

7th July 2023

Derbyshire LLFA,

The proposed indicated swale on western boundary's function is to capture greenfield run off from the outside the site boundary, as the topography in the area indicates that there would be a significant watershed onto the site.

Unfortunately, levels constraints following a more detailed design of the area have revealed that a swale type structure is unviable in this location. Therefore a traditional land drainage structure would be more suited to the location, such as an interception drain.

The 'basin' that are shown on the previous iterations of drawings, will serve as a discharge point for land drainage as mentioned previously. Elaborating on the basins, these will be more of a tiered swale utilising check weirs to eliminate the vast levels difference between the top and bottom of the structure (roughly 3m in elevation change).

The discharge rate for the site is based on greenfield runoff rates which have been calculated using the HR Wallingford tool, using the FEH method, which produces a result of 10.4l/s per hectare of developable area. Which comes out to be 30.8l/s. Also, the impermeable area of the site currently sits at 1.718hA.

Post site walkover the outfall to the culverted watercourse within the third-party land has been deemed unviable, therefore all flows have been redirected to the outfall near the entrance of the site, which is at the rear of existing substation.

Network 3 has been eliminated, it was placed to serve just the bell mouth of the site, but after the site walk over, we noticed an existing gully which discharges into the watercourse, the idea being the bell mouth of the site could utilize this existing connection and mitigate the need to fit a headwall in close proximity to the culvert.

Kind Regards,

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