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13 Gloucester Crescent
NW1 7DS

Basement Impact Assessment
Audit

For

London Borough of Camden

Project Number: 12985-59
Revision: D1

July 2019

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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 13 Gloucester Road, NW1 7DS (planning reference 2019/2494/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 Southern Testing Environmental and Geotechnical Consultants using individuals who possess suitable qualifications.

1.5. The proposed development comprises a rear extension including a basement level to be constructed following demolition of an existing rear extension.

1.6. A site investigation has confirmed the ground conditions to comprise Made Ground over London Clay. The proposed basement shall be founded on London Clay.

1.7. Perched groundwater is likely to be encountered during construction and suitable mitigation should be considered to ensure stability. There will be no impact to the wider hydrogeological environment.

1.8. Interpretative geotechnical design parameters should be presented.

1.9. A top-down construction sequence utilising underpinning is proposed.

1.10. Based on a ground movement assessment it is stated that the proposed development will not cause more than Category 1 (very slight) damage to neighbours, based on the Burland Scale. However, as discussed in Section 4, the assessment is not accepted.

1.11. An outline structural monitoring strategy should be presented.

1.12. The proposal does not increase the impermeable surface area and it is accepted that the hydrological environment will not be adversely affected. It is also accepted that the site is not in an area subject to flooding.

1.13. An outline construction programme should be presented.

1.14. Queries and requested for information are discussed in Section 4 and summarise in Appendix 2. Until the additional information requested is presented, the BIA does not meet the requirements of CPG: Basements.

2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 06th June 2019 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 13 Gloucester Crescent, NW1 7DS.

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;

d) 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 *"Demolish the existing rear extension, build a basement to the rear (following policy A5), build an extension to the rear, small amendments to the interior."*

The Audit Instruction also confirmed 13 Gloucester Crescent is a Grade II listed building.

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

- Basement Impact Assessment prepared by Southern Testing Environmental and Geotechnical Consultants (Reference J13965-1, dated 13th May 2019)
- Design and access statement dated November 2018.
- Planning Application Drawings consisting of

  Location Plan (Drawing Ref 1804-210, dated 03 May 2019)

  Existing drawing (Drawing Ref 1804-127, dated 03 May 2019)

  Demolition drawing (Drawing Ref 1804-235, dated 03 May 2019)

  Proposed Plans (Drawing Ref 1804-228, dated 03 May 2019)

  Site Plan (Drawing Ref 1804-211, dated 03 May 2019)

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	Refer Section 7 of the BIA
Is data required by Cl.233 of the GSD presented?	No	An outline construction programme to be presented.
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	
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	

Item	Yes/No/NA	Comment
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	
Is monitoring data presented?	Yes	
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	Basements are absent.
Is a geotechnical interpretation presented?	Yes	
Does the geotechnical interpretation include information on retaining wall design?	Yes	Refer Appendix E of the BIA.
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?	N/A	
Is an Impact Assessment provided?	Yes	
Are estimates of ground movement and structural impact presented?	Yes	However, not accepted as Section 4.

Item	Yes/No/NA	Comment
Is the Impact Assessment appropriate to the matters identified by screen and scoping?	No	Stability assessment to be reviewed as Section 4.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	No	Stability assessment to be reviewed as Section 4.
Has the need for monitoring during construction been considered?	No	None provided.
Have the residual (after mitigation) impacts been clearly identified?	NA	Subject to review following GMA revisions.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	No	GMA to be revised, as Section 4.
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	GMA to be revised, as Section 4.
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	However, GMA to be revised, as Section 4.
Are non-technical summaries provided?	Yes	

4.0 DISCUSSION

4.1. The Basement Impact Assessment (BIA) has been carried out by Southern Testing Environmental and Geotechnical consultants, and the authors are a Chartered Geologist and Chartered Engineer, in accordance with CPG: Basements.

4.2. The LBC Instruction to proceed with the audit identified that the basement proposal involved a Grade II listed building.

4.3. It is proposed to demolish a rear conservatory extension and to construct a new rear extension including a single level basement. A single storey is proposed above the basement.

4.4. The site investigation confirmed that the ground condition on site comprise Made Ground over London Clay. The London Clay is accepted to be non-productive and there will be no impact to the wider hydrogeological environment. However, perched groundwater was monitored at 1.50m to 1.60m bgl.

4.5. The proposed structure will be founded on London Clay. Interpretative geotechnical parameters in accordance with the GSD G3 should be presented, including the proposed bearing capacity and retaining wall design parameters.

4.6. It is proposed to underpin the existing building and the party to form retaining walls, which will be stiffly propped in the temporary case and propped in the permanent case by reinforced concrete basement and ground floor slabs. Whilst underpinning within the London Clay is feasible, considering the presence of perched groundwater, the contractor should make provision for suitable local groundwater control to ensure stability during construction.

4.7. The BIA confirms that the neighbouring structures do not have basements.

4.8. A ground movement assessment (GMA) has been carried out to assess the impact the proposed development will have on the adjacent properties which indicates that the impact would be less than Category 1 (very slight) damage, in accordance with the Burland Scale. This is currently not accepted and the following queries are raised:

- Interpretative geotechnical information should be provided, as 4.5.
- The inclusion of groundwater control methods should be confirmed in the temporary works strategy, to ensure stability whilst underpinning.
- The ground movements predicted within the GMA are inconsistent with the assessment methodology adopted for basements of the scale and depth proposed constructed by underpinning. Whilst it is noted that short term and long term movements have been considered, the short term movements generated by the C760 methodology appear to be incorrect.

- The critical sections adopted for the damage assessment should include the Party Walls.
- Consideration should be given to the timing of settlement and heave. Off-setting short term settlements with long term heave is not considered to provide a reasonably conservative assessment.
- As the subject site is Grade II Listed, damage to the structural walls of the property should be explicitly assessed and stated.

4.9. An outline structural monitoring strategy should be presented. This should include appropriate trigger levels and contingency actions to be adopted to control the works.

4.10. An outline construction programme should be provided.

4.11. It is accepted that the proposed construction will not lead to increase in impermeable site area. There will be no impact to the wider hydrological environment.

4.12. It is accepted that there are no slope stability concerns regarding the proposed development and it is not in an area prone to flooding.

5.0 CONCLUSIONS

5.1. The BIA has been prepared individuals who possess suitable qualifications.

5.2. A site investigation has confirmed the ground conditions to comprise Made Ground over London Clay. The proposed basement shall be founded on London Clay.

5.3. Perched groundwater is likely to be encountered during construction and suitable mitigation should be considered to ensure stability. There will be no impact to the wider hydrogeological environment.

5.4. Interpretative geotechnical design parameters should be presented.

5.5. The basement will be constructed utilising an underpinning methodology.

5.6. It is stated that the proposed development will not cause more than Category 1 (very slight) damage to neighbours, based on the Burland Scale. However, as discussed in Section 4, the assessment is not accepted.

5.7. An outline structural monitoring strategy should be presented.

5.8. The proposal does not increase the impermeable surface area and it is accepted that the hydrological environment will not be adversely affected. It is also accepted that the site is not in an area subject to flooding.

5.9. An outline construction programme should be presented.

5.10. Queries and requested for information are discussed in Section 4 and summarise in Appendix 2. Until the additional information requested is presented, the BIA does not meet 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	An outline construction programme is required.	Open	
2	Land Stability	Interpretative geotechnical information to be provided, as GSD Appendix G3.	Open	
3	Land Stability	GMA to be revised, as comments in Section 4.	Open	
4	Land Stability	An outline structural monitoring strategy should be presented.	Open	

Appendix 3: Supplementary Supporting Documents

None

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