

PROJECT TITLE: Upton Steel, Stanton Lane Phase 1 (18953)
PLANNING REFERENCE: 23/00876/DISCON
DATE: October 2023
Prepared by: NR
Checked by: MDF

DRAINAGE TECHNICAL NOTE - UPTON STEEL, STANTON LANE PHASE 1

Introduction

This Drainage Technical Note has been prepared by Woods Hardwick Ltd on behalf of CJ Upton & Sons Ltd in relation to their commercial development site known as 'Upton Steel Phase 1', (Planning Ref: 23/00876/DISCON).

LLFA Condition 5:

1. Full modelled scenarios for event durations up to the 24 hour (or longer where required) for the 1 in 1 year, 1 in 30 year and 1 in 100 year plus climate change return periods with results ideally showing critical details only for each return period. The model should also account for additional flows from Phase 2 of the development.
2. Updated Surface water drainage engineering layout plan incorporating cover and invert levels and full construction level surface water drainage details of Phase 1.
3. Plan detailing the impermeable area attributed to each drainage asset (pipes, swales, etc).
4. A plan showing above ground flood pathways for a blockage scenario, to ensure exceedance routes can be safely managed.
5. Typical headwalls, swale detail/sections/side slope gradients and fuel separator details.
6. Confirmation on the appropriate drawing what specific SuDS flow control products will be used to ensure the correct flow control is incorporated into the modelled scenario.

Designers' Response:

1. Full modelled scenarios for a duration of 24 hours for return periods required have been provided. Allowance has been made for the catchment area of the Phase 2, this can be seen on node S8. Please see calculations file "18953 Storm Calculations 19.10.2023" which addresses this comment.
2. Surface water drainage strategy has been provided which includes cover levels and construction level detail. Please see drawing "18953-UPST-5-615-C Engineering Layout". Note, the proposed Engineering Layout shows the strategy prior to the construction of the proposed building.
3. Impermeable drainage areas plan provided to demonstrate the impermeable areas allocated to surface water links. Please see drawing "18953-UPST-5-SK006 Drainage Areas Plan"
4. An exceedance flow route plan has been provided to demonstrate the surface water flows in the event of a system failure. Please see drawing "18953-UPST-5-SK007 Flood Route Plan"
5. Typical SuDS detail provided which includes headwalls, swale details, sections and slope details. Kingspan Klargester interceptor details have been provided. Please see drawing "18953-UPST-5-915 Swale Details"
6. Please see drawing "18953-UPST-5-920 Control Chamber Detail" for flow control details.

LLFA Condition 6:

Some details demonstrating how surface water will be managed on site to prevent an increase in flood risk during construction have been submitted, however this should cover all construction stages from initial site works through to completion. This shall include temporary attenuation, additional treatment, controls, maintenance and protection. Details regarding the protection of any proposed infiltration areas should also be provided.

Designers' Response:

Contractor to provide method statement in relation to flood mitigation management during the construction process.

LLFA Condition 7:

The details within the Maintenance Plan are sufficient based on the surface water drainage scheme proposed, however until such time suitable details are submitted in regards to infiltration testing, Condition 7 should not be discharged at this time as further infiltration testing could result in a revised surface water drainage scheme and require an updated Maintenance Plan.

Designers' Response:

Results found in infiltration report "2017 1019 GRM P8079 Soakaway Letter Report FINAL with apps" produced by GRM suggest that soakaway drainage is not suitable for the Phase 1 of this project due to boreholes "WS01" & "WS02" demonstrating poor infiltration results. Further testing may be conducted as part of the Phase 2 development at a later date to determine if soakaways will be a viable option.

LLFA Condition 8:

The submitted infiltration document is from 2017 references that some areas of the site maybe conducive to infiltration and advise further investigation to BRE 365 standard. Submission of infiltration testing conforming to BRE Digest 365 Soakaway Design is required. The LLFA would accept the proposal of an alternative drainage strategy that could be used should infiltration results support an alternative approach. Where infiltration is deemed viable, proposed infiltration structures must be designed in accordance with CIRIA C753 "The SuDS Manual" or any superseding version of this guidance.

Designers' Response:

Results found in infiltration report "2017 1019 GRM P8079 Soakaway Letter Report FINAL with apps" produced by GRM suggest that soakaway drainage is not suitable for the Phase 1 of this project due to boreholes "WS01" & "WS02" demonstrating poor infiltration results. Further testing may be conducted as part of the Phase 2 development at a later date to determine if soakaways will be a viable option.