

**10 Primrose Hill Studios,
Fitzroy Road, NW1 8TR**

**Basement Impact Assessment
Audit**

For
London Borough of Camden

Project Number: 13398-53
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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 10 Primrose Hill Studios, Fitzroy Road, NW1 8TR (planning reference 2020/1280/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 Basement Impact Assessment (BIA) has been carried out by LBH Wembley Limited and the individuals concerned in its production have suitable qualifications.
- 1.5. The existing building on site is Grade II listed and is neighboured by similar buildings. The site is located in Primrose Hill Conservation area.
- 1.6. It is understood that the existing part single, part two-storey building and neighbouring properties have no basements, and are founded on shallow foundations with a c.1m crawl space underground below the floor footprint. It is proposed to construct a basement using underpinning technique, founded at 3.5m below ground level.
- 1.7. It is stated that the site is not underlain by an aquifer, that the site is not within 100m of a watercourse, that there will be no change in the impermeable surface area due to the development and that there are no ponds local to the site.
- 1.8. It is accepted that there will be no change to the impermeable surface area on site due the development, since the entire area is currently occupied by the existing building. A Flood Risk Assessment is included with the planning application. It is accepted that the proposal will not adversely impact the hydrology of the area.
- 1.9. It is accepted that the proposed development will not impact the hydrogeology of the area.
- 1.10. The BIA has stated that the proposed basement will be founded within London Clay. Factual ground investigation data is presented though the soil parameters should be justified.
- 1.11. The potential impact of the proposed development to adjacent trees and subsequently to the neighbouring properties shall be assessed.
- 1.12. A ground movement and building damage assessment is presented but should be revised to include the on-site listed building.
- 1.13. A Structural Engineering Report is missing and should be provided.
- 1.14. A movement monitoring strategy is presented.
- 1.15. A non-technical summary is presented.
- 1.16. A listed building consent will likely be required by LBC.
- 1.17. It cannot be confirmed that the BIA complies with the requirements of CPG: Basements until the queries raised in Section 4 and Appendix 2 are addressed.

2.0 INTRODUCTION

- 2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 7th October 2020 to carry out a Category B audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 10 Primrose Hill Studios, NW1 8TR (Planning Reference 2020/1280/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: Basements. January 2021.
 - Guidance for Subterranean Development (GSD). Issue 01. November 2010. Ove Arup & Partners.

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 *"The formation of a basement level extension and the creation of a self-contained one-bedroomed flat, together with the installation of rear elevation windows and door."*

The Audit Instruction confirmed that 10 Primrose Hill is a Grade II listed building and is neighboured by similar buildings. It is also within Primrose Hill conservation area.

2.6. CampbellReith accessed LBC's Planning Portal on 30th October 2020 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment by LBH Wembley Limited, v.1.2, dated 19 February 2020 (Reference LBH4601);
- Flood Risk Assessment by LBH Wembley, dated February 2020 (Reference LBH4601fra);
- Planning Statement by ADN planning Ltd;
- Planning Application Drawings consisting of:
 - Location Plan;
 - Existing Plans and Sections: Drawing Reference PRI-EX-GA-01, 02, 05, 06, 07, 08, 09, 10;
 - Proposed Plans and Sections: Drawing Reference PRI-PL-GA-01, 08, 09, 10.

- Planning Comments and Response.

2.7. The following additional information was provided in response to the original audit queries:

- Basement Impact Assessment by LBHGEO Limited, v.1.3, dated 17 December 2020 (Reference LBH4601);
- Ground Investigation Report by ST Consult, dated January 2020 (Reference JN1383).

