Concept Consultancy
Chartered Civil & Structural Consulting Engineers

Basement Impact Report

3 Belsize Crescent, London, NW3 5QY

Job No.: 2604
Client: David Templer
Date: December 2015

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1.0 INTRODUCTION

Concept Consultancy has been commissioned by David Templer to carry out a basement Impact Assessment for the site at 3 Belsize Crescent, London, NW3. The intention is to make some structural modifications to an existing basement in the form of lowering the existing basement floor slab level by approximately 1.0m. There are internal renovation works to be carried out to the basement and superstructure but this report is concerned only with the lowering of the basement slab.

2.0 Site Location

The site is located at the southern end of Belsize Crescent, London NW3 adjacent to Burdett Mews. The site is roughly rectangular in shape and measures approximately 11m x 7m. The site presently contains a four-storey end terrace (3 storey's over Basement) residential building.

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

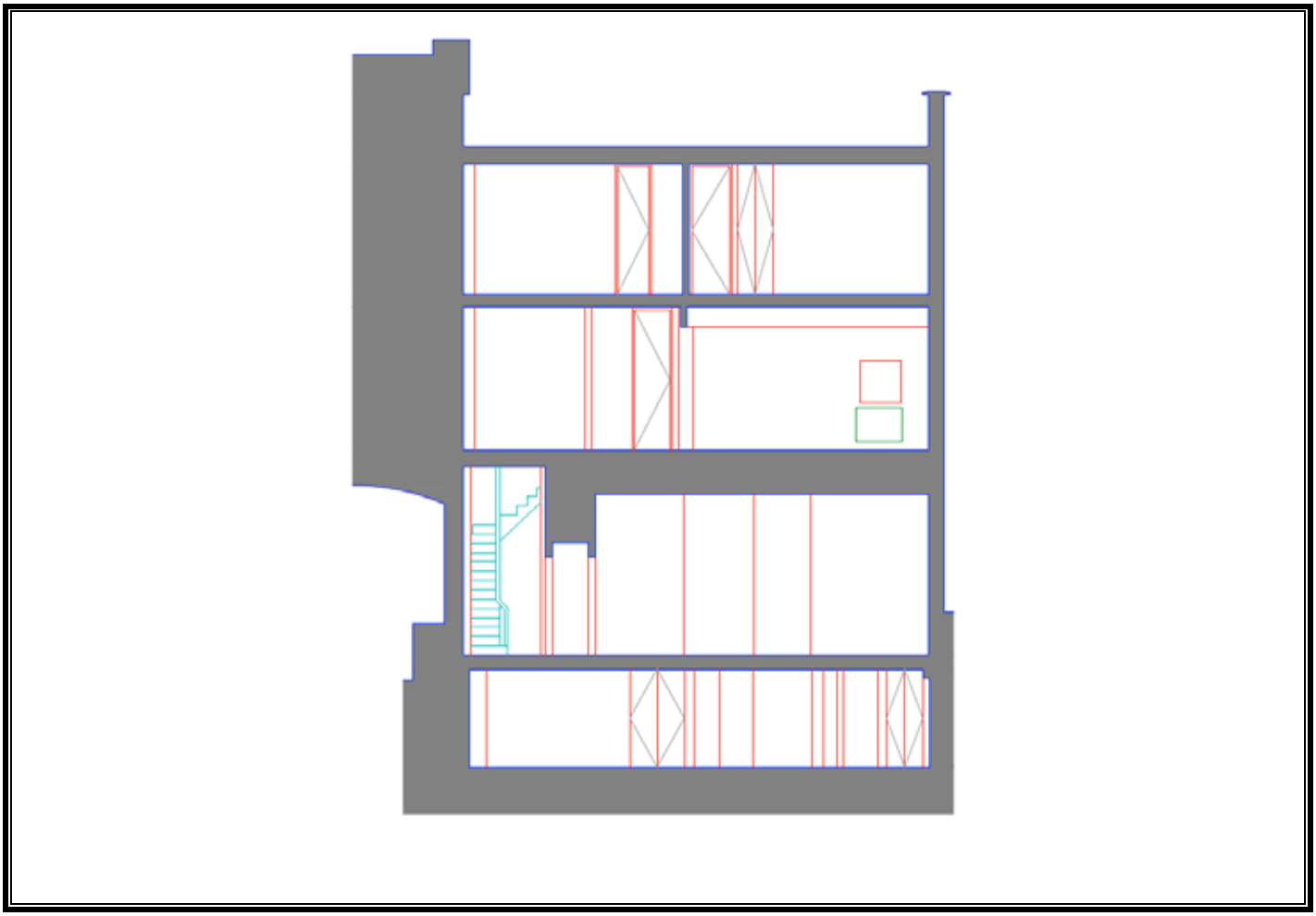


Fig 1: Original Long Section Through Property

The site is essentially a level site from front to back, however, the ground level of Belsize Crescent, to the front of the site has a fall across the front of approximately 0.6m. but this will have no influence over the proposed works. The rear boundary of the property is formed by a masonry/concrete retaining wall up to first floor level. The properties to the rear are a set of terraced domestic dwellings/mews.

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 2.7m below existing ground level. It is intended to increase the height of the headroom of the basement by lowering the basement floor level by approximately 1.0m (see Fig2).

