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56 Hawtrey Road
London NW3 3SS

Basement Impact Assessment
Audit

For

London Borough of Camden

Project Number: 12066-15
Rev: D1

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Contents

1.0 Non-technical summary 1
2.0 Introduction 2
3.0 Basement Impact Assessment Audit Check List 4
4.0 Discussion 7
5.0 Conclusions 8

Appendices

Appendix 1: Residents' Consultation Comments
Appendix 2: Audit Query Tracker
Appendix 3: Supplementary Supporting Documents

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 56 Hawtrey Road, London NW3 3SS (planning reference 2015/2665/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 review it against an agreed audit check list.

1.4. The BIA has confirmed that the proposed basement will be located partly within the London Clay and that the surrounding slopes are stable.

1.5. Groundwater detected during monitoring may represent a perched groundwater table and this should be confirmed by further monitoring. Suitable mitigation measures should be agreed with the party wall surveyor to be implemented if groundwater ingress is encountered. Further investigation would be prudent to inform the design.

1.6. The proposed basement will be excavated and constructed utilising established techniques. There is a presumption of an absence of neighbouring basements, however, in the absence of a risk to groundwater flow, this is a conservative assumption.

1.7. It is accepted that the risk of surface water flooding is likely to be low.

1.8. It is not possible to confirm that neighbouring properties will not be damaged. Further calculations are required to be submitted as described in Section 5 and Appendix 2. These will inform the need for monitoring.

2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 16th June 2015 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 56 Hawtrey Road, Camden Reference 2015/2665/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) 4: Basements and Lightwells.
- Camden Development Policy (DP) 27: Basements and Lightwells.
- Camden Development Policy (DP) 23: Water

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. The planning proposal is for a 3.5m deep basement beneath a terraced building for domestic use. LBC's Audit Instruction described the planning proposal as the "*Excavation of single storey rear basement extension. Revised rooftop storage and ground floor rear doors following 2014/7964/P (Erection of single storey rear extension and roof extension, replacement of garage door with window, replacement of front door and replacement of rear 1st floor windows with French doors) granted 03/02/2015 and replacement of first and second floor windows at front and rear 'like for like'*"

The Audit Instruction also confirmed that the basement proposals do not involve a listed building, nor does the site neighbour listed buildings.

2.6. CampbellReith accessed LBC's Planning Portal on 13th July 2015 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment by JMS Engineers
- Basement Impact Assessment (Groundwater only) by ESI
- Construction Management Plan
- Drawings;

  PO1 no rev existing general arrangement plans

  P04 no rev general arrangement plans

  PO5 no rev general arrangement

  PO6 no rev general arrangement sections

  P04 rev A proposed basement-ground

  PO5 rev A proposed general arrangement elevations

  PO6 rev A proposed general arrangement sections

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	The author of the JMS BIA is a chartered structural engineer. The checker of the ESI BIA (Groundwater only) is a chartered geologist.
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	BIA and drawings.
Are suitable plan/maps included?	Yes	BIA and drawings.
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	BIA Section 4.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	BIA Section 4, and BIA (Groundwater only) - Section 2.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	BIA Section 4. There is a statement that there is no risk of flooding but no discussion of any previous historical flooding in the area. However, the list of streets at risk of surface water flooding in CPG4 does not include Hawtrey Road.
Is a conceptual model presented?	Yes	Only for groundwater; BIA (Groundwater only) - Section 4.
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	BIA Section 4.

Item	Yes/No/NA	Comment
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	BIA – groundwater only Section 3.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Is factual ground investigation data provided?	Yes	BIA Section 3.
Is monitoring data presented?	Yes	Groundwater monitoring indicated groundwater at 1.65m depth.
Is the ground investigation informed by a desk study?	Yes	BIA Section 1.
Has a site walkover been undertaken?	No	No evidence of the authors of the BIA having visited the site.
Is the presence/absence of adjacent or nearby basements confirmed?	No	Basement presumed absent – BIA Section 6.2.
Is a geotechnical interpretation presented?	No	
Does the geotechnical interpretation include information on retaining wall design?	No	
Are reports on other investigations required by screening and scoping presented?	Yes	BIA – groundwater only.
Are baseline conditions described, based on the GSD?	Yes	
Do the base line conditions consider adjacent or nearby basements?	No	
Is an Impact Assessment provided?	Yes	BIA Section 7. A statement is made that the use of temporary and permanent propping will limit deflections to less than 5mm.
Are estimates of ground movement and structural impact presented?	No	BIA Section 7 states that damage will be "slight".

