BASEMENT IMPACT ASSESSMENT
SCREENING STAGE

FOR

PROPOSED BASEMENT WORKS

AT

1 OAK HILL WAY
LONDON
NW3 7LY

FOR

MR & MRS COLEMAN

Project No. P3258

ISSUE 1.0 – ISSUED FOR BIA

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DOCUMENT CONTROL SHEET

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NON-TECHNICAL EXECUTIVE SUMMARY

The proposed replacement house at 1 Oak Hill Way will have a single storey basement set into the natural slope of the ground. Michael Alexander Ltd have been appointed to prepare a Basement Impact Assessment to addresses the key areas highlighted in Camden's Planning Guidance CPG4, which are 'Groundwater Flows', 'Ground Stability' and 'Surface Flow & Flooding'.

Groundwater flows

The data from ground water monitoring is used to establish any flow of water within the ground across the site. A hydrogeological assessment by a chartered geologist (LBH) has been carried out, which considers the impact of the proposed basement and whether it will affect ground water flows and ground water levels. It concludes that groundwater was found several meters below the new basement level, and hence it confirms the basement should not cause any adverse Impact.

Ground Stability

Since the proposed basement depth will be greater than the foundation depth to the existing buildings in the vicinity, detailed consideration has been required. A contiguous piled wall is proposed to the perimeter of the proposed excavation. This is a robust solution which retains the soil around the excavation; no significant water ingress into the basement 'box' is expected to occur due to the level of water table. The piles will be propped at high level to minimise ground movements during the works. The likely ground movements have been calculated by a geotechnical engineer and the potential for any damage to adjoining properties has been assessed. During the works, precise monitoring will be carried out at regular intervals by a specialist monitoring Contractor to check if the behaviour is in line with these predictions. If ground movements approach or exceed the predicted levels then mitigation measures will be implemented in accordance with a pre-agreed contingency plan. This procedure is in accordance with the requirements set out in CPG4.

Surface Flow and Flooding

The site has been found not to be at risk of Flooding from rivers, lakes or surface water.
The works will incorporate Sustainable Urban Drainage Systems (SUDS) to ensure that during storm events the flow of rainwater into the combined sewer is no greater after the works than the current condition. Therefore the potential for flooding resulting from overloading of sewers will not be increased by the proposed works.

Summary

A detailed Basement Impact Assessment has being produced in accordance with the Council's requirements, and will be assessed on submission of the planning application by their reviewing engineer. As for all sites, a number of considerations have been highlighted within the Screening Stage of the assessment but these have been addressed by investigation and detailed studies, so that any potential impact of the basement has been effectively mitigated.

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1.00 INTRODUCTION

1.01 Michael Alexander Consulting Engineers has been appointed to prepare a Basement Impact Assessment Report to support the Planning Application for the proposed new basement at 1 Oak Hill Way, London NW3 7LY.

1.02 This document has been prepared by Giovanni Sclavi BEng MSc(Hons) GIPENZ and reviewed by Isaac Hudson MEng MA(Cantab) CEng MIStructE who is a chartered structural engineer

1.03 The existing detached property currently provides residential accommodation over three storeys.

1.04 The existing property is located within the Hampstead Conservation Area, but is not Listed.

1.05 The site is bounded by 3 (south-west) and 4 (in front opposite side of the road) Oak Hill Way and by 103 to 115 Frognal (south to east).

1.06 The proposed work involves the demolition of the existing property and the construction of a new building with single storey basement under. This document addresses the specific issues relating to the basement construction, as described in Camden Planning Guidance CPG4.

2.00 BASEMENT PROPOSALS

2.01 The architectural details of the proposal for the new basement under the new house are shown on Charlton Brown Architects drawings.

2.02 The structural proposals for the new basement and for the building above have been developed by Design Studio^2 Consulting Engineers.

2.03 The details of the existing structure and site boundaries will be subject to detailed exploratory work prior to and during the works on-site.

2.04 The design and construction of the building structure shall be in accordance with current Building Regulations, British Standards, Codes of Practice, Health and Safety requirements and good building practice.

3.00 SUBTERRANEAN (GROUND WATER) FLOW

3.01 Stage 1: Screening

The impact of the proposed development on ground water flows is considered here as outlined in Camden Planning Guidance CPG 4. The references are to the screening chart Figure 1 in CPG4.

3.01.1 GW Q1a *Is the site located directly above an aquifer?*

Yes. With reference to the Camden Geological, Hydrogeological and Hydrological Study (Figure (a)) the site is located above an aquifer.

3.01.2 GW Q1b *Will the proposed basement extend beneath the water table surface?*

Unknown at time of screening. Site specific investigations will be required to establish this.

3.01.3 GW Q2 *Is the site within 100m of (i) a watercourse, (ii) a well (used or disused) or (iii) a potential spring line?*

With reference to the Camden Geological, Hydrogeological and Hydrological Study (Figures (b), (c) (d) and (e)),

(i) The nearest surface water feature appears to be the Whitestone Pond, located adjacent to the intersection of West Heath Roar with Heath Street, approximately 370m to the north East of the site.
The Hampstead pond chain catchment areas are located some distance away to the East, approximately 1200m from the site.
The nearest 'lost' watercourse is the River Westbourne which ran in close proximity to the site. This will need further review at scoping and investigation stage, but it should be noted that most of the Lost Rivers now run in culverts.

(ii) From the British Geological Society 'Geoindex' the nearest water wells are remote from the site, on Hampstead High Street (approximately 880m to the East of the site).

(iii) The local geology suggests that the site is not be located adjacent to any potential spring line.

3.01.4 GW Q3 *Is the site within the catchment of the pond chains of Hampstead Heath?*

No. With reference to the Camden Geological, Hydrogeological and Hydrological Study, the site is not within the catchment of the pond chains on Hampstead, nor the Golder's Hill Chain.

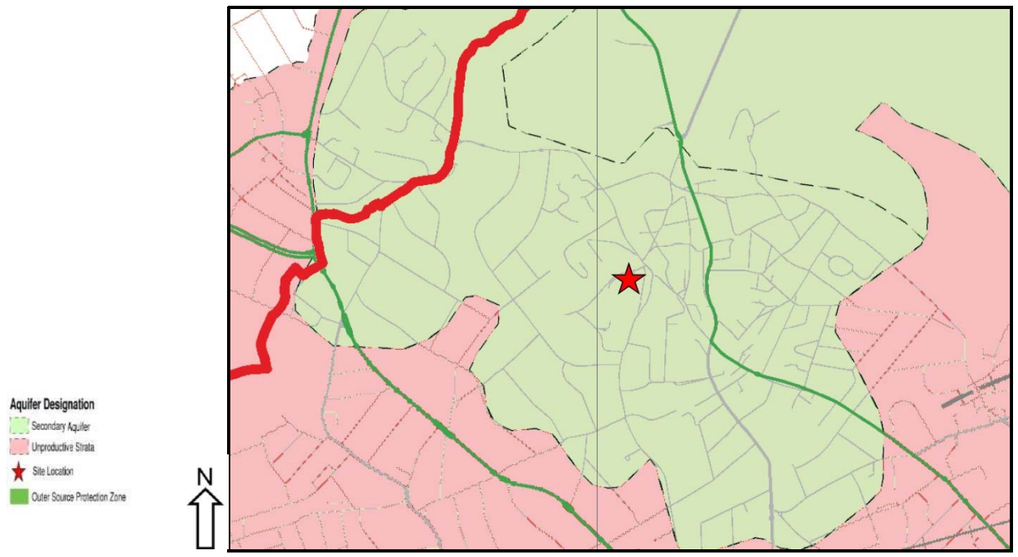


Figure (a)
Aquifer Designation Map
(Extract from Fig 8 of Camden Geological, Hydrogeological and Hydrological Study)

Figure (b)
Subsurface Watercourses
(Extract from Fig 11 of Camden Geological, Hydrogeological and Hydrological Study)

3.01.5 GW Q4 *Will the proposed basement development result in a change in the proportion of hard surface/paved areas?*

No. The footprint of the proposed new basement is equal to the footprint of the existing property to be demolished.

3.01.6 GW Q5 *As part of the site drainage, will more surface water (e.g. rainfall and-runoff) than at present be discharged to the ground (e.g. via soakaways and /or SUDS)?*

No. The proposed new basement is not extending beyond the existing building footprint therefore the amount of surface water discharged to the ground is not changing after the proposed works.

3.01.7 GW 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 the pond chains on Hampstead Heath) or spring line?*

No. There are no local ponds and potential spring line in close vicinity to the site.

3.01.8 On the basis of items 3.01.1 to 3.01.7 above, and in reference to Figure 1 of CPG4, the aspects that should be carried forward to a scoping stage in respect of groundwater are:

- The site being located above an aquifer.
- Determining whether the basement will extend below the water table
- The site being in close proximity to a former watercourse.

3.01.9 The Scoping Stage will identify the potential impacts of the above aspects in respect of the proposed basement proposals. Investigations will be carried out to establish the existing soil conditions and ground water levels. Within the Impact Assessment it will be demonstrated how the design has considered the above aspects and hence mitigated any adverse Impact.

