

61 Netherall Gardens,
London, NW3 5RE

Basement Impact Assessment
Audit

For
London Borough of Camden

Project Number: 12727-24
Revision: F2

January 2020

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Structural ♦ Civil ♦ Environmental ♦ Geotechnical ♦ Transportation

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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 61 Netherall Gardens, NW3 5RE (planning reference 2017/5627/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. In the revised submissions, the qualifications of the BIA authors have been demonstrated to be in accordance with LBC guidance.
- 1.5. In the revised submissions, the proposed development and construction methodology have been clarified. Outline temporary and permanent structural information has been provided.
- 1.6. In the revised submissions, the additional information requested to clarify assessments (such as the provision of utilities plans) has been provided.
- 1.7. In the revised submissions, geotechnical information and retaining wall design parameters are provided.
- 1.8. In the revised submissions, the ground movement assessment has been updated. A maximum of Category 1 (Very Slight) damage is predicted.
- 1.9. A preliminary structural monitoring strategy has been presented, as previously requested.
- 1.10. An outline construction programme has been provided, as requested.
- 1.11. It is accepted that there are no slope stability concerns regarding the proposed development and the site is not prone to flooding.
- 1.12. Queries and requests for information are summarised in Appendix 2. Considering the revised submissions, the BIA meets the requirements of CPG: Basements.

2.0 INTRODUCTION

- 2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 7 December 2017 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 61 Netherall Gardens, NW3 5RE (Camden planning reference 2017/5627/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.
 - Local Plan 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;
 - 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 *"Conversion of 3 x 3 bed flats into 4 x 2 beds & 1 x 1 bed flats. Erection of a single storey side and rear extension at ground level. Extensions at basement level, including front and rear lightwells. Erection of a roof extension. Demolish two storey building and erection of 2 x 3 bedroom, four storey dwellings including a new basement floor."*

- 2.6. The Audit Instruction confirmed 61 Netherall Gardens is not listed, nor is it a neighbour to listed buildings.
- 2.7. CampbellReith accessed LBC's Planning Portal on 2 January 2018 and gained access to the following relevant documents for audit purposes:
- BIA Impact Screening Assessment Stages 1 and 2, CTP Consulting Engineers, dated 28 September 2017.
 - Basement Impact Screening Assessment (included as an appendix to the CTP document), Geo-Environmental Engineer, dated 27 September 2017.
 - Planning, Heritage, Design and Access Statement , AR Architecture Ltd & Planning Sense Ltd, dated 22 September 2017.
 - Trees and Construction (arboricultural assessment) report, Indigo Surveys Ltd, dated October 2017.
 - Screening Assessment maps with site location, undated.
 - AR Architecture planning application drawings, dated 28 September 2017 comprising:
 - Existing plans (A-1 100 100-S2-R1, A-1 100 101-S2-R1 and A-1 200 100-S2-R1)
 - Existing sections (A-1 200 300-S2-R1 and A-1 200 301-S2-R1)
 - Existing elevations (A-1 210 200-S2-R1, A-1 210 201-S2-R1 and A-1 210 202-S2-R1)
 - Demolition plans (A-3 090 100-S2-R1)
 - Demolition sections (A-3 090 300-S2-R1 and A-3 090 301-S2-R1)
 - Demolition elevations (A-3 090 200-S2-R1, A-3 090 201-S2-R1 and A-3 090 202-S2-R1)
 - Proposed plans (A-3 100 101-S2-R1 and A-3 200 100-S2-R1)
 - Proposed elevations (A-3 210 200-S2-R1, A-3 210 201-S2-R1 and A-3 210 202-S2-R1)
 - Proposed sections (A-3 210 300-S2-R1, A-3 210 301-S2-R1, A-3 210 302-S2-R1 and A-3 210 303-S2-R1)
 - 5 No consultation responses.
- 2.1. The ground investigation report was received via a file sharing link from the Planning Officer on 7 December 2017.
- 2.2. Additional information was received between April 2018 and November 2019 in response to the queries raised following the initial audit. Documents relevant to this audit comprise the following, received during 2019:
- 2.3. June 2019:
- CampbellReith Email to CTP 12th June 2019 (Appendix 3)

