

Fire statement form

Application information	
1. Site address line 1	Broad Street Mall
Site address line 2	Broad Street
Site address line 3	
Town	
County	Reading
Site postcode (optional)	RG1 7QE
2. Description of proposed development including any change of use (as stated on the application form):	Part-demolition of existing retail units, car park and service areas, demolition and rebuild of car park ramp, and construction of a residential-led, mixed-use development fronting Queens Walk and Dusseldorf Way, including all necessary enabling and alteration works required.
3. Name of person completing the fire statement (as section 15.), relevant qualifications and experience. Guide: no more than 200 words	Cheri Ho – Fire Engineer Cheri Ho is a Fire Engineer with detailed knowledge of Approved Document B (ADB) and BS9991 and a good understanding and experience of mixed-use residential developments including early stage and construction design stages. She has worked on many similar schemes in the past, incorporating elements such as smoke control and firefighting facilities into designs, as well as experience working on buildings of various heights. Adam Harris – Associate Fire Engineer Adam is an Associate Member of the Institution of Fire Engineers (IFE) and has both a BSc (Hons) in Fire Safety Engineering and an MSc in Fire and Explosion Engineering. He has 8 years' experience, with a detailed knowledge of fire safety guidance (e.g. Approved Document B, BS9991, BS9999) and a wealth of experience in working across various sectors (such as residential, commercial, etc.). Adam has a particular history of design involvement from the early stages through to construction and has worked on a number of similar schemes to this development. Michel Wizenberg – Senior Principal, Head of Fire Engineering Michel has a BEng (Hons) Mechanical Engineering and done the MSc Modules in Fire Safety Design. He was a board member of both the FIA Fire Engineering Council and the Smoke Control Association. He currently has a membership with the Institution of Fire Engineers (IFE). He has 15 years' experience, with vast experience on a variety of high-rise residential developments for major housing clients across the UK. He is the lead author of fire strategies and responsible for all stages of the fire engineering

	design from the initial client contact through the tendering phase, across construction and the ongoing management and maintenance of fire safety systems and passive fire protection. Michel has a wealth of experience in working across various sections (such as residential, commercial, etc.) as well as working in the design of active and passive fire protection systems, both in design and remedial schemes, specifically for buildings over 18m in height.
4. State what, if any, consultation has been undertaken on issues relating to the fire safety of the development; and what account has been taken of this. Guide: no more than 200 words	Internal consultation has been completed between the design team. External consultation will be carried out as the design progresses.
5. Site layout plan with block numbering as per building schedule referred to in 6. (consistent with other plans drawings and information submitted in connection with the application)	
Site layout plan is: inserted in the form ground layout	



The principles, concepts and approach relating to fire safety that have been applied to the development									
6. Building schedule									
Site information				Building information			Resident safety information		
a) block no. as per site layout plan above	b) • block height (m) • number of storeys excluding those below ground level • number of storeys including those below ground level	c) proposed use (one per line)	d) location of use within block by storey	e) standards relating to fire safety/ approach applied	f) balconies	g) external wall systems	h) approach to evacuation	i) automatic suppression	j) accessible housing provided
Block A	TF FFL – • 89.3 (m) • 30 • 31	residential flats, maisonettes, studios	Basement, Ground, 1 st – 29 th	Approved document B vol 1	class A2-s1, d0 or better	class A2-s1, d0 or better	stay put	yes- residential sprinklers, full	M4(2) & M4(3)
Block B	TF FFL – • 77.3 (m) • 26 • 27	residential flats, maisonettes, studios	Basement Ground, 1 st – 25 th	Approved document B vol 1	class A2-s1, d0 or better	class A2-s1, d0 or better	stay put	yes- residential sprinklers, full	M4(2) & M4(3)
Block C/D	TF FFL – • 56.3 (m) • 19 • 20	residential flats, maisonettes, studios	Basement Ground, 1 st – 18 th	Approved document B vol 1	class A2-s1, d0 or better	class A2-s1, d0 or better	stay put	yes- residential sprinklers, full	M4(2) & M4(3)
Car park	TF FFL – • 10.85 (m) • 4 • 5	car parking	Basement Ground, 1 st – 3 rd	Approved document B vol 2	no balconies	class A2-s1, d0 or better	simultaneous	none	none

