

Engineers Comments Regarding Surface Water Drainage

Application Reference:	AL/6/25/DOC	Reviewer Reference:	ADC/EXT4
Planning Officer:	Hannah Kersley	Date of Review:	01/10/2025
Site Name:	8 Autumn Gate Hook Lane Aldingbourne PO20 3TE		
Application Description:	Approval of details reserved by condition imposed under reference AL/75/24/HH relating to condition number 4 - surface water drainage scheme.		
Assessment Number:			

Policy and Guidance Information

Arun District Council Surface Water Drainage Guidance - <https://www.arun.gov.uk/surfacewater>

Land Drainage Consent – <https://www.westsussex.gov.uk/fire-emergencies-and-crime/dealing-with-extreme-weather/flooding/flood-risk-management/ordinary-watercourse-land-drainage-consent/> and <https://www.arun.gov.uk/land-drainage-consent/>

Arun District Council surface water pre-commencement conditions - <https://www.arun.gov.uk/planning-pre-commencement-conditions>

National Standards for Sustainable Drainage Systems (SuDS): <https://www.gov.uk/government/publications/national-standards-for-sustainable-drainage-systems/national-standards-for-sustainable-drainage-systems-suds>

The SuDs Manual [C753] by CIRIA

Response

Condition 4: **Objection**

Critical Items for Surface Water Drainage Design Conditions

The failure to adequately address the following items will result in an objection to a surface water drainage design.

If any of these items are inadequately addressed by the submission, then their correction may result in a redesign of the surface water drainage scheme. A redesign is likely to have site wide implications such as the potential for storage structures to increase in volume or plan area.

Critical Item	Reason	Status
Winter groundwater monitoring data.	Adequate winter groundwater monitoring data must be supplied to evidence that infiltration designs have sufficient freeboard from the base of structures and the peak groundwater level. The same data is necessary to ensure that the potential for buoyancy has been adequately considered in attenuation designs.	Compliant

Winter infiltration testing data.	Adequate winter infiltration testing must be supplied to justify the proposed discharge method and design infiltration rates. Infiltration tests must be completed strictly in accordance with BRE DG 365, CIRIA R156 or a similar approved method. Testing depths must account for peak groundwater levels and correspond with the location and depth of proposed infiltration features. Designs must be based upon the <u>slowest</u> infiltration rate evidenced closest to a proposed infiltration feature. Average design rates will not be accepted. The results of incomplete tests should not be extrapolated to obtain design values for infiltration rates.	Compliant
The hierarchy for sustainable drainage.	The proposed discharge method must accord with the SuDS hierarchy as given below. Evidence must be supplied to justify the proposed discharge method. 1. Rainwater reuse where possible. 2. Complete discharge into the ground (infiltration). 3. Hybrid infiltration and restricted discharge to an appropriate water body or surface water sewer. 4. Restricted discharge to an appropriate water body. 5. Restricted discharge to a surface water sewer. 6. Restricted discharge to a combined sewer. A water body may be defined as a river, watercourse, ditch, culverted watercourse, reservoir, wetland or the sea. Engineers cannot support any proposed connection of surface water to the foul sewer.	Compliant
Calculations	Calculations for pre-development run off rates must be based upon the positively drained area only. Proposed discharge rates must not increase flood risk on site or elsewhere. Discharge	Insufficient

	rates must be restricted to QBAR or 2 l/s/ha, depending on whichever is higher.	
	Designs must be based on the most recently available rainfall data at the time of conditions being applied. <u>FSR rainfall data will not be accepted.</u> FEH rainfall data is based upon more recent records and continues to be updated.	Compliant
	Designs must use the correct climate change allowances at the time of determination of the outline or full planning application. CV values for all events must be set to 1. This includes summer, winter, design, and simulation events. The correct allowance for urban creep must be applied. Additional storage must be set to zero unless it can be evidenced where this is provided. Infiltration half-drain times must be less than 24 hours. Infiltration design rates must be applied to the sides of soakaways, or to the base of infiltration blankets. Design rates must not be applied to both the base and sides of infiltration structures. A surcharged outfall must be modelled.	Insufficient
Natural catchments design.	The submission must define the natural drainage characteristics within, and hydraulically linked to, the site and demonstrate that the drainage proposals will integrate with and not compromise the function of the natural and existing drainage systems. The condition, performance (including capacity where appropriate) and ownership of any existing site surface water drainage infrastructure must be accurately reported. Appropriate easements to watercourses and other services must be shown on all plans. Where there are areas of flood risk from any source on the site, it must be shown how a sustainable surface water drainage design can	Compliant

