DP23. Water

- 23.1 Our built environment plays a large role in the way water is consumed, distributed and disposed of. The way water is used in a building and the pollutants it picks up running across a site affect the quality of the water that reaches our combined storm water and sewer system. In addition, the location of a development, and any flood mitigation measures used, can have an impact on local and downstream surface water flooding. For example, by capturing surface water on-site so that the flood risk to downstream properties is reduced or, in poorly located and designed schemes, by diverting surface water onto adjoining sites, increasing the risk of flooding on those sites.
- 23.2 As noted in paragraph 22.4 above, although the need for sustainable design and construction is not specific to Camden, our dense built-up environment limits the ways sustainability can be addressed. The efficient use and disposal of water and the minimisation of surface water run-off are elements of sustainable design and construction that need to be addressed sensitively taking into account Camden's specific characteristics.
- 23.3 Core Strategy policy CS13 *Tackling climate change through promoting higher environmental standards* sets out our overall approach to tackling climate change which includes reducing our water consumption and reducing the risk of surface water flooding. Map 2 and policy CS13 identify areas of the borough that have been affected by sewer or surface water flooding in the past as well as areas identified as being at risk of surface water flooding.
- 23.4 Policy DP23 contributes to the implementation of the strategy set out in policy CS13 by seeking to reduce water consumption and limit the amount of waste water entering the combined storm water and sewer network. Policy DP23 should be read in conjunction with policy Core Strategy CS13, policy DP22 Sustainable design and construction above and the North London Strategic Flood Risk Assessment.

DP POLICY

DP23 - Water

The Council will require developments to reduce their water consumption, the pressure on the combined sewer network and the risk of flooding by:

- a) incorporating water efficient features and equipment and capturing, retaining and re-using surface water and grey water on-site;
- b) limiting the amount and rate of run-off and waste water entering the combined storm water and sewer network through the methods outlined in part a) and other sustainable urban drainage methods to reduce the risk of flooding;
- c) reducing the pressure placed on the combined storm water and sewer network from foul water and surface water run-off and ensuring developments in the areas identified by the North London Strategic Flood Risk Assessment and shown on Map 2 as being at risk of surface water flooding are designed to cope with the potential flooding;
- d) ensuring that developments are assessed for upstream and downstream groundwater flood risks in areas where historic underground streams are known to have been present; and
- d) encouraging the provision of attractive and efficient water features.

Map 2: Flood Risk



23.5 We only consume a small proportion of water that enters a building. Most of the water we use is for washing and flushing the toilet and therefore leaves the site again. The pumping and cleaning of water to drinking level consumes energy. In order to save energy and drinking water, water should be consumed efficiently and, where possible, treated and consumed close to source. Most of the water we do not consume, including rainfall, ends up in the combined storm water and sewer system. Our increased use of water, along with a growing population and increasing use of impervious surfaces, means more waste water is entering the combined storm water and sewer system, putting pressure on it.

Efficient use of water

23.6 Developments must be designed to be water efficient to minimise the need for further water infrastructure. This can be through the installation of water efficient appliances and by capturing and re-using rain water and grey water on-site. Rainwater harvesting systems are discussed in paragraph 23.8 below. Grey water use captures water from sinks, showers and washing machines for its re-use. Major developments and high or intense water use developments, such as hotels, hostels and student housing, should include a grey water harvesting system. Where such a system is not feasible or practical, developers must demonstrate to the Council's satisfaction that this is the

case. We will assess the performance of water-saving measures against the Water category in BREEAM, EcoHomes or the Code for Sustainable Homes assessments (see our Camden Planning Guidance supplementary document for further details).

