

Basement Assessment Report

St Margaret's School,
18 Kidderpore Gardens
London NW3 7SR

Job No.: 2480
Client: XUL Architecture
Date: December 2014

Concept Consultancy

Chartered Civil & Structural Consulting Engineers

1.0 INTRODUCTION

Concept Consultancy has been commissioned by XUL Architecture to carry out a basement Impact Assessment for the site at 18 Kidderpore Gardens, London, NW3 7SR. The intention is to make some structural modifications to the existing basement in the form of creating a light well under the front bay window of approximate plan dimensions of 2.2m x 2.1m x approximately 2.5m high.

2.0 Site Location

The site is located on the corner of Kidderpore Gardens and Ferncroft Avenue, London NW3 7SR. The site is roughly rectangular in shape and measures approximately 20.0m x 41.0m. The site presently contains a four-storey semi-detached (3 storey over Basement) commercial building, currently operating as an independent girls' school.

The building has been constructed entirely within the London Clay formation.



Fig 1: Original Long Section Through Property

The site is essentially a level site from front to back. The rear boundary of the property is formed by number 43 Ferncroft Avenue, a residential building housing a number of apartments.

2.1 Basement Works

The existing building is supported off the existing basement walls and slab within the London Clay stratum with the foundation formation level being approximately 1.7m below existing ground level at the rear and approximately 2.8m to the front and sides. It is intended to create a light well with matching floor level and headroom as the existing basement (see Fig2).

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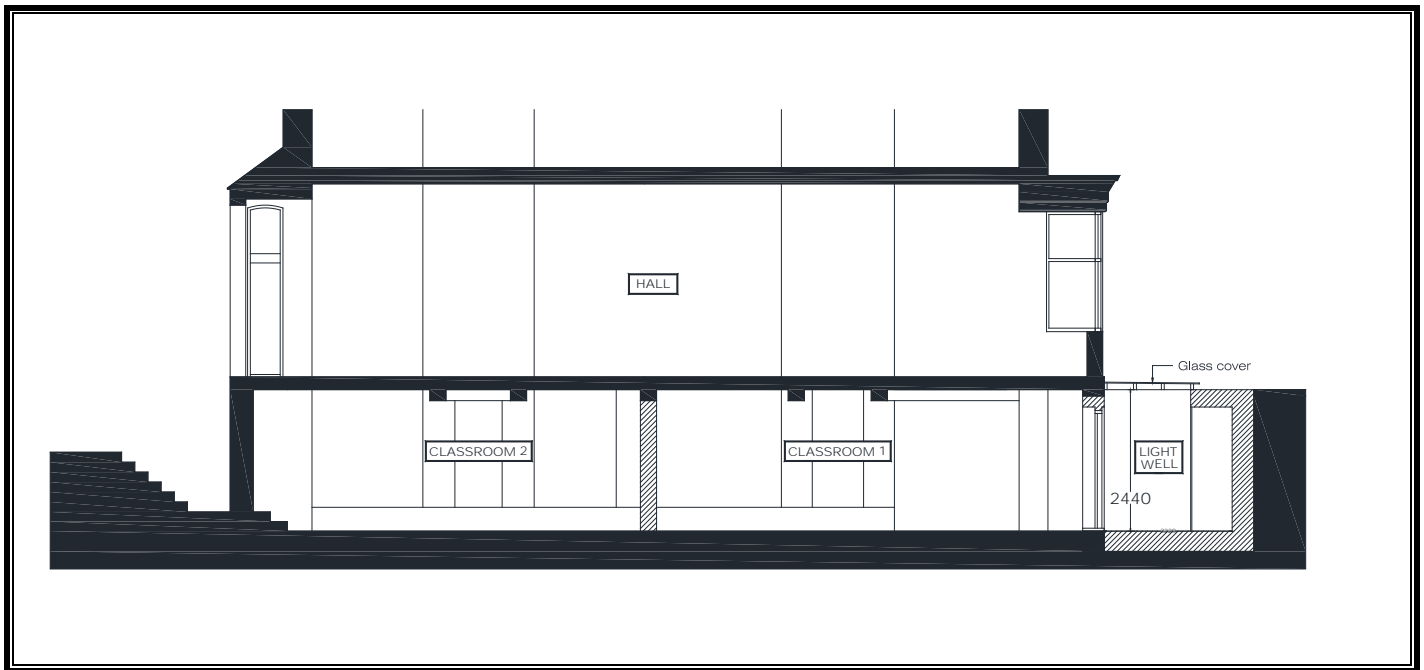


Fig 2: Proposed Long Section Through Property

Ground Conditions

3.1 Soil Conditions

Current information indicates London Clay close to the surface. This underlying London Clay formation is in line with the Geological Survey Map for the area which indicates same.