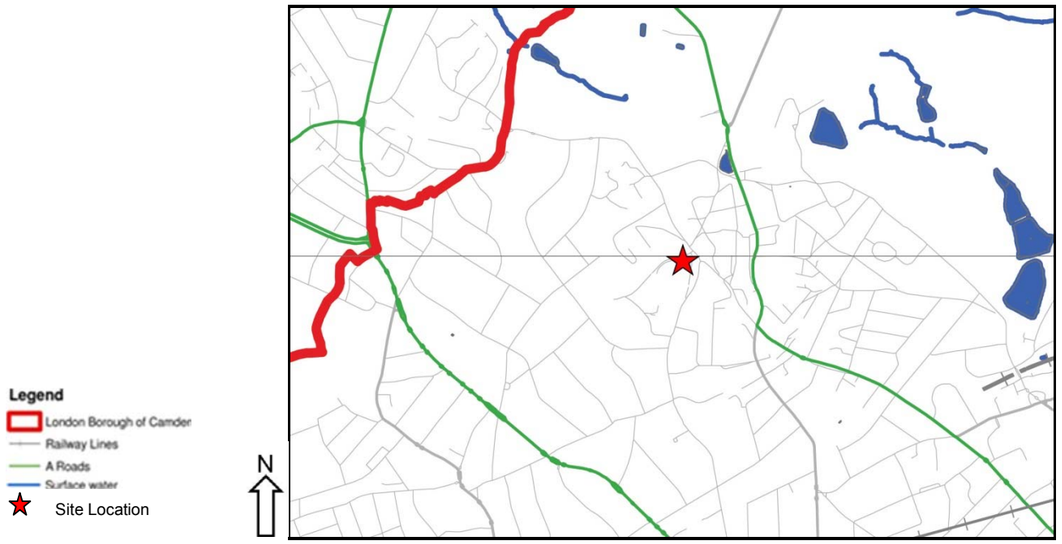


Figure (c)
Surface Water Features
(Extract from Fig 12 of Camden Geological, Hydrogeological and Hydrological Study)

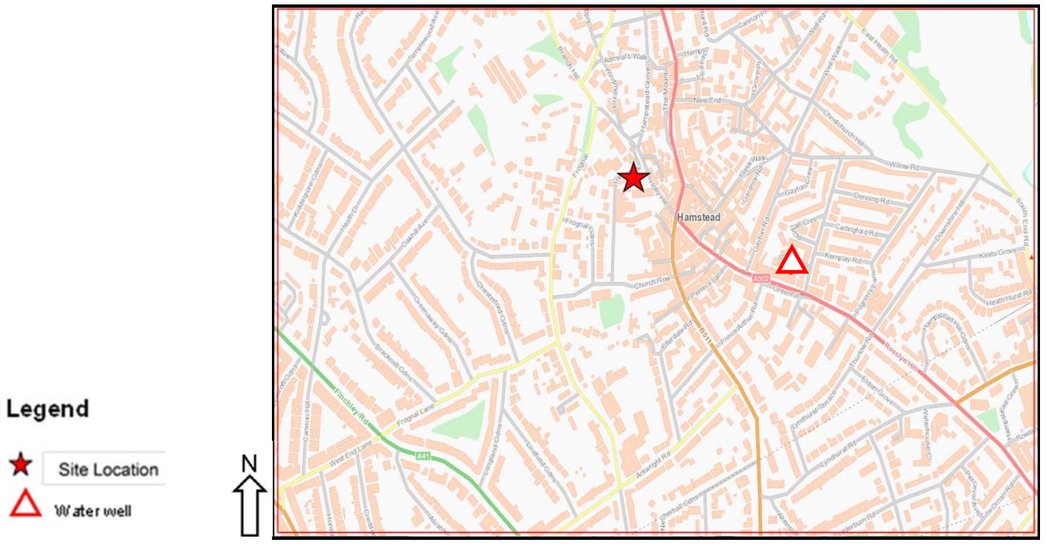


Figure (d)
Waterwells (also showing Infrastructure)

3.02 **Stage 2: Scoping**

3.02.1 With reference to the Camden Geological, Hydrogeological and Hydrological study Appendix F2, the potential impacts which will need to be considered will include:-

Whether the basement extends below the water table and whether it will impact on the groundwater flow regime.

Whether the basement will affect the flow from any spring lines or their water quality

3.02.2 In response to the above issues: -
A site soil investigation has been commissioned including ground water monitoring. The scope of the reporting includes a requirement for a hydrogeological assessment.

3.03 **Stage 3: Site Investigation and Study**

3.03.1 A site investigation was carried out by LBH Wembley Ltd in November 2015 which included:-
- a deep borehole
- window samples
- trial pits
- measurement of groundwater levels

Refer to their report reference LBH4377 of December 2015.

3.03.2 Groundwater was measured at approximately 8.5m below rear garden ground level in the investigations and the water table at 12m depth.

3.04 **Stage 4: Impact Assessment**

3.04.1 A hydrogeological assessment has been carried out by a chartered geologist and is included in section 5 of LBH's report.

3.04.2 Springs feeding the tributaries of the 'lost' River Westbourne can be located approximately 100m and 300m of the site. It is noted that these watercourses are no longer active as they were diverted and culverted upstream of the site at the end of the 19th century.

3.04.3 The LBH report states that the investigation confirmed the expected general strata comprising a variable thickness of made ground overlaying the Bagshot Formation, which is subsequently underlain by the Claygate Member.

3.04.4 The proposed basement of the new building will extend into the Bagshot Formation and will lie approximately 10m above the water table. It was therefore concluded that the proposed basement would not result in a change in the groundwater flow regime

3.04.5 It is possible that perched water could be encountered during the excavation within the made ground and Bagshot Formation. Provision for dealing with this water will need to be reflected in the proposed construction method – refer Appendix C.

4.00 **GROUND STABILITY**

4.01 **Stage 1: Screening**

4.01.1 GS Q1 *Does the existing site include slopes, natural or manmade, greater than 7˚?*

No. The site is generally level. There are no slopes >7 degrees within the site.

4.01.2 GS Q2 *Will the proposed re-profiling of landscaping at site change slopes at the property boundary to more than 7˚?*

No. The basement construction will not change the profile of the ground at the boundaries of the property.

4.01.3 GS Q3 *Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7˚?*

No. With reference to the Camden Geological, Hydrogeological and Hydrological Study, (refer Figure (f)), the neighbouring areas do not have slopes greater than 7 degrees.

4.01.4 GS Q4 *Is the site within a wider hillside setting in which the general slope is greater than 7˚?*

No. With reference to the Camden Geological, Hydrogeological and Hydrological Study, (refer Figure (f)), there are no slopes greater than 7 degrees in close proximity of the site.

4.01.5 GS Q5 *Is the London Clay the shallowest strata at the site?*

No. With reference to Camden Geological, Hydrogeological and Hydrological Study, the underlying soil strata is indicated as being the Bagshot Formation (Figure (e)).

4.01.6 GS Q6 *Will any trees be felled as part of the proposed development and/or are any works proposed within any tree protection zones where trees are to be retained?*

No. There are three trees of small-moderate size (250mm trunk girth) within the front garden of the existing house and two bigger trees adjacent to the building west elevation, which are to be retained.

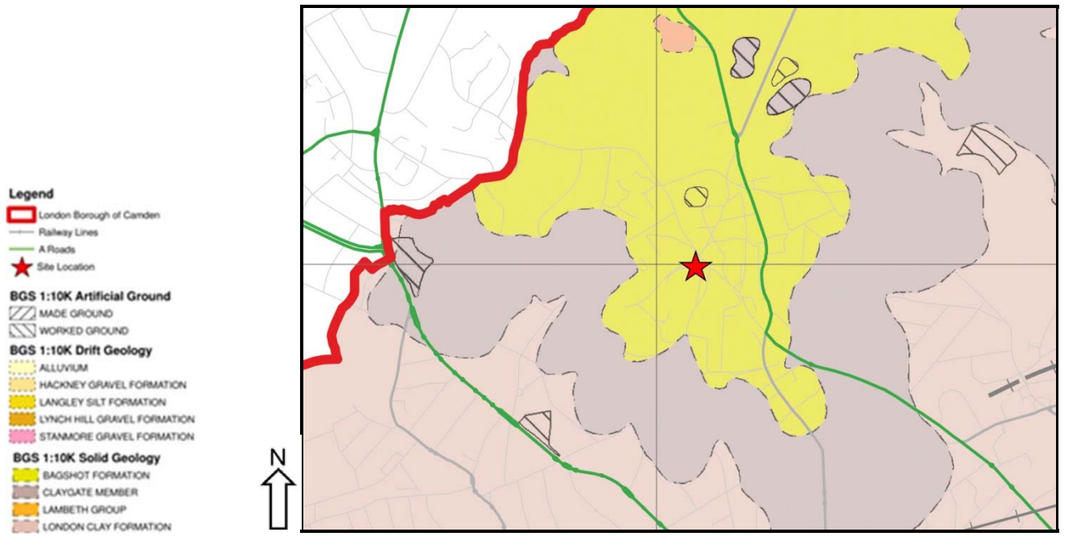


Figure (e)
Geological Map
(Extract from Fig 4 of Camden Geological, Hydrogeological and Hydrological Study)

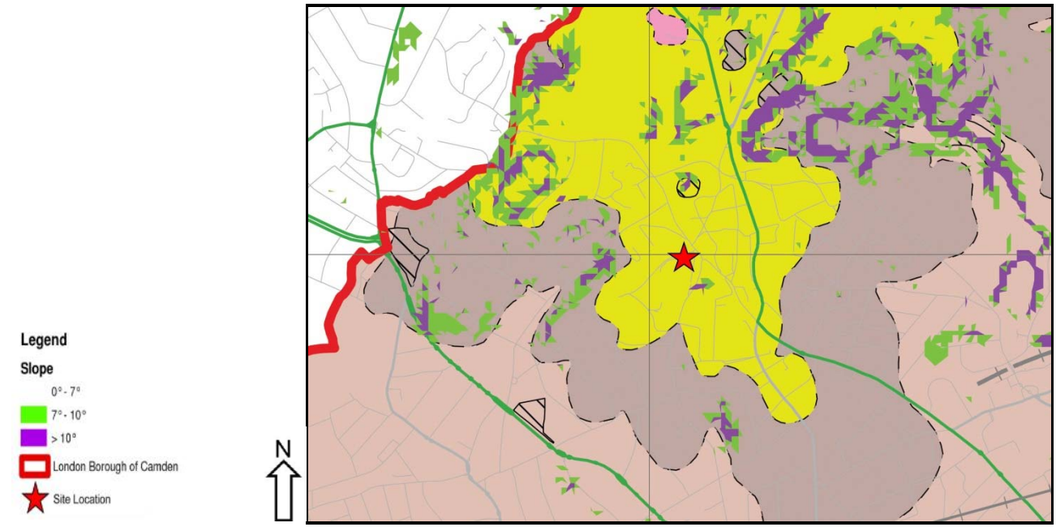


Figure (f)
Slope Angle Map
(Extract from Fig 16 of Camden Geological, Hydrogeological and Hydrological Study)

4.01.7 GS Q7 *Is there a history of seasonal shrink-swell subsidence in the local area, and/or evidence of such effects at the site?*

The Bagshot formation strata is generally considered to have very low volume change potential. There is therefore no risk of buildings founded in the Bagshot formation experiencing seasonal shrink-swell subsidence.