Commercial unit	TF FFL – • 4.85 (m) • 1 • 1	shop	Ground	Approved document B vol 2	no balconies	class A2-s1, d0 or better	simultaneous	yes-commercial sprinklers, full	none
Residential amenity	TF FFL – • 73.5 (m) • 5 • 5	residential flats, maisonettes, studios	Ground, 1 st – 3 rd , Block B Level 24	Approved document B vol 1	no balconies	class A2-s1, d0 or better	simultaneous	yes-residential sprinklers, full	none

7. Specific technical complexities

Explain any specific technical complexities in terms of fire safety (for example green walls) and/or departures from information in building schedule above

Guide: no more than 500 words

- Given the height of the buildings a Qualitative Design Review (QDR) has been completed as detailed in BS7974. The QDR process follows a deterministic analysis as per Section 4.3.3 of BS7974. It is stated that in a deterministic analysis, the team should make a judgement as to whether the “what if” event is likely to significantly affect the overall fire risk and this analysis is specifically detailed in the QDR.

- All cores contain travel distances within the common corridors that are extended beyond the recommendations of Approved Document B. At a later stage of design, a Computational Fluid Dynamics (CFD) assessment will be required to validate the smoke venting strategy for the block in accordance with the guidance from the Smoke Control Association: (SCA) Guidance on Smoke Control to Common Escape Routes in Apartment Buildings (July 2020).

- Where risers are accessible from the ground floor final escape route, they will be enclosed in 120 minutes fire resistance with upgraded FD120S doors.

8. Issues which might affect the fire safety of the development

Explain how any issues which might affect the fire safety of the development have been addressed.

Guide: no more than 500 words

- Residential apartments will adopt a stay put evacuation procedure in that only the particular apartment that has a fire in it is immediately evacuated. The Fire Service will carry out evacuation of the other apartments if necessary.

- The car park, ancillary accommodations, storage, plant facilities and commercial units on site will be considered completely independent of the residential elements. These areas will adopt independent simultaneous evacuation procedures.

- The residential common corridors at the upper levels will be provided with smoke ventilation in accordance with ADB to provide tenable conditions for means of escape and firefighting operations.

- As all cores exceed 18m in height, firefighting shafts will be provided. Since Building C/D has a floor area over 900m² and is over 18m in height, two firefighting shafts will be provided. For Building A and Building B, the floor area is under 900m² so a single firefighting shaft will be provided for each building.

- Sterile final exit routes leading directly to outside will be provided at the ground floor for all cores and adjacent accommodations will be separated from the final exit route via smoke vented lobbies.

- Apartments will be provided with an upgraded LD1 fire alarm and detection system in accordance with BS 5839 Part 6.