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 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	
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	
Is a conceptual model presented?	Yes	Revised BIA Section 7.2

Item	Yes/No/NA	Comment
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	However, soil parameters should be reviewed and the GMA updated as discussed in this audit.
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Is factual ground investigation data provided?	Yes	Southern Testing Ground Investigation Report provided.
Is monitoring data presented?	No	However, it is stated in the BIA that no groundwater was encountered during the ground investigation.
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	It is stated that No.9 and No. 11 Primrose Hill have no basements.
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	
Are the baseline conditions described, based on the GSD?	Yes	
Do the base line conditions consider adjacent or nearby basements?	Yes	

Item	Yes/No/NA	Comment
Is an Impact Assessment provided?	No	The potential impact for the on-site listed building and any trees in the proximity shall be assessed.
Are estimates of ground movement and structural impact presented?	Yes	However, the GMA and potential structural impact shall be reviewed in accordance with this audit.
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	Yes	However, further analysis is required as discussed in this audit.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	No	Conclusion cannot be made until further clarification requested in Section 4 and Appendix 2 is provided.
Has the need for monitoring during construction been considered?	Yes	An outline monitoring plan is presented in the revised BIA.
Have the residual (after mitigation) impacts been clearly identified?	No	
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	No	Further clarification and revision requested.
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?	No	
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	However, further information is required as per the findings of this audit.
Are non-technical summaries provided?	Yes	In the revised BIA.

4.0 DISCUSSION

- 4.1. The Basement Impact Assessment (BIA) has been carried out by LBH Wembley Limited and the individuals concerned in its production have suitable qualifications.
- 4.2. The LBC Instruction to proceed with the audit identified that the basement proposal involved a Grade II listed building. It is also understood that the site is located within the Primrose Hill Conservation Area.
- 4.3. The existing building on site is a part single, part two-storey structure with a crawl space/void up to 1m in height present below the entire ground floor. It is proposed to construct a basement by excavating up to 2.5m of soil and underpinning the existing foundations at 3.5m depth below the ground level.
- 4.4. It is stated in the BIA, that a ground investigation was undertaken which identified that the site is underlain by up to 1m of Made Ground over London Clay. It is also stated that no groundwater was encountered during the investigation and that the London Clay is a practically impermeable stratum. Therefore, it is accepted that the proposed development will not impact the hydrogeology of the area.
- 4.5. A factual ground investigation report is provided and a conceptual site model is included in Section 7.2 of the revised BIA. An undrained shear strength of 75kPa has been used in BIA which is not supported by the factual ground investigation findings and this should be reassessed. Also, an undrained Young's modulus of 39,200kPa increasing linearly to 124,600kPa at 30m bgl has been used which also is not supported by the ground investigation data nor is it suitably conservative for the design and this should be reassessed.
- 4.6. It is stated in the BIA that the site is not underlain by an aquifer, that the site is not within 100m of a watercourse, that there will be no change in the impermeable surface area due to the proposed development and that there are no ponds local to the site.
- 4.7. It is accepted that there will be no change to the impermeable surface area on site due to the proposed development, since the entire area is currently occupied by the existing building. It is understood from the screening checklist that the existing roof drainage arrangement discharging to the public sewer will be maintained. It is stated that the site lies within the Primrose Hill Flood Risk Area. Although there is low risk of flooding on the site itself, the area located downgradient of site has a higher risk. An FRA is included with the planning application. It is accepted that the proposal will not adversely impact the hydrology of the area.
- 4.8. It is understood that the site does not include slopes greater than 7 degrees, and that no reprofiling is planned at the site. There are trees present in the pavement to the rear of the property. It is stated that the proposed development is within 5m of Primrose Hill Studios Square, Manley Street and Kingstown Street. It is also stated that the proposed basement will increase the differential depth of foundations when compared to No.11 and No.9 Primrose Hill Studios.
- 4.9. Given the presence of trees to the rear of the property and the shrink/swell potential of underlying London Clay, it was previously requested that an arboricultural survey should be undertaken to assess whether the proposal is within their zone of influence and subsequently summarise the potential impacts due to the development. Instead of providing an arboricultural survey the revised BIA has provided information about the type and height of trees in the vicinity. Further, the BIA indicated in the screening section that trees 'will be felled as part of the proposed development and/or works proposed are within the protection zone of trees'. It is not clear in the BIA how any trees in the proximity will be affected by the proposed development and how this may impact nearby properties that are founded at shallow elevations

within the high volume change potential London Clay Formation. This shall be clarified along with any mitigation measures if applicable.

