

Job Title		Date
Borde Hill Estate, Borde Hill Lane, Haywards Heath, RH17 5JN (Nearest).		30/03/2026
Item	Job No.	Report No.
Drainage Strategy Statement	E9459	RE001 C

Introduction

This drainage statement has been produced by Stephen Wilson Partnership Ltd (SWP) under appointment by Alex Goddard – Arley Hill Ventures Ltd. The aim of the drainage statement is to provide a description of the surface and foul drainage proposals for the proposed development of a parcel of land within the Borde Hill Estate. which will support the planning application with Mid-Sussex District Council (MSDC).

This document should be read in conjunction with the drainage drawings 9459-SWP-ZZ-XX-DP-C-1100 - 1104. Refer to Appendix 1.0

Location

The development site is located on an area of felled woodland and an agricultural field on an area of land known as Little Bentley in Borde Hill Estate in West Sussex. The site is approximately 1.25km west of Borde Hill Lane and 3.5km north-west of central Haywards Heath and is connected to the main road (Borde Hill Lane) by an existing track.

The site is area including the access track is approximately 36,000m² or 3.6 hectares.

The figures below shows the Development in its current context.



Overall Site Location – Development Site and existing access track, in yellow



Development Site Location – Development Site located at western extent of existing access track, in red

The centre of the Development Site can be located using the National Grid Reference 531261, 127051.

Proposals

This proposal is based on the landowner's aspiration to rehabilitate the damaged ecosystem of the site while introducing four purpose-built shepherd huts and a single cabin to be used as short stay holiday accommodation.

The five dwellings will be presented to allow visitors to immerse themselves in nature and benefit from the associated wellbeing this provides. In support of this the proposal has been designed to minimise the impact on the existing natural habitat and retain the aesthetics the current landscape has to offer.



Proposed Site Layout – August 2025

Foul/ Combined Water Drainage System

The foul drainage system will be constructed using a traditional positive drainage system. Each of the five of the short stay dwelling will be served by individual treatment plant following guidance from the shepherd hut and cabin designers.

The treated foul flows will then be discharge via the stream to the west of the Site via newly constructed bagwork headwall.

The combined flows from all five treatment plants will be able to meet all the general bindings rules set by the Environment Agency (EA), which means no communications or applications with the EA are required on this occasion.

Furthermore, the foul water drainage for the site will not be offered for adoption to the statutory sewerage undertaker.

Surface Water Drainage System (SuDS)

The pre-development Site is natural greenfield and is 100% permeable. The developer has made the decision to rehabilitate the ecosystem of the Site while providing five short stay holiday lets. Each of the short stay dwellings will be raised above-ground on ground screw foundations and no further hardstanding required, this means that the area beneath each shepherd hut will remain soft and will allow natural soakage, this will not increase the overall impermeable area.

The external terraces will be open plank decking that will also allow the flow of water to drain to the natural surface below.

All pedestrian footways will either remain as grass or will be wood chip or pea gravel and will be free draining, which will not increase the overall impermeable area.

Any surfacing designed for vehicular traffic, which includes the turning head for fire tender access, passing places on the exiting access track and any necessary widening of the existing access track, will be constructed using CellPave HD (or similar) from GROUNDTRAX. This surfacing is also free draining and will mimic the natural drainage process.



Example of CellPave HD from GROUNDTRAX

Please refer to Appendix 4.0 for details of CellPave HD.

The only increase in impermeable area is limited to the roof area of the short stay accommodation.

The existing impermeable/ permeable areas can be summarised as follows:

Description	Area m²	Area Ha
Free draining access road area	4,708*	0.4708*
Natural habitat. <i>Comprised of turf, wildflower meadow, hedge planting and trees</i>	30,711	3.0711
Pond	663	0.0663
Total permeable area	36,082*	3.6082*
Total Site Area	36,082*	3.6082*
Percentage of impermeable	0%	
Percentage of permeable	100%	
* Includes full length of access road to Borde Hill Lane		

The proposed impermeable/ permeable areas can be summarised as follows:

