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Date 5 November 2024

Dear Mr Howard

RE: 24/01371/FP - Hillcrest and Land at Tussocks, The Causeway, Therfield, SG8 9PP

Thank you for your consultation on the above site, received on 4 July 2024. We have reviewed the application as submitted and wish to make the following comments.

This is a full application for erection of seven dwellings (4 x 3-bed and 3 x 4-bed) including creation of vehicular access off The Causeway, carport, parking, landscaping, and associated works following demolition of existing dwelling and outbuildings.

We **object** to this planning application in the absence of an acceptable Flood Risk Assessment (FRA) and Drainage Strategy relating to:

- The development not complying with NPPF, PPG or local policies: *Policy NE8: Sustainable drainage systems (Reducing Flood Risk)*

Reason

To prevent flooding in accordance with National Planning Policy Framework paragraphs 173 and 174 by ensuring the satisfactory management of local flood risk, surface water flow paths, storage, and disposal of surface water from the site in a range of rainfall events and ensuring the SuDS proposed operates as designed for the lifetime of the development.

We will consider reviewing this objection if the following issue is addressed:

1. Further clarification and evidence that the drainage discharge hierarchy has been correctly followed.
2. Further clarification is required over the proposed infiltration rates.
3. Further information relating to the permeable paving.
4. Further information relating to the attenuation tanks.

5. Clarifications on the design of the drainage network shown on the Surface Water Drainage Strategy Drawing (DRD1).
6. Further information within the calculations.
7. Further information on any exceedance flooding, flow paths and ponding areas.
8. Clarification of the ground floor finished floor levels showing sufficient freeboard and mitigation in relation to flood levels, maximum design water levels and proposed external ground levels.
9. Information on the maintenance requirements for the deep bore soakaways (if this is chosen as the final discharge method).

As a minimum, a flood risk assessment needs to show that the development will be safe for its users for the intended lifetime of the development, without increasing flood risk elsewhere, and be sufficiently flood resistant and resilient to the level and nature of the flood risk. Further information on the above points is outlined below.

1. **The applicant is required to provide further information on the proposed infiltration rates and method** – at this stage, the LLFA is not confident that the drainage discharge hierarchy has been followed suitably. It is noted that shallow infiltration testing, of depths between 1.8m and 2.2m has been undertaken, with poor infiltration rates being achieved across 4 of the 5 test locations. The LLFA notes the applicant is proposing deep bore soakaways yet has not provided any evidence to suggest that deep bore soakaways, with an infiltration depth of 23m would be a suitable method of surface water discharge.
 - a. The LLFA requires the applicant to evidence that the drainage discharge hierarchy has been correctly followed, deep bore soakaways should not be used unless all the discharge methods higher up the discharge hierarchy have been sufficiently discounted.
 - b. The LLFA requires further infiltration testing, in the proposed locations, up to depths of 23m to be carried out and submitted (it is noted that the FRA states it will be updated once this infiltration testing is completed) to demonstrate the suitability of deep bore soakaways.
 - c. The LLFA requires evidence as to why deep bore soakaways have been chosen over shallow infiltration in the location of TP05.
2. **Further information relating to the permeable paving** – at this stage, the applicant has submitted very limited information relating to the proposed permeable paving. The applicant is required to provide the following information:
 - a. Cross sections of all permeable paving (please include the attenuation tanks for clarity)
 - b. Invert and cover levels of the permeable paving.
 - c. How the permeable paving drains. The LLFA notes the use of diffuser drains but requires clarification as why some appear to have an orifice plate, but others don't.
 - d. Is the permeable paving a lined system.
 - e. Where the permeable paving drains to.
 - f. What volume of water will be stored within the permeable paving.
 - g. Ensure that all areas of permeable paving are accurately accounted for within the calculations.

