

Engineers Comments Regarding Surface Water Drainage

Application Reference:	BR-129-25-DOC	Reviewer Reference:	ADC/EXT4
Planning Officer:	Kathryn Welch	Date of Review:	25/09/25
Site Name:	5-11 Aronel Cottage Nursing Home Highfield Road Bognor Regis PO22 8BQ		
Application Description:	Approval of details reserved by condition imposed under reference BR/159/22/PL relating to condition number 7 - surface water drainage scheme.		
Assessment Number:	1 of 2		

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 7: Objection
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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.	Insufficient

	The same data is necessary to ensure that the potential for buoyancy has been adequately considered in attenuation designs.	
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.	Not supplied
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.	Insufficient
Calculations	Calculations for pre-development run off rates must be based upon the positively drained area only.	Insufficient

	Proposed discharge rates must not increase flood risk on site or elsewhere. Discharge 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.	Insufficient
	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.	Insufficient

	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 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
Biodiversity and amenity benefits.	The surface water drainage design must provide biodiversity and amenity benefits.	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 cannot be avoided.	Not supplied

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.

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, groundwater source protection zones)
- ☐ Southern Water (foul drainage and surface water disposal to public sewer network)
- ☐ Portsmouth Water (groundwater source protection zones)
- ☐ Lead local flood authority (all other sources of flooding and ordinary watercourses)
- ☐ Other:
- ☐ None

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 7 Surface Water Drainage scheme reads:

Development shall not commence, other than works of site 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 design should follow the hierarchy of preference for different types of surface water drainage disposal systems as set out in Approved Document H of the Building Regulations, and the recommendations of the SuDS Manual produced by CIRIA. Design considerations must take full account of the 'Supplementary Requirements for Surface Water Drainage Proposals' produced by Arun District Council, and are an overriding factor in terms of requirements. Winter groundwater monitoring to establish highest annual ground water levels and winter percolation testing to BRE 365, or similar approved, will be required to support the design of any infiltration drainage. No building / No part of the extended building shall be occupied until the complete surface water drainage system serving the property has been implemented in accordance with the agreed details and the details so agreed shall be maintained in good working order in perpetuity. Reason: To ensure that the proposed development is satisfactorily drained in accordance with policies W SP1, W DM1, W DM2 and W DM3 of the Arun Local Plan. This is required to be a prePLDNSTD (ODB) 2018 Arun District Council BR/159/22/PL 2 of 7 ARUN DISTRICT COUNCIL BR/159/22/PL commencement condition because it is necessary to implement the surface water drainage system prior to commencing any building works

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

- Groundwater Monitoring - C2128 (GWM)
- Foul and Surface Water Drainage Report - Ref:C2128 Rev-P1 28th May 2025
- Foul and Surface Drainage Report Ref:C2128 Rev.P2 (8th August 2025)
- Letter Southern Water. Ref DSA000011871 25 June 2025 (S106 Approval letter)
- Drainage Layout C2128 100 P2

The current design proposes the use of infiltration drainage with permeable paving but does not account for the high groundwater and no infiltration tests have been provided. The calculations do not correspond with the drainage proposals and additional information as well as amendments on the proposals will likely be required. Without this additional information and amendments to the design, the surface water proposals may cause flooding both onsite as well as offsite.

Application Reference: BR-129-25-DOC Site Name: 5-11 Aronel Cottage Nursing Home Highfield Road Bognor Regis PO22 8BQ	Initial Issue Date: 25/09/2025 Issue Date: 25/09/2025 Reviewer Reference: ADC/EXT4
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Summary and Recommendation:

Condition 7: **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			
Date:	25/09/2025				
Condition Number: 17					
Comment Number					
1.	The current groundwater monitoring only ranges from the end of October to the end of January. We suggest that groundwater is monitored until the end of March to ensure that the peak level is captured. Please submit evidence that the peak groundwater level for that season has been captured or provide additional groundwater monitoring for the full winter regime ie. till end of March.				
2.	Please provide a plan on the location of the groundwater monitoring and depths in relation to the drainage proposals. The current proposal for permeable paving does not appear to provide the minimum 1m depth separation to the peak groundwater level, which will not be acceptable and alternative means of discharging this permeable paving will need to be considered.				
3.	No infiltration testing has been provided to support the proposed permeable paving design. Please provide winter infiltration testing in accordance with BRE365				
4.	Submit the FEH 22 point data files for this site, in accordance with clause 5.1.7 of the FEH Web Service terms of use (https://fehweb.ceh.ac.uk/Home/Terms). These must be submitted directly to land.drainage@arun.gov.uk rather than to the planning portal (via the planning officer), this is to ensure that the data remains confidential in accordance with those terms.				
5	Please provide buoyancy calculations for the attenuation tank				
6	Please provide permeable paving calculations				

