

Engineers Comments Regarding Surface Water Drainage

Application Reference:	AL/13/25/DOC	Reviewer Reference:	ADC/EXT2/D2134/70
Planning Officer:	Hannah Kersley	Date of Review:	27.11.2025
Site Name:	Karenza Hook Lane Aldingbourne PO20 3TB		
Application Description:	Approval of details reserved by condition imposed under reference AL/154/23/PL (APP/C3810/W/23/3335883) relating to condition number 3 - Construction Management Plan, condition number 5 - surface water drainage scheme, condition number 8 - external materials and finishes and condition number 9 - energy.		
Assessment Number:	1 of 2		

Policy and Guidance Information	
Arun District Council Surface Water Drainage Guidance (including design checklists) - 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/ Arun District Council Land Drainage Byelaws - https://www.arun.gov.uk/byelaws/ Arun District Council surface water pre-commencement conditions - https://www.arun.gov.uk/planning-pre-commencement-conditions The National Standards for 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 5: Objection
-----------------	-------------------------------

References
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' [NsTS] 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. The NsTS have been superseded by the National Standards for Sustainable Drainage Systems [NSfS] from 19 June 2025. This consultation has been primarily informed by the NSfS and The SuDS Manual.

Summary

This summary highlights if critical items aligning with each of the standards have been met. Critical items are highlighted in **bold** on our surface water drainage design checklist (linked above). A failure to address these will result in an **objection** to any application to discharge a surface water drainage design condition.

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, or the provision of other important infrastructure to satisfy the NSfS set out below.

All relevant items on the checklist are expected to be met before an application to discharge an application to discharge a SuDS design condition is supported.

Our response and requirements are elaborated upon or condensed within an attached comment tracker where necessary. If a comment tracker is provided a designer is encouraged to refer to this and respond to comments to aid further review. Please request a .docx version of this document to by email to land.drainage@arun.gov.uk if needed.

Standard	Assessment	Response
1. Runoff destination	Compliant	No objection
2. Interception drainage	Compliant	No objection
3. Extreme Rainfall and Flooding	Compliant	No objection
4. Water Quality	Compliant	No objection
5. Amenity	Compliant	No objection
6. Biodiversity	Compliant	No objection
7. Construction, operation, maintenance, decommissioning and structural integrity	Insufficient	Objection

Reviewed Plans

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

- SUDS DESIGN SETTINGS DATA (30/10/24/)
- 35050 - SuDS Maintenance and Management Plan (SEPT 2025 - KARENZA)
- 435050 - Surface Water Drainage Design 25.09.25
- Drainage Layout 2 of 2 435050-202C
- Drainage Details 1 of 2 435050-203C
- Drainage Details 2 of 2 435050-204C
- Drainage Layout 1 of 2 435050-201C
- Ditch Sections 435050-205C
- Surface Water Drainage Design Report 17.6.25 (TB/435050/eg)
- DRAINAGE STRATEGY REPORT TB/435050/eg SEPT 2023

Condition wording

Condition 5 is worded as follows:

"No development shall commence, other than works of survey and investigation, until full details of the proposed surface water drainage scheme have been submitted to, and approved in writing by the local planning authority. The details submitted shall demonstrate consideration of the hierarchy of preference for drainage disposal set out in associated guidance. The proposal should be supported by winter groundwater monitoring to establish highest annual ground water levels and winter percolation testing to support any infiltration drainage, and details of the maintenance and management of the proposed system. The development shall be carried out and maintained in accordance with the approved details"

Consultation comments to the planning officer

1. Please see the attached comment tracker for detailed comments relating to the submission.

Drainage Impact on Other Planning Matters

This application has been assessed with regards to surface water drainage design only, together with land drainage aspects if deemed necessary.

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.