- h. The LLFA notes that there is a large area on the Surface Water Drainage Strategy Drawing (DR01) (14 June.2024) that is allocated as permeable paving, however, on the Outline Landscape Proposals drawing (PR271-01) (22.10.2024) this is now proposed as macadam and asphalt surfacing. Please can the applicant provide clarification as to the final surface material as this will have an impact on the drainage strategy and layout.
- 3. **Further information relating to the attenuation tanks** – at this stage, the applicant has submitted very limited information relating to the proposed attenuation tanks. The applicant is required to provide the following information:
 - a. Cross sections of all attenuation tanks (please include the permeable paving for clarity).
 - b. Invert and cover levels of the attenuation tanks.
 - c. How the attenuation tanks are connected into the drainage system – both inflow and outflow locations.
 - d. What volume of water will be stored within the attenuation tanks.
- 4. **Clarifications on the design of the drainage network shown on the Surface Water Drainage Strategy Drawing (DR01)** – at this stage, the LLFA requires the following information from the applicant following our review of the drainage strategy and the drawing provided:
 - a. How will the drainage strategy ensure that there is no increased risk of flooding off site – how will the drainage strategy keep all surface water on site. It is noted that the access road slopes down towards the main road, and while made up of permeable paving, what happens when the permeable paving is at maximum capacity, does surface water flow offsite?
 - b. Why are there two MH1's on the drawing? The one to the north of the site, and one in a central location near the southern storage tank.
 - c. What are the sizes of the deep bore soakaways (if chosen to be the final method of discharge).
 - d. How will the drainage strategy ensure that the deep bore soakaways (if chosen to be the final method of discharge) are able to infiltrate an equal rate considering the network requires all surface water to go via the southern deep bore soakaway.
 - e. What is the runoff rate for the Plots 4, 5, 6 and 7. There is no information in the calculations as to the drainage for these plots.
 - f. Why are only 11 manholes included within the calculations when there appear to be 18?
 - g. All drainage network features must be labelled to match those within the calculations.
 - h. The LLFA notes that there is a large area on the Surface Water Drainage Strategy Drawing (DR01) (14.06.2024) that is allocated as permeable paving, however, on the Outline Landscape Proposals drawing (PR271-01) (22.10.2024) this is now proposed as macadam and asphalt surfacing. The applicant is required to provide clarification as to the final surface material as this will have an impact on the drainage strategy and layout.

5. **Further information within the calculations** – the LLFA notes the use of FEH2022, a CV value of 1 and the submission of the 1% plus 40% climate change allowance event. However, the applicant is required to submit the following information:
- a. 50% (2 year) return period.
 - b. 3.33% (30 year) return period (with and without climate change allowance).
 - c. Confirmation as to whether the car ports have been included within the impermeable area.
 - d. Use of the most conservative infiltration rate based on the infiltration testing that has been or is being undertaken. If using deep bore infiltration, testing must be carried out at the proposed depth to provide an accurate rate.
 - e. Confirmation as to whether the permeable paving is lined as this will determine whether the half drain down time requires are 24 hours or 48 hours. If the permeable paving is lined, a 48 hour half drain down time is accepted, if it is unlined, then a 24 hour half drain down time is the requirement.
 - f. All nodes are required to be included within the calculations to provide an accurate representation of any flooding or surcharging within the network i.e. if the permeable paving is at capacity, will the inflow from plots 4, 6 and 7 cause flooding?
6. **Further information on any exceedance flooding** – the applicant is required to submit a drawing which demonstrates any exceedance flooding from the drainage network. This will need to include the areas in which flood waters will be stored, the depth of any flood water and any exceedance flow arrows. This drawing will also need to include the finished floor levels and finished ground levels.
7. **Clarification of the finished floor and ground levels showing sufficient freeboard and mitigation** – the applicant is required to submit a drawing showing the finished floor levels and the finished ground levels of the whole development. This drawing must show a sufficient level of freeboard to provide suitable mitigation. The requirements are 150mm freeboard between the floor level and any proposed external ground levels and 300mm between the finished floor level and any design water or flood level.
8. **Information on the maintenance requirements for the deep bore soakaways** – the LLFA notes the submission of the maintenance requirements for all other features of the drainage network. The LLFA notes there are no specific requirements outlined with the SuDS Manual for Deep Bore Soakaways, however, as it appears that the soakaways are located within the rear garden of plot 5, the applicant is required to submit information on the accessibility and arrangements for if the deep bore soakaway is to fail to ensure that there is no increased flood risk to plot 5 and the wider development.

Informative

For further advice on what we expect to be contained within the FRA to support an outline planning application, please refer to our Developers Guide and Checklist on our surface water drainage webpage <https://www.hertfordshire.gov.uk/services/recycling-waste-and-environment/water/surface-water-drainage/surface-water-drainage.aspx> this link also includes HCC's policies on SuDS in Hertfordshire.

Yours sincerely

Chris

Chris Bowyer
SuDS and Watercourses Support Officer
Growth & Environment

Annex

The following documents have been reviewed, which have been submitted to support the application:

- Flood Risk Assessment and SuDS Statement (Document Ref.: Hillcrest & Tussucks FRA & SuDS), EAS, 17 June 2024 and Rev A.
- Site Plan (Drawing No.: 478.03), Kingston Studio, 03 June 2024, Revision F.
- Outline Landscape Proposals (Drawing No.: PR271-01), Matt Lee Landscape Architecture, 22 October 2024, Revision G.