

248-250 Camden Road,
London NW1 9HE

Basement Impact Assessment
Audit

For
London Borough of Camden

Project Number: 13398-50

Revision: F1

February 2021

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Document History and Status

Revision	Date	Purpose/Status	File Ref	Author	Check	Review
D1	October 2020	Comment	GKemb13398-50-021020-248-250 Camden Road-D1.docx	GK	HS	EMB
F1	February 2021	Planning	GKemb13398-50-180221-248-250 Camden Road-F1.docx	GK	HS	EMB

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Document Details

Last saved	18/02/2021 16:04
Path	GKemb13398-50-180221-248-250 Camden Road-F1.docx
Author	G Kite, BSc MSc DIC FGS
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Project Number	13398-50
Project Name	248-250 Camden Road
Planning Reference	2020/3737/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 248-250 Camden Road, London NW1 9HE (planning reference 2020/3737/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. In the revised submissions, the qualifications of the authors are in accordance with CPG guidance.
- 1.5. The site is currently occupied by a four-storey block of flats. The proposed development involves the demolition of the existing building and the construction of a six-storey residential property with a basement. Additionally, two one-storey buildings and retaining walls are proposed at the rear of the property, with excavations of approximately 2.0m below adjacent properties' ground level.
- 1.6. The revised submissions reference current LBC guidance.
- 1.7. The BIA includes the majority of the information required from a desk study in line with the LBC guidance.
- 1.8. The Screening and Scoping Assessments have been revised; potential impacts have been appropriately assessed and mitigated.
- 1.9. A site investigation indicates ground conditions as Made Ground overlying the London Clay. No groundwater was recorded during drilling or on the subsequent monitoring visit.
- 1.10. The revised submission includes interpreted geotechnical parameters based on site investigation data.
- 1.11. Outline retaining wall and structural proposals are presented in the revised submissions.
- 1.12. The impacts resulting from the removal of trees on existing, neighbouring foundations will be assessed with any mitigation actions required undertaken as part of the Party Wall Award.

- 1.13. The revised submissions include a Ground Movement Assessment that considers both the excavation and construction methodology impacts on the structures within the zone of influence from the proposed works, including the construction of the single storey structures at the rear of the site.
- 1.14. The site is located within Critical Drainage Area Group (Group 3-003) but is not located within a Local Flood Risk Zone. The revised BIA includes review of the Flood Risk Assessment. Mitigation against surface water flooding includes the adoption of raised thresholds.
- 1.15. It is understood that the proposed development will increase the impermeable area of the site. The revised BIA includes a review of the Surface Water Drainage Strategy which will adopt SUDS to attenuate and reduce off-site discharge flows in accordance with best practice.
- 1.16. Queries and matters requiring further information or clarification are discussed in Section 4 and summarised in Appendix 2. Considering the revised submissions, the BIA meets the criteria of CPG Basements.

2.0 INTRODUCTION

- 2.1. CampbellReith was instructed by the London Borough of Camden (LBC) on 17th September 2020 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 248-250 Camden Road, London NW1 9HE (LBC Reference 2020/3737/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; and,
 - 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 planning portal describes the proposal as: *"Redevelopment of the site to include demolition of existing hostel building and the erection of a new 4-6 storey plus basement hostel building (sui generis use) with external stairwell and rear balconies to all levels; erection of 2 x single storey garden buildings; associated works including installation of plant equipment, parking and access arrangements and tree and landscaping works. (Information for the purpose of consultation: the proposed development provides 39 units, which comprise 36 x studios, 2 x 1-beds and 1 x 1-bed wheelchair accessible unit)."*

The planning portal also confirmed the site lies within Camden Square Conservation Area but that the building is not listed and neither are the neighbouring buildings.

2.6. CampbellReith accessed LBC's Planning Portal on 24th September 2020 and gained access to the following relevant documents for audit purposes:

- Groundwater, surface water and land stability scoping and screening assessment for Basement Impact Assessment (BIA) (ref 30404R1) dated 15 April 2020 by H Fraser Consulting Ltd including:
 - Land Stability Report (ref 60462) dated 29 January 2020 by Ground and Project Consultants.
 - Geotechnical Survey Report (ref 20269) dated December 2019 by Fastrack Site Investigations Ltd.
- Letter with further information on BIA dated 14 August 2020 by Rodrigues Associates.
- Flood Risk Assessment and Surface Water Drainage Strategy (ref 5356_FRA_SWDS) dated 18 June 2020 by Ambiantal Environmental Assessment.
- Proposed elevations, plans and sections by RCKa Architects.
- Arboricultural Impact Assessment Report (ref SHA 1018) dated May 2020 by Sharon Hosegood Associates.
- Design and Access Statement (ref 1931-RCK-RP-A-S3012) dated 22 July 2020 by RCKa Architects.
- Consultation Responses to the proposed development from local residents, Historic England and Transport for London.

2.7. CampbellReith received the following relevant documents for audit purposes on 15th December 2020:

- Groundwater, surface water and land stability scoping and screening assessment for Basement Impact Assessment (BIA) (ref 30404R1, FINAL) dated 3 December 2020 by H Fraser Consulting Ltd including Land Stability Report (ref 60462, Rev 2) dated 12 November 2020 by Ground and Project Consultants.

