

10-12 Kentish Town Road,
Camden, London NW1 9NX

Basement Impact Assessment
Audit

For
London Borough of Camden

Project Number: 12985-03

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1.0 NON-TECHNICAL SUMMARY

- 1.1. CampbellReith was instructed by London Borough of Camden (LBC) on 15 August 2018 to carry out an Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 10-12 Kentish Town Road, London NW1 9NX, Camden Reference 2018/2425/P. The basement is considered to fall within Category C 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 been prepared by LBH Wembley Engineering. The qualifications of the authors are in accordance with LBC guidance.
- 1.5. The site comprises three terraced properties that front onto the east side of Kentish Town Road of 1 to 3 storeys. The proposal is excavation of a single basement floor to accommodate retail space associated with the existing use of the ground floor. It is understood that the basement excavation is already underway and this is a retrospective application.
- 1.6. The BIA includes the majority of the information required from a desk study in accordance with LBC guidance.
- 1.7. A site investigation was undertaken by LBH Wembley Engineering in August 2017 at the adjacent 8 Kentish Town Road. No groundwater was encountered during the investigation. The ground conditions comprise Made Ground over London Clay. In the updated submissions, factual site investigation logs and data are presented.
- 1.8. The proposed development will not impact the wider hydrogeological environment.
- 1.9. In the updated submissions, geotechnical interpretation including retaining wall design parameters are presented.
- 1.10. The formation level of the new basement slab is proposed to be in the London Clay formation. The basement will be formed by underpinning techniques. In the updated submissions, outline temporary works information and permanent structural calculations are presented.
- 1.11. In the updated submissions, an outline construction programme is provided.

- 1.12. Neighbouring properties are identified as having basements / cellars. No cumulative impacts are predicted.
- 1.13. In the original submission, the impact assessment indicated Category 2 damage (Slight) to No 8 Kentish Town Road and a maximum of Category 1 damage (Very Slight) for other properties. Category 2 damage is not compliant with LBC guidance. In the updated submissions, a ground movement assessment including mitigation measures is presented to ensure damage impacts are limited to a maximum of Category 1 (Very Slight).
- 1.14. In the updated submissions it is stated that impacts to the highway will be negligible. An outline structural monitoring scheme is presented.
- 1.15. The LUL Northern Line runs beneath the pavement to Kentish Town Road adjacent to the site. Consultation with TFL is ongoing. Asset protection requirements must be agreed with TFL, as applicable.
- 1.16. A Flood Risk Assessment is presented which concludes the development is at very low risk of flooding from all sources. A consultation response from Thames Water indicates that there may be a risk from sewer flooding. The updated BIA confirms that suitable mitigation is to be incorporated into the development.
- 1.17. The proposed scheme will not increase the proportion of impermeable area. Use of SUDS is proposed. The proposed development will not impact the wider hydrological environment. The final drainage scheme should be agreed with Thames Water and LBC.
- 1.18. Discussion and requests for further information are presented in Section 4 and summarised in Appendix 2. Considering the updated submissions presented, the BIA meets the criteria of CPG Basements.

2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 15 August 2018 to carry out a Category C Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 10-12 Kentish Town Road, London NW1 9NX, Camden Reference 2018/2425/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): Basements.
- Camden Development Policy (DP) 27: Basements and Lightwells.
- Camden Development Policy (DP) 23: Water.
- The Local Plan (2017): Policy A5 (Basements).

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 planning portal describes the proposal as: *"Excavation of a single basement floor to house supporting functions connected with existing hotel (C1) and restaurant (A3), alongside various alterations to the front elevation including changes to the shopfront, fenestration and the creation of one additional dormer window"*.

The planning portal also confirmed the site lies within the Camden Town Conservation Area but neither the site or neighbouring properties are listed buildings.

2.6. CampbellReith accessed LBC's Planning Portal in September 2018 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment (ref LBH4536 Ver 1.1) dated July 2018 by LBH Wembley Engineering.
- Existing and proposed elevations and plans by Ambigram Architects dated April 2018.
- Planning Statement by SM Planning.
- Flood Risk Assessment (ref LBH4536fra Ver. 1.0) dated July 2018 by LBH Wembley Engineering.
- Consultation Responses.

2.7. CampbellReith received the following relevant documents for audit purposes in November 2018:

- Basement Impact Assessment (ref LBH4536 Ver 1.2) dated November 2018 by LBH Wembley Engineering.
- Project Construction Programme.

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	Updated information provided in the revised submissions.
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 plans/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	
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	
Is a conceptual model presented?	Yes	Within BIA text.

