

Description of Development

Reinstatement of three townhouses (Class C3), (part of 23 and 24 Kensington Square); refurbishment of college building (part of 23 Kensington Square) and use as an extra care facility (Class C2). Demolition of all other buildings on site. Erection of deck over adjacent London Underground line and construction of 5 buildings (ranging between 1 and 8 storeys in height) for use as an extra care facility including units, communal facilities and services areas, community hall and on-site affordable housing and associated access parking, servicing and landscaping. (MAJOR DEVELOPMENT).

Planning Policies

On the 18th December 2014, DCLG published a **written statement to parliament** explaining changes to the planning system which took effect on the 6th April 2015. The written statement represents government planning policy with similar weight to the National Planning Policy Framework (NPPF) and so is capable of being a significant material consideration in determining planning applications.

Local planning policies and decisions on planning applications relating to major development (developments of 10 homes or more and to major commercial development) should ensure that sustainable drainage systems (SuDS) for the management of run-off are put in place, unless demonstrated to be inappropriate.

Local planning authorities should **consult the lead local flood authority** (LLFA) on the management of surface water; satisfy themselves that the proposed minimum standards of operation are appropriate and ensure through the use of planning conditions or planning obligations that there are clear arrangements in place for ongoing maintenance over the lifetime of the development. The sustainable drainage system should be designed to ensure that the maintenance and operation requirements are economically proportionate. The LLFA became a statutory consultee in April 2015.

The **National Planning Policy Framework** (NPPF) explains that sustainable development should not increase flood risk elsewhere and give priority of the use of sustainable drainage systems (paragraph 103)

The **National Planning Practice Guidance** (NPPG) on Flood Risk and Coastal Change has been updated (March 2015) to include information about involving the LLFA (chapter 16) and the importance of SuDS (chapter 21).

Policy 5.13 of the **London Plan** (2011, as consolidated 2015) states that:

“Development should utilise sustainable urban drainage systems (SUDS) unless there are practical reasons for not doing so, and should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible in line with the following drainage hierarchy:

1. Store rainwater for later use
2. Use infiltration techniques, such as porous surfaces in non-clay areas
3. Attenuate rainwater in ponds or open water features for gradual release
4. Attenuate rainwater by storing in tanks or sealed water features for gradual release
5. Discharge rainwater direct to a watercourse
6. Discharge rainwater to a surface water sewer/drain
7. Discharge rainwater to the combined sewer

Drainage should be designed and implemented in ways that deliver other policy objectives of the Plan including water use efficiency and quality, biodiversity, amenity and recreation.”

The **GLA's Sustainable Design and Construction SPG (April 2014)** aims to maximise the opportunities to achieve Greenfield run-off rates in the development proposals.

Policy CE2 Flooding of the Consolidated Local Plan states that the Council will:

d. require development at risk from flooding in Flood Risk Zones 2 and 3, in areas with critical drainage problems, or sites greater than 1ha to incorporate suitable flood defence or flood mitigation measures in accordance with the recommendations of the site specific Flood Risk Assessment;

e. require sustainable urban drainage (SUDS), or other measures, to reduce both the volume and the speed of water run-off to the drainage system ensuring that surface water run-off is managed as close to its source as possible in line with the hierarchy in the London Plan. In particular, major development must make a significant reduction in the current volume and speed of water run-off to the drainage system.

Policy CL7 The Council will require all basement development to:

i. include a sustainable drainage system (SuDS), to be retained thereafter;

j. include a minimum of one metre of soil above any part of the basement beneath a garden;

n. be protected from sewer flooding through the installation of a suitable pumped device.

Key Issues

The proposed site plan is shown in figure 1 below.