4.01.8 GS Q8 *Is the site within 100m of a water course or a potential spring line?*

Yes. With reference to the Camden Geological, Hydrogeological and Hydrological Study (refer Figures (b) and (c)), the site is adjacent to the subterranean River Westbourne.

4.01.9 GS Q9 *Is the site within an area of previously worked ground?*

No. The site is not in close vicinity of any recorded areas of worked ground. With reference to the Camden Geological, Hydrogeological and Hydrological Study (figure (e)) the nearest recorded on the geological map are to the West of Platt's Lane (approximately 550m from the site).

4.01.10 GS Q10 *Is the site within an aquifer?*

Yes. With reference to the Camden Geological, Hydrogeological and Hydrological Study (Figure (a)) the site is located above an aquifer.

4.01.11 GS Q11 *Is the site within 50m of the Hampstead Heath ponds?*

No. With reference to the Camden Geological, Hydrogeological and Hydrological Study, the Hampstead pond chains are located to the North of the site approximately 380m from the site.

4.01.12 GS Q12 *Is the site within 5m of a highway or pedestrian right of way?*

No. The proposed basement will be built adjacent to a private road.

4.01.13 GS Q13 *Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?*

Yes. 3 Oak Hill Way also has a garage at lower ground floor. However the proposed foundations are likely to be deeper than those of the adjoining properties.

Legend
★ Site Location

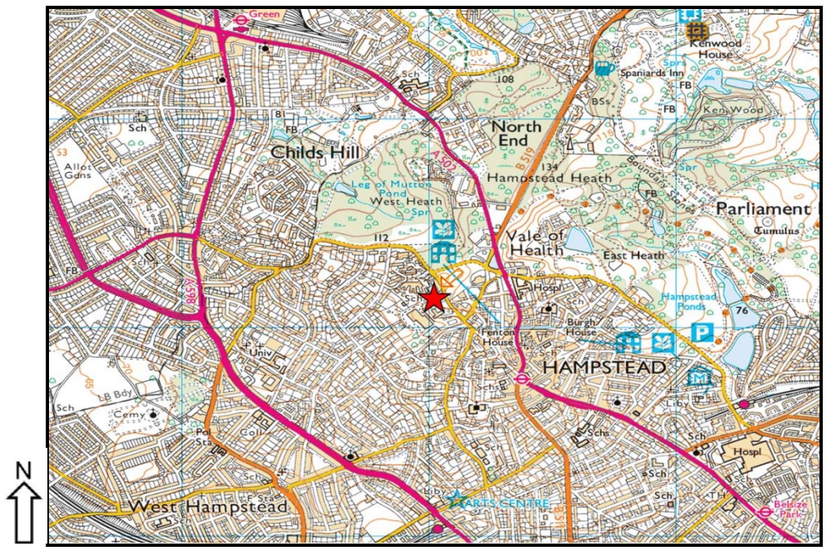


Figure (g)
Topography Map
(Extract from Ordnance Survey Mapping)

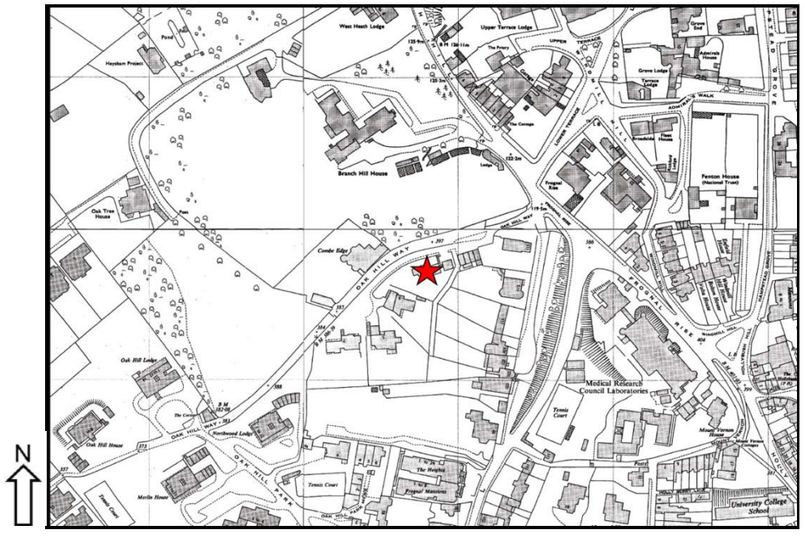


Figure (h)
1966-73 Map

4.01.14 GS Q14 *Is the site over (or within the exclusion zone of) any tunnels, e.g. railway lines?*

With reference to Open Street Map and the British Geological Survey 'Geoindex' (Figures (d) and (i)), there are no tunnels located below the site. The nearest tunnel is about 250m to the East of the site (Northern Line).

The nearest over ground lines 900m to the south of the site (North London Line).

4.01.15 On the basis of items 4.01.01 to 4.01.14 above and in reference to Figure 2 of CPG4, the aspects that should be carried forward to a scoping stage in respect of land stability are:

- The site being above an aquifer.
- Establishing whether differential foundation depths will cause adjoining buildings to be impacted by the works.
- The Site being within 100m of a former watercourse.

4.01.16 The Scoping Stage will identify the potential impacts of the above aspects in respect of the proposed basement proposals. Investigations will be carried out to establish the existing soil conditions and the topography. Within the Impact Assessment it will be demonstrated how the design has considered the above aspects and hence mitigated any adverse Impact.

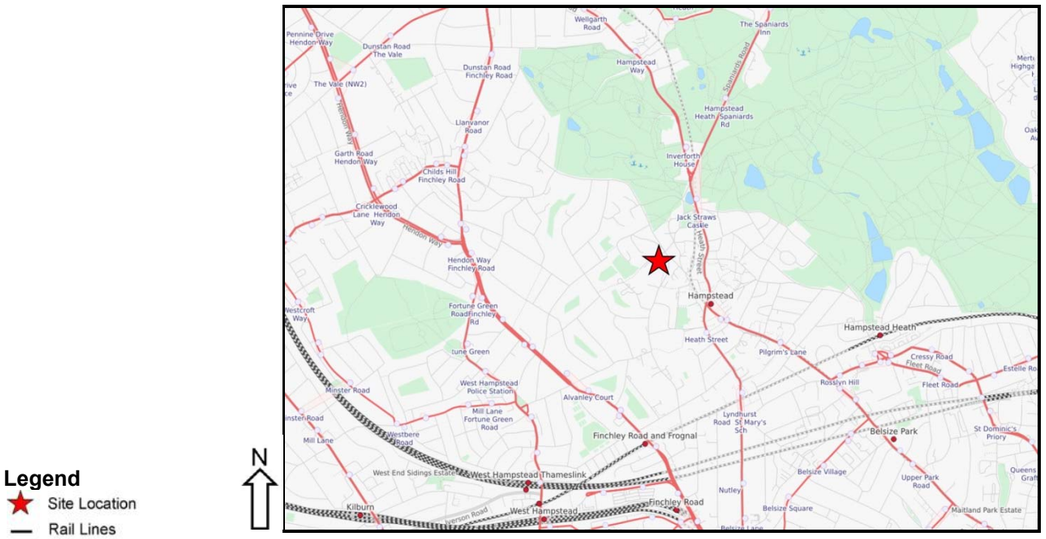


Figure (i)
Map of Underground Infrastructure
(Extract from Open Street Map)

4.02 **Stage 2: Scoping**

4.02.1 With reference to the Camden Geological, Hydrogeological and Hydrological study Appendix F3, the potential impacts which will need to be considered will include:-

- Whether there will be any impact on the adjacent trees which lead to swelling of the soil and hence an impact on ground stability.
- Whether any changes to the ground water levels and flow regime will be caused which might affect slope stability
- Whether the construction of the basement will result in de-watering of the surrounding aquifer leading to settlement.
- The assessment of any structural damage which could be caused by excavation in proximity of buildings will shallow foundations.

4.02.2 In response to the above issues: -

- The arboricultural report will be reviewed in terms of the ground stability implications.
- The site soil investigation will include ground water monitoring and a hydrogeological assessment.
- An outline construction method statement will be prepared taking on board the proximity of the adjoining buildings. A ground movement and building damage assessment will be prepared by a chartered geologist

4.03 **Stage 3: Site Investigation and Study**

4.03.1 The LBH Ltd site Investigation of November 2015 is summarised in their report reference LBH4377 dated December 2015. In summary of the findings: -

- A varying thickness of made ground was encountered over the Bagsghot Formation member over Claygate Member to the full depth of the investigation.
- Groundwater was recorded at depth 8.5m below existing rear garden level.

