

**9-12 New College Parade, Finchley Road,  
London NW3**

**Basement Impact Assessment – Screening and  
Scoping Report.**

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## 1.0 INTRODUCTION

1.1 It is proposed to demolish an existing 2 storey plus basement building and replace it with a new 6 storey building plus basement, utilising the same foot print as existing for the basement and upper floors.

1.2 This report has been prepared in response to Camden Development Policy DP27. With reference to paragraph 27.3, it is noted that this proposal is a relatively small scheme, with the conversion of an existing single basement, and does not extend outside the footprint of the existing building. The conversion will require lowering of the existing basement slab to provide a modern commercially viable basement unit (which is to be part of a ground floor unit), as well as new supporting structural elements to the residential floors above as necessary.

1.3 Following the format guidance in Camden Planning Guidance CPG4, the stages for a Basement Impact Assessment are:

- Stage 1 - Screening;
- Stage 2 - Scoping;
- Stage 3 - Site investigation and study;
- Stage 4 - Impact assessment;
- Stage 5 - Review and decision making.

This report follows the Flow Charts and uses the Figurative information given in the Camden Geological, Hydro-geological and Hydrological Study to submit data with relevance to the small scale of this project to address stages 1 and 2.

1.4 The Flowcharts of Appendix E to the Camden Geological, Hydro-geological and Hydrological Study are completed in table format in section 3 of this report and form the screening element of this report, including:

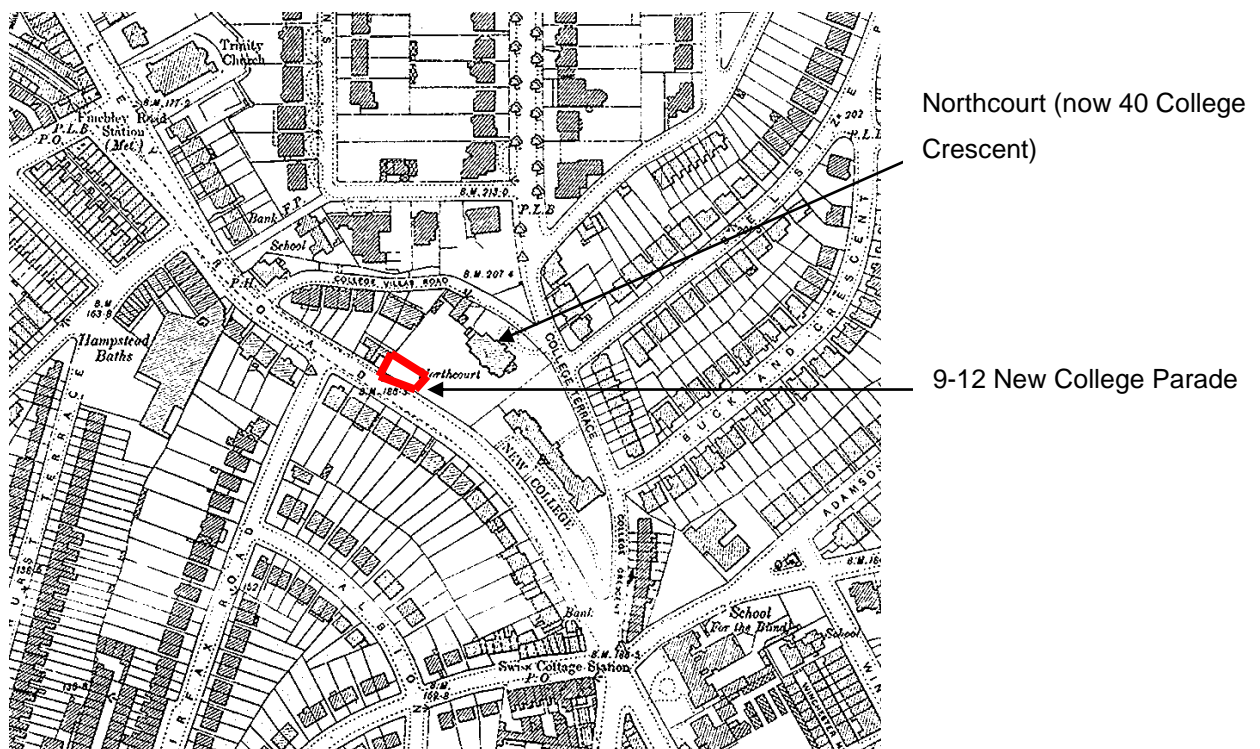
- Surface Flow and Flooding Impact Identification
- Subterranean (groundwater) Flow Impact Identification
- Slope Stability screening flowchart

1.5 9-12 New College Parade, Finchley Road is located with an arrow on the relevant Figures of the Camden Geological, Hydro-geological and Hydrological Study, appended to this report, Appendix A.

