

From: Laura Gibbons <Laura.Gibbons@arun.gov.uk>
Sent: 22 March 2022 12:25
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Claire Potts <Claire.Potts@arun.gov.uk>
Subject: RE: Notification of an Environmental Statement BN/11/22/OUT

Engineers Comments Regarding Surface Water Drainage

We note that a number of watercourse crossings are proposed for the A29 realignment, relevant consents will be required for these crossings. I.e. Flood Risk Activity Permits from the Environment Agency for works to the main river, and ordinary watercourse land drainage consents from ourselves for the proposed ordinary watercourses crossings. We note at least 5 ditch crossings, some watercourses are noted to have not been surveyed due to access constraints or vegetation, we will require full survey information when the application progresses.

We assume our colleagues at West Sussex County Council will be reviewing the detailed drainage proposals for the A29 realignment, and we have therefore not reviewed these in any detail ourselves. Please note that ordinary watercourse land drainage consent will be required for proposed new outfalls to ordinary watercourses serving the proposed A29.

It is noted that groundwater monitoring has been completed, and has identified groundwater at relatively shallow depths. There are some parcels within the site where groundwater is slightly deeper, and shallow infiltration potential should be explored. We would expect more targeted monitoring to be completed at later stages to better identify the extents of these areas of deeper groundwater.

The proposals to de-culvert the school watercourse are acceptable in principle, but need fully detailed conversations between ourselves and the applicants engineers as proposals progress. We would also encourage the route of this

new open watercourse to be pulled slightly further away from the development periphery to ensure adequate room for maintenance along both sides of the watercourse and no detrimental impacts to adjacent landowners.

The surface water drainage strategy suggest minimum discharge rates of 3l/s and has applied a climate change allowance of 20%. Current policy requires a climate change allowance of 40% to be applied to calculations. We require aperture sizes of flow control devices to be a minimum of 50mm, unless adequate blockage prevention measures are provided. A flat minimum rate of 3l/s is not acceptable.

The application is within the Lidsey Treatment Catchment, therefore surface water drainage design should be carefully considered. Infiltration must be fully investigated.

The hierarchy for sustainable drainage must be followed with infiltration fully investigated. Winter infiltration testing and winter groundwater monitoring must be undertaken, it is advised that the applicant discusses the extent of this monitoring with us at the earliest opportunity. Infiltration tests must be carried out in accordance with BRE365, CIRIA R156 or a similar approved method and cater for the 1 in 10 year storm event plus 40% on stored volumes, between the invert of the entry pipe to the soakaway, and the base of the structure. It must also have provision to ensure that there is capacity in the system to contain below ground level the 1 in 100 year storm event plus 40% on stored volumes, as an allowance for climate change. Adequate freeboard must be provided between the base of the soakaway structure and the highest recorded annual groundwater level identified in that location.

If on-site infiltration is not possible, drainage via a restricted discharge to a suitable local watercourse may be acceptable. Any discharge should be restricted to the mean QBAR greenfield run-off rates for all design storm events. This rate is derived from only the impermeable area of the development, including any permeable areas that are positively drained. A minimum allowable rate of 2 l/s is generally considered to avoid blockage risk of flow control devices, however, lesser rates can be achieved if adequate blockage prevention measures are incorporated.

We suggest that, at the earliest stage, the developer gives due consideration to the appropriate location and design of surface water drainage features to achieve necessary capacity, water quality (via the SuDS management/treatment train), as well as ease of on-going maintenance. Surface water drainage features should also be designed in a manner that positively affects the amenity of the site. We would like to remind the developer that, open features, such as swales, basins and ponds, when designed correctly, can satisfy all the above aspirations in addition to; being easier to maintain, having longer lifespans and offering ecological advantages over subterranean features such as “plastic crate systems”.

It should also be noted that attenuation features should not be counted within useable public open space provision.

Existing and proposed trees (root protection and root potential areas) must not conflict with suds features/pipework.

Ground raising is discouraged. If it is considered absolutely necessary, then due consideration must be given to the potential impacts on existing properties adjacent the development site, in terms of possible elevated groundwater levels and surface water run-off implications.

Adequate treatment of surface water must be ensured prior to discharge.

If you are minded to approve the application please apply the following conditions to ensure that the development is adequately drained and does not increase flood risk elsewhere.

PCENG D2

“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. 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 pre-commencement condition because it is necessary to implement the surface water drainage system prior to commencing any building works.

And the accompanying informative:

INFORMD

“Infiltration rates for soakage structures are to be based on percolation tests undertaken in the winter period and at the location and depth of the proposed structures. The infiltration tests must be carried out in accordance with BRE365, CIRIA R156 or a similar approved method. All design storms must include a climate change allowance of 40% on stored volumes or rainfall intensity. Infiltration structures must cater for the critical 1 in 10 year storm event, (plus 40%) between the invert of the entry pipe to the soakaway and the base of the structure. The design must also have provision to ensure there is capacity in the system to contain the critical 1 in 100 year storm event (plus 40%).

