

Basement Impact
Assessment Audit

34A Netherhall Gardens
London
NW3 5TP

For
London Borough of Camden

Project No.
14291-17

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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 34A Netherhall Gardens, London, NW3 5TP (planning reference 2024/5731/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 Basement Impact Assessment (BIA) has been carried out by engineering consultants A-squared Studio and the individuals concerned in its production have suitable qualifications.
- 1.5 The BIA states that a single storey basement will be formed by excavating soil to a depth of circa 4 metres and that the excavation will be retained by an embedded pile wall.
- 1.6 The BIA has confirmed that the proposed basement will be founded within the Claygate Member, a suitable founding stratum.
- 1.7 There is the potential for a limited amount of groundwater to be encountered during basement excavation and the BIA has proposed sump pumping as mitigation measure. It is accepted the proposed basement will not have a significant impact on the wider hydrogeological environment.
- 1.8 A Flood Risk Assessment is presented in the BIA which confirms that risk due to surface water flooding will be reduced as part of the new drainage design. It is accepted that the proposed basement will not have a significant impact on the wider hydrology environment.
- 1.9 A Ground Movement Assessment (GMA) was completed to estimate potential damage to neighbouring properties due to the basement construction. Ground movements and associated damage categories can be limited to meet the requirements of the CPG for basements (category damage of 1 - 'Very Slight').
- 1.10 The BIA indicates the need for a movement monitoring strategy during excavation and construction which is to be developed at a later stage by the principal contractor.
- 1.11 It is confirmed that the BIA complies with the requirements of CPG: Basements and the Principles for Audit set out in the Basement Impact Assessment (BIA) Audit Service Terms of Reference & Audit Process.

2.0 INTRODUCTION

2.1 CampbellReith was instructed by London Borough of Camden (LBC) on 03/02/2025 to carry out a Category B audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 34A Netherhall Gardens, London, NW3 5TP (planning reference 2024/5731/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

- 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 "Demolition of existing dwellinghouse and erection of three storey replacement house, including excavation of basement. Associated works including replacement of front boundary wall and erection of cycle and waste storage."

2.6 The Audit Instruction confirmed 34a Netherhall Gardens is not listed and is not a neighbour to listed buildings.

2.7 CampbellReith accessed LBC's Planning Portal on 25/02/2025 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment Report (BIA) by A-squared Studio, Ref: 3451-A2S-XX-XX-RP-Y-0001-01, date: August 2024
- Phase I Desk Study by A2 Site Investigation, Ref: 50124-A2SI-XX-XX-RP-Y-0001-00, Rev: First Issue, date: 02/07/2024

- Factual Report by A2 Site Investigation, Ref: 50124-A2SI-XX-XX-RP-X-0002-00, Rev: First Issue, date: 26/07/2024
- Flood Risk Assessment and Drainage Strategy Report by Pringuer-James Consulting Engineers (PJCE), Ref: L2845-REP-00, date: July 2024
- Design & Access Statement by Studio Three, dated September 2024
- Tree Report by John Cromar's Arboricultural Company Ltd, Ref: S1285-J2-R1
- Planning Application Drawings by Studio Three consisting of:
 - Location Plan, Drawing No: A_0100, date: 23/09/2024
 - Existing Ground Floor Plan, Drawing No: A_0600, date: 23/09/2024
 - Existing Front (West) Elevation, Drawing No: A_0700, date: 23/09/2024
 - Existing Rear (East) Elevation, Drawing No: A_0701, date: 23/09/2024
 - Existing Side (North) Elevation, Drawing No: A_0702, date: 23/09/2024
 - Existing Side (South) Elevation, Drawing No: A_0703, date: 23/09/2024
 - Existing Front (West) Elevation – Garden Wall by Studio Three, Drawing No: A_0704, date: 23/09/2024
 - Existing Section A-A, Drawing No: A_0800, date: 23/09/2024
 - Proposed Basement Plans, Drawing No: A_1999, date: 23/09/2024
 - Proposed Front (West) Elevation by, Drawing No: A_2100, date: 23/09/2024
 - Proposed Front (East) Elevation, Drawing No: A_2101, date: 23/09/2024
 - Proposed Side (North) Elevation, Drawing No: A_2102, date: 23/09/2024
 - Proposed Side (South) Elevation, Drawing No: A_2103, date: 23/09/2024
 - Proposed Section A-A, Drawing No: A_2220, date: 23/09/2024
- Planning Consultation Responses

