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Condition 7 Sustainable drainage

The condition 7 of the planning consent requires details of a sustainable urban drainage system (SUDS) to be submitted and approved in writing prior to the commencement of the development. We seek an amendment and removal of this condition for the following reasons;

The current site has a building which totally covers the site and the surface water drainage from the existing roof discharges into the combined drainage on site. There is no discharge through landscape and permeable surfaces to the ground as none exist at present and the solid roof drains directly to parapet gullies and then into three rain water pipes situated on the north East and South Easter elevations of the building.

The new building will contain a full basement covering the entire site reducing the overall site level by approximately 3.3m below the existing ground floor level. As such the site would not easily accommodate an underground water storage tank for rainwater runoff and the green roof is a much more appropriate way of reducing surface water run off entering the existing drainage system.

The new building will have less hard surfaces on the roof as approximately 40% of the proposed roof will be green with planted sedum to help reduce the amount of water flow off the roof into the combined drainage system. The green planted areas will in effect absorb much of surface and rain water run off form the roof. This could be as much as 70-80% of the run off being retained ont eh roof and as such is comparable if not better than the underground storage tanks associated with SUDS compliance. The shape and design of the roof which includes the green planted areas will therefore mean that the amount of surface water runoff from the building will be approximately reduce.

According to research which is now generally accepted, storing and holding back rainwater at roof level means green roofs are a source control mechanism. As there is limited space at ground level in dense urban areas, green roofs are an ideal solution. A green roof replicates the natural landscape, allowing water to infiltrate the vegetation, substrates and engineered drainage layers of the green roof.

- *A green roof will typically intercept the first 5mm and more of rainfall providing interception storage. The amount will be dependent on the depth and type of substrate in the green roof system*
- *In the summer a green roof can typically retain between 70%-80% of the run off*

- *In the UK between 40%-100% of rainfall can be retained – dependent upon the season. 75% of rain falling on extensive green roofs can be retained in the short term and up to 20% can be retained for up to 2 months.*
- *As rainfall events become longer or more intense, the positive effect of a green roof remains. This is because there is still a significant reduction in peak run off rates*
- *This increase in the 'time of concentration' means a green roof will be beneficial throughout a wide range of rainfall conditions*

Source; www.livingroofs.org

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