It has been identified that the following consultees may have comments about the plans that have been submitted and reviewed for this application:

- ☐ Landscaping officer (proposed trees and landscaping)
- ☐ Tree officer (existing trees)
- ☐ Environment Agency (main rivers and fluvial/tidal flood risk, River Arun internal drainage board, groundwater source protection zones)
- ☐ Southern Water (foul drainage and surface water disposal to public sewer network/groundwater source protection zones)
- ☐ Portsmouth Water (groundwater source protection zones)

- ☐ Lead local flood authority (all other sources of flooding and ordinary watercourses)
- ☐ Other: Specify
- ☐ None

Application Reference: AL/13/25/DOC Site Name: Karenza Hook Lane Aldingbourne PO20 3TB	Initial Issue Date: 27.11.2025 Issue Date: 27.11.2025 Reviewer Reference: ADC/EXT2/D2134/70
---	---

Summary and Recommendation:

Condition 5: **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.

	Comments History	ADC Comments	Designer Response	ADC Comments	
Date:	ADC Drainage Comments 29/04/2025	11/09/2025	25/09/2025	27/11/2025	

Condition Number:

Comment Number					
1.	ADC Drainage Comments 29/04/2025 Firstly there is some uncertainty we are in receipt of all relevant information from the DOC application in pursuant of the drainage related conditions. Some of the comments below may have been actioned, however for completeness it is requested that the applicant provide a supporting summary and full information by return. Designer Response 25/06/2025	Comment closed.	OK		

2.	ADC Drainage Comments 29/04/2025 The drainage strategy report strategy cites the site address incorrectly as postcode PO20 0TE (Selsey), which should read PO20 3TE for review of all relevant information. Designer Response 25/06/2025 Noted and amended	Comment closed.	OK		
3.	ADC Drainage Comments 29/04/2025 The drainage strategy report makes reference to coordination with 'phase 1' yet as-built/construction record data for earlier phases has not been provided. Designer Response 25/06/2025 Construction issue drawings now provided	Comment closed.	OK		
4.	ADC Drainage Comments 29/04/2025 The drainage strategy report, section 4 does not summarise QBAR values. This is included on the hydraulic calculations, page 9, however a summary is still required.	In response to 4.16 QBAR has been calculated incorrectly. This must reflect the pro-rata impermeable area and not the total site area. In addition the correct soil classification must be used. On	I don't believe a soil index of 2 is a realistic representation of the site. Infiltration testing showed the soils to be impermeable, meaning run-off characteristics similar to that of a heavy clay, therefore a soil	This is noted to have been updated, and also similar to the alternative FEH output. Comment closed.	

	Designer Response 25/06/2025 A summary has been provided in para 4.16 & 4.17	review QBAR appears to be 0.4l/sec hence the design rate is incorrect. This is however correct in the 1D results, page 6 but only appears to stated phase 1 and not phase 2. The summary must be updated accordingly. In response to 4.17 the cited total impermeable area is stated as 2003m², which coincides with drawing 207C and is accepted.	index 4 was selected in the Greenfield runoff calculations		
5.	ADC Drainage Comments 29/04/2025 The drainage strategy report, section 4 must include sufficient supporting drawing information to demonstrate pre-development exceedance flow. Designer Response 25/06/2025 Exceedance flow added (see Appendix E)	Comment closed.	OK		
6.	ADC Drainage Comments 29/04/2025	Comment closed.	OK		

	The drainage strategy report, 4.10 makes reference to the phase 1 design yet no information has been supplied therein. Please provide full design package. Designer Response 25/06/2025 Construction issue information provided				
7.	ADC Drainage Comments 29/04/2025 The drainage strategy report, 4.7 makes reference to historic geotechnical testing yet no evidence is provided to demonstrate infiltration testing and groundwater monitoring data. Subject to reviewing historic testing assumptions cannot be accepted and further geotechnical testing within confines of the application site may be necessary in strict accordance with drainage hierarchy to rule out infiltration. Designer Response 25/06/2025	The infiltration tests failed and this is acknowledged and thus ruled out. A full winters groundwater monitoring has not been undertaken as per ADC policy. The highest recorded groundwater level however is acknowledged to be 0.22m bgl and classified as high risk. The applicant shall demonstrate that the potential risk of groundwater (risk of inundation from groundwater/protection	All house FFL's are minimum 150mm above ground level. Due to cohesive soils on site then minimum 200mm voids underneath ground floors will be required to negate any risk of damage from heave, therefore this void will also ensure no risk from groundwater flooding. The access routes to the property cannot flood as impermeable lined from underneath and a permeable surface.	Noted. Comment closed.	

