

24<sup>th</sup> May 2019**CONSULTING ENGINEERS**Unit B10  
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Email: admin@simpsoneng.com  
www.simpsoneng.com**RE: Land adjacent to Oakhurst Rise, Cheltenham  
Appeal Reference: APP/B1605/W/19/3227293 - Flood Risk and Drainage Note**

A flood risk assessment (C21505/FRA/Rev K dated October 2018) and a drainage strategy (drawing ref: C21505:SK01A & SK02A) was prepared by Simpson Associates to accompany the planning application (18/02171/OUT) for 69 dwellings with associated roads and hard and soft landscaping. An amended layout has been produced on behalf of William Morrison (Cheltenham) Ltd. (drawing ref: PL005 Rev D) and this Flood Risk and Drainage Note has been produced to consider the effect that the alterations would have on the sites flood risk and drainage strategy.

The Flood Risk Assessment previously submitted (C21505/FRA/Rev K dated October 2018) included a review of all source of flooding identified in the Cheltenham Borough Council Level 1 Strategic Flood Risk Assessment (SFRA) dated September 2008. The Flood Risk Assessment established that the site is within Flood Zone 1, which is an area with less than a 1 in 1000 annual probability of fluvial flooding (<0.1%) and at a low risk of flooding from all other sources.

The Flood Risk Assessment also included a drainage strategy for managing surface water runoff generated by the development using sustainable drainage techniques, to ensure that there would be no increase in surface water runoff generated by the development, for all storm events up to and including the 1 in 100 year event, plus a 40% allowance for climate change. A flow control device will ensure that the proposed surface water flows would not exceed the sites equivalent greenfield run off rate (QBAR), with excess surface water runoff stored on site within a below ground attenuation tank, for all storm events up to and including the 1 in 100 year event plus a 40% allowance for climate change.

The drainage strategy provides details on the disposal of foul water generated by the development. It is proposed to discharge foul water via gravity to the public sewerage system south of the site. Severn Trent Water have advised that there is sufficient capacity to accept the predicted foul water flows generated from the development.

**Proposed Site Layout Amendments**

The proposed site layout amendments include the reorientation and relocation of a number of plots and their associated access road and parking areas. The amended site layout also reduces the overall number of plots to 68.

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The Flood Risk Assessment concluded that the site is within Flood Zone 1 and is at a low risk of flooding from all sources and therefore, the proposed site layout amendments will have no impact on the site's flood risk.

The foul and surface water drainage strategy is not fundamentally affected by the proposed site layout amendments. The proposed site layout marginally reduces the sites impermeable area and corresponding greenfield runoff rate (QBAR), however, no change in the volume of below ground attenuation is required for all storm events up to and including 1 in 100 year event, plus a 40% allowance for climate change.

In summary, the proposed site layout amendments will not result in any increase in flood risk or fundamental changes to the proposed drainage strategy.