- 1.6 The site is located on Finchley Road, which flooded in 2002, so is deemed 'at risk' of surface flooding. This is a 'secondary area' and with accordance to paragraphs 2.40 and 2.41 of CPG4, a Flood Risk Assessment (FRA) is advised, although it is expected that as the site does not contain permanent ground nor lightwells to the front, that an risk of flooding from the road maybe mitigated against in the detailed design of tanking of the front elevations and pavement lights as well as the basement waterproofing to a category 3 basement (formerly level 4).
- 1.7 Again reflecting the size of the scheme, a brief scoping report is provided in section 4, to be commented upon by Camden. It is hoped this and the FRA will satisfy the requirement of DP27 in terms of consideration to the Geological, Hydro-geological and Hydrological effects of the development.

**2.0 INFORMATION ON THE SITE**

- 2.1 A building was first built on or near to the site in the first half of the 19th Century.



*Fig.1.OS Historical Map No 37. 1894.*

- 2.1.1 Northcourt was built 1880-1881 by Samuel Palmer, whose former house was on the site but nearer Finchley Road and demolished in 1880 – so may have lain partially over the proposed development site.

- 2.1.2 The Metropolitan Line was extended from Swiss Cottage to Willesden Green in 1879, using cut cover along the Finchley Road. It is likely that at least some of the ground of the New College Parade strip was used as the construction site for the new tunnel.
- 2.1.3 The Jubilee Line, which runs below the Metropolitan lines, was opened in 1939 and is a bored tunnel.
- 2.2 The site is practically flat and surrounded by hard surfacing, although lies in an area which is sloped, with the ground to the rear of the site being one storey above the ground to Finchley Road.
- 2.3 The existing lighted basements extend under the pavement to no. 9-12 New College Parade. The 'lights' have been asphalted over, presumably as a measure to reduce water ingress to the basements. Such basements are also apparent to 8-1 New College Parade, whose curtilage certainly seems to extend to the footprint of the basement by use of the pavement as part of the commercial premises. It is not known for the purpose of this report if the same is to 9-12 or if the area above the basement lights are part of the public highway (pavement).
- 2.4 Geological maps of the area indicate the area is underlain by London Clay.
- 2.5 The neighbouring properties either side along the Finchley Road are in line, i.e. 'terraced' to 9-12, however as these were distinctly built at different times, they do not appear to share load-bearing walls. Both sides appear to have basements to the front of the properties, likely to be a similar depth as 9-12 as steps lead down to toilets / store rooms.
- 2.6 The nearest property to the rear, 39-40 College Crescent, is presently under construction and is to be some 16m away from the site boundary. From planning drawings and from photographs taken from the rear of 9-12, this incorporates a basement with a sheet piled retaining walls. The proposed development will not influence this site.
- 2.7 As discussed in the site history, three London Underground tunnels run below Finchley Road, and pass by near to the site. A metropolitan line runs closest to the site, Conisbee has been in touch with LUL; refer to plans and section in Appendix B. A correlation survey will need to be undertaken prior to detailed design and detailed geotechnical analysis to ensure the proposed structural design does not adversely influence the tunnels. Initial discussions with LUL suggest the proximity of the tunnels should not impact the outline scheme as any impact may be mitigated during detailed design.

### **3.0 PROPOSED SCHEME**

- 3.1 It is proposed to replace the existing masonry and steel structure with a new reinforced concrete framed building. The upper floor/s will be in lighter weight steel.
- 3.2 Existing retaining elements are to remain in place during construction and are underpinned and additionally propped with waling beams fitted as appropriate. These elements will be removed once new permanent structure is in place.
- 3.3 The scheme will be designed to ensure lateral loadings or bulb pressures from piles during construction or permanently do not adversely impact the London Underground lines, in coordination and agreement with LUL Engineers.
- 3.4 The neighbours both side of the scheme also have basements, and it is understood are structurally separate to no 9-12 New College Parade. It is proposed the neighbouring footings are underpinned as necessary to ensure they are not undermined by the permanent construction. Although the properties are considered structurally separate, temporary bracing to the neighbours will also be provided to take possible lateral forces from these properties to the ground until the new concrete frame structure is in place.
- 3.5 The existing retaining wall to Finchley Road, which is on the public highway, will need to be temporarily propped and underpinned to ensure the integrity of the pavement, and any influence on the Metropolitan lines retaining wall is maintained throughout the construction and permanent works.
- 3.6 A structural scheme had been prepared for the proposed development and alterations to the basement. A structural scheme and temporary works information is appended to this report, Appendix C.

