

7 The Grove, London N6 6JU

**Basement Impact Assessment
Audit**

For
London Borough of Camden

Project No.
14006-06

Date
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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 7 The Grove, London N6 6JU (planning reference 2023/0256/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 proposal comprises hard and soft landscaping works to the front and rear gardens; including a new swimming pool, terrace and pool house and other outbuildings. The swimming pool excavation will be formed within a propped trench sheeting and the structure supported with either shallow spread foundations or a raft foundation. The swimming pool design is assumed to be a reinforced concrete box.
- 1.5 The qualifications of the individuals involved in the BIA are in accordance with LBC guidance.
- 1.6 Screening and scoping assessments are provided, supported by desk study information.
- 1.7 Groundwater is unlikely to be encountered during construction based on the findings of the site investigation. It is accepted that there will be no impact on groundwater flow.
- 1.8 The BIA states that the site has a very low risk of flooding, the proposed development will result in an increase in the hardstanding areas. However, any additional hardstanding or decking around the swimming pool will be permeable to ensure the surface water flow regime will be unchanged. It is accepted that there will be no significant impact on surface water flow and the hydrology of the area.
- 1.9 The BIA identifies that a number of trees are going to be removed, and that their removal will not impact land stability nor the neighbouring properties.
- 1.10 It is accepted that there will be no impact on land stability.
- 1.11 It can be confirmed that the BIA complies with the requirements of Camden Planning Guidance: Basements.

2.0 INTRODUCTION

2.1 CampbellReith was instructed by London Borough of Camden (LBC) on 19 April 2023 to carry out a Category A audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 7 The Grove, London, N6 6JU (Planning Reference 2023/0256/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.
- Highgate 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 "*Hard and soft landscaping works to front and rear gardens; new metal railings to front; alterations to existing rear terrace, including enlargement and new steps; creation of new evening terrace within garden; new swimming pool, terrace and pool house; other outbuildings.*"

2.6 The Audit Instruction confirmed that the property and neighbouring buildings are listed buildings.

2.7 CampbellReith accessed LBC's Planning Portal on 20 April 2023 and gained access to the following relevant documents for audit purposes:

- Ground Investigation and Basement Impact Assessment by Geotechnical & Environmental Associates Limited (GEA), ref: J22393 Rev 0, dated February 2023.
- Arboricultural Report by Russel Miller Arboriculture dated November 2022.

- Arboricultural Method Statement (AMS) by Russel Miller Arboriculture dated March 2023.
- Structural Engineer's Construction Method Statement by engineersHRW, Rev 0, dated February 2023.
- Construction Management Plan by Tom Stuart-Smith Ltd, Version 1, dated 13 December 2022.
- Existing Architectural Drawings by Lisa Shell Architects:
 - Terrace and Outbuildings as approved, ref: GRO7L/AP/101, dated 18 January 2022
 - Front Garden as approved, ref: GRO7L/AP/201, dated 18 January 2022
 - Site Plan Rear Garden Survey, ref: GRO7/SPS/001/B, dated 18 January 2023
 - Long Site Sections AA & FF, ref: GRO7L/SPS/101/B, dated 18 January 2023
 - Cross Site Sections CC, DD & EE, ref: GRO7L/SPS/102/C, dated 18 January 2023
 - Pool House Area, ref: GRO7L/SU/001/C, dated 18 January 2023
 - Terrace and Outbuildings, ref: GRO7L/SU/101/C, dated 18 January 2023
 - Front Garden Survey, ref: GRO7L/SU/201/C, dated 18 January 2023
- Proposed Architectural Drawings by Liza Shell Architects:
 - Site Plan Rear Garden, ref: GRO7L/SPP/001/C, dated 18 January 2023
 - Long Site Sections AA & FF, ref: GRO7L/SPP/101/E, dated 18 January 2023
 - Cross Site Sections CC, DD & EE, ref: GRO7L/SPP/102/D, dated 18 January 2023
 - Pool House, ref: GRO7L/GA/001/E, dated 18 January 2023
 - Terrace and Outbuildings, ref: GRO7L/GA/101/D, dated 18 January 2023
 - Front Garden, ref: GRO7/GA/201/D, dated 18 January 2023
- Drawings by Tom Stuart Smith Ltd:
 - Site Location Plan, ref: 402-L-P-800 Rev: P01, dated 23 December 2022
 - Front Garden – GA Plan, ref: 402-L-P-101 Rev: P01, dated 23 December 2022
 - Rear Garden – GA Plan, ref: 402-L-P-104 Rev: P01, dated 23 December 2022
 - Site Sections – AA' and BB', ref: 402-L-S-405 Rev: P01, dated 23 December 2022
 - Pool Layout Details, ref: 402-L-D-400 Rev: P01, dated 23 December 2022
 - Paving Details with Root Protection Areas, ref: 402-L-D-404 Rev: P01, dated 23 December 2022
 - Fence and Gate Details, ref: 402-L-D-406 rev: P01, dated 23 December 2022

