

13 Gloucester Crescent
NW1 7DS

Basement Impact Assessment
Audit

For
London Borough of Camden

Project Number: 12985-59
Revision: F1

October 2019

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Document History and Status

Revision	Date	Purpose/Status	File Ref	Author	Check	Review
D1	July 2019	Comment	RNgk-19072019-12985-59 - 13 Gloucester Crescent-D1.doc	RN	GK	GK
F1	October 2019	Comment	RNgk-22102019-12985-59 - 13 Gloucester Crescent-F1.doc	RN	GK	GK

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Document Details

Last saved	22/10/2019 16:26
Path	RNgk-22102019-12985-59 - 13 Gloucester Crescent-F1.doc
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Project Number	12985-60
Project Name	13 Gloucester Crescent, NW1 7DS
Planning Reference	2019/2494/P

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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. An initial 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. This audit has been prepared based on updated information for the application available on the LBC planning portal and the revised BIA report that was forwarded to CampbellReith by email on 19th October 2019.
- 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 single storey 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. Groundwater is likely to be encountered (based on the results of groundwater monitoring) 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 have been presented in the revised BIA document (Reference J13965-3, dated 18th October 2019).
- 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 neighbouring structures, in accordance the Burland Scale.
- 1.11. An outline structural monitoring strategy has been presented as requested, and was found to be satisfactory.

- 1.12. The proposal does not increase the impermeable surface area and will not impact the hydrological environment. It is also accepted that the site is at very low risk of flooding.
- 1.13. An outline construction programme has been presented, as requested.
- 1.14. Information requested within the previous BIA audit (RNgk-19072019-12985-59 - 13 Gloucester Crescent-D1) has now been presented. The BIA now meets 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)

2.7. The following updated document was forwarded to CampbellReith by email on 18th October 2019;

- Basement Impact Assessment prepared by Southern Testing Environmental and Geotechnical Consultants (Reference J13965-3, dated 18th October 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?	Yes	An outline construction programme presented in revised submission
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	

Item	Yes/No/NA	Comment
Are estimates of ground movement and structural impact presented?	Yes	Based on revised BIA (Reference J13965-3, dated 18 th October 2019)
Is the Impact Assessment appropriate to the matters identified by screen and scoping?	Yes	Based on revised BIA (Reference J13965-3, dated 18 th October 2019)
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	Based on revised BIA (Reference J13965-3, dated 18 th October 2019)
Has the need for monitoring during construction been considered?	Yes	Monitoring plan provided in revised submission
Have the residual (after mitigation) impacts been clearly identified?	Yes	Based on revised BIA (Reference J13965-3, dated 18 th October 2019)
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	Based on revised BIA (Reference J13965-3, dated 18 th October 2019)
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	Based on revised BIA (Reference J13965-3, dated 18 th October 2019)
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	Based on revised BIA (Reference J13965-3, dated 18 th October 2019)
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 Unproductive Strata and there will be no impact to the wider hydrogeological environment. However, perched groundwater was monitored at 1.50m to 1.60m bSD (below site datum).
- 4.5. The proposed structure will be founded within the London Clay. It was requested that interpretative geotechnical parameters in accordance with the GSD G3 were presented, including the proposed bearing capacity and retaining wall design parameters. This has now been included within the revised BIA (Version 3, dated 18th October 2019).
- 4.6. It is proposed to underpin the existing building (at 3.10m bSD) and the Party Wall to form retaining walls (at 3.40m bSD), 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. Discussion on ground water control methods is included within Section 20 of the revised Factual and Interpretative Ground Investigation Report (Reference J13965-2 (v2)).
- 4.7. The BIA confirms that the neighbouring structures do not have basements.
- 4.8. The Envirocheck report appended with the BIA documents states that the London Clay on site has a 'Moderate' shrink and swell potential. The results from the site investigation indicates that the London Clay on site has 'Extremely High Plasticity' and has a 'High Volume Change Potential'. It was requested that the soil heave resulting from unloading (e.g. from demolition and excavation) be conservatively assessed within the ground movement assessment (GMA). This has now been included within the revised GMA.
- 4.9. A GMA (dated October 2019) has been carried out to assess the impact of the proposed development on the adjacent properties. The GMA concludes that damage would be less than

Category 1 (Very Slight), in accordance with the Burland Scale. Queries were raised in the previous audit in relation to the GMA that have now been addressed within the updated documents as follows:

- Interpretative geotechnical information has been included under Section 14.1 of the Factual and Interpretative Ground Investigation Report (Reference J13965-2 (v3));
 - Suggested groundwater control methods have been discussed under Section 20 of the Factual and Interpretative Ground Investigation Report (Reference J13965-2 (v3), to ensure stability whilst underpinning.
 - The ground movements predicted in the revised GMA (Reference J13965-3, dated 18th October 2019) are now within the typical range anticipated, considering the scale, depth, sequencing and propping.
 - It was requested that the critical sections adopted for the damage assessment should include the Party Walls. This has now been included in the ground movement calculations in Appendix E of the latest revised BIA.
 - As the subject site is Grade II Listed, it was requested that the damage to the structural walls of the property should be explicitly assessed and stated. This has now been provided.
- 4.10. An outline structural monitoring strategy was requested including appropriate trigger levels and contingency actions to be adopted to control the works. A Monitoring Plan (Reference MT0440, dated August 2019) has been prepared by James Frith Ltd, appended to the BIA. The final monitoring arrangements should be agreed under the Party Wall Act..
- 4.11. An outline construction programme was requested and has been provided.
- 4.12. 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.
- 4.13. It is accepted that there are no slope stability concerns regarding the proposed development and the site area is not 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 within the 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 have been presented.
- 5.5. The basement will be constructed utilising an underpinning methodology utilising temporary and permanent props.
- 5.6. It is stated that the proposed development will not cause more than Category 1 (Very Slight) damage to the host and neighbouring structures, in accordance with the Burland Scale.
- 5.7. An outline structural monitoring strategy has been presented.
- 5.8. The proposal does not increase the impermeable surface area and there will be no impact to the wider hydrological environment. The site area is at very low risk of flooding.
- 5.9. An outline construction programme has been presented.
- 5.10. The additional information requested in the previous audit report (RNgk-19072019-12985-59 - 13 Gloucester Crescent-D1) has now been presented. 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	An outline construction programme is required.	Closed	09.09.2019
2	Land Stability	Interpretative geotechnical information to be provided, as GSD Appendix G3.	Closed	19.10.2019
3	Land Stability	GMA to be revised, as comments in Section 4.	Closed	19.10.2019
4	Land Stability	An outline structural monitoring strategy should be presented.	Closed	09.09.2019

Appendix 3: Supplementary Supporting Documents

None

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