- All blocks are over 30m in height so the elements of structure will achieve 120 minutes fire resistance. Where elements of structure support a building above, they should be provided with the structural fire resistance to at least that required for the building they support.
- Apartment floors will be designed as compartment floors and will achieve the same fire resistance as the elements of structure.
- Apartments will be enclosed in 60 minutes fire resistance with FD30S self-closing doors.
- The firefighting route will be enclosed in 120 minutes fire resistance with FD120S doors.
- The commercial unit and car park will achieve 120 minutes fire resistance to separate from residential accommodations.
- As the apartment blocks are over 11m in height, the apartments will be provided with sprinklers in accordance with BS9251. The ancillary accommodations, storage and plant facilities on site will be provided with sprinklers in accordance with BS9251 or BS EN 12845 depending on the size and use of the accommodations.
- The commercial unit will be provided with sprinklers in accordance with BS EN 12845.
- The car park will be provided with either natural smoke ventilation or mechanical smoke ventilation. For natural ventilation in the case of fire, there will be openings equating to 2.5% of the car park area, with at least half of them located on opposing walls or at ceiling level. For a mechanical ventilation system, there will be a minimum of 10 air changes per hour during fire conditions. The car park will also be provided with an automatic fire detection and alarm system designed and installed in accordance with BS5839 Part 1 and be a minimum of L5 standard.
- As the apartment blocks are over 11m in height, all materials within the external wall should achieve European Classification in A2-s1,d0 or Class A1 in accordance with Regulation 7(2). Although the commercial units are below 11m in height, they are part of the apartment buildings and will therefore achieve European Classification in A2-s1,d0 or Class A1 in accordance with Regulation 7(2).
- External wall construction that is perpendicular to the stair core within 1.8m of the staircase should be fire rated equal to that of the fire protection to the stairs.
- Since all blocks are over 50m in height, each will be provided with a wet riser.
- The wet riser inlets will be located on the building façade and be within 18m of the fire service appliance parking location.
- All parts of the floor plates will be covered within 60m when measured along a suitable route for laying a hose from a wet riser outlet.
- The commercial units will be provided with fire appliance access to at least 15% of the building perimeter.
- All cores contain a floor over 18m in height, therefore they will be provided with an evacuation alert system.
- All cores are over 11m in height, therefore they are required to be provided with a secure facility to store information about the building for use by the fire service during an incident.
- Existing hydrants will be provided within 100m of the wet riser inlet. Where the existing hydrant is further than 100m from the building, a private hydrant will be provided within 90m of the wet fire main, or an alternative source of supply such as a water tank will be provided. The current proposal is shown in Section 14.
- Each life safety system will be provided with a secondary power supply which will activate in the event of failure of the main supply.

9. Local development document policies relating to fire safety

Explain how any policies relating to fire safety in relevant local development documents have been taken into account.

Guide: no more than 500 words

The development was designed following the guidance of Approved Document B.

Consideration has also been given to the 2023 Fire Safety Regulations.

Emergency road vehicle access and water supplies for firefighting purposes

10. Fire service site plan

Explanation of fire service site plan(s) provided in 14. including what guidance documents have informed the proposed arrangements for fire service access and facilities?

Guide: no more than 200 words

- Fire Service access has been provided for fire personnel access and a water supply to within reasonable distance of the building entrances in accordance with Approved Document B.
- Fire tender access routes are shown to demonstrate access for the fire appliance to within 18m of the wet riser inlets is provided at the core entrances. Fire tender access will be provided within 60m of the furthest point of a dwelling where sprinkler will be provided. This is shown on the ground floor plan referenced in Section 14.
- As the residential accommodations will adopt a stay put policy there is no defined assembly point for residential occupants.
- As all cores exceed 18m in height, firefighting shafts will be provided in accordance with Approved Document B. Since Building C/D has a floor area over 900m² and is over 18m in height, two firefighting shafts will be provided. For Building A and Building B, the floor area is under 900m² so a single firefighting shaft will be provided for each building.
- Existing fire hydrants are to be provided within 100m of the wet riser inlet locations as shown on the utilities plan. Where the existing hydrant is further than 100m from the building, a private hydrant will be provided within 90m of the wet fire main, or an alternative source of supply such as a water tank will be provided. The current proposal is shown in Section 14. |

11. Emergency road vehicle access

Specify emergency road vehicle access to the site entrances indicated on the site plan

Guide: no more than 200 words

- As mentioned in Section 10, fire tender siting position has been completed to show the route the fire appliance would take to the site. This has been completed and assessed in accordance with Approved Document B. |

Is the emergency vehicle tracking route within the site to the siting points for appliances clear and unobstructed?

[yes]

12. Siting of fire appliances

Guide: no more than 200 words

- The vehicle access route is being designed to meet the B5 functional requirements of the Building Regulation. |

13. Suitability of water supply for the scale of development proposed

Guide: no more than 200 words

- Existing fire Hydrants will be provided within 100m of the wet riser inlet locations as currently shown on the plans referenced in Section 14. Where the existing hydrant is further than 100m from the building, a private hydrant will be provided within 90m of the wet fire main, or an alternative source of supply such as a water tank will be provided.]