- Timber Garden Sheds and Log Store Details, ref: 402-L-D-407 rev: P01, dated 23 December 2022

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	Section 1.3.2 of the BIA.
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 plan/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	Section 3.1.2 of the BIA.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 3.1.1 of the BIA.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 3.1.3 of the BIA.
Is a conceptual model presented?	Yes	Section 7.0 of the BIA.
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	NA	No items were carried over to scoping.

Item	Yes/No/NA	Comment
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 4.1 of the BIA.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 4.1 of the BIA.
Is factual ground investigation data provided?	Yes	Appendix a of the BIA.
Is monitoring data presented?	Yes	Appendix a of the BIA.
Is the ground investigation informed by a desk study?	Yes	Section 2.0 of the BIA.
Has a site walkover been undertaken?	Yes	Section 1.3 of the BIA.
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	Section 8.1 of the BIA.
Is a geotechnical interpretation presented?	Yes	Sections 8.1 & 8.2 of the BIA.
Does the geotechnical interpretation include information on retaining wall design?	Yes	Section 8.1.1
Are reports on other investigations required by screening and scoping presented?	Yes	Arboricultural Assessment, Construction Method Statement and Construction Management Plan.
Are the baseline conditions described, based on the GSD?	Yes	
Do the base line conditions consider adjacent or nearby basements?	Yes	Section 8.1 of the BIA.

Item	Yes/No/NA	Comment
Is an Impact Assessment provided?	Yes	Section 9.0 of the BIA.
Are estimates of ground movement and structural impact presented?	NA	
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	
Has the need for monitoring during construction been considered?	NA	
Have the residual (after mitigation) impacts been clearly identified?	Yes	No residual impacts.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	Screening, scoping and impact assessment have not identified impacts to stability.
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?	NA	

Item	Yes/No/NA	Comment
Are non-technical summaries provided?	Yes	Executive Summary of the BIA.

