

Arun District Council, Civic Centre, Maltravers Rd, Littlehampton, West Sussex, BN17 5LF

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From: Paul Cann <Paul.Cann@arun.gov.uk>
Sent: 10 March 2022 13:32
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Kevin Brook [REDACTED]
Subject: RE: Notification of an Environmental Statement M/16/22/PL

Engineers comments in respect to surface water drainage;

1. The applicant is encouraged to read our guidance notes/requirements on surface water drainage design; <https://www.arun.gov.uk/surfacewater/>
2. It is appreciated that the scheme predominantly relies on water recycling/reuse. For any areas not being recycled, then the hierarchy for sustainable drainage must be followed with infiltration fully investigated for those parts of the system where it can be utilised. 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. This area suffers from high groundwater, so any infiltration structures will need be shallow. Groundwater data will also be required to support floatation calculations of any lined basins. The finally agreed flood plain extents may affect the areas in which effective suds can be employed and this will need to be discussed further once known.
3. Any discharges to watercourses must be restricted to QBAR for all storm events.

4. The system will need to be designed for the worst case scenario ie. winter conditions when the use of irrigation will be less. Adequate storage must be contained within the system to accommodate the 1 in 100 year storm event + 40% allowance for climate change. In basins, this storage is to be provided above standing water level/outflow invert level and should not take account of any storage reduction due to irrigation operations.
5. As envisaged, ground reprofiling is likely in order to facilitate the golf course. It is important that existing natural catchment areas and discharge points to watercourses are respected, to ensure that flood risk is not increased.
6. The existing watercourses are prone to tide locking, this will therefore need to be taken into account in any design ie. possible surcharged outfalls.
7. The use of permeable paved areas is welcomed and should be utilised wherever possible. Additional means of water treatment may be necessary depending on any chemical treatments the golf course itself may receive. This can be discussed once more details are known.
8. It is acknowledged that pumping is required for the golf course irrigation system. It is also noted that the proposed course drainage system relies on a series of pumping stations to transfer flows to the reservoirs. Pumping is not considered sustainable and the applicant is encouraged to investigate an alternative scheme to negate the need for pumping (other than for the irrigation system). This is likely to require reservoirs being dug into the ground and repositioned to suitable locations to allow gravity inflows. It is also unclear, but it is assumed that the drainage system will be draining groundwater via perforated pipes. If this is the case, careful consideration will need to be given to quantifying flows and therefore storage required. It is presumed that the pumping stations will not operate in the winter when irrigation is not required – perhaps this can be confirmed.

Engineers comments in respect to land drainage;

1. The Elmer Rife is located on the eastern boundary of the site and the Ryebank Rife passes through the site on a west-east line. Both of these watercourses are designated 'main river' and therefore the environment Agency should be consulted.
2. Numerous 'ordinary' watercourses are contained within the site or on the boundaries. All watercourses need to be suitably accommodated, ensuring a 3m buffer both sides for maintenance access and to ensure compliance with hour land drainage byelaws. Excessive culverting will be resisted. Examples are across the fairway of hole no.1 and to the north west of the club house. However, there also appears to be an alternative proposal shown for the watercourse crossing hole no.1 fairway, which involves it being diverted - this would be the preference.
3. A proposed watercourse diversion is noted just east of the proposed access onto the A259. Land Drainage Consent will be required for this work and any other non-maintenance works associated with 'ordinary' watercourses.
4. At the southern end of the site there are watercourses that have been historically filled in and replaced with a land drainage system in part. Elmer Sands estate to the south, has suffered significant historical flooding in the past and remains at risk. To reduce this risk, we would expect a positively drained cut off ditch to be created on the southern boundary to intercept any exceedance flows that may flow overland (after the land is reprofiled to accommodate the golf course) onto the estate. This will need to be carefully designed to ensure that flows are controlled to the Elmer Rife. Ordinary watercourses exist in the south east corner of the site and could form part of this proposal but this is subject to further discussion.

5. Numerous other land drains are known to exist on the development site, as a result of farming practices. These will need further consideration once their locations/extents have been established.
6. There is little doubt that other improvements works will be required to the numerous ordinary watercourses. This can be discussed further at a later date, where a walkover site meeting would be beneficial.

In mind of the above, please could the following conditions and informatives be applied; PCENG2, PCENG3, PCENG4, INFORMD, INFORMD2, INFORMD3

Since a majority of the site is within flood zone 2/3 based upon current Environment Agency (EA) mapping, then the EA should be consulted. It is noted that subsequent hydraulic modelling has been undertaken by the applicant and this will form part of the discussions with the EA.

The surface water flood maps show numerous low lying areas on the site, it is important that any of these areas that lie adjacent to watercourses or have any form of connectivity with watercourses are preserved in terms of extent and level, since they are likely to provide storage when the capacity of the watercourses are exceeded. If it is not possible to retain them in their present form, then they will need to be compensated for.

It should also be noted that an important foul sewage rising main passes through the site, Southern Water (SW) should be consulted in this respect.

It is unclear if the applicant is proposing to dispose of foul sewage via a treatment plant to watercourses or to the existing public sewer network, as both options are mentioned in the documents. The EA and SW will need to be consulted in this aspect.

Regards

Paul Cann
Principal Drainage Engineer
Engineering Services

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From: Land Drainage <Land.Drainage@arun.gov.uk>
Sent: 24 February 2022 09:04
To: Paul Cann <Paul.Cann@arun.gov.uk>
Subject: FW: Notification of an Environmental Statement M/16/22/PL

From: Planning.Responses <Planning.Responses@arun.gov.uk>
Sent: Thursday, February 24, 2022 9:03:36 AM (UTC+00:00) Monrovia, Reykjavik
To: Land Drainage <Land.Drainage@arun.gov.uk>
Subject: Notification of an Environmental Statement M/16/22/PL

To: **Engineers (Drainage)**

NOTIFICATION FROM ARUN DISTRICT COUNCIL

Application No: M/16/22/PL

Registered: 11th February 2022

Site Address: Land South of Grevatts Lane/A259 Climping

Grid Reference: 498885 101503

Category:

Description of Works: Laying out of an 18 hole 72 par golf course, a 9 hole golf course, practice greens and a driving range including a buggy compound; the formation of a new access onto the A259; construction of a club house with associated golf club facilities; the construction of a maintenance building and external area of hardstanding; the laying of parking, new roads and paths; new landscape planting; surface water drainage basins and water storage resevoirs; and other earth works and infrastructure. This application also lies within the parishes of Climping and Yapton, is a Departure from the Development Plan and affects a Public Right of Way. This application is subject to 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 **9th April 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

Mr D Easton

Planning Case Officer- Arun District Council

Email: david.easton@arun.gov.uk

Telephone: 01903 737500 ex37361.

PLC0065 (006) 2020