

## Engineers Comments Regarding Surface Water Drainage

<b>Application Reference:</b>	R/239/24/PL	<b>Reviewer Reference:</b>	ADC/SB
<b>Planning Officer:</b>	Harry Chalk	<b>Date of Review:</b>	10/04/2025
<b>Site Name:</b>	Condair Building Artex Avenue Rustington BN16 3LN		
<b>Application Description:</b>	Demolition of existing building (facing Brookside Avenue) and redevelopment of the rear of the site for office use, with ancillary storage facilities and landscaping falling within Class E. This application is in CIL Zone 4 and is zero rated as other development.		
<b>Assessment Number:</b>	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>

The SuDs Manual [C753] by CIRIA

Sustainable drainage systems: non-statutory technical standards' <https://assets.publishing.service.gov.uk/media/5a815646ed915d74e6231b43/sustainable-drainage-technical-standards.pdf>

Response	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
<b>Winter groundwater monitoring data.</b>	<p>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.</p> <p>The same data is necessary to ensure that the potential for buoyancy has been adequately considered in attenuation designs.</p>	<b>Insufficient in duration.</b>

<b>Winter infiltration testing data.</b>	<p>Adequate winter infiltration testing must be supplied to justify the proposed discharge method and design infiltration rates.</p> <p>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.</p> <p>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.</p> <p>The results of incomplete tests should not be extrapolated to obtain design values for infiltration rates.</p>	<b>Compliant</b>
<b>The hierarchy for sustainable drainage.</b>	<p>The proposed discharge method must accord with the SuDS hierarchy as given below. Evidence must be supplied to justify the proposed discharge method.</p> <ol style="list-style-type: none"> <li>1. Rainwater reuse where possible.</li> <li>2. Complete discharge into the ground (infiltration).</li> <li>3. Hybrid infiltration and restricted discharge to an appropriate water body or surface water sewer.</li> <li>4. Restricted discharge to an appropriate water body.</li> <li>5. Restricted discharge to a surface water sewer.</li> <li>6. Restricted discharge to a combined sewer.</li> </ol> <p>A water body may be defined as a river, watercourse, ditch, culverted watercourse, reservoir, wetland or the sea.</p> <p><b>Engineers cannot support any proposed connection of surface water to the foul sewer.</b></p>	<b>Compliant but unproven</b>
<b>Calculations</b>	<p>Calculations for pre-development run off rates must be based upon the positively drained area only.</p> <p>Proposed discharge rates must not increase flood risk on site or elsewhere. Discharge</p>	<b>Compliant</b>

	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. <b><u>FSR rainfall data will not be accepted.</u></b> FEH rainfall data is based upon more recent records and continues to be updated.	<b>Compliant</b>
	<p>Designs must use the correct climate change allowances at the time of determination of the outline or full planning application.</p> <p>CV values for all events must be set to 1. This includes summer, winter, design, and simulation events.</p> <p>The correct allowance for urban creep must be applied.</p> <p>Additional storage must be set to zero unless it can be evidenced where this is provided.</p> <p>Infiltration half-drain times must be less than 24 hours.</p> <p>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.</p> <p><b>A surcharged outfall must be modelled.</b></p>	<b>Insufficient</b>
<b>Natural catchments design.</b>	<p>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.</p> <p>The condition, performance (including capacity where appropriate) and ownership of any existing site surface water drainage infrastructure must be accurately reported.</p> <p>Appropriate easements to watercourses and other services must be shown on all plans.</p> <p><b>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</b></p>	<b>Insufficient</b>

	<p>be accommodated on the site without conflicting with those areas of flood risk.</p> <p>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.</p> <p><b>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.</b></p>	
<b>Plans</b>	Plan areas, depths and levels of drainage infrastructure must accurately correspond with the supporting calculations.	<b>Not assessed – depth of highway drainage unknown.</b>
<b>Water quality benefits.</b>	An assessment of water quality is necessary to evidence that the proposed design provides adequate treatment of surface water.	<b>Compliant</b>
<b>Biodiversity and amenity benefits.</b>	The surface water drainage design must provide biodiversity and amenity benefits.	<b>Insufficient</b>
<b>Trees and planting</b>	<p>There should be no conflict between surface water drainage infrastructure and existing or proposed trees or planting.</p> <p>The design must consider the potential growth of proposed trees and adequate mitigation must be provided to protect drainage infrastructure where conflict <b>cannot</b> be avoided.</p>	<b>Not assessed</b>

