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205 Albany Street
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Basement Impact Assessment
Audit

For

London Borough of Camden

Project Number: 13398-11
Revision: F1

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Appendix

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 205 Albany Street London NW1 4AB (planning reference 2021/1852/P and 2021/2486/L). 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 was prepared by QED Structures and supported by a site investigation report by ASL. The qualifications of the authors are as per CPG Basements; however it is acknowledged that the screening and scoping have correctly identified the potential basement impacts.

1.5. It is proposed to deepen and extend the existing lower ground floor and pavement vaults and extend the basement beneath the existing rear yard. The BIA has confirmed that the basement will be founded within London Clay. It is likely that significant groundwater will not be encountered during basement foundation excavation.

1.6. Mass concrete underpinning is proposed to increase founding depths to the existing lower ground floor and pavement vaults. Reinforced concrete retaining walls will be constructed to form the rear extension of the basement

1.7. It is accepted that the development will not impact on slope stability or the hydrology and hydrogeology of the area.

1.8. The BIA identifies potential impacts to the host and neighbouring structures and infrastructure, A Ground Movement assessment is provided in the BIA and the damage to the neighbouring properties are noted is predicted to be within Category 1 of the Burland scale.

1.9. Estimates of ground movements and damage to nearby infrastructure are negligible.

1.10. A monitoring strategy is considered and trigger levels will be agreed as part of a party wall agreement.

1.11. It can be confirmed that the BIA complies with the requirements of CPG: Basements.

2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 27/07/2021 to carry out a Category B audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 205 Albany Street London, NW1 4AB and Planning Reference No. 2021/1852/P and 2021/2486/L.

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 (CPG): Basements. January 2021.
- 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 *"Extend existing basement (lower ground floor) to rear to create additional internal space and a lightwell; erection of single storey rear extension above extended basement at ground floor level within existing courtyard and creation of glass bridge over new lightwell; lower floor levels within existing basement and front vaults; doors to vaults to be fixed shut; creation of openings between vaults; replace external door within front lightwell; insertion of new first floor window on rear elevation; increase in height of existing rear wall; removal and replacement of existing roof hatch and insertion of 3x new skylights on mansard roof; internal alterations at all levels".*

2.6. The description provided above is from planning application no. 2021/2486/L. It is essentially the same as that given for planning application reference 2021/1852/P except for a slight rewording of the proposal.

2.7. The Audit Instruction confirmed 205 Albany Street and its neighbours are listed buildings.

2.8. CampbellReith accessed LBC's Planning Portal on 03/08/2021 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment Report (BIA) by QED Structures, dated March 2021.
- Site Investigation report by ASL, dated March 2021.
- Architects General Arrangement Plans & Sections Existing and Proposed by Belsize Architects dated June 2020.
- Design & Access Statement by Belsize Architects, dated April 2020.
- Heritage Statement by Authentic Futures, dated April 2021.

2.9. Subsequent to the issue of our initial audit report, CampbellReith reviewed the following additional/updated documents for audit purposes:

- Ground Movement Assessment by LBHGEO dated June 2022.
- Basement Impact Assessment Report (BIA) by QED Structures, dated February 2022.

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?	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	Section 7.2 of the QED BIA
Are suitable plan/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	Section 4.2 of the QED BIA
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 4.1 of the QED BIA
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 4.3 of the QED BIA
Is a conceptual model presented?	No	However, the relationship between the basement, its surroundings and ground/groundwater conditions is explained.
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	

Item	Yes/No/NA	Comment
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Is factual ground investigation data provided?	Yes	Section 6.1.2.1 of the QED BIA
Is monitoring data presented?	Yes	Table IVa in Appendix IV of the Site Investigation Report by ASL.
Is the ground investigation informed by a desk study?	Yes	Section 3 of the QED BIA
Has a site walkover been undertaken?	Yes	
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	The Ground Movement Assessment notes that the adjacent properties are likely to have lower ground floors similar to those at the host property.
Is a geotechnical interpretation presented?	Yes	Section 7.1 of the QED BIA
Does the geotechnical interpretation include information on retaining wall design?	Yes	Section 7.1 of the QED BIA; Same properties used in retaining wall analysis.
Are reports on other investigations required by screening and scoping presented?	NA	None required.
Are the baseline conditions described, based on the GSD?	Yes	Section 6.1 of the QED BIA
Do the baseline conditions consider adjacent or nearby basements?	Yes	
Is an Impact Assessment provided?	Yes	Section 8 of the QED BIA

Item	Yes/No/NA	Comment
Are estimates of ground movement and structural impact presented?	Yes	Section 8.2.2 of the QED BIA
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	Yes	Does consider impact on neighbouring buildings and nearby infrastructure.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	Section 7.2 of the QED BIA
Has the need for monitoring during construction been considered?	Yes	Section 7.4 of the QED BIA
Have the residual (after mitigation) impacts been clearly identified?	No	
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	Updated GMA provided within LBHGEO report.
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	Yes	The information provided demonstrates no change to hard surfaced/paved areas.
Has the scheme avoided cumulative impacts upon structural stability or the water environment in the local area?	No	
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	Further justification required.
Are non-technical summaries provided?	Yes	Section 1 of the QED BIA

4.0 DISCUSSION

4.1. The Basement Impact Assessment (BIA) and Structural Strategy Report (SSR) have been prepared by engineering consultants QED Structures, with the support of LBHGEO. The individuals concerned in its production do have suitable qualifications.

