Engineers Comments Regarding Surface Water Drainage

Application Reference:	F/19/25/OUT	**Reviewer Reference:**	ADC/SB
Planning Officer:	Emma Sheppard	**Date of Review:**	26/09/2025
Site Name:	Land to the South of Ford Lane Arundel BN18 0DF		
Application Description:	Outline planning application with all matters reserved (except access proposed along Ford Lane) for development of up to 400 No dwellings, a 8-10 form entry secondary school with associated sports pitches and facilities, a community hub building of up to 600 sqm, new pedestrian and cycle routes, Public Open Space, sustainable urban drainage system, landscaping and associated infrastructure. This application lies within the parish of Ford and Yapton, affects the setting of listed buildings, affects a Public Right of Way and is a Departure from the Development Plan. This is a CIL liable development.		
Assessment Number:	1 of 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-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	**Objection in principle.**

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The NsTS have been superseded by the National Standards for Sustainable Drainage Systems [NSfS] from 19 June 2025.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 OUTLINE surface water drainage design checklist (linked above). A failure to address these will result in an **objection** to any OUTLINE planning application.

Where the quantum of development is not being approved, an objection to an outline application is only made where:

- a viable runoff disposal location has not been evidenced,
- flood risk may be impacted by the proposal,
- surface water drainage may impact the proposed development scale and layout, or;
- a significant impact upon existing watercourses or natural drainage features is identified

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	Not applicable (OUTLINE application)	**No objection subject to conditions**
3. Extreme Rainfall and Flooding	Insufficient	**Objection**
4. Water Quality	Not applicable (OUTLINE application)	**No objection subject to conditions**
5. Amenity	Not applicable (OUTLINE application)	**No objection subject to conditions**
6. Biodiversity	Not applicable (OUTLINE application)	**No objection subject to conditions**
7. Construction, operation, maintenance, decommissioning and structural integrity	Not applicable (OUTLINE application)	**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:

- GENERAL ARRANGEMENT DRAINAGE STRATEGY 79400180-NIR-ZZ-XX-DR-C-25100 REVP03
- TOPOGRAPHICAL SURVEY S8174-A
- TREE CONSTRAINTS PLAN TCP 02
- Flood Risk Assessment, reference 81400650-1646955135-31, revision 04, dated 13/06/2025. Uploaded in 3 parts on the planning portal and referred to as the **FRA**.

Consultation comments to the planning officer

0.

1. Runoff destination

1.1. The applicant proposes to discharge surface water into the ground via infiltration. Water reuse is not proposed but should be, in accordance with the hierarchy for sustainable drainage as there is a significant contributing catchment and the potential demand for non-potable water, there may also be a need for landscape irrigation.

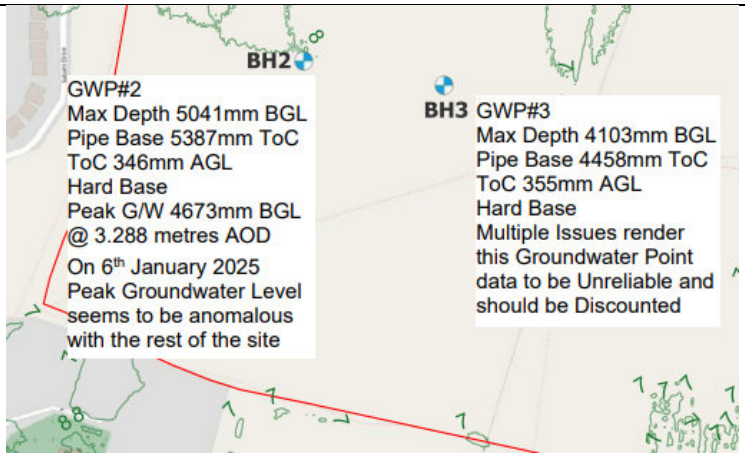
1.2. Even if water reuse is proposed, this is unlikely to provide a full surface water solution. Therefore, progression through the hierarchy is inevitable. The use of infiltration as the next highest priority disposal method is supported. However, insufficient evidence has been submitted to demonstrate that infiltration is viable. This is critical as the applicant has not identified any alternative means of draining surface water from the site.

