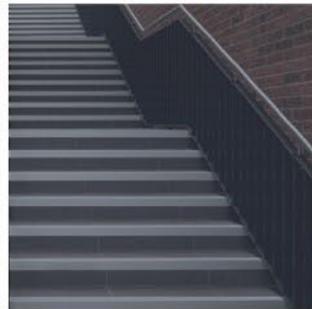
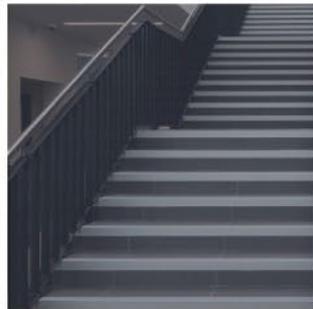
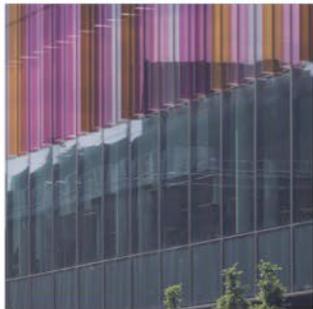
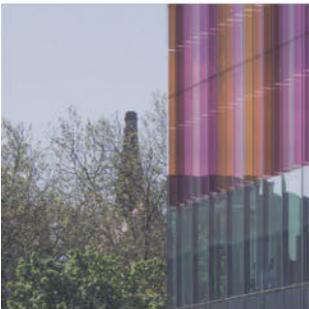
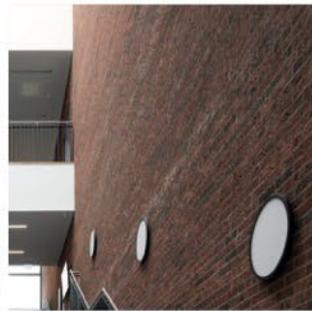
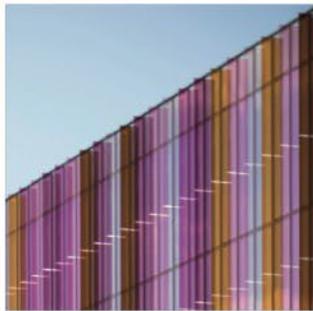


PIXB – Huddersfield Central

Drainage Planning Conditions Discharge Statement

Doc Ref: 15106-BKP-XX-XX-RP-C-0002 Rev. A

Date: 28.02.2025



boothking



1. Planning Conditions

Condition 8.

Prior to commencement of development, an assessment of the effects of 1 in 100-year storm events (with an additional allowance for climate change, blockage scenarios and exceedance events) on drainage infrastructure and surface water run-off pre- and post- development between the development and the surrounding area (both upstream and downstream of the development), shall be submitted to and approved in writing by the Local Planning Authority. No part of the development hereby approved shall be first occupied until the works comprising the approved scheme have been completed, and the approved works shall be retained thereafter.

Response to Condition 8

Please refer to Document Reference No: 15106-BKP-XX-XX-RP-C-0001 Flood Risk Assessment Date: 18.06.2024 - Rev A. for the calculations for both foul and surface water discharge rates and the description of the works. Drawings 15106-BKP-XX-XX-DR-C-0501 - Drainage Area, 15106-BKP-XX-XX-DR-C-0510 - Drainage Key Plan, 15106-BKP-XX-XX-DR-C-0511 - Proposed Drainage GA, 15106-BKP-XX-XX-DR-C-0590 - Drainage Details - Sheet 1 and 15106-BKP-XX-XX-DR-C-0591 - Drainage Details - Sheet 2 also included in the issued report showing the drainage scheme.

Surface Water

In following the standard hierarchy of drainage solutions, consideration should firstly be given to the discharge of surface water runoff by sustainable methods such as infiltration. Review of currently available geological information for the surrounding area and information provided in the Site Investigation Report, it is unknown whereas the groundwater table is located to shallow depths. For the purpose of this report, however, infiltration has been excluded from the calculations.

The carpark will be surfaced in asphalt and drained by an Aco drain.

As per the Kirklees SFRA Level 2: *“the Local Planning Authority may set local requirements for planning permission have the effect of more stringent requirements than these National Standards. More stringent requirements should be considered where current Greenfield sites lie upstream of high risk areas. This could include improvements on Greenfield runoff rates”.*

There are two methods for calculating the greenfield run-off rate: the IH124 method and the ICP method. The IH124 method calculates the peak greenfield run-off flow rates by correlation of the Soil Index Value, the Average Annual Rainfall and the Site Area (SOIL, SAAR and AREA). The IH124 Method should be used for sites in excess of 50 hectares and the resulting discharge is linearly interpolated for the required area. The ICP method uses the IH124 method and automatically interpolates the discharge for sites less than 50 hectares and therefore this is the method that has been used. Extract in figure below:

Q_{BAR} (l/s):	1.61	1.61
I in 1 year (l/s):	1.38	1.38
I in 30 years (l/s):	2.81	2.81
I in 100 year (l/s):	3.34	3.34
I in 200 years (l/s):	3.81	3.81

Greenfield Run Off Calculation

The peak Qbar greenfield discharge rate for the whole site is identified as 1.61 l/s and 3.34l/s for the 1 in 100-year event.

For the proposed development, the extension 700m² and the refiguration of the carpark 280m²:

Flows arising from the proposed development will be restricted to 3.0 l/s 1 in 100-year (+45%CC) storm.

Existing flows have been calculated for the whole site and for the development separately and can be found in Appendix F of the Document Reference No: 15106-BKP-XX-XX-RP-C-0001 Flood Risk Assessment.

1 in 100 year storm event for the whole site was calculated with the 2- pipe method and the result was 45.2l/s.

1 in 100 year storm event for the development only was again calculated with the 2-pipe method and the result was 15.4l/s.

The proposed discharge rate for the development is 3.0 l/s, representing an 80.5% reduction.

The site drainage network will be designed in accordance with current best practice to have sufficient capacity not to flood both during the critical 1 in 30-year storm (plus 40% allowance for climate change) and 1 in 100-year storm event (plus 45% allowance for climate change). In this way the risk of off-site flooding, which could result in damage to other buildings and essential services, will be minimised and the risk of flooding elsewhere should not be increased as a result of the development proposals.

A Hydrobrake flow control device which controls the rate of discharge into the dedicated surface water sewer to the proposed discharge rate.

Causeway Flow output for the Critical Storm for the 1 in 100 year storm event plus 45% climate change is enclosed in Appendix F of the Document Reference No: 15106-BKP-XX-XX-RP-C-0001 Flood Risk Assessment.