Item	Yes/No/NA	Comment
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Updated information provided in the revised submissions.
Is factual ground investigation data provided?	Yes	Updated information provided in the revised submissions.
Is monitoring data presented?	No	No groundwater was encountered during the site investigation.
Is the ground investigation informed by a desk study?	Yes	
Has a site walkover been undertaken?	No	Not stated.
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	To the rear the site backs onto three storey terraced buildings at Nos. 3A and 5 Camden Road. These buildings appear to have cellar floors situated at roughly 1.5m below ground floor level. Part of Camden Town Underground Station lies beneath the pavement immediately adjacent to the site.
Is a geotechnical interpretation presented?	Yes	Updated information provided in the revised submissions.
Does the geotechnical interpretation include information on retaining wall design?	Yes	Updated information provided in the revised submissions.
Are reports on other investigations required by screening and scoping presented?	Yes	Flood Risk Assessment by LBH Wembley Engineering presented.

Item	Yes/No/NA	Comment
Are baseline conditions described, based on the GSD?	Yes	Updated information provided in the revised submissions..
Do the base line conditions consider adjacent or nearby basements?	Yes	
Is an Impact Assessment provided?	Yes	
Are estimates of ground movement and structural impact presented?	Yes	Updated information provided in the revised submissions.
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	Updated information provided in the revised submissions.
Has the need for monitoring during construction been considered?	Yes	Details of monitoring scheme not provided.
Have the residual (after mitigation) impacts been clearly identified?	Yes	Updated information provided in the revised submissions.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	Updated information provided in the revised submissions.
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	Updated information provided in the revised submissions.
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	Updated information provided in the revised submissions.

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

4.0 DISCUSSION

- 4.1. The BIA has been prepared by LBH Wembley Engineering. The qualifications of the authors of the reports are in accordance with CPG Basements.
- 4.2. The site comprises three terraced properties that front onto the east side of Kentish Town Road. No. 10 & 10A are mainly three storeys in height, but include single storey rear extensions. No. 12 is a two storey building and all are understood to have been constructed in the 19th Century. Full planning permission (2017/2852/P) was granted on 03 August 2017 for the erection of part two, part single storey extensions to the roof and rear and this is under construction. The site is within the Camden Town Conservation area and is identified as a building which makes a positive contribution to the area.
- 4.3. The proposal is the excavation of a single basement floor to accommodate retail space associated with the existing use of the ground floor. It is understood that the basement excavation is already underway and this is a retrospective application.
- 4.4. The BIA includes the majority of the information required from a desk study in line with the GSD Appendix G1.
- 4.5. No site investigation has been completed at the site. A site investigation was undertaken at the adjacent No. 8 Kentish Town Road by LBH Wembley Engineering in August 2017 comprising a single small diameter borehole and two hand dug trial pits. In the updated submissions, factual site investigation logs and data are presented and the ground conditions comprise Made Ground over London Clay.
- 4.6. Groundwater was not encountered during drilling and subsequent monitoring has not been reported. The BIA identifies the need for basement liner walls, membranes, and cavity drainage in the construction sequencing.
- 4.7. Considering the underlying unproductive strata, confirmed by the site investigation data, it is accepted the proposed development will not impact the wider hydrogeological environment.
- 4.8. The formation level of the new basement slab is proposed in the London Clay formation. The basement is being formed by underpinning techniques. In the updated submissions, outline temporary works information and permanent structural calculations are presented, including geotechnical interpretation and retaining wall design parameters.
- 4.9. In the updated submissions, an outline construction programme is provided.
- 4.10. The BIA notes that at the depth of the proposed foundations, and the foundations of the neighbouring structures, there should be no impact from potential shrink swell movements.