1.3. Where infiltration is the only disposal option available or suggested, it is expected that the applicant demonstrates that the strategy is achievable. This would be supported with ground investigations (groundwater monitoring and infiltration testing) which inform the design. The investigations that have been submitted are no adequate for these purposes.

1.4. This is because infiltration testing was completed in the summer which does not represent worst case conditions as stipulated by national guidance (BRE DG 365). The testing locations also do not correspond with where features are likely to be proposed. The deeper tests which had more favourable infiltration rates cannot be used for the purposes of the design as they were based too deep, and 1m of unsaturated ground to the groundwater would not be achieved. Only one of the shallower tests (TP7) was observed to fully empty. This is concerning as the design will rely on the fully tested depth and if a feature does not fully drain then storage capacity will be lost.

1.5. The groundwater monitoring has not been completed in areas where infiltration features are likely to be proposed and there appear to be significant questions relating to the reliability of some of the observations. This is to such an extent that an extensive explanation of the monitoring has been provided. There is too much uncertainty regarding the groundwater levels and anomalous readings for this data to be relied upon for detailed design purposes. Most critically we need to understand the levels where features are likely to be proposed as 1m of unsaturated ground from the base of those features to the peak groundwater levels must be achieved for infiltration to be viable.

1.6. The two closest groundwater monitoring points to the proposed infiltration features are BH2 and BH3, these are both stated to include unreliable data and are further north than the proposed basins:



1.7. As no viable alternative runoff destination has been suggested, and the proposed destination is inadequately substantiated, I **object in principle** to the application. If planning permission is granted for this application and it is later found that infiltration is not viable, then it is unclear how the site will drain surface water. This could lead to an increase in flood risk on site or elsewhere.

1.8. It is noted that the designer has suggested that residential properties will drain surface water via private soakaways in rear gardens. It is suggested that the designer and applicant reconsider this strategy due to the extensive infiltration testing that would be required to support it. We also highlight that locating drainage features within private curtilages can raise maintenance challenges.

1.9. Where roads are proposed to be adopted the adopting standards of the adopting body must be referred to in the surface water drainage design submission.

2. Interception drainage

2.1. This standard cannot be fully assessed when the scale and layout of the development is not being submitted for approval. Therefore, it is not a reason for objection and can be assessed when an application for reserved matters is made.

2.2. Consideration of interception drainage is critical to the conceptual design of the site in determining the scale and layout of the development. Interception drainage ensures that rainfall from regular rainfall events does not leave the site. This replicates greenfield conditions and goes hand in hand with the management of extreme rainfall events to ensure that development does not increase flood risk.

2.3. Where infiltration has not been proven to be viable (as here) and there is a risk that interception drainage may only be delivered by evapotranspiration this can have significant impact on the scale and layout of the proposed development.

3. Extreme rainfall and flooding

3.1. There are large areas within the site that are at risk of surface water flooding. The FRA acknowledges that these areas exist but does not show them clearly. It also claims that the risk is low to medium, rather than low to high.

3.2. It is claimed that these are 'small pockets of flooding that are not obviously connected to overland flow pathways or watercourses.' However, this has not been demonstrated by the FRA. The surrounding levels do not appear to have been scrutinised to show that surface water will not enter the site from elsewhere. This is important as that surface water may need to be considered in the design calculations for storage.

3.3. It is also unclear how the applicant may wish to manage these areas of surface water flood risk. The FRA does not demonstrate what measures (if any) the applicant proposes to ensure that the development is safe from flooding. It is critical to understand if any land raising is proposed as this could displace areas of surface water flood risk elsewhere, or flood compensation may be required. Therefore, we **object** to the application.

3.4. It is noted that a sequential test has not been submitted. Section 4.2 of the FRA states that, "The area to be developed is wholly within FZ1. A sequential test is therefore not required." This may not be required where the applicant can demonstrate that no built development would be located on an area of surface water flood risk (or another flood risk), but that is not demonstrated by this FRA and application.

3.5. Whilst the designer has not suggested an alternative means of draining the site aside from infiltration, they have submitted greenfield runoff rate calculations. These cannot be accurately assessed without the supporting rainfall and FEH point descriptor data. This ensures that the correct inputs have been entered to generate the per hectare runoff rate. Ultimately, the discharge rates would need to correspond with the area which can be drained.

