Supreme Award for Structural Engineering Excellence 2007

901 / SR

21 February 2011

Nick Haycock
Haycock Associates
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Worcestershire
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Dear Nick,

RE ; THE WATERHOUSE, FITZROY PARK, LONDON N6

Further to our recent discussions, please find attached the Geotechnical, Hydrogeological and Geoenvironmental Site Investigation Report (241830-01(00)) produced by RSK for the proposed development at the above site.

We confirm on behalf of our client Mr. P Munford that your quotation noted in your e-mail 27.01.11, for undertaking a review of the information for the City of London (COL) is acceptable. We understand that your comments on the report will be sent direct to us and the COL, at a later stage we would also propose to issue the information to the other relevant bodies such as the Heath Consultative Committee, the Ladies Pond and the Fitzroy Park Residents Association.

As you know both RSK and ourselves have experience of working in the local area and we have drawn on this previous experience in working up the scheme for the Waterhouse. Following a desk study, reviews of previous reports for the site and information on the local hydrology provided by the Fitzroy Park Residents Association a detailed Site Investigation was specified to consider geotechnical and hydrogeological issues. Preliminary plans, sections and outline details for the scheme were also issued so that an impact assessment of the scheme on the local hydrology could also be undertaken.

The Site Investigation included, 8 boreholes varying in depth from 4 to 20m, with 5 standpipe / piezometers for ground water monitoring, trial pits and laboratory testing as detailed in the report. The investigation found that this site is underlain by London Clay, from geological records the Claygate Beds run slightly to the north, the site lying in a minor valley with no surface water flow. Local information from the Residents Association suggests drainage in this area is diverted through a culvert. The investigation did find perched water in the made ground overlying the London Clay generally traversing the site at the interface between the made ground and the clay and we are therefore proposing mitigating measures to deal with any sub-surface flow.

The proposed scheme involves the demolition of the existing two storey house and pool, founded on traditional strip foundations and the construction of a new two storey house with localised basements, supported on a piled foundation. It is proposed that the new building is constructed with reinforced concrete at basement and ground floor levels with a light weight steel and timber frame over. A king post retaining wall is proposed for the construction of the basements, this has the advantage of reducing disturbance of the ground around the basements and also avoids cut-off of the minor ground water movements at lower level.

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To mitigate any disturbance of the ground water flow, we would propose the following;

- A GPR radar survey to locate any existing land drainage in the area of the basement construction and diversions as necessary. Prior to construction a further investigation is to be carried out to the south east of the site to determine the cause of shallower ground water in this location, as recommended in the report.
- Construction of a land drain / fin drain, around the basement behind the king post retaining wall (in both the temporary and permanent conditions) to ensure that ground water is kept out of the excavations and can pass around the basement in the permanent case. The drain would also be constructed across the face of the 'downhill' basement wall where the water can collect and percolate into the made ground.
- In the temporary condition a land drain channel at surface level would be constructed to catch any excessive surface water flows during the construction activities.
- A full Construction Management Plan is still to be worked up subject to access and other consultations with the relevant local bodies but will give further details on the careful management of material and waste during the construction process.

Attached are schematic drawings showing our interpretation of the conditions, outline construction details and highlighting the measures noted above. We would be pleased to get your comments on the scheme proposals. Should you have any queries, please do not hesitate to contact me.

Yours sincerely

Simon Robinson
For and on behalf of Engineers Haskins Robinson Waters

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