CampbellReith
consulting engineers

43 Burghley Road, Kentish Town, London NW5 1UH

Basement Impact Assessment Audit

For

London Borough of Camden

Project Number: 12336-02
Revision: D1

February 2016

Campbell Reith Hill LLP
Friars Bridge Court
41-45 Blackfriars Road
London
SE1 8NZ

T:+44 (0)20 7340 1700
F:+44 (0)20 7340 1777
E:london@campbellreith.com
W:www.campbellreith.com

Document History and Status

Revision	Date	Purpose/Status	File Ref	Author	Check	Review
D1	February 2016	Comment	JBemb12336-02-22012016-43 Burghley Road-D1.doc	JB	EMB	EMB

Document Details

Last saved	17/02/2016 15:33
Path	JBemb12336-02-22012016-43 Burghley Road-D1.doc
Author	J. Brown, BSc MSc FGS
Project Partner	E M Brown, BSc MSc CGeol FGS
Project Number	12336-02
Project Name	43 Burghley Road, Kentish Town, Camden, London NW5 1UH
Planning Reference	2015/6385/P

Contents

Appendix

1.0 NON-TECHNICAL SUMMARY

1.1. CampbellReith was instructed by London Borough of Camden, (LBC) to carry out an audit on a Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 43 Burghley Road, London, NW5 1UH (planning reference 2015/6385/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 not confirmed whether the proposed basement will be founded within Made Ground or London Clay. The Ground Investigation Report (GIR) has indicated that the Made Ground would not be a suitable bearing stratum and foundations will need to be deepened to encounter the London Clay, a suitable bearing stratum, below.

1.5. Additional information including detailed proposals is required to understand the effect on slope and ground stability, the hydrogeology and hydrology of the surrounding area. The screening should be completed to confirm which items require progression to the scoping and assessment stages.

1.6. Estimations of structural loadings, adequacy of bearing stratum and retaining wall analysis are described in the GIR in section 6.0 and the planning documentation includes a Construction Method Statement (CMS). However these are missing the following information:

- Maintenance of structural stability of party walls.
- Formation of underpinning.
- Estimation of structural loadings.
- Adequacy of bearing stratum.
- Retaining wall and basement slab analysis.
- Structural impact assessment

1.7. Until the missing information is provided it is not possible to conclude that the criteria contained in CPG4 and DP27 have been met.

1.8. Queries and requests for further information are summarised in Appendix 2.

2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 15 January 2016 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 43 Burghley Road, Kentish Town, London, NW5 1UH.

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. LBC's Audit Instruction described the planning proposal as an *"Excavation of single storey basement with front and rear lightwells."*

The Audit Instruction confirmed that the basement proposals neither involved, nor were a neighbour to, listed buildings.

2.6. CampbellReith accessed LBC's Planning Portal on 22nd January 2016 and gained access to the following relevant documents for audit purposes:

- Application Form
- Burghley Road 43 – Design and Access Statement
- Architect's existing and proposed drawings – Martin Evans Architects
- Ground Investigation Report
- Screening Reports for Slope Stability, Surface flow and Flooding and Subterranean Groundwater Flow Charts
- Construction Method Statement

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	No	Stage 1 Screening Reports.
Is data required by Cl.233 of the GSD presented?	No	
Does the description of the proposed development include all aspects of temporary and permanent works which might impact upon geology, hydrogeology and hydrology?	No	Further information requested.
Are suitable plan/maps included?	Yes	Ground Investigation Report Figure 1-4 and Design and Access Statement.
Do the plans/maps show the whole of the relevant area of study and do they show it in sufficient detail?	Yes	Ground Investigation Report Figure 1-4 and Design and Access Statement.
Land Stability Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	No	Stage 1 Screening Report Slope Stability.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	No	Stage 1 Screening Report Subterranean (Groundwater) Flow.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	No	Stage 1 Screening Report Surface Flow and Flooding.
Is a conceptual model presented?	No	Further information requested.
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	No	Further information requested.

