

Wyvols Court Farm, Basingstoke Road, Swallowfield, RG7 1WY

Planning Application Ref: 260386

Response to Drainage Consultation Comments

Prepared by: LK Group

Date: April 2026

Introduction

This note has been prepared by LK Group in response to the drainage consultation comments issued by Wokingham Borough Council (WBC) Flood Risk and Drainage (ref: 260386, dated 16 March 2026) in respect of the above planning application.

WBC have reviewed the flood risk assessment and drainage statement FRA251195 R2 dated 09 February 2026 with no material objections but have requested that the 2-year surcharging issue be addressed across both drainage catchments. The two catchments are considered separately below.

Units 9 and 10: Surcharging at Hydrobrake Chamber S27

LK Group acknowledges WBC's position that ideally there should be no surcharging for the 2-year event. In the case of Units 9 and 10, however, it is considered that the surcharging observed is an inherent consequence of the controlled discharge design rather than a deficiency in the drainage network, and that it is therefore justified.

The surcharging in the 2-year event is confined solely to node S27, which is the hydrobrake flow control chamber. All other nodes in the Units 9 and 10 network are free-flowing at the 2-year event. The hydrobrake at S27 restricts outflow to the QBar rate of 1.9 l/s and requires a design head of 1.315m to achieve this rate. The surcharging at S27 is therefore a direct consequence of the hydraulic head required to drive flow through the device at its design discharge rate.

Upsizing the downstream pipe to avoid this surcharging would not change the controlled discharge rate and would result in an oversized pipe operating well below capacity, which is not appropriate. It is therefore considered that the surcharging at S27 is justified and acceptable and does not represent a drainage failure.

Unit 8: Surcharging at Nodes S3, S4 and S5

LK Group again acknowledges WBC's position that ideally there should be no surcharging for the 2-year event. In the case of Unit 8, the surcharging at nodes S3, S4 and S5 is a deliberate and considered design outcome arising from the site constraints, and it is considered justified for the reasons set out below.

The geocellular attenuation tank is located immediately adjacent to node S3 which was the only logical position of the attenuation whilst providing a logical site layout for its intended use. The pipe network between the tank and the flow control at S5 is therefore required to surcharge in order to utilise the available capacity within the geocellular system.

The design was developed through a number of iterations to mitigate this effect. The principal alternative considered was routing surface water from Unit 8 westward across the site to connect into the Units 9 and 10 network. This would have required significant ground raising across the Unit 8 area to achieve the necessary gradients, bringing with it a substantially increased earthworks volume, associated construction carbon costs, and a materially less sustainable overall scheme.

The adopted design retains a flatter site profile with shallower pipe gradients, delivering a more sustainable outcome. The accepted trade-off is surcharging in three pipe runs during

the 2-year event. It is therefore considered that the surcharging is justified given the site constraints and the sustainability benefits of the adopted layout.

Simulation Files

The Causeway Flow+ simulation files (.pfd) for both catchments are provided separately for WBC auditing purposes.