	be accommodated on the site without conflicting with those areas of flood risk. Designs must replicate the natural drainage catchments of the site. All surface water drainage designs must therefore drain via gravity to corresponding points of discharge. The use of pumps for surface water drainage is not sustainable and will only be considered where the designer has fully demonstrated that they are proposed as a last resort.	
Plans	Plan areas, depths and levels of drainage infrastructure must accurately correspond with the supporting calculations.	Insufficient
Water quality benefits.	An assessment of water quality is necessary to evidence that the proposed design provides adequate treatment of surface water.	Insufficient
Trees and planting	There should be no conflict between surface water drainage infrastructure and existing or proposed trees or planting. The design must consider the potential growth of proposed trees and adequate mitigation must be provided to protect drainage infrastructure where conflict <u>cannot</u> be avoided.	Compliant

Drainage Impact on Other Planning Matters

This application has been assessed with regards to surface water drainage design only.

Other planning matters occasionally effect the surface water drainage design. If plans relating to other matters have been assessed for their impact on the proposed drainage, then it must not be assumed that they have been assessed for any other purpose. The planning officer is advised to check for conflicts with any existing approved plans and to consult any relevant consultees as appropriate.

Additional comments to the planning officer

The NPPF states that when determining any planning application, local planning authorities should ensure that flood risk is not increased elsewhere (paragraph 181, 182 and 187e). The PPG guides local planning authorities to refer to 'Sustainable drainage systems: non-statutory technical standards' and detailed industry guidance like The SuDS Manual [C753] by CIRIA to guide decisions about the design, maintenance, and operation of sustainable drainage systems for non-major development.

This consultation has been primarily informed by The SuDS Manual.

The following documents have been submitted and reviewed to inform this consultation with reference to surface water drainage:

Condition 4 reads:

Prior to the commencement of development, full details of the proposed surface water drainage scheme must be submitted and approved in writing by the local planning authority. The full details submitted for approval shall include:

1. Winter groundwater monitoring,
2. Winter infiltration testing strictly in accordance with BRE DG 365 or similar approved,
3. Details of the proposed method and location of surface water disposal, in accordance with the SuDS hierarchy,
4. Impermeable area plan,
5. Calculations modelling the surface water drainage network for the following storm events: a. 100% Annual Exceedance Probability b. 10% AEP + climate change allowance c. 3.3% AEP + climate change allowance d. 1% AEP + climate change allowance All storm events must include an allowance for urban creep and surcharged outfalls where appropriate,
6. Detailed drainage plans conforming to Local Planning Authority guidance,
7. Specifications for all surface water drainage components and associated infrastructure or flow control mechanisms,
8. Any relevant permissions relating to the discharge location, works to watercourses or adoption of the SuDS scheme.

The scheme shall then be constructed as per the approved plans. The surface water drainage scheme shall remain for the lifetime of the development unless agreed in writing by the local planning authority. Reason: In order to comply with policies W DM1, W DM2 and W DM3 of the Arun Local Plan and the NPPF

The following documents have been submitted and reviewed to inform this consultation with reference to surface water drainage:

- DRAINAGE DETAILS 1 OF 2 - 435050-203P4
- DRAINAGE LAYOUT 2 OF 2 - 435050-202P2
- DRAINAGE DETAILS 2 OF 2 - 435050-204P
- DITCH SECTIONS- 435050-205P2
- HEADWALL DETAILS - 435050-206P1
- SuDS MAINTENANCE & MANAGEMENT PLAN TB/435050/eg SEPT 2021 – **(should be superseded)**
- SuDS MAINTENANCE & MANAGEMENT PLAN TG/435050/eg OCT 2021
- GROUNDWATER MONITORING LETTER - 21.1.2021
- ORDINARY WATERCOURSE LAND AND DRAINAGE CONSENT - 22.10.2021

- storm water calculations 0.6 ls 04.09.25
- Surface water drainage report C3621 P2
- Proposed drainage strategy C3621 PL 101 P2
- Proposed typical construction details C3621 PL 201 P1

