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32 Langbourne Avenue, N6 6PX

Structural Engineer's Desk Study for Planning
November 2022
P1-planning

Status	Revision	Issued For	Date	Author
PRELIMINARY	P1	ISSUE FOR PLANNING	17/11/22	PZ

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1 PREAMBLE

This report has been prepared by Michael Barclay Partnership LLP (MBP) on the instructions of, and for the sole use and benefit of, the Client.

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2 TERMS OF REFERENCE

MBP has been appointed by the client to undertake a desk study and assess the feasibility of undertaking structural alterations including the lower ground floor extension of the property.

3 INTRODUCTION

No 32 Langbourne Avenue is located within the Holly Lodge Estate, in the Borough of Camden, near Waterlow Gardens. The property is a 3-storey semidetached single-dwelling residential building, considered to be constructed using traditional methods with load-bearing masonry walls supporting timber floors.

MBP has been appointed to provide the design for the alterations and the extension of the existing building.

The current superstructure proposal is as follows:

- to retain the existing façades and flank walls
- extend the existing lower ground floor at the rear and at the front up to the front façade alignment
- conversion of the garage at ground floor into residential space
- create a new layout in the loft and formation of a new dormer

The aim of this desk study is to identify issues that might impact the structural design and construction of the proposed works. Particular attention is paid to ground conditions and to identifying features below ground that could impact the development.

4 SITE LOCATION

No 32 Langbourne Avenue is located within the Holly Lodge Estate, in the Borough of Camden, near Waterlow Gardens. The property is a 3-storey semidetached residential building. The property currently comprises a lower ground, ground, first and a loft, and it shares a party wall with No 30 Langbourne Avenue, a garden fence with 81-88 Langbourne Mansions to the east.

Figure 1 - Map showing the location and surrounding area of the property, [online] available at: https://www.google.co.uk/maps

Figure 2 - Holly Lodge Estate CA, from https://www.camden.gov.uk

3.1 ADJOINING BUILDINGS

No 32 Langbourne Avenue forms with No 30 a semidetached house, adjoining 81-88 Langbourne Mansions to the East.

5 SITE HISTORY

In 1915 the area of the Holly Lodge Estate was not developed as shown in the map in Figure 3.

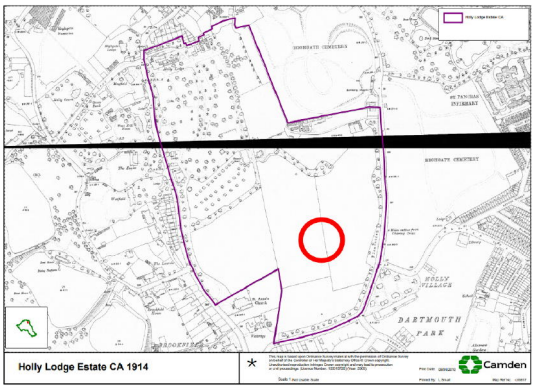

Figure 3 - Holly Lodge Estate in 1914 from Camden web site

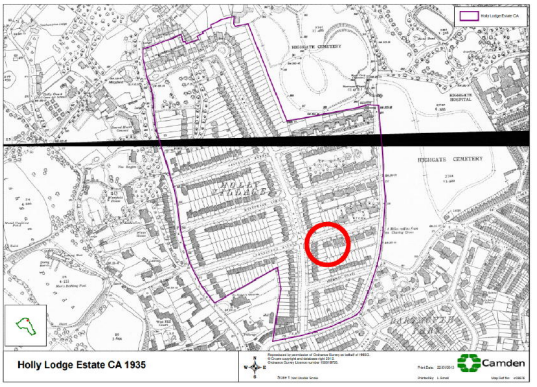

Figure 4 - Holly Lodge Estate in 1935 from Camden web site

As shown in the figure 4 the area is entirely developed in 1935, by the early 20th century the whole area surrounding Langbourne Avenue had been developed and assumed the layout it has today. No No 32 Langbourne Avenue did not suffer any damages due to enemy action during WWII during as shown on an extract of the *London County Council Bomb Damage Maps 1939-1945, Figure 5.*

Figure 5- Extract from *London County Council Bomb Damage Maps 1939-1945*, London Topographical Society 2005

6 UNDERGROUND FEATURES

6.1 LONDON'S UNDERGROUND RIVERS

There are many rivers running under London that feed into the Thames. No 32 Langbourne is close to a tributary river feeding the Fleet, however the river is sufficiently distant to have no impact on the proposed development.

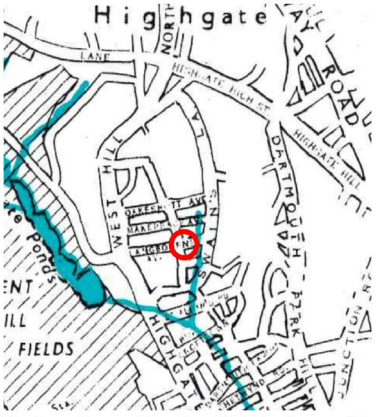

Figure 6 - Extract from *The Lost Rivers of London; Nicholas Barton; Historical Publications Ltd, 1982*

6.2 LONDON UNDERGROUND TUNNELS

The figure below shows the location of the nearest London underground line. No impact from the underground lines is therefore expected on both the proposed excavations and vibration issues of the property at No.32 Langbourne Avenue.