#### 4.0 RESPONSE TO BIA SCREENING FLOWCHARTS

Appendix E: Camden geological, hydrological and hydrology study: Guidance for subterranean development.

<b>4.1 Surface Flow and Flooding Impact Identification</b>		
4.1.1	<b>Is the site within the catchment of the pond chains on Hampstead Heath?</b>	<b>No, refer to Figure 11 appended.</b>
4.1.2	<b>As part of the site drainage, will surface water flows (e.g. rainfall and run-off) be materially changed from the existing one?</b>	<b>No, the footprint of the building remains unchanged – a modest amount of water may be attenuated in planters proposed on upper balconies/terraces, however essentially the run-off areas remains the same.</b>
4.1.3	<b>Will the proposed basement development result in a change in the proportion of hard surface / paved external areas?</b>	<b>No.</b>
4.1.4	<b>Will the proposed basement development result in changes to the profile of the inflows (instantaneous and long-term) of surface water being received by adjacent properties or downstream watercourses?</b>	<b>No.</b>
4.1.5	<b>Will the proposed basement development result in a change to the quality of surface water being received by adjacent properties or downstream watercourses?</b>	<b>No, the excavation for the new lowered basement floor will be within impermeable clay and therefore should not impact surface water.</b>

<b>4.2 Subterranean (groundwater) Flow Impact Identification</b>		
4.2.1	<b>Is the site located directly above an aquifer?</b>	<b>No, the site lies over London Clay, designated ‘unproductive strata’ on Figure 8, attached.</b>
4.2.2	<b>Will the proposed basement extend beneath the water table surface?</b>	<b>It is likely that the site presently lies partially within the water table, as perched water is known to lie only a few metres below the surface above the site (i.e. to no 39 College Crescent). Therefore the slightly lowered basement construction will need to take this into account.</b>
4.2.3	<b>Is the site within 100m of a watercourse, well (used/disused) or potential spring line?</b>	<b>No, refer to Figure 11, appended</b>
4.2.4	<b>Is the site within the catchment of the pond chains on Hampstead Heath?</b>	<b>No, refer to Figure 14 appended</b>
4.2.5	<b>Will the proposed basement development result in a change in the proportion of hard surface / paved areas?</b>	<b>No – the site is currently fully hard-surfaced, and remains so.</b>
4.2.6	<b>As part of the site drainage, will more surface water (e.g. rainfall and run-off) than present be discharged to the ground? (e.g. via soakaways and/or SUDS)</b>	<b>No – see above &amp; the local ground conditions are not suitable for soakaway systems. Terraced areas to the rear of the property however, allows for planting by residents so it is likely a modest amount of rainfall will be attenuated by domestic terrace planting.</b>

<b>4.3 Slope Stability screening flowchart</b>		
4.3.1	<b>Does the existing site include slopes, natural or manmade, greater than 7 degrees (approx. 1 in 8)?</b>	<b>No.</b>
4.3.2	<b>Will the proposed re-profiling of landscaping at site change slopes at the property boundary to more than 7 degrees (approx. 1 in 8)?</b>	<b>No, none proposed.</b>
4.3.3	<b>Does the development neighbour land, including railway cutting and the like, with a slope greater than 7 degrees (approx. 1 in 8)?</b>	<b>No, however the ground to the rear is 2.5-3.0 m above the ground to the front, with the Finchley Road properties effectively ‘terracing’ the land to the rear.</b>
4.3.4	<b>Is the site within a wider hillsetting in which the general slope is greater than 7 degrees (approx. 1 in 8)?</b>	<b>No - from the slope angle map, Figure 16, attached, although College Crescent does slope up considerably from Finchley Road to properties to the rear of New College Parade.</b>
4.3.5	<b>Is the London Clay the shallowest strata at the site?</b>	<b>No – the clay over lays a thinner layer of Lambeth group formations – refer to figure 7, attached, however there there is not a thinner layer of strata above the London Clay.</b>
4.3.6	<b>Will any tree/s be felled as part of the proposed development and/or any works proposed within any tree protection zones where trees are to be retained?</b>	<b>No.</b>
4.3.7	<b>Is there a history of seasonal shrink-swell subsidence in the local area, and/or evidence of such effects on site?</b>	<b>London clay has high shrinkage potential, so it can be concluded there is a potential for seasonal affect depending on nearby trees. However the existing foundations are deep in relation to trees to the rear, and there is no evidence of a very local issue with subsidence.</b>