Trial pits to the existing house carried out by Flare Construction revealed brickwork walls supported by a concrete strip footing laid at varying depth below ground level.

4.04 **Stage 4: Impact Assessment**

4.04.1 The shallowest natural strata, encountered in the boreholes, was uniformly classified as the Bagshot Formation strata (overlain by a variable strata of made ground). However this is a variable strata with orange-brown dandy/clays and clayey sand. The soil tests demonstrated that the soil was generally of low to medium volume change potential and will have limited susceptibility to heave and seasonal shrinking and swelling, which will be to a lesser extent than London Clays.

4.04.2 The unloading of the ground due to the basement excavation may cause some theoretical heave of the ground in both short and long term. The majority of the heave is likely to occur during excavation; however an allowance will be made for future uplift forces on the completed basement. Hydrostatic forces might also act on the basement due to the level of the water table. To a certain extent, heave and hydrostatic forces acting on the basement under the building will be counteracted by the weight of the building over. Any net uplift pressure will be resisted by internal tension piles, and tension forces in the perimeter contiguous piling.

4.04.3 There are several viable methods of temporary support to the surrounding ground, during the excavation of the basement. The most appropriate method will be the use of augured concrete piles around the perimeter of the new basement. It is anticipated that this piling will be carried out from a temporary piling platform close to the existing external ground level.

Augered concrete piling is a non-percussive method which will minimise the disruption to the surrounding ground and ensure that the impact on the adjoining properties is minimal. The piles will be designed as propped cantilevers with temporary supports inside the area of excavation, which will be installed close to the proposed ground floor level, as the excavation progresses.

4.04.4 The ground in the vicinity of the site gentle slopes running down to the SW.

The excavation for the basement will not lead to instability of these slopes.

4.04.5 With reference to the Arboricultural Impact Assessment report by TRETEC, dated October 2015, it is noted that there are a number of trees are on the property but none of them are being removed as part of the works. Temporary tree protection fences and ground protection will be placed in the lawned areas before the excavation of the proposed basement.

The new foundations on the western elevation will follow the line of the existing foundations therefore the new structure will not be any further towards the trees than the existing foundations; these will be accessed from within the demolished foot print.

All the trees that are to be retained will be protected as set out in TRETEC's Arboricultural Impact Assessment report.

4.04.6 A construction method for the basement has been developed to limit the potential for ground movements and hence potential for damage to adjoining properties. We have set out the principles for this method in Appendix C of this report; this will be developed in detail by the appointed Contractor in due course.

A ground movement analysis and building damage assessment has been commissioned so that the likely ground movements can be quantified. Mitigation measures will be employed to limit ground movements as much as is practically possible, but in all cases building damage is predicted to be no greater than Category 0 'Negligible' as defined by Burland.

A monitoring regime will be established and agreed through the Party Wall process. This will include a combination of targets fixed to adjoining buildings, and inclinometers cast within the piles. These will be monitored against target values agreed in advance. If movements exceed 'Amber' values then this will be reported and more frequent monitoring agreed, with consideration of mitigating measures. If 'Red' values are reached then further excavation will stop to enable implementation of contingency plans such as further propping.

4.04.7 The hydrogeological statement in section 5.2.1 of LBH's report note that the proposed basement lies almost 10m above the ground water table. On this basis the aquifer will not be dewatered and hence the ground stability will not be impacted.

5.00 SURFACE FLOW AND FLOODING

5.01 Stage 1: Surface Flow and Flooding Screening

5.01.1 SF Q1 *Is the site within the catchment of the pond chains on Hampstead Heath?*

No. With reference to the Camden Geological, Hydrogeological and Hydrological Study, the site is not within the catchment of the pond chains on Hampstead, nor the Golder's Hill Chain.

5.01.2 SF Q2 *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. On completion of the development, the surface water flows will be routed in the same way as the existing condition, with rainwater run-off collected in a surface water drainage system and discharged to the existing sewer network (Refer to Thames Water Asset Search in Appendix A). We assume there is a private drainage in Oak Hill Way not shown on the asset drawings.

5.01.3 SF Q3 *Will the proposed basement development result in a change in the proportion of hard surface/paved external areas?*

Yes. The footprint of the proposed new building is slightly bigger that the one of the existing property and its surrounding hard landscaping.

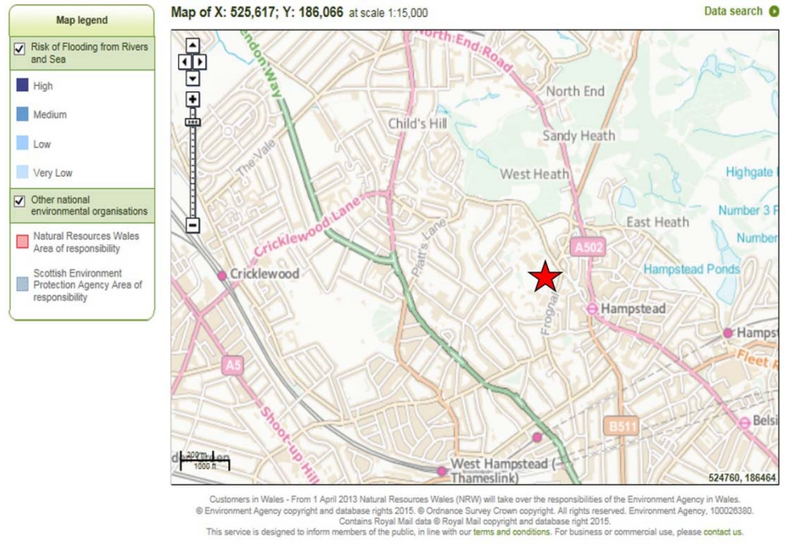
5.01.4 SF Q4 *Will the proposed basement result in changes to the profile of inflows (instantaneous and long term) of surface water being received by adjacent properties or downstream watercourses?*

No. SUDS measures will be adopted to ensure the proposal will not change the profile of the surface water flows.

5.01.5 SF Q5 *Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream water courses?*

No. The surface water quality will not be affected by the development, as in the permanent condition collected surface water will be generally be from roofs, or external hard landscaping as existing.

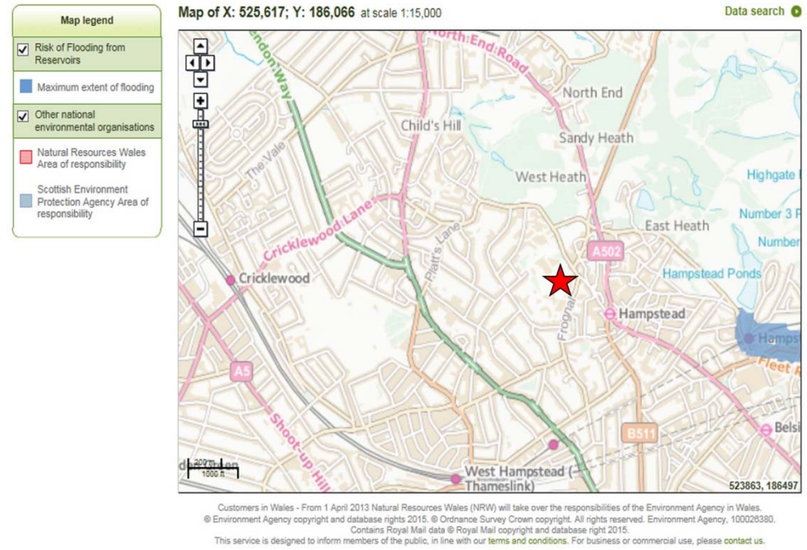
N



Legend
★ Site Location

Figure (j)
Areas at Risk of Flooding from Rivers or Sea
(Extract from Environment Agency flood map)

N



Legend
★ Site Location

Figure (k)
Areas at Risk of Flooding from Reservoirs
(Extract from Environment Agency flood map)

5.01.6 On the basis of items 5.01.1 to 5.01.5 above and in accordance with the Figure 3 in Camden Planning Guidance CPG 4 (September 2013 revision), no aspects should be carried forward to a scoping stage in respect of Surface Flow and Flooding.

5.01.7 SF Q6 *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. Oak Hill Way is not one of the streets noted within the Camden Planning Guidance CPG 4 (April 2011) as a street "at risk of surface water flooding" (Figure (m)). The street was not affected by floods in 1975 and 2002 due to overloading of the public sewers during a storm event.

A 'Sewer History' enquiry to Thames Water (Appendix A) gave no record of surcharge of sewers having previously affected this particular property.

With reference to the EA Rivers and Sea Flood Maps (Figure (k)), the site is not located within a flood risk zone. The EA Reservoir flood map (Refer figure (l)), shows that the site is not at risk of flooding from reservoirs.

With reference to the EA surface water flooding maps (Figure (n)) the site is at 'low risk' of flooding.

5.01.8 On the basis of the above and in accordance with the Figure 3 in Camden Planning Guidance CPG 4 (April 2011), a flood risk assessment in accordance with PPS25 is not required.

