

Basement Impact
Assessment Audit

Flat 1, 12 Kidderpore
Gardens, London NW3 7SR

For
London Borough of Camden

Project No.
14006-84

Date
September 2024

Campbell Reith Hill LLP
15 Bermondsey Square
London
SE1 3UN

T: +44 (0)20 7340 1700
E: london@campbellreith.com
W: www.campbellreith.com

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Author	Nico Simonini, BSc MSc CGeol FGS
Project Partner	E M Brown, BSc MSc CGeol FGS
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1.0 NON-TECHNICAL SUMMARY

- 1.1 CampbellReith was instructed by London Borough of Camden, (LBC) to carry out an audit on the Basement Impact Assessment submitted as part of the Planning Submission documentation for Flat 1, 12 Kidderpore Gardens, London NW3 7SR (planning application 2024/1972/P). The basement is considered to fall within Category A as defined by the Terms of Reference.
- 1.2 The Audit reviewed the Basement Impact Assessment for potential impact on land stability and local ground and surface water conditions arising from basement development in accordance with LBC's policies and technical procedures.
- 1.3 CampbellReith was able to access LBC's Planning Portal and gain access to the latest revision of submitted documentation and reviewed it against an agreed audit check list.
- 1.4 The BIA has been prepared by Jensen Hunt Design. The authors' qualifications do not comply with the requirements of CPG: Basements.
- 1.5 The BIA presents appropriate screening and scoping assessments that are informed by desk study information.
- 1.6 Trial pits have been undertaken to investigate the profile of the existing foundations.
- 1.7 Groundwater was encountered during the site investigation. The BIA recommends mitigation measures against water ingress into the excavation to be included in the final temporary works design. It is accepted that the proposed development will not impact the hydrogeology of the area.
- 1.8 It is accepted that the site and is not in an area subject to flooding and the development will not impact the hydrology of the area. The drainage proposals are identified as being subject to approval by regulators.
- 1.9 The BIA outlines the construction methodology and sequencing and recommends the use of temporary propping to support the lightwell excavation.
- 1.10 It is accepted that the basement will not impact the slope stability of the surrounding area.
- 1.11 The BIA and subsequent correspondence confirms that the neighbouring structures are not in the zone of influence of movements arising from excavation and that any such movements will have a negligible impact on the adjacent highway.
- 1.12 The BIA recommends a movement monitoring strategy to be produced before the works commence and as mitigation measures.
- 1.13 It is confirmed that the BIA complies with the requirements of CPG: Basements and the Principles for Audit set out in the Basement Impact Assessment (BIA) Audit Service Terms of Reference & Audit Process.

2.0 INTRODUCTION

2.1 CampbellReith was instructed by London Borough of Camden (LBC) on 12th July 2024 to carry out a Category A audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for Flat 1, 12 Kidderpore Gardens, London NW3 7SR (planning application 2024/1972/P).

2.2 The audit was carried out in accordance with the Terms of Reference set by LBC. It reviewed the Basement Impact Assessment for potential impact on land stability and local ground and surface water conditions arising from basement development.

2.3 A BIA is required for all planning applications with basements in Camden in general accordance with policies and technical procedures contained within

- Camden Local Plan 2017 - Policy A5 Basements.
- Camden Planning Guidance (CPG): Basements. January 2021.
- Guidance for Subterranean Development (GSD). Issue 01. November 2010. Ove Arup & Partners.
- Redington and Frognal Neighbourhood Plan

2.4 The BIA should demonstrate that schemes:

- a) maintain the structural stability of the building and neighbouring properties;
- b) avoid adversely affecting drainage and run off or causing other damage to the water environment;
- c) avoid cumulative impacts upon structural stability or the water environment in the local area;

and evaluate the impacts of the proposed basement considering the issues of hydrology, hydrogeology and land stability via the process described by the GSD and to make recommendations for the detailed design.