#### 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: **WSCC Highways (Drainage)**
- ☐ 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:

- Flood Risk and Drainage Strategy reference D2287/FRA1.2 dated 11/12/2024. Uploaded in three parts on the public portal. Referred to as the **FRA**.
- 20-044-CONd-MHA-XX-ZZ-DR-A-007 Rev P01 – Existing topographic survey

### Disposal Location

The designer has proposed to discharge surface water to the public highway drainage network. There is infiltration potential on the site, however, this has been ruled out due to the presence of made ground and chalk stratum. The infiltration test in TP1 was not into the made ground; this test was 0.55m to 1.55m depth, with made ground observed to 0 to 0.4m depth. This test demonstrated a viable infiltration rate of  $1.12 \times 10^{-5}$  m/s. It is noted that the date of testing is unlikely to represent worst case conditions as it was in spring and follows a dry period of weather.

The FRA states that Soils Limited have advised that soakaways should be located at least 10.00m away from existing and proposed buildings/structures. The Soils Limited Factual Report submitted to support the application (Appendix C of the FRA) does not appear to include any statements to this effect. The scale and layout of the proposed development is yet to be determined and therefore the necessary easements should not be considered a limiting factor. The layout can feasibly be adjusted to achieve a compliant surface water drainage strategy. This should be considered further, particularly if a connection to the public highway drainage system is not permitted.

Having discounted infiltration, the designer has proposed to connect surface water to the public highway drainage system. This is because there are no watercourses, surface water or combined sewers in the vicinity of the site. If infiltration is not viable then we are supportive of this strategy. However, the applicant has **no right of connection** of surface water to the highway drainage

network and they have not presented any evidence that they will be able to obtain permission for the connection.

The site apparently disposes of surface water to the public foul sewer, evidence of this has not been fully submitted, although it is not disputed at this stage. Additional surface water is said to flow overland towards the highway where it discharges informally to the highway drainage network via road gullies. Evidencing this informal connection will be critical in agreeing a formal connection with the asset owner, West Sussex County Council.

The depth of the highway drainage network is unconfirmed. This should also be evidenced prior to determination to ensure that the site can achieve a gravity connection. Failing to demonstrate that gravity connection is achievable increases the likelihood that an unsustainable pumping solution is proposed.

Sustainable means of draining the site are summarised as follows:

1. Infiltration – May not be viable due to geotechnical constraints – advice required.
2. To a watercourse – none available.
3. To a surface water sewer – none available.
4. To a highway drainage system – Permission cannot be assumed. Levels unknown.  
Generally, applications to connect surface water to highway drainage are strongly resisted.
5. To a combined sewer – none available.

**Surface water must not be discharged into the foul sewer.** The foul sewer is not a recognised disposal location in the SuDS Manual, Approved Document H, or the NPPG [Flood risk and coastal change para 056]. It is important to recognise that the foul and combined sewer networks are defined by the public sewer records held by Southern Water Services Ltd.

The submitted FRA has not demonstrated a viable disposal location that accords with the hierarchy for sustainable drainage. Therefore, the applicant has not shown that flood risk will not be increased by the proposed development.

#### Interception

Interception can be defined as the capture and retention on site of the first 5mm (or other specified depth) of the majority of all rainfall events.

The SuDS Manual offers design criteria and standards. The **standards should be met in full**, unless there are local or national standards that take precedence. In this instance there are not.

Two of the 8 parts of the standards relate to the provision of interception:

**“Water Quantity Design Standard 1a):** Volume control for frequent rainfall events

The drainage system should be designed so that runoff from the site to receiving surface waters does not occur for the majority of small rainfall events.”

and

**“Water Quality Design Standard 1:** Prevent runoff from the site to receiving surface waters for the majority of small rainfall events.”