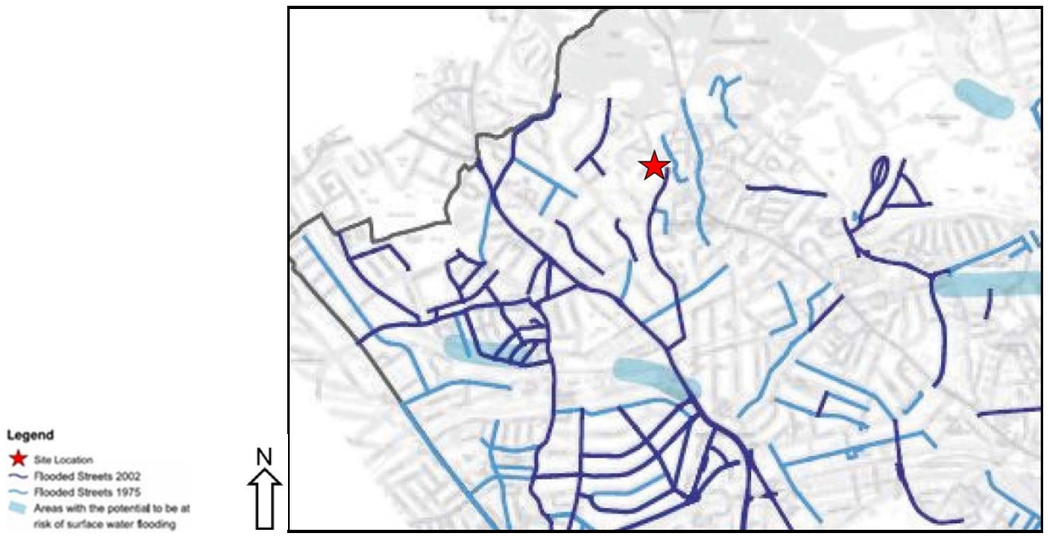


Figure (l)
Flood Map
(Extract from Fig 15 of Camden Geological, Hydrogeological and Hydrological Study)

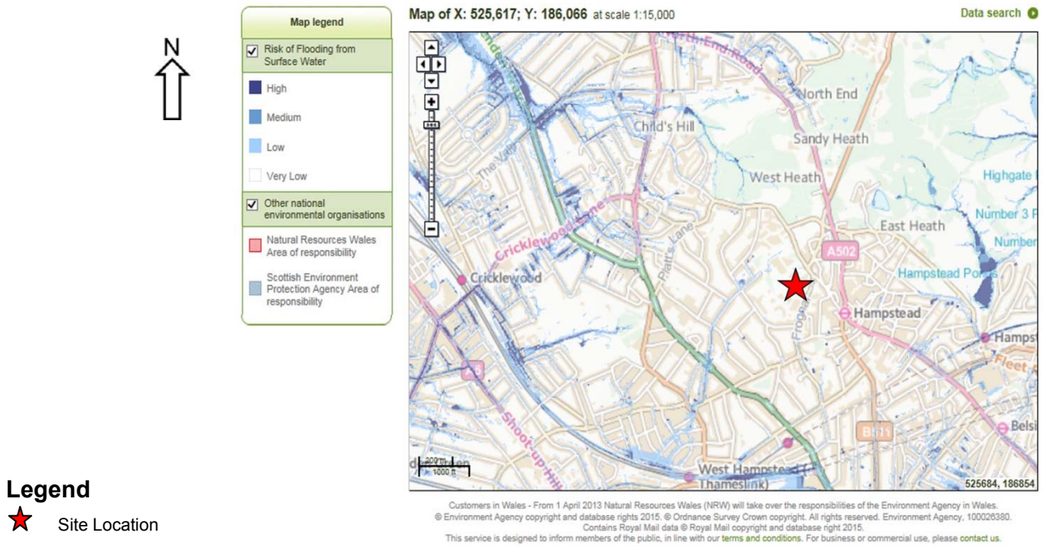


Figure (m)
Flooding from Surface Water

(Extract from Environment Agency flood map)

5.02 Stage 2: Scoping

5.02.1 With reference to the Camden Geological, Hydrogeological and Hydrological study Appendix F1, the potential impacts which will need to be considered will include:-

- Whether the change in the proportion of hard-landscaped areas will change the way surface water is received by underlying aquifers, adjacent properties and the public sewer.

5.02.2 In response to the above, an assessment of the impermeable areas will be made for the existing and proposed conditions.

5.03 Stage 3: Site Investigation and Study

5.03.1 The existing impermeable areas have been calculated by reference to the survey plans and our site visit. Refer figure (n).

The site area is approximately 880m^2 (0.088 Ha) and the impermeable area is currently a total of 467.2 m^2 (209.1m^2 building and 258.1m^2 hard landscaping including the swimming pool), representing 53% of the total site area.

5.03.2 The proposed impermeable areas have been calculated based on the proposed site plan included in Charlton Brown Architects' Design. Refer figure (o).

The proposed impermeable area from hard landscaping is 205.5m^2 and the proposed house is 279.9m^2, a total of 485. m^2 and representing 55% of the site area.

5.04 Stage 4: Impact Assessment

5.04.1 The impermeable area for the proposed scheme is slightly higher than the existing condition, and hence the peak flows to the public sewer will be slightly increased by the proposed works.

5.04.2 The environmental and sustainable performance of the building is a key part of the design approach. SUDS measures that will be considered during the detailed design will include the use of lined permeable paving systems which will act to attenuate the flows from hard landscaped areas.

