CampbellReith
consulting engineers

O2 Masterplan Site, Finchley Road, London NW3 6LU

Basement Impact Assessment Audit

For

London Borough of Camden

Project Number: 13693-62

Revision: F1

October 2022

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Appendix

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 the O2 Masterplan Site, Finchley Road, London NW3 6LU (planning reference 2022/0528/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 (BIA) 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. It is noted that the basement proposals have been submitted for both detailed and outline planning permissions for different areas of the site, with updated BIA documents to be presented with future submissions for detailed planning permissions, as applicable.

1.5. The BIA has been prepared by Pell Frischmann with supporting documents provided by RSK Environment Limited, Plowman Craven and Allford Hall Monaghan Morris Architects Ltd.

1.6. The site currently comprises the O2 Centre which is arranged over three floors and contains retail and leisure facilities, with associated car parking and loading bays. The proposed development comprises the demolition of the existing above ground structures and the construction of a mixed-use development. Plots N4 and N5 will include localised basements within their proposed footprints, which will be approximately 2m below ground level. The O2 centre includes an existing semi-basement which will be demolished, with consideration being given to lowering the base slab by 1.0m to provide additional headroom for delivery vehicles. Other plots are proposed to have basements of up to 4m depth.

1.7. The revised submissions clarify the proposed basement depths.

1.8. The BIA includes the majority of the information required from a desk study in line with LBC guidance.

1.9. Screening and scoping assessments have been completed and updated in the revised submissions.

1.10. A site investigation indicates that the ground conditions comprise Made Ground overlying the London Clay Formation. Groundwater is indicated at depths between 1.26m and 1.89m below ground level (bgl).

1.11. Its accepted that the London Clay is of very low permeability and there will be no impact to groundwater flow.

1.12. In the revised submissions interpretative geotechnical information is presented, as required by LBC guidance.

1.13. Outline temporary and permanent works structural information for the proposed basements has been provided.

1.14. The BIA states that for the plots N4 and N5 the local basement excavations will not impact surrounding infrastructure, as the closest points to Network Rail assets are beyond the zone of influence of the works. This should be confirmed with Network Rail's Asset Protection Team. It is noted that a Thames Water sewer runs beneath the plots and appropriate asset protection measures should be agreed with Thames Water.

1.15. The potential for ground movements from the proposed structures within the outline development plots has been provided indicatively, which should be confirmed in the future BIA submissions relating to the detailed planning applications.

1.16. The site is at moderate to high risk of surface water flooding. The Flood Risk Assessment considers that these higher risk areas are likely due to the current car park configuration. Flood mitigation measures are presented; however, attenuated drainage design should be agreed with Thames Water to minimise downstream flood risk.

1.17. The Camden SFRA confirms that the site lies within a Critical Drainage Area (Group3_010) and borders the Goldhurst Local Flood Risk Zone. The proposed development will result in a decrease (5.14 hectares to 4.36 hectares) in impermeable site area. Drainage proposals should be agreed with LBC and Thames Water, noting comments from Thames Water to minimise off-site discharge flow rates.

1.18. Non-technical summaries have been provided.

1.19. Queries and matters that required further clarification are discussed in Section 4 and summarised in Appendix 2. Considering the additional information provided, the BIA meets the requirements of CPG: Basements.

2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 25th May 2022 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for O2 Masterplan Site, Finchley Road, London NW3 6LU, Camden Reference 2022/0528/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. January 2021
- 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: *"Detailed planning permission for Development Plots N3-E, N4, and N5 including demolition of existing above ground structures and associated works, and for residential development (Class C3) and commercial, business and service (Class E) uses in Development Plot N3-E, residential development (Class C3) and local community (Class*

F2) and commercial, business and service (Class E) uses in Development Plot N4, and residential development (Use Class C3) and commercial, business and service uses (Class E) uses in Development Plot N5 together with all landscaping, public realm, cycle parking and disabled car parking, highway works and infrastructure within and associated with those Development Plots. Outline planning permission for Development Plots N1, N2, N3, N6, N7, S1 and S8 including the demolition of all existing structures and redevelopment to include residential development (Class C3) commercial, business and service uses (Class E), sui generis leisure uses (including cinema and drinking establishments) together with all landscaping, public realm, cycle parking and disabled car parking, highway works and infrastructure within and associated with those Development Plots."