2.5 LBC's Audit Instruction described the planning proposal as "Formation of two basement lightwells on front elevation, formation of bin stores (for flat 1 and flat 2) in front garden, rendering of existing two storey rear extension with replacement enlarged windows installed on both levels, new/replacement double glazed windows and doors on rear of main building (lower and upper ground floors) and a new window in the south facing elevation (lower ground floor)."

2.6 The Audit Instruction confirmed Flat 1, 12 Kidderpore Gardens involved, or was a neighbour to, listed buildings.

2.7 CampbellReith accessed LBC's Planning Portal on 30th July 2024 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment by Jensen Hunt Design, ref. JH1830, Rev. P1, dated May 2024.

- Architectural Drawings by Manea Kella Ltd including:
 - Location and Site Plan (026-MK-E0100 and 026-MK-E0101).
 - Existing Plans (026-MK-E0121 and 122), Elevations (026-MK-E0141 and 142) and Sections (026-MK-E0163 and 165).
 - Proposed Plans (026-MK-P0121 and 122), Elevations (026-MK-P0141 and 142) and Sections (026-MK-P0163 and 165).
- E-mail correspondence (provided in Appendix 3 of this audit).

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	No	Qualifications do not fully comply with CPG basements.
Is data required by Cl.233 of the GSD presented?	Yes	
Does the description of the proposed development include all aspects of temporary and permanent works which might impact upon geology, hydrogeology and hydrology?	Yes	BIA report.
Are suitable plan/maps included?	Yes	BIA and architectural drawings.
Do the plans/maps show the whole of the relevant area of study and do they show it in sufficient detail?	Yes	
Land Stability Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	BIA screening and scoping report, Section 4.2.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	BIA screening and scoping report, Section 4.1.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	BIA screening and scoping report, Section 4.3.
Is a conceptual model presented?	Yes	Based on Desktop Study information presented in Section 2 of the BIA.
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 6 of the BIA.

Item	Yes/No/NA	Comment
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	No	Although Q1b is not brought to scoping, potential impacts are discussed in the BIA.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 6.0 of the BIA.
Is factual ground investigation data provided?	No	Trial pit cross-sections are provided with the ground conditions encountered described in the BIA text.
Is monitoring data presented?	No	No groundwater monitoring has been undertaken.
Is the ground investigation informed by a desk study?	Yes	BIA report, including Appendix E.
Has a site walkover been undertaken?	Unknown	
Is the presence/absence of adjacent or nearby basements confirmed?	No	
Is a geotechnical interpretation presented?	No	
Does the geotechnical interpretation include information on retaining wall design?	No	
Are reports on other investigations required by screening and scoping presented?	N/A	
Are the baseline conditions described, based on the GSD?	Yes	BIA report, Section 6.0.
Do the baseline conditions consider adjacent or nearby basements?	No	
Is an Impact Assessment provided?	Yes	Section 7 of the BIA.

Item	Yes/No/NA	Comment
Are estimates of ground movement and structural impact presented?	N/A	
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	Yes	
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	Mitigation measures to limit ground movements due to lightwell excavation and construction are provided. Mitigation measures for water ingress into the excavation have been provided.
Has the need for monitoring during construction been considered?	Yes	A building monitoring strategy is recommended in the BIA.
Have the residual (after mitigation) impacts been clearly identified?	Yes	Residual impacts considered negligible.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	Yes	Section 7.0 of the BIA.
Has the scheme avoided cumulative impacts upon structural stability or the water environment in the local area?	Yes	
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	
Are non-technical summaries provided?	No	