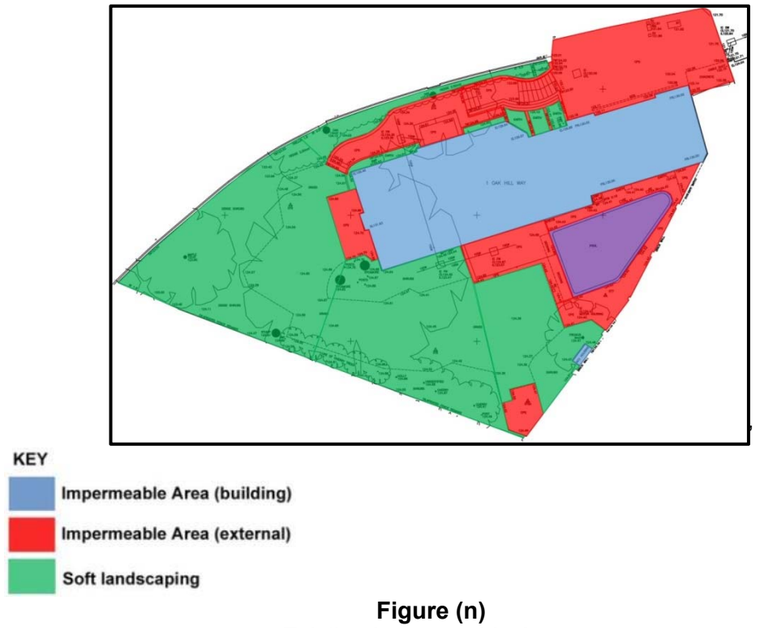


Figure (n)
Existing Impermeable Areas

Figure (o)
Proposed Impermeable Areas

APPENDIX A

THAMES WATER RECORDS

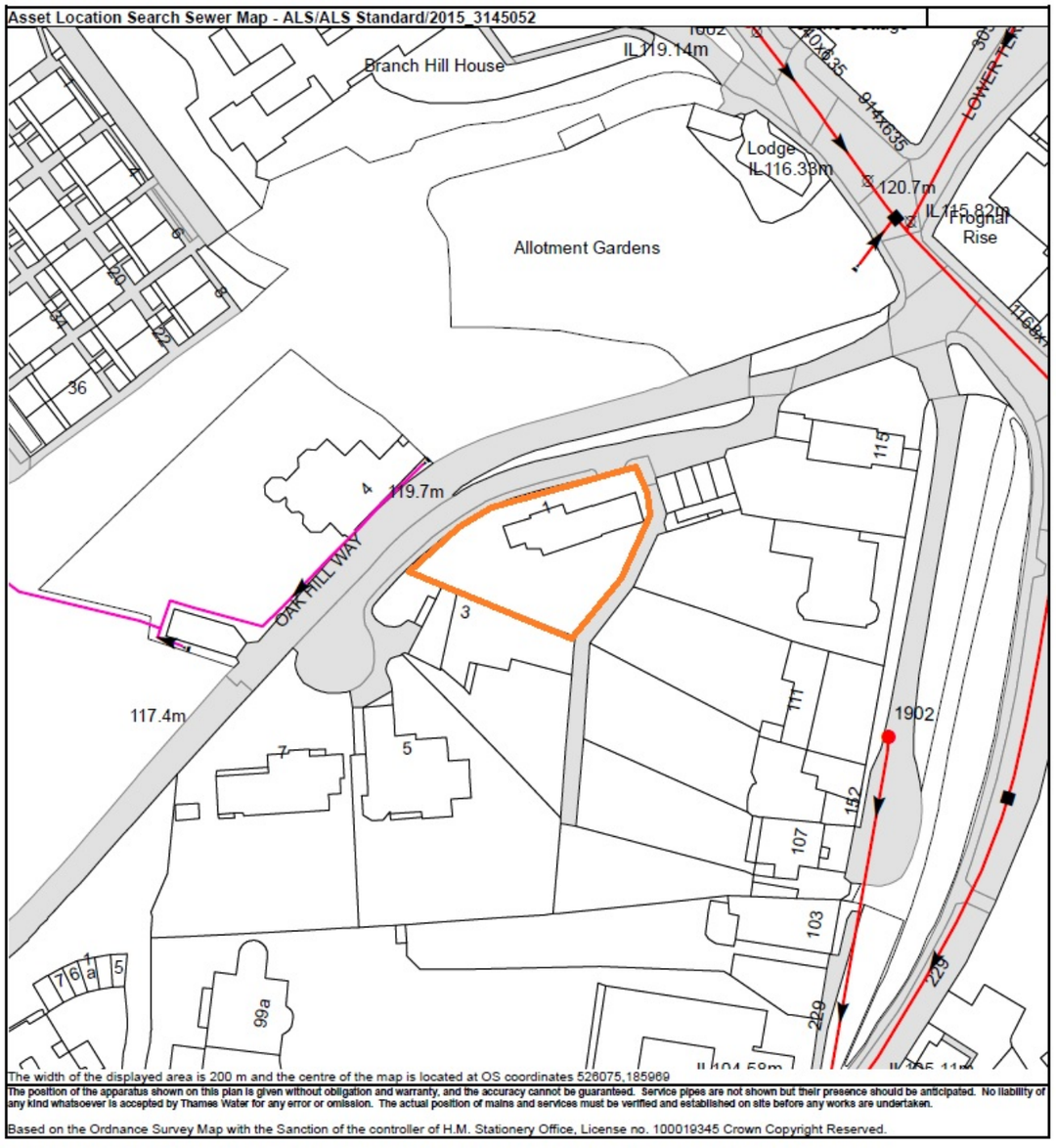


Figure A1 - Extract from Thames Water Asset Search showing a combined sewer

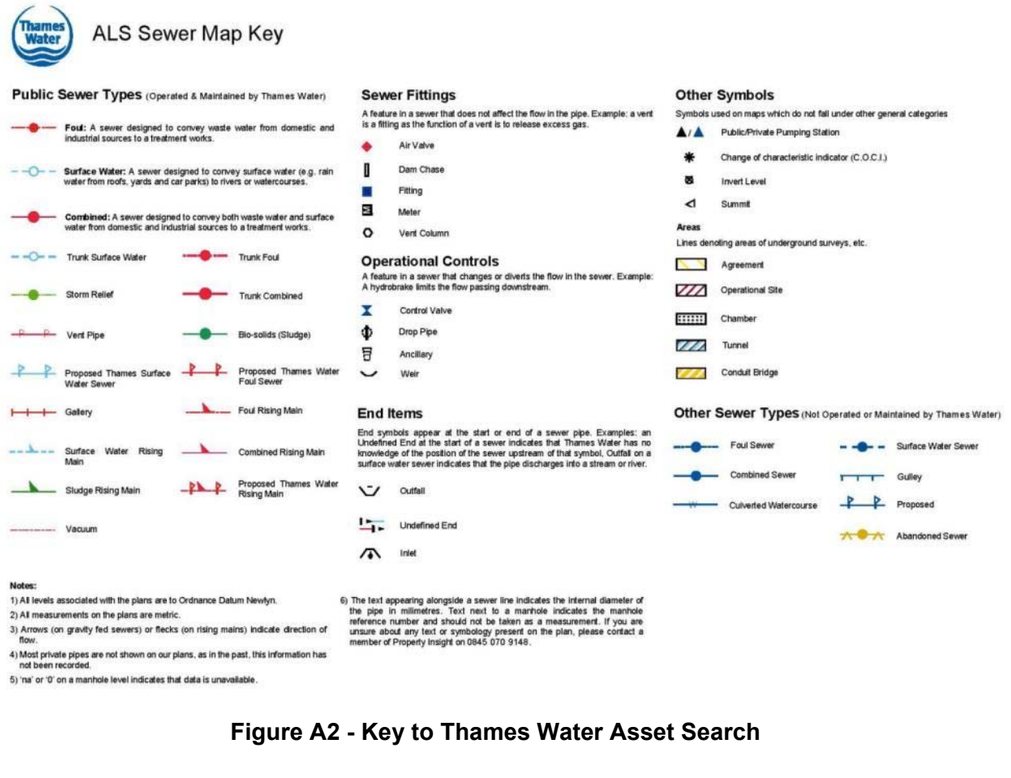


Figure A2 - Key to Thames Water Asset Search

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
1902	117.19	115.02

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Figure A3 - Manhole Invert and Cover Levels

Sewer Flooding
History Enquiry

Michael Alexander Consulting Engineers

Search address supplied	1 Oak Hill Way London NW3 7LR
Your reference	P3258 1 Oak Hill Way
Our reference	SFH/SFH Standard/2015_3145054
Received date	**15 September 2015**
Search date	**15 September 2015**

Thames Water Utilities Ltd

Property Searches
PO Box 3189
Slough SL1 4WW

DX 151280 Slough 13

T 0118 925 1504
E searches@thameswater.co.uk
I www.thameswater-propertysearches.co.uk

Registered in England and Wales
No. 2366661, Registered office
Clearwater Court, Vastern Road
Reading RG1 8DB

Sewer Flooding
History Enquiry

History of Sewer Flooding

Is the requested address or area at risk of flooding due to overloaded public sewers?

The flooding records held by Thames Water indicate that there have been no incidents of flooding in the requested area as a result of surcharging public sewers.

For your guidance:

- A sewer is "overloaded" when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Flooding as a result of temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded.
- "Internal flooding" from public sewers is defined as flooding, which enters a building or passes below a suspended floor. For reporting purposes, buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.
- "At Risk" properties are those that the water company is required to include in the Regulatory Register that is presented annually to the Director General of Water Services. These are defined as properties that have suffered, or are likely to suffer, internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant reference period (either once or twice in ten years) as determined by the Company's reporting procedure.
- Flooding as a result of storm events proven to be exceptional and beyond the reference period of one in ten years are not included on the At Risk Register.
- Properties may be at risk of flooding but not included on the Register where flooding incidents have not been reported to the Company.
- Public Sewers are defined as those for which the Company holds statutory responsibility under the Water Industry Act 1991.
- It should be noted that flooding can occur from private sewers and drains which are not the responsibility of the Company. This report excludes flooding from private sewers and drains and the Company makes no comment upon this matter.
- For further information please contact Thames Water on Tel: 0800 316 9800 or website www.thameswater.co.uk

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APPENDIX B

PHOTOGRAPHS

Photograph 1

Photograph 2

Photograph 3

Photograph 4

Photograph 5 – Front Elevation of Property with Garage

Photograph 6 – Adjoining property, Garages

Photograph 7 – Front Elevation of Property

Photograph 8 –Rear Elevation of Property

APPENDIX C

CONSTRUCTION METHOD STATEMENT

CONSTRUCTION METHOD STATEMENT

C.01 The following provides an outline Method Statement for the construction of the basement. This will be developed and finalized by the appointed Contractor, once the detailed design is complete.

C.02 Notices of the basement work will be served on the adjoining owners and schedules of condition will be carried out to the adjoining properties in accordance with the requirements of the Party Wall etc. Act 1996.

C.03 Precise monitoring points will be fixed to the party walls and adjoining buildings in accordance with the agreed 'Monitoring and Contingency Plan'. Initial 'base' readings will be taken.

C.04 The site and adjoining pavement will be scanned and marked for services prior to the commencement of any excavation works.

C.05 The site boundary will be established and safety fencing and hoarding shall be installed around the site perimeter.

C.06 Tree protection zones will be installed in accordance with Tretec advice and in accordance with BS 5837:2012 - Trees in Relation to Design, Demolition and Construction.

C.07 Careful demolition of the existing house, external swimming pool and of part of the brickwork boundary wall will be carried out ensuring that dust and vibration is controlled at all times.

C.08 A key consideration in limiting movements of the surrounding ground will be the installation of effective temporary and permanent props, close to the existing ground level ('high level' as described in CIRIA C580); to achieve this it is assumed at this stage that the Contractor will adopt the Open and propped excavation method, as described below.

C.09 For the open excavation method, the perimeter piles will be installed from a piling mat at close to existing ground level. It is likely also at this stage that the internal tension piles will be installed from this level.

C.10 Reinforced concrete capping beams will be constructed. Lateral props to the capping beams will be installed at high level, either spanning across the site or the across the corners of the excavation. The detailed design of the piles, propping and method of construction will be developed in conjunction with the specialist piling and groundworks contractor.

C.11 Bulk excavation will then commence. Although water inflows into the basement will be limited due to the contiguous piles, any groundwater which is trapped within the confines of the secant piled wall will be collected in sumps and pumped. Regular monitoring readings will be taken and compared with 'Red' and 'Amber' trigger levels.

C.12 When bulk excavation is complete to general basement level, the bottom surface of the excavation will be immediately blinded. Tension piles will be broken down to the required level. The basement raft slab will then be constructed.

C.13 The excavation of the lower sections of basement will then proceed. The lower basement slab will then be constructed.

C.14 Works can then proceed with the reinforced concrete liner walls.

