Planning And Regulation
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Stevenage BOROUGH COUNCIL

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Technical note: 21/01283/FPM (10-Storey Building, Six Hills Way)

Application No:	21/01283/FPM
Proposal:	Erection of a 10-storey building comprising of 94 no. flats which consists of 11 no. studios, 36 no. 1 bedroom and 47 no. 2 bedroom units, associated parking, access and ancillary works
Location:	North Car Park Corner of Six Hills Way and London Road, Stevenage, SG1 1AT

This review is based upon the information available at the time of the review. Our review has considered the technical content of the information provided but has not extended to review of the drainage modelling or output sheets – we have assumed that the report has been prepared by suitably qualified personnel and undergone appropriate internal review process before issue.

This review follows an earlier response to the same application[1], the proposals for which have since been amended in response to those earlier comments. This TN considers the amendments only.

Overview of documents reviewed

The following documents have been reviewed:

- Letter to Planning and Regulation at Stevenage Borough Council, prepared by Herrington Consulting Limited, 23 May 2022, reference EC/1421/14295;
- Surface Water Management Strategy for the Proposed Development at Six Hills Way, Stevenage, Hertfordshire, prepared by Herrington Consulting Limited for L.C. (Herts) Ltd, 23 May 2022 and Issue 5 (Rev 3) (parts 1 and 2); and Email thread between Creative Ideas & Architecture Office Ltd and Hydrock (applicant's structural engineers who prepared the Basement Assessment), dated 9 and 13 June 2022), forwarded to the case officer at Stevenage Borough Council.

Site setting

The site is currently part of the hardstanding car park for Six Hills House. The Network Rail East Coast Mainline passes along the Western Boundary of the site. To the north is Six Hills Way public highway, east is Six Hills Common and London Road, and to the south is the rest of the existing car park for Six Hills House. The development proposals are for the erection of a 10-storey building and associated works.

[1] Stevenage Borough Council, 2022. Technical note: 21/01283/FPM (10-Storey Building, Six Hills Way). Document Ref: 808065-WOOD-TN-OW-00004_P01, prepared by Wood, March 2022.

Review of updated information provided

Updated drainage strategy

We welcome the comprehensive update to the Surface Water Management Strategy and the accompanying letter which sought to address each of the concerns raised in response to the original Surface Water Management Strategy in turn. Following review of the Herrington Reports, we note that:

1. The drainage system has been designed for the 1 in 100 +40% climate change rainfall event. The reports indicate that testing of the 1 in 1000 event and a blockage event indicate no flooding on site, thus addressing the requirements to consider both flood risk on-site and flood risk elsewhere.

2. A blue roof has been incorporated into the Surface Water Management Strategy, which would provide attenuation for the majority of the proposed development. We gather that two areas of blue roof are proposed, providing attenuation capacities of 68.7m^3 (peak discharge rate of 0.9 l/s) and 10.7m^3 (peak discharge rate of 0.8 l/s). The blue roof would be combined with a green roof to provide multiple benefits.

3. An underground tank would still be required (under the building) to limit discharges for other areas of development, but this has been reduced in size and located more than 20m away from the Network Rail boundary and outside of the sewer easement boundary. We gather that an attenuation capacity of 10.69 m^3 would be provided, with rates limited to 2.5 l/s (1 in 2 year event), 3.8 l/s 1 in 30 year event) and 4.4 l/s (1 in 100 + 40% climate change).

4. For rainfall events that exceed the design event (1 in 100 + 40%), an overflow pipe from the underground tank (150mm) will activate and will discharge water directly into the sewer. The reports advise that the system has been tested for both the 1 in 1000 event and for a blocked flow control and indicates no flooding would occur under these scenarios. There appears to be a typo for the elevation of the overflow pipe in the updated Indicative Drainage Layout drawing included in Appendix A.4, we assume this should read 89.43m AOD, rather than 59.43 m AOD.

5. Permeable paving has been provided in the north-western corner of the site. It is unclear as to whether the permeable paving indicated along the northern side of the site is intended to be delivered as part of the development – it is outside of the red line as indicated in the development proposal drawings included in Appendix A.1 of the updated Surface Water Management Strategy.

6. It is indicated that the basement assessment would need to be updated to reflect the latest Surface Water Management Strategy proposals, including the incorporation of the Blue Roof. However, as discussed in Section 0 below, subsequent correspondence provided by the applicant's structural engineers indicate that an update is not necessary.