Description	Area m²	Area Ha
<i>Permeable</i>		
Free drainage access road area	4,708*	0.4708*
Grass reinforcement system. <i>To be used for access road widening, passing bays and turning head construction.</i>	676	0.0676
Pedestrian footways <i>Free draining -wood chip or pea shingle construction</i>	606	0.0606
Raised timber deck. <i>Decking planks spaced to allow rainwater to fall to ground below</i>	114	0.0114
Retained natural habitat. Comprised of turf, wildflower meadow, hedge planting and trees	29,113	2.9113
Pond	663	0.0663
Total permeable area	35,880*	3.5880*
<i>Impermeable</i>		
Roof area. <i>Comprised of proposed shepherd's huts, holiday lodge and store.</i>	202	.0202
Total permeable area	202	0.0202
Total Site Area	36,082*	3.6082*
Percentage of impermeable	0.55%	

Percentage of permeable	99.45%
* Includes full length of access road to Borde Hill Lane	

Please refer to Appendix 2.0 for impermeable areas drawings

In summary the increase in impermeable area is will be limited to less than 1% of 3.6 hectares of well managed natural habitat.

As highlighted in the table above the increase in impermeable is limited to the roof area of the short stay accommodation only. All other areas of works will be constructed using free drainage materials to mimic the natural drainage process of the adjacent habitat.

Mid Sussex District Council (MSDC) Flood Risk & Drainage Team require surface water discharging to a watercourse should be limited to either the 1 in 1year return period or the Qbar Greenfield rate for the drained area.

Two methods of calculating greenfield runoff rate for the areas contributing to the drainage system have been implemented.

The online greenfield estimation service from HRWallingford has returned a greenfield rate of 0.02l/s for each individual short stay accommodation.

Microdrainage software provided a nil result when calculating the roofs separately. To overcome this the roof area for all buildings have been combined to calculate an overall greenfield rate, which is then divided by the number of roofs. This exercise yielded the following results.

- The combined roof area of 202m² achieves a Qbar rate of 0.1l/s.
- Dividing 0.1l/s by 6no roofs = 0.0167l/s.

Please refer to Appendix 3.0 for greenfield rates as described above.

Consequently, providing individual traditional surface water systems for each of the short stay accommodations has proven problematic and limiting discharge to 0.0167l/s would require a flow control device less than 8mm in diameter, which will be prone to blockages and is not a viable solution.

Taking this into account along with the landowner's desire limit the impact the development has on the existing habitat the runoff from the roof areas will be collected in a multi-use rainwater harvesting system, which will be designed as follows.

Stage 1: The harvested water will be reused to supply water to the WC facilities in each of the short stay accommodations.

Stage 2: An overflow outlet will be included on the harvesting system and will be connected to a gravity fed irrigation system. The irrigation system will be used to supply water to the saplings in the replanted woodland surrounding the short stay accommodations.

Stage 3: In the event the harvesting system is surcharged, and the Site is subject to further rainfall events, which exceed the usage of water, an additional overflow outlet will be positioned above the Stage 2 outlet. This will connect to a new inspection chamber, which connects to a small geocellular storage tank. A further inspection chamber downstream of the tank will contain a Bespoke FlowBrake SuDS Attenuation Tank Orifice Plate with a 19mmØ orifice. This will restrict the maximum discharge rate to 0.6l/s per shepherd hut, while the balance is attenuated within the tank. Refer to Appendix 2.0 for surface water calculations up to and including the 1:100year event plus a 45% climate change allowance.

Conclusion

- The foul drainage system will be constructed using a traditional positive drainage system.
- Each of the five of the short stay dwelling will be served by individual treatment plant in accordance with guidance from the shepherd hut and cabin designers.
- All footpaths and works to vehicle access routes will be constructed using a grass reinforcement system and will be free draining.
- The increase in impermeable area is limited to the roof areas for the new structures and has a combined area of 202m².
- Surface water runoff from the roofs will be drained via a rainwater harvesting system that will provide water for the following.
- Toilet facilities of each short stay accommodation building
- Gravity fed irrigation system for saplings in rehabilitated woodland
- In the event the rainwater harvesting system is surcharged an overflow connection to a geocellular storage tank. A bespoke FlowBrake SuDS Attenuation Tank Orifice Plate with a 19mmØ orifice which will attenuate restrict the runoff rate to 0.6l/s for each shepherd hut and

lodge, while the balance is attenuated in the aforementioned tank. Finally, the restricted surface water runoff will be discharged to the combined sewer system.

- The treated foul flows and excess surface water flows from the Site will discharge to watercourse to the west of the development via a new bagwork headwall.

Prepared By		Seen By	Date
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