

Engineers Comments Regarding Surface Water Drainage

Application Reference:	R/63/26/PL	Reviewer Reference:	ADC/EXT5/AF
Planning Officer:	Simon Brookshank	Date of Review:	29/05/2026
Site Name:	The Windmill Inn and 34 Mill Lane Rustington BN16 3JN		
Application Description:	Demolition of existing Public House and 1 No dwelling and redevelopment for retirement living accommodation comprising 28 No retirement living apartments and 3 No retirement living cottages, including communal facilities, access, car parking and landscaping (resubmission following R/143/24/PL). This application is in CIL Zone 4 (Zero Rated) as other development.		
Assessment Number:	1		

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-managemenUordinary-watercourse-land-drainage-consenU 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/governmenUpublications/national-standards-for-sustainable-drainage-systems/national-standards-for-sustainable-drainage-systems-suds The SuDs Manual [C753] by CIRIA

Response	Objection
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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 The NsTS have been superseded by the National Standards for Sustainable Drainage Systems [NSfS] from 19 June 2025.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.
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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 likely result in an **objection** to an objection to a full or reserved matters planning application.

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.

A full written explanation of the assessment and response is given in the consultation comments to the planning officer.

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

Reviewed Plans

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

- SITE LAYOUT PROPOSED DRAINAGE 201
- CONSTRUCTION DETAILS 501
- CONSTRUCTION DETAILS 502
- CONSTRUCTION DETAILS 501
- SITE DISTANCE AON LEVELS PLAN 20091RT PL 011 REVP1
- PROPOSED SITE PLAN 20091RT PL002 REVP2
- LANDSCAPE STRATEGY JBA 24-212-SK02
- LANDSCAPE STRATEGY JBA 24-212-SK03
- LOCATION PLAN 20091RT PL001 REVP1
- TREE PROTECTION 24038-3
- FRA PART 1
- FRA PART 3
- FRA PART 2
- FULL SuDS DESIGN CHECKLIST

Plans/Documents to be listed as approved

The following plans/documents should be listed as approved:

N/A

Consultation comments to the planning officer

0. General

- 0.1. We note the previous refused planning application R/143/24/PL, which had a reason for refusal based upon runoff destination, together with the subsequent dismissed Appeal APP/C3810/W/25/3361225 which upheld the Council's position, which was that surface water from the development could not be discharged to the foul water sewer. The current proposals are to discharge via soakaway.
- 0.2. The external flood risk to the site is acceptable.
- 0.3. We note the WSCC LLFA letter dated 14 May 2026 stating no objection subject to conditions.

1. Runoff destination

- 1.1. The Drainage Statement states reuse of rainwater for irrigation will be incorporated. Some further details should be provide including proposed scale, type and location. As dwellings the units should have individual small scale rainwater storage for irrigation.

The development is or 30 retirement living apartments within a shared building and 3 separate cottages.

The rainwater harvesting proposal as noted in Section 6.2.3 and 8.1.1 of Flood Risk Assessment v2.0 is for a rainwater harvesting system to be provided for the irrigation of the shared landscaped area.

There is sufficient room within the scheme for this proposal and this element can clearly be conditioned without any impact on the site layout.

We note no reduction in rainwater has been made within the calculations for rainwater reuse.

- 1.2. Ground investigation confirms there are low permeability layers down to approximately 3.0-3.5m bgl with more permeable river terrace deposits and chalk layers beneath. No infiltration tests are provided in the shallow layers, which are assumed to be unsuitable for infiltration features. The infiltration design is based upon extending a single large trench soakaway down into the river terrace deposits stratum to 4.2m AoD. Infiltration testing shows feasible infiltration rates of approximately 6×10^{-6} at this depth.

Testing was undertaken in Trial Pit 3 within the shallower clay soils over three days with no suitable infiltration recorded.

- 1.3. The groundwater monitoring (winter 25-26) shows peak readings at 3.79-3.81m AoD. The base of

the proposed trench soakaway is at 4.2m AoD but the construction detail indicates an additional 200+mm could be added taking the depth to below 4.0m AoD, therefore with 200mm of winter groundwater monitoring results. The design therefore does not comply with NSfS clause 1.15 which requires a 1m vertical offset from the maximum likely groundwater level on the site.

NSfS clause 1.15 notes: '*1.15 The base of infiltration drainage features shall not be within 1m of the maximum likely groundwater level on the site with levels determined in accordance with requirement 4.16.1.*'

NSfS does not require a 1m clearance the use of 'shall' allows this element to be reduced in agreement with the approval body as NSfS 1.1.1 '*shall – this indicates a performance or method-based requirement of the standards which can only be varied through a departure agreed with the approving body*' which in this case is the LLFA who have not raised any objection.