- CampbellReith Email to CTP 28th June 2019 (Appendix 3)

2.4. July 2019:

- Building Damage Assessment GE-16687-BDAv1JT180319 V2.0.
- Basement Drainage Plan A4824-SK02 Rev A, undated, CTP
- Section Through House and Road. A4824-1501, P1, March 2018, CTP
- Movement Monitoring Strategy Rev A, undated, CTP

2.5. September 2019:

- Section A & B, 59 Netherhall Gardens, dated 19/08/2018 by Squire & Partners
- Proposed GF Plan, 59 Netherhall Gardens, dated 08/03/2011 by Squire & Partners
- Proposed LGF Plan, 59 Netherhall Gardens, dated 08/03/2011 by Squire & Partners
- Proposed N Elevation, 59 Netherhall Gardens, dated 08/03/2011 by Squire & Partners
- Section F, 59 Netherhall Gardens, dated 19/12/2011 by Squire & Partners
- Proposed S Elevation Proposed Demolition, 59 Netherhall Gardens, dated 10/10/2011 by Squire & Partners
- Basement Sections A4824-SK02 and A4824-002 with sketched mark ups, CTP
- Google satellite and streeview images
- Email 04/09/2019 from GESL re adjacent basement at (59 Netherhall)

2.6. October 2019:

- CampbellReith Email to CTP 11th October 2019 (Appendix 3)

2.7. November 2019:

- Building Damage Assessment GE-16687-BDAv1JT191108 V3.0.
- Basement Construction Method Statement Revision A.
- Movement Monitoring Strategy Revision B.

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	See Audit paragraph 4.1.
Is data required by Cl.233 of the GSD presented?	Yes	Included within updated 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	Included within updated submissions.
Are suitable plan/maps included?	Yes	Maps with site location indicated included with BIA supporting documents.
Do the plans/maps show the whole of the relevant area of study and do they show it in sufficient detail?	Yes	As above.
Land Stability Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 3.1.2 of the revised BIA. Relevant maps with site location indicated provided as part of appendices.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 3.1.1 of the revised BIA. Relevant maps with site location indicated provided as part of appendices.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 3.1.3 of the revised BIA. Relevant maps with site location indicated provided as part of appendices.
Is a conceptual model presented	Yes	Included within updated submissions.
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	Included within updated submissions.

Item	Yes/No/NA	Comment
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Included within updated submissions.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Included within updated submissions.
Is factual ground investigation data provided?	Yes	Included within updated submissions.
Is monitoring data presented?	Yes	Section 4.3 of the GI report.
Is the ground investigation informed by a desk study?	Yes	Section 2 of the GI report.
Has a site walkover been undertaken?	Yes	Section 1.4 of the initial BIA and Section 2 of the revised BIA.
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	Table 3.2 of the revised BIA.
Is a geotechnical interpretation presented?	Yes	Included within updated submissions.
Does the geotechnical interpretation include information on retaining wall design?	Yes	Included within updated submissions.
Are reports on other investigations required by screening and scoping presented?	Yes	GMA, Monitoring.
Are the baseline conditions described, based on the GSD?	Yes	Included within updated submissions.
Do the base line conditions consider adjacent or nearby basements?	Yes	Included within updated submissions.
Is an Impact Assessment provided?	Yes	Included within updated submissions.
Are estimates of ground movement and structural impact presented?	Yes	GMA, Monitoring.

Item	Yes/No/NA	Comment
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	Yes	Included within updated submissions.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	Included within updated submissions.
Has the need for monitoring during construction been considered?	Yes	GMA, Monitoring.
Have the residual (after mitigation) impacts been clearly identified?	Yes	Included within updated submissions. Impacts within policy limits.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	Assessments within updated submissions.
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	Yes	Assessments within updated submissions.
Has the scheme avoided cumulative impacts upon structural stability or the water environment in the local area?	Yes	Assessments within updated submissions.
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	GMA
Are non-technical summaries provided?	Yes	Included within updated submissions.

