

BASEMENT IMPACT ASSESSMENT

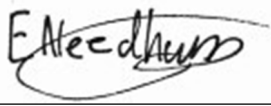
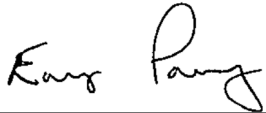
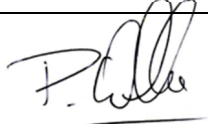
FOR

PROPOSED DEVELOPEMENT

AT

63-71 HIGH STREET, HAMPTON HILL,
 LONDON BOROUGH OF RICHMOND UPON THAMES, TW12 1LZ

Document Control Sheet

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1.0 INTRODUCTION

HBPW LLP are appointed by Greatplanet Limited for the provision of Civil and Structural Engineering Design Services associated with the Pre-Planning stages on the Proposed Development at 63-71 High Street, Hampton Hill, London Borough of Richmond upon Thames.

As part of the project brief HBPW LLP are to provide assistance on the various Civil and Structural elements including the preparation of a Basement Impact Assessment; to be submitted to the Planning Department as supporting document to the application for the development.

There is currently no specific guidance specified by the London Borough of Richmond upon Thames (LBRuT) for the production of a basement impact assessment, however LBRuT have published a Planning Advice Note - Good Practice Guide on Basements Developments (May 2015) which has been used as a guide for the production of this report

1.1 SITE DESCRIPTION

The site is located on the West side of High Street, centred at approximately National Grid Reference TQ 1424 7084.

The site location is shown below:-



(Figure 1 – Site Plan, north is shown to the top of the plan)

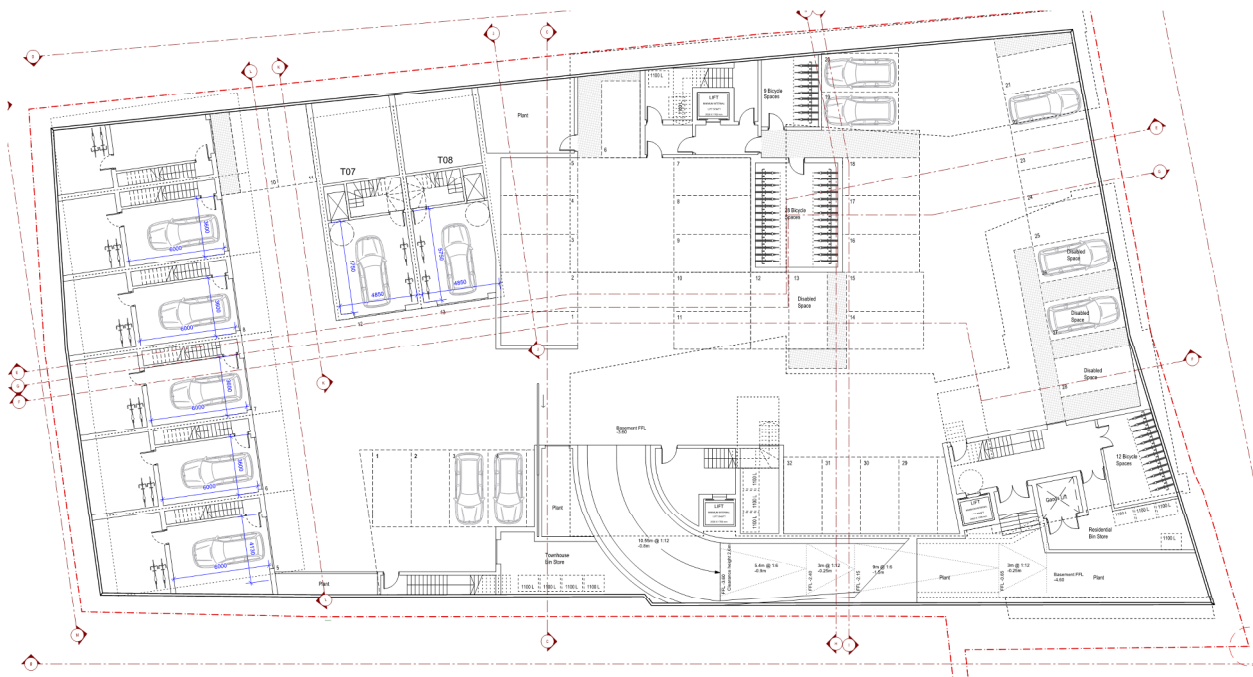
The site forms an approximately rectangular parcel of land (68m by 38m) and is currently occupied by 3 buildings. Two office buildings located at the frontage to High Street are joined by an enclosed overhead link walkway at first floor level. Another building, St Clare Studio, is located in the south west quadrant backing onto the access road to the St Clare Business Park.

