

08 December 2016

Mr. David Eaves.
Principal Planning Officer
Havant Borough Council
Public Service Plaza
Civic Centre Road
Havant
PO9 2AX

Dear Mr. Eaves,

Re: Larcombe Road Application - continuing issues in relation to parking of contractors vehicles along Larcombe Road

Thank you for the latest comments in relation to foul and surface water drainage at the above site, received from Hampshire County Council (dated 02 December 2016) and Southern Water (dated 29 November 2016).

Given the various updates and amendments to the planning application since the original submission in April 2016 you asked for updated drainage information via email on 30 September 2016 including; drainage layout; longitudinal sections; and other drainage technical information and you were going to re-consult on these matters.

On 08 November you were sent longitudinal sections for surface and foul and the drainage design (engineering layout Rev B) which were informed by the drainage assessment.

The HCC consultation response (dated 02 December) states it was based on the Drainage Assessment. Is it correct to assume the additional information requested as being required to determine the application was not forwarded to HCC? It is considered that the information submitted addressed nearly all of the concerns raised within the consultation responses.

The comments below are based upon the following documents:

- Purbrook Park School Drainage Assessment (April 2016)
- Engineering Layout 5444:01 Rev E
- Longitudinal Sections 5444 10 Rev A
- Drainage Calculations 07.12.16 40%

HCC comments:

Evidence that the applicant understands the sensitivity of any of the discharge points in relation to the sensitivity of the receptor.

The proposed surface water system discharges to the existing Southern Water network, which Southern Water confirms has adequate spare capacity to accommodate the additional 5l/sec. A copy of this letter is enclosed.

The existing flow paths of undeveloped sites considering the topography of the site.

The topography of the site is considered within paragraph 3.4 of the Drainage Assessment. Existing flow paths are detailed within the overland flood flow plan. In the event that exceeds a 1 in 100 + 40% storm event the overland water will be contained by the 125mm kerb upstand that is located at the perimeter of the highway. The gulleys are located at the low points in the road.

Areas that may have been affected by failures in the existing drainage regime.

As it is Greenfield and assumed infiltration to ground there is no existing regime with potential failures apart from additional groundwater.

Considering the proposed SuDS techniques which involve the pumping station to transfer surface water to the public sewer system, further information is required to demonstrate that the feasibility of more sustainable SuDS techniques (e.g. Green roof, permeable pavement have been tested.

There is no pumping station in the proposed surface water or foul sewer networks. Paragraph 4.5 of the Drainage Assessment considers the SuDS options but given the soil make up, infiltration methods cannot be used on this site.

Sufficient information on the correct number of treatment stages in the surface water management train, for further information see the Ciria SuDS Manual (C753)

Paragraph 4.5 of the drainage assessment by enzygo addresses the SUDS treatments that could be utilised within the proposed design.

Our estimates indicate that the attenuation storage volume required dealing with the excess surface water runoff rate and volume due to the development would be between 230-250 cubic metres. Depending on the volume control approach adopted (i.e. with or without the long term storage) the maximum site discharge rate can be based on the Greenfield 100 year value (for a 1 in 100 year event), or greater rate of (Qbar or 2) l/s/ha, respectively. In any circumstances, a minimum discharge rate of 5l/sec applies to any site. Where infiltration and/or rainwater harvesting is used on the site this element is taken into account in the assessment of the requirements of long term storage volume.

The proposed impermeable area was stated in the Drainage Assessment as 3,800m². The actual proposal currently stands at 3,220 m². A maximum discharge rate of 5l/sec has been used and the layout and associated Micro Drainage calculations prove adequate attenuation is provided.

Upon the revision of the surface water runoff and storage volume calculations the proposed SuDS techniques adopted including the size, location and dimension may require an amendment.

No further amendments to attenuation are required, and therefore no changes layout are proposed.

Evidence that the exceedance flows and runoff in excess of design criteria have been considered – calculations and plans should be provided to show where above ground flooding might occur and where this would pool and flow.

An overland flood route layout will be provided to indicate exceedance flow routes.

Information on general maintenance regimes of the surface water management train including SuDS features, and who is going to be undertaking it – evidence that those maintaining the drainage system are in discussion with the developer.

A maintenance scheme has been provided with this response.

Please note, surface water drainage proposals will need to be assessed in relation to the impacts of climate change. The appropriate allowances are detailed in the latest advice from the Environment Agency Flood Risk assessments: climate change allowances. This updates previous climate change allowances to support NPPF. The proposed system should be tested for peak rainfall intensity for central and upper band in relation to the relevant development lifetime.

Micro Drainage calculations show that attenuation volume is sufficient to accommodate a 1:100yr event plus a 30% additional climate change allowance, plus a further 10% for urban creep.

