

Hydrogeological and Hydrological Assessment

in connection with proposed redevelopment of

7ABC Bayham Street

London

NW1 0EY

for

Camden Lifestyle (UK) Limited

LBH4532 Ver. 1.0

July 2018



LBH WEMBLEY

ENGINEERING

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0.1	30 th May 2018	Issued for internal review	DKB	SRLB
0.2	30 th May 2018	Draft Report Issued to Client		
0.3	7 th June 2018	Updated Draft following revised drawings		
1.0	20 th July 2018	Final issue to Camden		

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Foreword-Guidance Notes

GENERAL

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VALIDITY

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Non-Technical Summary

A two storey basement development is proposed for this site and a Basement Impact Assessment (BIA) is required for submission to the London Borough of Camden to support the planning application.

This report covers the Hydrogeological and Hydrological aspects of the BIA.

STAGE 1:

The Screening Assessment has not identified any potential issues relating to surface water flood and flooding or groundwater.

STAGE 2:

The Scoping Assessment did not require the investigation of any potential issues relating to surface water flood and flooding or groundwater.

STAGE 3:

The screening has identified no matters of concern requiring investigation. However, a ground investigation has been undertaken that confirms the London Clay to be present and that a shallow groundwater table is not present beneath the site.

STAGE 4:

No potential issues of concern have been identified with either the hydrogeological or hydrological aspects of the BIA.

1. Introduction

1.1 Background

A full Planning Application for the demolition of existing buildings (B1a Use Class) and erection of a 5 storey building, comprising co-working office floorspace (B1a Use Class), hotel accommodation (C1 Use Class) and an ancillary café/bar and gym/fitness facilities; and works to the existing access is to be submitted for approval to London Borough of Camden.

As part of the development a two storey basement is proposed, as are works to the existing access.

1.2 Brief

LBH WEMBLEY have been appointed by Camden Lifestyle (UK) Limited to complete the hydrological and hydrogeological aspects of a Basement Impact Assessment (BIA) for submission to London Borough of Camden in order to satisfy the specific requirements of the 2017 Camden Planning Policy and Supplementary Planning Guidance CPG Basements, and associated Camden geological, hydrogeological and hydrological study 2010 (referred to as the 'Arup' report).

1.3 Planning Policy

The 2017 Camden Local Plan Policy A5 Basements reads as follows:

"The Council will only permit basement development where it is demonstrated to its satisfaction that the proposal would not cause harm to:

- a) neighbouring properties;*
- b) the structural, ground, or water conditions of the area;*
- c) the character and amenity of the area;*
- d) the architectural character of the building; and*
- e) the significance of heritage assets.*

In determining proposals for basements and other underground development, the Council will require an assessment of the scheme's impact on drainage, flooding, groundwater conditions and structural stability in the form of a Basement Impact Assessment and where appropriate, a Basement Construction Plan.

The siting, location, scale and design of basements must have minimal impact on, and be subordinate to, the host building and property. Basement development should:

- f) not comprise of more than one storey;*
- g) not be built under an existing basement;*
- h) not exceed 50% of each garden within the property;*
- i) be less than 1.5 times the footprint of the host building in area;*
- j) extend into the garden no further than 50% of the depth of the host building measured from the principal rear elevation;*
- k) not extend into or underneath the garden further than 50% of the depth of the garden;*
- l) be set back from neighbouring property boundaries where it extends beyond the footprint of the host building; and*
- m) avoid the loss of garden space or trees of townscape or amenity value.*

Exceptions to f. to k. above may be made on large comprehensively planned sites.

The Council will require applicants to demonstrate that proposals for basements:

- n. do not harm neighbouring properties, including requiring the provision of a Basement Impact Assessment which shows that the scheme poses a risk of damage to neighbouring properties no higher than Burland Scale 1 'very slight';*
- o. avoid adversely affecting drainage and run-off or causing other damage to the water environment;*
- p. avoid cumulative impacts;*
- q. do not harm the amenity of neighbours;*
- r. provide satisfactory landscaping, including adequate soil depth;*
- s. do not harm the appearance or setting of the property or the established character of the surrounding area;*
- t. protect important archaeological remains; and*
- u. do not prejudice the ability of the garden to support trees where they are part of the character of the area.*

The Council will not permit basement schemes which include habitable rooms and other sensitive uses in areas prone to flooding.