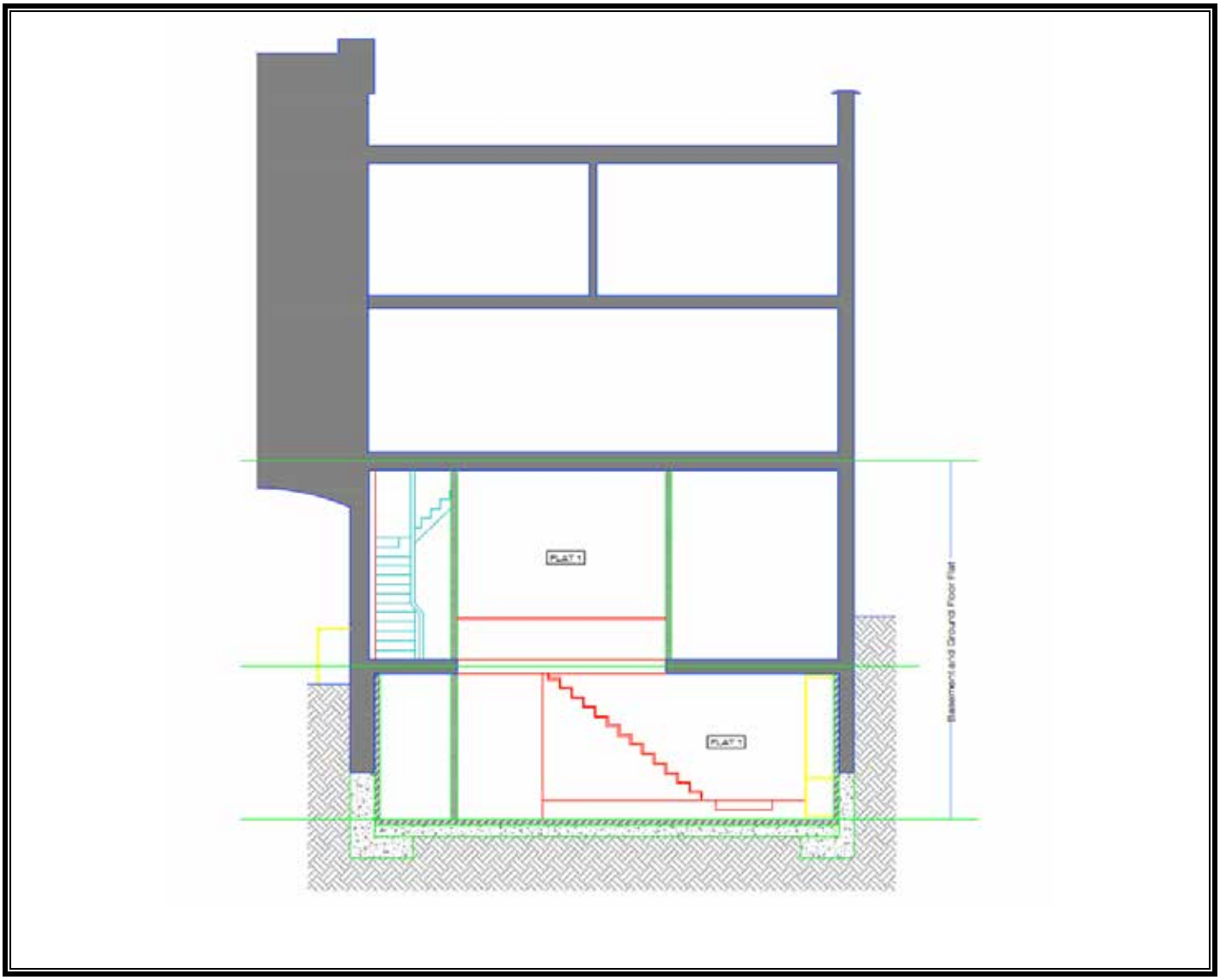


Fig 2: Proposed Long Section Through Property

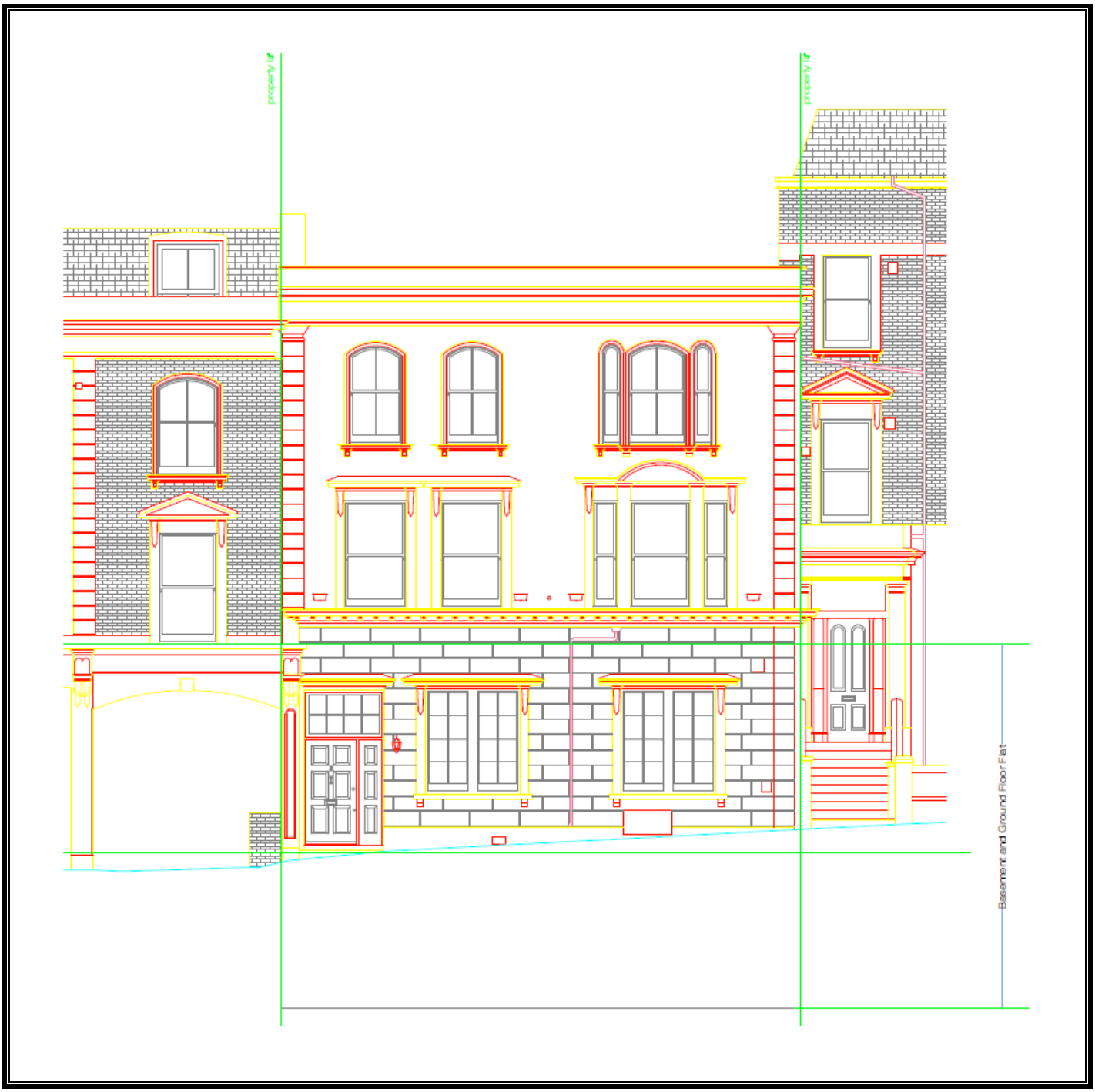


Fig 3: Front Elevation

3.0 Ground Conditions

3.1 Soil Conditions

A desktop study 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.

Ground investigation was carried out by Land Science as part of this project. A detailed report by Land Science is available, in summary a single window sampler borehole and 2 No. trial pits were dug. These confirmed the underlying ground comprises of:

- 0.65m to 0.75m of Made Ground Overlaying
- 0.75m to 2m plus London Clay

The trial pits were dug in the North East corner of the existing basement (TP 1at the junction between Belsize Crescent and Burdett Mews and TP 2 in the center of the rear wall). The existing foundations were found to be at a depth of 0.65m and 0.75m below existing basement level (in trial holes TP 1 and TP2 respectively)

3.2 Groundwater Conditions

During the ground investigation ground water was found to be at a depth of 0.73m below existing basement level (in Trial Hole No. 2) and at 1.8m below basement level during the window sampling. As the existing ground is clay the ground water is most likely perched on the clay layer.

3.3 Surface Water Features

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

4.0 Stage 1 - Screening

The London Borough of Camden guidance suggests that any development proposal that includes a subterranean basement should be screened to determine whether or not a full BIA is required.