- 4.10. A Structural Engineering Report (SER) has not been provided and is requested. The SER should demonstrate that the engineering design has been advanced to concept design stage (RIBA Stage 2) as a minimum in accordance with LBC's guidance note v.1.0 titled "Basement Impact Assessments: Defining the scope of engineering input". A structural report is also required by Section 4.48 of CPG Basements for the on-site listed building.
- 4.11. A construction sequence for the proposed basement is provided
- 4.12. A Ground Movement Assessment (GMA) is provided within the BIA. The assessment presents estimated ground movements that may affect the neighbouring properties No. 9 and No. 11 and states that the structural impact will be limited within Category 1 of the Burland scale. The façade sections of neighbouring properties considered in the assessment have been updated to include the entire length of the facades of No.9 and No.11. A building damage assessment of the on-site listed building has not been presented and is requested.
- 4.13. According to the revised BIA (Section 7.5.1) less than 5mm of settlement and therefore negligible ground movement and impact is anticipated for the nearby highway and for any underground utilities contained therein and this is accepted. Consultation with nearby third party owners may be required by the applicant to confirm matters but this is outside the remit of this audit.
- 4.14. An outline movement monitoring strategy during construction is provided in the revised BIA.
- 4.15. A non-technical summary is provided in the revised BIA.

5.0 CONCLUSIONS

- 5.1. The Basement Impact Assessment (BIA) has been carried out by LBH Wembley Limited and the individuals concerned in its production have suitable qualifications.
- 5.2. The site comprises a building without a basement, and is neighboured by similar buildings. The existing building and neighbouring properties are Grade II listed. The site is within Primrose Hill Conservation Area.
- 5.3. It is stated in the BIA that the proposed basement will be founded within London Clay and that no groundwater was encountered during ground investigation. It is accepted that the proposed development will not impact the hydrogeology of the area.
- 5.4. A factual ground investigation report and a conceptual model is provided. The soil parameters used in the design shall be justified.
- 5.5. A Structural Engineering Report is not provided and is required.
- 5.6. The basement construction will be facilitated by underpinning. A construction sequence is presented.
- 5.7. It is accepted that the development will not adversely impact the hydrology of the area.
- 5.8. It is not clear in the BIA how any trees in the proximity will be affected by the proposed development and how this may impact nearby properties that are founded at shallow elevations within the London Clay. Mitigation measures shall be included if applicable.
- 5.9. A building damage assessment for the on-site listed building has not been presented and is requested.
- 5.10. A non-technical summary is presented in the revised BIA.
- 5.11. It cannot be confirmed that the BIA complies with the requirements of CPG: Basements, until the queries raised in Section 4 and Appendix 2 are addressed.

Appendix 1: Residents' Consultation Comments

Residents' Consultation Comments

Surname	Address	Date	Issue raised	Response
-	-	24 June 2020	Differential foundation depth with respect to neighbouring properties, groundwater risk and subsidence.	Addressed in the audit.

Appendix 2: Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	BIA	Factual Ground Investigation data and utility survey data shall be presented.	Closed	18/08/2021
2	Stability	Arboricultural Report within the zone of influence of trees shall be presented.	Closed – But new query about trees below	18/08/2021
3	BIA	A Structural Engineering Report with outline design and drawings of the underpinned wall and proposed works shall be presented.	Open	
4	Stability	Ground Movement assessment to be revised and appropriate length of neighbouring properties in either direction to be considered for assessment. Estimates of ground movement and damage assessment for neighbouring infrastructure shall be presented.	Closed	18/08/2021
5	Stability	Monitoring strategy shall be presented.	Closed	18/08/2021
6	BIA	A non-technical summary is not presented and is requested.	Closed	18/08/2021
		Additional Queries for the revised BIA (v.1.3)		
7	Stability	The soil parameters used in the Ground Movement assessment shall be justified.	Open	
8	Stability	The BIA shall clarify how any trees in the proximity may be affected by the proposed development and how this may impact nearby properties. Any mitigation measures shall be included if applicable.	Open	
9	Stability	A building damage assessment for the on-site listed building has not been presented and is requested.	Open	
10	-	A listed building consent will likely be required by LBC.	Note only	-

Appendix 3: Supplementary Supporting Documents

None pertinent