We will generally require a Construction Management Plan for basement developments.

Given the complex nature of basement development, the Council encourages developers to offer security for expenses for basement development to adjoining neighbours."

The following policies in the Local Plan are also relevant to basement development and will be taken into account when assessing basement schemes:

- "Policy A2 Open space";
- "Policy A3 Biodiversity";
- "Policy D1 Design";
- "Policy D2 Heritage"; and
- "Policy CC3 Water and flooding".

In addition to the Local Plan Policy Camden publishes Camden Planning Guidance on Basements and Lightwells. These CPG documents do not carry the same weight as the main Camden Development Plan documents (including the above Policy A5) but they are important supporting documents.

It is noted that the CPG4 Planning Guidance on Basements and Lightwells (formerly CPG4 2015) has been updated (March 2018) to reflect the Local Plan.

1.4 Report Structure

The report commences with a desk study and characterisation of the site, before progressing to BIA screening and scoping assessments, whereby consideration is given to identifying the potential hydrogeological and hydrological impacts associated with the proposed development.

It is noted that the ground stability aspects of the BIA are being undertaken by the Structural Engineer TZG Partnership.

1.5 Documents Consulted

The following documents have been consulted during the preparation of this document:

- Proposal for 7abc Bayham Street (Ref: 20180604_7abcBayhamStreet-Proposals), dated June 2018
- Drawing Nos. D_PA_P-0001 & D_PA_P-0100 by Ambigram Architects, dated March 2018

2. The Site

2.1 Site Location

The site is situated on the west side of Bayham Street, approximately 80m from the junction with Crowndale Road, within the London Borough of Camden.

The site may be located approximately by postcode NW1 0EY or by National Grid Reference 529235, 183460.

2.2 Topographical Setting

The site is located on a gentle hill, at approximately +23m OD, falling eastwards towards the River Fleet which is present around 400m from the site.



Site location plan

2.3 Site Description

The site is square in shape and occupied by 19th and 20th Century building Nos. 7A through 7C surrounding a hard-surfaced courtyard parking area and is accessible from Bayham Street, which borders the site to the northeast.

No 7a, in the north of the site, is a two storey 1960s brick building occupied by a film production company.

No 7b is a single storey building with additional second storey dormer space in the south east of the site currently occupied by a Law Firm.



Plan indicating the existing site layout

No 7c is present in the west of the site and consists of a two storey building connected to No 7a and is occupied by a cleaning company.

Bordering the site to the southeast is No 7 Bayham Street; a three storey plus lower ground floor 19th Century property, whilst No 9 Bayham Street is also a three storey property although it is unknown as to whether any below ground space is present.

To the rear of No 7c Bayham Street is a yard off Bayham Place, whilst to the southeast of

No 7c are No's 48-56 Bayham Place, a three storey 19th Century building which is understood not to have a basement.

The northwest corner of the site is bordered by mews properties at No's 2 and 2a; neither of which are understood to have a basement.



Photograph of the front of the site looking approximately west

3. Proposed Development

Following demolition of the existing buildings on the site (B1a Use Class) it is proposed to erect a 5 storey building, comprising co-working office floorspace (B1a Use Class), hotel accommodation (C1 Use Class) and an ancillary café / bar and gym / fitness facilities as well as undertake works to the existing access.

As part of the development a two storey basement is proposed, as are works to the existing access. It is assumed that the excavations for the proposed basement will extend to a maximum of around 8m depth (+15m OD).