4.0 DISCUSSION

- 4.1. The initial BIA comprised a screening and scoping assessment undertaken by Geo-Environmental Services Ltd with the preceding summary by CTP Consulting Engineers. Confirmation of the involvement of individuals with qualifications as required by LBC was requested following the initial audit. This is provided on Table 1.0 of the revised BIA by CTP and Geo-Environmental Services.
- 4.2. A number of separate documents were provided together with the BIA as part of the initial submission. The findings of these reports were not referenced in the BIA and a number of discrepancies were noted between the documents. It was requested following the initial audit that a summary of the findings/conclusions of the other documents be provided in the BIA. It was also requested that the reports submitted in support of the BIA be made consistent with each other in terms of the baseline conditions, proposed development and assessment of impacts. The revised BIA reflects these comments.
- 4.3. Non-technical summaries at each stage of the assessments have now been provided in the revised BIA as requested following the initial audit.
- 4.4. The site comprises a three storey semi-detached building over a partial basement. The proposed development enlarges the basement. The property is not listed but it is within the Fitzjohn's and Netherall Conservation Area.
- 4.5. The planning application drawings indicate partial demolition of the existing building and a lateral extension at ground level. The existing basement is to be deepened by c.0.85m (2.48 to 3.30m bgl) and extended to cover the area beneath the entire footprint of the building.
- 4.6. The proposed works involve retaining walls formed using underpinning and piling techniques. The updated submissions indicate that the underpins will be formed in a single lift and that the works will be stiffly propped in both the temporary and permanent conditions.
- 4.7. The revised BIA now provides justification for all the 'No' responses within the Screening Assessment and makes reference to the relevant figures/maps from the Arup GSD and other guidance documents which were previously provided with the site location indicated as part of the appendices.
- 4.8. An impact assessment undertaken in accordance with the Arup GSD is now provided on Section 7 of the revised BIA as requested following the initial audit.
- 4.9. A 'No' response was given to Question 6 of the land stability screening assessment which relates to whether or not the trees are to be felled as part of the proposed development or if works are proposed within any tree protection zones. This is contradictory to the arboricultural

assessment which indicates a number of trees to be removed in the front garden and 'side extension' area to facilitate construction as well as protective measures for trees in the rear of the property where the proposed development coincides with the root protection area. The revised BIA addresses this discrepancy.

- 4.10. It was requested following the initial audit that the presence or absence of basements beneath the neighbouring properties and the depths of these, where present, be confirmed. Section 3 of the revised BIA states no obvious basement was observed beneath the adjoining property No 63, however a habitable basement is present beneath No 59 located to the west.
- 4.11. A site specific ground investigation informed by a desk study has been undertaken. The investigation comprised a single cable percussive borehole and four hand dug pits to investigate the existing foundations.
- 4.12. Section 4 of the ground investigation report indicates Made Ground to 0.60m underlain by the Claygate Member to c.10.50m over the London Clay which was proven to 12m bgl. A single monitoring visit indicates a groundwater depth of c.4.85m bgl. There will be no impact to the wider hydrogeological environment.
- 4.13. TP01, TP02 and TP04 were undertaken to expose the foundations to No 61 with TP03 undertaken against the party wall with No 63 to the east. The sketches indicate the party wall foundation to be c.1m deep extending 0.25m outwards and constructed on the Claygate Member.
- 4.14. In the revised submissions, geotechnical interpretation has been presented.
- 4.15. There will be an increase in impermeable site area as a result of the proposed development. In the revised submissions, an attenuated drainage strategy is outlined to mitigate any impact to the wider hydrological environment. A final drainage design should be agreed with Thames Water and LBC.
- 4.16. In the revised submissions, a ground movement assessment and damage assessment for the neighbouring properties has been undertaken. Following discussion between CampbellReith and the Applicant's engineering team, a number of assessments were undertaken. The assessments conclude that damage can be limited to a maximum of Category 1 (Very Slight) in accordance with the Burland Scale. Considering the proposed construction methodology and the monitoring strategy to be implemented, which will control the works and any additional propping requirements, it is accepted that this is feasible.
- 4.17. Section 2.8 of the initial BIA (CTP report) stated that a Network Rail Tunnel runs along the length of Netherall Garden to the south of the building and that enquiries have been made with Network Rail. Although construction in the vicinity of these assets are subject to separate

