26 Redington Road, London, NW3 7RB

BIA Screening

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Prepared by

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for Price & Myers

1 Introduction

This BIA Screening report has been produced to cover the screening process required within a BIA as set out by Camden Planning Guidance – Basements and Lightwells (CPG4), including Camden Development Policies DP27 – Basements and Lightwells, in respect of the proposals at 26 Redington Road for the minor deepening of a small residential basement at the property.

2 Subterranean (ground water) flow screening

Q 1a: Is the site located directly above an aquifer?	Yes	See figures 1, 2 & 3 below
Q 1b: Will the proposed basement extend beneath the water table surface?	No	
Q 2: Is the site within 100m of a watercourse, well (used/disused) or potential spring line?	Yes	See figure 4 below
Q 3: Is the site within the catchment of the pond Chains on Hampstead Heath?	No	
Q 4: Will the proposed basement development result in a change in the proportion of hard surfaced/paved areas?	No	
Q 5: As part of the site drainage, will more surface water (e.g. rainfall and run-off) than at present be discharged to the ground (e.g. via soakaways and/or SUDS)?	No	
Q6: Is the lowest point of the proposed excavation (allowing for any drainage and foundation space under the basement floor) close to, or lower than, the mean water level in any local pond (not just ponds chains on Hampstead Heath) or spring line.	No	

