



From: Paul Cann <Paul.Cann@arun.gov.uk>
Sent: 06 May 2022 16:00
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Sarah Burrow <Sarah.Burrow@arun.gov.uk>
Subject: RE: Planning Consultation on: BN/57/22/DOC

Please see below our formal response, prepared by our external consultants;

At this stage we would not recommend discharge of conditions until the following comments are addressed.

1. *A full detailed design package, with construction details for each element of the design, will be required to discharge conditions.*

This must be in accordance with the guidance notes: Drainage Planning Consultations | Arun District Council, and at present the details provided are insufficient to satisfy this.

In addition to the details requested in the checklist, we would also expect specific details to include the following:

- *The drainage design to include **all** drainage features, e.g. manholes, catchpits etc.*
- *Construction detail drawings of attenuation tanks, flow control devices, pipe bed and surround, headwall, and catchpits (which should be located upstream of the tank).*
- *Construction detail drawings to include any vent structures for the tank, and/or other similar features. Vents will need to be located above the design flood level, to prevent water ingress into the tank during a flood.*
- *The permeable paving construction detail must include material specifications, e.g. type of stone for sub-base.*
- *Details of the downpipe covers, which have been referenced in previous correspondence.*
- *Details of the water butt, which have been referenced in previous correspondence. The drainage drawing should show details of the inlet, outlet, overflow system, and stand provided.*
- *The minimum orifice diameter for the Hydro-Brake and any flow control device will need to be 75mm, or discharge at a flow rate of 2.0l/s.*
- *We also note that the 'sump available' option has been ticked in the drainage calculations. If a Hydro-Brake with sump available is specified, as is indicated by the calculations, this sump will need to be included on the drainage drawings. Please note that this sump cannot be substituted for the upstream sediment traps, that are also required.*

2. *Due to the risk of flooding and expected high groundwater levels, flotation of the drainage system is a critical consideration. Buoyancy calculations for all elements of the proposed drainage will be required, and will need to consider worst case groundwater levels, as well as expected flood depths from pluvial and fluvial flooding.*

3. *The infiltration rate determined from onsite testing is above the minimum cut-off for using infiltration, and/or combined infiltration systems (i.e. Type-B SuDS), and therefore, infiltration could be considered suitable. However, high groundwater levels in winter are likely to reduce this rate. In the absence of groundwater monitoring and additional testing to confirm this over the winter period, there remains uncertainty whether infiltration will be available at this location throughout the year. On this basis, we would expect:*
- The results of groundwater monitoring for the complete winter period to be provided.*
 - Infiltration to be used if groundwater levels throughout winter are below the base of the infiltration SuDS.*
4. *In addition, regarding the infiltration testing, the photographs and calculation sheets for the infiltration rates indicate the trial pit to be ~1.6m deep. The results provided suggest the water level drops around 1m, indicating that the testing may not have been carried out down to the point at which the trial pit is 75% empty – i.e. the level that is required by BRE365. Clarification should be provided to confirm that the test results are compliant with BRE365, or whether additional testing is required.*
5. *If storage is proposed that outfalls to a watercourse, the design should take into consideration the risk of the system becoming hydraulic locked (i.e. the outfall unable to discharge freely or surcharged). Flood depths and the expected flood frequency from both the design pluvial and fluvial flood events should be provided, and the design of the drainage system should consider the implication of rising water levels in the adjacent watercourse.*
- The calculations provided will need to account for the design flood level, expected duration of elevated water levels, and the expected frequency of a flood event.*
6. *Maintenance*
- The maintenance plan should include measures to remediate the drainage system if it becomes inundated following a flood event.*
 - The maintenance plan should consider the maintenance burden and costs from flooding for the entire design lifetime of the development.*
 - All elements of the drainage system (included within the construction drawings) will need to be considered within the maintenance plan.*
 - Maintenance appears to be tasked to the homeowner. We would therefore recommend that a plan to assist the homeowner with future maintenance tasks is included within the maintenance plan.*
7. *A plan showing the location of the groundwater and infiltration test pit / borehole locations has not been provided. Please provide this information.*
8. *Details of the existing watercourse and new outfall will need to be provided. More specifically the following should be considered;*
- The information submitted will need to show the design has taken account of/is in accordance with any watercourse consent requirements.*
 - The impact the development will have on the existing watercourse (e.g. the impact if the channel is lined and infiltration is proposed).*
 - The design of the outfall will require a flap valve.*

9. *The Exceedance Flow Rates plan (Appendix J) should include confirmation that flows will not be directed towards the rear patio doors, if these doors are designed to provide flush access (typically required under Building Regulations Part M). If these doors include a raised threshold of 150mm, or greater, this additional detail would not be required.*
10. *We will need to be satisfied the sufficient freeboard between the watercourse bed and the invert level of the outlet pipe and headwall is provided. This should be detailed as part of the design / construction drawings. This detail should be based off surveyed levels for the site and watercourse. Interpolated, low resolution, OS or LIDAR data is unlikely to provide a sufficient level of accuracy for this purpose.*
11. *Before conditions can be discharged, consent for the watercourse connection needs to be obtained from the Environment Agency (through the Flood Risk Activity Permit process). Evidence should be provided to show this consent has been obtained, which includes all works near to the watercourse. The Environment Agency should also be made aware that the proposals may result in the displacement of floodwater and mitigation for this may be required.*

Lastly, as previously mentioned, Arun DC does not support the development here, as surface water drainage should be located outside of areas at risk of flooding, which clearly is not possible at this site. Therefore, it is recognised that the design will never be fully compliant.

Kind regards,

Stephen Hayward BSc (Hons) ARSM MCIWEM

Herrington Consulting Ltd.



Regards

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Engineering Services

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From: Land Drainage <Land_Drainage@arun.gov.uk>
Sent: 04 May 2022 09:04
To: Paul Cann <Paul.Cann@arun.gov.uk>
Subject: FW: Planning Consultation on: BN/57/22/DOC

From: Planning.Responses <Planning.Responses@arun.gov.uk>
Sent: Wednesday, May 4, 2022 8:03:36 AM (UTC+00:00) Monrovia, Reykjavik
To: Land Drainage <Land.Drainage@arun.gov.uk>
Subject: Planning Consultation on: BN/57/22/DOC

To: **Engineers (Drainage)**

NOTIFICATION FROM ARUN DISTRICT COUNCIL

TOWN AND COUNTRY PLANNING ACT 1990

Application No: BN/57/22/DOC
Registered: 29th April 2022
Site Address: Land adjacent to 49 Warren Way Barnham PO22 0JX
Description of Works: Approval of details reserved by condition imposed under ref BN/152/20/PL relating to Condition Nos 3 - surface water drainage and 4 - discharge flows to watercourses.

The Council have received the above application to discharge conditions. I shall be pleased to receive any observations you may wish to make in respect of those conditions relating to your field of expertise.

[Click here to view the Discharge of Condition application](#)

[Click here to view conditions on original application - click on decision tab](#)

Should you wish to make any comments click on the link www.arun.gov.uk/planning and click into ?Enter Comment? or if this is not possible email your response to planning.responses@arun.gov.uk by **18th May 2022**.

Please be aware that any comments you may make will be available on our website so please do not insert personal details or signatures on your reply.

In the absence of a reply within the period stated, I shall assume that you have no observations to make.

Yours sincerely

Amber Willard

Planning Case Officer- Arun District Council

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PLC/OND/22 (008) 2022