3.6. The supporting calculations exceed our requirements, in terms of consideration of less likely storm events. Had the ground investigations adequately supported the proposed design (see section 1), then we would have requested that calculations for the 1% annual exceedance probability (AEP) and the 3.3% AEP events were submitted, both accounting for climate change. The size of the necessary storage can only be accurately determined once the contributing area is proposed. However, the design must be based on the most recently available FEH rainfall data (currently 2022), and use the correct climate change allowances for the lifetime of the development. Infiltration rates should be applied to the base or the sides of infiltration structures, not both.

3.7. However, there is little merit in these calculations being submitted when the supporting ground investigations are inadequate and there are no alternative means of draining the site submitted.

4. Water quality

4.1. This standard cannot be fully assessed when the scale and layout of the development is not being submitted for approval. Therefore, it is not a reason for objection and can be fully assessed when an application for reserved matters is made.

4.2. The later submitted water quality and proposed treatment assessment must assess each sub-catchment and their treatment methods where different parts of the site receive different treatment regimes. The designer should aim to treat all rainwater as close to source as possible. **Open features which aid water treatment can impact the scale and layout.**

5. Amenity, Biodiversity, Construction and Maintenance

5.1. These standards cannot be fully assessed when the scale and layout of the development is not being submitted for approval. Therefore, they are not a reason for objection and can be assessed when an application for reserved matters is made.

5.2. Each of these standards can impact the scale and layout of the proposed development and the applicant and design team are encouraged to familiarise themselves with our guidance and checklists to avoid objection when a reserved matters application is made.

6. Suggested conditions / Overcoming the objection

6.1. 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.

6.2. 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.

6.3. 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.

6.4. The updated evidence must include a viable alternative runoff destination to infiltration if satisfactory ground investigations cannot be submitted. Evidence that surface water flood risk is adequately accounted for must also be submitted.

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

[redacted]

Drainage Engineers response

[redacted]

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: 29 September 2025 13:53
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Emma Sheppard <Emma.Sheppard@arun.gov.uk>; David Easton <David.Easton@arun.gov.uk>; Paul Cann <Paul.Cann@arun.gov.uk>
Subject: RE: Planning Consultation on: F/19/25/OUT

Hi Emma,

Find the consultation – an objection in principle – attached. Apologies for the delay in response.

Kind regards

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

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

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: 30 June 2025 13:34
To: Land Drainage <Land.Drainage@arun.gov.uk>
Subject: Planning Consultation on: F/19/25/OUT

To: **Engineers (Drainage)**

NOTIFICATION FROM ARUN DISTRICT COUNCIL

Town & Country Planning Act 1990 (as amended)
Town & Country Planning (Development Management Procedure) (England) Order 2015 - Article 5

Outline Consent

Application No:	**F/19/25/OUT**
Registered:	30th June 2025
Site Address:	Land to the South of Ford Lane Arundel Arundel BN18 0DF
Grid Reference:	498519 103544
Description of Works:	Outline planning application with some matters reserved (except access) for up to 400 No dwellings, an 8-10 form entry secondary school with associated sports pitches and facilities, a community hub of up to 600 sqm, new pedestrian, cycle and vehicular access point onto from Ford Lane with additional secondary pedestrian/cycle access points will be provided throughout the site, allotments/community growing space, an orchard, country

park, a sustainable urban drainage system and other formal public open space, landscaping and associated infrastructure. This application also lies within the parish of Yapton, affects the setting of listed buildings, affects a Public Right of Way and is a Departure from the Development Plan.

The Council have received the above application.

Click here to view the application and 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.

Should you have any comments to make, these should be sent by replying to this email by 31st July 2025 . You can also monitor the progress of this application through the Council web site:

https://www.arun.gov.uk/planning-application-search

The application will be determined having regard to the development plan policies (if any are relevant) and other material considerations. The development plan can be accessed via the website https://www.arun.gov.uk/development-plan as can information on what comments we can consider https://www.arun.gov.uk/planning-application-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.

Should the application go to appeal the Planning Inspectorate will publish any comments made to the Council on their website:https://acp.planninginspectorate.gov.uk/ but they will protect personal details.

In the absence of a reply within the period stated, I shall assume that you have no observations to make.

Yours sincerely

Jessica Riches

Planning Officer- Arun District Council

Telephone: 01903 737852

Email: jessica.riches@arun.gov.uk

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