Item	Yes/No/NA	Comment
Is the Impact Assessment appropriate to the matters identified by screen and scoping?	Yes	
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	BIA Section 7 indicates that temporary and permanent propping will be provided. Construction Management Plan.
Has the need for monitoring during construction been considered?	No	No evidence provided.
Have the residual (after mitigation) impacts been clearly identified?	No	No evidence provided.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure been maintained?	No	No calculations are provided to predict the vertical and horizontal movements and strains associated with excavation, retaining wall construction, excavation, re-loading and the long term dissipation of excess ground water pressures.
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	
Does report state that damage to surrounding buildings will be no worse than Burland Category 2?	Yes	But no calculations provided to justify this conclusion.
Are non-technical summaries provided?	No	Reports are written clearly and in an understandable way.

4.0 DISCUSSION

4.1. The BIA has been carried out by an established firm of consulting engineers, JMS Engineers, supplemented by ESI. The authors have suitable qualifications.

4.2. The excavation and construction method of the proposed basement is not described in detail. The Construction Management Plan indicates that the existing foundations will be underpinned in phased and sequenced panels. Excavation may be using a conveyor. With suitable controls this is an acceptable methodology using established techniques.

4.3. It is accepted that the basement will be within London Clay.

4.4. We accept that the groundwater detected during monitoring may represent a perched groundwater table, and be of limited volume. Suitable mitigation measures should be agreed with the party wall surveyor to be implemented if groundwater ingress is encountered. Further investigation would be prudent to inform the design.

4.5. The BIA has shown that the surrounding slopes to the development are stable. There is a tree close to the basement and the impact on the tree from the basement is not discussed.

4.6. The BIA states that there is a low risk of surface water flooding. A check of the streets listed in CPG4 that have been affected by historical flooding does not include Hawtrey Road. The flooding risk is accepted as being low.

4.7. The BIA does not include a geotechnical interpretative report. There is no discussion of the adequacy of the founding stratum for the proposed underpinning.

4.8. There is a presumption of an absence of neighbouring basements, however, in the absence of a risk to groundwater flow, this is a conservative assumption.

4.9. The BIA does not contain Ground Movement and detailed Building Damage Assessment. No calculations are provided to predict the vertical and horizontal movements and strains associated with excavation, retaining wall construction, excavation, re-loading and the long term dissipation of excess ground water pressures. These calculations are required to be submitted. It has not been possible to conclude that any damage to the neighbouring properties will be slight. As the proposed basement will extend past the rear walls of the neighbouring properties then these particular walls may be at most risk of damage.

4.10. It has not been possible to conclude if it will be necessary to instigate a movement monitoring regime on the adjacent properties during construction. This will be informed by the Ground Movement assessment.

5.0 CONCLUSIONS

5.1. The BIA authors have suitable qualifications.

5.2. The excavation and construction method of the proposed basement is not described in detail. The Construction Management Plan indicates that the existing foundations will be underpinned in phased and sequenced panels. Excavation may be using a conveyor. With suitable controls this is an acceptable methodology using established techniques.

5.3. It is accepted that the basement will be within London Clay.

5.4. Further investigation should be carried out to confirm the groundwater regime and suitable mitigation measures should be agreed with the party wall surveyor to be implemented if groundwater ingress is encountered.

5.5. There is a tree close to the basement and the impact on the tree from the basement is not discussed.

5.6. The flooding risk is accepted as being low.

5.7. There is a presumption of an absence of neighbouring basements. In the absence of a risk to groundwater flow, this is a conservative assumption.

5.8. It should be confirmed that the bearing stratum has an adequate design resistance for the proposed underpinning.

5.9. The BIA does not contain a Ground Movement and Building Damage Assessment. No calculations are provided and these are required to be submitted. It has not been possible to conclude that any damage to the neighbouring properties will be no worse than slight.

5.10. It has not been possible to conclude if it will be necessary to instigate a movement monitoring regime on the adjacent properties during construction. This will be informed by the GMA.

Appendix 1: Residents' Consultation Comments

Surname	Address	Date	Issue raised	Response
ADL Planning Ltd	29 Highmarsh Crescent, Newton-le-Willows, Merseyside, WA12 9WE	28/05/15	Concerned about damage to neighbouring building. Concerned about effect on groundwater.	See Sections 5.7 – 5.10 See Section 4.4 and 5.4

Appendix 2: Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	Subterranean water	A possible perched water table was recorded.	Further monitoring required prior to construction to allow mitigation measures to be agreed.	N/A
2	Stability	No geotechnical interpretation provided.	Adequacy of bearing stratum to be confirmed in updated BIA.	
3	Stability	Calculations are required to be submitted to justify the "slight" building damage assessment	BIA to be updated.	
4	Stability	Requirement for monitoring regime not determined.	To be confirmed in updated BIA.	

Appendix 3: Supplementary Supporting Documents

None

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