

29 Steele's Road (Flat 1)
London
NW3 4RE

Basement Impact Assessment
Audit

For
London Borough of Camden

Project Number: 13398-93
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Document Details

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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 29 Steele's Road, London NW3 4RE (planning reference 2020/5932/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 (BIA) 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 proposed works comprise lowering of the existing conservatory floor by approximately 300mm. This will involve excavations to approximately 800mm below ground level and underpinning of the Party Wall.
- 1.5. The qualifications of the individuals involved in the BIA are in accordance with LBC guidance. Screening and Scoping assessments are presented, supported by desk study information.
- 1.6. The existing basement floor level, the proposed basement floor level and associated maximum excavation depth and proposed formation level have been confirmed in the BIA.
- 1.7. The site is within a Critical Drainage Area (Group 3_003) but the proposals do not increase the impervious site area.
- 1.8. The impact assessment on the wider hydrogeological environment has been revised and it is accepted that there will not be any adverse impact.
- 1.9. The site is at very low risk from flooding from rivers, seas and reservoirs, from groundwater, and at low risk from surface water. The site is not within a Local Flood Risk Zone.
- 1.10. Geotechnical parameters to inform settlement, retaining wall calculations and foundation design have been presented in the BIA.
- 1.11. A Ground Movement Assessment (GMA) has been undertaken. The analysis indicates that the anticipated damage from the basement excavation will be within LBC's policy criteria.
- 1.12. Queries and requests for information are summarised in Appendix 2. Considering the additional information presented, the BIA meets the requirements of Camden Planning Guidance: Basements.

2.0 INTRODUCTION

- 2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 14 April 2021 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 29 Steele's Road, London NW3 4RE, Camden Reference 2020/5932/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. March 2018.
 - 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 "*Partial lowering of the rear lower ground floor and replacement of the lower ground floor side entrance door.*"
- 2.6. The Audit Instruction confirmed applicant's property and neighbouring properties are not listed.
- 2.7. CampbellReith accessed LBC's Planning Portal on 4th May 2021 and gained access to the following relevant documents for audit purposes:
- Basement Impact Assessment (ref.:20073/R1/BC/RevP1), dated December 2020, by Constant Structural Design Ltd;

- Planning Application Drawings consisting of Location Plan, Existing and Proposed Plans, Existing and Proposed Sections dated December 2020 by Neiheiser Argyros Architectural Designer.
- 2.8. CampbellReith issued an initial audit report on 19/05/2021 (NSgk13398-93-190521-29 Steele's Road-D1) with comments on the above BIA documents.
- 2.9. In response to the initial audit report and following email exchanges between 28/05/2021 and 3/08/2021, CampbellReith received the revised Basement Impact Assessment (rev. P7 , dated 12th July 2021).

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	Document Control Section 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	Updated in revised submissions.
Do the plans/maps show the whole of the relevant area of study and do they show it in sufficient detail?	Yes	Updated in revised submissions.
Land Stability Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Differential depths of foundations underpinning reviewed and updated. Section 6 of the BIA.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Historical water courses reviewed and updated. Section 6 of the BIA.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Critical Drainage Areas reviewed and updated. Section 6 of the BIA.
Is a conceptual model presented?	Yes	Section 8 of the BIA. Updated in revised submissions.

Item	Yes/No/NA	Comment
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 7 of the BIA.
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 7 of the BIA.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 7 of the BIA.
Is factual ground investigation data provided?	Yes	Appendix B of the BIA.
Is monitoring data presented?	No	Groundwater monitoring was not undertaken.
Is the ground investigation informed by a desk study?	Yes	Desktop study information is presented in Section 3 of the BIA.
Has a site walkover been undertaken?	Yes	
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	The BIA states that although neighbouring properties all appear to have lower ground floors, the neighbouring properties do not have basements.
Is a geotechnical interpretation presented?	Yes	Section 8.1 and 11.1 of the BIA. Updated in revised submissions.
Does the geotechnical interpretation include information on retaining wall design?	Yes	As above.
Are reports on other investigations required by screening and scoping presented?	N/A	
Are the baseline conditions described, based on the GSD?	Yes	
Do the base line conditions consider adjacent or nearby basements?	Yes	The BIA states there are no basements in the vicinity. See above.

Item	Yes/No/NA	Comment
Is an Impact Assessment provided?	Yes	Section 11.1 of the BIA. Updated in revised submissions.
Are estimates of ground movement and structural impact presented?	Yes	GMA included in Section 11.1 of the BIA. Updated in revised submissions.
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	Yes	Updated in revised submissions.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	The BIA concludes that residual impacts will be negligible.
Has the need for monitoring during construction been considered?	Yes	Section 10.4 of the BIA. Updated in revised submissions.
Have the residual (after mitigation) impacts been clearly identified?	Yes	The BIA concludes that residual impacts will be negligible.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	GMA included in Section 11.1 of the BIA. Updated in revised submissions.
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	Yes	Critical Drainage Area has been reviewed and updated.
Has the scheme avoided cumulative impacts upon structural stability or the water environment in the local area?	Yes	As above.
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	Updated in revised submissions.
Are non-technical summaries provided?	Yes	Section 1 of the BIA.