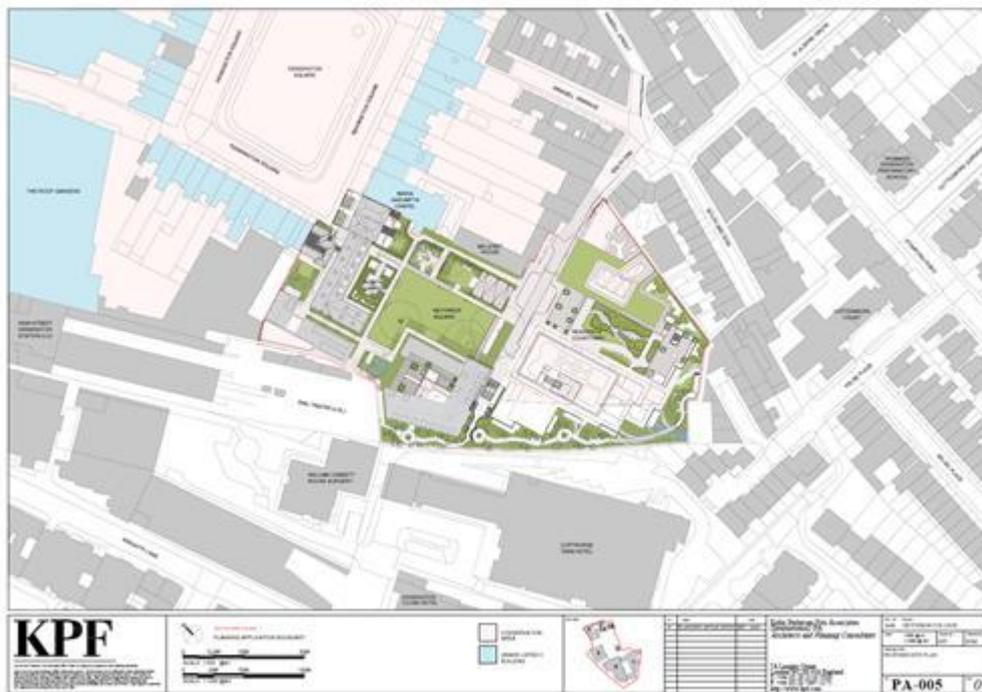


Figure 1: proposed site plan

Flood Risk

The site lies in a Flood Risk Zone 1 (low flood risk from the river) but it is in a Critical Drainage Area so a Flood Risk Assessment and Sustainable Drainage Strategy (FRASDS) has been submitted.

Surface water flooding

The FRASDS acknowledges that the site is in a Critical Drainage Area and that adjacent roads are shown as being at high risk although the site is generally at low risk of flooding. The proposed measures to address surface water flooding are to define the levels across the development to contain surface water within the site boundary and to provide a robust surface water drainage strategy.

Groundwater

Section 4.3 of the FRASDS addresses flood risk from groundwater and the effect of the basement on groundwater flow. It explains that the Level 1 basement slab will extend into the saturated River Terrace Deposits, whilst the Level 2 basement slab will extend fully into the London Clay. It proposes to mitigate the vulnerability to groundwater flooding by water ingress into the basement levels by adequate waterproofing and appropriate structural design.

The Construction Method Statements refers to groundwater flows in section 8.1.9 and the FRASDS states: *“As impermeable structures that can impede groundwater flows, basements can have an impact on groundwater levels in the surrounding aquifer. Three dimensional numerical modelling has been undertaken by Arup to assess the effects of the proposed basement on the groundwater flow regime, and the likely consequent impact on groundwater flood risk to the proposed development and to neighbouring properties. The modelling indicates that the groundwater level rises by up to 0.2m upgradient and falls by up to 0.2m downgradient, with the change in groundwater level diminishing with increased distance from the site. Basements upgradient of the site (ie. to the west and south of Kensington Square) greater than approximately 3.5m deep may be at a low increased risk of dampness and groundwater ingress; however, since a 0.2m variation in the groundwater level is considered to be a relatively small fluctuation, it is deemed that the material impact on neighbouring properties is negligible. In summary, the residual risk of groundwater flooding to the site and elsewhere as a result of the proposed development is considered to be low, based on the results of the numerical modelling.”* This is noted.