We would also expect to see suitable allowance for urban creep, this factor reflects the future predicted increase of urban development, and with it, the increase of impervious area. An allowance of 10% on impermeable areas is suitable in relation to confirming that the proposed system is acceptable.

The revised drainage proposal has included an allowance of 10% for urban creep.

Where the proposals are connecting to an existing drainage system it is likely that the authorities responsible for maintaining those systems will have their own design requirements. These requirements will need to be reviewed and agreed as part of any surface water drainage scheme.

As part of the developments progress, a Section 106 application will be submitted in order to gain the necessary consents with Southern Water to discharge both Surface Water and Foul sewers into the existing networks. During the design of the development consideration has been given to what is expected of us, the developer, in order for us to meet their requirements. The design of sewer is to Sewers for Adoption and in line with their expectations as set out by the SFA document.

Please note that the mechanism for securing long-term maintenance will need to be considered and agreed between the applicant and the Local Planning Authority. This may involve discussions with those adopting and/or maintaining the proposed systems, which could include the Highways Authority, Planning Authority, Parish Councils, Water Companies and private management companies.

A private management company will be engaged to maintain the private elements of the proposed drainage network. A maintenance regime will be set out in agreement with Local Planning Authority and is proposed to be secured through a legal agreement.

Southern Water comments:

Any adoption of sewers proposals should be agreed and approved by Southern Water under Section 104 of the Water Industry Act before implementing on site. All works should comply with Sewers for Adoption Standards.

A Section 104 application has been submitted with regards to the adoption of two pipe runs of the foul sewer.

No new soakaways, swales, ponds, watercourses or any other surface water retaining or conveying features should be located within 5 metres of a public sewer (also adoptable) sewers.

The attenuation tank adjacent to the proposed adopted foul network is not an infiltration tank and will not in any way affect the flows/capacity of the adoptable foul pipes.

Please note that the construction of permeable paving over adoptable sewers will not be acceptable to Southern Water. The design of drainage should ensure that no land drainage or groundwater is to enter public sewers network.

There is no permeable paving proposed in this development.

Our initial investigations indicate that Southern Water can provide foul and surface water sewage disposal to service the proposed development. Southern Water requires a formal application for a connection to the public sewer to be made by the applicant or developer.

A section 106 application to connect to public sewer will be made once planning approval has been gained.

It is the responsibility of the developer to make provision for the disposal of surface water. Part H3 of the Building Regulations prioritises the means of surface water disposal in order

- A Adequate soakaway or infiltration system***
- B Water Course***
- C Where neither of the above is practicable sewer***

Southern Water supports this stance and seeks through appropriate Planning Conditions to ensure that appropriate means of surface water disposal are proposed for each development. It is important that discharge to sewers occurs only where necessary and where adequate capacity exists to serve the development. When it is proposed to connect to a public sewer the prior approval of Southern Water is required.

Below ground soil conditions have been assessed and a soils report produced. This and infiltration tests undertaken prove any infiltration techniques to discharge water are deemed not an option. There is no local water course into which we can discharge, which means the only method of discharge is to the public sewer network with flow rate restricted by Greenfield flow rates.

Under current legislation and guidance SUDS rely upon facilities which are not adoptable by the sewage undertakers. Therefore, the applicant will need to ensure that arrangements exist for the long term maintenance of the SUDS facilities. It is critical that the effectiveness of these systems are maintained in perpetuity. Good management will avoid flooding from the proposed surface water system, which may result in inundation of the foul sewerage system. Thus, where SUDS scheme is to be implemented, the drainage details submitted to the Local Planning Authority should:

- Specify the responsibilities of each party for the implementation of the SUDS schemes***
- Specify a timetable for implementation***
- Provide a management and maintenance plan for the lifetime of the development.***

This should include the arrangements for adoption by any public authority or statutory undertaker and any other arrangements to secure the operation of the scheme throughout its lifetime.

A private management company will be engaged to maintain the private elements of the proposed drainage network. A maintenance regime will be set out in agreement with Local Planning Authority and is proposed to be secured through a legal agreement.

Due to vibration, noise and potential odour generated by sewage pumping stations, no habitable rooms should be located closer than 15 metres to the boundary of a proposed pumping station site and the pumping station layout and the drainage details should comply with Sewers for Adoption Standards.

There is no pumping station in the proposed development drainage design.

The proposed development would lie within a Source Protection Zone as defined under the Environment Agency's Groundwater Protection Policy. Southern Water will relay on your consultations with the Environment Agency to ensure the protection of the public water supply source.

If you require any additional information in relation to the above, please do not hesitate to contact me on my direct line number: 01329 514324 or via email at david.buczynskyj@persimmonhomes.com

Yours sincerely
for Persimmon Homes South Coast



Dave Buczynskyj
Development Planner