To the south of the Site are residential terraces. To the north the land to the rear of the retail/residential frontage is, at time of writing, being developed with a number of 3 storey town houses. The office building to the north of the central access point has an existing basement.

The external areas are predominantly laid to hard standing to provide car parking.

1.2 PROPOSED DEVELOPMENT

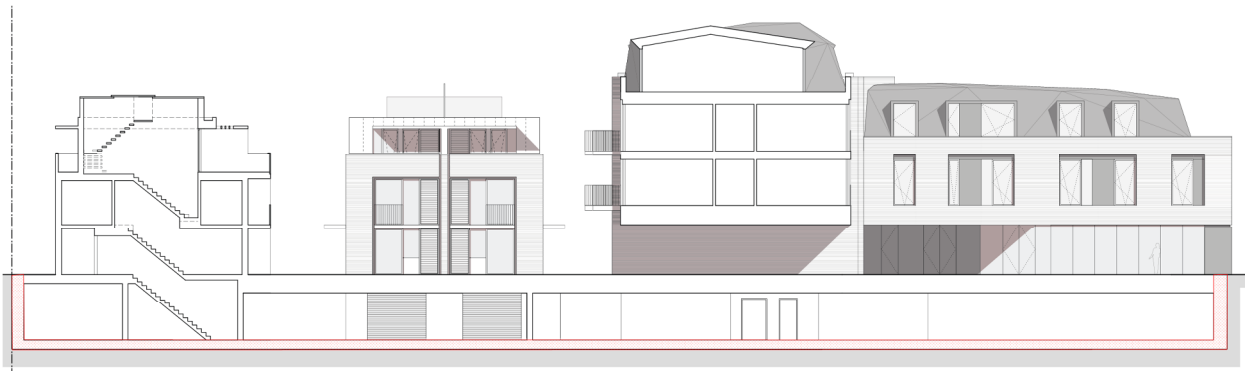
The proposed development following the demolition of the existing buildings will include the construction of eight townhouses, two commercial units and thirty-one residential apartments. The development will include a basement to provide secure parking for cars and cycles as well as refuse storage and plant areas. The basement will occupy the majority of the site footprint



(Figure 2 –Proposed Basement Plan)



(Figure 3 – Proposed Plan at Ground Floor)



(Figure 4 – Long section through proposed development)

This report considers an outline scheme for the construction of the new subterranean structure and the proposed structure to the ground floor podium slab. Construction methods above ground floor level fall outside of the scope of this report, however the intended structural design and subsequent load transfer down through the building have been accounted for in the basement scheme design.

2.0 Existing Building and Site

Drawings showing the existing site plan and existing building arrangements are included in Appendix D. The existing buildings on the site are constructed in a combination of methods:-

