

Our Ref: 134910/FH/14-09-20
Your Ref: Planning reference 2020/0455/P

135 Park Street
London
SE1 9 EA

TEL: 020 7828 8205 FAX: 084 4381 4412

Email: london@fairhurst.co.uk

Website: www.fairhurst.co.uk

14th September 2020

Mr Matthew Cooper
8A Fawley Road
London
NW6 1SH

Dear Mr Cooper

RE – Campbell Reith Basement Impact Assessment Audit Query dated 1st September 2020

We are writing in response to the email received from Campbell Reith, via an email from Sofie Fieldsend (Planning Officer, London Borough of Camden) dated 1st September 2020, regarding the proposed development at 8A Fawley Road, London, NW6 1SH.

Existing Fairhurst Reporting

The following document has previously been produced by Fairhurst and submitted to Camden Council in support of the planning application:

- 134910/R0 Ground Movement Assessment (Rev 0, dated 24th January 2020).

Response to Email Query from Campbell Reith (dated 1st September 2020)

The email raised the following query:

“Maximum movements at the party wall are predicted to be 16mm. The ground movement assessment (GMA) does not consider how this movement at the party wall will be transferred/distributed beyond the site boundary to neighbouring structures. The response received states that these movements are “considered to be a conservative estimate”, which is in line with the requirements of CPG Basements. The GMA and damage category assessment should consider the impact of this ground movement on neighbouring structures.”

The Camden CPG Basements makes reference to an “appropriately conservative” approach to modelling assumptions. A predicted settlement of 16mm was reported as an indicative conservative value. Upon review of some of the sensitivity analysis undertaken at the time, it was and is felt that this reported value of 16mm would possibly be overly conservative for the applicable basement arrangement, and as such at the time it was therefore considered that incorporating this movement within the XDISP modelling along the perimeter of the basement would be an overly onerous approach.

The internal settlement analysis was carried out using a worst case total loading scenario with the final total structural load applied in both the short-term and long-term models without any consideration of the previous load-induced settlement that has already occurred. In reality, this is considered a highly onerous modelling assumption, given the removal of 3.5m of overburden and that a portion of the applied structural load will be live load, of which there will not be an additional 100% applied throughout the entire design life of the structure. Our experience is that a reduced proportion of this live load would ordinarily be considered in relation to longer term ground movements, particularly with respect to total settlements over clay.

Conservative stiffness correlations were also adopted for the underlying London Clay, a further consideration which is combining to contribute to an unrealistically conservative result in terms of the 16mm figure, which we would anticipate should be closer to a figure of around 10mm.

It is further noted within the report that the settlements modelled in PDISP along the external walls and party walls do not take into account the benefit of the stiffness of the basement walls and slab, each of which will restrict movements to a large extent. It is therefore considered overly conservative to incorporate these PDISP settlements within the XDISP model as we believe that the movements would not be directly comparable for the reasons given.

The above points of consideration were taken into account in an internal sensitivity check, superimposing PDISP settlements under typical working loads (with the removal of overburden taken into account in deriving these) with the outputs of the XDISP analysis. In this more realistic case, settlements around the perimeter of the basement, including party walls, under final working loading is anticipated to be in the order of 7mm to 10mm and predicted damages reported within Damage Category 1. As this modelling process is to be used as a predictive tool at this stage, we are satisfied that the conclusions made within the report are reasonable subject to the implementation of the recommendations made therein throughout detailed design and construction.

In summary, the predicted levels of damage reported are within Damage Category 1 and the settlements around the perimeter of the proposed basement under likely working load conditions are anticipated to be within 10mm. It is considered that combining the PDISP settlements under the worst case structural loading with the XDISP model movements would produce an over-conservative estimate of ground movement that would not be realised in practice for the reasons explained above.

The most critical movements would be more likely to occur during the construction stage, recommended to be mitigated through a controlled construction sequence, through good quality workmanship and with suitable movement monitoring measures put in place by the structural engineer and appointed contractor. This monitoring regime would provide an early warning indicator whereby were actual movements recorded to approach or exceed the predicted maximum value of 10mm then works would be stopped at that point, albeit this scenario is considered to be a very unlikely outcome.

Yours sincerely

Thomas Janusz

Geotechnical Engineer

Email thomas.janusz@fairhurst.co.uk

Tel 020 7828 8205

c.c. Clare Barber Fairhurst