

57 Camden Mews,  
London  
NW1 8BY

Basement Impact Assessment  
Audit

For  
London Borough of Camden

Project Number: 12985-69

Revision: D1

August 2019

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## Document History and Status

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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 (BIA) submitted as part of the Planning Submission documentation for 57 Camden Mews, London NW1 8BY, Camden Reference 2019/2490/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 Geotechnical and Environmental Associates with supporting documents prepared by Elliott Wood. The authors' qualifications are in accordance with LBC requirements.
- 1.5. The site currently comprises a two-storey dwelling with soft landscaping at the front and rear. The proposed development involves the demolition of the existing structure and construction of two three-storey houses, including single storey basements.
- 1.6. The BIA includes a desk study, Screening and Scoping Assessments which are generally accepted.
- 1.7. A site investigation was undertaken indicating shallow Made Ground over the London Clay Formation. Perched, discontinuous groundwater within the Made Ground has been observed.
- 1.8. The London Clay does not support groundwater flow. It is accepted there will be no impact to the local and wider hydrogeological environment.
- 1.9. Interpretative geotechnical information in accordance with LBC guidance is provided. Structural engineering calculations do not consistently adopt recommended geotechnical design parameters; this should be checked during design development.
- 1.10. The basement is proposed to be formed by contiguous piling and RC retaining walls formed in a hit and miss sequence, propped in the temporary and permanent conditions.
- 1.11. A ground movement assessment (GMA) has been undertaken indicating a maximum of Category 1 damage (Very Slight) to neighbouring properties, in accordance with the Burland Scale, and negligible impacts to the highway, utilities and infrastructure (Network Rail Tunnel). Asset Protection agreements should be entered into, as required.

- 1.12. An outline structural movement monitoring strategy is proposed, to control construction and ensure damage to the adjacent property is within the predicted limits.
- 1.13. Two trees are being removed to facilitate the proposed development. The potential impacts for the neighbouring property's foundations should be quantified and mitigation proposed, as required.
- 1.14. The site is classified as being at low risk of flooding. In accordance with Thames Water recommendations, standard flood risk mitigation should be adopted.
- 1.15. The proposed scheme will increase the proportion of impermeable site area. A SUDS strategy in accordance with LBC guidance and best practice is presented. A final drainage design should be agreed with Thames Water and LBC. It is accepted there will be no impact to the wider hydrological environment.
- 1.16. An outline construction programme should be provided.
- 1.17. Discussion and requests for further information are presented in Section 4 and summarised in Appendix 2. Until the information requested is presented, the BIA does not meet the criteria of CPG: Basements.

## 2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 29 July 2019 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 57 Camden Mews, London NW1 8BY, Camden Reference 2019/2490/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:

- Guidance for Subterranean Development (GSD). Issue 01. November 2010. Ove Arup & Partners.
- Camden Planning Guidance (CPG): Basements.
- Camden Development Policy (DP) 27: Basements and Lightwells.
- Camden Development Policy (DP) 23: Water.
- The Local Plan (2017): 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; 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: "*Demolition of existing single family house and erection of 2 x single family houses including excavation of basements*".

The site is not listed and neither are the neighbouring buildings.

2.6. CampbellReith accessed LBC's Planning Portal on 21<sup>st</sup> August 2019 and gained access to the following relevant documents for audit purposes:

- Site Investigation and Basement Impact Assessment (ref J18300) date March 2019 by Geotechnical and Environmental Associates
- Structural Engineering Report and Subterranean Construction Method Statement (ref 2170774 P1) dated 5 April 2019 dated by Elliott Wood
- Drainage Strategy and SUDS Report (ref 2170774 P1) dated 5 April 2019 dated by Elliott Wood
- Existing and Proposed Elevations, Plans and Sections dated August 2015 (Existing) and August 2017 (Proposed) by John Kerr Associates Ltd
- Existing Views (Photographs) dated December 2015 by John Kerr Associates
- Location and Demolition Plans and Sections dated April 2019 by John Kerr Associates
- Design and Access Statement dated 10 June 2019 by John Kerr Associates

