

5 – 5a Camden Road,
Camden, London NW1 9LG

Basement Impact Assessment
Audit

For
London Borough of Camden

Project Number: 12985-87

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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	K Barker
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 (BIA) submitted as part of the Planning Submission documentation for 5-5a Camden Road, London NW1 9LG, Camden Reference 2019/5015/P. The basement is considered to fall within Category B 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 LBH Wembley Engineering. The qualifications of the authors are in accordance with LBC guidance.
- 1.5. The proposal is to construct a single basement level below the full footprint of the building at No. 5 Camden Road. The maximum excavation depth is 5.5m below existing ground level.
- 1.6. No site investigation has been carried out at the site. However, it is noted that site investigation has been carried out at adjacent properties by the same engineering team, indicating the development will be formed within the London Clay.
- 1.7. The proposed development will not impact the wider hydrogeological environment.
- 1.8. A Ground Movement Assessment (GMA) is presented and predicted damage to neighbouring structures will not exceed Category 1 (Very Slight).
- 1.9. An Outline Structural Monitoring Plan is provided with appropriate trigger levels.
- 1.10. The proposed development will not impact the wider hydrological environment.
- 1.11. Based on the revised submission, the BIA is considered to meet the criteria of CPG Basements.

2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 14 November 2019 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 5-5a Camden Road, London NW1 9LG, Camden Reference 2018/5015/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:

- Guidance for Subterranean Development (GSD). Issue 01. November 2010. Ove Arup & Partners.
- Camden Planning Guidance (CPG): Basements.
- Camden Development Policy (DP) 27: Basements and Lightwells.
- Camden Development Policy (DP) 23: Water.
- The Local Plan (2017): Policy A5 (Basements).

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; and,
- 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 planning portal describes the proposal as: *"Excavation of basement under No. 5"*.

The planning portal also confirmed the site lies within the Camden Town Conservation Area but neither the site nor neighbouring properties are listed buildings.

2.6. CampbellReith accessed LBC's Planning Portal in December 2019 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment (ref LBH4577 Ver 1.1) dated September 2019 by LBH Wembley Engineering.
- Existing and proposed elevations and plans by Ambigram Architects dated September 2019.
- Planning Statement by SM Planning, dated September 2019.
- Outline SUDS Strategy (ref LBH4577suds Ver 1.0) dated September 2019 by LBH Wembley Engineering.
- Proposed Basement Details drawing (reference 3640/650 rev P3) dated 30/05/19 by Gledsdale Associates.

2.7. Following queries on the initial submission, the below documents were subsequently provided to support the application:

- Basement Impact Assessment (ref LBH4577 Ver 1.3) dated 7 February 2020 by LBH Wembley Engineering.
- Proposed Basement Details drawing (reference 3640/650 rev P5) dated 17/01/20 by Gledsdale Associates.

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	
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	
Are suitable plans/maps included?	Yes	
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	
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	The site has been identified as being within Critical Drainage Area 3. A SUDS strategy is provided.
Is a conceptual model presented?	Yes	Ground conditions based on investigations carried out on adjacent sites.

Item	Yes/No/NA	Comment
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	N/A	No impacts identified.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	The site has been identified as being within Critical Drainage Area 3. A SUDS strategy is provided.
Is factual ground investigation data provided?	Yes	Based on adjacent sites' data.
Is monitoring data presented?	No	No groundwater was encountered.
Is the ground investigation informed by a desk study?	Yes	
Has a site walkover been undertaken?	Yes	
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	BIA identifies recent basement construction in the properties to the rear of the site, involving underpinning to 4m. BIA identifies adjacent property 3a has been granted permission to construct a basement using underpinning techniques.
Is a geotechnical interpretation presented?	Yes	
Does the geotechnical interpretation include information on retaining wall design?	Yes	
Are reports on other investigations required by screening and scoping presented?	Yes	Outline SuDS Strategy by LBH Wembley Engineering presented.
Are baseline conditions described, based on the GSD?	Yes	

Item	Yes/No/NA	Comment
Do the base line conditions consider adjacent or nearby basements?	Yes	
Is an Impact Assessment provided?	Yes	
Are estimates of ground movement and structural impact presented?	Yes	
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	SUDs strategy provided.
Has the need for monitoring during construction been considered?	Yes	
Have the residual (after mitigation) impacts been clearly identified?	Yes	
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	
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?	Yes	Executive summary provided.

4.0 DISCUSSION

- 4.1. The BIA and an Outline SuDS Strategy has been prepared by LBH Wembley Engineering. The qualifications of the authors of the reports prepared by LBH Wembley Engineering are in accordance with CPG Basements.
- 4.2. The site comprises two three-storey terraced buildings with a single storey extension to the rear of each property, occupying the entire footprint of the site. At ground floor level the two properties have been modified to create a single space used as a commercial unit. The Planning Statement identifies that the site is within the Camden Town Conservation area and is identified as a building which makes a positive contribution to the area.
- 4.3. The proposal is the construction of a single basement level below the entire footprint of No. 5 Camden Road (not extending below No. 5a). The proposed basement will have an internal headroom of 4.9m. The total basement excavation will extend to 5.5m depth beneath the existing ground floor.
- 4.4. The BIA includes the majority of the information required from a desk study in line with the GSD Appendix G1. Screening and Scoping assessments are presented.
- 4.5. No intrusive site investigation has been completed at the site and the BIA indicates that a series of trial pits will be undertaken at the beginning of the construction programme in order to confirm the expected ground conditions. The BIA references investigations carried out by the same engineering team at adjacent properties (3a Camden Road and 8 Kentish Town Road) and provides a description of the expected ground conditions at the site (Made Ground over London Clay Formation).
- 4.6. No groundwater was encountered in the adjacent investigations and groundwater is not expected beneath the site. Considering the London Clay Formation is designated as Unproductive Strata, there will be no impact from the proposed development to the wider hydrogeological environment.
- 4.7. Section 6.3 of the BIA provides retaining wall design parameters for the London Clay and Section 7.2 provides derived soil parameters for the Ground Movement Assessment (GMA).
- 4.8. The proposed development will not increase the impermeable site area but is within a Critical Drainage Area (Group 3-003). The site is not located within a Local Flood Risk Zone and is at low risk of surface water flooding. An Outline SUDs Strategy is presented. The proposed development will not impact the wider hydrological environment. A detailed drainage design should be agreed with LBC and Thames Water.