2.6. Development Plots N3-E, N4 and N5 and the associated landscaping, access roads and infrastructure form the detailed element of the Application which extends to 1.79ha and these proposals are referred to as the "Detailed Proposals". The remainder of the Application (comprising Development Plots N1, N2, N3, N6, N7, S1 and S8) is submitted in outline and these proposals are referred to as the "Outline Proposals". The Detailed Proposals and Outline Proposals together are referred to as the "Proposed Development".

2.7. The planning portal also confirmed the site does not lie within a Conservation Area but the West End Green Conservation Area lies adjacent to the northwest, the Reddington and Frognal Conservation Area lies to the north, the Fitzjohns Netherhall Conservation Area lies to the east and South Hampstead Conservation Area lies to the south of the site. The site does not include any listed buildings but it is understood that there are 28 listed buildings within 500m of the site boundary, the majority of which are located within conservation areas. The nearest listed buildings are 227 to 239 Finchley Road located adjacent to the eastern boundary of the site.

2.8. CampbellReith accessed LBC's Planning Portal on 6th June 2022 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment (ref 104878-PEF-ZZ-ZZ-RP-S-003013) dated January 2022 by Pell Frischmann.
- Environmental Statement (ref 43284) dated January 2022 by Plowman Craven including:
    - Land Contamination Desk Study (ref 104878-PEF-ZZ-XX-RP-GG-600002) dated January 2022 by Pell Frischmann.
    - Factual Ground Investigation Report (ref Project no.1921993 R01(02)) dated December 2021 by RSK Environment Limited.

  - Flood Risk Assessment (ref 104878-PEF-ZZ-ZZ-RP-D-100009) dated January 2022 by Pell Frischmann.

- Site Location Plan (ref 19066) and existing and proposed plans and sections by Allford Hall Monaghan Morris Architects Ltd.
- Proposed Drainage Strategy Report (ref 104878-PEF-ZZ-ZZ-RP-D-100017) dated January 2022 by Pell Frischmann.
- Utility & Energy Infrastructure dated January 2022 by Hoare Lee.
- Arboricultural Impact Assessment (ref 104878-PEF-ZZ-XX-RP-GG-400001) dated January 2022 by Pell Frischmann.
- Development Specification (ref LJW/LOLIVA/LDA/U0011576) dated 31st January 2022 by Gerald Eve LLP.
- Sustainability Statement (version 1) dated January 2022 by Buro Happold.
- Design & Access Statement (ref 4602_001-AHM-XXX-RP-A-00002) dated 31st January 2022 by Allford Hall Monaghan Morris Architects Ltd.
- Planning consultation comments.

2.9. CampbellReith were provided with the following relevant documents for audit purposes in August 2022:

- Basement Impact Assessment (ref 104878-PEF-ZZ-ZZ-RP-S-003013, Rev 2) dated July 2022 by Pell Frischmann.
- Geotechnical Interpretative Report (ref 104878-PEF-XX-XX-RP-C-003013, Rev P01) dated July 2022 by Pell Frischmann.

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	No	The authors' qualifications for the land stability and surface water flow assessments are in accordance with LBC requirements. The author qualifications for the groundwater flow assessment have not been demonstrated. However, the assessment is accepted.
Is data required by Cl.233 of the GSD presented?	Yes	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	Revised submissions
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	Section 5.2 of the BIA.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 5.1 of the BIA.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 5.3 of the BIA.
Is a conceptual model presented?	Yes	Revised submissions