approvals, it was requested following the initial audit that information of this asset and evidence of approval of the assessments from the relevant authorities be provided to ensure that any requirements not already addressed will be included as part of a planning condition. Evidence of ongoing correspondence with Network Rail has been provided as part of the revised information.

- 4.18. Following the initial audit, it was requested that a utilities search be undertaken to enable an assessment of potential impacts of the proposed construction on these assets to be undertaken. A list of utilities which may be affected and the relevant asset owners has been provided as part of the revised BIA submission. The GMA concludes that there will be no impacts to utilities. Appropriate protection and mitigation of damage to each potentially affected asset should be agreed with the asset owners.
- 4.19. The BIA has shown that although the development is close to a tributary of the 'lost' River Westbourne and Tyburn, it will not impact on the wider hydrogeology of the area, any other watercourses, springs or the Hampstead Heath Pond chain catchment area.
- 4.20. An indicative works duration as required by cl. 233 of the Arup GSD is now included following a request after the initial audit. A detailed programme should be provided by the Contractor at a later date.
- 4.21. It is accepted that there are no slope stability concerns regarding the proposed development and the site is not prone to flooding.

5.0 CONCLUSIONS

- 5.1. In the revised submissions, the qualifications of the BIA authors have been demonstrated to be in accordance with LBC guidance.
- 5.2. In the revised submissions, the proposed development and construction methodology have been clarified. Outline temporary and permanent structural information has been provided.
- 5.3. In the revised submissions, the additional information requested to clarify assessments (such as the provision of utilities plans) has been provided.
- 5.4. In the revised submissions, geotechnical information and retaining wall design parameters are provided.
- 5.5. In the revised submissions, the ground movement assessment has been updated. A maximum of Category 1 (Very Slight) damage is predicted.
- 5.6. A preliminary structural monitoring strategy has been presented.
- 5.7. An outline construction programme has been provided.
- 5.8. It is accepted that there are no slope stability concerns regarding the proposed development and the site is not prone to flooding.
- 5.9. Queries and requests for information are summarised in Appendix 2. Considering the revised submissions, the BIA meets the requirements of CPG: Basements.

Appendix 1: Residents' Consultation Comments

Residents' Consultation Comments

Surname	Address	Date	Issue raised	Response
Jalving	63 Netherall Gardens	21/22 December 2017	Consideration not given to sloping areas. Evidence of a spring in the rear gardens Request for varying foundation levels to be taken into account	Section 4
Levin, Catherine	63B Netherall Gardens	20 December 2017	Inconsistencies between the BIA and Planning Statement Insufficient information to demonstrate structural stability Request for a full BIA to be provided	Section 4
Levin, Robert	63B Netherall Gardens	20 December 2017	Concerns about impact to neighbouring properties	Section 4
Grose	63A Netherall Gardens	20 December 2017	Insufficient information to demonstrate structural stability	Section 4
Stevens	20 Netherall Gardens	21 December 2017	Incomplete BIA	Section 4

