

## Consultation Response – 210965 – Land at, Broadfields, Wivenhoe, Colchester

Following receipt of the LLFA consultation response dated 13<sup>th</sup> May 2022 (REF: SUDS-005234), I set out below our response to each of the 5 points raised.

### Half Drain Times

The latest microdrainage simulation results confirm that the half drain time for the 1 in 30 year storm event with 40% climate change exceeds the 24 hour requirement. I therefore set out below a calculation to confirm that sufficient storage is available within the balancing pond to cater for a 1 in 10 year storm event following 24 hours after a 1 in 30 year event with a 40% climate change allowance.

Total available volume within pond (allowing for 300mm freeboard) = 1,986m<sup>3</sup>

Volume utilised for 1 in 30 year storm plus 40% climate change = 1,400m<sup>3</sup>

Volume drained from the pond in the 24 hours following 1 in 30 year storm (4l/s over 24 hours)= 345 m<sup>3</sup>

Volume remaining in pond after 24 hours = 1,055m<sup>3</sup>

Volume required for a 1 in 10 year event = 714m<sup>3</sup>

Volume check – 1,400 – 345 + 714 = 1,769m<sup>3</sup>

The above calculation confirms that sufficient storage volume is available within the balancing pond to cater for a 1 in 10 year storm 24 hours after a 1 in 30 year storm plus climate change. In fact, there is a further 200m<sup>3</sup> available before the water level exceeds the freeboard level.

A copy of the latest microdrainage simulation results are attached to this response.

### **Detailed Engineering Drawings**

It is not a requirement within 'The Sustainable Drainage Systems Design Guide for Essex' to submit detailed engineering drawings for the SuDS features as part of the planning/reserved matters application. Therefore, it is recommended that this requirement is conditioned and these details will be submitted as part of a future discharge of conditions application.

### **Finished Floor Levels**

An amended drainage strategy plan has been included with this response which indicates preliminary proposed finished floor levels, the final details will be provided with the discharge of conditions application. Please note that external levels will be designed to route any potential exceedance flows away from buildings and towards SuDS features.

### **Maintenance Plan**

As per 'The Sustainable Drainage Systems Design Guide for Essex', the requirement for a maintenance plan/program is typically provided as part of the discharge of conditions. Therefore, a maintenance plan will be prepared and submitted as part of the future discharge of conditions application when more details are known of the maintenance arrangements for the development.

### **Summary of Changes to the Approved Strategy**

Most of the proposed drainage strategy remains unchanged from the approved strategy. The changes relate to a revision to the layout in the south western part of the site, which required an amendment to the orientation of the proposed basin. The amended strategy has been modelled and is shown to meet Essex County Council LLFA requirements.

I trust that the above response addresses the points raised in your response.

Kind regards

TJ Wilson

**Tom Wilson**