4.0 DISCUSSION

- 4.1 The Basement Impact Assessment (BIA) has been carried out by engineering consultants Geotechnical & Environmental Associates Limited (GEA) and the individuals concerned in its production have suitable qualifications.
- 4.2 The Audit Instruction confirmed that the excavation is within the rear garden of a property that contains a listed building.
- 4.3 The site fronts onto The Grove to the east and is bordered to the north by an adjoined three-story house, and to the south by a three-storey terraced house. The rear of the property is bounded by the grounds of two properties fronting onto Highfields Grove. The properties to the rear have a ground level 8m below the site level.
- 4.4 The site is irregular in shape, it is occupied by a four-storey building including a single level basement. The site is essentially level and is occupied by the existing building on the east side. A large rear garden extends to the west, comprising an initial area of lawn at the rear of the house with planted beds around the borders of the site, and an area of trees and planted beds in the far west of the site. The site is densely vegetated, particularly in the west of the site where numerous mature trees as shown on site plans.
- 4.5 The redevelopment proposal comprises hard and soft landscaping works to front and rear gardens; including a new swimming pool, terrace and pool house and other outbuildings. The swimming pool excavation will be formed within a propped trench sheeting, and the structure supported with either shallow spread foundations or a raft foundation. The swimming pool design is assumed to be a reinforced concrete box.
- 4.6 The BIA states in Section 8 of the report that the formation level of the pool is at 2.50m bgl, while Section 3.1.1 of that same report states that the swimming pool will extend to a depth of 2.0m bgl. It is unclear what the depth of the swimming pool is, however, the deeper depth has been considered in the impact assessment report.
- 4.7 Screening and scoping assessments are presented and informed by desk study information. Most relevant figures/maps from the ARUP GSD and other guidance documents are referenced within the BIA to support responses to screening questions.
- 4.8 A ground investigation was undertaken by GEA and comprised three boreholes advanced to a depth of 4.00m and two trial pits hand excavated to a depth of 1.30m. A moderate thickness of Made Ground was encountered (1.00 to 1.30m thick), overlying the Bagshot Formation encountered to the full depth of the investigation.
- 4.9 The BIA states that groundwater was not encountered during the site investigation. The boreholes were installed with groundwater monitoring standpipes, which were all found to be dry during the single monitoring visit. The proposed swimming pool will extend to a depth of 2.00m-2.50m below ground level (bgl), as such groundwater should not be encountered within the excavation.

- 4.10 The BIA recommends that trial excavations are undertaken close to the full depth of the swimming pool to confirm the nature of any possible groundwater inflows. In addition, monitoring of the standpipe should be continued to assess the design water level, as well any seepages encountered from localised perched water tables will be controlled by sump pumping.
- 4.11 The BIA states that the site has a very low risk of flooding, the proposed development will result in an increase in the hardstanding areas. However, any additional hardstanding or decking around the swimming pool will be permeable to ensure the surface water flow regime will be unchanged.
- 4.12 It is accepted that there will be no impacts to the hydrogeological environment and the wider hydrological environment.
- 4.13 The geotechnical parameters to be adopted in the retaining wall calculations and foundation design are presented in Section 8.0 of the BIA.
- 4.14 The BIA identifies that a number of trees are going to be removed, and that their removal will not impact land stability. Based on the distance to neighbouring structures it is accepted that tree felling will not impact neighbouring properties.
- 4.15 The land stability impact assessment indicates that there will no impacts to neighbouring buildings or structures, and this is accepted.

5.0 CONCLUSIONS

- 5.1 The qualifications of the individuals involved in the BIA are in accordance with LBC guidance.
- 5.2 The proposed development includes hard and soft landscaping works, including the construction of a new swimming pool, terrace and pool house to the rear of the property.
- 5.3 The swimming pool excavation will be formed within a propped trench sheeting and the structure supported with either shallow spread foundations or a raft foundation. The swimming pool design is assumed to be a reinforced concrete box.
- 5.4 Screening and scoping assessments are provided, supported by desk study information.
- 5.5 Groundwater is unlikely to be encountered during construction based on the findings of the site investigation. It is accepted that there will be no impact on groundwater flow.
- 5.6 The BIA states that the site has a very low risk of flooding, the proposed development will result in an increase in the hardstanding areas. However, any additional hardstanding or decking around the swimming pool will be permeable to ensure the surface water flow regime will be unchanged. It is accepted that there will be no impact on surface water flow and the hydrology of the area.
- 5.7 The BIA identifies that a number of trees are going to be removed, and that their removal will not impact land stability nor the neighbouring properties.
- 5.8 It is accepted that there will be no impact on land stability.
- 5.9 It can be confirmed that the BIA complies with the requirements of Camden Planning Guidance: Basements.

Appendix 1

Consultation Responses

Residents' Consultation Comments

Surname	Address	Date	Issue raised	Response
Highgate Conservation Area Advisory Committee	NA	16/02/2023	Land Stability Impact	See Sections 4.14 and 4.15
			Impact on Hydrology	See Section 4.11
			Impact on Hydrogeology	See Sections 4.8 to 4.11

Appendix 2

Audit Query Tracker

None

Appendix 3

Supplementary Supporting Documents

None

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