

# 53 Glenmore Road, London NW3 4DA BIA – Audit



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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 submitted as part of the Planning Submission documentation for 53 Glenmore Road, London NW3 4DA (planning reference 2017/2579/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. Supplementary information was made available in September 2017.
- 1.4. The proposed development involves modifying the property into self-contained flats by altering the internal arrangements. The BIA relates to the enlargement of the basement floor area to create habitable rooms at that level.
- 1.5. The original BIA was produced by an organisation called LMB GEOSOLUTIONS LTD and formed part of the overarching Design & Access Statement by Martin Arnold Ltd. The author's qualifications CGeol for the hydrogeology and CEng for the Ground Movement Assessment and Flood Risk aspects are recognised as being in accordance with the LBC guidance. Following queries and comments by CampbellReith, a revised document was produced by LMB GEOSOLUTIONS LTD titled BASEMENT IMPACT ASSESSMENT dated August 2017.
- 1.6. The BIA does not appear to have been informed by a desk study in accordance with the LBC guidance; however confirmation that there is no London Underground infrastructure within 50m of the site is provided.
- 1.7. A limited site investigation has been undertaken, which appears to be appropriate to the scale of the proposed development is referred to in the BIA.
- 1.8. The BIA indicates that the proposed development will be founded in the London Clay using underpins and reinforced concrete retaining walls. Structural drawings and method statements have been provided by Martin Arnold LTD.
- 1.9. The BIA recommends movement monitoring should be undertaken at weekly intervals.
- 1.10. The Flood Risk Assessment states that the site is in Flood Zone 1 in an area of low to medium risk of surface water flooding.



- 1.11. The development does not result in an increase in impermeable site area.
- 1.12. Queries and requests for further information are discussed in section 4 and Appendix 2. Considering the revised submission, the criteria contained in CPG4 and DP27 have been met.



### 2.0 INTRODUCTION

- 2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 25 May 2017 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 53 Glenmore Road, London NW3 4DA, Camden Reference 2017/2579/P. Additional information was received in September 2017.
- 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: *"Subdivision of 2 No 1 Bedroom and 1 No 2 Bedroom partially self contained flat to fully self contained flats. Excavation of basement and side infill extension."*
- 2.6. The property is not listed but is noted as being within the Belsize Conservation Area.



- 2.7. CampbellReith accessed LBC's Planning Portal on 3 July 2017 and gained access to the following relevant documents for audit purposes:
  - Design & Access Statement by Martin Arnold Ltd dated 05 May 2017 (with inclusive BIA by LMB GEOSOLUTIONS LTD dated March 2017).
  - Flood Risk Assessment for Planning by Unda Consulting Limited dated March 2017.
  - Drawings of existing front and rear elevations and floor plans by Martin Arnold Ltd.
  - Drawings of proposed front and rear and floor plans by Martin Arnold Ltd.
  - Heritage Statement by Martin Arnold Ltd.
- 2.8. In September 2017 the following additional documents were made available for revised audit purposes:
  - BASEMENT IMPACT ASSESSMENT by LMB GEOSOLUTIONS LTD dated August 2017.
  - Structural drawings and method statement by Martin Arnold Ltd.



### 3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	The BIA author has CGeol qualification and the Flood Risk / GMA consultant has a CEng qualification.
Is data required by CI.233 of the GSD presented?	Yes	Utility companies do not appear to have been approached with regards to underground infrastructure, however will be the responsibility of a competent contractor to perform a Utilities survey scan prior to starting excavation works.
Does the description of the proposed development include all aspects of temporary and permanent works which might impact upon geology, hydrogeology and hydrology?	Yes	There are notes on the Martin Arnold structural drawings regarding temporary and permanent works.
Are suitable plans/maps included?	Yes	Reference mapping to support Screening assessment has been provided.
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	Justification has been provided for No answers.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Justification has been provided for No answers.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Justification has been provided for No answers.

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Item	Yes/No/NA	Comment
Is a conceptual model presented?	Yes	There is a brief Ground Movement Assessment model in the BIA.
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	Screening and Scoping are a combined assessment. Very Slight damage is the worst predicted to number 51 Glenmore Road.
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	No significant issues are identified.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	No significant issues are identified.
Is factual ground investigation data provided?	Yes	A summary table in the BIA by LMB Geosolutions Ltd contains a description of the ground conditions.
Is monitoring data presented?	Yes	A summary description from the Site Investigation report is tabulated in the BIA showing groundwater was located at 5.66 m during monitoring.
Is the ground investigation informed by a desk study?	No	Not known.
Has a site walkover been undertaken?	Yes	The BIA notes that a site walkover was undertaken and that minor cracking to brickwork was observed to external walls to the front and rear of the property, interior basement walls and ground floor.
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	The Ground Movement Assessment makes reference to adjacent properties numbers 51 and 55 Glenmore Road as having been previously underpinned.
Is a geotechnical interpretation presented?	Yes	Foundation allowable bearing pressures and heave pressures have been stated in the BIA.



