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Downlands Farm, Uckfield

Technical Note – Response to Drainage Comments

Date: 23rd August 2022

Client Name: Gleeson Land

Document Reference: WIE16835-100-TN-220823_Drainage

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

Issue	Prepared by	Checked & Approved by
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1.1 Drainage Comments

Waterman Infrastructure & Environment (WIE) produced a Flood Risk Assessment and Drainage Strategy (May 2022) to support the outline planning application (Ref. WD/2022/1637/MEA) for new dwellings at Downlands Farm, Uckfield. Comments on this report have been received via Wealden District Council's Engineering and Countryside Officer (Graham Kean) and East Sussex County Council's Case Officer (Victoria Lander) in the Lead Local Flood Authority (LLFA) role.

The comments have been summarised and responses provided in *italic* text. Only comments which require a response have been set out below, comments made which confirm the approach taken within the FRA or advisories have not been repeated here for conciseness.

East Sussex Council

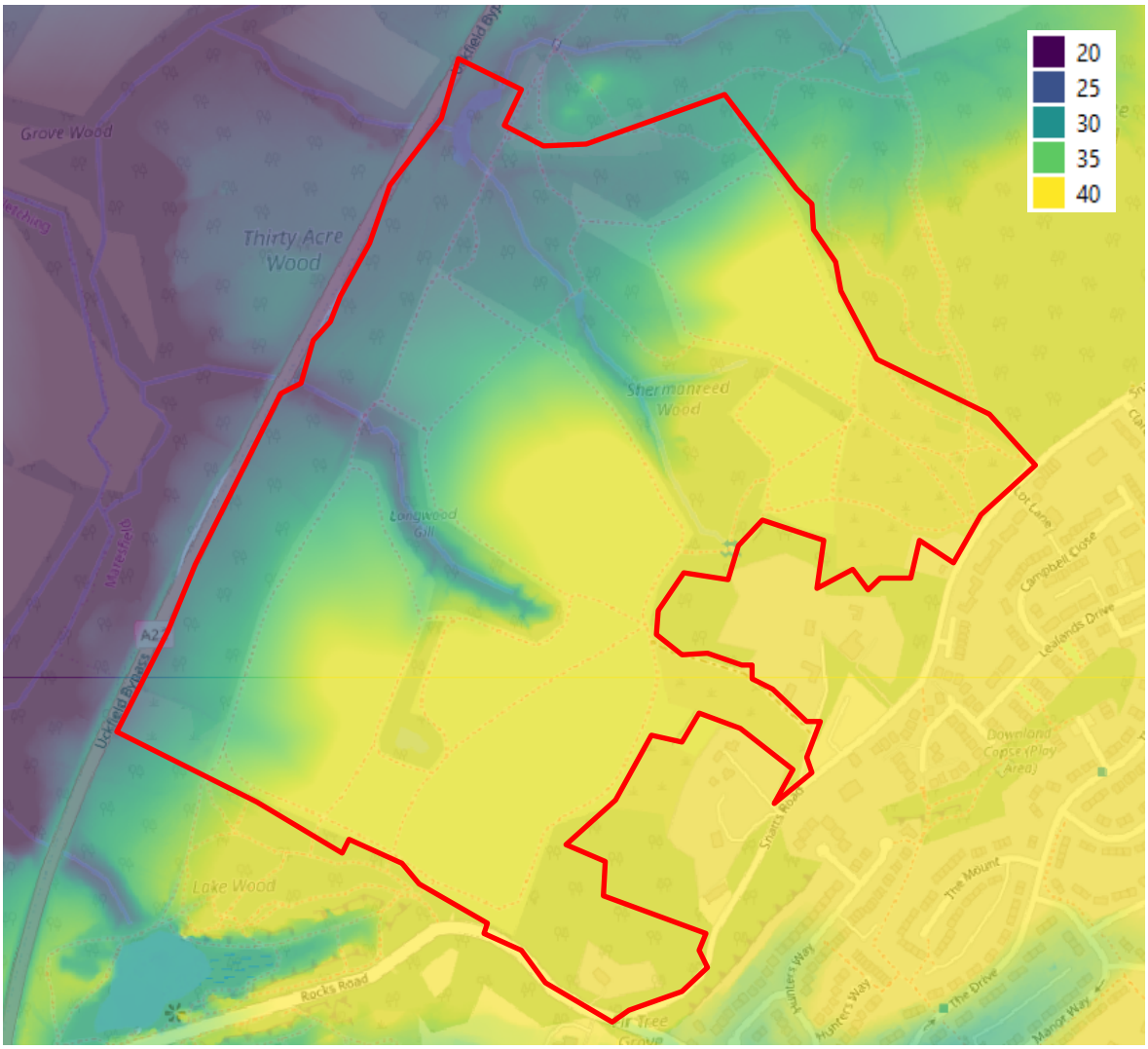
1) "Although the principles of the proposed drainage strategy are considered to be suitable in principle, we require that clear evidence is provided at outline planning stage to demonstrate the viability of draining the site via gravity, as proposed. This is not clear based on the information provided. We therefore request that an updated drainage plan is submitted indicating cover and invert levels of attenuation features and corresponding outfall invert levels."

