LON Comments on Pre-Application Response - Item 3

Item 3 of the London Borough of Sutton pre-application response relates to site drainage and sustainable urban drainage systems (SuDS). LON have provided comments to the response in **blue** below.

'A SuDS strategy must be prepared in support of any planning application for this site which includes:

- *An assessment of all sources of flood risk to the site for all even up to and including the 1 in 100 year event plus a 40% allowance for climate change;*
  - A Flood Risk Assessment that reviews all sources of flood risk to the site has been identified as not being a requirement for this scheme. This is because the development is situated within Flood Zone 1, does not propose new subterranean levels, and has a total area of <1ha. Surface water flood risk will be assessed in Stage 4 by developing a hydraulic model that simulates storm events with a 1 in 100-year return period include a +40% climate change allowance.
- *Details of proposed SuDS measures and evidence to demonstrate that the Mayor's drainage hierarchy in London Plan Policy SI 13 has been followed;*
  - The drainage hierarchy is as follows:
    - Option 1: at source reductions and reuse;
      - Rainwater harvesting is not feasible as a water treatment plant would be required on-site to treat water from the roof.
    - Option 2: infiltration to ground;
      - As the site is industrial use with high potential for surface water contamination it has been identified that infiltration to ground is not a suitable method of discharge.
    - Option 3: attenuated discharge to a surface water body;
      - There are no surface water bodies in the vicinity of the site.
    - Option 4: to a public surface water sewer;
      - Connection to the public sewer is proposed via re-use of the existing private network.
    - Option 5: to highway drain, or other private drainage system; or
    - Option 6: to a combined sewer where there are absolutely no other options, and only where agreed in advance with the relevant sewage undertaker.
- *Hydrological calculations carried out by an appropriately qualified professional to show that the peak run-off rate for the 1 in 100 year 6-hour rainfall event plus 40% for climate change will be as close as reasonably practicable to the greenfield run-off rate for the same event; and*

- Hydraulic calculations will be prepared to determine peak run-off rates for the 1 in 100 return period +40%CC. However, it is not feasible for this scheme to achieve greenfield run-off rates for the site. Based on a site area of 8650m^2 the greenfield runoff rate would be ~4.5l/s for the 1 in 100-year return period. To restrict the sitewide runoff rate to 4.5l/s, a Quick Storage Estimate undertaken in MicroDrainage suggests between 660m^3 and 860m^3 of attenuation would be required. Due to the sites nature, there is limited scope for attenuation features other than below ground storage tanks, and there is also a large diameter (1950mm) Thames Water sewer running diagonally across the northern car park, which restricts where below ground storage features can be constructed. Thus, it is recommended that surface water is allowed to discharge off-site unrestricted, but existing surface water connections to the private foul network are made redundant and all surface water is connected to the private surface water network.

- *Demonstrated that the 1 in 30-year rainfall event (plus 40% for climate change) will be safely contained on site; and that rainfall in excess of the 1 in 100-year event is manage to minimise risks.'*

  - In the existing state the site will flood due to the poor falls and in some areas runoff to neighboring properties. In Stage 4, a proposed levels strategy will be developed to ensure that any flood up to the 1 in 30-year return period +40%CC events are contained on-site, and events in exceedance of this are managed safely to minimise risk. An exceedance routes drawing will be prepared at Stage 4 to demonstrate this.