The construction details and proposed attenuation storage need to be reviewed in conjunction with each other as currently the proposals require storage on site which may not be achievable based on the design details provided. Without these updated details and calculations, the proposals may result in unacceptable increased risk of surface water flooding both onsite and offsite

Application Reference: AL/6/25/DOC Site Name: 8 Autumn Gate Hook Lane Aldingbourne PO20 3TE	Initial Issue Date: 1/10/2025 Issue Date: 1/10/2025 Reviewer Reference: ADC/EXT4
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Summary and Recommendation:

Condition 4: **Objection**

Please note: Any DOC application should only have a maximum of two consultation responses. If this is the second response for an open application and there are still comments outstanding, then please object to the application.

	ADC Drainage Comments	Designer Response	ADC Drainage Comments		
Date:	26/08/2025	04/09/2025	01/10/2025		
Condition Number:					
Comment Number					
1.	ADC Drainage Response (AL-6-25-DOC) 15/07/2025 Where the existing pipe is being connected to, specify an oblique 45 degree junction or new manhole. Designer response (AL-6-25-DOC) 25/07/2025 Updated. The oblique 45 degree ensured. ADC Drainage Response (AL-6-25-DOC) 26/08/2025 Please advise where the drawing has been updated to reflect this.	Noted. The oblique 45 degree junctions have been described and marked on the drawing , indicating their exact locations. Please refer to the Proposed Drainage Strategy Rev P2.	Item now closed		
2.	ADC Drainage Response (AL-6-25-DOC) 15/07/2025 Please provide interception drainage to ensure that the first 5mm of rainfall over the proposed impermeable area is not discharged from the site. I.e. rainwater harvesting, etc. Designer response (AL-6-25-DOC) 25/7/2025 A water butt will be provided to capture the first 5mm of rainfall, in line with the interception drainage requirement. ADC Drainage Response (AL-6-25-DOC) 26/08/2025 Water butt proposed to serve part of roof only. However, Standard 2 of the National harvesting, etc. Standards advises that	Noted. The water butt will now be used solely for rainwater reuse and not relied upon for interception. To ensure compliance with Standard 2, we are proposing a lined bioretention planter unit which will capture, convey and store the first 5mm of rainfall, allowing runoff to be naturally absorbed or lost to the atmosphere. The construction detail has been provided-please see Proposed Typical Construction Details Rev. P2	Whilst the use of the bio-retention planter is welcomed, please review the detail. Currently the perforated pipe and inlet to this system is at the base of the planter. As such the initial surface water run-off will miss the benefits of the planter and not provide the level of treatment/interception required. Please consider either raising the inlet level or dropping the finished level of the planter to achieve the full benefit of the raingarden. As a minimum we the inlet should be no deeper than 250mm below the finished level of the planter to achieve the required interception and we would expect a maximum void ratio of 20%		

	water butts do not achieve the interception requirements, unless they can be demonstrated to comply. Please review. Full construction details will be required to support any proposal.				
3.	ADC Drainage Response (AL-6-25-DOC) 15/07/2025 Provide a suitable catchpit upstream of the flow control chamber, ensuring all flows have to pass through this chamber. Include full construction details. Designer response (AL-6-25-DOC) 25/07/2025 Updated. ADC Drainage Response (AL-6-25-DOC) 26/08/2025 Specify sump depth on construction detail	Noted. It has been updated- please see Proposed Typical Construction Details Rev. P2	Noted and closed		
4.	ADC Drainage Response (AL-6-25-DOC) 15/07/2025 Where the threshold drain is being connected to pipeline Re1 to S1, specify an oblique 45 degree junction. Similar comment for the RWP on the SE corner Designer response (AL-6-25-DOC) 25/07/2025 Updated. ADC Drainage Response (AL-6-25-DOC) 26/08/2025 Clearly indicate that these connections will be made using oblique 45 degree junctions.	Noted. The oblique 45 degree junctions have been described and marked on the drawing, indicating their exact locations. Please refer to the Proposed Drainage Strategy Rev P2.	Noted and closed		
5.	ADC Drainage Response (AL-6-25-DOC) 15/07/2025 Calculations; a) Apply urban creep to all storm simulations (only applied to 1/100 year event). b) Design against a surcharged outfall. Suggest this level is taken as the top of ditch bank. c) Ensure all storm simulations include winter events	The surcharged outfall has now been designed, and the drainage calculations have been updated to reflect the winter storm. Please see '04.09.25 Storm Water Calculations 0.6l/s' However, due to the required surcharged outfall, the maximum flow discharge rate needs to be increased by 0.1 l/s, resulting in a revised maximum flow discharge rate of 0.6l/s	Please review the calculations and detail for the bio-retention planter. Currently the calculations take benefit of 565mm depth of attenuation medium of 30% void ratio. This appears to over-estimate the available attenuation volume since the planting medium will need a good mixture of loam and sand to sustain plant ground etc... and thus 30% may not be achievable. Please expand on the specification on the construction detail, clearly adding the specification for the planting and filter		