Appendix 2: Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	BIA format	Author qualifications.	Closed	April 2018
2	BIA format	BIA not undertaken in accordance with Arup GSD and CPG4 requirements.	Closed	June 2019
3	BIA format	Works programme not included	Closed	April 2018
4	BIA format	Inconsistencies between BIA, arboricultural assessment and ground investigation report	Closed	April 2018
5	BIA format/Stability	Retaining wall design parameters	Closed	June 2019
6	Hydrology	Drainage strategy not initially provided	Closed	June 2019
7	Stability	<p>Proposal not sufficiently detailed in initial submission. No outline retaining wall calculations, construction methodology, construction sequence sketches or temporary works proposal.</p> <p>Clarification is requested on the construction sequence as this appears to suggest underpinning is to be undertaken prior to excavation.</p>	Closed	November 2019

		Text suggests both horizontal and vertical props to be utilised however sketches only show raking prop which requires excavation to be undertaken to full depth prior to installation. This leaves the excavation unsupported for a significant amount of time. Hit and miss sequence sketch required.		
8	Stability	Ground movement assessment (GMA) not undertaken.	Closed.	November 2019
9	Stability	Movement monitoring proposal not provided.	Monitoring recommended in BIA however no proposals provided. Outline proposal with trigger levels based on revised GMA to be provided.	November 2019

Appendix 3: Supplementary Supporting Documents

CampbellReith Email to CTP 12th June 2019

CampbellReith Email to CTP 28th June 2019

CampbellReith Email to CTP 11th October 2019



12727-24: 61 Netherhall Gardens

Graham Kite to: Peter Hawkins

Cc: "Keen, Alyce", Camden Audit

12/06/2019 13:05

Hi Peter

My apologies for the slow response to your email and the discussion we had at the end of April. Please find below comments in regards your submission. To ensure we are discussing the same documents I have listed the documents reviewed and attached pertinent ones with comments added for your reference. these appear to be the most recent, based upon what is provided on LBC Planning Portal and the documents provided by you on 25/04/2019.

1. Construction MS + Drawings, 16/03/2018 P2.
2. A4824/PNH/Movement Monitoring System.
3. A4824 SK03 Indicative Planning Sequence.
4. Drawing A4824 1500-P2.
5. CTP response to audit queries May 2018.
6. A4824-1501 P1 Section with tunnel.
7. Building damage assessment GE-16687-BDAv1JT180319 V2.0.
8. Amended Drawings April 2018 (currently on LBC planning portal - not attached due to file size)
9. Audit Query Tracker May 2018.

I would suggest that any future submissions are clearly dated / marked with current revision number across all documents so ensure we are working from the correct set of documents.

You'll note from the comments below that the main issues are that: the current building damage assessment is internally inconsistent and does not take account of the range of movements it predicts; the building damage assessment / ground movement assessment is inconsistent with the proposed construction methodology.

Queries with reference to query tracker

Q1. Closed

Q2. Utility information provided - highway and utilities are within zone of influence of the works. This should be acknowledged in the BIA and that asset owners will be approached to secure asset protection agreements.

Q3. Closed.

Q4. Closed.

Q5. Stability - GMA requires review to ensure it is consistent with proposed works and consistent with the supporting calculations:

- GMA assumes high stiffness walls ie. temp props will be required; MS suggests they are optional.

- GMA assumes single stage of underpinning; CTP response 22/05/18 indicates that 2 stages of underpinning will be adopted. Discussion with contractors indicates that 5mm to 10mm of horizontal and vertical movement can be anticipated per stage of underpinning.

- GMA text indicates a maximum of Category 1 damage to neighbours; however, calculations in the appendix indicate Category 2 damage will be sustained to some walls at 63.

- Settlement / heave calculations have not been considered in the damage assessment. Maximum movements at the walls exceed the values adopted for the damage assessment.

- Battered excavations proposed at front and rear; assessment of impacts resulting from this at the front of the property should be presented.

Q6. Drainage - where impermeable site area increases, impact is to be assessed with attenuation proposals presented sufficient to demonstrate feasibility to be policy compliant. Current statement is not definitive and indicates that no attenuation will be provided. Ultimately LBC and TW will agree final design at a later stage but proposal included within the BIA need to be policy compliant.