4.2. The LBC Instruction to proceed with the audit identified the basement proposal involved a listed building and was adjacent to listed buildings. The Design & Access Statement identified that 205 Albany Street is located within Regents Park Conservation Area and is part of a group of Grade II listed buildings, together with 197-211 Albany Street and with the attached railings.

4.3. The property is a four storey terraced dwelling with an existing basement. The proposed works consists of extending the length of the basement at the rear by around 2m, to create space for a new lightwell and two bathrooms. The existing basement floor and the pavement vaults present at the front of house are to be lowered. The extension would typically involve excavations of approximately 1.20m depth with localised excavation to around 3m depth. The existing foundations will be deepened with mass concrete underpins. Reinforced concrete retaining walls will support the new basement beneath the existing external courtyard.

4.4. A site investigation is carried by ASL in the rear courtyard of the property to a depth of 10.45m. It has identified made ground to a depth of 2.20m, followed by firm to stiff London Clay. Groundwater was not encountered during the fieldwork or a subsequent round of monitoring. The BIA identifies existing lower ground floor has founding levels ranging from 400mm to 540mm below ground level, while the founding levels of the vault range from 400mm to 600mm bgl.

4.5. Figure 3 of the ASL has a Contamination Conceptual Model rather than a Conceptual Ground Model. However, it is accepted that the BIA clearly describes the relationship between the proposed and existing structures, as well as ground and groundwater conditions.

4.6. It is accepted that the proposed development would not have any impact on hydrogeology, surface water and flooding from the described construction methodology and drawings provided. However, Question 3 of the surface water and flooding screening states 'Yes' to change in hard surfaced/paved areas, although this is not the case based on the drawings and construction methodology.

4.7. A comprehensive construction methodology defining the permanent and temporary works is outlined in Section 7.2. The deepening of the existing lower ground floor and creation of the new basement is to be achieved by means of traditional hit and miss underpinning techniques. Underpinning of the vaults is 750mm deep and a temporary support is provided to limit any ground movements. Underpinning of existing walls is to be 380mm and the construction of new

basement area to the rear employs a reinforced concrete retaining wall to a depth of 3m, formed using a hit and miss underpinning type methodology. Temporary propping and backfilling of excavations are described to mitigate ground movements.

4.8. Appendix 10.5 contains a reinforced concrete retaining wall design supported by a structural load takedown and a construction method statement. The ground conditions for the reinforced concrete retaining wall design are consistent with the one provided in the BIA.

4.9. Section 5 of the LBHGEO report presents an updated GMA. An excavation depth of 1.2m is considered for the analysis, this is the excavation required below the existing foundations to the party walls with the two neighbouring properties which have existing basements. The GMA states ground movements due to underpinning in the vertical component would be 5mm and the horizontal movements would be c. 2mm, given the depth of excavation is relatively shallow this is accepted.

4.10. Critical wall sections perpendicular to the excavation are assessed and resulting building damage is predicted to fall into Burland Category 0, except for a rear wall in No. 207 with Category 1 damage predicted. The public highways on Albany Street and Gloucester Gate Mews are assessed to experience negligible movement.

4.11. Section 7 of the BIA considers a structural monitoring regime to be undertaken as part of the party wall agreements.

5.0 CONCLUSIONS

5.1. The BIA author's qualifications do meet the requirements of CPG Basements.

5.2. The BIA has confirmed that the proposed basement will be of single storey, built within London Clay.

5.3. It is likely that significant groundwater will not be encountered during basement foundation excavation.

5.4. There will be mass concrete underpinning to accommodate the increase in differential founding depths in the existing lower ground floor and pavement vaults. Reinforced concrete retaining walls are to be constructed to support the rear extension of the basement.

5.5. It is accepted that there are no impacts to surface water or subterranean flows.

5.6. An updated GMA was prepared by LBHGEO to consider the impact of the basement proposals on critical wall sections of the neighbouring buildings. The resulting damage is limited to Category 1 of the Burland Scale.

5.7. The GMA assesses damage to public infrastructure and movements resulting from proposed excavation would be negligible to the infrastructure.

5.8. A monitoring strategy is considered and final trigger levels are to be agreed as part of a party wall agreement.

5.9. It is accepted that the surrounding slopes to the development site are stable.

5.10. It can be confirmed that the BIA complies with the requirements of CPG: Basements.

Appendix 1: Residents' Consultation Comments

None

Appendix 2: Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	Stability	GMA needs to address potential impacts on infrastructure and neighbouring properties.	Closed	27/07/2022
2	Stability	GMA needs to provide calculations to justify predicted damage category.	Closed	27/07/2022
3	Stability	Movement monitoring strategy should be reviewed with updated GMA to ensure damage limited to Burland Category 1.	Closed	27/07/2022

Appendix 3: Supplementary Supporting Documents

None

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