

SCANNED LETTER BY EMAIL

Alan Baxter
INTEGRATED DESIGN

Our Ref: 1675/113/JGa/mw

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18 November 2015

Dear Bob

The Water House

I have been asked to write to you in regard to the various drainage issues in relation to the proposed re-construction of the Water House, Millfield Lane. There has been extensive correspondence in relation to this but it appears that there is still a degree of confusion in relation to the different sources of "water" and how they are to be dealt with.

As part of a redevelopment the following drainage issues need to be considered.

1. Foul drainage - sewage
This is drained directly to the Thames Water sewer in Millfield Lane. There are no issues in regard to this.
2. Rainwater falling on the roof and hard paved areas (surface water)
The proposals include a separate surface water drainage system. This is all routed to an attenuation system (i.e. a storage tank). It is then allowed to drain at a controlled rate into the Thames Water sewer in Millfield Lane. The discharge rate needs to be agreed with the Local Authorities and/or Thames Water but, other than this, there are no planning issues in relation to this.
3. Temporary drainage during construction
The applicants have proposed a system of bunds and temporary drainage channels to collect rainwater and any groundwater which comes to the surface during site clearance and construction activities. It is very important that this is carefully managed as this water is likely to be contaminated with silts and clays and, if not controlled, could flow across Millfield Lane onto the Heath. The proposals allow for this water to be collected in settling tanks before being discharged to the Thames Water sewer. This will need a licence from Thames Water, but it is acceptable in principle. It will need careful management by the site team to ensure the bunds are fully maintained.

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4. Groundwater

It is well known that the groundwater regime in the area is complex. The groundwater feeds the Hampstead Heath ponds, as well as the pond in the ground of No. 55 Fitzroy Park.

The general aim with any development project should be to avoid or minimise the disturbance of the groundwater regime. As noted in the original Haycock review, "the basement will have an impact on the seepage movement of groundwater flowing from the northwest boundary to the south east boundary". The normal approach in the design should be to allow for groundwater to be diverted around the basement but retained in the ground.

The designers have proposed a system of "fin drains" around the proposed basement. The purpose of these is to allow groundwater to flow around the basement. These fin drains do not provide any storage capacity. This is then directed to a soakaway in the location of the ornamental pond which is situated in the garden of the Water House. The purpose of the soakaway is intended to allow groundwater to re-infiltrate the ground. However the RSK report notes that the subsoil is London Clay which has very low permeability. This is supported by the fact that there is currently a pond in this location. The designers have recognised this and they have proposed an overflow gravel trench which drains across Millfield Lane on to the Heath.

There is a difference in level across the site in the region of 2.5m. As a result of this, the concentration of the groundwater flows by the proposed drainage system and the fact that the ground in the location of the soakaway was found to have low re-infiltration rates when tested by RSK, it is highly likely that there will be an uncontrolled flow of groundwater onto the Heath via this new gravel drain. If the drain is not provided, then it is likely that the soakaway will surcharge and groundwater will emerge and flow overground towards the Heath. This point has never been addressed in the Planning Application or the BIA.

It is also worth noting that it is not permissible to drain groundwater into the Thames Water sewer as was originally proposed.

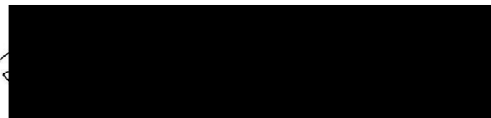
The Planning Application and BIA require the gravel filled drain which discharges onto the Heath for the system to work. This assumes that the groundwater will permeate into the ground. However, if the ground is waterlogged, then the groundwater could flow overground towards the ponds.

If this gravel drain is not provided, then a revised BIA should be provided to show how the groundwater re-infiltrates the ground within the site of the Water House.

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I trust that this sets out the issues clearly but I will be happy to discuss this with you if required.

Yours sincerely

A black rectangular box redacting the signature of Jim Gardiner.

Jim Gardiner
for Alan Baxter Ltd

c.c.	Karen Beare	- by email
	Mr & Mrs D Dale	- by email
	Mary-Jane O'Neill	- Signet Planning - by email

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Date 2 December 2015

**Objection to Planning and Conservation Area Consent Applications
The Waterhouse (Ref: 2011/4390/P and 2011/4392/C)**

Dear Mr Thuairé,

I write in response to your email to Mary-Jane O'Neill at Signet Planning, dated 10 November 2015, regarding the drainage proposals for the above applications and to let you know that the assertions made within the email are factually incorrect. Whilst Haycock Consultants were previously appointed by the City regarding the Ponds Project they are no longer appointed as the City's consultants and at no time in the past has the City agreed to the proposed drainage strategy.

Although there was agreement with Haycock Consultants a number of years ago regarding the strategy for maintaining the full catchment of ground water into the Highgate Ponds, i.e. not to drain groundwater from the site into the combined sewer, the City has never agreed to the proposed drainage. This is because we have a number of concerns which have been highlighted in the reports by our current drainage consultants Alan Baxter Associates. In this regard, I attach a further note from Alan Baxter Associates which summarises our position.

Alan Baxter Associates has been very clear, as has CGL. The proposed soak away for the ground water scheme around the basement is in London Clay and is, therefore, inadequate. It will fill up quickly when it rains hard and it needs an overflow pipe to cope with the excess ground water i.e. not surface water, which will need to drain downstream into the Bird Sanctuary Pond. It is incorrect to say that the scheme does not need it. It is integral to the ground water drainage scheme. Otherwise ground water will overflow from the soak away across the lane in an uncontrolled way and cause flooding in any event.

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Consequently there has always been a gravel drain as part of the scheme. The only time there was not a drain is when the applicant proposed to discharge ground water into the combined sewer, which was opposed by CGL. It is also relevant to point out that when Mr Nick Haycock was working for the City, the importance of the gravel drain, and how this was the flaw of the scheme, was discussed with my predecessor, Mr Simon Lee, who was very clear that the City would never agree to it. In this regard I believe the applicant would be unable to supply you with any formal correspondence demonstrating that the City has agreed to the proposed strategy.

If the gravel drain is not provided then a revised BIA should be provided to show how the groundwater re-infiltrates the ground within the site of the Water House.

Yours sincerely,

A black rectangular redaction box covering the signature of Bob Warnock.

Bob Warnock
Superintendent of Hampstead Heath