Q7. Stability - this was previously agreed as closed; however CTP response 22/05/18 contradicts method statement and assumptions in BIA / GMA. Comments in Q5 to be considered and construction methodology to be consistently adopted and assessed.

Q8. Stability - see Q5 comments; settlement / heave calcs to be consistently adopted within GMA and damage assessment.

Q9. Stability - the proposed outline monitoring strategy is inconsistent with the movements predicted by the GMA. ie GMA predicts movements in excess of 5mm. It is accepted that the monitoring strategy must control works to ensure a maximum of category 1 damage, but the current strategy and GMA do not demonstrate this is feasible.

Regards

Graham Kite

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4 - Construction Method Statement_CR Comment.pdf 61 Netherall Gardens CR Query tracker 290518.pdf



A4824 SK03 indicative underpinning sequence-CR Comment.pdf A4824-1500-P2.pdf A4824-1501 P1.pdf



CTP Responses to Audit queries 220518_ CR comments June 2019.pdf GE16687 BDA stage 3.pdf



Movement monitoring traffic light system rev A.pdf



12727-24: 61 Netherhall Gardens - (A4824) 📎

Graham Kite to: Neil Taylor

28/06/2019 14:45

Cc: "Keen, Alyce", "Peter Hawkins", "shevinvest1@gmail.com",
Camden Audit

Hi Neil

I tried calling earlier and left a message with your colleague.

In regards your email:

- I think of paramount importance is making sure we are reviewing the most up to date / correct documents. Several times we have responded, only to be told we are looking at out of date documents. In my last email to Peter I listed the documents we had reviewed - I accept they may be out of date; however, they were the ones we most recently received and included within the current application. My suggestion is that CTP upload a complete set of documents to the Planning Portal with a cover letter listing the document numbers / revision numbers.

- We are due to report back to LBC. With their consent, we have no objection to waiting for your submission before completing and submitting the audit.

In regard the copied email from Jonathan Tingley:

- With regards to propping, the construction method statement and the ground movement assessment must be consistent.

- 5mm to 10mm of vertical / horizontal movement per stage of underpinning is the expected range - in order to be reasonably conservative, we would expect the GMA to reflect this. It may be useful for a sensitivity analysis to be presented with movements at both ends of the range considered - this would indicate how robust the GMA conclusions are and . or what movements would need to be limited to in order to maintain damage within Category 1, which would in turn feed into the proposed mitigation measures to control movements.

- noted that the GMA will be repeated - current calculations are in excess of policy requirements.

- the settlements calculated within the PDisp at the retaining walls are higher than those values adopted within the GMA ie the values adopted in the GMA are not consistent with the analysis presented. We would expect the GMA to reflect movements generated by installation of the walls, excavation, settlement and heave.

- Slope stability considerations are within the scope of the BIA, please refer to CPG Basements.

We look forward to hearing from you in due course.

Regards

Graham Kite

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12727-24: 61 Netherhall Gardens (A4824) 📎

Graham Kite to: Peter Hawkins, Keen, Alyce
"Alexander Rakita (alexander.rakita@ar-arch.co.uk)",
Cc: "Properties Actually", "Jonathan Tingley
(Jonathan.Tingley@gesl.net)", "Sergio Vale", Camden Audit,

11/10/2019 12:03

Hi Peter / Alyce

Please find below a copy of the comments we issued over the summer, with additional comments in red based on your most recent submissions.

I have spoken again with Jon Tingley at GESL this morning, to feedback specific comments. In summary, we have accepted most of the amendments as closing out the queries. However, the 2 remaining points are:

- please confirm the underpinning is to be undertaken in a single lift.
- the north elevation of 63 Netherhall Road is currently indicated to sustain Category 2 damage, which is beyond the policy requirements. The assessment should be updated, as required, to demonstrate that a maximum of Category 1 damage is feasible.