7. Thames Water correspondence relating to the build-over agreement for the existing sewer is progressing, which has been taken by the applicant as an agreement in principle to the development.

8. The updated Surface Water Management Strategy has been informed by site investigations and CCTV surveys.

9. The applicant has chosen not to extend the red line boundary to include the location of the tank as indicated in the 2016 application. This choice not to extend the red line into an area covered by the blue line boundary has resulted in *'insufficient space within the red line boundary to [provide an infiltration SuDS feature and still] comply with Building Regulations'*. The reason for not extending the red line has not been given.

10. The statement that the ground is considered unsuitable based on low infiltration rates and the risk of mobilising contaminants in the soil, as provided in the original Surface

Water Management Strategy, but unsupported by any details regarding the ground investigation, has been repeated.

11. The risk of groundwater flooding is considered by the applicant to be low on the basis of groundwater being encountered at approximately 15m below ground level. It has not been possible to verify this because Appendix A.6 (Site Investigations) was omitted from the updated Surface Water Management Strategy. Given the potential major implications to the basement design that groundwater could pose, and the presence of a basement assessment to accompany the application, we assume that this matter has been suitably considered by the applicant and would be revisited and mitigated as part of the detailed design if necessary.

12. Estimated betterment has been recalculated but has still been overestimated. Existing rates have still been calculated by the modified rational method, which, as previously advised, is not an approach recommended by the SuDS Manual. Furthermore, the Thames Water advice that the existing rate should be considered to be 1 in 20 year rate has not been taken into account. Notwithstanding this, the proposed discharge rates are deemed to be suitably low such that further objection on this matter is unlikely to result in any changes being necessary to the design.

13. Inspection and maintenance is to be secured as part of the Section 106.

14. Section 4.8 of the updated Surface Water Management Strategy still indicates that flooding of the ground floor car park could occur during exceedance events, despite the subsequent paragraph indicating that no flooding would occur during the 1 in 1000 or blocked flow control scenarios. The potential need for measures to prevent exceedance rainfall events flowing into the basement is not mentioned.

With the exception of the potential for infiltration, for which no reason has been given as to why the red line could not be extended into an area covered by the blue line (and the 2016 application) thus opening the possibility that infiltration could be possible, all other matters have been addressed sufficiently to enable conditional approval to be recommended.

Structural capability of the proposals to accommodate the blue roof

The updated drainage strategy includes a blue roof, which provides the storage attenuation for the 1 in 100 + 40% climate change rainfall event on the roof of the building. The Surface Water Management Strategy report indicated that an update to the Basement Assessment (and wider structural design) may be necessary to accommodate the additional loads. However, subsequent emails forwarded to the Council from the applicant's structural engineers (Hydrock to Creative Ideas & Architecture Office Ltd, 13 June 2022) who prepared the Basement Assessment indicate that no update would be necessary, on the basis that *"the current design can absorb the impact of the blue roof on the loads"*. It was acknowledged that *"the 10th floor roof loading will need to be increased locally to allow for this live load event."* It is the responsibility of the applicant/developer to ensure that the structural design of the building is appropriate to accommodate a fully laden blue roof.

Stakeholders

It remains the responsibility of the applicant to consult, gain agreement and obtain consents as necessary from all relevant stakeholders as per their advice. This includes Network Rail's advice (as referred to in our response to the original Surface Water Management Strategy) that *"any attenuation scheme within 30m of the railway boundary must be approved by Network Rail in advance"* and with Thames Water Utilities Limited in relation to build over of their existing sewers and the proposed connection for discharge of surface water.

Conditions

Condition 1 – in accordance with the approved Surface Water Management Strategy

The development permitted by this planning permission shall be carried out in accordance with the approved Surface Water Management Strategy carried out by Herrington Consulting Limited dated 23 May 2022 (Issue 5, Revision 3).

Reason: To reduce the risk of flooding to the proposed development and future occupants; to ensure no increase in flood risk elsewhere and deliver betterment wherever possible by ensuring the satisfactory management and disposal of surface water from the site; to maximise the use of SuDS in the interests of mitigating the risk of flooding to the site itself and downstream; to prevent pollutants entering the public water supply and nearby watercourses; and to maximise the sustainability of the development.