	Designer response (AL-6-25-DOC) 25/07/2025 The surface water calculations have been updated. • Urban creep of 10% has been applied to 1 in 100 year event. • The water level at the outfall point is 9.921 m during the 1 in 100 year event plus 45% climate change and 10% urban creep. The top level of the ditch bank at the location of the proposed headwall is 10.000 m • All storm simulations include winter events. ADC Drainage Response (AL-6-25-DOC) 26/08/2025 Provide evidence that a surcharged outfall has been modelled. The 1 in 100 year event simulations do not appear to include winter storms?		mediums etc... in addition please clearly annotate the dimensions required for this bio-retention planter		

If a designer would like a .docx version of this document to aid administration of responses, please request this by email to land.drainage@arun.gov.uk.

From: Nicola Oktay on behalf of Planning.Responses
Sent: 02 October 2025 09:41
To: Planning Scanning
Subject: FW: Planning Re-Consultation on: AL/6/25/DOC
Attachments: AL-6-25-DOC 8 Autumn Gate SW Design Consultation.docx; AL-6-25-DOC 8 Autumn Gate Comment Tracker.docx

Drainage Engineers response

Nikki Oktay
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To register to receive notifications of planning applications in your area please go to <https://www1.arun.gov.uk/planning-application-finder>



Our priorities...

Improving the wellbeing of Arun

Delivering the right homes in the right places

Supporting our environment to support us

Fulfilling Arun's economic potential

From: Sarah Burrow <Sarah.Burrow@arun.gov.uk>
Sent: 01 October 2025 14:06
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Hannah Kersley <Hannah.Kersley@arun.gov.uk>; Paul Cann <Paul.Cann@arun.gov.uk>
Subject: RE: Planning Re-Consultation on: AL/6/25/DOC

Hi Hannah,

Find the consultation attached. Apologies for the delay in response.

I am submitting this consultation on behalf of Paul, our Principal Drainage Engineer. It has been completed by one of our external consultants.

Kind regards

Sarah Burrow
Flood Risk and Drainage Engineer, Coastal Engineers and Flood Prevention

T: 01903 737815
E: sarah.burrow@arun.gov.uk

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Delivering the right homes in the right places

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From: Planning.Responses <Planning.Responses@arun.gov.uk>
Sent: 15 April 2025 15:04
To: Land Drainage <Land.Drainage@arun.gov.uk>
Subject: Planning Re-Consultation on: AL/6/25/DOC

To: **Engineers (Drainage)**

NOTIFICATION FROM ARUN DISTRICT COUNCIL

TOWN AND COUNTRY PLANNING ACT 1990

Application No:	AL/6/25/DOC
Registered:	27th January 2025
Site Address:	8 Autumn Gate Hook Lane Aldingbourne PO20 3TE
Grid Reference:	493572 104563
Category:	Discharge of Condi
Description of Works:	Approval of details reserved by condition imposed under reference AL/75/24/HH relating to condition number 4 - surface water drainage scheme.

I am able to inform you that I have received an amendment to the above application dated 10th April 2025 relating to: Supplementary Plans.

If you should wish to make further representations as a result of this amendment, please make any further comment by **1st May 2025**.

[Click here to view the application, documents and make further comments](#)

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.

Yours sincerely

Hannah Kersley

Planning Case Officer-Arun District Council

Telephone: 01903 737856

Email: hannah.kersley@arun.gov.uk

PLRECON_DOC (ODB) 2020