Item	Yes/No/NA	Comment
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	No	Further information requested.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	No	Further information requested.
Is factual ground investigation data provided?	Yes	Ground Investigation Report Section 4.0 and 5.0.
Is monitoring data presented?	No	
Is the ground investigation informed by a desk study?	No	
Has a site walkover been undertaken?	Yes	Ground Investigation Report Section 3.1.
Is the presence/absence of adjacent or nearby basements confirmed?	No	
Is a geotechnical interpretation presented?	Yes	Ground Investigation Report Section 6.0.
Does the geotechnical interpretation include information on retaining wall design?	Yes	Ground Investigation Report Section 6.4.
Are reports on other investigations required by screening and scoping presented?	No	Further information requested.
Are baseline conditions described, based on the GSD?	Yes	Ground Investigation Report.
Do the base line conditions consider adjacent or nearby basements?		Further information requested.
Is an Impact Assessment provided?	No	Further information requested.
Are estimates of ground movement and structural impact presented?	No	Further information requested on adjacent properties

Item	Yes/No/NA	Comment
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	No	Scoping not provided. Further information requested.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	No	Further Information requested.
Has the need for monitoring during construction been considered?	No	Further information requested.
Have the residual (after mitigation) impacts been clearly identified?	No	Further information requested.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	No	Further information requested.
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	No	Further information requested.
Has the scheme avoided cumulative impacts upon structural stability or the water environment in the local area?	No	Further information requested.
Does report state that damage to surrounding buildings will be no worse than Burland Category 2?	No	Further information requested.
Are non-technical summaries provided?	No	Further information requested.

4.0 DISCUSSION

4.1. The Basement Impact Assessment (BIA) has been carried out by a well-known firm of consultants, Ground and Water Limited, however the individuals concerned in its production do not have qualifications that comply with the requirements of CPG4.

4.2. 43 Burghley Road is a three storey terraced house with a front and rear garden located towards the middle of Burghley Road between No. 41 and 45.

4.3. The proposed basement consists of a single storey construction approximately 2.50m below the front garden ground level located beneath the footprint of the existing building. Small light wells are planned to the front and rear of the house. The basement involves underpinning to the party and external walls of the property and excavation beneath the house. The access to the front of the property remains unchanged.

4.4. The Stage 1 Screening Reports have identified a number of areas that should be taken forward to scoping however Scoping Reports have not been provided. Additionally, evidence has not been provided for the following sections of the Screening Reports. This is required to determine progression to the scoping stage:

Land Stability Screening

- Section 7. Is there a history of seasonal shrink-swell subsidence in the local area, and/or evidence of such effects at the site?
- Section 9. Is the site within an area of previously worked ground?
- Section 13. Will the proposed basement significantly increase differential depths of foundations relative to neighbouring properties?
- Section 14. Is the site over (or within the exclusion zone of) any tunnels, e.g. railway lines?

Hydrogeology Screening

- Section 2. Will the proposed basement extend beneath the water table surface?
- Section 4. Will the proposed basement development result in a change in the area of hard surfaces/ paved areas?
- Section 5. As part of the site drainage, will more surface water (e.g. rainfall and run-off) than at present be discharged to the ground?
- Section 6. Is the lowest point of the proposed excavation (allowing for any drainage and foundation space under the basement floor) close to, or lower than, the mean water level in any local pond or spring line?

Hydrology Screening

- Section 2. As part of the proposed site drainage, will surface water flows be materially changed from the existing route?
- Section 3. Will the proposed basement development result in a change in the proportion of hard surfaced/paved external areas?
- Section 4. Will the proposed basement result in changes to the profile of the inflows (instantaneous and long-term) or surface water being received by adjacent properties or downstream watercourses?
- Section 5. Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream water courses?

4.5. A BIA has not been provided however a Ground Investigation Report (GIR) has identified that a reinforced concrete ground slab is present underneath the building, underlain by Made Ground to a depth of 2.30 metres, below which lies the London Clay Formation proven to a depth of 5.00m bgl.

