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Surface water flow

We have noted the requirements outlined in the Camden Planning advice CPG 4 – 3.51. Although our basement design extends into the rear garden area it is relatively small and as the sub-soil of London clay is largely impervious we do not consider that the loss of absorptive strata due to the basement construction sufficiently high in volume to result in any flooding that already occurs due to storm water conditions.

However, we accept that there will be a loss of ground surface that could contribute to evaporation of surface water that will now be artificially drained into the storm water system. Given the largely impermeable sub-soil a full SUDS scheme is untenable.

We would therefore propose adopting a storm water run-off attenuation scheme comprising an Aquacell formed void 50% of the 1 in 100 year storm water run-off volume plus 20% for global warming, with a restricted outflow to the main sewer. We would propose say a 50mm dia. outflow pipe with a 100mm high level overflow using a 73mm/one hour storm water hard surface run off volume from roof areas and non-permeable external drained areas. Consideration is being given to a rain-water harvesting tank for horticultural purposes, although we accept this would have a minimal contribution to flood risk management.

Dewatering basement excavations.

The soil report indicates the presence of water in the SI borehole. It was considered this was not from standing ground water but perched water from higher levels seeping into the borehole.

In view of this conclusion it is not considered necessary to dewater the excavation by the use of well points or other extensive systems.

The main risk of water entering any excavation is likely to arise from seepage via gaps in the contiguous piling. Similarly, therefore, it is not considered necessary to adopt secant piling to provide a water tight curtain. The assumption is that any water entering the excavations will result from the high level perched water. Consequently it is proposed that once soil is removed to the London clay level in from of the contiguous piling the gaps between the piles will be shuttered and concrete poured in to seal off any water ingress.

With the underpinning process we would not anticipate any water under the existing building so dry conditions are assumed. However, should either perched water or rain water penetrate into the excavation a small sump will be provided locally at the edge of the base of each underpinning panel to collect any water ingress. The sump will be drained using a submersible pump with the water taken into a settling tank and then to the sewerage system.

This preliminary proposal is subject to alteration after a trial underpinning panel is undertaken and consultation with the contractor on site.

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