	Testing provided from the Autmn Gate site, see Appendix D	of groundwater flooding to dwellings) has been considered and mitigated appropriately. Comment outstanding.			
8.	ADC Drainage Comments 29/04/2025 Subject to geotechnical data being evidenced, it is noted that the phase 1 flow control rate of 1.2l/s is proposed for phase 2 hence no increases in flow and minor increases to volume. This strategy is accepted. Designer Response 25/06/2025 OK	Comment closed.	OK		
9.	ADC Drainage Comments 29/04/2025 The drainage strategy report, 4.16 makes reference to urban creep of 10% being included, however this calculation is not demonstrated clearly on drawing 435050-221P2. Designer Response	Comment closed.	OK		

	25/06/2025 Please see drawing no. 435050-220P				
10.	ADC Drainage Comments 29/04/2025 Hydraulic calculations for both summer & winter are set with a CV=1 which is accepted. Designer Response 25/06/2025 OK	Comment closed.	OK		
11.	ADC Drainage Comments 29/04/2025 As above in comment 4, please explain why a 6% additional flow has been included with the hydraulic calculation. Designer Response 25/06/2025 In the Autumn Gate design we were advised by Arun DC engineer that no urban creep need be applied to the access road, therefore the 10% urban creep has been applied to all impermeable areas except the access road, which gives an overall urban creep of 6%	Comment closed.	OK		

	applied to all impermeable areas				
12.	ADC Drainage Comments 29/04/2025 Subject to reviewing and understanding the phase 1 strategy, and seasonal peak groundwater levels, the hydraulic calculations may require a surcharge outfall simulation. Designer Response 25/06/2025 A surcharge outfall has been modelled	Noted, however the 1D results do not show the surcharge settings.	Added to the calculation report	Surcharged calculations are accepted. Comment closed.	
13.	ADC Drainage Comments 29/04/2025 The hydraulic calculations drain down time must be set to 1440mins to observe 24hrs period and considerations to half drain down times. For infiltration and tanked system alike, ADC's preference is to achieve half drain down of 50% for a 10yr return period. Designer Response 25/06/2025 OK	The 1D results are still set on 240mins. No summary has been provided. Comment outstanding.	Updated to 1440mins and half drain time now set for the 10yr return	Calculations accepted Comment closed.	

14.	ADC Drainage Comments 29/04/2025 The hydraulic calculations specify node SW-13 as a vortex flow control with an invert of 9.49m, however drawing 435050-221P2 shows this to be higher @ 9.494m. As cited above, for certainty the as-built levels must be used as they may not correlate with the phase 1 design. Designer Response 25/06/2025 Amended in the model	To clarify this is now SW-14 in the revised calcs with the correct invert. Comment closed.	OK		
15.	ADC Drainage Comments 29/04/2025 The hydraulic calculations specify several nodes as 700mm diameter which is not a recognised manhole/IC chamber size. Designer Response 25/06/2025 Updated to as built 450mm dia	S11, S12,S13,S14 are noted to be 500mm control chambers. Comment closed.	OK		
16.	ADC Drainage Comments 29/04/2025	Comment closed.	OK		

	Please qualify the permeable pavement formation gradients of 1:460 specified. Designer Response 25/06/2025 It was quite challenging to achieve a gravity system for the phase 1 site due to the shallow ditch invert and the topography of the site, therefore we set the base of the attenuation crates on a very slight gradient to convey the surface water instead of using a pipe in a sump, as this would have required a lower ditch IL which was not achievable. Therefore, a rectangular link has been used to model in flow, but in reality the link will just be the permavoid crates.				
17.	ADC Drainage Comments 29/04/2025 A supporting node drawing overlay with the site layout and drainage arrangement is required in order review the 1D modelling. Designer Response 25/06/2025	FLOW map provided with 1D modelling. Comment closed.	OK		

18.	ADC Drainage Comments 29/04/2025 The cover level and invert levels for numerous nodes do not appear to correlate wholly with drawing 435050-221P2. Designer Response 25/06/2025 updated	Comment closed.	OK		
19.	ADC Drainage Comments 29/04/2025 Please explain wat is the relevance of a 1:500 return period has been demonstrated, also with CC. Designer Response 25/06/2025 This has been removed	Comment closed.	OK		
20.	ADC Drainage Comments 29/04/2025 Drawing 435050-221P2 is very difficult to review where phase 1 is greyed out and the key does not clarify all items i.e. its is assumed the pink text represents the phase 1 formation levels?	Comment closed.	OK		

