

131 Arlington Road, NW3 7ET

Basement Impact Assessment
Audit

For

London Borough of Camden

Project Number: 12985-53
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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 131 Arlington Road, NW1 7ET (planning reference 2019/1088/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 and Structural Method Statement have been prepared by Constructure Ltd. The Desk Study and Ground Investigation report, which includes a BIA, has been prepared by Geotechnical & Environmental Associated Limited (GEA). The authors possess suitable qualifications.
- 1.5. It is proposed to extend the basement and the ground floor of the existing building towards the rear of the property and to lower the existing basement throughout. It is also proposed to include a lightwell at the front of the property.
- 1.6. A ground investigation has been carried out that confirms that the ground conditions comprise Made Ground over London Clay.
- 1.7. The BIA has confirmed that the proposed basement will be founded within London Clay. Groundwater should not be encountered and there will be no impact to the wider hydrogeological environment.
- 1.8. The interpreted geotechnical parameters are not adopted consistently within the outline calculations presented. However, it is accepted that considering the proposed development, the conclusion of the stability assessment remain unchanged.
- 1.9. Outline permanent and temporary works information is provided, including sequencing and propping.
- 1.10. The BIA has confirmed the presence of basements in the neighbouring properties, similar in size and depth to that of the existing property. A ground movement assessment (GMA) has been undertaken that predicts a maximum of Category 1 damage to neighbours, in accordance with the Burland Scale.

- 1.11. The depth of excavation required for the lightwell is inconsistently presented between the BIA documents. However, it is accepted that considering the worst stated case, the impact assessment remains unchanged based on stiffly propped temporary works in the lightwell.
- 1.12. An outline monitoring strategy, including trigger levels, is provided based on the GMA and this should be adopted.
- 1.13. It is stated that the development will lead to a slight increase in impermeable surface area and drainage will remain as existing. The impermeable surface area is inconsistently presented. However, considering the worst stated case, it is accepted there will be no impact to the wider hydrological environment.
- 1.14. It is stated in the BIA that no trees would be removed as part of the basement development. It's noted that a sycamore tree is indicated to have been removed between January and March 2019.
- 1.15. A construction programme should be confirmed once a contractor is appointed.
- 1.16. Discussion is presented in Section 4. The BIA meets the requirements of CPG: Basements.

2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 08 April 2019 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 131 Arlington Road, Camden, London, NW1 7ET.

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 Basements. March 2018.
- Camden Development Policy (DP) 27: Basements and Lightwells.
- Camden Development Policy (DP) 23: Water.
- Local Plan 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;
- 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 "*Erection of a full width basement rear extension and part width ground floor extension following the demolition of an existing rear extension associated with the conversion of the property back to a single dwelling (Class C3)*"

The Audit Instruction also confirmed that the property is Grade II listed.

2.6. CampbellReith accessed LBC's Planning Portal on 10 June 2019 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment & Structural method Statement Parts 1 to 3 prepared by Constructure Ltd (Reference no. 1731, dated March 2019);
- Desk study and Ground Investigation Report Parts 1 to 8 prepared by GEA (Reference J19013, dated March 2019);
- Design and Access statement prepared by Owal Architects (dated February 2019);
- Planning Application Drawings consisting of:
 - Site Location Plan (Reference 248-SL);
 - Existing Plans and sections (Reference 248-EX-GAB1, GA00, GA01, GA02, GE01, GE02, GS01, GS02);
 - Demolition Plans and sections (Reference 248-DEB1, DE00, DE01, DE02, DE01, DE02);
 - Proposed Plans and sections (Reference 248-GAB1, GA00, GA01, GA02, GE01, GE02, GS01, GS02, GS03);
 - Garden Plans by ACS (Trees) Consulting (Reference TP1_AR_121 dated January 2019, TPP1_AR_131 dated March 2019)
- Planning Comments and Response.

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	Refer Section 1.3.2 of the Desk study and Ground Investigation report.
Is data required by Cl.233 of the GSD presented?	No	Lightwell dimensions to be clarified. Outline construction programme should be provided.
Does the description of the proposed development include all aspects of temporary and permanent works which might impact upon geology, hydrogeology and hydrology?	Yes	Accepted that deepest stated lightwell excavation does not alter impact assessment.
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	

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?	NA	
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Is factual ground investigation data provided?	Yes	
Is monitoring data presented?	Yes	No groundwater encountered during investigation and subsequent monitoring.
Is the ground investigation informed by a desk study?	Yes	
Has a site walkover been undertaken?	Yes	Section 2.1 of the Desk Study & Ground Investigation Report
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	Section 2.6 of the BIA and Section 10.5 of the Desk Study & Ground Investigation Report.
Is a geotechnical interpretation presented?	Yes	Page 16 of the Ground Investigation Report.
Does the geotechnical interpretation include information on retaining wall design?	Yes	Section 10.3 of the GIR gives further interpretation including stiffness parameter.
Are reports on other investigations required by screening and scoping presented?	Yes	
Are the 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	Noted that geotechnical parameters presented are not consistently adopted. However, it is accepted these do not alter the conclusions of the stability assessment.
Is the Impact Assessment appropriate to the matters identified by screen 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?	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	Noted that the change in impermeable site area is inconsistently presented. However, it is accepted that the worst stated case causes negligible impact.
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	