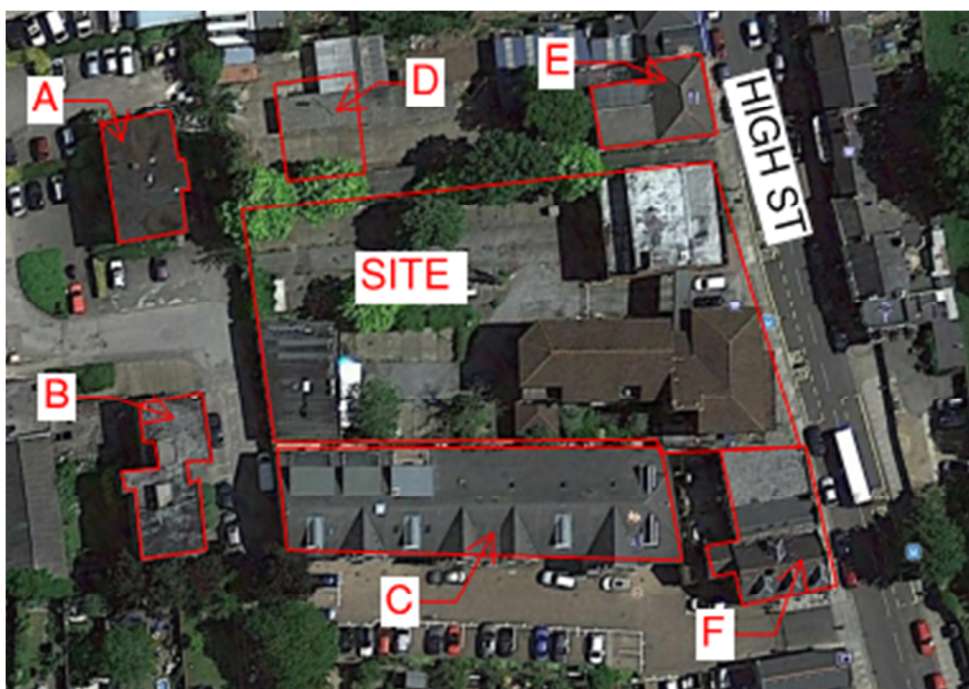
- The north office building is a three storey flat roofed structure, constructed in reinforced concrete framing with masonry cladding. The basement occupies c.50% of the footprint of the building and is accessed by stairs and lift from the ground floor level. The basement is constructed with reinforced concrete walls.

- The south office building is a three storey pitched roof structure, constructed in traditional masonry with a tile roof.
- The building in the southwest corner of the site is a single storey masonry structure with a flat roof.

Surface water from the existing site is disposed by Soakaway chambers located beneath the car park. Foul water is directed to the public sewer.

2.1 Neighbouring Properties

There are six buildings adjacent to the boundary of the proposed site, these are shown below:-



(Figure 5 – Site plan showing neighbouring buildings)

Buildings A and B are part of the St Clare Business Park, they are B1 commercial properties of two and three storeys respectively. It is not known whether the two buildings have a basement.

Building C comprises a terrace of eight, two storey plus occupied pitch roof masonry buildings erected pursuant to a planning permission granted in 2002 for B1 office use. The majority have been converted to residential occupation over the past four years. There are no basements in this terrace.

Building F which fronts the High Street is a former two storey masonry built Victorian Dairy also recently converted to residential flats with accommodation in the pitch roof space. Given the period of construction it is expected that this may have a small basement.

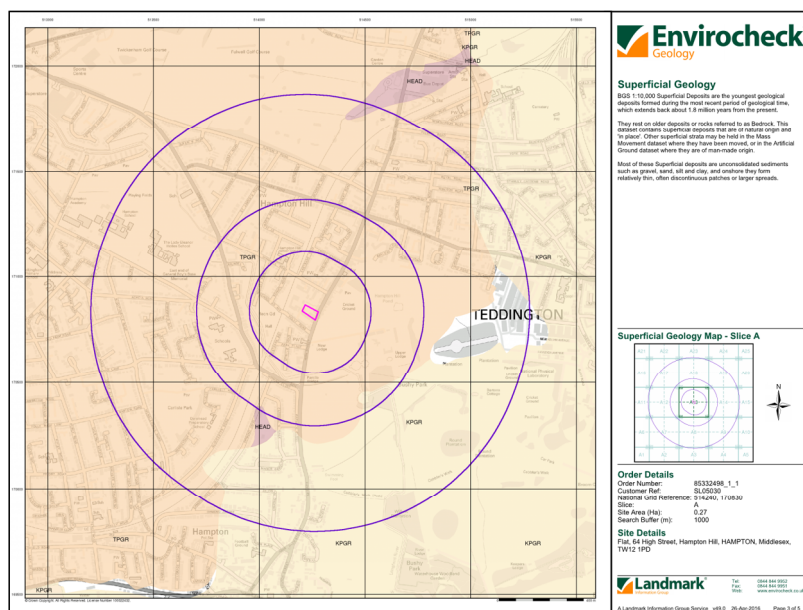
Building E is a two storey masonry building, given the period of construction it is not considered to have a basement.