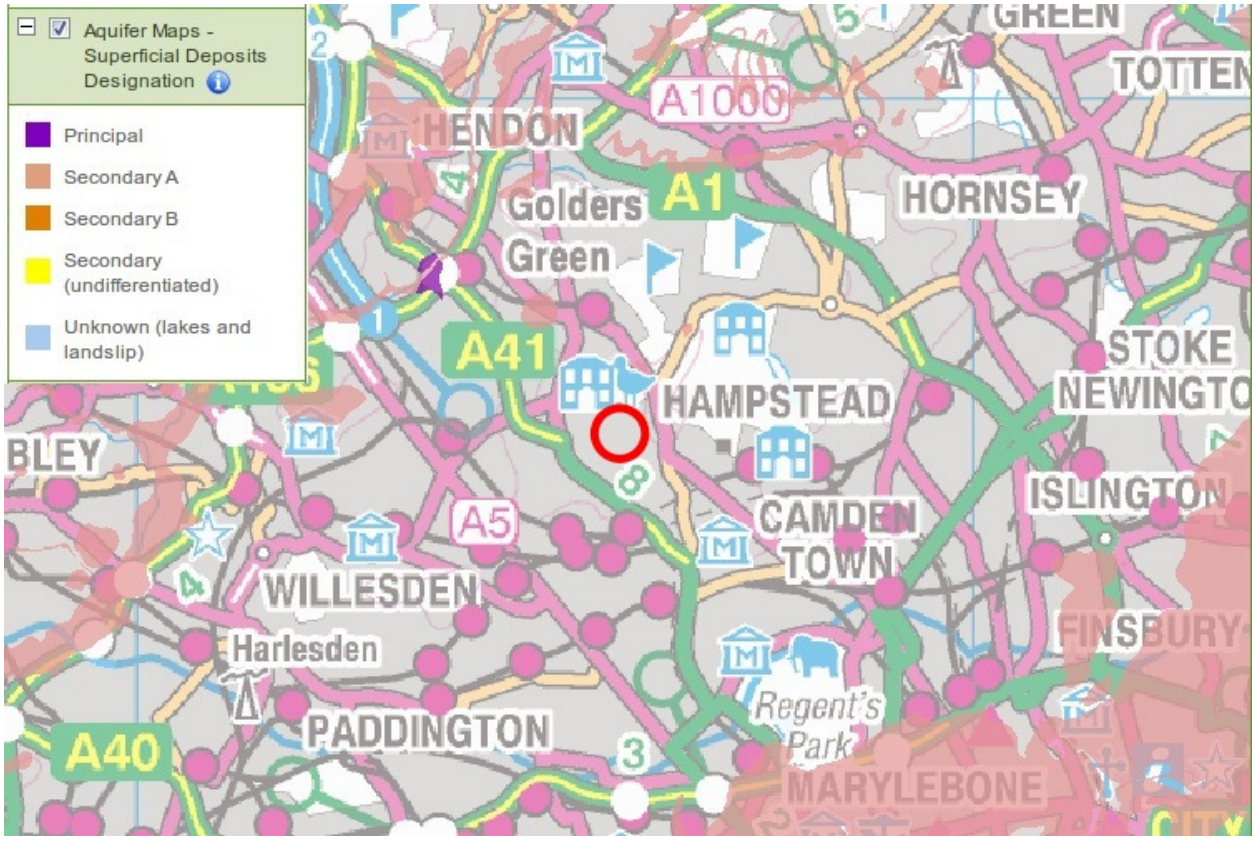

Figure 1: Superficial Deposit Aquifer

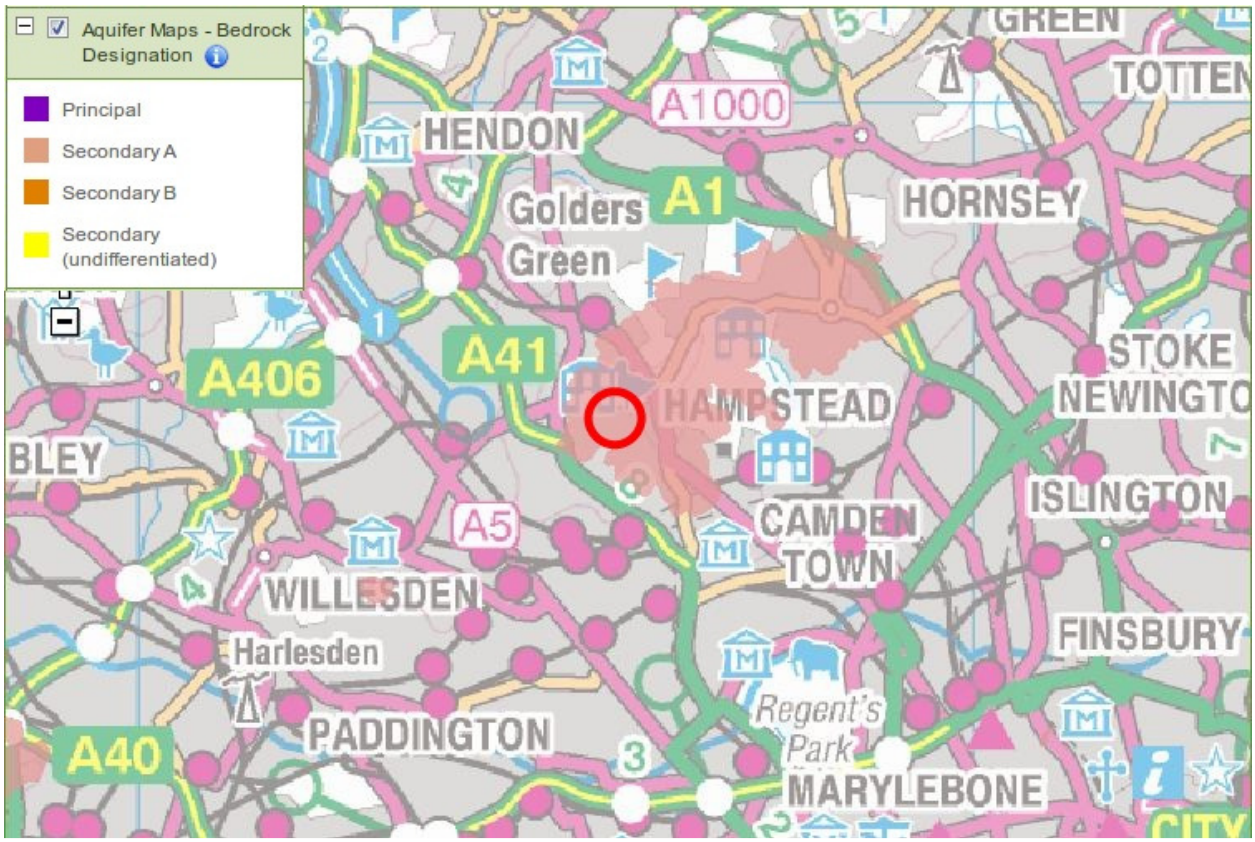

Figure 2: Bedrock Aquifer

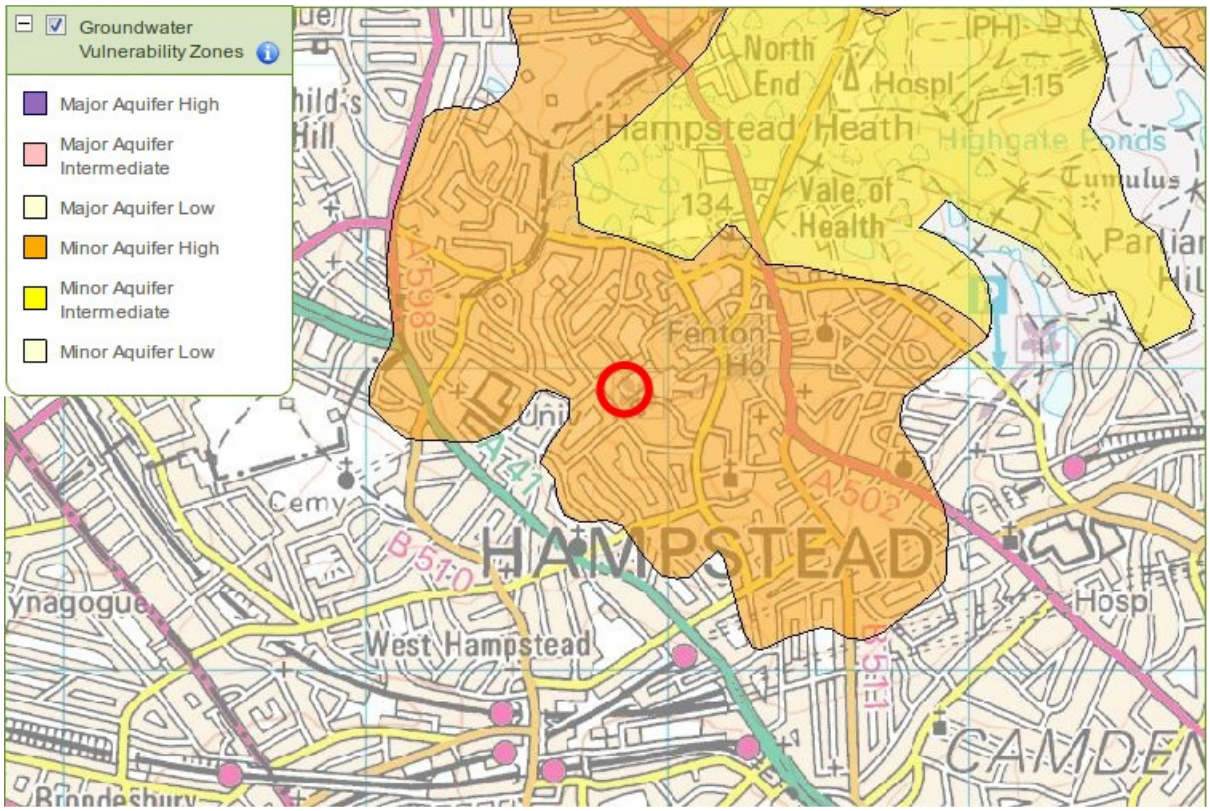

Figure 3: Groundwater vulnerability map

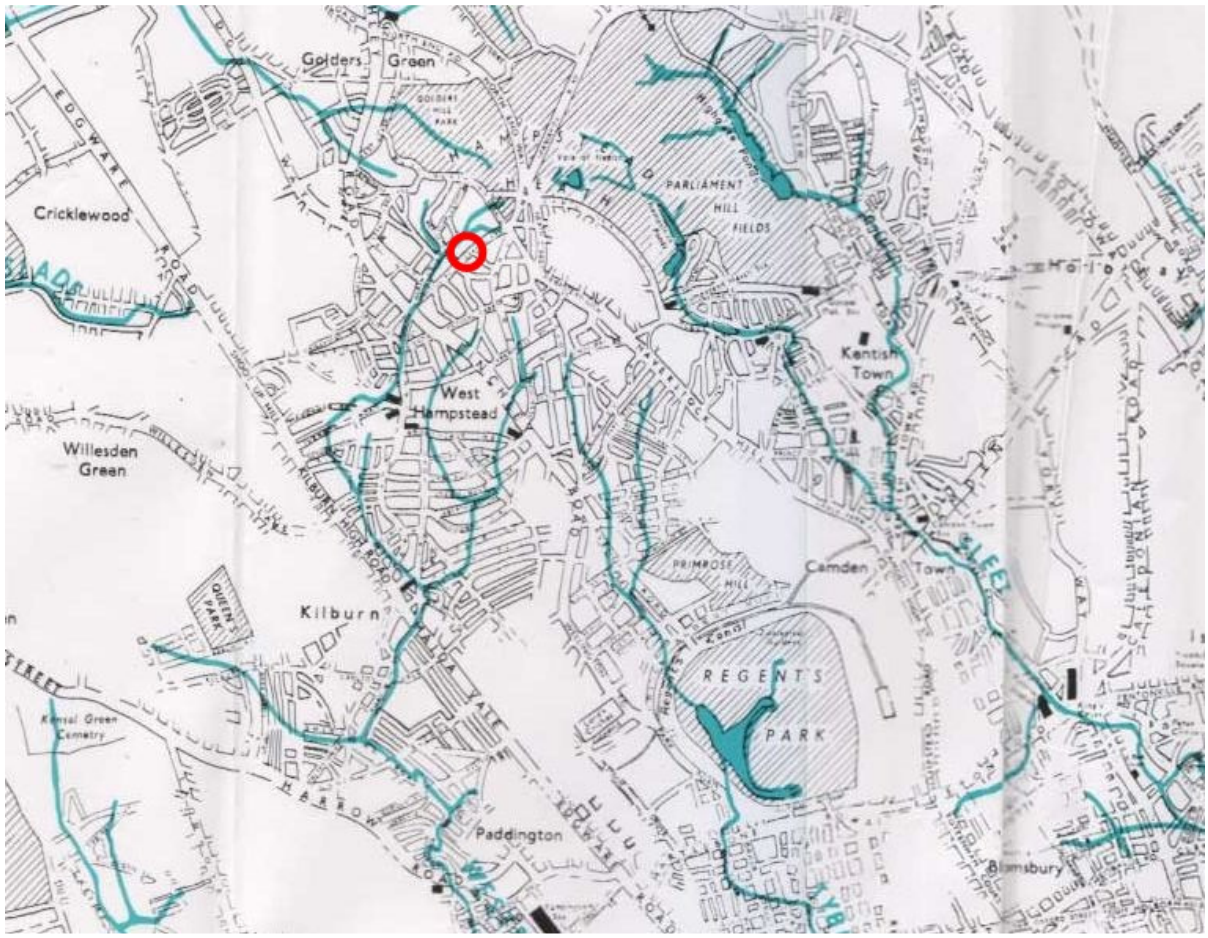

Figure 4: Lost Rivers of London Extract

3 Slope stability screening

Q 1: Does the existing site include slopes, natural or manmade, greater than 7° ? (approximately 1 in 8)	No Yes	SW to NW $\left(\frac{49.8-48.17}{17}\right) \rightarrow$ 