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consulting engineers

53 Platt's Lane,  
London NW3 7NL

Basement Impact Assessment  
Audit

For  
London Borough of Camden

Project Number: 12727-35

Revision: F1

February 2018

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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 Platt's Lane, London NW3 7NL (planning reference 2018/0092/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 been prepared by LBH Wembley Engineering with a Structural Methodology Report produced by Richard Tant Associates. The qualifications of the authors are in accordance with CPG4 guidelines.
- 1.5. The proposed site comprises a two storey Victorian terraced house with a single storey basement beneath the full extent of the dwelling which is understood to be approximately 3m below ground level (bgl). The proposal is to create a lightwell at the front of the property.
- 1.6. The BIA includes the majority of the information required from a desk study in line with the GSD Appendix G1.
- 1.7. An outline construction programme has been provided.
- 1.8. A site investigation was undertaken by LBH Wembley Engineering in November 2017. The ground conditions comprise Made Ground over Head ("Downwash") deposits and the Claygate Member.
- 1.9. Groundwater was not encountered during drilling but was monitored at 3.5m bgl on 7 December 2017 which is below the proposed depth of the excavation. The BIA recommends that the lightwell should be fully waterproofed and a groundwater level at 1m bgl will be used for retaining wall design. There will be no impact to the wider hydrogeological environment.
- 1.10. The BIA presents a geotechnical interpretation, including retaining wall design parameters.
- 1.11. The new lightwell wall will be constructed as a reinforced concrete ground beam which is then underpinned in a hit and miss sequence to form a reinforced retaining wall. Outline temporary works are described and outline structural calculations have been provided.

- 1.12. A Ground Movement Assessment (GMA) is presented that considers the movements related to excavation and construction of the new lightwell in relation to 51 Platt's Lane, which is considered the worst case by virtue of proximity. The damage impact assessment indicates Category 1 damage (Very Slight). Transitional underpinning is proposed, if required, to mitigate ground movement and damage to 51 Platt's Lane.
- 1.13. Monitoring structural movements during construction is not discussed in the BIA. It is recommended that monitoring is implemented to ensure construction is controlled and impacts are limited to those predicted.
- 1.14. The site is not located within a Critical Drainage Area nor a Local Flood Risk Zone and is at low risk of surface water flooding. However, Platt's Lane did flood in both 1975 and 2002. A detailed Flood Risk Assessment has been undertaken which confirms the site is at low risk of flooding. It is recommended that standard flood risk mitigation measures are adopted, in line with best practise.
- 1.15. The proposed scheme will not increase the proportion of impermeable area given the lightwell will replace part of the existing patio area. Drainage is proposed to continue broadly as the current situation, discharging to combined sewers. There will be no impact to the hydrological environment.
- 1.16. There will be no impact to slope stability.
- 1.17. Queries and matters requiring further information or clarification are discussed in Section 4 and summarised in Appendix 2. The BIA meets the criteria of CPG4.

## 2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 23 January 2018 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 53 Platt's Lane, London NW3 7NL, Camden Reference 2018/0092/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) 4: Basements and Lightwells.
- 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 closed front lightwell in relation to existing lower ground floor level and associated alterations to front garden to include refuse area, all to residential dwelling (Class C3)."

The planning portal also confirmed the site lies within Redington & Frogna Conservation Area but the site or neighbouring properties are not listed buildings.

2.6. CampbellReith accessed LBC's Planning Portal on 2<sup>nd</sup> February 2018 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment (ref LBH4502 Ver 1.3) dated January 2018 by LBH Wembley Engineering.
- Structural Methodology Report, BIA Calculations and Proposed Method of Works (ref RT/SMS/4591) dated December 2017 by Richard Tant Associates.
- Flood Risk Assessment (ref LBH4502fra Ver 1.2) dated January 2018 by LBH Wembley Engineering.
- Existing and proposed elevations and plans (ref 16019) by ROH Architects dated June and July 2017.
- Design & Access Statement (ref 16020) by ROH Architects dated July 2017.

2.7. CampbellReith were provided with the following document on 26<sup>th</sup> February 2018 (included within Appendix 3):

- Statement to Help Determine Whether a CMP is Necessary by the Applicant.

### 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	Outline construction programme is presented – total construction time 3 to 4 weeks.
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	No historical maps provided. Considering the scale of the proposal and existing basement, this is accepted.
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	A vitreous clay pipe is referred to which runs through the area of the proposed lightwell and will be diverted.
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	Including Flood Risk Assessment.
Is a conceptual model presented?	Yes	Proposals and site context described in text. Considering the scale of the proposal and existing basement, this is accepted.