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	Section 2.2 Credentials
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	
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	
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	See 4.1 of the BIA
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	See 4.3 of the BIA
Is a conceptual model presented?	Yes	See Figure 9-1 Conceptual site model section (north – south)
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	See 4.1 Subterranean (Groundwater) Flow, Screening Flowchart
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	See 4.3 Surface Water and Flooding Screening Flowchart

Item	Yes/No/NA	Comment
Is factual ground investigation data provided?	Yes	See Factual Report, Appendix E of the BIA
Is monitoring data presented?	Yes	See Factual Report, Table 12.1 Groundwater monitoring results
Is the ground investigation informed by a desk study?	Yes	See Phase I Desk Study, Appendix C of the BIA
Has a site walkover been undertaken?	Yes	See 2.2 Site Walkover of Phase I Desk Study
Is the presence/absence of adjacent or nearby basements confirmed?	No	However, the assumptions made in relation to neighbouring basements in the BIA are conservative
Is a geotechnical interpretation presented?	Yes	
Does the geotechnical interpretation include information on retaining wall design?	Yes	See Table 6.3 of the BIA
Are reports on other investigations required by screening and scoping presented?	Yes	Flood Risk Assessment and Drainage Strategy Report, Tree Report provided.
Are the baseline conditions described, based on the GSD?	Yes	
Do the baseline conditions consider adjacent or nearby basements?	No	However, the assumptions made in relation to neighbouring basements in the BIA are conservative
Is an Impact Assessment provided?	Yes	See Section 9 of the BIA
Are estimates of ground movement and structural impact presented?	Yes	See 8.2 of the BIA
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	Yes	
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	See 8.2.15 of the BIA
Has the need for monitoring during construction been considered?	Yes	See 8.3 of the BIA

Item	Yes/No/NA	Comment
Have the residual (after mitigation) impacts been clearly identified?	Yes	See 8.2.16 and 8.2.17
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	
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	As above.
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	
Are non-technical summaries provided?	Yes	

4.0 DISCUSSION

- 4.1 The Basement Impact Assessment (BIA) has been carried out by engineering consultants A-squared Studio and the individuals concerned in its production have suitable qualifications.
- 4.2 The LBC Instruction to proceed with the audit identified that 34A Netherhall Gardens is not listed and is not a neighbour to listed buildings. The existing structure is a two-storey detached building. The closest neighbouring buildings are 32 Netherhall Garden to the south, 34 and 34C Netherhall Gardens to the north.
- 4.3 The proposed development comprises complete demolition of the existing structure followed by the construction of a new three-storey detached house over a single-storey basement. The proposed basement will occupy the entire footprint of the new house and it will be formed by excavating approximately to 4.00m below ground level (bgl). Contiguous piled walls will be installed to support the excavation.
- 4.4 The BIA has provided site specific ground investigation which indicates that the site is located on Made Ground (c. 0.90m in thickness) underlain by Claygate Member to a depth of 9.00m bgl, which in turn is underlain by the London Clay Formation (proven to 15.00m bgl). The BIA states that the basement will be founded in the Claygate Member.
- 4.5 A groundwater strike was recorded in BH01 at a depth of 5.80m bgl. Three rounds of groundwater monitoring were undertaken during the summer (09/07/24 to 22/07/24). The groundwater levels are recorded at between c. 1.85m bgl and 1.95m bgl in BH01 and between 3.70m bgl and 7.55m bgl in BH02. Slug tests conducted in BH01 demonstrated that the Claygate Member has low permeability. As a limited amount of groundwater is expected to ingress the basement during the excavation, the BIA has proposed dewatering by sump pumping.
- 4.6 It is accepted the proposed basement will have a negligible impact on the wider hydrogeological environment.
- 4.7 The BIA includes a Flood Risk Assessment (FRA) and Drainage Strategy Report which recommends attenuation of surface water on site before discharging into the combined sewer. This will mitigate against the risk of surface water flooding and the BIA states that basement scheme will not adversely impact the wider hydrology environment. The FRA and Drainage Strategy will be subject to approval by the local authority.
- 4.8 The BIA has provided geotechnical parameters for the strata encountered on site including those for retaining wall design.
- 4.9 The basement will be retained by contiguous pile walls and founded on raft foundation. The basement retaining walls will be temporarily propped during the construction to minimise ground movements. The BIA assumed an embedded piled wall length of 8m which is noted to be reasonable.
- 4.10 A Ground Movement Assessment (GMA) was undertaken by using proprietary software Oasys PDisp and XDisp. The GMA includes ground movements due to demolition of the existing building, embedded pile retaining wall installation and basement excavation.