1 in 10.5 NE to SE $\left(\frac{50.45-46.01}{32.50}\right) \rightarrow$ 1 in 7.3
Q 2: Will the proposed re-profiling of landscaping at site change slopes at the property boundary to more than 7° ? (approximately 1 in 8)	No	See Figure 5.
Q 3: Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7° ? (approximately 1 in 8)	Unknown	Levels not available for neighbouring land
Q 4: Is the site within a wider hillside setting in which the general slope is greater than 7° ? (approximately 1 in 8)	No	
Q 5: Is the London Clay the shallowest strata at the site?	No	
Q 6: Will any tree/s be felled as part of the proposed development and/or are any works proposed within any tree zones where trees are to be retained?	No	
Q 7: Is there a history of seasonal shrink-swell subsidence in the local area, and/or evidence of such effects at the site?	No	
Q 8: Is the site within 100m of a watercourse or a potential spring line?	Yes	See Figure 4. Approximate distance of 80m
Q 9: Is the site within an area of previously worked ground?	No	
Q 10: Is the site within an aquifer? If so, will the proposed basement extend beneath the water table such that dewatering may be required during construction?	Yes, No	Above aquifer but not below water table
Q 11: Is the site within 50m of the Hampstead Heath ponds?	No	
Q 12: Is the site within 5m of a highway or pedestrian right of way?	No	
Q 13: Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?	No	
Q 14: Is the site over (or within the exclusion zone of) any tunnels e.g. railway lines?	No	