Reducing surface water run-off

- 23.7 The water efficient methods expected above will help reduce the overall amount of waste water entering the combined storm water and sewer system so it retains some capacity to deal with heavy rainfall. The volume and rate of run-off from heavy rainfall can be reduced through the use of sustainable urban drainage systems (SUDS), including green and brown roofs, pervious paving and detention ponds or tanks. We will seek to achieve the most sustainable methods of SUDS wherever possible. The Council's expectations for the design and location of green and brown roofs are set out in policy DP22 *Promoting sustainable design and construction*. Where green or brown roofs are provided we will expect them to be designed to reduce run-off.
- 23.8 Some sustainable urban drainage methods enable captured water to be re-used, and are generally known as 'rainwater harvesting systems'. These systems capture water falling on a site, in particular on roofs and impervious paved areas, and use the water for irrigation, flushing of toilets and, where the water is clean enough, washing clothes. With appropriate filtration, the capture of rainwater can also be incorporated into a grey water system.
- 23.9 It is important that water is captured from the top of the water catchment area, which generally starts at the top of a hill, to prevent flooding of more susceptible sites below. We will require all new build developments where run-off is likely to have an impact on buildings downstream (see Map 2) to include a green or brown roof and/or a rainwater harvesting system, with the aim of achieving a 'greenfield' rate of run-off. A greenfield run-off rate is one that reflects the natural rate of water run-off from a site before it was developed. All other development that increases the amount of impervious surface will be expected to minimise the amount and rate of run-off from the site to at least the existing rate. The size of a rainwater harvesting system should take into account annual rain yield, consumption rates and the need for on-site detention to prevent flooding. Information on sizing based on annual yield and consumption rates can be obtained from the Environment Agency.



Minimising flood risk

- 23.10 All sites over one hectare are required by government Planning Policy Statement (PPS) 25 *Development and Flood Risk* to produce a site specific Flood Risk Assessment. In Camden these assessments should focus on the management of surface water run-off and should address the amount of impermeable surfaces resulting from the development and the potential for increased flood risk both on site and elsewhere within the catchment.
- 23.11 The area shown on Map 2 is known to be at risk from local surface water flooding. It is especially important for development within this area to be designed to cope with being flooded without placing additional pressure on adjoining sites and on the combined sewer system. For example, development should not prevent the flow of water across its site where this would lead to water build up or divert water onto an adjoining site. Instead, water should be captured and stored for reuse or for slow release to the combined sewer. Where a site is known to have a particular drainage issue, development should not place additional strain on the existing drainage infrastructure. Within the areas shown on Map 2 we will expect water infrastructure to be designed to cope with a 1 in 100 year storm event (including an appropriate allowance for climate change) in order to limit the flooding of, and damage to, property. Please see Planning Policy Statement 25 and its Practice Guide for further guidance on managing flood risk. The Council's Camden Planning Guidance supplementary document also contains further information on water and sustainable design and construction.
- 23.12 Development can have an impact on the water environment beyond the site where it takes place by altering the flow of water above and below ground and changing where water is absorbed or rises to the surface. For example, the construction of a basement could cause surface water flooding if its location forces water to the surface or could cause flooding elsewhere if the movement of water below ground is altered. Changing water movements can alter soil conditions in the wider area. Applications for developments in areas where historic underground streams are known to have been present will be required to include assessments of the potential for, and management of, groundwater flood risk (see our Camden Planning Guidance supplementary document for further information). Basements also affect the ability of the ground to absorb rain when soil is replaced by an impervious structure and can be particularly susceptible to flooding due to their underground location. In certain circumstances the use of basements may be restricted to non-habitable uses. For further detail on our approach to basements please see policy DP27-Basements and lightwells.

Water features

23.13 Water features can celebrate the importance of water and can be used as an educational tool. We will expect any water feature provided to be of a high quality and, where possible, provide some interpretation of the local environment or community. For example, any water feature provided along the route of the old Fleet River, which used to run from Hampstead Heath to the City of London, could take the opportunity to provide an interpretation of this lost watercourse. Any proposed water feature should also be water and energy efficient.

Key evidence and references

- Camden Sustainability Task Force Report on Food, Biodiversity and Water; 2008
- Towards a Sustainable Camden Camden's Environmental Sustainability Delivery Plan 2008-2012
- Sustainable Design and Construction Supplementary Planning Guidance; Mayor of London; 2006
- Planning Policy Statement 25 Development and Flood Risk; CLG, 2006
- Planning Policy Statement 25 Development and Flood Risk Practice Guide; CLG, 2008
- North London Strategic Flood Risk Assessment; Mouchel; 2008
- Greywater: An information guide; Environment Agency; 2008
- Harvesting Rainwater for domestic uses; Environment Agency; 2008