Surface Water Drainage Comment Tracker

If a designer would like a .docx version of this document to aid

7	The permeable paving detail on drawing C2128-P-300-P1 indicates that a geo-membrane is to be laid above the formation, yet the drainage statement notes that the permeable paving is designed to infiltrate, please clarify or correct as required				
8	The permeable paving, ACO drain and pipework appears to clash with potential root protection areas. Please clearly define the RPA's on the drawing and review drainage to ensure there are no clashes with existing or proposed trees. Where clashes cannot be avoided but root damage may be mitigated please show this mitigation clearly on the plans and provide construction details for it.				
9	An orifice of 21mm diameter increases the risk of blockage and may result in surface flooding. Please consider the use of a vortex flow control to mitigate the risk of blockage				
10	The attenuation tank detail needs to show the levels and cross reference accordingly to the plan				
11	Please review the location of S2 and look to relocate this further west to avoid an external 90 degree bend in the pipework				
12	The gradients provided in the calculations do not correspond with the design gradients on the plan. Please update calculations to suit.				
13	Please provide details on SuDS considered for source control or promote bio-diversity for the runoff from the roofs. Have raingardens been considered?				

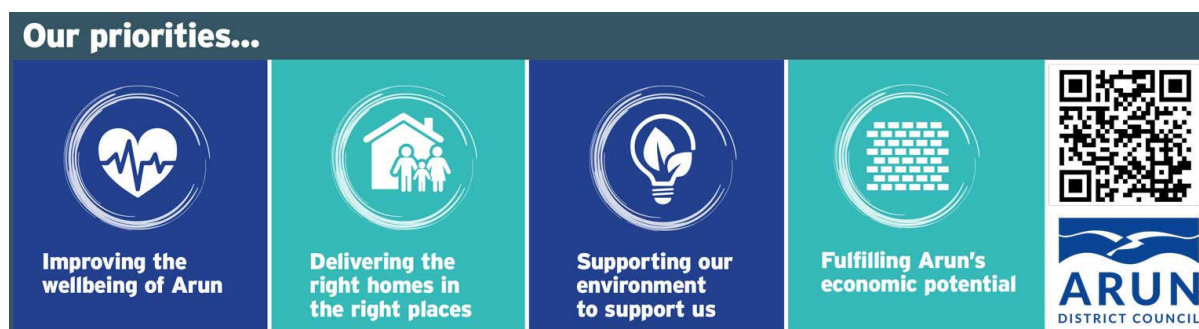
Commented [SB1]: Is surface water going through membranes and filter material to mitigate for this risk?

administration of responses, please request this by email to land.drainage@arun.gov.uk.

Drainage Engineers response

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

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



From: Sarah Burrow <Sarah.Burrow@arun.gov.uk>

Sent: 26 September 2025 10:54

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

Cc: Kathryn Welch <Kathryn.Welch@arun.gov.uk>; Paul Cann <Paul.Cann@arun.gov.uk>

Subject: RE: Planning Consultation on: BR/129/25/DOC

Hi Kathryn,

Find the consultation (objecting) 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

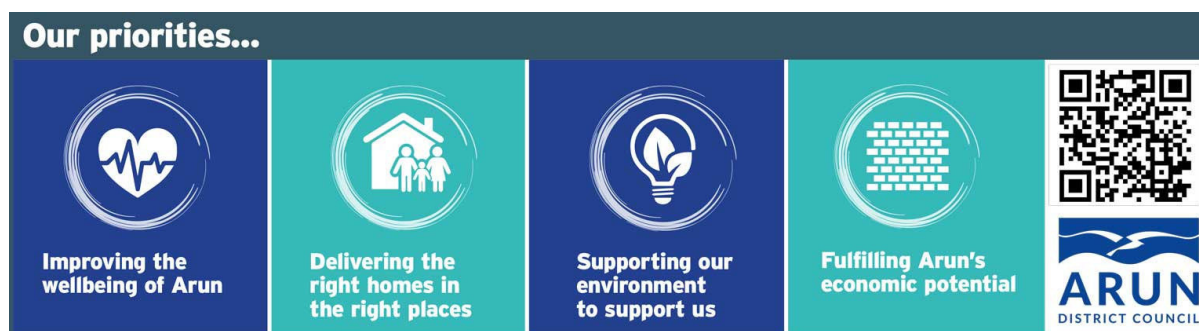
Flood Risk and Drainage Engineer, Coastal Engineers and Flood Prevention

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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: 28 July 2025 10:18

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

Subject: Planning Consultation on: BR/129/25/DOC

To: **Engineers (Drainage)**

NOTIFICATION FROM ARUN DISTRICT COUNCIL

TOWN AND COUNTRY PLANNING ACT 1990

Application No: BR/129/25/DOC

Registered: 25th July 2025

Site Address: 5-11 Aronel Cottage Nursing Home Highfield Road Bognor Regis PO22 8BQ

Description of Works: Approval of details reserved by condition imposed under reference BR/159/22/PL relating to condition number 7 - surface water drainage scheme.

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 and view the documents](#) The website is updated once a day in the evening, so you may need to wait until the day after this notification to view the documents.

[Click here to view the original application and decision notice](#)

Should you wish to make any comments click on the link and click into ?Enter Comment? or if this is not possible email your response to planning.responses@arun.gov.uk by **11th August 2025**.

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

Kathryn Welch

Planning Case Officer- Arun District Council

Telephone: 01903 737789

Email: kathryn.welch@arun.gov.uk