

Our Ref: 1-046/002
31 March 2021

William Myers
Welwyn Hatfield Borough Council
The Campus
Welwyn Garden City
Hertfordshire
AL8 6AE

Dear William

RE: NORTHAW HOUSE, HATFIELD – RESPONSE TO HERTFORDSHIRE LEAD LOCAL FLOOD AUTHORITY CORRESPONDENCE (REF; 6/2021/0072/MAJ, DATED 15 FEBRUARY 2021)

We have now reviewed David Uncle (from Hertfordshire LLFA) comments as provided under correspondence 6/2021/0072/MAJ, dated 15 February 2021. Each of the queries raised and our responses to each query is provided below;

1. *“We understand several units are proposed in the east of the site labelled 28 ED – 31 ED and 19 GL, however these are not indicated on the drainage strategy and it is not indicated how these areas will drain on the drainage strategy”*

Please see the following updated drainage strategy drawings showing the updated drainage strategy reflecting the 31-unit masterplan.

- 1-046-CCE-XX-XX-DR-C-001-P1 - Drainage GA
- 1-046-CCE-XX-XX-DR-C-002-P1 - Drainage GA
- 1-046-CCE-XX-XX-DR-C-003-P1 - Drainage GA

2. *“We note the surface water pipe runs in the eastern road (pipes 12.000 – 12.001). Please could the applicant clarify how runoff from this part of the system will receive SuDS management and treatment before entering the pond”*

As of the SuDS Manual (C753) guidance, the access road would fall under a *low* pollution risk area.

The total suspended solids, metals and hydrocarbons associated with a *low* pollution categorization (as provided within the SuDS Manual) is shown below;

	Total Suspended Solids (TSS)	Metals	Hydro-carbons
Low pollution hazard index	0.5	0.4	0.4

As of the SuDS Manual guidance, the total mitigation provided from a pond alone is shown below;

	Total Suspended Solids (TSS)	Metals	Hydro-carbons
Mitigation index provided to runoff falling on to roof area and conveyed via green wall	0.70	0.70	0.50

Based on the above the access road discharging directly into pipes 12.000 & 12.001 which in turn discharge to the pond is acceptable in accordance with best practice contained within the SuDS Manual (C753). Indeed, the mitigation provided within the pond alone is far in excess of the minimum requirements.

“Please could the applicant also clarify how the swale north of this eastern road connects to the wider drainage network to be discharged.”

The swale to the north of the access road will not be positively drained. The reason for this is due to the swale going against the natural topography resulting in excessive invert depths (around 3m deep) resulting in large earthworks. The swale will still provide an exceedance flow function however and hence why it is still shown on the plans. The road area in question will drain via a trapped gully system connected to pipes 12.000 and 12.001.

- “The applicant has provided calculations for the 1 in 100 year + 40% climate change event and confirms that the basin size has been increased to provide a total volume of 1305 m³. The applicant has provided post-development network calculations including half drain down times indicating the basin will take approximately 27.13 hours to drain down to half during the 1 in 100 year + 40% climate change event. However, we require half drain down times to be less than 24 hours or evidence that the proposed network can manage for a 1 in 100 + 40% climate change storm followed by a 1 in 30 year event.”*

It can be seen from the Causeway FLOW results (attached to this letter) that the storage volumes within the pond for the 30+0%cc event and 100yr+40% climate change event are as follows;

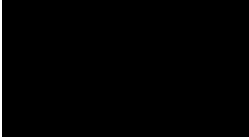
- 1:30yr storm event = 385.35m³
- 1:100yr+40%cc = 799.13m³

Total = 1,185m³

There is a total of 1,305m³ available within the pond, allowing ample storage for both the 30+0%cc event and 100yr+40% climate change to occur consecutively.

We trust the information above is acceptable and allows your concerns to be resolved. If however you have any further queries, please do not hesitate to contact me.

Yours Sincerely,



Dan Martin, BSc, CEng MICE



for **CIVILISTIX LTD**