4.0 DISCUSSION

- 4.1. The Basement Impact Assessment (BIA) and Structural Method Statement has been carried out by Constructure Ltd, the author being Chartered Structural Engineer. The Desk study and Ground Investigation report, which includes a BIA, were authored by a Chartered Geologist and Chartered Civil Engineer. The authors possess suitable qualifications.
- 4.2. The LBC Instruction to proceed with the audit identified that the basement proposal involved a Grade II listed terraced townhouse.
- 4.3. It is proposed to demolish the existing rear extension and associated retaining walls and re-build with a slight extension out into the garden. The proposal would involve excavations up to 1.10m below the building footprint to facilitate lowering of the basement floor (increase head height) by approximately 0.4m. Excavations in part of the proposed front lightwell may be up to 3.30m deep, although the extent of this is unclear.
- 4.4. The ground investigation report states that the Made Ground on site varies in thickness between 0.35m to 0.90m. This is underlain by London Clay proven to a maximum of 3.10m below existing basement slab level. BGS records indicate that London Clay locally should be in excess of 30.00m thick. Groundwater was not encountered during investigation and subsequent monitoring over a 3 week period.
- 4.5. Outline permanent and temporary works information is provided, including sequencing and propping. The basement would be constructed utilising underpinning techniques.
- 4.6. The BIA has confirmed that the proposed basement will be founded within London Clay. The development is approximately 360m north-west of the River Fleet (section 5.2 of the BIA). Groundwater should not be encountered and there will be no impact to the wider hydrogeological environment.
- 4.7. The interpreted geotechnical parameters are not adopted consistently within the outline retaining wall calculations presented. However, it is accepted that considering the proposed development (depth, scale, methodology) the conclusion of the stability assessment remain unchanged
- 4.8. The BIA has confirmed the presence of basements in the neighbouring properties, similar in size and depth to that of the existing property. A ground movement assessment (GMA) has been undertaken that predicts a maximum of Category 1 damage to neighbours, in accordance with the Burland Scale. The assessment is consistent with the anticipated movements generated by basement construction of the proposed scale and depth constructed by underpinning and is accepted.

- 4.9. The depth of excavation required for the lightwell is inconsistently presented between the BIA documents. However, it is accepted that considering the worst stated case, the impact assessment remains unchanged based on stiffly propped temporary works in the lightwell over a limited area.
- 4.10. An outline monitoring strategy, including trigger levels, is provided based on the GMA and this should be adopted.
- 4.11. It is stated that the development will lead to a slight increase in impermeable surface area and drainage will remain as existing. The impermeable surface area is inconsistently presented, as: an additional 2.03m² in Section 3.2 (scoping); as 6.00m² in the screening checklist. Considering the worst stated case, it is accepted that the change is negligible and there will be no impact to the wider hydrological environment. The final drainage design should meet the requirements of LBC and Thames Water.
- 4.12. It is accepted that the proposed development is not in an area prone to flooding.
- 4.13. It is stated in the BIA that no trees would be removed as part of the basement development. It is noted that a sycamore tree is indicated to have been removed between January and March 2019.
- 4.14. Cl.233 of the GSD indicates that an outline construction programme should be presented within a BIA. A construction programme should be confirmed to LBC in advance of the works.

5.0 CONCLUSIONS

- 5.1. The BIA has been undertaken by suitably qualified authors.
- 5.2. The BIA has confirmed that the proposed basement will be founded within London Clay.
- 5.3. Groundwater should not be encountered and there will be no impact to the wider hydrogeological environment.
- 5.4. Outline permanent and temporary works information is provided, including sequencing and propping.
- 5.5. A ground movement assessment (GMA) has been undertaken that predicts a maximum of Category 1 damage to neighbours, in accordance with the Burland Scale.
- 5.6. An outline monitoring strategy, including trigger levels, is provided based on the GMA and this should be adopted.
- 5.7. Considering the worst stated case in change in impermeable surface area, it is accepted there will be no impact to the wider hydrological environment.
- 5.8. A construction programme should be confirmed to LBC in advance of the works.
- 5.9. The BIA meets the requirements of CPG: Basements.

Appendix 1: Residents' Consultation Comments

None

Appendix 2: Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	BIA	A construction programme should be confirmed.	Note only	N/A

Appendix 3: Supplementary Supporting Documents

None

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