### 3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	
Is data required by Cl.233 of the GSD presented?	No	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 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	
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	However, impact of tree removal / change in soil moisture on neighbouring property foundations to be assessed.
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	SUDS Strategy
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	No adjacent or nearby basements.
Is a geotechnical interpretation presented?	Yes	
Does the geotechnical interpretation include information on retaining wall design?	Yes	Structural design should consistently adopt geotechnical parameters.
Are reports on other investigations required by screening and scoping presented?	Yes	SUDS, Structural Engineering Report
Are baseline conditions described, based on the GSD?	Yes	
Do the base line conditions consider adjacent or nearby basements?	Yes	

Item	Yes/No/NA	Comment
Is an Impact Assessment provided?	Yes	
Are estimates of ground movement and structural impact presented?	Yes	
Is the Impact Assessment appropriate to the matters identified by screen and scoping?	No	Impact of tree removal / change in soil moisture on neighbouring property foundations to be assessed.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	No	Impact of tree removal / change in soil moisture on neighbouring property foundations to be assessed.
Has the need for monitoring during construction been considered?	Yes	
Have the residual (after mitigation) impacts been clearly identified?	No	Impact of tree removal / change in soil moisture on neighbouring property foundations to be assessed.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	No	Generally, yes. However, impact of tree removal / change in soil moisture on neighbouring property foundations to be assessed.
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	Impact of tree removal / change in soil moisture on neighbouring property foundations to be assessed.
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	However, impact of tree removal / change in soil moisture on neighbouring property foundations to be assessed.
Are non-technical summaries provided?	Yes	

## 4.0 DISCUSSION

- 4.1. The BIA has been prepared by Geotechnical and Environmental Associates with supporting documents prepared by Elliott Wood. The authors' qualifications are in accordance with LBC's requirements.
- 4.2. The site currently comprises a two-storey dwelling with soft landscaping at the front and rear. The proposed development involves the demolition of the existing structure and construction of two three-storey houses, including single storey basements. Although the existing property is detached, the new properties will be semi-detached and immediately adjacent No.59 Camden Mews, which does not have a basement.
- 4.3. A Network Rail tunnel has been identified approximately 18m laterally from the plot boundary. Correspondence with Network Rail asset protection engineers indicates they have been consulted and currently have not requested protection measures during construction.
- 4.4. The BIA includes a desk study, and Screening and Scoping Assessments which are generally accepted.
- 4.5. A site investigation was undertaken indicating shallow Made Ground over the London Clay Formation. Made Ground is approximately 0.50m in thickness. The London Clay was observed to be desiccated to a depth of approximately 2.75m below ground level (bgl). Foundation observation pits were undertaken, which indicate the neighbouring No.59 Camden Mews bears on shallow foundations at >0.50m bgl.
- 4.6. Perched, discontinuous groundwater within the Made Ground has been observed. The London Clay is classified as unproductive and does not support groundwater flow. It is accepted there will be no impact to the local or wider hydrogeological environment. Some provision for local groundwater control during construction is likely to be required, including to ensure stability is maintained during excavations.
- 4.7. Interpretative geotechnical information in accordance with LBC guidance is provided. It is noted that structural engineering calculations do not all consistently adopt the recommended geotechnical design parameters, which should be checked during design development.
- 4.8. The basement is proposed to be formed by contiguous piling at the front and rear of the site and RC retaining walls formed in a hit and miss sequence on either side, propped in the temporary and permanent conditions. A structural design strategy, sequencing and outline calculations are presented to demonstrate feasibility.

