

From: [Stanford, Cecile](#)
To: [Edward Anderson](#)
Cc: [Daniel Watson](#)
Subject: Response to LLFA
Date: 10 May 2024 11:47:14
Attachments: [image001.png](#)
[23539_4_13 - SURFACE WATER MANAGEMENT.pdf](#)
[4021284-BUK-ZZ-00-RP-HY-00001 - Staplefield Technical Note - Greenfield Runoff rates 020524.pdf](#)
[752214-UAX-ZZ-ZZ-DR-EN-00005 - TYPICAL DETAILS.pdf](#)
Importance: High

****EXTERNAL****

Good morning Edward,

below is the message that was supposed to reach you yesterday, regarding our answer to the LLFA questions.

We were unable to send it early enough. The reason is simple: Daniel Watson was off ill hence his prepared response was not reviewed in time by his planner. Since I did not want to delay our answer, I sent the “Designer” answer rather than the “Planner” answer. I hope you will still be accepting this later but better version FAO the LLFA (and the Typical Details pdf also added).
With apologies on this particular transfer of information.

Regards
Cecile

Hi Edward,

Please see response below to the queries raised by the LLFA:

Greenfield runoff rates are provided in Section 4.3 and Appendix D of the FRA. We would request that the proposed discharge rates and discharge locations are confirmed – will it be equivalent to QBAR Greenfield rates for all of the runoff from the site?

- Table 1 of the Greenfield Runoff Rates Technical Note (Previously provided as Appendix D of the FRA) has been updated to include QBAR greenfield runoff rates. For the post-development rates, we inferred that greenfield runoff rates would be below existing greenfield runoff rates due to the attenuating effect of the cells and flood mitigation area – this would apply to QBAR as well. Drawing 752214-UAX-ZZ-ZZ-DR-EN-00013 Surface Water Management (see attached) shows the discharge locations and has been updated to include the calculated discharge rates.
- I attach the updated Greenfield Run off report which includes existing QBAR run off rates. For the post-development rates, greenfield runoff rates will be below existing greenfield runoff rates due to the attenuating effect of the wetland cells and flood mitigation area. The creation of a treatment wetland will effectively create attenuation ponds into which the majority of the rainfall across the site will end up, either directly or through runoff which then become part of the sewage treatment system. Surface water which does not enter the sewage system will slowly migrate into the flood mitigation area which, depending on the status of this flood mitigation feature will either permeate into the ground or discharge into the river.

We would request that the catchment areas are demonstrated on a drawing – to indicate

which areas will be captured by the wetland cells, which will be captured by the flood mitigation areas and which will drain to the River Ouse without attenuation?

- Drawing 752214-UAX-ZZ-ZZ-DR-EN-00013 Surface Water Management Plan (see attached) highlights the areas within the redline boundary that flow directly into the ICW cells on the site. The rest of the land will flow into the flood mitigation area before ultimately being released into the River Ouse.

We would request that the discharge location(s) are demonstrated on the drainage layout, with the discharge rates.

- Drawing 752214-UAX-ZZ-ZZ-DR-EN-00013 Surface Water Management Plan (see attached) has been updated to include the calculated discharge rates. These discharge rates have been incorporated into the FRA. Drawing 752214-UAX-ZZ-ZZ-DR-EN-00013 Surface Water Management shows the proposed locations of the discharge pipework from the Flood Mitigation Area to the River Ouse. Surface water which enters the wetlands system becomes part of the sewage treatment system.

The roads and hardstands are indicated to be permeable in the email from Henry. We would request that further information is provided regarding this, such as the materials to be used (permeable paving or otherwise) and the discharge point. If it is proposed to discharge surface water via infiltration, evidence of ground conditions and infiltration testing in accordance with BRE 365 is required to demonstrate that infiltration is feasible. If infiltration is not feasible, we would expect an alternative discharge location to be demonstrated, with discharge rates restricted to greenfield.

- Proposed roads and hardstanding areas are made up with Type 3 sub-base, geotextile and stone screenings which makes up a permeable track system as shown on drawing 752214-UAX-ZZ-ZZ-DR-EN-00005. Surface water will drain through the road/hardstanding construction and either permeate through the ground, enter the wetland cells or Flood Mitigation Area. No surface water pipework system is proposed.

We would request that drawings of all components of the surface water drainage network (or any components which contribute to the management of surface water) are provided. This includes the flood mitigation area and related flow control mechanisms (flapped pipes/culverts), the Integrated constructed wetland (ICW) and related flow control mechanisms (pipes/control mechanisms between cells and to the discharge point) and the permeable roads and other hardstanding areas of the of the proposed development site.

- All components for the control of water levels within the Integrated Constructed Wetland are incorporated within the Typical Details Drawing 752214-UAX-ZZ-ZZ-DR-EN-00005. Drawing 752214-UAX-ZZ-ZZ-DR-EN-00013 Surface Water Management highlights the areas within the redline boundary that flow directly into the ICW cells on the site. Once entering the sewage treatment system the flows are controlled and discharged in accordance with the regulation permit. Surface water from the rest of the site will flow into the flood mitigation area before ultimately entering the River Ouse.

Cecile Stanford is happy to hold a meeting with the LLFA and WSCC, if any concerns are not cleared or indeed any other aspect needs clarification.

Many thanks,

Sophie

Sophie Hulton-Harrop

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Graduate Town Planner

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