Item	Yes/No/NA	Comment
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	Revised submissions
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Revised submissions
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Revised submissions
Is factual ground investigation data provided?	Yes	RSK Factual Ground Investigation Report.
Is monitoring data presented?	Yes	Appendix D of the RSK Factual Ground Investigation Report.
Is the ground investigation informed by a desk study?	Yes	Land Contamination Desk Study by Pell Frischmann.
Has a site walkover been undertaken?	Yes	16th February 2021 by Pell Frischmann as part of the Land Contamination Desk Study.
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	Reference is made to the adjacent rail infrastructure. In addition, the local basement area under block N5 overlies an existing deep storm water relief sewer (18m below ground level). The site is bound by railway lines to the north; a rail bridge and a 5m retaining wall to the east; the Metropolitan and Jubilee London Underground line to the south; and the London Overground Thameslink line (and associated bridge) to the northwest. Private residential properties are also present along the north-western site boundary adjacent to the builder's yard on Blackburn Road and the buildings adjacent to the southeast border (227 to 239 Finchley Road). No basements have been identified in structures within the zone of influence.
Is a geotechnical interpretation presented?	Yes	Revised submissions

Item	Yes/No/NA	Comment
Does the geotechnical interpretation include information on retaining wall design?	Yes	Revised submissions
Are reports on other investigations required by screening and scoping presented?	Yes	Arboricultural Impact Assessment Report, Proposed Drainage Strategy and Flood Risk Assessment.
Are baseline conditions described, based on the GSD?	Yes	Revised submissions
Do the baseline conditions consider adjacent or nearby basements?	Yes	Assumptions have been made on the absence of adjacent basements.
Is an Impact Assessment provided?	Yes	Section 7 of the BIA.
Are estimates of ground movement and structural impact presented?	Yes	*Detailed plots N4 and N5* Section 7 BIA – asset protection requirements to be confirmed with Network Rail / Thames Water. *Existing O2 Centre* Clarified in revised submissions. *Outline plots* Clarified in revised submissions.
Is the Impact Assessment appropriate to the matters identified by screen and scoping?	Yes	Revised submissions.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	Flood protection measures discussed.
Has the need for monitoring during construction been considered?	Yes	Section 8 of the BIA.
Have the residual (after mitigation) impacts been clearly identified?	Yes	Asset protection agreements required. Final drainage scheme to be approved. Future BIAs supporting detailed applications to update GMAs.

Item	Yes/No/NA	Comment
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	Revised submissions
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	Yes	Final proposed drainage design will require approval from LBC and Thames Water. The risk of flooding to downstream properties is reliant upon a suitable attenuated drainage design being agreed.
Has the scheme avoided cumulative impacts upon structural stability or the water environment in the local area?	Yes	Revised submissions
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	Revised submissions
Are non-technical summaries provided?	Yes	Revised submissions

4.0 DISCUSSION

4.1. The BIA has been prepared by Pell Frischmann with supporting documents provided by RSK Environment Limited, Plowman Craven and Allford Hall Monaghan Morris Architects Ltd.

4.2. In the revised submissions, the qualifications of the authors of the BIA have been provided. For the land stability and surface water flow assessments, the author qualifications meet LBC's requirements. For the groundwater flow assessment, a chartered hydrogeologist has not been consulted. However, given the underlying Unproductive Strata, the assessment is accepted.

4.3. The site is approximately 5.7 hectares and currently comprises the O2 Centre which is arranged over three floors and contains leisure and retail units and a car park for 520 vehicles. The Finchley Road (A41) bounds the site to the east, the Thameslink Bedford-Brighton railway line runs along the northern boundary and the London Underground Jubilee and Metropolitan lines run above ground along the southern boundary of the site.

Detailed plots: Detailed planning permission for Plots N3-E, N4 and N5 comprises the demolition of the existing above ground structures and associated works and the construction of a mixture of residential, commercial, business and service and local community uses. N4 and N5 will include localised basements within their proposed footprints, which will be approximately 2m below ground level.

Outline plots: Outline planning permission for development plots N1, N2, N3, N6, N7, S1 and S8 comprises the demolition of all existing structures and redevelopment to include residential, commercial and business and service uses. The existing O2 Centre lies within one of the 'Outline' plots. There is an existing semi-basement with retaining walls on the north and eastern elevations. There is also a full basement across a small, localised area of the building's footprint. It is understood that the proposal is for the internal half basement structure to be demolished, leaving the perimeter retaining walls, parts of the base slab and the smaller localised basement intact. It is also stated that consideration is also being given to lowering the base slab by 1.0m to provide additional headroom for delivery vehicles.

