10348755-22-067-C-NDH

22 November 2022

For the attention of Eliane Gebauer

**Application Reference: 8294/APP/2022/2576**
**Location: 1A EMI Archive, Vinyl Place, Hillingdon, Hayes, UB3 1HH**
**Proposal: Archive storage building with office spaces, associated parking spaces and vehicle access routes**

We write in connection with your letter received 10th November 2022 with regards to the above planning application requesting further information is supplied as follows:

To support the below please find enclosed the following:
*10348755 - DAWLEY ROAD TOTAL DISCHARGE RATE*
*10348755 - DAWLEY ROAD GREENFIELD VOLUME*
*10348755 - Existing SW Runoff Assessment for Planning*
*Letter from Thames Water confirming approval of discharge into their sewers their ref. DS6100404*

**Runoff Destination**
*FAIL – The application proposes to manage rainwater via a below ground attenuation tank which then discharges through the existing Thames Water sewer connection into the Grand Union Canal. Rainwater harvesting has not been included in the proposal and there has been no justification provided for this. The applicant is required to include rainwater harvesting measures where suitable, or provide a full technical justification for their non-inclusion. The use of infiltration has been discounted due to unsuitable below ground geology, however soakage testing has not been completed to confirm this. Detention basins/swales have been discounted due to the size constraint of the site.*

Rainwater harvesting tanks are required to be designed to take surface water runoff only from areas not subject to any contamination i.e. roofs. With reference to HDR drainage layout drawing 300 and the architectural plans you will note that no new roofs are proposed as part of this development. All new hard-surfacing with engineered drainage comprises car parking or service yards. Runoff from these areas cannot be used in rainwater harvesting systems.

With reference to the Site Investigation report by WSP ref. 70081579-PRA, Infiltration cannot be relied upon for management of the surface water runoff. Therefore, discharging at a controlled rate into the canal located on the north eastern side of the site via Thames Water sewers is deemed the most appropriate SUDS option and is consistent with the Hillingdon SUDS hierarchy
Notwithstanding the base of the attenuation tank will be lined with a suitable permeable geotextile membrane to ensure fines do not enter the tank but will also allow nominal infiltration into the ground to occur.

*MORE INFORMAITON REQUIRED – correspondence must be provided to demonstrate that Thames Water approve of the proposed discharge into the existing Thames Water manhole (red. 9001).*

We refer to the enclosed correspondence with Thames Water confirming sufficient capacity within the sewers and no objections to the proposal.

**Peak Flow Control**

*MORE INFORMATION REQUIRED – the existing runoff rates need to be provided for the 1 in 1 year, 1 in 30 year and 1 in 100 year rainfall event.*

*FAIL – The applicant has provided greenfield runoff rates for an area of 1ha, but not for the proposed site area. The correct site areas have not been used for the calculations; the proposed rates only account for 0.270ha of the site. The calculations for the proposed runoff rates should be amended to include the whole impermeable area of 0.29ha.*

*MORE INFORMATION REQUIRED –5.0 l/s for 1 ha equates to 1.45 l/s for 0.29 ha (1 in 100 year greenfield runoff, applicant to confirm). Therefore, the proposed runoff rate is not the greenfield runoff rate and it has not been agreed with the LLFA.*

The greenfield runoff rates have been quoted per hectare and prorated to the site area which is standard practice. Notwithstanding, please find enclosed revised calculations stating the total discharge rate.
Also for reference find enclosed our existing surface water runoff assessment which demonstrates the current brownfield runoff from site during the 1 in 1 year, 1 in 30 year and 1 in 100 year return periods.
HDR drainage layout drawing 300 revision P3 and the drainage strategy document section 3.3 state the total theoretical greenfield discharge rate is 0.46 l/sec. This low discharge rate would not be practical for a flow control unit and would lead to ongoing maintenance issues even allowing for the various upstream silt capture methods we have allowed for within the strategy. Therefore, we have proposed to use 5 l/sec as our maximum discharge rate from site. Restricting discharge to 5 l/sec is in line with the London Plan Drainage Hierarchy (Policy 5.13) and demonstrates a significant improvement on the existing discharge from site as shown on the enclosed existing surface water runoff assessment.

*MORE INFORMATION REQUIRED – It is noted from the proposed 1 in 30- and 1 in 100-year calculations that the "half drain time of the attenuation tank could not be calculated as the structure was too full". The applicant is required to incorporate additional SuDS measures into the drainage strategy to provide the required level of attenuation to reduce the half drain time to a maximum of 24 hours.*

Please note that half drain down times must be assessed for infiltration tanks but not attenuation systems. The CIRIA SUDS manual report C753 quotes;
"Infiltration components should discharge from full to half-full within a reasonable time so that the risk of it not being able to manage a subsequent rainfall event is minimised."

There is no similar requirement for attenuation systems, which would result in highly inefficient design. The attenuation capacity has been designed to accommodate runoff for the 1 in 100 year event plus 25% climate change allowance.

**Volume Control**

*FAIL – the greenfield, existing and proposed runoff volumes should be provided.*

Please find enclosed the predevelopment greenfield volume calculation for the 1 in 100 year 6 hour event which shows a volume of 66.3m$^3$.
With reference to the drainage strategy drawing, we are providing below ground attenuation with a volume of 105.5m$^3$. Therefore, we have provided sufficient storage to accommodate the above volume.

**Flood Risk**

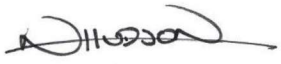
*MORE INFORMATION REQUIRED – It has been demonstrated that the site will not flood as a result of the 1 in 30 year rainfall event. Where flooding occurs in the 1 in 100 year rainfall event, flooding is to remain in the drainage channel and this location has been marked on the drainage layout plan. The applicant is required to submit updated calculations in accordance with the comments above to demonstrate that, with these changes incorporated, the drainage strategy will still remain operational and will not flood.*

We can confirm the above comments have meant no changes are required to the network calculations and therefore the drainage strategy still remains operational and will not flood.

We trust the above is sufficient for your current needs however should you have any queries regarding this proposal we would be happy to discuss them at your convenience.

Yours faithfully,

For and on behalf of
**HDR Consulting Limited**



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