

901 / SR

24 May 2011

Nick Haycock
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Dear Nick,

RE ; THE WATERHOUSE, FITZROY PARK, LONDON N6

Thank-you for your report detailing comments on the Geotechnical, Hydrogeological and Geoenvironmental Site Investigation Report (241830-01(00)) produced by RSK for the proposed development at the above site. Further to our recent conversation we have responded to the comments as noted below and have also attached updated copies of our schematic drawings and new information provided by the drainage consultant.

Firstly responding to your more general comments;

Number 53 Fitzroy Park; Haycock Associates have noted their concern that the impact of the proposed works to Number 53 Fitzroy Park have not been addressed;

The Waterhouse design team are also concerned at this Planning Proposal, which was not originally considered as the most recent application only became available after production of the Waterhouse report. We have now had the opportunity to look through the information available on Camden's website and an outline of the works is indicated on our drawing 901/SK/020. While a Site Investigation and a Hydrology Impact assessment are included with general statements, there is no detailed design information included, it is therefore very difficult to consider what impact this will have on the Waterhouse. We understand that you will be raising concern on these issues with the planners on behalf of the FPRA.

From the drawings noted above, it would appear from an initial assessment that the proposals will have a much more significant impact on number 55 this being lower lying than the Waterhouse and directly below the proposed works. This is obviously a concern to all parties given the sensitive nature of the pond in number 55.

At present we have highlighted these concerns to our client and would propose awaiting the outcome of the planning decision or re-assessing once more detailed information is provided. It is to be hoped that the final scheme will take the same approach as the Waterhouse scheme in ensuring temporary protection for ground and surface water during the works, ensuring ground water flows are maintained and providing improved on site attenuation through SUDS.

Hydrology to number 55 to be investigated in greater detail (concern also raised by Consultative Committee at consultation meetings);

Further intrusive investigations to the area between the two ponds were proposed in the original report and also noted in our previous letter 21 February 2011.

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The works were not undertaken during the first stage of investigation due to the intrusive nature of any excavations and that the fact that the building is currently occupied by tenants. We would propose that the extent of the investigations and outcomes will be agreed with Haycock Associates.

The overall strategy for the site, which I hope is clearly indicated on the attached drawings and statements, is to ensure ground water flows are maintained in both the temporary and permanent conditions, fully protecting the ground water during the construction works. Improve the attenuation capacity of the site (above standards required for a residential property) to provide better storm water protection to Millfield Lane and the ponds. Measures to include;

Construction Phase;

- Prior to construction, a GPR radar survey is to be undertaken to locate any existing land drainage in the area of the basement and diversions undertaken to ensure continuity of ground water flow.
- In the temporary condition a land drain channel at surface level would be constructed along the Millfield Lane and Number 55 boundaries to catch any excessive surface water flows during the construction activities.
- 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.
- A full Construction Management Plan to be worked up subject to access and other consultations with the relevant local bodies. The plan will give further details on the careful management of material and waste required by the contractor during the construction process (Note now complete).

Permanent Works;

- Land drain / fin drains around the basement as noted above will ensure groundwater movement around the basements is not impeded. It is proposed that the drain will also be constructed across the face of the 'downhill' basement wall where the water can collect and percolate into the made ground. Land drainage to the lawn channelled through a soak away placed in the location of the existing pond.
- Removal of the foundations of the existing building and construction of the new building on a piled foundation may improve flows across the site.
- Improved water attenuation on the site sustainable urban drainage systems SUDS and other, see attached SWP Storm Water Strategy statement. Measures will include the perimeter fin drain to the basement, the green roof, soak away and rain water harvester.

We would respond to your detailed comments as follows;

1. RSK summary states that the site was dry on the day of the site inspection, but no date given for the site inspection. Own observations are that seepage is leaving the site and issuing over Millfield Lane towards Bird Sanctuary Pond in the southern corner of the site.

The inspection and insitu works were both undertaken in November 2010, we can not confirm if seepage was present at the time but we have also noted the seepage across Millfield Lane at other times. We think this is also partly feed by the 'drainage ditch' which runs across the frontages of both Fitzroy Farm and the Wallace House. As noted below we propose to improve on site attenuation, which should improve the situation.

2. RSK summary states that pumps to be used to dewater site (p8) but management and discharge of water not clear. Ideally this needs to be stated and impact on water yield for area assessed.

Pumps will only be used if necessary to remove rainwater collecting in the excavation, as noted in our previous letter and above, a fin drain will be used in both the temporary and permanent stages to intercept ground water. All clean water will be pumped to the silt separator / soak away.

