elliottwood

35 Great James Street
London
WC1N 1HB

Basement Impact Assessment on Proposed Lower Ground Floor Works

Job number:	2150564
Revision:	P1
Status:	Preliminary
Date:	November 2015

Document Control

		remarks:	Planning Issue				
revision:	P1	prepared by:	Henry Stone	checked by:	Matthew Bolton	approved by:	Matthew Bolton
date:	16/11/2015	signature:		signature:		signature:	

Contents

1.0 Introduction

1.1 This report sets out the screening, scope of works and impact assessment of the proposed works at 35 Great James Street to address the assessment requirements of Camden Planning Guidance CPG4: Basements and Lightwells.

2.0 Existing Building and Site Conditions

2.1 The existing building at 35 Great James Street is a grade 2 listed, terraced, Edwardian property in the London Borough of Camden.

2.2 The building is four storeys high including a lower ground floor level, with a flat roof which is believed to be a post war addition due to World War II bomb damage. Much of the front façade at top level appears to have been replaced at this time. There is a single storey extension to the rear of the property at ground level and a three storey closet wing, both of which are likely to have been constructed in the late 20th century.

2.3 The original building is traditionally constructed with solid brick external walls and party walls, and timber stud internal walls. The floors are typically timber joists spanning across the property, supported in some locations by baulk timber beams in the original part of the building.

2.4 The lower ground floor construction consists of a concrete ground bearing slab 150mm thick with 50mm screed.

2.5 The modern closet wing is believed to be formed of cavity wall construction with brickwork to the exterior leaf. The construction to the single storey rear extension is concrete slab bearing onto steel at ground floor level and timber bearing onto steel at 1st floor (roof level of the extension). The original vaults (front and rear) are formed of load bearing masonry arches.

2.6 Geological records for the area confirm that the site ground conditions consist of sands and gravels over London Clay (BGS Borehole TQ38SW157).

2.7 The existing site is positively drained. A private combined drainage system collects the foul and surface water flows generated on site and discharges them by gravity to the combined public sewer.

2.8 The site is located within Flood Risk Zone 1 of the Environment Agency Flood Zone Map, which is defined as having a very low probability of fluvial and tidal flooding.

2.9 The site was not affected by the 1975 or 2002 flooding events. Source Figure 15 Camden Geological, Hydrogeological and Hydrological Study Flood Map.

3.0 Proposed Works

3.1 The proposed works involve the refurbishment of the existing building, a replacement of the rear extension with a similar structure with modified layout. The existing flat roof spaces (at 1st floor and roof level) will be replaced with new flat roofs which will also serve as roof terraces.

3.2 There are no new basement levels to be constructed at the site, however the existing lower ground floor level in the rear half of the house, outside the footprint of the original building and the vaults to the front of the house will be lowered by approximately 1.3 metres to improve headroom.

3.3 The rear extension floor and front vaults will also be set at approximately 20.1 metres AOD. The founding level of the new slab and underpins will be set at 19.9 metres AOD.

3.4 The proposed works to reduce the lower ground floor levels will require underpinning to the existing foundations.

3.5 The proposed extent of excavation work to the lower ground floor levels can be seen on the proposed demolition plans. The underpins will be formed in reinforced concrete.

3.6 The proposed drainage strategy is to retain the existing gravity connection to the combined sewer network. On the basis that there are already fixtures on the lower ground level, it is considered that the lower ground floor would be at no greater risk of flooding than at present. The proposed lowered sections of the lower ground floor must be pumped to provide protection from sewer surcharge. No increase in rainwater outflow is expected due to there being no increase in impermeable area.

4.0 Stage 1 – Screening

We have undertaken the screening process in accordance with 'Camden Planning Guidance CPG 4'. Our responses to the questions in the screening flow charts are as follows.

4.1 Subterranean (Ground Water) Flow Screening

1a Is the site located directly above an aquifer?

Yes. Reference: Figure 8 of Camden Aquifer Designation Map. The site is above a "Secondary A" aquifer, where perched water may exist, but is not thought to have a strategic impact in terms of water supply.

1b Will the proposed basement extend beneath the water table surface?

No. From existing, nearby borehole data, perched groundwater was encountered at approximately 4 metres below the existing ground level. The proposed works will locally extend 3.8 metres below existing.

2 Is the site within 100m of a watercourse, well (open/disused) or potential spring line?

Yes. From Lost Rivers of London, the site is within 100 metres of a culverted watercourse, the lost River Fleet.