The basements proposed should include the proposed adequate waterproofing and appropriate structural design. A Groundwater Risk Management Permit from Thames Water will be required for discharging groundwater into a public sewer. Any discharge made without a permit is deemed illegal and may result in prosecution under the provisions of the Water Industry Act 1991.

Sewer Water flooding

It is understood that further consultation with Thames Water to agree discharge rates and connection points is still outstanding. This agreement should be in place to ensure that the combined sewer can take the proposed discharge rate of surface water and fowl flows.

The Council's policy CL7n requires all basement development to be protected from sewer flooding through the installation of a suitable pumped device. This is even more relevant as bedroom accommodation will be provided at basement level. This is not covered neither in the Construction Method Statement nor the FRA. The proposed basement drawings do not show any pump device to prevent sewer flooding. This is not enough and suitable pump devices should be provided and shown on the plans as required by Policy CL7n.

Sustainable Drainage Systems (SuDS)

Policy CE2e of the Consolidated Local Plan 2015 aims to reduce the amount and speed of surface water run-off in all development. The aim is to provide an overall betterment. Following the ministerial statement, all applications relating to major development should ensure that sustainable drainage systems (SuDS) for the management of run-off are put in place, unless demonstrated to be inappropriate. SuDS should provide attenuation for all rainfall events.

The FRASDS proposes a reduction in the discharge rate of 50% (of the 1 in 10yr rainfall event) to achieve a total of 46.7l/s. It refers to the extent of the basement and the constraints on storage as the reasons why no further reduction could be achieved. This is noted (appendix D shows detailed correspondence about discharge rates and constraints)

The 50% discharge rate is based on the following assumptions:

- an existing Site area of only 1.05 ha (not taking into consideration the over build decking);
- the ratio of permeable to impermeable surfaces is as per the existing site; and
- an existing sewer capacity able to carry a 1in10-year rainfall event.

The site has been divided into three catchments to avoid the need of pumping (figure 2). This is welcomed.



Figure 2: proposed catchments.

The total attenuation volume required to address 1 in 100yr event plus 40% climate change is not clear as it is shown as 606m³ in the text (section 5.3.1) but as 616m³ in figure 5.2 of the FRASDS. This should be clarified. The proposed SuDS include buried geocellular attenuation modules and blue-green roofs. Blue-green roofs are particularly welcomed as they will provide other benefits apart from water attenuation.

The FRASDS explains that the attenuation storage will be as follows:

- North catchment: 232m³ using buried geocellular storage modules located beneath areas of landscaping.
- West catchment: approximately 160m³ provided by blue-green roofs on the buildings (100m³ on Building 5 and around 60m³ on Building 6).
- South catchment: 160m³ of water can be attenuated below-ground in geocellular modules and 55m³ of attenuation on Building 7 provided using blue-green roofs.

Further details on the specification of the SuDS proposed are required. A section on management has been included (5.3.4) but more detail would be required for each of the proposed SuDS measures.

Conclusion

For the proposal to be fully compliant with the Council's policies it will need to integrate adequate flood protection measures and SuDS to reduce surface water run-off. Providing these measures are implemented, I do not raise an objection to the scheme on flood risk or SuDS grounds. To ensure these measures are implemented, the following pre-development condition should be attached to the planning permission:

Condition for implementing flood protection measures and sustainable drainage systems.

The development shall not be occupied until all of the following measures have been installed and made available for use and shall be maintained as approved thereafter:

- the provision of suitable pumped device(s) to protect the development against sewer flooding.

- The reduction of surface water run-off (as proposed in the SuDS Drainage Strategy) through the provision of green/blue roofs, and geocellular crates. Detailed information regarding the green/blue roof and geocellular crates should be submitted for approval. This information should include their structure, specification, maintenance and details such as profiles, soil/medium and species used (including section drawings).
- Confirmation from Thames Water Utilities Ltd (TWUL) that the proposed total discharge rate (surface water and foul flows) into the combined sewer is acceptable

Reason – To minimise flood risks in accordance with the Consolidated Local Plan 2015 policies CE2d and e, CL7i and n.

Signed off: Patricia Cuervo
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