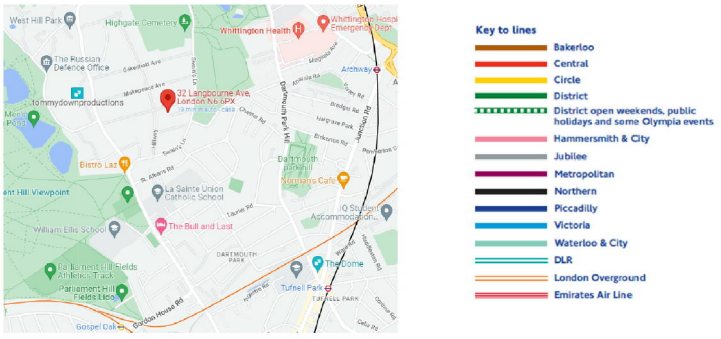

Figure 7 - London Underground Lines

Location:
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7 EXISTING GROUND CONDITIONS

7.1 BRITISH GEOLOGICAL SURVEY

Geological mapping, as shown in the figure below, indicates the site to be underlain by London Clay, no information avaialble for the superficial deposits. See the extract from *The British Geological Survey Map* below.

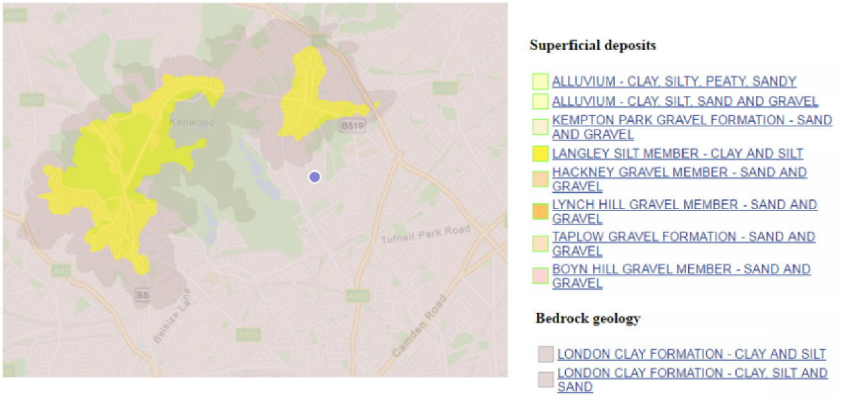

Figure 8 -: Extract from *The British Geological Survey Map* (Location of Langbourne Avenue is circled)

The site investigation carried out by GEA in October 2022 confirms the information from the British Geological Survey, a stratum of silty clay overlays the London stratum. Ground water was not encountered during the excavation, however the water monitorig recorded water 1,4m 1,7m under the ground level in the rear garden (existing lower groudn floor).

8 FLOOD RISK

This paragraph provides initial guidance for the identification of areas subject to flood risk. It requires consideration of the following:

- River and Tidal (fluvial) flooding
- Surface water flooding
- Critical drainage areas
- Ground water flooding
- Sewer flooding

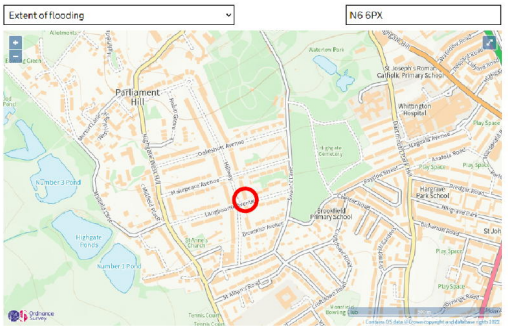

Figure 9 - Extract from Risk of Flooding from Rivers and Sea map by the Environment Agency

From the above figure, it can be seen that the site is located in "Very Low Risk" area, which relates to the fluvial flooding which corresponds to a 'very low probability' flood risk.

SURFACE WATER FLOODING

Further modelling of surface water flooding has been undertaken by The Environment Agency. An extract from their model is presented in Figure 8b below. The site is located on an area which is subject to high risks due to surface water flooding.

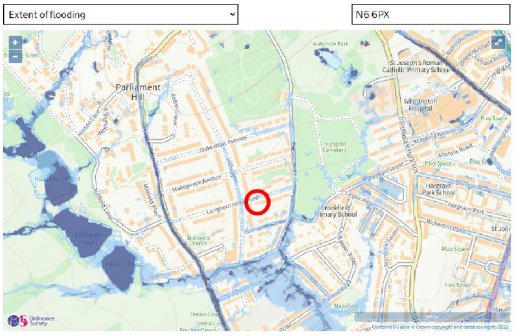

Figure 10 -Extract from Flood risk from water surface map by the Environment Agency

The site is within medium risk area of flooding from water surface.

9 SUMMARY AND CONCLUSIONS

Based on this report and on previous MBP experience within similar sites, we anticipate that:

- The site is underlain by London Clay.
- The perched water table is likely to be encountered below the lower ground floor extension.
- London Underground services and Crossrail 2 plans, as well as underground rivers are far enough from the site and will not have an impact on the proposed works.
- Flood Risk shows that the site is within a medium risk of flooding from surface water, there will be mitigation remedials to prevent it.

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