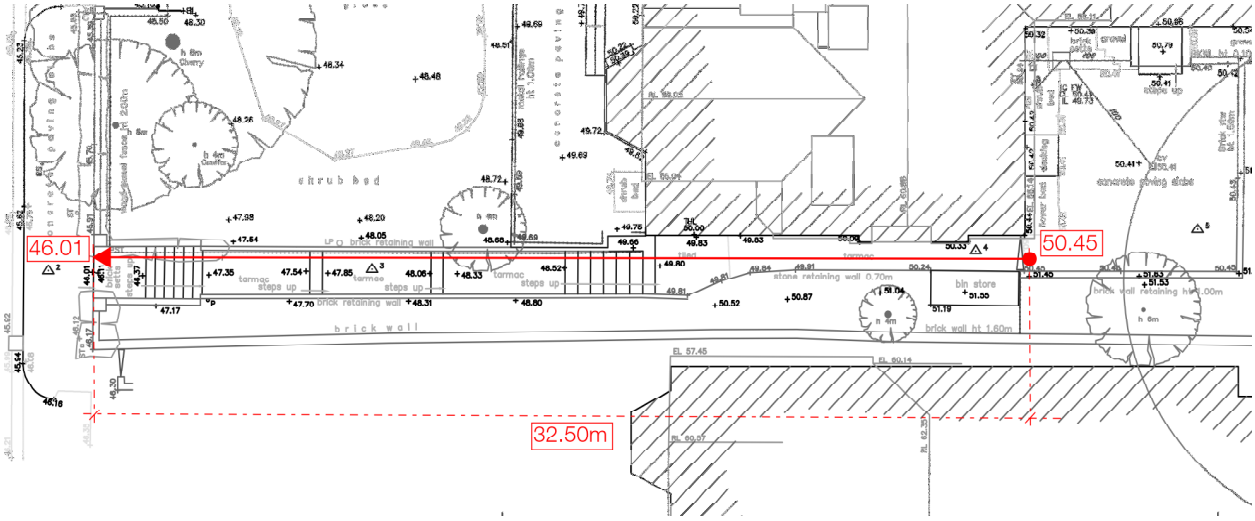

Figure 5: Site survey showing levels and length for critical slope calculation

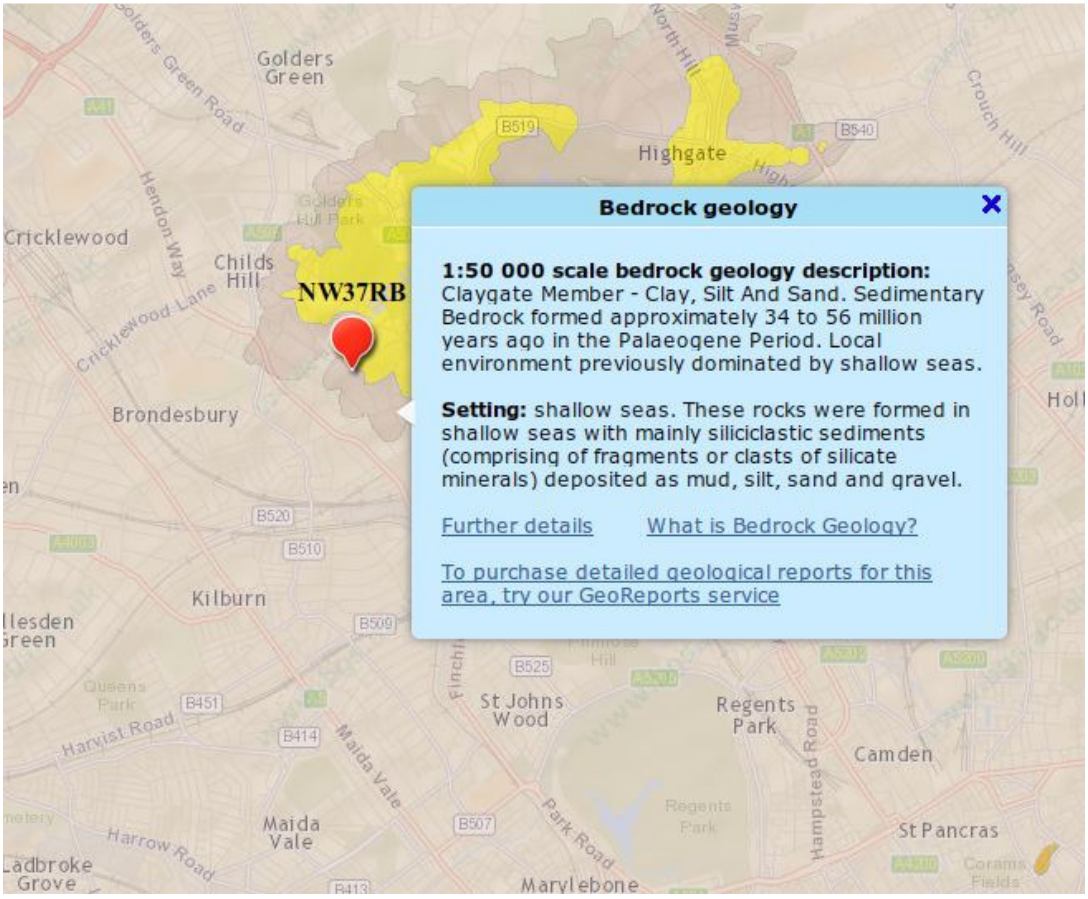

Figure 6: Extract from British Geological Maps

4 Surface flow and flooding screening

Q 1: Is the site within the catchment of the ponds on Hampstead Heath	No	
Q 2: As part of the proposed site drainage, will surface water flows (e.g. volume of rainfall and peak run-off) be materially changed from the existing route?	No	
Q 3: Will the proposed basement development result in a change in the proportion of hard surfaced / paved external areas?	No	
Q 4: Will the proposed basement result in changes to the profile of the inflows (instantaneous and long-term) of surface water being received by adjacent properties or downstream watercourses?	No	
Q 5: Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream watercourses?	No	
Q 6: Is the site in an area known to be at risk from Surface water flooding, such as South Hampstead, West Hampstead, Gospel Oak and King's Cross, or is it at risk from flooding, for example because the proposed basement is below the static water level of a nearby surface water feature?	No	See Figure 7