It should be acknowledged that the outline application provides an indicative masterplan and the drainage strategy demonstrates that a viable solution for managing surface water runoff is available within the opportunities and constraints of the Site. However, as layout is a reserved matter on this application, the location of the basins may change as part of the reserved matters application.

Notwithstanding this, the topographic survey, included in Appendix B of the submitted FRA, clearly shows that existing levels fall relatively steeply from the proposed development parcels to the three ordinary watercourses. The proposals would retain the existing levels to mimic the existing natural

drainage regime, with detention basins provided at the bottom of the slopes discharging into the watercourses. Hence the development parcels drain by gravity to the detention basins, which in turn would discharge by gravity to the watercourses.

Figure 1: EA LiDAR mapping and Open Street Map indicating land levels.



Wealden District Council

1) "Infiltration is the first recommended drainage method in the SUDS hierarchy but the mixed, underlying mapped geology of the site and the presence of watercourses and ponds on the surface suggests that this may not be a usable solution for this site. No infiltration testing has been carried out."

Infiltration testing has been carried our as referred to in Section 4.11 of the submitted FRA. Results are included in the Geo-environmental Site Investigation report and indicate that soakage rates are too low to drain the Site by infiltration.

2) “The site drainage proposals are illustrative at present and comprise a series of swales and attenuation ponds directing water to the existing ordinary watercourses. It should be noted that drainage works will not normally be allowed in areas of Ancient Woodland even if directional drilling is used. Given the extent of this Ancient Woodland across the site, this may require a substantive redesign from what is presently proposed. The applicants are advised to discuss the matter with the Council’s arboriculturalist as soon as possible. The Council does not wish to see areas of land raise just to accommodate filter trenches or swales and would wish for such areas to be redesigned.”

The drainage strategy proposes a suitable drainage strategy for the Site, with detailed consideration for how this could suitably located within the context of surrounding Ancient Woodland. Whilst in Outline, the drainage proposals provide confidence a drainage scheme could be delivered into the ghyll-streams of Longwood Gill and Shermanreed Wood in such a manner as to avoid changes to hydrology. This will include locating drainage inflows at pre-existing inflow points, installation of piped connections using trenchless methodology, and use of ground-bearing, prefabricated headwalls to prevent loss of woodland. Details of how loss and deterioration to Ancient Woodland have been avoided are provided within the arboricultural and ecological consultant work submitted as part of the application.

3) “There is no indication of the condition and size of the existing watercourses and their capacity (or not) to carry the water from the site”

The drainage strategy proposes to restrict runoff from the Site to greenfield runoff rates (Qbar) as set out in Paragraph 4.27 of the submitted FRA thereby replicating the natural rate of discharge. As such, the watercourses will be carrying water from the Site as per the pre-development scenario.

4) “In considering the drainage principles proposed for the site, the Lead Local Flood Authority, ESCC, will require full detail in the drainage calculations used to design the system and Wealden, as the planning authority, would support this request. The calculations should prove that the final design can accommodate the site runoff rates for the standard 1 in 100 year rainfall event plus 45% climate change. I note the need for the new 45% rate is acknowledged in the Flood Risk Assessment.”

The calculations are included in Appendix H of the submitted FRA for the 1 in 100 year + 45% year event.