A minor point is that the monitoring strategy and GMA predictions are not aligned, which should be reviewed.

My understanding is that Jon's team will review the GMA along the critical section indicated and co-ordinate with CTP as required.

The following information has been reviewed with the recent submissions:

September 5th 2019

- Section A & B, 59 Netherhall Gardens, dated 19/08/2018 by Squire & Partners
- Proposed GF Plan, 59 Netherhall Gardens, dated 08/03/2011 by Squire & Partners
- Proposed LGF Plan, 59 Netherhall Gardens, dated 08/03/2011 by Squire & Partners
- Proposed N Elevation, 59 Netherhall Gardens, dated 08/03/2011 by Squire & Partners
- Section F, 59 Netherhall Gardens, dated 19/12/2011 by Squire & Partners
- Proposed S Elevation Proposed Demolition, 59 Netherhall Gardens, dated 10/10/2011 by Squire & Partners
- Basement Sections A4824-SK02 and A4824-002 with sketched mark ups, CTP
- Google satellite and streeview images
- Email 04/09/2019 from GESL re adjacent basement at (59 Netherhall)

July 16th 2019

- Building Damage Assessment GE-16687-BDAv1JT180319 V2.0. (File name states Stage 3, assumed V3.0)
- Basement Drainage Plan A4824-SK02 Rev A, undated, CTP
- Section Through House and Road. A4824-1501, P1, March 2018, CTP
- Movement Monitoring Strategy Rev A, undated, CTP

Queries with reference to query tracker

Q1. Closed

Q2. Utility information provided - highway and utilities are within zone of influence of the works.
Closed - accepted based on the section provided and GMA that movements across the highway will be negligible.

Q3. Closed.

Q4. Closed.

Q5. Stability - GMA requires review to ensure it is consistent with proposed works and consistent with the supporting calculations:

- GMA assumes high stiffness walls ie. temp props will be required; MS suggests they are optional. - Closed - Floor joists will be replaced by a RC slab to justify a 'high' stiffness retaining wall.

- GMA assumes single stage of underpinning; CTP response 22/05/18 indicates that 2 stages of underpinning will be adopted. As above, to be confirmed, no statement currently received.

- GMA text indicates a maximum of Category 1 damage to neighbours; however, calculations in the appendix indicate Category 2 damage will be sustained to some walls at 63. As above, GMA to be reviewed for north elevation of 63 Netherhall Road.

- Settlement / heave calculations have not been considered in the damage assessment. Maximum movements at the walls exceed the values adopted for the damage assessment. Closed - Settlement/heave calcs have been provided in the BDA (July revision).

- Battered excavations proposed at front and rear; assessment of impacts resulting from this at the front of the property should be presented. Closed - accepted that movements to structures / utilities will be negligible.

Q6. Drainage - where impermeable site area increases, impact is to be assessed with attenuation proposals presented sufficient to demonstrate feasibility to be policy compliant. Current statement is not definitive and indicates that no attenuation will be provided. Ultimately LBC and TW will agree final design at a later stage but proposal included within the BIA need to be policy compliant. Closed - A basement drainage plan including attenuation has been provided.

Q7. Stability - this was previously agreed as closed; however CTP response 22/05/18 contradicts method statement and assumptions in BIA / GMA. Comments in Q5 to be considered and construction methodology to be consistently adopted and assessed. Single stage of underpinning to be confirmed.

Q8. Stability - see Q5 comments; settlement / heave calcs to be consistently adopted within GMA and damage assessment. Closed.

Q9. Stability - the proposed outline monitoring strategy is inconsistent with the movements predicted by the GMA. ie GMA predicts movements in excess of 5mm. It is accepted that the monitoring strategy must control works to ensure a maximum of category 1 damage, but the current strategy and GMA do not demonstrate this is feasible. As above, monitoring strategy should adopt realistic values based on GMA predictions, limiting damage to neighbours to a maximum of Category 1.

Jon has my mobile number and can discuss with me further, if required.

Regards

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