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Our Ref: 1443/RE/01

2nd June 2015

Mr I Hudson
Director
Michael Alexander Consulting Engineers
Foundation House
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Dear Isaac,

**BASEMENT IMPACT ASSESSMENT FOR PROPOSED BASEMENT WORKS AT 19
PARLIAMENT HILL, LONDON, NW3 2TA – SURFACE FLOW AND FLOODING SCREENING**

Further to your instruction on behalf of the Client to review the Surface Flow and Flooding Screening section of the BIA (ref: P2957/BIA/v1.0) dated December 2014, we provide our comments below.

As requested in the Camden Planning Guidance (CPG 4), this review has been carried out by an appropriately qualified person who is a specialist in flood risk management and surface water drainage and who is a Chartered Environmentalist, Chartered Water and Environmental Manager and a Member of CIWEM.

In general we are in agreement with the findings of the BIA and more specifically the Surface Flow and Flooding Screening section and Flood Risk Assessment. We have identified the following point which requires further consideration.

Question 3 of the Surface Flow and Flooding Screening Flowchart asks "*Will the proposed basement development result in a change in the proportion of hard surfaced/paved external areas?*". The BIA states that there would not be an increase in the proportion of hard landscaped areas.

However, Figures A1 and A2 of the BIA indicate that there would be a marginal increase of surface hardstanding area post-development as shown by the purple hatching on Figure A2 which illustrates *Hard landscaping over proposed basement*. Figure A2 also suggests that part of the basement will also extend beneath existing permeable parts of the garden area.

Paragraph 2.66 of the CPG4 and Chapter 5 of the Camden geological, hydrogeological and hydrological study – Guidance for subterranean development dated 2010, states that for areas where the proposed basement extends beyond the footprint of the building, typically a thickness of at least 1m of soil should be placed on the "roof" of the basement to mitigate the reduction in infiltration capacity. This rule does not apply to the part of the basement built under the existing structure as the existing building would already preclude rainwater infiltration. The rule can therefore also be applied to parts of the basement constructed beneath existing hard surfaced areas adjacent to the building as these areas would be precluding rainwater infiltration pre-development.

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The BIA indicates that the basement will largely be beneath the footprint of the existing dwelling and existing hardstanding area to the rear of the property, therefore, for these areas the 1m distance between the roof of the basement and ground surface does not apply.

The additional hardstanding area could increase peak flows and volumes of surface water from the site. Drawing BIA10/P1 shows that the part of the basement which will extend into the garden area will have a distance between the roof of the basement and ground surface of less than 1m thus potentially reducing the infiltration capacity of the soil.

It is recommended that in order to mitigate the risk and to comply with the CPG4, additional runoff should be controlled using attenuation SUDS devices, as the soils across the site will not support the effective use of infiltration SUDS devices.

Therefore, providing that the SUDS attenuation is carried out, the answers to Questions 2, 4 and 5 of the flowchart will remain as "No" impact and the use of SUDS will mitigate any impact of the increased hardstanding area as per Question 3 of the flowchart.

Yours sincerely



Rupert Evans MSc CEnv C.WEM MCIWEM AIEMA
Director