4.4. The revised submissions include outline construction methodology options and clarify proposed formation levels.

4.5. The BIA includes the majority of the information required from a desk study in line with the GSD Appendix G1. The presence of underground infrastructure across the site is confirmed within the Utility & Energy Infrastructure Assessment by Hoare Lee. The revised submissions include a geotechnical interpretative report which includes a conceptual ground model.

4.6. "The Lost Rivers of London", by Nicholas Barton indicates two tributaries of the 'lost' River Westbourne flowing south on the western and eastern boundary of the site and joining other tributaries before continuing southwest and feeding into The Serpentine in Hyde Park. The BIA states that the stream to the east of the site is likely to run as a culverted sewer within 100m of the site. Given the existing development on site, its accepted that the original route of the tributaries has already been altered. It would be prudent to check asset locations with Thames Water and agree asset protection criteria, as required.

4.7. Screening and scoping assessments have been completed and updated in the revised submissions.

4.8. RSK carried out intrusive site investigation works and subsequent monitoring of boreholes between 14th September and 29th September 2021 with subsequent return monitoring completed in October and November 2021. The investigation comprised four cable percussive boreholes, six window sampling boreholes and two trial pits; five of these boreholes were installed with monitoring wells. The ground conditions comprise Made Ground (varying in thickness from 0.50 to 2.95m) overlying re-worked London Clay Formation (0.4 to 1.80m thickness) underlain by the London Clay Formation (to depth). The BIA noted that, whilst the site investigation is adequate for preliminary assessment purposes, further investigation may be required to confirm design parameters for the proposed piling.

4.9. Superficial deposits associated with historical rivers have not been identified. If present, these are likely to have been removed during previous developments at the site.

4.10. The Ground Investigation Report confirms that groundwater was encountered during the site investigation within the base of TP03 (which terminated at 3.90m below ground level) and at 2.40m in WS03. Both TP03 and WS03 are located centrally within the O2 Centre car park along the southern boundary. Groundwater monitoring undertaken in October and November 2021 indicated groundwater at depths between 1.26 and 1.89m bgl within BH02, WS03 and WS06.

4.11. The revised BIA indicates that groundwater is perched in the Made Ground over the London Clay. It is accepted that the London Clay does not support significant groundwater flow and that the proposed basement will not impact groundwater flow.

4.12. The revised submissions include a geotechnical interpretative report in accordance with the GSD Appendix G3.

4.13. In the revised submissions, outline temporary and permanent works structural information for the proposed basements is provided, sufficient to demonstrate feasibility and consistency with the land stability assessment criteria.

4.14. The BIA states that for the plots N4 and N5 the local basement excavations will not impact surrounding infrastructure, as the closest points to Network Rail assets are beyond the zone of

influence of the works. This should be confirmed with Network Rail's Asset Protection Team. It is noted that a Thames Water sewer runs beneath the plots and appropriate asset protection measures should be agreed with Thames Water.

4.15. The potential for ground movements from the proposed structures within the outline development plots is provided in the revised submissions. This should be updated and confirmed within future BIA submissions in support of detailed planning applications.

4.16. Where sheet piling is proposed, consideration should be given (within future BIA submissions in support of detailed planning applications) to the sheet piling technique and whether additional assessment of potential impacts is required (e.g. due to vibration).

4.17. The Flood Risk Assessment states that the London Borough of Camden's SFRA shows no incidents of groundwater flooding within the site boundary, but records flooding to approximately 8 houses to the south of the site boundary around Canfield Gardens (100m south of the site). The FRA concludes that the risk of flooding from groundwater is considered to be low. However, the FRA does state that mitigation measures could be adopted within the design of the scheme to address any residual risk that may remain from abnormally elevated groundwater levels.