Interception can be delivered by using one or a combination of processes:

- rainwater harvesting
- infiltration
- evapotranspiration using temporary shallow ponding or storage within the soil or upper aggregate layers.

No formal assessment of how the site is delivering interception has been submitted by the applicant. However, if infiltration is not viable then the applicant will be limited to evapotranspiration and rainwater harvesting to deliver this standard. The proposed permeable paving will meet the objective for its own area, however, for the additional roof area downstream interception components will be required. Rainwater harvesting systems must be designed for supply purposes and using evapotranspiration will require a significant vegetated surface. This may affect the proposed scale and layout of the development.

#### Surface water flood risk

There is a small area at the south of the site which is at risk of surface water flooding. The designer may need to account for surface water entering the system from the neighbouring site in their surface water drainage design. This is inadequately demonstrated by the submission.

#### Discharge rates/volumes

Discharge rates (and volumes, depending on the methodology used) will require further scrutiny. This will also be subject to the agreement of WSCC. The SuDS Manual provides suggestions for how brownfield runoff rates should be calculated on pages 518 and 519.

The suggested and approved runoff rate will have a direct impact on the storage required. Sites should seek to achieve as close to greenfield runoff rates and volumes as possible. This is because brownfield sites are likely to be contributing to existing flood risk. Any deviance from the greenfield runoff rate must be agreed with the approving body, in this instance ourselves, for planning purposes.

The designer should seek to agree a discharge rate in advance of submission of any further plans or documents.

#### Overcoming the objection

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.

**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.**

If the planning officer is minded to allow the applicant additional time to submit further documents to support this application, then the following evidence may overcome the objection. Please do not



submit further documents without prior discussion with the planning officer as to whether it will be possible for these to be assessed or influence their determination.

1. Geotechnical advice relating to the evidenced stratum and infiltration viability on the site.
2. If infiltration is viable then a preliminary infiltration design is presented.

In the absence of further groundwater monitoring then also present:

Permission in principle to connect surface water to the public highway drainage network on Brookside Avenue. This should include recognition and commitment to any remediation works that are necessary. (Surveys may be required).

3. Evidence that interception drainage is provided for all positively drained areas.
4. Evidence how surface water flood risk has been considered for the purposes of the surface water drainage design.
5. Demonstrate that the proposed discharge rates and volumes have been determined using a methodology prescribed by The SuDS Manual. Justify any deviance from greenfield runoff rates and volumes.

#### Checklist

A reduced **site-specific** version of our full surface water drainage design checklist is provided below. This has been edited to remove elements that are not applicable to this site, either due to the scale of the proposal or the method of disposal. The checklist is provided to assist the applicant and designer in preparing a revised design to meet our requirements. It is applicable to **SITE NAME** only.

- Items highlighted as   must be provided prior to determination to overcome our objection.
- Additional comments or notes are provided by the reviewer **in bold**.
- If an item has been submitted this is checked: ☒
- For HH, OUT, RES and PL applications only: All other items are assumed to be handled via a condition applied to the permission if given.

Our requirements and comments are elaborated upon or condensed within a separate 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](mailto:land.drainage@arun.gov.uk) if needed.

The full unedited surface water design checklist is available on our website at <https://www.arun.gov.uk/surfacewater/>. **If the design is amended following receipt of our consultation the designer may need to refer to the full checklist to ensure that the revised design meets our requirements.**

## Condair Designer Checklist

### Ground Investigation Results



### Groundwater monitoring

- ☒ Plan showing location of monitoring points provided.
- ☒ Depths of holes detailed.
- ☒ Dates of observations and depth to groundwater recorded. **– More winter observations required for buoyancy calculations.**
- ☒ Evidence of the strata within borehole or monitoring pits provided.

### Requested to aid speed of assessment

- ☐ Plan showing the peak groundwater levels at each monitoring point in mAOD.
- ☐ Peak groundwater levels recorded in metres below ground level and mAOD.