- 4.9. A ground movement assessment (GMA) has been undertaken indicating a maximum of Category 1 damage (Very Slight) to No.59 Camden Mews, in accordance with the Burland Scale. Other neighbouring buildings are beyond the zone of influence of the works. The GMA predicts negligible impacts to the highway, utilities and infrastructure (Network Rail Tunnel). Asset Protection agreements should be entered into, as required.
- 4.10. An outline structural movement monitoring strategy is proposed to control construction and ensure damage to the adjacent No.59 is within the predicted limits. Trigger values consistent with the GMA are presented with contingency actions. It is recommended the strategy is adopted and agreed under the Party Wall Act.
- 4.11. Two trees are being removed to facilitate the proposed development, one at the front and one at the rear. The trees are described as semi-mature and approximately 10m high. The site walkover observations indicate that the existing property shows signs of historic ground movements, probably from shrink / swell of the clay soil. The site investigation indicates that the London Clay is desiccated and therefore liable to swell if moisture content increases (for example, due to tree removal). The BIA indicates the potential for the neighbouring property's shallow foundations to be impacted by changes in soil moisture content as a result of the trees being removed. The impacts should be quantified and mitigation proposed, as required.
- 4.12. The site is classified as being at low risk of flooding. In accordance with Thames Water recommendations, standard flood risk mitigation should be adopted, specifically a pumped positive device to protect against sewer surcharge.
- 4.13. The proposed scheme will increase the proportion of impermeable site area. A SUDS strategy incorporating attenuation of off-site discharge flows in accordance with LBC guidance and best practice is presented. A final drainage design should be agreed with Thames Water and LBC. There will be no impact to the wider hydrological environment.
- 4.14. An outline construction programme should be provided.

## 5.0 CONCLUSIONS

- 5.1. The authors' qualifications are in accordance with LBC requirements.
- 5.2. The BIA includes a desk study, Screening and Scoping Assessments which are generally accepted.
- 5.3. A site investigation indicates shallow Made Ground over the London Clay Formation. Perched, discontinuous groundwater within the Made Ground has been observed.
- 5.4. The London Clay is classified as unproductive and does not support groundwater flow. There will be no impact to the wider hydrogeological environment.
- 5.5. Interpretative geotechnical information in accordance with LBC guidance is provided.
- 5.6. The basement is proposed to be formed by contiguous piling and RC retaining walls formed in a hit and miss sequence, propped in the temporary and permanent conditions.
- 5.7. A maximum of Category 1 damage (Very Slight) to neighbouring properties is predicted, in accordance with the Burland Scale, with negligible impacts to the highway, utilities and infrastructure. Asset Protection agreements should be entered into, as required.
- 5.8. An outline structural movement monitoring strategy is proposed, which should be adopted.
- 5.9. Two trees are being removed to facilitate the proposed development. The impacts to the neighbouring property should be quantified and mitigation proposed, as required.
- 5.10. The site is classified as being at low risk of flooding. In accordance with Thames Water recommendations, standard flood risk mitigation should be adopted.
- 5.11. A SUDS strategy is presented. A final drainage design should be agreed with Thames Water and LBC. It is accepted there will be no impact to the wider hydrological environment.
- 5.12. An outline construction programme should be provided.
- 5.13. Discussion and requests for further information are summarised in Appendix 2. Until the information requested is presented, the BIA does not meet the criteria of CPG: Basements.

## Appendix 1: Residents' Consultation Comments

Consultation Comments

Name	Address	Date	Issue Raised	Comment
Thames Water		19/06/2019	Fit positive pumped device as part of flood risk mitigation and drainage measures, to mitigate against sewer surcharge risk.	See Audit para 4.12

## Appendix 2: Audit Query Tracker



Audit Query Tracker

Query No	Subject	Query	Status/Response	Date closed out
1	BIA	An outline construction programme should be provided.	Open	
2	Land Stability	Assess impact of removing trees on adjacent property ie potential for damage due to change in soil moisture content. Provide mitigation, if required.	Open	

## Appendix 3: Supplementary Supporting Documents

None

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