3.2 Groundwater Conditions

The site is in an area which is entirely within the London Clay formation in which Groundwater flow is near to non-existent because of the low permeability of the clay stratum and would be expected to have negligible significance for water supply or river base flow”.

3.3 Surface Water Features

No culvert, rivers and or other water bodies are known within the immediate vicinity of the site.



Fig 3: Front Elevation

4.0 Stage 1 - Assessment

The following assessment is based on a series of questions as set out in the Camden Planning Guidance - Basement & Light Wells (CPG 4).

4.1 Ground Water Flow:

Question 1a: Is the site located directly above an aquifer?

No. The site is not located within or above an aquifer that could be affected by the proposed works.

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

No.

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

No. There is no known watercourse, spring or well within 100 m of the site.

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

No.

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

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No. There is a small increase in hard surface area, but only of the order of less than 2%.

Question 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 be virtually no change in the catchment area for rain fall or to the existing surface drainage arrangement.

Question 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)?

No.

The above assessment has identified that there are no potential issues that need to be assessed

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4.2 Slope Stability:

Question 1: Does the existing site include slopes, natural or manmade, greater than 7 degrees? (Approximately 1 in 8)

No. The existing ground level across the site is essentially flat.

Question 2: Will the proposed re-profiling of landscaping at site change slopes at the property boundary to more than 7 degrees? (Approximately 1 in 8)

No.

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

No.

Question 4: Is the site within a wider hillside setting in which the general slope is greater than 7degrees? (Approximately 1 in 8)

No.

Question 5: Is the London Clay the shallowest strata at the site?

Yes. The existing basement is within the existing London Clay layer.

Question 6: Will any tree/s 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 on the site.

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

No. We have no evidence indicating any possible shrink-swell subsidence in the local area.

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

No. There is no known watercourse, spring or well within 100 m of the site.

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

Yes. The light well is located in an area of ground that was possibly worked when constructing the original basement

Question 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.

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Question 11: Is the site within 50m of the Hampstead Heath Ponds?

No.

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

Yes. The front wall of the basement is within 5.0m of the footpath along Kidderpore Gardens but will not have any impact on the footpath or roadway or any associated underground services.

Question 13: Will the proposed basement significantly increase the differential depth of foundations relative to the neighboring properties

No. The neighbouring property has already installed a similar light well structure and the new foundations will be close to the same level as the existing.

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

No. There are no railway networks in close proximity of the property.

The above assessment has identified the following issues to be assessed:

Question 12 The proposed light well will be within 5.0m of the footpath along Kidderpore Gardens, however the soil will be propped during the excavation and construction to maintain stability of the footpath

4.3 Surface Flow & Flooding:

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

No.

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

No. There will be virtually no change in the catchment area for rain fall or to the existing surface drainage arrangement.

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

No. There is a small increase in hard surface area, but only of the order of less than 2%.

Question 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.

No. There will be virtually no change in the catchment area for rain fall, existing surface drainage arrangement or area of hard standing areas.

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

No.

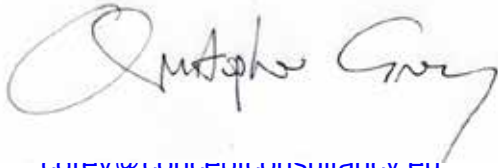
Question 6: Is the site in an area known to be at risk from surface water flooding such as South Hampstead, West Hampstead, Gospel Oak and Kings Cross, or is it at risk from flooding, for example because the basement is below the static water level of a nearby surface water feature?

No.

The above assessment has identified that there are no potential issues that need to be assessed

Nothing further occurs.

Sincerely,



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