### Infiltration testing

- ☒ Completed strictly in accordance with BRE DG 365, CIRIA R156 or a similar approved method.
- ☒ Plan showing location of trial pits provided.
- ☒ Pit dimensions provided.
- ☒ Depths of testing provided.
- ☐ Dates, times and readings of each test recorded. **Noted to be completed 25-26 March 2024 in the main body of the report. Timing is unlikely to represent worst case conditions.**
- ☒ Calculations for the infiltration rate for each test provided.
- ☒ Evidence of the strata within trial pits provided.
- ☒ Test locations, and depths correspond with the expected location and depths of proposed infiltration features.

### Requested to aid speed of assessment

- ☐ Depths of testing provided in m below ground level and mAOD.

### Other

#### As appropriate, dependent upon specific site conditions

- ☐ Geotechnical advice relating to the siting of infiltration features and risk of dissolution. (Usually where chalk strata is evidenced.)
- ☐ Contamination evaluation assessment where infiltration is proposed in ground that may be contaminated.
- ☐ Geotechnical advice where infiltration is proposed into made ground (to be generally avoided).

## Surface Water Drainage Statement

### Disposal method (Select as appropriate)

- ☐ Rainwater reuse is proposed where possible.
- ☐ Infiltration is proposed and maximised wherever possible.
- ☐ ~~Hybrid infiltration and restricted discharge to an appropriate water body or surface water sewer is proposed where a full infiltration design is not possible.~~
- ☐ ~~Restricted discharge to a water body is proposed where a full infiltration design is not possible.~~
- ☐ ~~Restricted discharge to a surface water sewer is proposed where a full infiltration design is not possible and there are no nearby water bodies.~~
- ☒ Restricted discharge to a public or private highway drainage network is proposed where a full infiltration design is not possible and there are no nearby water bodies or surface water sewers.

### Disposal method justification

☒ Infiltration has been adequately investigated, in **winter**, at appropriate and varying depths where appropriate, above peak recorded winter groundwater levels at the given location. **Geotechnical advice required regarding made ground and risk of dissolution.**

☒ Surface water sewer network is investigated (location, mapping, network, flow direction, ownership/responsibility, depth, capacity, and condition).

☒ Public and private downstream highway drainage networks are investigated (location, mapping, network, flow direction, ownership/responsibility, **depth, capacity, and condition**).

☒ Any relevant permissions or legal agreements from asset or landowners that are needed are identified and **evidence of consents provided**.

#### Requested to aid speed of assessment

☐ Any previous relevant correspondence or pre-application advice from the Local Planning Authority [LPA] or the Lead Local Flood Authority [LLFA] regarding the surface water drainage design is included with the statement.

#### **Existing Site**

##### Essential

☐ It is clear what the natural drainage characteristics of the site and hydraulically linked areas are.

☒ Natural flow paths are identified on a plan (where applicable).

☒ Existing site drainage features are investigated – condition, performance, and ownership.

##### **Evidence not submitted.**

☐ Any appropriate easements to infrastructure are investigated.

☒ Existing and future flood risk from any source is detailed.

It is suggested that the above is achieved with the following, which may be combined where appropriate:

☒ An existing topographical plan.

☒ An existing site surface water drainage plan (where applicable).

☒ Flood maps (fluvial, tidal, pluvial, groundwater, sewer, and reservoir) are supplied (or Flood Risk Assessment referred to).

☒ Confirmation and surveys of any existing drainage infrastructure on the site.

#### **Proposed Design**

##### Essential

☐ Statement confirming the proposed design criteria including fixed design calculation inputs for the SuDS system. Examples include:

- Climate change allowances,
- Urban creep allowance,
- CV values,
- Rainfall data,
- MADD factor or additional storage.

☐ Natural catchments are followed.

☒ The design is gravity based with no use of pumps.

☒ Where there is existing drainage infrastructure on the site it is clearly explained or illustrated what is being retained, upgraded, or removed.

☒ Details of necessary off-site works and consents are provided.

☐ Surface water flow entering the site from elsewhere is conveyed safely around or through the site without compromising the SuDS system.

☐ Where runoff from elsewhere is drained together with the site runoff, the contributing catchment is modelled as part of the drainage system.