2.8. CampbellReith received the following relevant document for audit purposes on 3rd February 2021:

- Letter in regard to removal of trees from Rodrigues Associates with suggested mitigation.

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	In the revised submissions, the qualifications of the authors are in accordance with CPG guidance.
Is data required by Cl.233 of the GSD presented?	Yes	This includes a Utility Survey which has been provided within Appendix A of the BIA.
Does the description of the proposed development include all aspects of temporary and permanent works which might impact upon geology, hydrogeology and hydrology?	Yes	Updated in revised submissions.
Are suitable plans/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	Updated in revised submissions.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Updated in revised submissions.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Updated in revised submissions.
Is a conceptual model presented?	Yes	Updated in revised submissions.

Item	Yes/No/NA	Comment
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	Updated in revised submissions.
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Updated in revised submissions.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Updated in revised submissions.
Is factual ground investigation data provided?	Yes	
Is monitoring data presented?	Yes	Fastrack Site Investigations Ltd reported no water strikes during drilling and noted that during a revisit on 16 th January 2020 the monitoring wells were dry.
Is the ground investigation informed by a desk study?	Yes	H Fraser Consulting Ltd Basement Impact Assessment report, Section 2.
Has a site walkover been undertaken?	Yes	Site Investigation undertaken in October 2019.
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	The BIA states that a basement which is half submerged below ground level is present for the adjacent property to the southwest (No. 246 Camden Road).
Is a geotechnical interpretation presented?	Yes	Fastrack Site Investigations Ltd report, Sections 6, 7 and 8.
Does the geotechnical interpretation include information on retaining wall design?	Yes	Updated in revised submissions.
Are reports on other investigations required by screening and scoping presented?	Yes	An FRA and SWDS and an Arboricultural Impact Assessment
Are baseline conditions described, based on the GSD?	Yes	Updated in revised submissions.

Item	Yes/No/NA	Comment
Do the baseline conditions consider adjacent or nearby basements?	Yes	Presence of basements is assumed.
Is an Impact Assessment provided?	Yes	Updated in revised submissions.
Are estimates of ground movement and structural impact presented?	Yes	Updated in revised submissions.
Is the Impact Assessment appropriate to the matters identified by screen and scoping?	Yes	Updated in revised submissions.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	Updated in revised submissions.
Has the need for monitoring during construction been considered?	Yes	Updated in revised submissions.
Have the residual (after mitigation) impacts been clearly identified?	Yes	Updated in revised submissions.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	Updated in revised submissions.
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	Yes	Updated in revised submissions.
Has the scheme avoided cumulative impacts upon structural stability or the water environment in the local area?	Yes	Updated in revised submissions.
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	Conclusions and recommendations sections.

4.0 DISCUSSION

- 4.1. The assessment of surface water and groundwater impacts have been prepared by H Fraser Consulting Ltd and the land stability assessment has been prepared by Ground and Project Consultants. An overarching BIA has been prepared by H Fraser Consulting Ltd. In the revised submissions, the qualifications of the authors are in accordance with CPG guidance.
- 4.2. Some sections of the original assessments referenced superseded LBC guidance, which has been updated and revised in the current submission.
- 4.3. A Flood Risk Assessment (FRA) and Surface Water Drainage Strategy (SWDS) have been undertaken by Ambiental. The qualifications of the authors are not indicated. The report was not initially reviewed by the BIA authors or incorporated into the original assessment. The revised BIA includes review of the FRA and SWDS and provides relevant comment and assessment.
- 4.4. The site is currently occupied by a four-storey block of flats with access and parking provided at the front and a garden at the rear. The proposed development involves the demolition of the existing building and the construction of a six-storey residential development property with a basement to be used as a plant room with an excavation depth of approximately 3.5m. The ground level at the rear will be lowered, with two additional one-storey buildings and retaining walls proposed at the rear of the property, with excavations of approximately 2.0m below adjacent properties' ground level.
- 4.5. The BIA documents include the majority of the information required from a desk study in line with the GSD Appendix G1.
- 4.6. The original Screening and Scoping Assessments did not address all potential impacts and were not conclusive. The Screening and Scoping Assessments have been revised; potential impacts have been appropriately assessed and mitigated, where required.
- 4.7. A site investigation was undertaken by Fastrack Site Investigations Ltd in October 2019 comprising eight trial pits and three boreholes across the site to a maximum depth of 15.0m. Monitoring wells were installed within boreholes 1 and 3 to provide groundwater readings. The ground conditions identified were Made Ground (to depths of between 0.5m and 2.1m bgl) overlying the London Clay proven to 15.0 m bgl. As indicated in the BIA, descriptions of the soils are limited and do not conform to BS 5930:2015: Code of practice for ground investigations. No groundwater was recorded during drilling or on the subsequent monitoring visit in January 2020.
- 4.8. Interpretative geotechnical information is presented in the investigation report. However, the range of values is broad and does not include specific parameters to be adopted for the proposed development, considering the foundations to be utilised and the requirements for limiting impacts

(e.g. to limit ground movements from construction of the Garden Buildings). The revised BIA land stability submission includes interpreted geotechnical parameters based on site investigation data.

