

Client	Watkin Jones Group
Project	Thames Quarter
Discipline	Fire Engineering
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This design note provides an outline of the proposed sprinkler system and any enhancements to the system. It should be noted the full design and specification will be provided from a sprinkler specialist.

Proposed Sprinkler system

Due to the height of the buildings at Thames Quarter automatic sprinklers are required throughout the building. It is proposed to design and install the system to a BS 9251:2014. The following areas of the building are to be provided with sprinkler coverage;

- All flats
- All ancillary accommodation (residents lounges, etc)
- All Plant rooms and store rooms

As the system will be covering areas that are non-residential it is proposed that the category of the sprinkler system will be design and installed in accordance with BS 9251 is Category 3.

The system design will be via the sprinkler design specialist, but for the purpose of this report the recommendations of BS 9251 will be used so this provides information on the type of system required.

The system will be capable of providing a minimum design discharge density of 4mm/min for single head operation or 2.80mm/min when four heads are activated. The system should provide a minimum duration of supply for 30 minutes.

Based on the above the dedicated stored water supply will need to be between 6m³ – 9m³. It can be possible to use the domestic system (hot and cold water) for the sprinkler system. However, it needs to be ensured that that the stored volume should be capable of providing:

- The buildings peak demand for the required duration of the sprinkler system's run time; and
- The sprinkler maximum demand.

Further details of this system for storage is detailed in BS 9251:2014.

Proposed enhancements to the sprinkler system

In accordance with BS 9991 Section 13 where a car park is accessed internally the car park should be provided with a sprinkler system in accordance with BS EN 12845. It is proposed to increase the coverage of the BS 9251 system to include the car park as the system is already required. It is proposed to provide additional enhancements to the system as it will be covering the car park as recommended in Appendix B of BS 9251:2014.

This system will be provided with the following enhancements;

Proposed Sprinkler System

- Extending the duration of water supply – the typical duration of water supply for a BS 9251 sprinkler system is 30 minutes. It is proposed to increase this to 60 minutes;
- Provide a backup power supply to the pumping system; this is an additional resilience measure that will guarantee pumping system is provided with power should there be any issues with the power.

It is understood this will increase the take size discussed in the previous section due to the increased water supply. However, to reduce the capacity of the stored water supply an automatic infill from the water main can be provided. Only 80% of the proven infill may be used for reduction and the proven infill rate should be measured at peak demand. The reduced capacity should not be less than 60% of the effective capacity without infill.

The above is considered reasonable as the car park will be separated from the rest of the building by 120 minutes, the car park is provided with natural ventilation and the fire service access is above ground level via firefighting shafts.