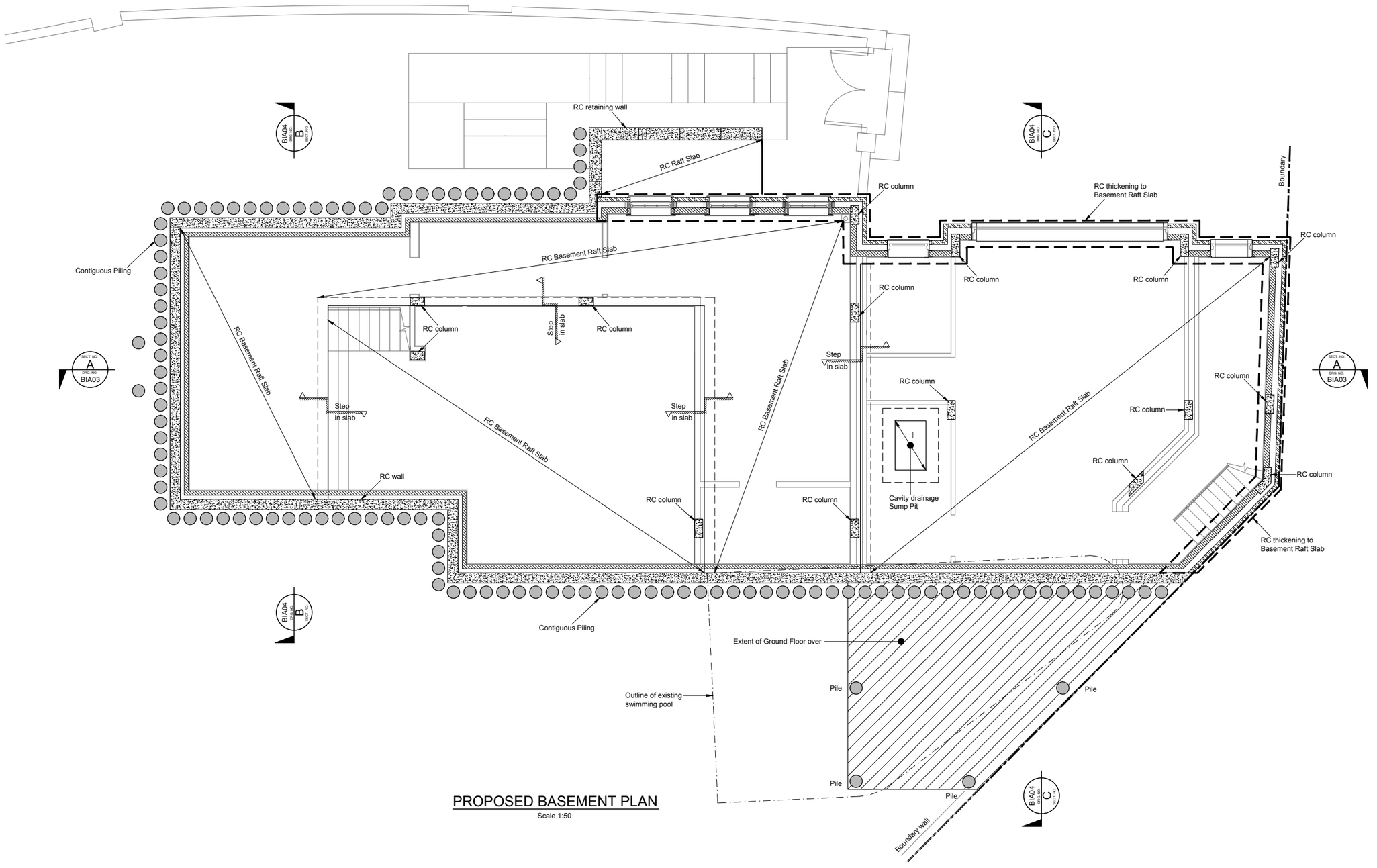
C.15 Works can then proceed with the construction of the ground floor slab.

C.16 Following completion of the ground floor slab, which acts as a permanent prop to the excavation, the propping can be removed.

C.17 The superstructure of the new building can then be progressed.

APPENDIX D

OUTLINE STRUCTURAL DRAWINGS



PROPOSED BASEMENT PLAN

Scale 1:50

NOTES

1. This drawing shall be read in conjunction with all relevant Architects & Engineers drawings and specifications.
2. Do not scale any dimensions. All dimensions to be checked on site.

LEGEND

- RC Structure
- Structure below
- New blockwork wall
- New brickwork wall

Rev.	Date	Description	By
P1	25.01.2016	ISSUED FOR BIA	SP
P0	03.12.2015	ISSUED FOR REVIEW & COMMENT	SP

FOR BIA

Architect
CHARLTON BROWN

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Drawn	SP Nov 2015
Checked	IH Nov 2015
Scale	1:50, 1:100
Size	A1, A3
Project No.	P3258
Drawing No.	BIA01
Rev.	P1

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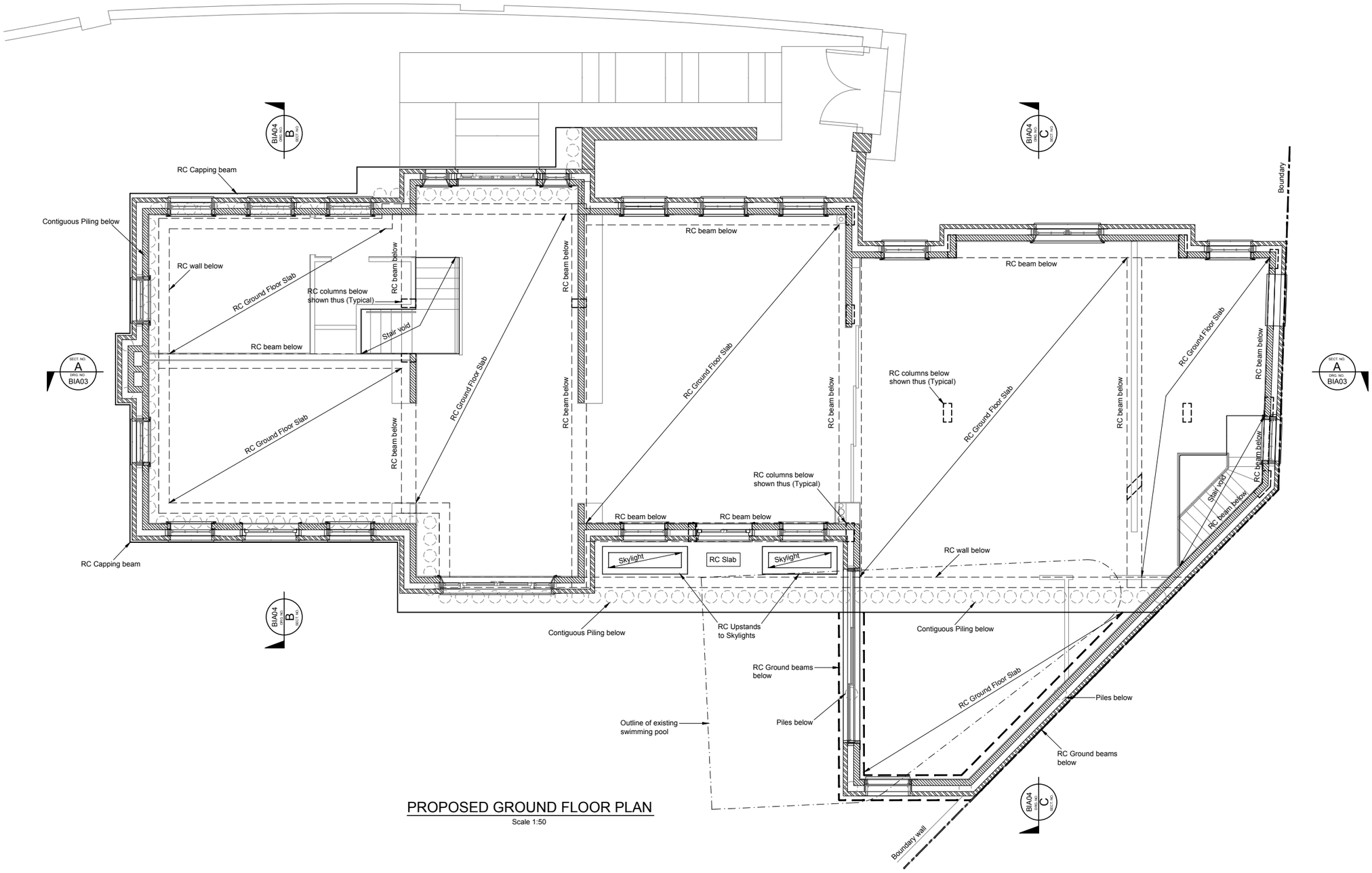

PROPOSED GROUND FLOOR PLAN

Scale 1:50

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NOTES

1. This drawing shall be read in conjunction with all relevant Architects & Engineers drawings and specifications.
2. Do not scale any dimensions. All dimensions to be checked on site.

LEGEND

- RC Structure
- Structure below
- New blockwork wall
- New brickwork wall

Rev.	Date	Description	By
P1	25.01.2016	ISSUED FOR BIA	SP
P0	03.12.2015	ISSUED FOR REVIEW & COMMENT	SP