The following screening 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. There is no evidence or information currently to hand to indicate the close proximity of an aquifer

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

No. but will need to be confirmed by Hydrologist.

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. The site is not within the catchment area of the pond chains on Hampstead heath.

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

No. The proposed works will not change the footprint of the existing basement.

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 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. There are no local ponds.

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

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 falls across the site at approximately 1 in 18

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. This is an existing basement, to be extended downwards further into the London Clay

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. The site is not within and aquifer.

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

No. No the site is approx. 920m from the nearest pond in Hampstead Heath.

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

Yes. The front wall of the basement is on the same line of the edge of the footpath on Belsize Crescent

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

Yes. The depth to the new foundations will be increased by approximately 1.0m to that of the surrounding buildings, underpinning will be carried out as required.

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 existing property fronts directly on to Belsize Crescent the existing basement is fully within the site. This existing arrangement will remain unchanged. The new works will have no impact on the right of way on the public road or foot path.

Question 13 By lowering the existing basement slab by approximately 1.0m will mean that the new foundations will be lowered by the same amount relative to the surrounding buildings. Any potential impact on the foundations of the surrounding buildings will be address at design stage and underpinning will be carried out where necessary.

4.3 Surface Flow & Flooding:

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

No. No the site is not within the catchment area of the Pond Chains at Hampstead Heath

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 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. This will remain unchanged.

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

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.

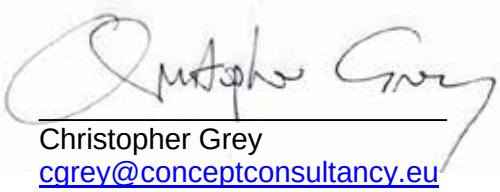
Question 6: Is the site in an area known to be at risk from surface water flooding such as South Hampstead, West Hampstead, Gospel Oak and Kings Cross, or is it at risk from flooding, for example because the basement is below the static water level of a nearby surface water feature?

No. Environment Agency Mapping indicates there is no known flood risks in this area.

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

Nothing further occurs.

Sincerely,



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