	Designer Response 25/06/2025 The revised drawing is clearer and also the construction issue of phase 1 has now been provided				
21.	ADC Drainage Comments 29/04/2025 Drawing 435050-221P2 requires formation levels at all corners and at outlets/inlets of all permeable pavements. Designer Response 25/06/2025 This has been added	Comment closed.	OK		
22.	ADC Drainage Comments 29/04/2025 Rainwater pipes run through silt traps (catchpits) and into the permavoid. Please provide a construction detail of how this is interfaced. Designer Response 25/06/2025 Detail provided on Drawing 435050-222P	Comment closed.	OK		
23.	ADC Drainage Comments 29/04/2025	Comment closed.	OK		

	Please provide construction details for all features identified on drawing 435050-221P2. Designer Response 25/06/2025 Detail provided on Drawing 435050-222P				
24.	ADC Drainage Comments 29/04/2025 Measures to protect the permeable pavement (asphalt construction) during the construction period must be annotated on the drawings to ensure that it does not become silt up prior to completion of the project. Designer Response 25/06/2025 See details on drawing 435050-222P	Comment closed.	OK		
25.	ADC Drainage Comments 29/04/2025 Please provide details of the foul drainage routing so this can be reviewed in conjunction with the surface water drainage.	Still missing on drainage GA drawing 221P. Comment outstanding.	Foul added to layout	Noted. Comment closed.	

	Designer Response 25/06/2025 Foul added on layout				
26.	ADC Drainage Comments 29/04/2025 Please provide details of the main service routing/crossings so this can be reviewed in conjunction with the surface water drainage. Designer Response 25/06/2025 Service routings added on layout	Still missing on drainage GA drawing 221P. Comment outstanding.	Services trench route added to layout	Service trench corridor shown is very narrow at approx. 300mm width and appears to conflict with permeable paving footprints and drainage apparatus. Unless it can be evidence that all statutory undertakers have confirmed this can be accepted, it appears that the permeate le pavement will require a traditional block strip crossing. Any reductions in permeable paving must be modelled. Comment outstanding.	
27.	ADC Drainage Comments 29/04/2025	Comment outstanding.	Proposed trees are indicated on the drainage layout. A	Noted. Comment closed.	

	Please provide details of all proposed planting so this can be reviewed in conjunction with the surface water drainage. Designer Response 25/06/2025		specification for tree pit root barriers is noted.		
28.	ADC Drainage Comments 29/04/2025 Please provide flood plans for each of the units demonstrating the footprint at ground level so that this can be checked against the extent of permeable pavement. It appears permeable pavement is not shown to extend under canopy roofs. Please show on plan the dimensions of the permavoid blocks to demonstrate that of the shelf sizes can be used. If bespoke sized blocks are require evidence shall be provided from the manufacturer. Section longitudinally and transversely are required. Designer Response	Comment closed.	OK		

	25/06/2025 Floor plans updated on layout There are no permavoid blocks on the new site				
29.	ADC Drainage Comments 29/04/2025 Please demonstrate how the Permavoid blocks will be installed to formed the curved edges of the drives. Designer Response 25/06/2025 There are no permavoid blocks on the new site	Comment closed.	OK		
30.	ADC Drainage Comments 29/04/2025 Drawing 435050-221P2 is very light on spot levels, no contours it is not possible to deduce where exceedance run-off will travel. Designer Response 25/06/2025 Exceedence flow layout provided in Appendix E	Comment closed.	OK		
31.	ADC Drainage Comments 29/04/2025 A post completion exceedance flow routing drawing is required.	Comment closed.	OK		

	Designer Response 25/06/2025 See Appendix E				
32.	ADC Drainage Comments 29/04/2025 The drainage report must summarise water quality benefits. Designer Response 25/06/2025 See section 5	Comment closed.	OK		
33.	ADC Drainage Comments 29/04/2025 A maintenance manual must be provided in accordance with PCENG4 checklist and summarise surface water drainage maintenance and management. Designer Response 25/06/2025 Provided	No further information supplied other than drawing 208C which illustrates maintenance for phase 1. A compliant report is required together with an update of drawing 208 to include phase 2. Comment outstanding.	Maintenance & Management plan now provided for Phase 2	Noted. Comment closed.	
34.		The applicant is advised to correct the named client, where applicable as this may also have a bearing on rights to use data.	Imperial Homes were the developer for Phase 1, Domusea were the planning consultants for Phase 2 drainage strategy stage. Randmere are the developers for Phase 2	Noted. Comment closed.	