FOR BIA

Architect

CHARLTON BROWN

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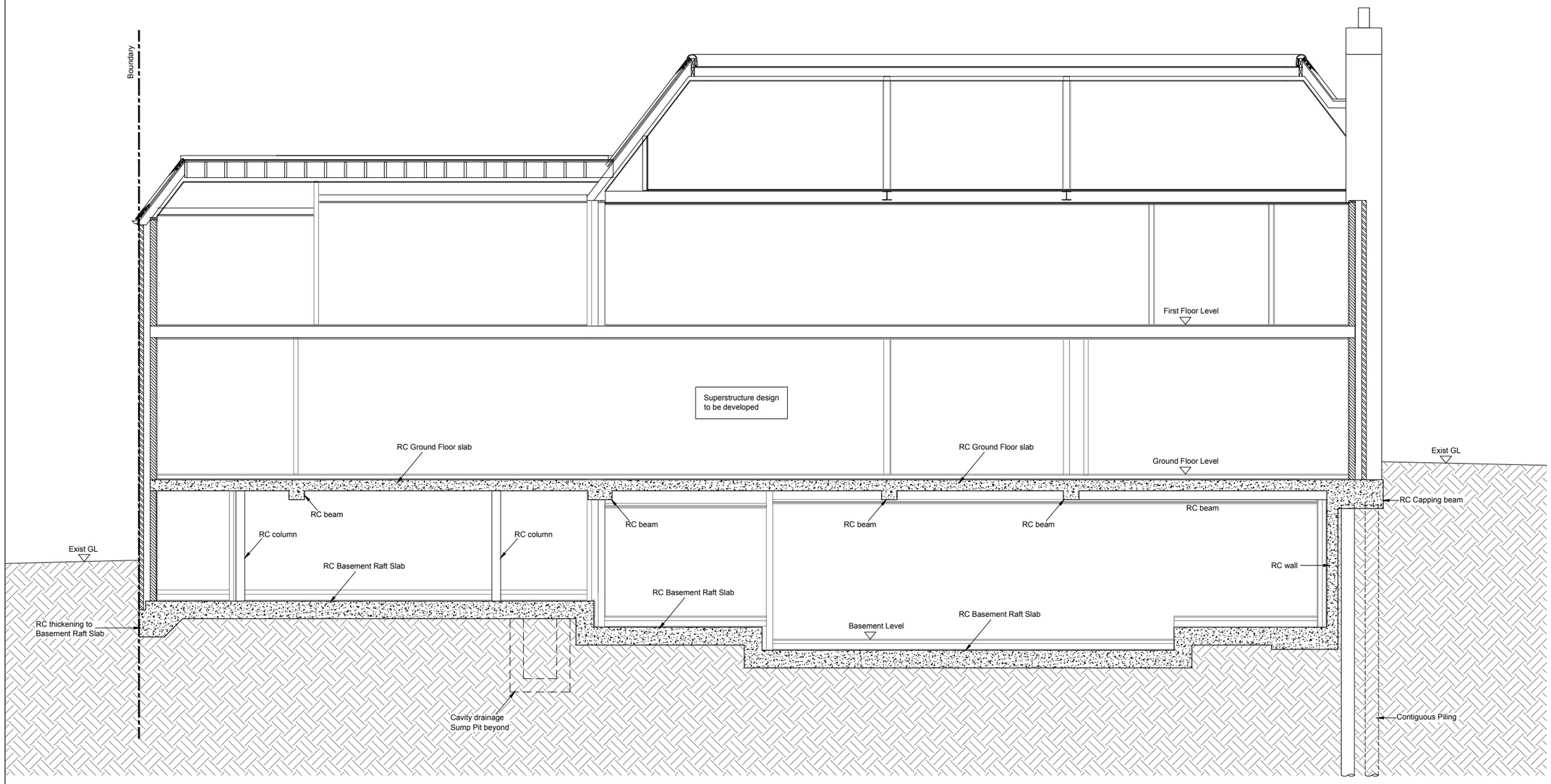
Scale	1:50 1:100	Size A1 A3
Project No.	P3258	
Drawing No.	BIA02	
Rev.	P1	



SECTION A-A

Scale 1:50

NOTES

1. This drawing shall be read in conjunction with all relevant Architects & Engineers drawings and specifications.
2. Do not scale any dimensions. All dimensions to be checked on site.

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P1	25.01.2016	ISSUED FOR BIA	SP
P0	03.12.2015	ISSUED FOR REVIEW & COMMENT	SP

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Drawn	SP	Nov 2015
Checked	IH	Nov 2015
Scale	1:50 1:100	Size A1 A3
Project No.	P3258	
Drawing No.	BIA03	
Rev.	P1	

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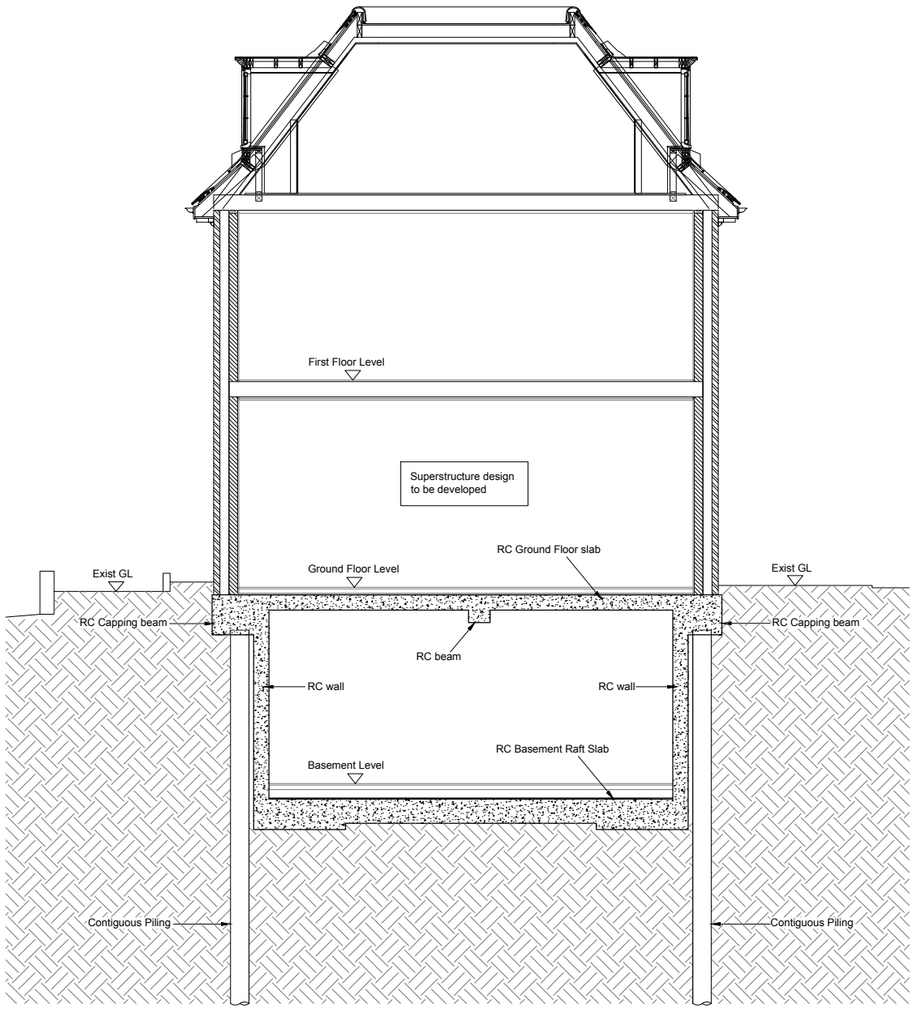
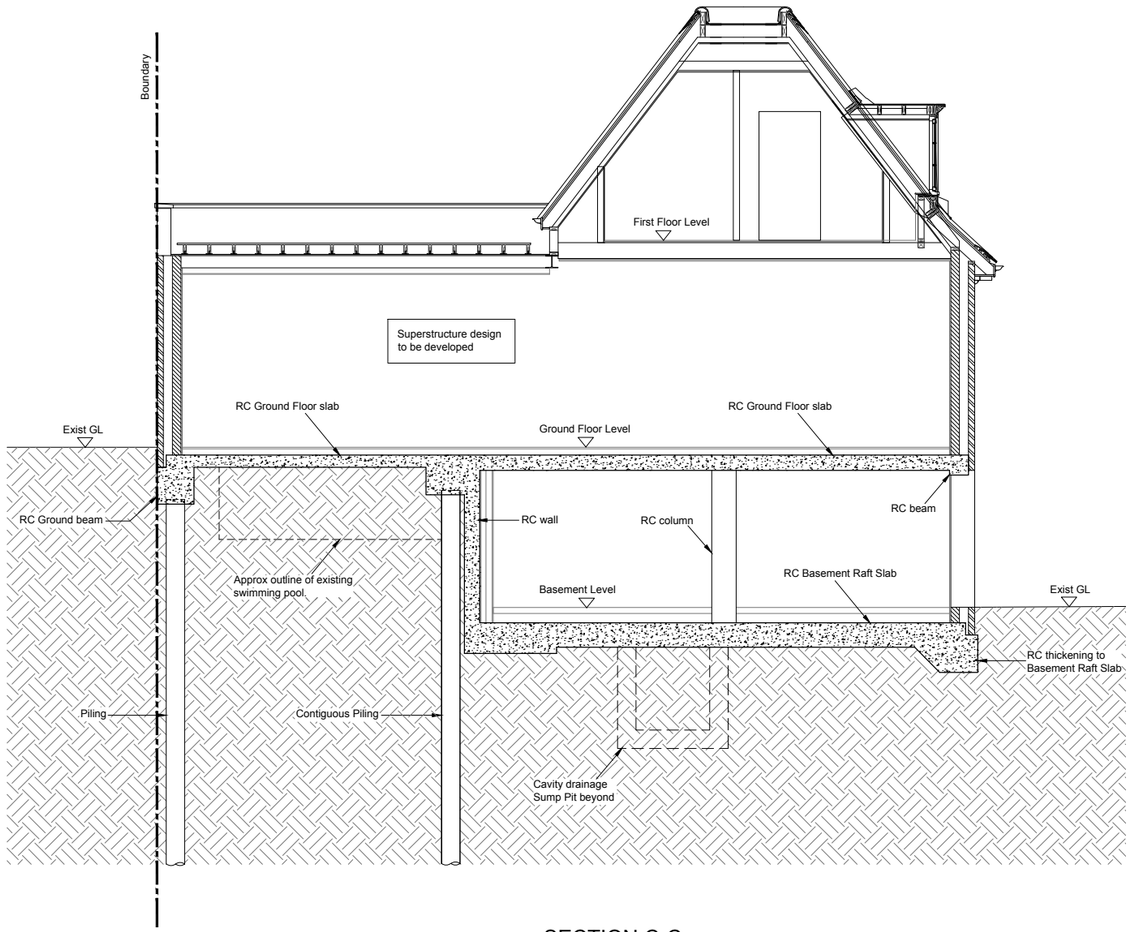


SECTION B-B

Scale 1:50



SECTION C-C

Scale 1:50

NOTES

1. This drawing shall be read in conjunction with all relevant Architects & Engineers drawings and specifications.
2. Do not scale any dimensions. All dimensions to be checked on site.

Rev.	Date	Description	By
P1	25.01.2016	ISSUED FOR BIA	SP
P0	03.12.2015	ISSUED FOR REVIEW & COMMENT	SP

FOR BIA

Architect

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Checked	IH Nov 2015
Scale	1:50 1:100
Size	A1 A3
Project No.	P3258
Drawing No.	BIA04
Rev.	P1

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