☐ If the surface water drainage is designed to flood in the 1% Annual Exceedance Probability [AEP] + Climate Change Allowance [CCA] event, then the flood volume is contained safely on site without flooding any part of a building or utility plant susceptible to water or affecting safe access or egress.

☒ The design provides and evidences interception drainage and is able to capture and retain on site the first 5mm of the majority of all rainfall events.

☒ Water quality and treatment is adequately assessed – with an assessment appropriate for the scale and proposed use of the site.

☐ Adequate freeboard is provided between the top water level of any open storage features and the top of the bank.

☒ There are no clashes with other infrastructure.

☒ Self-cleansing velocities are achieved where pipes are proposed.

☐ 1m freeboard is provided between peak groundwater levels and the base of any infiltration feature. **If infiltration is viable.**

☐ The proposed discharge rate is explained and justified (for attenuation designs).

☒ Adequate freeboard is provided between peak groundwater levels and the base of any attenuation feature (refer below if this is not possible). **Further evidence of peak groundwater levels is required.**

☐ Where there is a risk that the base of an attenuation feature may penetrate peak groundwater levels, additional mitigation measures to prevent groundwater ingress are incorporated into the design and construction method statement. **Further evidence of peak groundwater levels is required.**

☐ Where there is a risk that the base of an attenuation feature may penetrate peak groundwater levels the effects of buoyancy have been considered in the design. **Further evidence of peak groundwater levels is required or groundwater assumed at surface.**

☐ Amenity benefits are provided by the drainage system (assessed by others).

☐ Biodiversity benefits are provided by the drainage system (assessed by others).

☐ Landscaping has been designed to ensure ease of maintenance of drainage assets.

☐ The justification and criteria for tree root avoidance and mitigation measures is clear, referencing adopting body standards where applicable.

☐ Biodiversity and ecological enhancements do not impede the functionality, maintenance or capacity of the drainage system.

☐ It is confirmed what elements of the SuDS will be private.

☐ It is confirmed what the adoption arrangements for SuDS components will be.

☐ A construction method statement for the SuDS system, appropriate to the scale of the development, is submitted.

☐ A maintenance plan for the SuDS system, appropriate to the scale of the development, is submitted. [Please refer to our SuDS Maintenance Checklist where this is stipulated by condition.]

☐ Any potential health and safety issues relating to SuDS implementation and management have been considered and managed.

#### Preferred

☐ Ground raising is avoided where possible.

☐ The drainage system is considered by and contributes to the biodiversity net gain statement (assessed by others).

#### **Impermeable Area/Catchment Plan**

### Essential

☒ An impermeable area plan is provided showing all positively drained areas including open surface water storage plan areas.

### Preferred

☒ Impermeable areas are shown in m<sup>2</sup> on the impermeable areas plan(s).

☒ Demarcated impermeable areas correspond with the distribution of those areas in the supporting calculations.

## Surface Water Drainage Calculations

### **General**

☒ The most recently applicable, or previously agreed FEH rainfall data is used.

☒ CV values for all events are set to 1. This includes summer, winter, design, and simulation events.

☒ The correct climate change allowances, appropriate for the full lifetime of the development, have been applied to all calculations.

☒ 100% Annual Exceedance Probability [AEP] + Climate Change Allowance [CCA] (1 in 1 year) event calculations provided. **50% provided and will be accepted.**

☐ 10% AEP + CCA (1 in 10 year) event calculations provided showing that the incoming pipe to any infiltration feature is above this level. **Only required for infiltration design.**

☒ 3.33% AEP + CCA (1 in 30 year) event calculations provided showing that the full surface water volume is contained within the designed system without flooding.

☒ 1% AEP + CCA (1 in 100 year) event calculations provided showing that the full surface water volume is contained safely on site, without flooding any part of a building or utility plant susceptible to water or affecting safe access or egress.

### **Infiltration**

☐ Half drain times do not exceed 24 hours for the 10% AEP + CCA and 1% AEP + CCA events.

☐ If half drain times exceed 24 hours for the 1% AEP + CCA event, then advice and agreement from the LPA has been sought and submitted.

☐ The most precautionary design infiltration rate is used.