4.18. The site is located within Flood Zone 1 and is considered at low risk from flooding from both rivers and the sea. The centre and west of the site are at moderate risk of surface water flooding, with small areas of high risk present within the site. The Flood Risk Assessment considers that these higher risk areas are likely due to the current car park configuration where levels fall towards the O2 Centre and therefore any surface water shedding from the car park would be directed to this area. The topographical survey identifies a number of drainage features including slot drains, gullies etc. that would seek to adequately manage the surface water generated by the car park. Flood mitigation measures are provided within Section 5 of the FRA. The risk of flooding to downstream properties is reliant upon a suitable attenuated drainage design being agreed, as 4.19.

4.19. The Camden SFRA confirms that the site lies within a Critical Drainage Area (Group3_010) and borders the Goldhurst Local Flood Risk Zone. The proposed development will result in a decrease (5.14 hectares to 4.36 hectares) in impermeable site area. Drainage proposals should be agreed with LBC and Thames Water, noting the current comments by Thames Water to reduce the off-site discharge flow rate (Appendix 1).

4.20. Non-technical summaries are provided within the revised BIA.

4.21. It is understood that as outline planning is developed for detailed planning applications, additional BIA documents will be submitted for audit.

5.0 CONCLUSIONS

5.1. The authors' qualifications have been provided. Whilst a chartered hydrogeologist has not undertaken the groundwater flow assessment, considering the underlying soil conditions the assessment is accepted.

5.2. Screening and scoping assessments have been updated in the revised submissions.

5.3. A geotechnical interpretative report is provided in the revised submissions.

5.4. Outline temporary and permanent works structural information for the proposed basements has been provided.

5.5. Outline ground movement assessments are provided. These will be updated and confirmed in future BIA documents submitted to support detailed planning applications.

5.6. Asset protection criteria should be agreed with Network Rail and Thames Water, as required.

5.7. Flood mitigation measures are proposed. However, a suitable attenuated drainage design is required to reduce downstream flood risk, as 5.8.

5.8. The proposed development will result in a decrease in impermeable site area. Drainage proposals should be agreed with LBC and Thames Water, noting comments in Appendix 1.

5.9. Non-technical summaries are provided.

5.10. Queries and matters that required clarification are summarised in Appendix 2. Considering the additional information provided, the BIA meets the requirements of CPG: Basements.

Appendix 1: Residents' Consultation Comments

Residents' Consultation Comments

There are hundreds of objections to this development from local residents and interested parties. The following comments highlight those pertinent to the BIA:

Surname	Address	Date	Issue raised	Response
Thames Water	Not provided	14 March 2022	The proposed development is located within 15 metres of a strategic sewer. Thames Water requests the following condition to be added to any planning permission. "No piling shall take place until a PILING METHOD STATEMENT (detailing the depth and type of piling to be undertaken and the methodology by which such piling will be carried out, including measures to prevent and minimise the potential for damage to subsurface sewerage infrastructure, and the programme for the works) has been submitted to and approved in writing by the local planning authority in consultation with Thames Water. Any piling must be undertaken in accordance with the terms of the approved piling method statement." Reason: The proposed works will be in close proximity to underground sewerage utility infrastructure. Piling has the potential to significantly impact / cause failure of local underground sewerage utility infrastructure. Following initial investigations, Thames Water has identified an inability of the existing SURFACE WATER network infrastructure to accommodate the needs of this development proposal. Thames Water has contacted the developer in an attempt to agree a position for foul water networks but has been unable to do so in the time available and as such Thames Water request that the following condition be added to any planning permission. "The development shall not be occupied until confirmation has been provided that either:- 1. All surface water network upgrades required to accommodate the additional flows from the development have been completed; or- 2. A development and infrastructure phasing plan has been agreed with the Local Authority in consultation with Thames Water to allow development to be occupied. Where a development and infrastructure phasing plan is agreed, no occupation shall take place other than in accordance with the agreed development and infrastructure phasing plan." Reason - Network reinforcement works are likely to be required to accommodate the proposed development. Any reinforcement works identified will be necessary in order to avoid sewage flooding and/or potential pollution incidents.	Section 4

