

Our Ref: 068535_CUR_CO_D_0002

09th March 2020

To Whom It May Concern,

Great Wolf Lodge – Tyrens Review Response

Following your recent comments on the supporting documents of application 19/02550/F, relating to flood management and drainage, please see the below responses.

Comment:

Reference should be made to the OCC “Local Standards and Guidance for Surface Water Drainage on Major Development in Oxfordshire”.

Response:

Reference made in section 5.1.2 of the Flood Risk Assessment. Document used to guide the development of the Drainage Strategy, but reference not included. This can be included in a revision of the document should the LLFA consider it useful for their records (we will discuss with OCC as the LLFA)

The delivery of a drainage strategy for the proposed development has been carried out alongside discussions with the LLFA, using appropriate guidance where required. The final proposed scheme was also discussed at length with the LLFA and updated following comments to ensure that it was appropriate.

Comment

In designing the Drainage Strategy for the scheme, it is unclear whether pre-application discussions have taken place with the LPA and OCC (i.e. the LLFA). This should be confirmed.

Response

Section 1.1 states that the report was based on information and discussions with the LLFA and OCC.

Section 5.2.1 outlines what was agreed in these discussions in terms of discharge rate

Table 4 states that additional swales were included following a meeting with the LLFA

Section 5.4 states that a land drain diversion was agreed with the LLFA in a pre-application meeting.

Much of the constructive discussions with the LLFA were during face to face meetings. Therefore, there are no extracts of correspondence to be referenced in the document. Confirmation of the LLFA stating they wish to see QBAR rates was however included with the SuDS Pro-forma that was sent to CDC and OCC and should be available now on the planning portal.

Comment

Infiltration testing to BRE365 and seasonal groundwater monitoring from dedicated piezometers should be conducted to demonstrate that infiltrating SuDS are not suitable for this scheme.

Response

The FRA describes in Section 3.6 that a UAV survey was conducted across the site and concluded that groundwater levels across the site are near the surface. This is reiterated in the Drainage Strategy throughout. The extensive land drainage across the site also shows this is the case, along with anecdotal evidence from site maintenance staff. Intrusive surveys cannot be carried out until planning permission is granted, as the site is to remain operational as a golf course. This is discussed at various sections through the two documents.

Comment

As this is essentially a large greenfield development, it is unclear why the applicant has had to rely on the provision of a very large (2000 m³) underground storage tank; furthermore, no mention has been made of petrol interceptors or other pollution prevention devices to accommodate surface runoff from the majority of the car parking area. There should have been ample room to provide above-ground solutions such as infiltration/detention basins and swales, which are easier to maintain and provide inherent water quality treatment features. Even without modifying the proposed car park layout, there appears to be landscaped areas along the south-eastern boundary of the site where such basins and swales could potentially be located.

Response

As described in Table 1 of the Drainage Strategy, the tank is also to be used for rainwater harvesting representing one of a number of important sustainability measures incorporated into the proposed development. The details of the water saving as a result of this can be found in the water resource documents that were also reviewed.

The inclusion of the tank was discussed at length with Richard Bennett from the LLFA in a pre-application meeting. It was agreed that its inclusion was required as the site topography / layout did not allow for the inclusion of a pond. Further constraints include high groundwater meaning that a pond of adequate volume would be fed by groundwater, reducing its capacity. Other lined ponds on the site have been required to be amended according to site maintenance staff due to groundwater pushing up the lining. A tank can be anchored. The area described in the comment above is used for the bund.

The SuDS manual mitigation and hazard indices outline that the permeable pavement is sufficient to treat a commercial car parks. The drainage strategy layout also includes a bypass separator near the outfall for added protection. Swales are also used along the access roads upstream of the bypass separator.

Comment

Even the use of shallow modular permeable pavements with inherent water treatment elements (e.g. filtration, siltation, absorption and biodegradation) would have been preferential and, depending on the results of the groundwater monitoring/infiltration testing, could perhaps have been used as infiltration devices.

Response:

There are potential floatation issues with this option and the groundwater. Also, modular permeable paving systems are not thought to offer the same levels of water treatment as granular sub-base systems. As run off from the car park is treated by the permeable paving, water quality was the driver for the permeable pavement design, not water storage.

Comment

Consequently, the use of such devices should be explored and the reasons for not using them fully justified.

Response

Discounted due to above and high groundwater levels.

Comment

Calculations should be shown in order to demonstrate how the SuDS provisions will meet the DEFRA Non-Statutory Technical Standards, as per OCC guidance.

Response

Pre-application discussion and reviews of the Drainage Strategy with the LLFA did not raise this point. The DS and FRA can be amended to show that the SuDS provisions meet DEFRA guidelines should the LLFA wish.

Comment

OCC guidance states that "Calculations proposed values of impermeable area should include a 10% allowance for Urban Creep". Evidence should be presented to demonstrate that this allowance has been included in the calculations.

Response

This has not been allowed for in the calculations. It was also not requested to be included when the results of the calculations were discussed with the LLFA and the Draft documents were sent to them prior to the application going in.

Comment

The Drainage Strategy should refer to Sewers for Adoption 8th Edition (August 2018) and the requirements therein, particularly with reference to the design and construction of SuDS

Response

Sewers for Adoption 8th Edition, newly named Design and Construction Guidance, has not been fully implemented yet. And in any case, there are no proposed adoptable sewers on this site.

Yours faithfully



Michael Smith
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For and on behalf of
Curtins Consulting Ltd