☐ Design infiltration rates are applied to the sides of soakaways only.

☐ Design infiltration rates are applied to the base of permeable paving, infiltration blankets or basins only.

☐ Where the design infiltration rate is applied to the base an appropriate factor of safety is applied.

### **Attenuation and Restricted Discharge – if infiltration is not viable.**

☐ Greenfield run off rates are based upon the positively drained area of the site only.

☐ Discharge rates are restricted to QBAR or 2 l/s/ha, depending on whichever is higher, for all storms up to the 1% AEP + CCA event.

☐ Half drain times and available capacity in the drainage system for subsequent storms are considered.

☐ Brownfield run off rates are based upon the positively drained area of the site only.

☐ Brownfield sites aspire to achieve greenfield runoff rates and volumes, where infiltration is not viable. If the proposed run off rate is higher than the greenfield run off rate, then an acceptable justification is provided, and the rate has been agreed with any relevant bodies.

☐ A surcharged outfall to a watercourse or sewer has been modelled. The surcharge level is the 1% AEP + CCA flood event for the receiving watercourse, or to the top of the bank if appropriate hydraulic modelling is not available.

☐ A surcharged outfall to a tidal waterbody has been modelled. The surcharge level is based upon present day extreme sea levels with an allowance for sea level rise applied.

Requested to aid assessment

☐ FEH22 point descriptors for the site are provided.

## Drainage Plans and Specifications

### Essential

Plans are provided showing:

- ☒ The proposed design within the proposed site layout.
- ☐ Existing site sections and levels.
- ☐ Proposed site sections and levels.
- ☐ Long and cross sections for the proposed drainage system including final finished floor levels.
- ☒ Exceedance flow management routes.
- ☐ Details of connections to watercourses and sewers.
- ☐ Maintenance access and any arisings storage and disposal arrangements.

These plans must be of sufficient detail that a reviewer can be confident that the design can be constructed without flood risk being increased on site or elsewhere.

Specifications are required for all materials used in the design. We suggest that this is best achieved and illustrated with site specific construction detail drawings. The combination of construction details, with plans and sections, ensure that the proposed standard of construction will facilitate adoption and maintenance by an appropriate body and have structural integrity.

The following checklist is designed to demonstrate the level of detail required:

### **Easements**

- ☐ 3m easements are shown from the top of the bank of all ordinary watercourses, and from the edge of all culverted watercourses on all plans.
- ☐ Any appropriate easements as stipulated by any public or private utility provider shown on all plans.
- ☐ Infiltration features (aside from permeable paving that does not take any extra impermeable catchment such as a roof) are shown at least 5m from buildings or structures.
- ☐ Maintenance easements are shown from the top of the bank from all open SuDS features on all plans.
- ☐ Existing trees and their root protection zones are shown on any drainage layout.
- ☐ Proposed trees and appropriate easements are shown on any drainage layout.

### **Detail**

- ☐ It can be clearly determined what a pipe's diameter, pipe materials, gradients, flow directions and invert levels are from the plans.
- ☐ It can be clearly determined what an inspection chamber or manhole's cover level, invert level, cover loading grade and sump depth (where applicable) are from the plans.
- ☐ All infiltration or attenuation features (including permeable paving) are clearly labelled with their dimensions, invert/base levels and cover levels.
- ☐ Control structures are labelled with discharge rates, hydraulic head, invert and cover levels and ideally model number.
- ☐ Operational characteristics of any other mechanical features are detailed.
- ☐ Measures to protect drainage from tree root damage are clearly shown on any drainage layout.

