

From: Amanda Scholes on behalf of Planning.Responses
Sent: 17 February 2021 09:48
To: Planning Scanning
Subject: FW: Planning Consultation on: Y/148/20/DOC

Amanda Scholes

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From: Laura Gibbons <Laura.Gibbons@arun.gov.uk>
Sent: 16 February 2021 13:49
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Simon Davis <Simon.Davis@arun.gov.uk>
Subject: RE: Planning Consultation on: Y/148/20/DOC

Dear Simon,

Thank you for consulting us regarding this application to discharge drainage conditions, we have the following comments.

Condition 12- surface water drainage design

The applicant has supplied further information to that currently available on the portal. Below is full details of our comments. We do not recommend discharge of condition 12 at this time.

Key

ADC comment 05/01/21
CEP Response 05/01/21
ADC comment 12/01/21
CEP Response 02/02/21
ADC Comment 16/02/21
~~Closed comment~~

~~1. You have indicated that sub-bases will be stepped in several locations and that baffles will be used. The construction detail says these baffles are to have a minimum height of 250mm. You~~

~~have not allowed for these baffles in calculations. I have completed some hand calculations based upon baffles at 250mm in Area B and it appears that flooding would occur at the bottom. Please could you review all required baffle heights.~~

~~The sub-catchment baffles have been removed and a flat formation will be introduced as per the main catchments. Updated calculations are provided to reflect the new formation level where required. Okay, you didnt need to remove them just re-consider heights, but the solution you have provided technically works.~~

Noted.

~~2. Some areas appear to achieve insufficient storage depths in reality. I.e. taking invert levels and construction depths the required formation level exceeds that stated on plan. Please review.~~

~~We have reviewed this and updated some catchments where the lowering of formation levels is required to achieve the minimum 450mm thickness throughout to provide sufficient thickness for an assumed CBR value of between 2-5%. Other than Catchment F and H which require 477mm and 505mm thickness of voided subbase, surface water storage for all other catchments require between 180mm to 413mm of void subbase for the attenuation of surface water. A flat formation is to be used throughout all catchments and the construction detail on Drawing 4501B has been updated. Now okay.~~

OK.

3. An urbanisation allowance has not been applied. Please apply an appropriate allowance.

An 'urban creep' allowance of 10% have been added to all roof areas within the revised calculations attached. Catchment A comprises permeable paving only. *Okay, when full revised details pack is submitted please include and updated catchment areas diagram.*

OK. We have included the 10% urban creep for roof areas in brackets on the catchment plan attached, which is reflected in the calculations. *Okay.*

4. A factor of safety of 2 has been used throughout. This is low. We would like to see a factor of safety of 4 applied to catchment areas greater than 1000m². We see this as a substantial compromise upon the table contained within our checklist.

As per Section 25.6 of CIRIA C753 guidance engineering judgement has been used to determine that the Factor of Safety of 2 is sufficient when full BRE 365 testing has been completed during the winter months. The table referenced within the Arun District Council checklist uses modified values from Table 25.2 contained within SuDS Manual C753 which includes a note stating 'Note: not relevant for BRE Method' as per the attached screenshot. This is therefore not considered to be applicable as we are not designing using Betless (1996) and therefore the design is fully in accordance with CIRIA C753. A Factor of Safety of 2 is more than sufficient in this case given the reasons stated. *You are not using the BRE method for design, as you are only using the base. Therefore please comply with previous requirement.*

Following our discussions we have updated all calculations to include a Factor of Safety of 4 and updated subbase depth accordingly. This has increased subbase depth by a maximum of 70mm, which is in Catchment H. As discussed the half drain time for the 1 in 100 plus 40% storm event is increased to almost 33 hours which was agreed as acceptable during our recent meeting. The drawings have been updated to reflect this change. *This is not an entirely accurate representation of our discussions. Features must half drain within 24 hours for the 1 in 10 year plus 40% cc event, as detailed this is the absolute minimum requirement and can be applied instead of the 100 year plus cc event when agreed by the local engineer. Please supply half drain times for the 1 in 10 year plus cc event for all features where half drain time exceeds 24 hours for the 1 in 100 year plus cc event.*

Catchment F has a FOS of 2 applied in calculations.

5. I note that in areas G and H you are proposing to locally deepen the sub-base around diffusers. Inlets should be set above the 1 in 10 year plus 40% cc event water level, they certainly should not be set below the base. Please reconsider the design here and check all areas have inlets set above the 1 in 10 year plus 40% climate change water level.

Further to the revisions above we have removed the locally thickening with the diffuser tanks have now been placed just above the formation level in these catchments, which is the highest point the diffuser tank can be set to ensure that minimum pipe falls and cover can be achieved. There are many areas where incoming connections are set below the 1 in 10 year, let alone 1 in 10 year plus 40% water level. This is not acceptable, please review. There is even one diffuser tank proposed below formation level. I note your comments about minimum falls, however your current proposals do not meet requirements. You may need to take some of the downpipes to more local features in some locations.