4.3.8	<b>Is the site within 100m of a watercourse or potential spring line?</b>	<b>No, refer to Figure 11.</b>
4.3.9	<b>Is the site within an area of previously worked ground?</b>	<b>Possibly, it is known that a property prior to Northcourt was nearer to Finchley Road, and may have been on the site of New College Parade &amp; the pavement area is in the vicinity of the cut &amp; cover Metropolitan Line.</b>
4.3.10	<b>Is the site within an aquifer? If so, will the proposed basement extend beneath the water table such that dewatering may be required during construction?</b>	<b>No, refer to figure 8. It is possible that a perched water table lies with/near to the existing basement and therefore dewatering may be required during construction.</b>
4.3.11	<b>Is the site within 50m of Hampstead Heath?</b>	<b>No.</b>
4.3.12	<b>Is the site within 5m of a Highway or pedestrian right of way?</b>	<b>Yes, the site is bounded by the highway to the front. The basement extends into the pavement however the curtilage of the property may extend to this line.</b>
4.3.13	<b>Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?</b>	<b>No. The proposed basement is only approx. 0.5m deeper than the existing although as the foundations are not expected to be deep, underpinning may be required to the foundations to avoid undermining them.</b>
4.3.14	<b>Is the site over (or within the exclusion zone of) any tunnels, e.g. railway lines?</b>	<b>No/maybe. The Metropolitan and Jubilee lines run down Finchley Road, with a metropolitan line tunnel being closest to the site. Conisbee are in contact with LUL in respect to construction near to the underground tunnels. LUL and the owners of the site are to check whether a covenant is in place alongside the Metropolitan Line and therefore if an exclusion zone is in place, however it is unlikely this would extend to the site which is an existing basement.</b>

## 5.0 SCOPING

- 5.1 The screening undertaken on the proposed development has highlighted elements which will need to be taken into account during the design and construction of the basement. These are:
- 5.1.1 *Water table.* A perched water table is possible and dewatering will need to be allowed for during construction. Detailed pile and base design will take into account water levels.
- 5.1.2 *London Underground tunnels.* Conisbee is in contact with LUL to ensure the necessary procedures and design limitations are taken into account in the scheme, detailed design and construction of the development. A correlation survey will need to be undertaken under the guidance of the LUL to ensure the exact location of the tunnels with respect to the development is known and LUL Engineers will need to verify temporary and permanent works.
- 5.1.3 *Flood risk analysis.* Finchley Road flooded in 2002, while this is a 'secondary area' in terms of risk of flooding, a Flood Risk Analysis maybe required, although as an existing basement and commercial street elevation, it is unlikely the proposed development will pose any risk of increasing the likelihood of surfacing flooding. The detailed design will need to take into account a possible surcharge of surface water from the highway as well as appropriate waterproofing design for the basement.
- 5.1.4 *Temporary works & proximately to the highway.* Temporary works will need to be in place prior to the demolition of the existing structure to maintain the integrity of the retaining walls to the rear and front of the property, in respect the rear higher ground, front highway/pavement and the Metropolitan Line. Similarly to the properties either side. Arrangements and agreements will need to be in place with the Highways authority and LUL for building near/next to a highway and underground line. A lighter weight piling rig would be envisaged; a suggested rig is attached in Appendix. C as is a suggested temporary works section.
- 5.2 While the proximity of the underground tunnels seems the greatest of the influences where the development could impact, discussions with LUL have indicated that this can be mitigated with during detailed design phase, with appropriate specialist advice and design and should not impact the proposed outline scheme.

Signed



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**APPENDIX A**

**FIGURES FROM THE CAMDEN GEOLOGICAL, HYDROGEOLOGICAL AND  
HYDROLOGICAL STUDY WITH 9-12 NEW COLLEGE PARADE LOCATED**

**APPENDIX B**

**LONDON UNDERGROUND LIMITED INFORMATION**

**APPENDIX C**

**STRUCUTRAL SCHEME AND TEMPORARY WORKS SECTION**