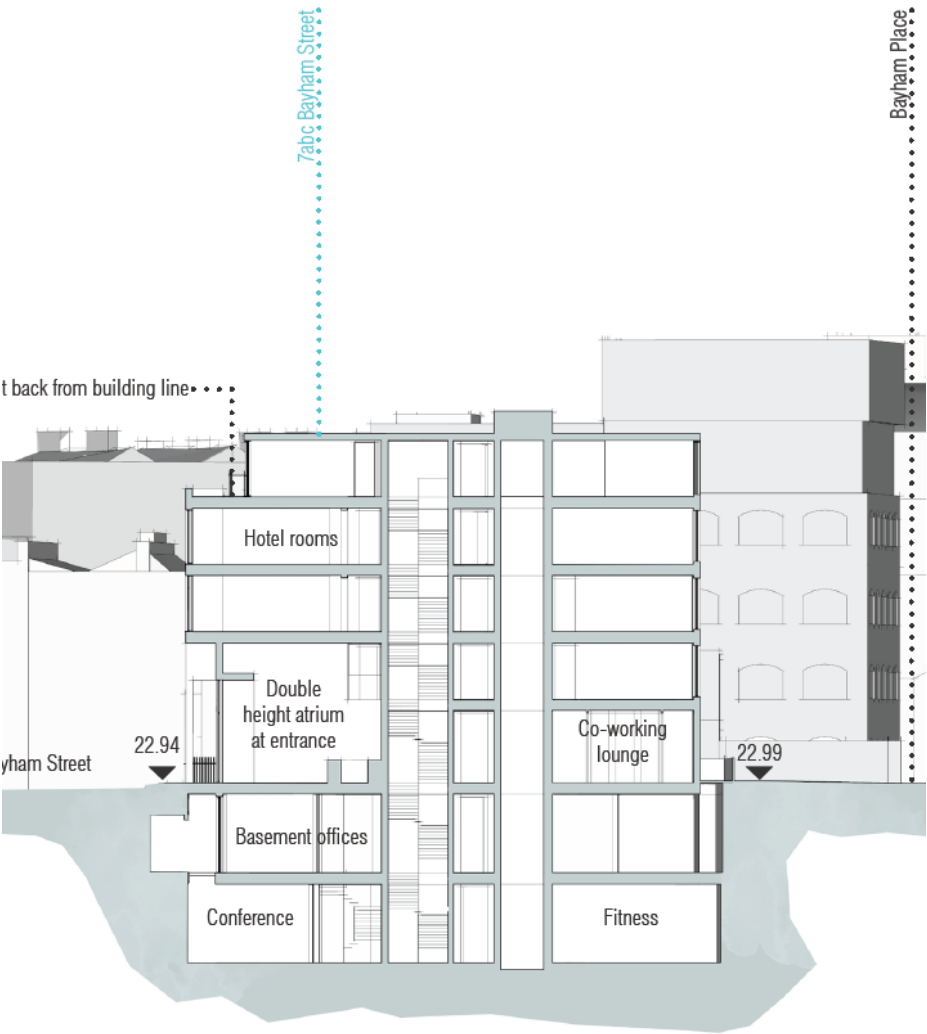
Proposed front elevation looking approximately west



Left: proposed basement plan



Right: proposed lower ground floor plan



Proposed east-west section

4. Desk Study

4.1 Site History

Prior to development the site and surrounding area were used as fields; the road to Highgate and Hampstead from Tottenham Court, passed near to the west of the site in the mid-late 18th Century.

Camden Town was established by the 1830s with the road layout similar to the present day layout; Bayham Street and Gloucester Place (now Bayham Place) were present north of Fig Lane (later becoming Crowndale Road) with buildings present adjacent to the site. The London and Birmingham Railway had also been constructed by this point, terminating in Somers Town to the south (at what is now Euston Station).

By the 1860s terraced properties were present on both sides of Bayham Street and what is now No 7c had been constructed on the site, though the majority of the site remained as a small field, possibly associated with a small holding or stables.

A building was present where the existing No 7b is located by the end of the 19th Century although No 7a appears not to have been constructed until the 1960s and the site was utilised as some sort of works. Around this time the terraces on the other side of Bayham Street and adjacent streets were demolished and a large block of flats constructed in its place.

A possible reception area built as a single storey appears to have been constructed around the start of the 20th Century.

The site does not appear to have damaged during the Second World War, although two properties across the road recorded some minor damage; these have since been demolished to construct the aforementioned flats.



Since the turn of the century many of the properties surrounding the site have been redeveloped.

4.2 Geological Information

The British Geological Survey (BGS) records indicate that the site is directly underlain by the London Clay Formation.

Figure 5 of the CGHHS indicates that the site is located within an area of previously worked ground.