Building D is currently under construction and is a three storey masonry residential property; it does not include a basement.





3.0 GEOTECHNICAL GROUND CONDITIONS

A Phase 1 Preliminary Investigation Report (desk study) of the site together and a Phase 2 Geo-environmental Site Investigation has been undertaken by HBPW LLP. It is recommended that this report is read in conjunction with these previous reports.

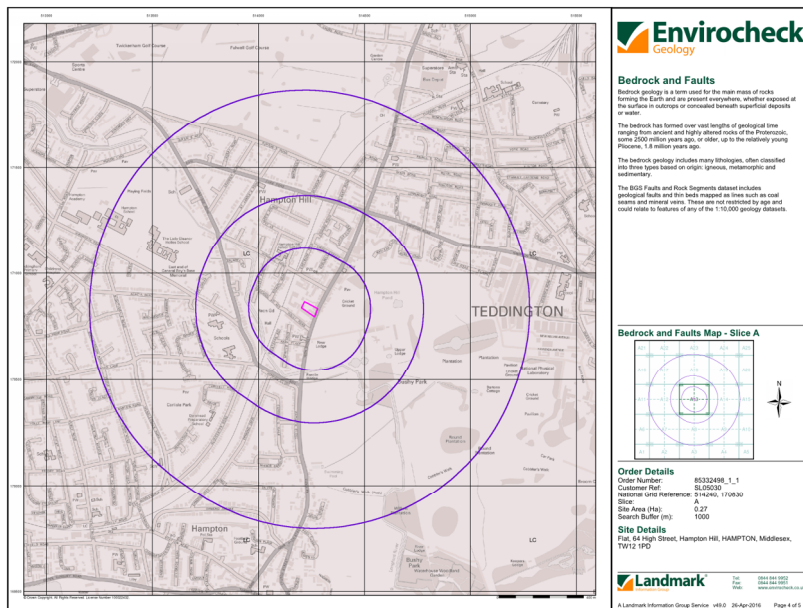
The findings of the Preliminary Investigation Report with respect to anticipated geotechnical ground conditions indicate the site is underlain by superficial deposits of Taplow Gravel Formation (Sands and Gravel) to a depth of at least 8m, overlain by a thin layer of made ground. The underlying bedrock was anticipated to be London Clay Formation.



Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	KPGR	Kempton Park Gravel Formation	Sand and Gravel	Devensian - Ipswichian
	TPGR	Taplow Gravel Formation	Sand and Gravel	Wolstonian - Chokierian
	HEAD	Head	Sand and Clay	Quaternary - Ryazanian
	HEAD	Head	Clay	Quaternary - Ryazanian

(Figure 6 – Superficial Geology)



(Figure 7 – Bedrock Geology)

Following the Phase 2 Site Investigation the following ground model for the site has been determined:-

Table 5.2 Ground Model		
Stratum	Typical Description	Typical depth m bgl
Site Surface	Flexible surfacing over 150mm nominal unreinforced Concrete	To 0.150m
Made Ground	Made ground was identified within both the boreholes and the trial pits. Made ground within the boreholes ranged in thickness between 1.25 and 1.75 m and typically comprised of discontinuous layers of sandy matrix with gravel and cobbles of crushed stone, concrete, brick, ash.	To between 1.3 and 1.8m
Relic Topsoil	A relic topsoil and subsoil layer was encountered in all trial pits this representing the previous gardens to the historical residential developments.	To between 0.8 and 1.2m
Sand and Gravel – Taplow Gravel	Medium dense to dense Sand and Gravel	To 5.6m
London Clay	Very stiff bluish grey Clay was encountered within both boreholes and extended beyond the maximum depth of the investigation.	In excess of 15.05m

(Figure 8 – Extract from Geo-environmental report by HBPW LLP)

Borehole logs from the Phase 2 Investigation are included in Appendix A

3.1 GROUNDWATER

During the Phase 2 Investigation two boreholes were excavated to a depth of 15m below ground level. Groundwater was encountered in both boreholes at 4.5m and rising to rest at