4.6. Groundwater monitoring data is not provided and the GIR does not include reference to groundwater installations.

4.7. The presence or absence of basements in the adjacent properties has not been confirmed. The construction method statement in section 4.1 and the Ground Investigation Report in section 4.2 refer to a trial pit located in the centre of site, revealing the extent of the existing building's foundation, but does not mention the foundations or potential for basements associated with the adjacent properties.

4.8. Ground movement and structural impacts have not been considered. Neither the need for monitoring during construction, nor any residual impacts/mitigation, have clearly been identified.

4.9. The scheme has not demonstrated if the structural stability of the building, neighbouring properties and infrastructure will be maintained, how drainage and run-off will be dealt with and if any other damage to the water environmental would occur. The scheme has also not addressed the cumulative impacts upon structural stability or the water environmental in the local area.

4.10. None of the reports state that damage to the surrounding buildings will or will not be worse than Burland Category 2 and non-technical summaries have not been provided.

4.11. A neighbour has suggested that a tree to the front of the property may be affected by the basement proposals. The revised BIA should consider any effect on the reported tree and resultant impacts.

5.0 CONCLUSIONS

5.1. The BIA has not been completed and the screening documents provided have not been prepared by personnel who have qualifications complying with the requirements of CPG4..

5.2. The proposed development comprises a single storey basement construction beneath the footprint of the existing building with small light wells are planned to the front and rear of the house.

5.3. The BIA has not confirmed whether the proposed basement will be founded within Made Ground or London Clay. The Ground Investigation Report (GIR) has indicated that the Made Ground would not be a suitable bearing stratum and foundations will need to be deepened to encounter the London Clay, a suitable bearing stratum, below.

5.4. Additional information including detailed proposals is required to understand the effect on slope and ground stability, the hydrogeology and hydrology of the surrounding area. The screening should be completed to confirm which items require progression to the scoping and assessment stages.

5.5. Estimations of structural loadings, adequacy of bearing stratum and retaining wall analysis are described in the GIR in section 6.0 and the planning documentation includes a Construction Method Statement (CMS). However these are missing the following information:

- Maintenance of structural stability of party walls.
- Formation of underpinning.
- Estimation of structural loadings.
- Adequacy of bearing stratum.
- Retaining wall and basement slab analysis.
- Structural impact assessment

5.6. Until the missing information is provided it is not possible to conclude that the criteria contained in CPG4 and DP27 have been met.

Appendix 1: Residents' Consultation Comments

Residents' Consultation Comments

Surname	Address	Date	Issue raised	Response
O'Sullivan	47 Burghley Road	07/01/2016	Effect of construction on tree to the front of the property.	

Appendix 2: Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	BIA	Screening and scoping to be completed	Open	
2	BIA	Investigation and assessment for identified impacts to be completed	Open	
3	BIA	Structural engineering strategy to be provided	Open	

Appendix 3: Supplementary Supporting Documents

None

London

Friars Bridge Court
41- 45 Blackfriars Road
London, SE1 8NZ

T: +44 (0)20 7340 1700
E: london@campbellreith.com

Birmingham

Chantry House
High Street, Coleshill
Birmingham B46 3BP

T: +44 (0)1675 467 484
E: birmingham@campbellreith.com

Surrey

Raven House
29 Linkfield Lane, Redhill
Surrey RH1 1SS

T: +44 (0)1737 784 500
E: surrey@campbellreith.com

Manchester

No. 1 Marsden Street
Manchester
M2 1HW

T: +44 (0)161 819 3060
E: manchester@campbellreith.com

Bristol

Wessex House
Pixash Lane, Keynsham
Bristol BS31 1TP

T: +44 (0)117 916 1066
E: bristol@campbellreith.com

UAE

Office 705, Warsan Building
Hessa Street (East)
PO Box 28064, Dubai, UAE

T: +971 4 453 4735
E: uae@campbellreith.com