3 Is the site within the catchment of the pond chains on Hampstead Heath?

No. From the Camden Study, Figure 14, the site is not within the catchment of the pond chains on Hampstead Heath.

4 Will the proposed basement development result in a change in the proportion of hard surfaced / paved areas?

No. There is no change to the hard surfaced area.

5 As part of the site drainage, will more surface water (e.g. rainfall and run-off) than at present be discharged to the ground (e.g. via soakaways and/or SuDs)?

No. There will not be an increase in surface water discharged to the ground.

6 Is the lowest point of the proposed excavation (allowing for any drainage and foundation space under the basement floor) close to, or lower than, the mean water level in any local pond (not just the pond chains on Hampstead Heath) or spring line?

No. The existing lower ground floor level will not be lower than any nearby ponds or spring lines.

4.2 Slope Stability Screening

1 Does the existing site include slopes, natural or manmade, greater than 7° ? (approximately 1 in 8)

No. The site has a traditional light well to the front, with vaults to the front and rear, but does not contain any slopes.

2 Will the proposed re-profiling or landscaping at site change slopes at the property boundary to more than 7° ? (approximately 1 in 8)

No. The existing lower ground floor level will be lowered by approximately 1.3 metres, but slope angles will not be changed.

3 Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7° ? (approximately 1 in 8)

No. There are no slopes to the neighbouring land.

4. Is the site within a wider hillside setting in which the general slope is greater than 7° ? (approximately 1 in 8)

No. There are no slopes to the neighbouring land.

5. Is the London Clay the shallowest strata at the site?

No. Borehole records for the area show various permeable strata down to approximately 7 metres, approximately 2.2m below the deepest proposed structure.

6. Will any trees be felled as part of the proposed development and/or are any works proposed within any tree protection zones where trees are to be retained?

No. There are no trees to be felled on the site, and there are no works proposed within any tree protection zones.

7. Is there a history of seasonal shrink-swell subsidence in the local area, and/or evidence of such effects at the site?

No. There is no evidence of historic seasonal shrink-swell subsidence at the site.

8. Is the site within 100m of a watercourse or potential spring line?

Yes. From Lost Rivers of London, the site is within 100m of a disused watercourse. The lost River Fleet.

9. Is the site within an area of previously worked ground?

No. The site is not within an area or previously worked ground.

10. 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?

No. the site is above a "Secondary A" aquifer. However, Borehole records suggest that the proposed works will not extend into the perched groundwater and as such, dewatering will not be required.

11. Is the site within 50m of the Hampstead Heath ponds?

No. The site is several kilometres from the Hampstead Heath ponds.

12. Is the site within 5m of a highway or pedestrian right of way?

Yes. The property is adjacent to the highway and pedestrian right of way Great James Street.

13. Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?

No. The existing lower ground floor slab is to be locally lowered by approximately 1.3 metres only. As such the new foundations will be founded in the same bearing strata of the existing foundation.

14. Is the site over (or within the exclusion zone of) any tunnels, e.g. railway lines?

No. From a review of the known London Underground tunnel routes and post office tunnels, there is an existing mail tunnel approximately 50 metres to the north of 35 Great James Street, though not near enough to have any effect on, or be affected by the proposed works.

4.3 Surface Flow and Flooding Screening

1 Is the site within the catchment of the pond chains on Hampstead Heath?

No. From the Camden Study, Figure 14, the site is not within the catchment of the pond chains on Hampstead Heath.

2 As part of the proposed site drainage, will surface water flows (e.g. volume of rainfall and peak run-off) be materially changed from the existing route?

No. The surface water flows will not be materially changed from the existing route.

3 Will the proposed basement development result in a change in the proportion of hard surfaced / paved external areas?

No. There will be no change to the proportions of paved external areas.

4 Will the proposed basement result in changes to the profile of the inflows (instantaneous and long-term) of surface water being received by adjacent properties or downstream watercourses?

No. The proposed works will not result in changes to the profile of the inflows of surface water being received by adjacent properties or downstream watercourses.

5 Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream water courses?

No. The proposed works will not change the quality of surface water being received by adjacent properties or downstream water courses.

6. Is the site in an area identified to have surface water flooding risk according to either the Local Flood Risk Management Strategy or the Strategic Flood Risk Assessment or is it at risk from flooding, for example because the proposed basement is below the static water level of nearby surface water feature?