Adequate freeboard must be provided between the base of the soakaway structure and the highest recorded annual groundwater level identified in that location. Any SuDS or soakaway design must include adequate groundwater monitoring data to determine the highest groundwater table in support of the design. The applicant is advised to discuss the extend of ground water monitoring with the council's engineers.

Supplementary guidance notes regarding surface water drainage are located at <https://www.arun.gov.uk/drainage-planning-consultations> on Arun District Council's website. A surface water drainage checklist is available on Arun District Council's website, this should be submitted with a Discharge of Conditions Application.”

PCENG3

“The development shall not proceed until details have been submitted to and approved in writing by the Local Planning Authority for any proposals: to discharge flows to watercourses; or for the culverting, diversion, infilling or obstruction of any watercourse on or adjacent to the site. Any discharge to a watercourse must be at a rate no greater than the pre-development run-off values and in accordance with current policies. No construction is permitted, which will restrict current and future landowners from undertaking their riparian maintenance responsibilities in respect to any watercourse or culvert on or adjacent to the site. “

Reason: To ensure that the proposed development is satisfactorily drained in accordance with policies W DM1, W DM2 and W DM3 of the Arun Local Plan. And to ensure that the duties and responsibilities, as required under the Land Drainage Act 1991, and amended by the Flood and Water Management Act 2010, can be fulfilled without additional impediment following the development completion. It is considered necessary for this to be a pre-commencement condition to protect existing watercourses prior to the construction commencing.

And the accompanying informative:

INFORMD2

“Under Section 23 of the Land Drainage Act 1991 Land Drainage Consent must be sought from the Lead Local Flood Authority (West Sussex County Council), or its agent (Arun District Council land.drainage@arun.gov.uk), prior to starting any works (temporary or permanent) that affect the flow of water in an ordinary watercourse. Such works may include culverting, channel diversion, discharge of flows, connections, headwalls and the installation of trash screens.

The development layout must take account of any existing watercourses (open or culverted) to ensure that future access for maintenance is not restricted. No development is permitted within 3m of the bank of an ordinary watercourse, or 3m of a culverted ordinary watercourse.”

PCENG4

“Development shall not commence until full details of the maintenance and management of the surface water drainage system is set out in a site-specific maintenance manual and submitted to, and approved in writing, by the Local Planning Authority. The manual is to include details of financial management and arrangements for the replacement of major components at the end of the manufacturer's recommended design life. Upon completed construction of the surface water drainage system, the owner or management company shall strictly adhere to and implement the recommendations contained within the manual.”

Reason: To ensure that the proposed development is satisfactorily drained in accordance with policies W DM1, W DM2 and W DM3 of the Arun Local Plan. It is considered necessary for this to be a pre-commencement condition to ensure that the future maintenance and funding arrangements for the surface water disposal scheme are agreed before construction commences.

ENG1

“Immediately following implementation of the approved surface water drainage system and prior to occupation of any part of the development, the developer/applicant shall provide the local planning authority with as-built drawings of the implemented scheme together with a completion report prepared by an independent engineer that confirms that the scheme was built in accordance with the approved drawing/s and is fit for purpose. The scheme shall thereafter be maintained 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.

And the accompanying informative:

INFORMD4

A surface water drainage verification condition guidance note is available at <https://www.arun.gov.uk/drainage-planning-consultations>, this clearly sets out our requirements for discharging this condition.

Kind regards,

Laura Gibbons

Drainage Engineer

Engineering Services

From: Planning.Responses <Planning.Responses@arun.gov.uk>
Sent: 16 February 2022 07:34
To: Land Drainage <Land.Drainage@arun.gov.uk>
Subject: Notification of an Environmental Statement BN/11/22/OUT

To: Engineers (Drainage)

NOTIFICATION FROM ARUN DISTRICT COUNCIL

Application No: BN/11/22/OUT
Registered: 4th February 2022
Site Address: Barnham, Eastergate, Westergate BEW Parcel SC1 Barnham
Grid Reference: 494830 104610
Category:
Description of Works: Outline application with all matters reserved (except for the A29 Realignment) for the demolition of existing structures and mixed use development to provide residential dwellings (Use Class C3), Care Home/Senior Living Accommodation (Use Class E/F2/Sui Generis), a Primary School plus open space, landscaping, drainage and all other associated ancillary works; and realignment of the A29 and early connection to existing A29 including construction of a new road carriageway, junctions and associated infrastructure. This application also lies within the parish of Aldingbourne, affects the setting of listed buildings, affects the character & appearance of the Eastergate Church Lane Conservation Area and affects a Public Right of Way. This application is the subject of an Environmental Statement.

Town & Country Planning Act 1990 (as amended)

Town & Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended)

This Application is the subject of an Environmental Impact Assessment

I am in receipt of the above application, please click the link below to view the Environmental Statement that has been submitted with this application.

[Click here to view documents available on our website](#)

[Click here to view the status of the application.](#)

I would be grateful for your electronic comments made either on line on the website or by emailing back to planning.responses@arun.gov.uk by **26th March 2022**

Please be aware that any comments you may make will be available on our website.

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

Yours sincerely

Claire Potts

Planning Case Officer- Arun District Council

Email: claire.potts@arun.gov.uk

Telephone: 01903 737698.

PLCONES (ODS) 2622