4.0 DISCUSSION

- 4.1 The Basement Impact Assessment (BIA) has been carried out by engineering consultants Jensen Hunt Design. The reviewer is a chartered engineer with the IStructE but no proof of expertise in engineering geology has been provided, as required by 4.47 of CPG Basements. Additionally, input from an individual holding appropriate qualifications for the surface water and hydrogeology assessments is required in order to comply with CPG Basements.
- 4.2 The LBC Instruction to proceed with the audit identified that the basement proposal either involved a listed building or was adjacent to listed buildings but gave no details. Independent review indicates 12 Kidderpore Gardens to not be a listed building. The applicant's property is within the Redington and Frognal Neighbourhood.
- 4.3 The existing and proposed comparison drawing show the proposals comprise the construction of two lightwells in the front garden of the property, extending to the same depth as the existing lower ground floor, c. 2.50m below ground level (bgl).
- 4.4 The BIA includes screening and scoping exercises that are informed by desk study information. It is unknown whether a site walkover was undertaken to inform the BIA.
- 4.5 The structural drawing provided in Appendix C of the BIA includes cross-sections of 5no. trial pits undertaken at lower ground floor level. The ground conditions encountered in the trial pits are not given, however the BIA confirms that the lightwells will bear onto London Clay and that an allowable bearing capacity within the London Clay of 100kPa can be anticipated at foundation level.
- 4.6 The BIA states the proposed development to be within 100m of the culverted River Westbourne, however given the size of the proposed development and the findings of the site investigation, it is concluded that that any impact on local hydrogeology will be negligible. It is accepted that the development will not impact the hydrogeology of the area.
- 4.7 Water was encountered in foundation exposure pit TP1, TP4 and TP5 typically less than 1m below lower ground floor level. Noting the observation of water in the foundation exposure pit, mitigation measures for potential water ingress into the excavation are recommended within the construction sequence presented in the BIA.
- 4.8 Surface water screening notes the development will increase the proportion of hard surface/paved areas and surface water will be discharged into the combined sewer as existing. The BIA states that liaison with the combined sewer owner is ongoing. The final drainage scheme may be subject to regulatory approval.
- 4.9 The surface water and flooding screening states there is a negligible to low risk of flooding from all the sources. It is accepted that the development will not impact the hydrology of the area.
- 4.10 The BIA states the London Clay Formation is the shallowest natural strata on-site, that no trees will be removed and there was no evidence of subsidence or ground movement identified at the property or others nearby. It is accepted that the development will not impact the land stability of the area.

- 4.11 Section 4.2 of the BIA indicates that the lightwells will be formed using a series of unpropped reinforced concrete retaining walls. Point 9 listed in Section 8.1 of the BIA states that, while the retaining wall has been designed to be cantilevered in the permanent case, temporary lateral propping will be required to form the retaining walls.
- 4.12 Section 7.5 of the BIA identifies that the lightwell excavation may result in soil instability and damage to the road, pavement or any underground services beneath the road or pavement. Section 9 of the BIA discusses the construction of underpins and states that 'minor lateral settlements will be limited to a maximum of Category 1 (very slight)'. Subsequent e-mail correspondence (presented in Appendix 3 of this audit report) clarifies that the road is considered to be sufficiently far from the excavation that the impact will be negligible and that the reference to underpinning was in relation to the excavation of the lightwell, which is to be undertaken in a hit and miss sequence in bays up to 1m wide.
- 4.13 The BIA recommends condition survey of the adjacent properties will be undertaken before, during and after the proposed works. A movement monitoring strategy will be developed at a later stage and subject to discussion and agreement as part of the Party Wall Award.

