17 July 2017 **Our ref** CS075666-PE-17-125-L

London Borough of Hillingdon
Civic Centre
225-226 High St
Uxbridge
UB8 1UW

For the attention of: M Kolaszewski Esq.

Dear Sirs

1331/APP/201/1883 Former Nestle Factory Hayes - Flood Risk and Drainage - SEGRO Commercial Development

Thank you for meeting with recently to discuss the above. Having carefully reviewed your written comments on the FRA and drainage strategy and would like to provide additional information to address the various points raised.

1. **Green Roofs**

   The planned commercial development comprises three large-span steel portal frame buildings. These are of lightweight and economic construction in keeping with their proposed end use.

   Capita Structural Engineers do not advocate the use of green or living roofs for these buildings. Such roofs would require significantly upgraded structural steelwork and substantially larger concrete foundation bases to support the additional loads, and are incompatible with the scheme

   There are specific constraints associated with Unit 4, where the maximum height of the proposed steel frame is dictated by the height of the existing façade that is to be retained. Were the frame to be designed to support a green roof, its increased depth would materially compromise the working clear height inside the unit which in turn would have a direct impact on the usability of the building.

   We consider the overall landscaping and planting proposals for this development to be comprehensive as currently designed, providing high quality green spaces that will be publically accessible. They have been well received by the landscape officer and offer a significant improvement compared with the current site condition. Therefore, although green roofs are not feasible, this should be seen in the context of the excellent wider landscaping provision.

2. **Greenfield Runoff**

   The surface water drainage strategy has been designed to achieve a very substantial reduction in runoff rates. The calculations submitted with the strategy demonstrate that for the 1 in 100 years plus 20% climate change storm, present day runoff – which is unrestricted – is of the order of 1735 litres

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per second. Our proposals allow for a maximum off site flow of 110 litres per second, i.e. reducing runoff by some 93.7%. This far exceeds the London Plan minimum of 50% reduction.

We understand and support the aim of reducing runoff to a greenfield rate and have gone a long way forwards achieving this. In considering your recent comments we have assessed opportunities for introducing additional storage to supplement the 1600m3 of below ground attenuation, plus permeable paving, already included in the design. Unfortunately this is impractical due to the space requirements of the overall buried utilities infrastructure, particularly the foul sewer network. It is not possible to extend the attenuation any deeper given the shallow water table, or any shallower due to minimum cover requirements to ensure structural stability.

We consider the attenuation provision to be sufficient and appropriate, and the beneficial reduction in runoff rates to be compliant with both Hillingdon and GLA policies.

3. Below Ground Infiltration

Infiltration drainage has been demonstrated, through on site testing, not be possible. This is a function of the soil type and the shallow groundwater table. We are therefore satisfied that below-ground attenuation tanks and permeable paving systems are the best practicable SuDS for the scheme.

4. Perimeter Land Drain

The perimeter land drains illustrated on the Capita drawings provide a managed drainage mechanism for the boundary landscaped areas.

The northern block dish channel is designed to collect runoff from the adjacent landscaped zone before it reaches the pavement at the canal edge. The eastern land drain is to comprise a 150mm diameter perforated pipe in a single size stone surround, and will prevent runoff from the nearby landscaping spilling on to the pavement alongside North Hyde Gardens.

5. Previous Nestle Drainage Arrangements

We confirm that all runoff generated from the proposed commercial development area was previously directed towards the south into the public sewer below Nestles Avenue. Our proposals therefore replicate this arrangement, notwithstanding the great reduction in runoff rates proposed for the new scheme.

6. Exceedance Flooding

The drainage arrangements has been designed to ensure no above ground ponding for the 1 in 30 year storm. For the 1 in 100 year plus 20% climate change storm – equivalent to a 1 in 200 year storm – there is predicted to be no more than 125mm ponding in the dock areas and zero off site flooding.

7. Condition of Existing Infrastructure

In November 2014 SEGRO commissioned a detailed condition survey of the wall of the Grand Union Canal along the northern site boundary, a copy of which is enclosed. The report does identify instances of minor cracking to the concrete capping beam and we can confirm that where necessary the beam is to be repaired. We would also like to reiterate that, as discussed at our meeting, no

discharge of surface runoff into the canal is currently proposed as part of the commercial development.

Condition surveys have also been undertaken of the existing Thames Water public sewer manholes and pipe runs where they are to be re-used. Foul effluent is to be directed into a newly constructed manhole to be positioned between Thames Water foul water MHs F17 and F18. The survey confirmed that this section of public sewer has no defects and that there is no practical constraint to making this connection.

Surface runoff is to be directed via a new connection into existing surface water MH S18. This manhole has also been surveyed and found to be in satisfactory condition.

Copies of the relevant survey records are enclosed and we are satisfied that the intended connections into the public network can be made.

8. Foul Drainage Capacity

Capita has consulted with Thames Water regarding the capacity of the local foul sewer network to accept foul effluent emanating from the SEGRO development. We enclose a copy of the pertinent correspondence confirming that there will not be a detrimental effect on the existing public foul sewage network.

9. Rainwater Harvesting

Rainwater harvesting tanks are not currently proposed for the commercial scheme due to the established requirements of future occupiers. We also note that such tanks make a negligible contribution to reducing surface water runoff rates for this type of development.

Furthermore, due to the low water demand in industrial units the incorporation of rainwater harvesting has no significant benefit in reducing potable water consumption. We enclose a copy of a Potable Water Consumption Reduction Review produced by Watkins Payne Partnership which demonstrates this.

Please do not hesitate to contact us if you wish to discuss any of these matters further.

Yours faithfully
For CAPITA PROPERTY AND INFRASTRUCTURE LIMITED

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