No. The site is not in an area known to be at risk from surface water flooding and there are no nearby surface water features. Reference: Environment Agency Flood Risk Map and Camden Study Figure 15.

5.0 Stage 2 – Scoping

We have undertaken the scoping process in accordance with 'Camden Planning Guidance CPG 4' . Our responses to the potential impacts raised in the screening process are as follows.

5.1 Subterranean (Ground Water) Flow Scoping

1a Is the site located directly above an aquifer?

Yes. Reference : Figure 8 of Camden Aquifer Designation Map. The site is in a "Secondary A" zone, where shallow sands and gravels may hold water, which is not strategically important.

Response: The proposed works will not extend into the secondary aquifer and therefore will not affect local or strategic groundwater flow.

Action: No further action required.

2 Is the site within 100m of a watercourse, well (open/disused) or potential spring line?

Yes. From Lost Rivers of London, the site is within 100m of a disused watercourse. The lost River Fleet.

Response. The proposed works only involve locally lowering the existing lower ground floor by 1.3 metres and do not involve the construction of a new basement level. The redirected lost river Fleet flows through a man-made culvert at depth, approximately 100 metres to the North of the site. The proposed works will have no impact on the existing culvert, nor will it be affected by the culvert. There will be no impact on groundwater flow.

Action. No further assessment is required.

5.2 Slope Stability Scoping

8. Is the site within 100 m of a watercourse or potential spring line?

Yes. From Lost Rivers of London, the site is within 100 metres of a disused watercourse. The lost River Fleet.

Response. The proposed works only involve locally lowering the existing lower ground floor by 1.3 metres and do not involve the construction of a new basement level. The redirected lost river Fleet flows through a man-made culvert at depth, approximately 100 metres to the

North of the site. The proposed works will have no impact on the existing culvert, nor will it be affected by the culvert. There will be no impact on slope stability.

Action. No further assessment is required.

12. Is the site within 5m of a highway of a pedestrian right of way?

Yes. The property is adjacent to the highway and pedestrian right of way Dartmouth Park Road.

Response. The lower ground floor at the original part of the existing building will not be lowered. The floor level in the rear part of the house will be locally lowered by 1.3 metres. The highway and pedestrian right of way will not be undermined by the works, therefore slope stability in and around the site will not be affected.

Action. No further assessment is required.

5.3 Surface Flow and Flooding Scoping

On the basis of the surface flow and flooding screening stages, scoping is not required for surface flow and flooding scoping.

6.0 Stage 3 – Site Investigation and Study

On the basis of the screening and scoping stages, no further site investigation and study is required.

7.0 Stage 4 – Impact Assessment

On the basis of the screening and scoping stages, no impact assessment is required.

8.0 Summary

We summarise our evaluation of the impacts of the proposed works as follows.

8.1 Subterranean (Ground Water) Flow

The site is above a "Secondary A" aquifer and is not in the catchment of the Hampstead Ponds.

The proposed works will not extend below the perched groundwater level and will not adversely affect ground water flows or existing watercourses.

There is no surface water increase associated with the proposed works, and run off discharge to the ground will not be increased.

The impact on subterranean (ground water) flow is negligible and no further assessment is required.

8.2 Slope Stability

Slope stability on the site or around the boundaries of the site will not be affected by the proposed works as no slopes exist on the site and the site is not part of a wider hillside.

The proposals involve locally lowering of the rear part of the existing lower ground floor and front vaults by 1.3 metres, and reinforced concrete underpinning of the existing foundations to the existing walls. The impact on slope stability is therefore negligible and no further assessment is required.

8.3 Surface Flow and Flooding

There is no surface water increase associated with the proposed works.

The proposed works will not change the profile or quality of surface water flows received by adjacent properties or downstream watercourses.

The site is not at risk of flooding from surface water and the nominal increase in depth of the lower ground floor will not increase the risk of flooding.

The impact on surface flow and flooding is negligible and no further assessment is required.

Wimbledon
241 The Broadway
London
SW19 1SD

tel. (020) 8544 0033
fax. (020) 8544 0066

Central London
46-48 Foley Street
London
W1W 7TY

tel. (020) 7499 5888
fax. (020) 7499 5444

Nottingham
1 Sampson’ s Yard
Halifax Place

Nottingham
NG1 1QN

tel. 0870 460 0061
fax. 0870 460 0062

email: info@elliottwood.co.uk
www.elliottwood.co.uk

Elliott Wood Partnership LLP
Structural and Civil Engineers