All diffusers are now either at or above formation level as discussed. This has been accepted elsewhere by Arun District Council including on Planning Application A/79/20/DOC approved in July 2020. Policy requirement for major applications is to have all incoming connections set above the 1 in 10 year plus climate change event water level. The policy requirement comes from both the suds manual and BRE365. The suds manual references that incoming flow to infiltrating structures should be free and unimpeded. BRE365 makes you calculate the storage volume required between the base of the soakaway and the incoming invert for the 10 year event (based on the fact this is the design event in this section of the guidance), specifically "Storage must equal or be greater than inflow minus outflow, defined above, and is the required effective volume available between the base of the soakaway and the invert of the drain discharging to the soakaway.". We acknowledge that on sites it will not always be possible to have the invert level above the 1 in 100 year plus climate change event storage, but do require flow to be free and unimpeded for more frequent events. Please demonstrate that your design meets policy requirements.

I note that pipe falls of 150 diameter pipes are at 1:167, this is below the gradient required to achieve 1m/s self-cleansing velocity. Please ensure all pipes achieve minimum falls.

~~6. Do you have the peak seasonal groundwater level at BH4 to mAOD? It appears that the base level of area G is very close to seasonal peak level here.~~

~~The ground level at BH4 was sited at approximately 6.4m AOD as identified on the Existing Site Layout Plan on Drawing 2 of the Appendices of the Discharge of Conditions Technical Note sent to you on Monday 4 January 2021. This indicates a peak water level of approximately 5.15m AOD; formation levels in this area are at 5.8m AOD as existing ground levels increase to 6.5m AOD immediately to the north of the of where BH4 was sited. Okay.~~

OK.

7. Please provide an exceedance flows drawing.

This is provide in on Drawing 05 of the Discharge of Conditions Technical Note sent to you on Monday 4 January 2021. It should be noted that this scenario would only occur if there were a storm event larger than the 1:100 with a 40% climate change allowance, which has been used as the design event in this case and is regularly referred to as the 'exceedance event'. *Apologies this does not load well for me due to the file size of the technical note. It only seems to show arrows off site. Please also indicate how exceedance flow will safely flow through the site.*

We have updated the exceedance flow plan as requested, the latest plan is attached. Okay.

8. Is terram to be provided to separate the sub-base from the clean stone on the permeable paving?

Yes, this has been provided on the latest revision of Drawing 1501B Construction Details which is attached. Okay. *The baffle is stated to always be 450mm deep, yet you have two catchments where water level will exceed this. Should the baffle height be adjusted in these two catchments?* We have updated the construction detail and included a note that the baffle height will vary based on the minimum depth of the subbase shown on the General Arrangement drawing. Okay.

9. How is the formation to be protected during construction?

This is referenced within Section 3.3 of the Discharge of Conditions Technical Note sent to you Monday 4 January 2021. *Please include a during construction detail on the detail drawings along with a note explaining at what stage the final construction is required. Are you confident that*

during construction you will not increase flood risk? Please also elaborate on when it is required for the final construction to be built.

We have updated this detail which provides a permeable surface during the construction phase, which will not only ensure that flood risk does not increase during construction but will also provide additional capacity beneath surface level compared to the existing made ground. The sacrificial layer will be removed from each area prior to the installation of the final geotextile, 3-6mm clean stone and block paving surface finish being applied. Okay.

~~10. Please detail how the maintenance will be funded, e.g. charge levied upon residents.~~

~~Yes, this has been revised within the updated Drainage Maintenance Manual which will follow on from this email. Okay.~~

OK.

~~11. Please include requirements for monitoring of weed growth and removal from permeable paving.~~

~~Added to attached Drainage Maintenance Manual. Okay.~~

OK.

~~12. Are service trenches required for the foul drainage?~~

~~No service trenches are required for the foul drainage. Okay.~~

OK.

Condition 14- maintenance and management

It is not appropriate to recommend discharge of this condition until the drainage design has been agreed.

Kind regards,

Laura Gibbons

Drainage Engineer

Engineering Services

Please note that I work Tuesdays 08:00-16:00 for Arun only.



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Arun District Council, Civic Centre, Maltravers Rd, Littlehampton, West Sussex, BN17 5LF

From: Planning.Responses <Planning.Responses@arun.gov.uk>

Sent: 05 January 2021 17:22

To: Land Drainage <Land.Drainage@arun.gov.uk>

Subject: Planning Consultation on: Y/148/20/DOC

To: **Engineers (Drainage)**

NOTIFICATION FROM ARUN DISTRICT COUNCIL

TOWN AND COUNTRY PLANNING ACT 1990

Application No: Y/148/20/DOC
Registered: 23rd December 2020
Site Address: Bonhams Field Main Road Yapton BN18 0DX
Description of Works: Approval of details reserved by condition imposed under ref Y/1/17/OUT relating to Condition Nos 12 - surface water drainage scheme, 14 - maintenance & management of SuDs and 16 - drainage strategy.

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 **19th January 2021**.

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

Mr S Davis

Planning Case Officer- Arun District Council

Telephone: 01903 737874

Email: Simon.Davis@arun.gov.uk

PLCOND00 (ODS) 2020