Nature of water supply:

[hydrant- public]

Does the proposed development rely on existing hydrants and if so are they currently usable / operable?

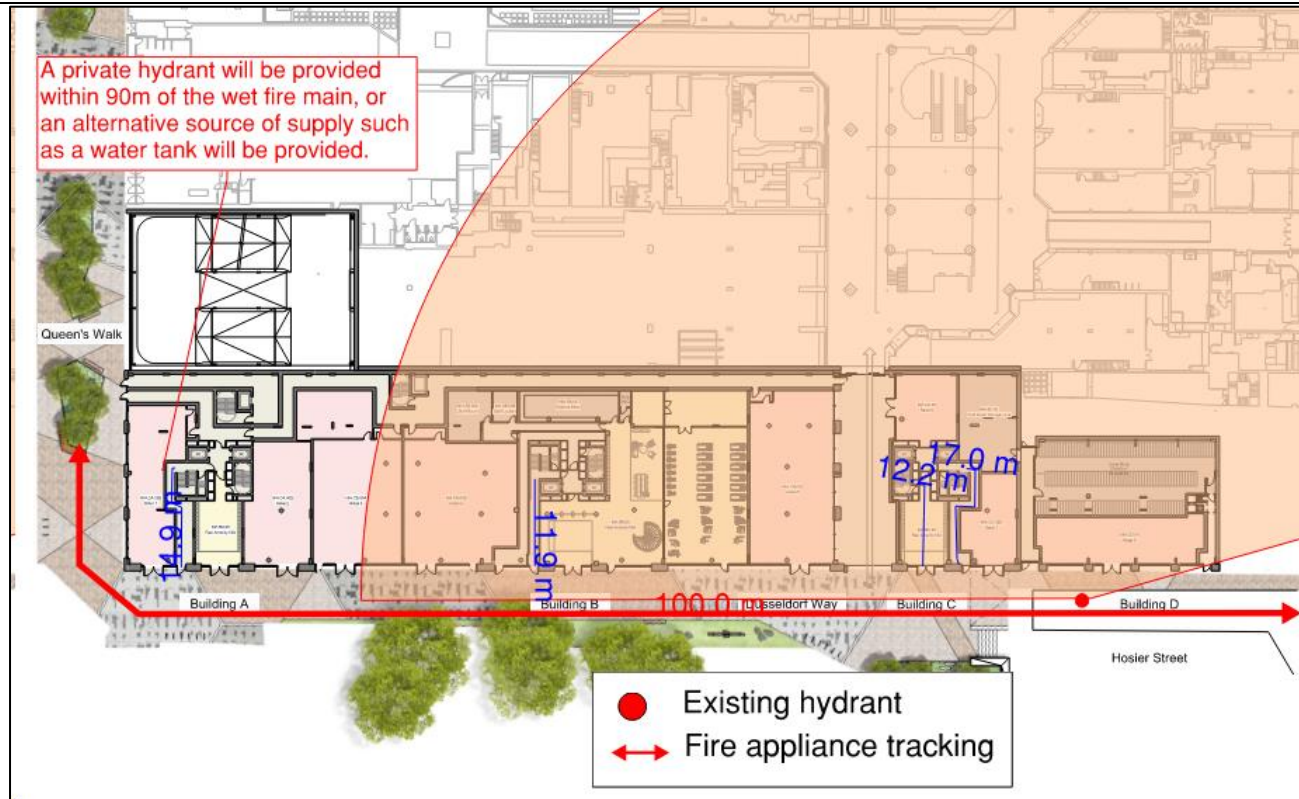
[yes]

14. Fire service site plan

Fire service site plan is:

[inserted in the form]

Ground floor plan



Fire statement completed by

15. Signature

Cheri Ho

16. Date

21/12/2023