The reduction in depth over the maximum level of recorded groundwater is specifically discussed in sections 6.2.11, 6.2.12 and 6.2.13 of the Flood Risk Assessment v2.0 which notes:

'6.2.11 As stated in the CIRIA report C753 The SuDS Manual-v6 freeboard between the base of the infiltration structure and the highest recorded groundwater level should be ideally be 1m where possible.

6.2.12 However on the coastal plain in particular where geology dictates and where shallow perched / tidally influenced water tables are often present this is unlikely to be achievable.

6.2.13 Irrespective of this infiltration must still be fully considered. Therefore, to maximise this potential and avoid utilising other less favourable methods of surface water disposal, the bases of infiltration structures are permitted to be immediately above the peak recorded groundwater levels where it is deemed necessary.'

The wording of 6.2.12 and 6.2.13 was taken from the Advisory Notes provided by Arun District Council to Planning Application A/122/23/PL for a site within the same costal plan at Mayflower Way, Angmering approximately 1.5km northeast and further inland of this site. Arun District Council have noted that on the coastal plain the 1m freeboard may not be achievable, but that infiltration must be fully considered.

The site investigation demonstrates that infiltration is available on site at 4.2m AOD, groundwater has been recorded at 3.81m AOD.

The submitted construction detail of the base of the soakaway has been designed, in accordance with the site investigation which indicates that there may be areas at the base of the soakaway where the formation may need to be excavated and filled with a suitable draining medium, this is a practical response to the potential variation in the soakage level. The proposed base of the soakaway remains approximately 400mm above the highest recorded groundwater level.

Infiltration has been fully considered for this site and whilst 1m of freeboard cannot be achieved, Infiltration with freeboard above the highest recorded groundwater level is achievable.

- 1.4. The Drainage Statement notes that February 2026 was exceptionally wet, however, comparison with long term rainfall trends is not a precautionary approach when considering climate change and no additional winter groundwater data or comparison assessment is provided to demonstrate that typical seasonal high groundwater levels are significantly lower.

This was simply a comment noting how wet the area was during the testing. The Met Office have now published data confirming the south of England recorded its 4th wettest winter on record over

winter 2025/26.

Whilst we agree that no further information has been provided to compare groundwater levels it is a reasonable assumption that groundwater levels would have been higher than average during winter 2025/26.

- 1.5. The design is not currently in accordance with the requirements of the NSfS (Standard 1). Therefore, we **object** to the application.

It is accepted that the ideal distance of 1m above recorded groundwater is not met, however, the site has proven soakage at a level of 4.2m AOD and below and there is no option to raise the base of the soakaway further above the recorded groundwater level and maintain the ability to infiltrate to ground.

The site surface water discharge from the site has only low and very low pollution risk from the activities on site, water quality mitigation is proposed that mitigates the pollution risk and infiltration is achievable and remains the highest solution to discharge all surface water from site in accordance with the drainage hierarchy.

Arun District Council have previously published informative information confirming that on the coastal plain in particular where geology dictates and where shallow perched / tidally influenced water tables are often present a 1m freeboard is unlikely to be achievable and that irrespective of this infiltration must still be fully considered. Therefore, to maximise this potential and avoid utilising other less favourable methods of surface water disposal, the bases of infiltration structures are permitted to be immediately above the peak recorded groundwater levels where it is deemed necessary

A request to accept infiltration to ground as the most appropriate discharge option for surface water from the site with this departure from standard in regard to the 1m clearance from highest recorded groundwater levels is sought in accordance with Arun District Council previously publish position for the area.

2. Interception drainage

- 2.1. The design achieves interception drainage through infiltration to ground.
2.2. Please note this will need to be reviewed if the design changes due to the comments above relating to runoff destination.

3. Extreme rainfall and flooding

- 3.1. Calculations are provided which show the system does not flood during the design storm and that half drain times for the 3.3% AEP storm are within 24 hours.
- 3.2. Exceedance paths are currently shown through fences and/or gates adjacent to buildings which may hamper the flow. However, the use of permeable pavement reduces the risk of inlet capacity being exceeded and the low point in the drainage system is covers in the rear gardens at the northern end. The exceedance paths plan should be clarified.

Exceedance routes have been indicated and are for events in excess of the 100 year plus 45% event.