- 4.9. The revised BIA indicates that groundwater is not present at a depth to impact or be impacted by the proposed basement development. Local, shallow seepages due to surface water percolation is likely and the BIA indicates that this will be dealt with during construction by local sump pumping, as required, with the basement provided with grade 3 waterproofing in the permanent case. The BIA notes there will be no impact to the wider hydrogeological environment.
- 4.10. The outline structural plans indicate that the Garden Buildings will be founded approximately 2.0m below the neighbouring buildings' ground level. The revised BIA assesses the potential impacts from these buildings, and provides structural proposals for the retaining walls.
- 4.11. No ground movement analysis (GMA) or damage impact assessment calculations were presented for review in the original BIA. The revised submissions include a GMA that considers both the excavation and construction methodology impacts on the structures within the zone of influence from the proposed works, including the construction of the single storey structures at the rear of the site. A maximum impact of Burland Category 1 damage (Very Slight) is predicted to neighbouring structures. Impacts to the highway are indicated to be negligible.
- 4.12. It is noted that trees will be removed from site. Considering the nature of the underlying London Clay and susceptibility to volume change with changes in moisture content, it was requested that the impacts resulting from the removal of trees on existing, neighbouring foundations be assessed. In the revised submission it is proposed to undertake further assessment and any necessary mitigation actions as part of the Party Wall Award. The proposals include: identifying the depth of the neighbouring foundations and a soils desiccation survey to identify the potential for movements, to consider appropriate foundation depths in accordance with NHBC guidance; structural monitoring of the neighbouring properties, to assess if movements are actually occurring; and underpinning of neighbouring foundations, if required.
- 4.13. The site is located within Critical Drainage Area Group (Group 3-003) but is not located within a Local Flood Risk Zone. The revised BIA includes review of the Flood Risk Assessment. Mitigation against surface water flooding includes the adoption of raised thresholds to reduce the risk from low to very low.
- 4.14. It is understood that the proposed development will increase the impermeable area of the site from 787m² to 987m². The revised BIA includes a review of the Surface Water Drainage Strategy which will adopt SUDS to attenuate and reduce off-site discharge flows in accordance with best practice. There will be no impacts to the hydrological environment.
- 4.15. Queries and matters requiring further information or clarification are summarised in Appendix 2.

5.0 CONCLUSIONS

- 5.1. In the revised submissions, the qualifications of the authors are in accordance with CPG guidance.
- 5.2. The revised submissions reference current LBC guidance.
- 5.3. The BIA includes the majority of the information required from a desk study in line with the LBC guidance.
- 5.4. The Screening and Scoping Assessments have been revised; potential impacts have been appropriately assessed and mitigated.
- 5.5. A site investigation has been undertaken. The revised submission includes interpreted geotechnical parameters.
- 5.6. Outline retaining wall and structural proposals are presented in the revised submissions.
- 5.7. The impacts resulting from the removal of trees on existing, neighbouring foundations will be assessed with any necessary mitigation actions undertaken as part of the Party Wall Award.
- 5.8. The revised submissions include a Ground Movement Assessment that considers both the excavation and construction methodology impacts on the structures within the zone of influence from the proposed works.
- 5.9. The revised BIA includes review of the Flood Risk Assessment. Mitigation against surface water flooding includes the adoption of raised thresholds.
- 5.10. The revised BIA includes a review of the Surface Water Drainage Strategy which will adopt SUDS to attenuate and reduce off-site discharge flows in accordance with best practice.
- 5.11. Queries and requests for information are summarised in Appendix 2. Considering the revised submissions, the BIA meets the criteria of CPG Basements.

Appendix 1: Residents' Consultation Comments

Consultation Comments

Surname	Address	Date	Issue raised	Response
Transport for London	N/A	15 th September 2020	TfL confirmed that London Underground/DLR Infrastructure Protection has no comment to make on this planning application as submitted.	N/A

Appendix 2: Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status/Response	Date closed out
1	BIA Format	The author's qualifications for the BIA are not in accordance with CPG guidelines.	Closed	December 2020
2	BIA Format	Relevant guidance should be adopted for assessment purposes.	Closed	December 2020
3	Hydrogeology / Hydrology	The BIA should include review of the FRA and SWDS report and update assessments and recommended mitigation actions, as required.	Closed	December 2020
4	Land Stability	Insufficient interpretative geotechnical information is presented. As the BIA notes that the soil descriptions do not conform to relevant standards, it should be confirmed if the investigation data is considered adequate to support the design of the proposed development.	Closed	December 2020
5	Land Stability	Ground Movement and Damage Assessments - all basement structures to be considered and outline structural and temporary works information provided.	Closed	February 2021
6	Land Stability	Impacts from the removal of trees on neighbouring foundations to be assessed and mitigated, if required.	Closed	February 2021

Appendix 3: Supplementary Supporting Documents

None

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