Condition 2 – drainage scheme design

No development shall take place (including site clearance) until a final detailed design for the drainage scheme for the site, prepared in accordance with the approved Surface Water Management Strategy carried out by Herrington Consulting Limited dated 23 May 2022 (Issue 5, Revision 3), has been submitted to and approved in writing by the Local Planning Authority. The scheme shall be based on the following principles:

- limiting the surface water run off generated by the 1 in 100 year + 40% climate change critical storm to a rate of 4.4 l/s or less, in accordance with an agreement from the relevant body to whom discharges would occur
- providing attenuation on-site for all rainfall events up to and including the 1 in 100 year + 40% climate change event; and
- a combined blue and green roof for the main building and permeable paving in the northwest corner.

The scheme shall also provide the following:

- an updated detailed surface water drainage plan, showing all proposed discharge points, SuDS features and pipe runs (with sizes);
- detailed engineered drawings of the proposed SuDS features including their size, volume, depth and any inlet and outlet features, including any connecting pipe runs along, with all corresponding detailed calculations/modelling;
- Details of groundwater management measures, as necessary;
- updated surface water drainage calculations and modelling for all rainfall events up to and including the 1 in 100 year plus 40% climate change event;
- updated detailed exceedance flow path drawings for surface water for events greater than the 1 in 100 year plus 40% climate change event, including any measures necessary to ensure that run-off into the basement(s) would not occur;
- evidence of agreement (of principle and rates) from Thames Water to discharge to their sewer network;
- evidence of agreement from Network Rail for any element of the surface water drainage scheme within 30m of the railway boundary;
- evidence of the build-over agreement with Thames Water for the existing sewer.

The approved drainage scheme shall be implemented in full prior to the beneficial occupation of the development to which this permission relates and shall be permanently retained as such thereafter unless otherwise agreed in writing by the Local Planning Authority.

Reason: To reduce the risk of flooding to the proposed development and future occupants; to ensure no increase in flood risk elsewhere and deliver betterment wherever possible by ensuring the satisfactory management and disposal of surface water from the site; to

maximise the use of SuDS in the interests of mitigating the risk of flooding to the site itself and downstream; to prevent pollutants entering the public water supply and nearby watercourses; and to maximise the sustainability of the development.

Condition 3 – SuDS Maintenance
Prior to the beneficial occupation of the development to which this permission relates, a management and maintenance plan for the approved SuDS features and drainage network must be submitted to and approved in writing by the Local Planning Authority. The scheme shall include:

- provision of a complete set of as built drawings, including the final drainage layout for the site drainage network;
- maintenance and operational activities;
- arrangements for adoption; and,
- any other measures necessary to secure the operation of the scheme throughout its lifetime.

The approved plan shall be fully implemented from the date of approval and thereafter for the lifetime of the development unless otherwise agreed in writing by the Local Planning Authority.
Reason: To maximise the use of SuDS in the interests of mitigating the risk of flooding to the site itself and downstream; to prevent pollutants entering the public water supply and nearby watercourses; and to maximise the sustainability of the development.

Informative

For further advice on what should be covered in a Drainage Strategy can be found at the following locations online

i. Hertfordshire County Council, Surface water drainage webpage, including LFRMS2 (including SuDS policies), guidance for developers, and ordinary watercourses. Available online at https://www.hertfordshire.gov.uk/services/recycling-waste-and-environment/water/surface-water-drainage/surface-water-drainage.aspx#DynamicJumpMenuManager_1_Anchor_2.

    a. Further information on the requirements for a full planning application can be found at https://www.hertfordshire.gov.uk/media-library/documents/environment-and-planning/water/surface-water-drainage/guidance-for-developers.pdf. Appendix 1, developer's checklist

ii. Stevenage Borough Council, Lead Local Flood Authority (LLFA) webpage, surface water drainage advice, available online https://www.stevenage.gov.uk/planning-and-building-control/planning/lead-local-flood-authority-llfa.

iii. Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government, Planning Practice Guidance – sustainable drainage systems. Available online https://www.gov.uk/guidance/flood-risk-and-coastal-change#sustainable-drainage-systems.

iv. CIRIA SuDS Manual (C753), Available for free download online. https://www.ciria.org/ItemDetail?iProductCode=C753&Category=BOOK&WebsiteKey=3f18c87a-d62b-4eca-8ef4-9b09309c1c91