		All drawings advise the client as 'Imperial Homes' (assumed for phase 1), the former report advised 'Domusea' and the updated report now advises 'Randmere Ltd' for phase 2. The applicant must clarify all 3rd party maintenance liabilities.	(DOC stage) See note within Maintenance & Management plan regarding managing agent company to be the same as the phase 1 site.		
35.		S12 orifice is noted as 35mm on the drainage GA drawing 221P and 45mm in the 1D model. Please advise the correct value, noting the National Standards recommendations for block risks.	GA Drawing updated with correct orifice diameter. Minimum orifice has been set to 50mm diameter	Noted. Comment closed.	

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.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Arun District Council, Civic Centre, Maltravers Rd
Littlehampton, West Sussex, BN17 5LF
www.arun.gov.uk

To register to receive notification 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: 27 November 2025 14:47
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Land Drainage <Land.Drainage@arun.gov.uk>; Hannah Kersley <Hannah.Kersley@arun.gov.uk>
Subject: RE: Planning Re-Consultation on: AL/13/25/DOC

Hi Hannah,

Find the consultation – an objection – 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.

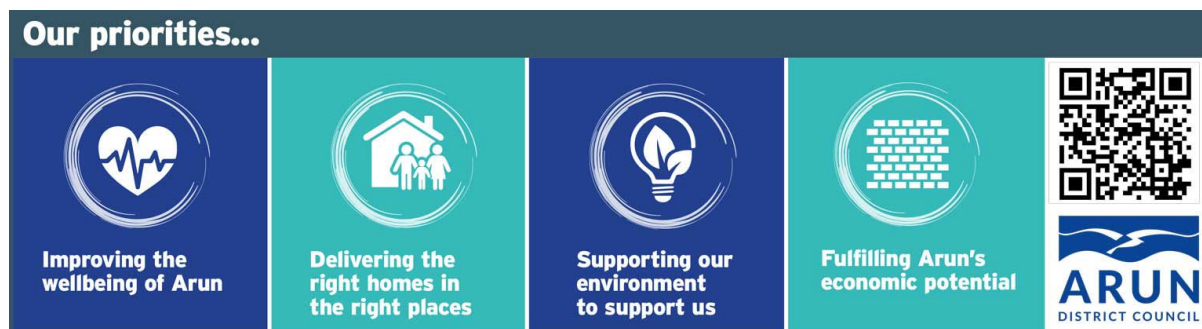
Kind regards

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

T: 01903 737815

E: sarah.burrow@arun.gov.uk

Arun District Council, Civic Centre, Maltravers Rd
Littlehampton, West Sussex, BN17 5LF
www.arun.gov.uk



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

Sent: 26 September 2025 13:48

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

Subject: Planning Re-Consultation on: AL/13/25/DOC

To: **Engineers (Drainage)**

NOTIFICATION FROM ARUN DISTRICT COUNCIL

TOWN AND COUNTRY PLANNING ACT 1990

Application No:	AL/13/25/DOC
Registered:	11th February 2025
Site Address:	Karenza Hook Lane Aldingbourne PO20 3TB
Grid Reference:	493558 104463
Category:	Discharge of Condi
Description of Works:	Approval of details reserved by condition imposed under reference AL/154/23/PL (APP/C3810/W/23/3335883) relating to condition number 3 - Construction Management Plan, condition number 5 - surface water drainage

scheme, condition number 8 - external materials and finishes and condition number 9 - energy.

I am able to inform you that I have received an amendment to the above application dated 26th September 2025 relating to: Substitute SUDS information

If you should wish to make further representations as a result of this amendment, please make any further comment by **10th October 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