- 3.3. The calculations show top water levels up to 1 millimetre below the lowest chamber cover during the design storm. An increased buffer should be applied.

There is no requirement for an increased buffer. NSfS guidance requires the 30 year plus climate change event to remain below ground and that the 100 year plus climate change event to remain on site.

The calculations provided demonstrate the 100 year plus 45% event is retained below ground and is in accordance with the guidance.

- 3.4. The infiltration rate is applied to the base of the trench soakaway which does not afford the inherent safety of applying to sides only as with the BRE365 method. Therefore a suitable factor of safety should be applied in accordance with NSfS clause 3.17.

The design is a base draining soakaway no different from a blanket drain constructed at depth. NSfS clause 3.17 provides factors of safety for RP 156 (CIRIA) Method for Infiltration systems and for return periods based on 10 year return periods.

RP 156 (CIRIA) Method has not been used in this case as it has been design in accordance with BRE 365 for a return period of 100 years plus 45% for climate change.

A factor of safety of 2 has been applied to the soakaway calculation in accordance with the principals of BRE 365 which consider half the available soakage area whether using only the sides or only the base.

Arun District Council have previously accepted Factor of Safety of 2 for a similar infiltration design for application A/184/25/DOC.

- 3.5. There is a flow control device included in the calculations (SA3) which may be redundant. Some further explanation of modelling methodology should be provided or the flow control removed.

Without a flow control the network would be modeled as an open-ended pipe network. I.e. a flow out of that network would be modelled as if it were an open-ended drainage network.

The flow control device has been added to ensure that the model does not allow a flow out of the "network" and relies solely on infiltration as a means of discharge.

The design is not currently in accordance with the requirements of the NSfS (Standard 3). Therefore, we **object** to the application.

The design is compliant with NSfS Standard 3

4. Water quality

- 4.1. The mitigation provided by the permeable paving and swale is sufficient to mitigate the risk of pollution from the development.

5. Amenity

- 5.1. The site is brownfield land and there is limited scope to design for multifunctional amenity value.
- 5.2. The proposed swale provides some amenity value but is positioned to the rear of the building and does not appear to be visible or accessible from the majority of the development.
- 5.3. Further detail should be provided in the Drainage Statement to set out the constraints of the site and how the SuDS design maximises the aspects included in Standard 5 of the NSfS.

Section 8.5 of Flood Risk Assessment v2.0 notes '*The proposed permeable paving provides a multifunctional space comprising vehicular access and parking as well as storage for the attenuated surface water discharge from site*'. This meets the amenity benefit noted in NSfS standard 5.

Arun Engineers acceptance that the swale also provides amenity benefit is welcomed however the multifunctional car park and access area is how the amenity benefit has been provided for the site as noted in section 8.5 of Flood Risk Assessment v2.0.

6. Biodiversity

- 6.1. The application is for major development and includes requirement for BNG.
- 6.2. No assessment is provided on the biodiversity aspect for the sustainable drainage system although the proposed swale is noted which provides some benefit.
- 6.3. A site-specific biodiversity risk and opportunity (BRO) statement which confirms the SuDS design meets the requirements of Standard 6 should be provided in accordance with ADC guidance.

The acceptance that the swale provides biodiversity benefit is welcomed.

Biodiversity Benefit for the site was submitted as part of the Biodiversity Nett Gain Assessment by Tetra Tech also submitted with the Planning Application.

7. Construction, operation, maintenance, decommissioning and structural integrity

- 7.1. There is no significant concern regarding the construction of the SuDS design. The ground investigation report notes low risk of dissolution of the chalk stratum.
- 7.2. An outline Management and Maintenance Plan is provided with the planning application which is acceptable for the current design for planning stage.
- 7.3. Please note this will need to be reviewed if the design changes due to the comments above relating to runoff destination.

8. Suggested conditions / Overcoming the objection

- 8.1. As this is not a holding objection or a request for further information, requested conditions are not listed. If you are minded to approve this application, please reconsult engineers for a list of suggested conditions to ensure that the development is adequately drained and does not increase flood risk elsewhere.

8.2. The imposition of conditions at this stage rather than overcoming the objection could result in a circumstance where the condition cannot be discharged. In the event of attaching a condition that cannot be discharged, permission may be invalid or that condition could be deemed to be unreasonable.

8.3. If you are minded to allow the applicant additional time to submit further documents to support this application, then further evidence may overcome our objection. Please do not allow the applicant to submit further documents without prior discussion as to whether it will be possible for these to be assessed or influence your determination.

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