- 4.11 The neighbouring properties included in the analysis are No.30, No.32, No.34 and No.34c Netherhall Gardens. Based on the Burland Scale, the GMA anticipates a maximum category damage of 1 ('Very Slight') for the neighbouring properties, which is within the limits set by the CPG for basements.
- 4.12 The BIA indicates the need for a movement monitoring strategy for neighbouring properties and infrastructure including structural monitoring layout, programme and frequency of monitoring, trigger values and contingency plans to be developed at a later stage by the principal contractor.

5.0 CONCLUSIONS

- 5.1 The qualifications of the authors of the BIA are in accordance with LBC guidance.
- 5.2 The BIA has confirmed that the proposed basement will be founded within Claygate Member and that a contiguous pile wall will be installed to retain the proposed excavation.
- 5.3 It is likely that limited amount of groundwater will be encountered during basement excavation and the BIA has proposed dewatering by sump pumping. It is accepted the proposed basement will have a limited to negligible impact on the local and wider hydrogeological environment.
- 5.4 The BIA has provided FRA and Drainage Strategy Report which anticipates a reduction in the risk of surface water flooding.
- 5.5 A GMA is completed and damage category for the neighbouring properties is estimated to be category damage of 1 ('Very Slight') of the Burland Scale, which is acceptable.
- 5.6 The BIA recommends structural monitoring of neighbouring properties to be undertaken during construction.
- 5.7 It is confirmed that the BIA complies with the requirements of CPG: Basements and the Principles for Audit set out in the Basement Impact Assessment (BIA) Audit Service Terms of Reference & Audit Process.

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Appendix 1

Consultation Responses

Residents' Consultation Comments

Surname	Address	Date	Issue raised	Response
Dumbell	Flat 8, 34 Netherhall Gardens, NW3 5TP	12/02/2025	Structural Integrity Groundwater drainage	Discussed in Section 4.11. Discussed in Section 4.5.
Simmons	Flat 5, 34 Netherhall Gardens NW3 5TP	15/02/2025	Impact to the structure Water Drainage	Discussed in Section 4.11. Discussed in Section 4.5.
Neitsch	43 Netherhall Gardens NW3 5RL	18/02/2025	Structural damage	Discussed in Section 4.11.
Netherhall Property Management Ltd	34 Netherhall Gardens NW3 5TP	19/02/2025	Structural Damage Groundwater drainage	Discussed in Section 4.11. Discussed in Section 4.5.
Toofanian, R	Flat 4, 36 Netherhall Gardens, NW3 5TP	19/02/2025	Water Drainage	Discussed in Section 4.5.
Netherhall Property Management Ltd	Flat 5, 36 Netherhall Gardens, NW3 5TRL	19/02/2025	Structural Damage Drainage	Discussed in Section 4.11. Discussed in Section 4.5.
Wilkins	Basement Flat, 43 Netherhall Gardens, NW3 5TP	23/02/2025	Structural Damage Drainage	Discussed in Section 4.11. Discussed in Section 4.5.

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Appendix 2

Audit Query Tracker

N/A

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Appendix 3

Supplementary
Supporting Documents

N/A

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