5.0 CONCLUSIONS

- 5.1 The Basement Impact Assessment (BIA) has been carried out by engineering consultants Jensen Hunt Design however the authors' qualifications do not fully comply with CPG Basements.
- 5.2 It is proposed to construct two new lightwells at the front of the property, to a depth of 2.5m below ground level.
- 5.3 The BIA presents screening and scoping exercises informed by Desk Study data.
- 5.4 The BIA has confirmed that the proposed basement will be founded within the London Clay Formation and will be formed by reinforced concrete retaining walls.
- 5.5 Trial pits undertaken at lower ground floor level encountered groundwater during the investigation in three of the five foundation exposure pits. The BIA recommends mitigation measures against water ingress into the excavation to be included in the final temporary works design.
- 5.6 It is accepted that the proposals will not impact the hydrogeology of the area.
- 5.7 The BIA states that there will be a marginal increase in hardstanding which will discharge to the existing sewer. The BIA states that the proposals will require approval from Thames Water and mitigation using permeable paving may be adopted following consultation with Thames Water. It is accepted that, subject to appropriate approvals/mitigation, the development will not impact the hydrology of the area.
- 5.8 The BIA outlines the construction methodology and sequencing. It recommends temporary propping is installed to support the lightwells excavation.
- 5.9 The BIA states that the proposals will not increase the differential depth of foundations in relation to neighbouring buildings and that the impact to the road will be negligible due to the distance from the lightwell. It is accepted that the basement will not have a significant impact on land stability.
- 5.10 The BIA recommends a movement monitoring strategy to be produced before the works commence and as mitigation measures.
- 5.11 It is confirmed that the BIA complies with the requirements of CPG: Basements and the Principles for Audit set out in the Basement Impact Assessment (BIA) Audit Service Terms of Reference & Audit Process.

Basement Impact Assessment Audit
Flat 1, 12 Kidderpore Gardens, London NW3 7SR

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Appendix 1

Consultation Responses

Residents' Consultation Comments

Comment by	Date	Issue raised	Response
Redington and Frognal Neighbourhood Forum	23/07/24	Flooding and proximity to tributaries of the River Westbourne and ponds	The BIA adequately considers the impacts to hydrology and hydrogeology and identifies appropriate mitigation where necessary.

Appendix 2

Audit Query Tracker

None

Appendix 3

Supplementary Supporting Documents

E-mail correspondence

Katharine Barker

From: Matt Law <mattlaw@jensenhunt.com>
Sent: 22 August 2024 13:51
To: Katharine Barker
Cc: CamdenAudit; Adam Greenhalgh; Siun O'Brien
Subject: Re: Flat 1, 12 Kidderpore Gardens - clarifications for Basement Impact Assessment audit

Hi Kat,

Thank you for your call earlier.

To clarify the queries raised, the proposal is not underpinning any existing structure in the construction of the proposed lightwells, but rather follow a generic underpin sequence by constructing in a hit and miss arrangement in 1.0m pins, to ensure the stability of the excavation.

With regards to the zone of influence, it is expected that the pavement and a small portion of the road would fall within the zone of influence of the lightwell construction. It is required that the lightwell excavation will be adequately shored with good construction practice by a competent contractor which will minimise any ground movement anticipated to be negligible.

Kind regards

Matthew Law
Senior Engineer
MEng (Hons)

JENSEN HUNT | DESIGN
www.jensenhunt.com
m: [07365279054](tel:07365279054) t: [02038410056](tel:02038410056)
instagram: [jensenhuntdesign](https://www.instagram.com/jensenhuntdesign)



On 21 Aug 2024, at 10:49, Matt Law <mattlaw@jensenhunt.com> wrote:

Hi Kat,

Thank you for your email. We are just reviewing the comments internally and report and will respond to you by tomorrow.

Kind regards

Matthew Law
Senior Engineer
MEng (Hons)

JENSEN HUNT | DESIGN
www.jensenhunt.com
m: [07365279054](tel:07365279054) t: [02038410056](tel:02038410056)

London

15 Bermondsey Square
London
SE1 3UN

T: +44 (0)20 7340 1700
E: london@campbellreith.com

Birmingham

Chantry House
High Street, Coleshill
Birmingham B46 3BP

T: +44 (0)1675 467 484
E: birmingham@campbellreith.com

Bristol

Unit 5.03
HERE
470 Bath Road
Bristol BS4 3AP

T: +44 (0)117 916 1066
E: bristol@campbellreith.com

Manchester

10 Chapel Walks
Manchester
M2 1HL

T: +44 (0)161 819 3060
E: manchester@campbellreith.com

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A list of Members is available at our Registered Office at: 15 Bermondsey Square, London, SE1 3UN
VAT No 974 8892 43