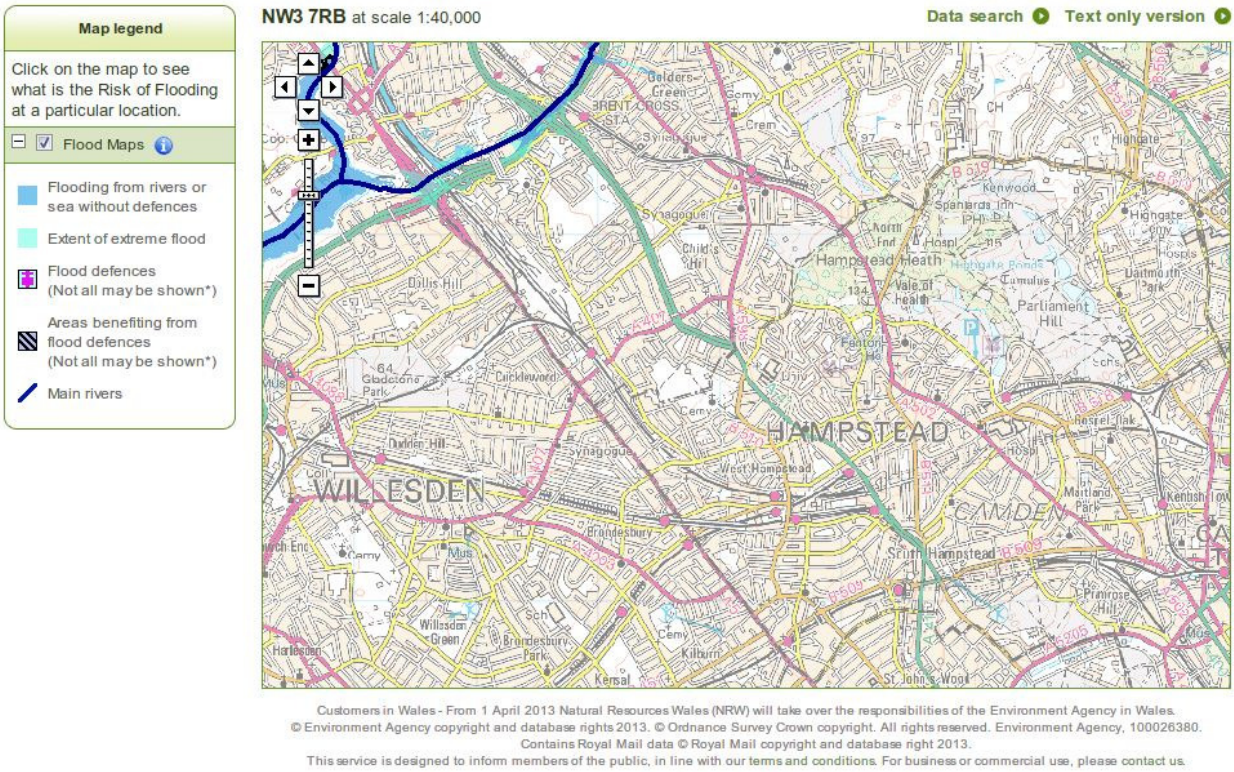

Figure 7: EA Flood Risk Map

5 Issues brought forward for screening and further study

Subterranean (ground water) screening chart

Q 1a: Is the site located directly above an aquifer? **Yes**

Impact Assessment
The site is located above the Upper aquifer, designated as Minor Aquifer with high vulnerability (see Figure 3). Figure 7 shows that the site is outside the flood risk zone identified by the Environment Agency.

The London Clay acts as a barrier to flow between the lower (Chalk) aquifer and superficial groundwater. Water infiltrating the London Clay will generally tend to flow vertically downwards at a very slow rate towards the lower aquifer (Chalk). The current policy, implemented by the Environment Agency, is to maintain water levels in the Chalk at about their present levels. Thus, the property is unlikely to be influenced directly by groundwater levels in the Chalk, even in the long-term. There are no known underground structures in the vicinity of the site that might indirectly induce local changes of water pressures in the London Clay, which could affect the development.

The existing house is founded on the Bagshot beds, proven by a recent (March 2014) site investigation carried out by GEA to a depth of 7.5m, above the London Clay and above the ground water table. Recent trial pits dug in the existing basement (lower ground floor area) to a depth of between approximately 1.4 and 1.7m depth did not encounter the water table and so the proposed lowered basement is not expected to intercept it.

Review
Given the depth of the water table and the nature of the soils at the site, water will tend to continue to flow underneath the formation level of the deeper lower ground floor without any restriction.

Slope stability screening chart

Q 8 (& Q 2): Is the site within 100m of a watercourse or a potential spring line? **Yes**

Impact Assessment
The site is located within 100m of a historic watercourse, in the form of a small river (see Figure 4). The river is located to the North West of the property, approximately 80m away, and the site survey shows that the land surrounding the site slopes relatively steeply downwards towards the watercourse.

Review
Given the topology of the site, the watercourse is likely to be significantly lower than the proposed basement development and as such lowering the existing foundations should not have any effect on the existing watercourse. Also, the river is not visible from current ground level and may be redundant/blocked off since its existence was recorded.

Slope stability screening chart

Q 1: Does the existing site include slopes, natural or manmade, greater than 7° ? (approximately 1 in 8) **Yes**

Impact Assessment

Based on measurements taken from the site survey conducted July 2013, in the North East to South West direction the site slopes at a gradient of ~1 in 7.3 which just exceeds the recommendation to not exceed 1 in 8.

Review

We have raised this with GEA, the geotechnical consultants who carried out the recent site investigation works, and they comment as follows:

"We have checked the Arup and Camden document and understand that since the site is underlain by the Bagshot Formation, there should not be a requirement to carry out a slope stability analysis, even though the site contains slopes greater than 7 degrees."

We therefore believe no further action is necessary.

6 Conclusions

A BIA Screening exercise has been undertaken in accordance with Camden Planning Guidance – Basements and Lightwells (CPG4), this has shown that the issues to be brought forward for further study is the location of the site above an aquifer, the proximity to a minor watercourse, and the existing slopes having a gradient exceeding 1 in 8. Given that the proposed works constitute a minor change of level of an existing lower ground floor / floor void, and lowering of an existing terrace, rather than a full new basement, and following the advice from the geotechnical expert on slope stability, we believe that a full BIA is not required.