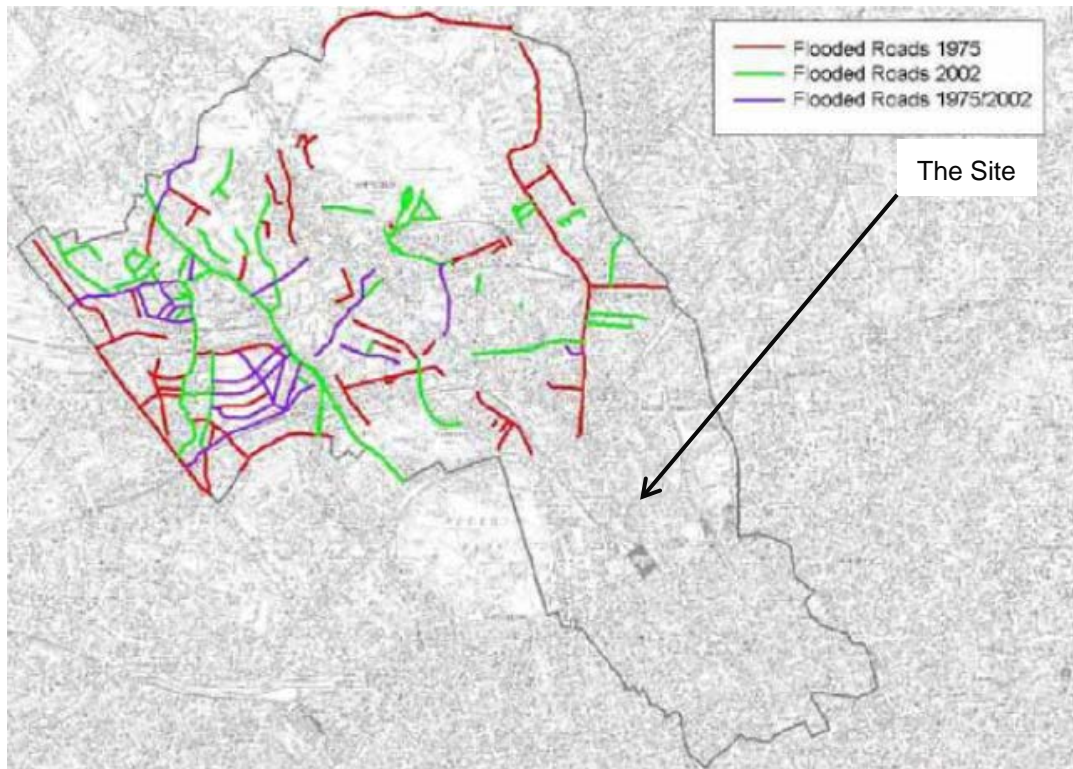
*Extract from Figure 5 of the Camden Geological,
Hydrogeological and Hydrological Study*

4.3 Hydrogeological / Hydrological Information

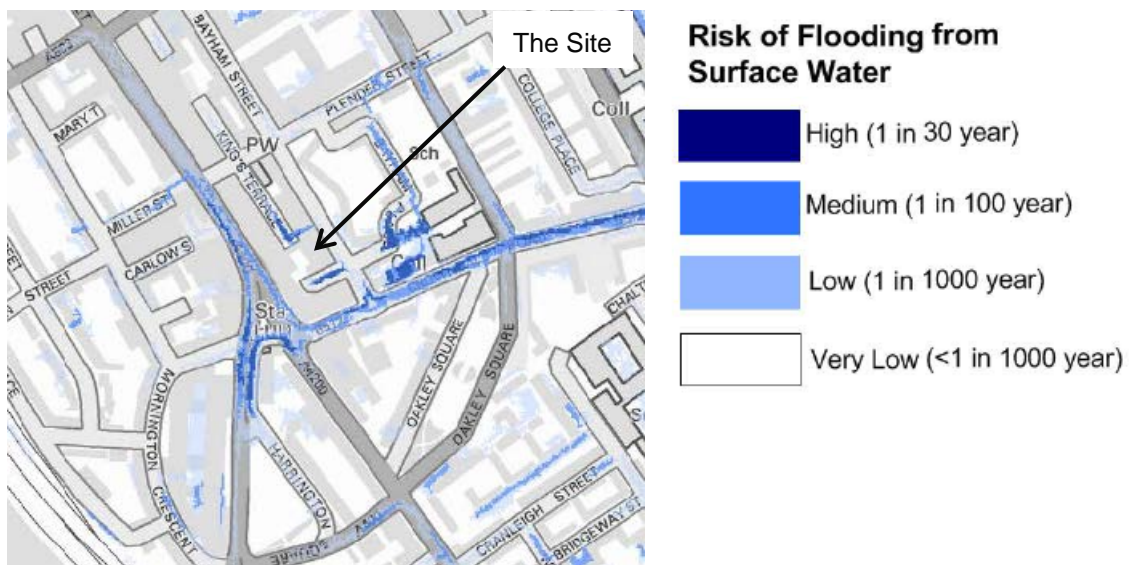
A shallow groundwater table is not present at this site and the London Clay Formation may be considered virtually impermeable.