Item	Yes/No/NA	Comment
Does the geotechnical interpretation include information on retaining wall design?	Yes	Retaining wall reinforced concrete designs are shown on the structural proposal drawings by Martin Arnold Ltd.
Are reports on other investigations required by screening and scoping presented?	Yes	Site investigation and Construction Method Statement documents to be published.
Are baseline conditions described, based on the GSD?	Yes	The presence of neighbouring basements has been confirmed.
Do the base line conditions consider adjacent or nearby basements?	No	Does not appear to take this into account in the Ground Movement Assessment.
Is an Impact Assessment provided?	Yes	Impact assessment summaries are provided for item carried forward from the screening and scoping stages.
Are estimates of ground movement and structural impact presented?	Yes	A ground movement assessment is provided in the BIA.
Is the Impact Assessment appropriate to the matters identified by screen and scoping?	Yes	The impact assessment addresses the points raised by screening and scoping.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	Mitigation measures are briefly discussed such as the requirement for heave protection and surveying and monitoring of surrounding buildings but no greater levels of detail given.
Has the need for monitoring during construction been considered?	Yes	Construction monitoring is mentioned with details to be developed at the next design stage.
Have the residual (after mitigation) impacts been clearly identified?	Yes	
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	Structural drawings and Construction Method Statement have been submitted.

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Item	Yes/No/NA	Comment
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	
Are non-technical summaries provided?	Yes	



### 4.0 DISCUSSION

- 4.1. The BIA has been prepared by LMB GEOSOLUTIONS LTD and the Flood Risk Assessment has been prepared by Unda Consulting Ltd. The Design & Access statement has been prepared by Martin Arnold Ltd. Proposed structural drawings with method statement notes has been prepared by Martin Arnold Ltd.
- 4.2. The authors' qualifications for hydrology and ground movement aspects are in accordance with CPG4 guidelines with the necessary Chartered status.
- 4.3. The BIA has not been informed by a fully complete desk study in line with GSD Appendix G1, however it has been confirmed that there are no London Underground infrastructure below the site. It would be advisable to do a full utilities search, however this could also form part of a competent contractors scope of works prior to any excavations.
- 4.4 Reference is made to a Ground Investigation & Assessment. The full report could not be located on the Camden Planning Portal; however a brief resume is contained in the BIA.
- 4.5 The proposed structural drawings have details on them relating to the proposed form of retaining wall and foundation underpinning for the basement construction.
- 4.6 Groundwater has been recorded in the site investigation logs 5.66m below ground level in the underlying London Clay which is classified as an unproductive strata. As such, considering this, it is accepted there will be no impact to the wider hydrogeological environment. There is likely to be a perched water table with significant volumes during construction unlikely.
- 4.7 The development does not result in an increase in impermeable site area and as such it is accepted that there will be no impact to the wider hydrological environment.
- 4.8 An outline methodology and guidance for monitoring structural movements during construction should be provided which should reflect the actual ground / structural movements predicted, in accordance with LBC guidance.



### 5.0 CONCLUSIONS

- 5.1 The BIA author's qualifications are to the required standards.
- 5.2 Structural drawings provided as supplementary information show the basement underpinning design proposals with an outline description of temporary works and construction method statement suitable to the scale of development.
- 5.3 Reference is made to a Ground Investigation & Assessment which could not be located on the Camden Planning Portal; however a brief summary of the ground conditions is contained in the BIA.
- 5.4 The BIA indicates that the proposed development will be founded in the London Clay. Whilst no structural calculations have been made available, the form of the underpinning of reinforced concrete stem walls integral with a reinforced concrete raft slab should mitigate against shrink / swell / heave impacts.
- 5.5 It is not likely that the development proposals will have adverse effects on the hydrological and hydrogeological water regimes in the vicinity.
- 5.6 Considering the revised submission, the criteria contained in CPG4 and DP27 have been met.



### Appendix 1: Residents' Consultation Comments

None



Appendix 2: Audit Query Tracker

### 53 Glenmore Road, London NW3 4DA BIA – Audit



### Audit Query Tracker

Query No	Subject	Query	Status/Response	Date closed out
1.	BIA	A utilities search should be undertaken as standard practice in accordance with Arup guidance.	It should be the responsibility of a competent contractor to perform a Utilities survey scan prior to starting excavation works.	September 2017.
2.	BIA	Ground Investigation was not published on the Camden Planning Portal and should be made available for review and comment.	The full report could not be located on the Camden Planning Portal; however a brief resume is contained in the BIA.	September 2017.
3.	Stability	Construction Method Statement was not published on the Camden Planning Portal and should be made available for review and comment.	CMS for the underpinning works contained within the Martin Arnold Ltd proposed structural drawings.	September 2017.
4.	Stability	No structural calculations and drawings of the proposed scheme / temporary works were available for review.	Martin Arnold Ltd proposed structural drawings have subsequently been made available.	September 2017.
5.	Stability	The level of adjacent property basements should be quantified and included in the Ground Movement Assessment analysis.	The Ground Movement Assessment makes reference to adjacent properties numbers 51 and 55 Glenmore Road as having been previously underpinned.	September 2017.



### Appendix 3: Supplementary Supporting Documents

None

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