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	The proposed development is located outside of a Critical Drainage Area as defined by LBC. A Flood Risk Assessment has been provided. There is no change in the permeable / impermeable site ratio.
Is factual ground investigation data provided?	Yes	
Is monitoring data presented?	Yes	Reference is made to a groundwater monitoring visit on 7 December 2017 when groundwater was monitored at 3.6m bgl.
Is the ground investigation informed by a desk study?	Yes	
Has a site walkover been undertaken?	Yes	
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	BIA Report, Section 2.4. Adjacent houses are assumed to comprise single storey lower ground floors beneath the rear halves of their footprints. In addition, shallow underfloor spaces are understood to be present beneath the front halves.
Is a geotechnical interpretation presented?	Yes	
Does the geotechnical interpretation include information on retaining wall design?	Yes	

Item	Yes/No/NA	Comment
Are reports on other investigations required by screening and scoping presented?	Yes	Flood Risk Assessment.
Are baseline conditions described, based on the GSD?	Yes	
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	
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	A temporary works sequence indicating underpinning and propping is presented. Transitional underpinning to be implemented if required and agreeable under Party Wall Awards.
Has the need for monitoring during construction been considered?	No	The scale of the proposal is limited. However, it is recommended that structural movement monitoring is undertaken to ensure construction is controlled.
Have the residual (after mitigation) impacts been clearly identified?	Yes	None
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	

Item	Yes/No/NA	Comment
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 1?	Yes	
Are non-technical summaries provided?	Yes	BIA Section 7 includes non-technical description of the impact assessment.

## 4.0 DISCUSSION

- 4.1. The BIA has been prepared by LBH Wembley Engineering with a Structural Methodology Report produced by Richard Tant Associates. The qualifications of the authors of the reports prepared by LBH Wembley Engineering and Richard Tant Associates are in accordance with CPG4 guidelines.
- 4.2. The proposed site comprises a two storey Victorian terraced house with a single storey basement beneath the full extent of the dwelling which is understood to be approximately 3m below ground level (bgl). The proposal is to extend the basement slightly to create a lightwell at the front of the property and to form new openings for windows / doors into the lightwell.
- 4.3. The BIA includes the majority of the information required from a desk study in line with the GSD Appendix G1. An outline construction programme has been provided which indicates a total construction time of 3 to 4 weeks.
- 4.4. A vitreous clay pipe (possibly a private rainwater drain) is identified as present beneath the proposed development. This is at approximately 1m bgl and appears to run along the front gardens of the properties along Platt's Lane. As the BIA states, the purpose of the pipe will need to be further investigated and it may need to be diverted around the new lightwell, as opposed to simply being removed. This investigation and any required diversion should be implemented.
- 4.5. A site investigation was undertaken by LBH Wembley Engineering in November 2017 comprising one 6.5m deep borehole. A groundwater monitoring standpipe was installed to 4.2m bgl. The ground conditions comprise Made Ground over Head ("Downwash") deposits and the Claygate Member.
- 4.6. Groundwater was not encountered during drilling but was monitored at 3.5m bgl on 7 December 2017 which is below the proposed depth of the excavation. However, the BIA identifies that there is potential for water to collect around the lightwell in the long term unless perimeter and under floor drainage is assured and therefore the lightwell should be fully waterproofed and designed to withstand hydrostatic pressures. An assumed groundwater level at 1m bgl is adopted for retaining wall design.
- 4.7. There will be no impact to the wider hydrogeological environment.
- 4.8. The BIA presents a geotechnical interpretation, including retaining wall design parameters.
- 4.9. The new lightwell wall will be constructed as a reinforced concrete ground beam which is then underpinned in a hit and miss sequence to form a reinforced retaining wall. Outline temporary works are described and outline structural calculations have been provided. The temporary works will be stiffly propped throughout.

- 4.10. A Ground Movement Assessment (GMA) is presented that considers the movements related to excavation and construction of the new lightwell in relation to 51 Platt's Lane, which is considered the worst case by virtue of proximity. The damage impact assessment indicates Category 1 damage (Very Slight). Transitional underpinning is proposed, if required, to mitigate ground movement and damage to 51 Platt's Lane.
- 4.11. Monitoring structural movements during construction is not discussed in the BIA. It is recommended that monitoring is implemented to ensure construction is controlled and impacts are limited to those predicted. This should include proposed trigger values and contingency actions, as applicable.
- 4.12. The site is not located within a Critical Drainage Area nor a Local Flood Risk Zone and is at low risk of surface water flooding. However, Platt's Lane did flood in both 1975 and 2002. A detailed Flood Risk Assessment has been undertaken which confirms the site is at low risk of flooding.
- 4.13. It is recommended that standard flood risk mitigation measures are adopted, in line with best practise e.g. raising lightwell retaining wall levels appropriately above surrounding ground level to mitigate against surface water run-off.
- 4.14. The proposed scheme will not increase the proportion of impermeable area given the lightwell will replace part of the existing patio area. Drainage is proposed to continue broadly as the current situation, discharging to combined sewers. There will be no impact to the hydrological environment.
- 4.15. There will be no impact to slope stability.
- 4.16. Non-technical summaries are not explicitly presented. However, the impact assessment presented in Section 7 generally adopts non-technical language. Future revisions of the BIA should include non-technical section summaries, as required under CPG4 and Policy A5.
- 4.17. Queries and matters requiring further information or clarification are summarised in Appendix 2.