The now culverted River Fleet runs approximately 400m to the east of the site in a southerly direction.

The site is not located on a street that was recorded as having flooded in either the 1975 or 2002 event as per Figure 5.1 of the London Borough of Camden Flood Risk Management Strategy (2013), below.



Furthermore the site is indicated in Figure 31 of the 2014 Camden Strategic Flood Risk Assessment (2014) to be at a very low risk of surface water flooding (annual probability of less than 1 in 1000 ($< 0.1\%$) chance of flooding).



Excerpt from Figure 31 of the Camden SFRA (2014)

5. Screening & Scoping Assessments

The Screening & Scoping Assessments have been undertaken with reference to Appendices E and F of the CGHSS, which is a process for determining whether or not a BIA is usually required.

5.1 Screening Assessment

The Screening Assessment consists of a series of checklists that identifies any matters of concern relating to the following:

- Subterranean (groundwater) flow
- Surface flow and flooding
- Slope stability

This report only considers first two sections above.

5.1.1 Screening Checklist for Subterranean (Groundwater) Flow

Question	Response	Justification
Is the site located directly above an aquifer?	No	The site is underlain by London Clay.
Will the proposed basement extend beneath the water table surface?	No	No shallow groundwater is present beneath the site.
Is the site within 100m of a watercourse, well (used/disused) or potential spring line?	No	The River Fleet runs approximately 400m east of the site.
Is the site within the catchment of the pond chains on Hampstead Heath?	No	See CGHHS Fig.14.
Will the proposed development result in a change in the area of hard-surfaced/paved areas?	No	Both the existing site and proposed development are entirely hard surfaced.
Will more surface water (e.g. rainfall and run-off) than at present will be discharged to the ground (e.g. via soakaways and/or SUDS)?	No	All surface water is discharged to sewer.
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?	No	See CGHHS Fig.12.

5.1.2 Screening Checklist for Surface Flow and Flooding

Question	Response	Justification
Is the site within the catchment area of the pond chains on Hampstead Heath?	No	See CGHHS Fig.14.
As part of the site drainage, will surface water flows (e.g. rainfall and run-off) be materially changed from the existing route?	No	Surface water will be disposed of by the existing means.
Will the proposed basement development result in a change in the proportion of hard-surfaced/paved areas?	No	Both the existing site and proposed development are entirely hard surfaced.
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	Surface water will be disposed of by the existing means.
Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream watercourses?	No	Surface water will be disposed of by the existing means.
Is the site in an area known to be at risk from surface water flooding, 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 CGHHS Fig.15.

5.2 Scoping Assessment

Where the checklist is answered with a “yes” or “unknown” to any of the questions posed in the flowcharts, these matters are carried forward to the scoping stage of the BIA process.

The scoping produces a statement which defines further the matters of concern identified in the screening stage. This defining should be in terms of ground processes, in order that a site specific BIA can be designed and executed (Section 6.3 of the CGHHS).

No matters of potential concern have been identified.

6. Stage 3 – Site Investigation

Although no matters of potential concern have been identified it is understood that a ground investigation is being commissioned by the structural engineer.

7. Assessment of Hydrological & Hydrogeological Impacts

No matters of potential concern have been identified.