- 4.9. The Outline SuDS Strategy identifies a sewer crossing the rear of the site, and the BIA indicates a manhole is present underlying the single-storey extension at the rear of No. 5a. The BIA also indicates that utilities are anticipated to be adjacent to the front of the property, beneath the highway.
- 4.10. The revised BIA submission identifies that a full utility survey will be undertaken and asset owners contacted where necessary. The revised submission also indicates that the sewer at the rear of the site will be investigated further and decommissioned or re-routed as necessary.
- 4.11. The new basement slab will be founded in the London Clay Formation. The basement will be formed by underpinning techniques using a 'hit and miss' sequence. An Outline Basement Construction Methodology including temporary works has been presented in Section 6 of the BIA. The underpin bays are indicated to be in short widths not exceeding 1,000mm. In the revised submissions, the temporary works drawings and BIA are consistently presented and the underpinning is confirmed to be undertaken within a single stage of excavation / construction.
- 4.12. The adjacent properties to the rear, No. 8 and 10-12 Kentish Town Road, have been identified as having been recently underpinned to allow basement construction to 4m depth. A single stage of underpinning of approximately 1.5m is required for this party wall.
- 4.13. A GMA is presented in Section 7 of the BIA. The revised submission predicts Category 1 damage (Very Slight) for No. 5a Camden Road and Nos. 10-12 Kentish Town Road, and Category 0 damage (Negligible) for No. 3a Camden Road and No. 8 Kentish Town Road. The revised BIA also indicates negligible movement for the adjacent public highway.
- 4.14. An Outline Structural Monitoring Plan is presented in Section 9 of the BIA. Structural monitoring of the perimeter party walls is recommended to be undertaken during construction and appropriate trigger levels are proposed in the revised BIA submission.

5.0 CONCLUSIONS

- 5.1. The qualifications of the authors of the BIA report are in accordance with LBC guidance.
- 5.2. The proposal is to construct a single basement level below the full footprint of No. 5 Camden Road.
- 5.3. Site investigation has been carried out at adjacent properties by the same engineering team, indicating the development will be formed within the London Clay.
- 5.4. The proposed development will not impact the wider hydrogeological environment.
- 5.5. A Ground Movement Assessment (GMA) is presented and predicted impacts to neighbours will not exceed Category 1 (Very Slight).
- 5.6. An Outline Structural Monitoring Plan is provided with appropriate trigger values.
- 5.7. The proposed development will not impact the wider hydrological environment.
- 5.8. Based on the revised submission, the BIA is considered to meet the criteria of CPG Basements.

Appendix 1: Residents' Consultation Comments

Residents' Consultation Comments

Surname	Address	Date	Issue raised	Response
-	Conservation Area Advisory Committee	25 November 2019	Concerns regarding the depth of the basement and the effect of the basement in conjunction with adjacent proposed and existing basements.	Section 4.

Appendix 2: Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status/Response	Date closed out
1	Land Stability	Please identify the utilities within the zone of influence of the works (BIA Section 7.6.3), confirm impact assessments for any utilities affected, and confirm that utility asset owners will be contacted, as required, re asset protection requirements.	Closed	May 2020
2	Land Stability	For clarity, please confirm that the sewer to the rear of the property (BIA Section 6.4) is within the proposed basement area and will therefore be de-commissioned / re-routed, as required.	Closed	May 2020
3	Land Stability	Please clarify GMA calculations and movements from two-stage underpinning, as detailed in Section 4.	Closed	May 2020
4	Land Stability	Please clarify damage impacts to 8 and 10-12 Kentish Town Road.	Closed	May 2020
5	Land Stability	Cumulative post construction heave effects have been provided (BIA Section 7.4) due to construction at the site and neighbouring developments. Please indicate if these will have any adverse damage impacts to neighbouring properties.	Closed	May 2020
6	Land Stability	An Outline Basement Construction Methodology including temporary works has been presented in Section 6 of the BIA. The underpin bays are indicated to be in short widths not exceeding 1,000mm. This conflicts with the Proposed Basement Details drawing, which indicates bays will be 1,300mm wide. The drawing should be updated in line with the BIA.	Closed	May 2020

Appendix 3: Supplementary Supporting Documents

None

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

Surrey

Raven House
29 Linkfield Lane, Redhill
Surrey RH1 1SS

T: +44 (0)1737 784 500
E: surrey@campbellreith.com

Manchester

No. 1 Marsden Street
Manchester
M2 1HW

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

Bristol

Wessex House
Pixash Lane, Keynsham
Bristol BS31 1TP

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