			As required by Building regulations part H paragraph 2.36, Thames Water requests that the Applicant should incorporate within their proposal, protection to the property to prevent sewage flooding, by installing a positive pumped device (or equivalent reflecting technological advances), on the assumption that the sewerage network may surcharge to ground level during storm conditions. If as part of the basement development there is a proposal to discharge ground water to the public network, this would require a Groundwater Risk Management Permit from Thames Water. Any discharge made without a permit is deemed illegal and may result in prosecution under the provisions of the Water Industry Act 1991. We would expect the developer to demonstrate what measures will be undertaken to minimise groundwater discharges into the public sewer. With regards to surface water the proposed rate is far too high for the size of the site and does not come close to achieving greenfield runoff rates, it was agreed with Thames Water that there would be a surface water discharge of 36.4l/s and therefore this should be achieved.	
Transport for London	Not provided	18 March 2022	It has come to our attention that a planning application has been submitted for the above property for which London Underground Infrastructure Protection has not been consulted. Though we have no objection in principle to the above planning application there are a number of potential constraints on the redevelopment of a site situated close to railway infrastructure. Therefore, it will need to be demonstrated to the satisfaction of LUL engineers that: • our right of support is not compromised • the development will not have any detrimental effect on our structures either in the short or long term • the design must be such that the loading imposed on our structures is not increased or removed • we offer no right of support to the development or land. Therefore we request that the grant of planning permission be subject to conditions to secure the following: The development hereby permitted shall not be commenced until detailed design and method statements (in consultation with London Underground) for each stage or phase of the development have been submitted to and approved in writing by the local planning authority which: • provide details for each stage or phase of the development for demolition, foundations, basement and ground floor	Section 4

			structures, or for any other structures below ground level, including piling (temporary and permanent) and superstructure • provide details on the use of tall plant, lifting equipment and scaffolding • accommodate the location of the existing London Underground structures • demonstrate that London Underground access will not be hindered by the development in the short and long term • there should be no opening windows or balconies facing the LU elevation • demonstrate access to elevations of the building adjacent to the property boundary with London Underground can be undertaken without recourse to entering our land • demonstrate that there will at no time be any potential security risk to our railway, property or structures • accommodate ground movement arising from the construction thereof • mitigate the effects of noise and vibration arising from the adjoining operations within the structures. The development shall thereafter be carried out in all respects in accordance with the approved design and method statements, and all structures and works comprised within the development hereby permitted which are required by the approved design statements in order to procure the matters mentioned in paragraphs of this condition shall be completed, in their entirety, before any part of the building hereby permitted is occupied.	
Network Rail	Not provided	1 April 2022	We are aware that the developer has been engaged with our Asset Protection Team in respect of the delivery of this scheme and conducting works in proximity to the railway environment. It is imperative that the proposals do not impact on the operational safety of the adjacent railway infrastructure. However, subject to the continued dialogue and the entering into of any agreements deemed necessary between the developer and Network Rail, we have no further comments to make in respect of these proposals.	Section 4
Redington Frognal Association	Not provided	2 June 2022	The development site lies within an area where there are many instances of surface water flooding, at the site, upstream in West Hampstead and downstream in South Hampstead. Underground water (now culverted) flows from springs on Hampstead Heath to become the River Westbourne and Kilbourne passing beneath the site and then flowing out into the Thames.	Section 4

Appendix 2: Audit Query Tracker

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Audit Query Tracker

Query No	Subject	Query	Status/Response	Date closed out
1	BIA Format	BIA authors' qualifications.	Closed	October 2022
2	BIA Format	Non-technical summaries.	Closed	October 2022
3	Land Stability / Surface Water Flow / Groundwater Flow	Clarification on levels / dimensions / ground and groundwater conditions / Conceptual Site Model to be provided/ screening and scoping to be updated.	Closed	October 2022
4	Land Stability	Interpretative Geotechnical information to be provided.	Closed	October 2022
5	Land Stability	Construction methodology / structural proposals to be clarified	Closed	October 2022
6	Land Stability	Ground Movement Assessment / Damage Assessment / Impact to Slopes	Closed	October 2022
7	Surface Water	Drainage proposals to be agreed with LBC and Thames Water, noting comments Appendix 1, and requirement to mitigate downstream flood risk	Closed	October 2022

Appendix 3: Supplementary Supporting Documents

None

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