

Project N°	1837
Project Title	The Farmers Stores Gatehouse Lane Hassocks
Planning Ref	DM/23/1051
Date	12th April 2024
Item	Response Document to MSDC drainage engineer's comments
MSDC Ref	DM/24/0421/DOC



BRIGHTON OFFICE
128 Edward Street
Brighton BN2 0JL
t. **01273 617117**

solutions@haworthmccall.co.uk
www.haworthmccall.co.uk

Introduction

This response has been prepared following receipt of the comment from MSDC's drainage engineer Natalie James. Natalie's comments are repeated in the text box below:

The submitted detailed drainage design shows surface water drainage piped to a single attenuation tank before discharging into an adjacent watercourse. This approach to surface water drainage is in line with the drainage strategy submitted as part of the original planning application for the site. The surface water drainage calculations show appropriate CV and climate change allowances have been utilised. However, the proposed discharge rate is set to 44l/s.

The drainage statement states that the proposed 44l/s discharge rate was approved at application stage. The recommendation for a drainage condition to be utilised at planning stage does not constitute approval of any element of a drainage strategy. Rather, it confirms that Mid Sussex District Council's Flood Risk and Drainage Team consider an applicant to have shown that in principle drainage could be achieved for a development. The planning consultation response (dated 2023-06-28) provided as part of the original application states that surface water discharge should be restricted to as close a practically possible to the Greenfield (undeveloped) QBar runoff rate for all events up to and including the 1:100 plus climate change event.

We will, therefore, require additional information to be submitted which shows that the proposed discharge rate is based on the Greenfield QBar runoff rate for the impermeable area (which we understand is 1.1Ha) and attenuation has been sized accordingly. Following receipt of the above information our team will be in a position to review the drainage design further.

Response

Herrington's FRA and Drainage Strategy submitted at planning stage which formed the basis of the design for discharge of planning condition 3 notes the following:

Existing Site Characteristics

Total area of site	= 1.63 hectares
Developed (Brownfield) impermeable area	= 0.98 hectares
Peak runoff from existing site (1:100 yr event)	= 522.5 litres/second
Greenfield runoff rate (1:100 yr)	= 28.07l/s/ha = 45.75 litres/second

Details from Herrington's FRA and Drainage Strategy Continued.....

Errors were identified in Herrington's calculations and corrections have been made in the figures reported below.

Proposed Site Characteristics

Total area of site	= 1.63 hectares
Impermeable area	= 1.1 hectares
Proposed discharge rate (1:100yr event +CC)	= 44 litres/second

Table 5.2 – 1:100 year event with 45% CC

Existing discharge rate	= 522.5 litres/second
Proposed discharge rate	= 44 litres/second
Betterment	= 91.5%

Comments

1. We note that there was tacit acceptance of the original betterment in Herrington's report and the corrected figures above, still demonstrate a very significant improvement of 91.5% (not 95%)
2. It is noted that the undeveloped greenfield QBAR runoff rate is the preferred target for all events including climate change. However, it seems unreasonable in this specific circumstance not to take account of the site and its existing unmanaged discharge rate and the proposed betterment that the drainage strategy will offer. For reference, greenfield QBAR for the site is approximately equal to 9.5 litres/second.
3. We acknowledge that the recommendation of a drainage condition at planning stage does not constitute approval of any element of the drainage strategy, and only confirms that in principle drainage could be achieved for the development. However, imposing a strict restriction on discharge rate at this stage compared to what has been demonstrated at planning approval stage would significantly impact the proposed development in terms of proposed layout and configuration.
4. As shown on the drainage strategy drawing (1837-500), attenuation has been maximised within the site, both within the subbase underneath all parking areas (subbase depth between 500 and 700mm), and within the proposed attenuation tank in the service yard. The depth of storage within the tank is constrained by both achieving an acceptable cover depth over the tank for the expected loading, and the invert level at the proposed outfall to the ditch. Reducing the discharge rate further would require a large increase to the attenuation storage capacity, which would impact the viability of the development.
5. We trust that we have demonstrated that we have maximised SuDS within the constraints of the site and we are as close as possible to meeting the target discharge rate by adopting a practical approach to the drainage design, which yields a significant reduction in flood risk.