3. RSK summary states southern pond to be infilled. Impact on made ground hydrology unclear, the resultant drainage of this land unclear. Is it to be drainage directly to the City of London ponds?

The proposal is to infill the pond, the report found that this was mainly feed by rainwater. An outline drainage strategy has now been developed (see attached drawings and Surface Water Strategy from SWP). A new soak away will be placed in the location of the existing pond and be connected to the new land drains to maintain the path of ground water across the site. An overflow to the soakaway will be connected to a rain water harvester, which should improve seepages across Millfield Lane and provide storm water protection.

4. RSK summary report does not consider issues inherent in proposed development of 53 Fitzroy Park (see my comment above).

See comments above.

5. Section 2.2, no date when observations made. This section gives the impression that the site is dry with no assessment of the likely behaviour of the site in wet periods (see section 11.0 point 2).

Observations made in November 2010. See Storm Water Strategy statement and drawings from SWP.

6. Section 4.2.1 groundwater at 1m below ground level in land north of southern pond. This level contiguous with level of water in 55 Fitzroy Park pond.

Level similar to pond see section on drawing 901/SK/022, as noted above further investigation to be undertaken.

7. Section 4.3 seems dismissive of any water through the site.

More just a statement of general hydrology, details are picked up in Section 11, the strategy certainly allows for ground water movement.

8. Section 4.3.1 seems to ignore surface flood risk issues for the site (see section 11. point 2).

See Point 5 above.

9. Section 7.1.2, reference to WP5, but this not shown on 901/SK/020 P1 drawing ?

Drawing incorrect WS6 should read WS5.

10. Section 10.4, basement at -3.2m and FFL at 78.0m AOD, relate these levels to water levels in 55 Fitzroy Park pond (c 79.65m AOD ?)

See attached section on drawing 901/SK/022 basement in this area is to the pool, which is founded at approximately 78.45m. This is approximately 450mm above the water strike in this area, further investigation to be undertaken.

11. Section 10.7 mentions soakaway not applicable, but no comment made of where construction water will be discharged.

Soakaways are not applicable in the London Clay, however we are proposing fin drains and a soakaway in the pond area (1.2 / 2.0m made ground) where the ground water will percolate into the made ground across the top of the clay as it does at present.

12. Section 11, point 2, mention of surface flooding of the site during the construction of the current house basement. The nature of this flooding and the risk to construction needs to be assessment and also the long term surface water flood risk to the site assessed in the light of proposed development of 53 Fitzroy Park. The flow line shown in dwg 901/SK/020 has a 13 hectare catchment (0.13 km-sq) and can generate considerable volumes of water when surface water drains are surcharged.

See points 3 and 5 above and previous comments on construction phase and Number 53, we feel with the measures outlined, we will safe guard the works during construction and significantly improve site attenuation.

13. Section 11, point 5, the drainage of water from waterhouse to the pond at 55 Fitzroy is interesting. The sealing of this pipe and the resultant discharge point of this water is even more interesting. Would like to discuss this further and whether this water is seeping onto Millfield Lane (as observed in February 2011).

As discussed further investigations to be undertaken and we will seek your advice on both these and the results.

14. Drawing 901/SK021 P2 x-sec C states pond to be infilled. With what and where will resultant water be discharged ?

As noted above a soak away will be placed in the location of the pond, clean granular backfill, geotextile and top soil to the lawn over. The pond is a maximum of 400mm deep and we have been informed that it can dry out and has been drained in the past for maintenance.

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15. Drawing 901/SK021 P2 x-sec A seeks to transfer seepage from 2m of made ground on the upslope side of the development and pass this water into less than 1m of made ground on the downslope side of the development. The performance of the King Post retaining walls and how this transfer of seepage will be effective without saturating the southern garden needs to be defined. Seepage from the southern garden will discharge onto Millfield Lane is not managed correctly. Current drains through the lane cannot cope with current seepage and small runoff volumes.

Unfortunately the original drawing incorrectly showed the uphill depth of made ground, the attached section now shows the correct depth and we have also noted depths from the borehole logs on the plan. On the uphill side of the house the made ground is approximately 0.5m in depth and on the downhill side 0.5 increasing to 1.2m. As noted above the main objective is to keep the ground water moving as it does at present, while providing extra capacity on site.

We hope the above and attached provides sufficient information to answer your queries and concerns but would be pleased to discuss anything in more detail. We have also copied the information to Simon Lee at the COL and once we have agreed a way forward, 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.

Yours sincerely

Simon Robinson

For and on behalf of Engineers Haskins Robinson Waters

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