## 5.0 CONCLUSIONS

- 5.1. The qualifications of the authors are in accordance with CPG4 guidelines.
- 5.2. The proposed development comprises the extension of the existing basement to create a lightwell at the front of the property to a depth of approximately 3m bgl.
- 5.3. The BIA includes the majority of the information required from a desk study in line with the GSD Appendix G1. An outline construction programme is presented.
- 5.4. The ground conditions comprise Made Ground over Head ("Downwash") deposits and the Claygate Member.
- 5.5. Groundwater was not encountered during drilling but was monitored at 3.5m bgl on 7 December 2017 which is below the proposed depth of the excavation. There will be no impact to the wider hydrogeological environment.
- 5.6. The BIA presents a geotechnical interpretation, including retaining wall design parameters. Outline temporary and permanent works are described and structural calculations have been provided.
- 5.7. A GMA in relation to 51 Platt's Lane has been presented. The damage impact assessment indicates Category 1 damage (Very Slight). Transitional underpinning is proposed, if required, to mitigate ground movement and damage to 51 Platt's Lane.
- 5.8. Monitoring structural movements during construction is not discussed in the BIA. It is recommended that monitoring is implemented to ensure construction is controlled and impacts are limited to those predicted.
- 5.9. The site is not located within a Critical Drainage Area nor a Local Flood Risk Zone and is at low risk of flooding. It is recommended that standard flood risk mitigation measures are adopted, in line with best practise.
- 5.10. The proposed scheme will not increase the proportion of impermeable site area. There will be no impact to the hydrological environment.
- 5.11. There will be no impact to slope stability.
- 5.12. Queries and matters requiring further information or clarification are summarised in Appendix 2. The requirements of CPG4 have been met.

## Appendix 1: Residents' Consultation Comments

None

## Appendix 2: Audit Query Tracker



Audit Query Tracker

Query No	Subject	Query	Status/Response	Date closed out
1	BIA	Outline construction programme.	Closed	February 2018

## Appendix 3: Supplementary Supporting Documents

Statement to Help Determine Whether a CMP is Necessary  
by the Applicant

**Statement to help determine whether a Construction Management Plan (CMP)  
is necessary for the proposed development of a lightwell at 53 Platt's Lane,  
NW3 7NL**

In discussion with Nora Constantinescu, it was deemed a worthwhile exercise to submit a statement to help determine whether a Construction Management Plan (CMP) was necessary for this proposed development.

**1) How it will work**

- One reputable firm with much experience of managing construction projects in the borough of Camden, D.A.Z. Construction, will be undertaking the construction of the lightwell, working only during approved hours. David Zymon, the site manager, will be responsible for the management, supervision, and safety of the site.
- The construction of the lightwell will take 3-4 weeks.
- The firm will be working from the architectural plans of ROH Architects, and as per the methodology, findings, and calculations as contained in the Basement Impact Assessment (BIA) that has been undertaken by LBH Wembley and submitted with the Planning application.
- The contractor's activities regarding the construction of the lightwell will be confined to the designated front garden of 53 Platt's Lane.
- Soil will be excavated and placed in a skip, which will be located in a parking bay on Platt's Lane to the front of the property. The soil will be taken to the skip using a wheel barrow.

**2) Effect on traffic**

- There will be no disruption to traffic flow as a result of this development.
- No lorries or large vehicles will be used in undertaking this development, so the road will not be blocked or obstructed.
- The only effect on parking will be the temporary suspension of one resident's parking bay, where the skip will be located.
- There will be no effect on pedestrian right of way or use of the pavement on Platt's Lane.

### **3) Site context**

- At the time of writing, there were no other construction projects being undertaken in this part of Platt's Lane.
- There are no schools or hospitals on Platt's Lane or in the near vicinity.

### **4) Provisions to ensure stability of buildings and land; provisions for monitoring movement;**

- These issues have been considered in detail and included in the Basement Impact Assessment (BIA) that has been submitted.

I do hope that taking the above into consideration, it will be determined that no CMP is required for this minor development of a proposed and modest lightwell.

Yours sincerely,

Hasan Hameed  
Applicant and owner of 53 Platt's Lane, NW3 7NL.

21<sup>st</sup> December 2017.

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