- ☐ Any areas of necessary ground raising are clearly justified and demarked on a plan, with depths and levels.
- ☐ If the 1% AEP + CCA event floods, then the extent and depth of the flooding is shown on a site plan. This plan includes proposed external ground levels and finished floor levels of buildings.
- ☐ Potential flow routes off site are shown. The plan also includes proposed external ground levels, finished floor levels of buildings and designed slopes on all impermeable surfaces such as highways or car parks.
- ☐ Cross sections and long sections of all open features are provided.
- ☐ Construction detail drawings are site specific.
- ☐ Construction detail drawings are provided for all components including but not limited to:

- ☐ Infiltration structures
- ☐ Attenuation structures
- ☐ Manholes/inspection chambers
- ☐ Catchpits/silt traps
- ☐ Flow control devices
- ☐ Permeable paving
- ☐ Headwalls
- ☐ Channel drains
- ☐ Gullies
- ☐ Pipe bed and surround
- ☐ Pipe to pipe connections
- ☐ Filter strips or drains
- ☐ Swales
- ☐ Bio-retention systems
- ☐ Ponds and wetlands
- ☐ Tree pits and measures to protect drainage from root incursion
- ☐ Water treatment features
- ☐ Green roofs
- ☐ Measures to protect drainage from tree roots.
- ☐ Water butts or alternative methods of water reuse – also to be shown on plans.

The following items are requested to aid assessment or confidence in construction:

- ☐ Where features have a non-uniform plan area, a plan showing the coordinates of the perimeter is provided.
- ☐ All drainage infrastructure is labelled to correspond with the supporting calculations.

**Other**

- ☐ Open feature planting specification is provided (to be assessed by others).

This checklist is designed to aid an applicant with their submission. The list is not exhaustive, and our engineers may request additional information to enable them to review a proposal to their satisfaction.

The checklist may also request information that an applicant does not feel is relevant to their submission. In this case the applicant can provide an explanation as to why they have omitted certain information in their drainage statement. However, the appraising engineer reserves the right to request this information if they believe it is necessary for their review.





**From:** Nicola Oktay on behalf of Planning.Responses  
**Sent:** 11 April 2025 09:50  
**To:** Planning Scanning  
**Subject:** FW: Planning Consultation on: R/239/24/PL  
**Attachments:** R-239-24-PL - Condair.docx

Planning consultee response – Drainage Engineers

**Nikki Oktay**  
**Planning Receptionist**, Planning Department

**T:** 01903 737965  
**E:** Nicola.Oktay@arun.gov.uk

Arun District Council, Civic Centre, Maltravers Rd  
Littlehampton, West Sussex, BN17 5LF  
[www.arun.gov.uk](http://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>



**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:** 10 April 2025 16:00  
**To:** Planning.Responses <Planning.Responses@arun.gov.uk>  
**Cc:** Harry Chalk <Harry.Chalk@arun.gov.uk>; Paul Cann <Paul.Cann@arun.gov.uk>  
**Subject:** RE: Planning Consultation on: R/239/24/PL

Hi Harry,

Find our consultation – an objection – 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](mailto:sarah.burrow@arun.gov.uk)

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**Our priorities...**

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Fulfilling Arun's economic potential

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**From:** Planning.Responses <[Planning.Responses@arun.gov.uk](mailto:Planning.Responses@arun.gov.uk)>  
**Sent:** 22 January 2025 10:19  
**To:** Land Drainage <[Land.Drainage@arun.gov.uk](mailto:Land.Drainage@arun.gov.uk)>  
**Subject:** Planning Consultation on: R/239/24/PL

To: **Engineers (Drainage)**

**NOTIFICATION FROM ARUN DISTRICT COUNCIL**

**Town & Country Planning Act 1990 (as amended)**

**Town and Country Planning (Development Management Procedure) (England) Order 2015**

**Planning Permission**

<b>Application No:</b>	<b>R/239/24/PL</b>
<b>Registered:</b>	22nd January 2025
<b>Site Address:</b>	Condair Building Artex Avenue Rustington BN16 3LN
<b>Grid Reference:</b>	505206 103159
<b>Description of Works:</b>	Demolition of existing building (facing Brookside Avenue) and redevelopment of the rear of the site for office use, with ancillary storage facilities and landscaping falling within Class E. This application is in CIL Zone 4 and is zero rated as other development.

The Council have received the above application.

[Click here to view the application details](#)

Should you have any comments to make, these should be sent by replying to this email by 20th February 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

Harry Chalk

Planning Officer- Arun District Council

Telephone: 01903 737577

Email: [harry.chalk@arun.gov.uk](mailto:harry.chalk@arun.gov.uk)