4.0 DISCUSSION

- 4.1. The BIA was undertaken by Constant Structural Design Ltd. The BIA has been reviewed by individuals holding the qualifications as specified in CPG: Basements.
- 4.2. The site is currently occupied by a lower and upper ground floor maisonette within a 5 storey semi detached period property. A conservatory extension and associated patio is present at the rear of the property. The property shares a party wall with No. 28 Steele's Road and the flats above. The proposed works comprise lowering of the existing conservatory floor by approximately 300mm. This will involve excavations to approximately 800mm below ground level (bgl) and underpinning of the Party Wall.
- 4.3. The existing rear conservatory is at lower ground floor level, located against the Party Wall with No. 28 Steele's Road. It has been established that the existing floor levels either side of the party wall are similar.
- 4.4. The LBC Instruction to proceed with the audit confirmed that both applicant's property and neighbouring properties are not listed.
- 4.5. The BIA states that although neighbouring properties all appear to have lower ground floors, the neighbouring properties do not have basements.
- 4.6. Screening and Scoping assessments are presented and informed by desktop study information. Most of the relevant figures/maps from the Arup GSD and other guidance documents are referenced within the BIA to support responses to the screening questions.
- 4.7. The BIA states that underground infrastructure present beneath/close to the site is limited to standard utilities and no underground tunnels are present near the site. The report confirms no historical rivers are in close proximity of the site.
- 4.8. A site investigation was undertaken in December 2020 to inform the proposed design. One borehole log is presented in the BIA. The ground investigation encountered Made Ground to a depth of 0.60m bgl. Deposits of the London Clay were encountered below the Made Ground to a depth of 7.00m bgl where the borehole terminated.
- 4.9. Groundwater was not struck during drilling, and subsequent monitoring was not undertaken. The BIA states that groundwater control measures will be required and that localised dewatering may be required to deal with groundwater ingress into the excavation. Considering that groundwater was not encountered during the site investigation and the limited excavation depth proposed, it is accepted that the proposed development will not cause any adverse impact on the wider hydrogeological environment.

- 4.10. The site is within a Critical Drainage Area, but is not within a Local Flood Risk Zone. The BIA confirmed that impermeable areas of the site will not increase as a result of the proposed development. It is noted that the final drainage scheme will require approval by the local flood authority and the owner of the public sewer system present in the area (Thames Water).
- 4.11. The site is at very low risk from flooding from rivers, seas and reservoirs, from groundwater, and at low risk from surface water.
- 4.12. An outline construction sequence is presented in the BIA. It is proposed to lower the floor level of the existing conservatory using traditional reinforced concrete underpinning following a typical 'hit and miss' sequence. The sequence includes the construction of a blockwork retaining wall to the front of the conservatory.
- 4.13. Geotechnical parameters to inform settlement, retaining wall calculations and foundation design have been presented in the BIA. The parameters (including bearing capacity value) have been updated according to the amendments of the ground model and are considered reasonable.
- 4.14. A Ground Movement Assessment (GMA) has been undertaken to demonstrate that ground movements and consequential damage to neighbouring properties will be within LBC's policy requirements. The GMA anticipates damages occurring at neighbouring properties to not exceed Category 1 of the Burland Scale as required by the CPG for basements. Although some inaccuracies were noted in the calculations, these are not considered to affect the final results and, considering the modest depth of excavation the assessment is accepted.
- 4.15. It is confirmed in the GMA and in the BCMS that a structural movement monitoring regime will be implemented throughout construction of the basement, in accordance with current guidance.
- 4.16. The BIA confirms that there are no trees within the gardens of the site which represent a planning constraint and, as such, no trees are proposed to be removed.

5.0 CONCLUSIONS

- 5.1. The qualifications of the individuals involved in the BIA are in accordance with LBC guidance.
- 5.2. Screening and Scoping assessments are presented, supported by desk study information.
- 5.3. A site investigation indicates that the proposed underpinned foundations will be formed within the London Clay.
- 5.4. There will not be any adverse impact on the hydrogeological and hydrological environments.
- 5.5. Geotechnical parameters to inform settlement, retaining wall calculations and foundation design have been presented in the BIA.
- 5.6. The predicted damage to adjacent structure will be limited to Category 1 (Very Slight).
- 5.7. Structural monitoring will be implemented throughout construction of the basement, in accordance with current guidance.
- 5.8. Queries and requests for information are summarised in Appendix 2. Considering the additional information presented, the BIA meets the requirements of Camden Planning Guidance: Basements.

Appendix 1: Residents' Consultation Comment

None

Appendix 2: Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	BIA format	The BIA should be reviewed by individuals holding the qualifications required by CPG: Basements.	Closed – See 4.1, 4.6	July 2021
2	Land Stability	The BIA states that there will be no significant deepening of foundations creating a differential with neighbouring foundations. However, given that underpinning is required the Screening response should be reviewed and stability impacts assessed.	Closed – See 4.6, 4.7	July 2021
3	Hydrogeology	The BIA states there are no current or historical watercourses within 100m of the site, although mapping indicates the site to be within 100m of the historical River Tyburn. The Screening responses should be reviewed and impacts assessed, if required.	Closed – See 4.6, 4.7, 4.9	July 2021
4	Hydrology	The BIA states that the site is not within a Critical Drainage Area, although mapping indicates the site to be within Critical Drainage Area Group 3_003. The Screening responses should be reviewed and impacts assessed, if required.	Closed – See 4.6, 4.7, 4.15	July 2021
5	Land Stability	A geotechnical interpretation to inform foundation design, retaining wall calculations and settlement / ground movements should be presented in the BIA.	Closed – See 4.10.	July 2021
6	Land stability	A GMA should be presented in the BIA.	Closed – See 4.12.	September 2021
7	Land Stability	The requirement for structural monitoring should be reviewed.	Closed – See 4.13.	July 2021

Appendix 3: Supplementary Supporting Documents

None

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