- 4.11. Neighbouring Nos. 3A and 5 Camden Road have cellar floors situated at roughly 1.5m below ground floor level. The adjoining No. 8 Kentish Town Road has no existing basement although a planning application for a proposed basement is currently in progress. Part of Camden Town Underground Station lies beneath the pavement immediately adjacent to the site.
- 4.12. In the original submission, summary results of a Ground Movement Assessment (GMA) were presented which indicated Burland Category 2 damage (Slight) for No 8 Kentish Town Road, Category 1 damage (Very Slight) for No 5a Camden Road and Category 0 damage (Negligible) for No 5 Camden Road. The damage impact assessment for No 16 Kentish Town Road (Section F-F in the Plan, BIA S7.5) was not provided.
- 4.13. Category 2 damage is not compliant with LBC guidance. Further assessment was requested, including clarification of the derivation of strains with mitigation measures to ensure damage impacts kept within policy requirements. This has been provided in the updated submissions: a ground movement assessment, including calculations and mitigation measures, is presented to ensure damage impacts are limited to a maximum of Category 1 (Very Slight).
- 4.14. It is stated that ground movements may impact the highway and a structural monitoring scheme will be instigated to allow the timely application of mitigation measures to prevent any unacceptable damage. In the updated submissions it is stated that impacts to the highway will be negligible. The outline structural monitoring scheme presented includes trigger values and contingency actions.
- 4.15. The LUL Northern Line and Camden Town Station runs beneath the pavement to Kentish Town Road adjacent to the site. It is stated that an Asset Impact Assessment is currently being prepared to ensure that the proposed scheme will not adversely impact the underlying LUL northern line tunnel. Design, methodology and asset protection requirements must be agreed with TFL, as applicable, before construction commences.
- 4.16. Kentish Town Road is within a Critical Drainage Area (Group 3-003). This was identified in the accompanying Flood Risk Assessment and included within the updated BIA. The site is not located within a Local Flood Risk Zone and is at very low risk of surface water flooding. Kentish Town Road is reported as having flooded in 1975 and a Flood Risk Assessment (FRA) is presented.
- 4.17. The FRA concludes the development is at very low risk of flooding from all sources. A consultation response from Thames Water indicates that there may be a risk from sewer flooding. The BIA confirms that suitable mitigation is to be incorporated into the development. Thames Water indicate a positive pumped device should be included within the final construction.

- 4.18. The proposed scheme will not increase the proportion of impermeable area. A SUDS assessment is presented and it is proposed to attenuate off-site discharge flows using a green roof, although no details are provided. The final drainage scheme should be agreed with Thames Water and LBC. The proposed development will not impact the wider hydrological environment.

5.0 CONCLUSIONS

- 5.1. The qualifications of the authors of the BIA report are in accordance with LBC guidance.
- 5.2. The proposal is construction of a single basement level below the full footprint of the buildings.
- 5.3. A neighbouring site investigation indicates ground conditions to comprise Made Ground over London Clay.
- 5.4. The proposed development will not impact the wider hydrogeological environment.
- 5.5. In the updated submissions, outline temporary works and permanent structural calculations are provided, including geotechnical interpretation and retaining wall design parameters.
- 5.6. In the updated submissions, an outline construction programme is provided.
- 5.7. In the updated submissions, a ground movement assessment including mitigation measures is presented to ensure damage impacts are limited to a maximum of Category 1 (Very Slight). It is stated that impact to the highway will be negligible and a structural monitoring scheme is presented.
- 5.8. The LUL Northern Line and Camden Town Station runs beneath the pavement to Kentish Town Road adjacent to the site. Asset protection requirements must be agreed with TFL, as applicable.
- 5.9. A consultation response from Thames Water indicates that there may be a risk from sewer flooding. The updated BIA confirms that suitable mitigation is to be incorporated into the development.
- 5.10. The proposed scheme will not increase the proportion of impermeable area. Use of SUDS is proposed. The proposed development will not impact the wider hydrological environment. The final drainage scheme should be agreed with Thames Water and LBC.
- 5.11. Requests for further information are presented in Section 4 and summarised in Appendix 2. Considering the updated submissions presented, the BIA meets the criteria of CPG Basements.

Appendix 1: Residents' Consultation Comments

Residents' Consultation Comments

Surname	Address	Date	Issue raised	Response
-	Thames Water	16 th August 2018	The proposed basement should incorporate a pumped positive device to avoid flooding during surcharge of the local sewers. The works should be undertaken in compliance with TW guidance to minimise damage to TW assets.	Section 4

Appendix 2: Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status/Response	Date closed out
1	BIA	Factual site investigation data should be presented.	Closed	November 2018
2	BIA	Confirm geotechnical interpretation including derivation of retaining wall design parameters and groundwater assumptions.	Closed	November 2018
3	BIA	An outline construction programme should be presented.	Closed	December 2018
4	Stability	Outline permanent and temporary works information should be provided.	Closed	November 2018
5	Stability	GMA strain calculations should be presented. It is stated that ground movements may impact the highway and Category 2 damage is predicted to 8 KTR. Mitigation measures should be provided.	Closed	November 2018
6	Hydrology / Flood Risk	Thames Water indicates that there may be a risk from sewer flooding. The BIA should confirm that suitable mitigation is to be incorporated into the development.	Closed	November 2018

Appendix 3: Supplementary Supporting Documents

None

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