

Fire statement form

Application information	
1. Site address line 1	Eaton Court
Site address line 2	Oxford Road
Site address line 3	
Town	Reading
County	Berkshire
Site postcode (optional)	RG1 7FU
2. Description of proposed development including any change of use (as stated on the application form):	The residential development proposes a total of 120 residential units split between 3 blocks – Building 1, Building 2 and Building 3. • Building 1 is a 5 storey, two-stair residential block, comprising of 25 open-plan residential units, with a top occupied floor height of approximately 14.1m above ground level. The ground floor comprises of three open-plan residential apartments, a common dining room, an events space, cycle storage and refuse space. The upper levels consist of open-plan residential apartments. Building 1 will be connected to Building 2 on the Ground Floor by a residential reception area and connected by a residential apartment on First and Second Floors. Primary access to Building 1 will be from street level to the north-eastern corner of the building, through the residential reception. There will be no lower ground floor or basement level to Building 1. • Building 2 is a 6 storey, two-stair residential block, comprising of 48 open-plan residential units, with a top occupied floor height of approximately 17.7m above ground level. The Ground Floor will accommodate six open-plan residential apartments, a residential entrance area, cycle storage, refuse space, staff facilities and plant space. Primary access to Building 2 will be from street level to the north-western corner of the building, through the residential reception. There will be no lower ground floor or basement level to Building 2. • Building 3 is a 7 storey, single-stair residential block, comprising of 47 open-plan residential units, with a top occupied floor height of approximately 19.8m above ground level. The Ground Floor will accommodate a single open-plan residential apartment, a residential entrance area, cycle storage, refuse space and plant space. Primary access to Building 3 will be from street level to the north-eastern corner of the building, through the residential reception. There will be no lower ground floor or basement level to Building 3. Construction method will include reinforced concrete construction and slab. Nature of the building/construction will be non-combustible.

3. Name of person completing the fire statement (as section 15.), relevant qualifications and experience. Guide: no more than 200 words	The fire statement for the project has been prepared by Sweco, one of Europe's largest engineering consultancies with an extensive track record of providing fire safety consultancy services for large-scale residential, commercial and mixed-use developments across the UK and internationally. Rhiannon Williams – Fire Engineer – BEng (Hons), AIFireE Rhiannon has 7 years of experience in major hazard research in relation to fire and explosive atmospheres and graduated from the University of Central Lancashire with a Fire Engineering bachelor's degree. Rhiannon now works on various projects applying her knowledge and skillset to the discipline of fire engineering. Kamil Podeszwa – Senior Fire Engineer – BSc, MSc, AIFireE Kamil holds a degree in Fire and Leadership Studies from University of Central Lancashire. He is a dedicated member of a specialist engineering team providing innovative fire engineering solutions to complex and technically demanding projects across various industries including residential, commercial, school, heritage and industrial. Zhujun Zhang – Principal Fire Engineer – PhD, MSc, BSc, AIFireE Zhujun gained a PhD degree in Fire Safety from University of Edinburgh. Zhujun has 4 years of experience in Fire Safety industry and has delivered fire safety design on some of the most technically demanding and high-profile construction projects in UK, US and Middle East. Farrokh Azad – Fire Engineering Director – MSc, BSc (Hons), MSFPE, MIAFSS, AIFireE, Member of European Fire Safety Community Farrokh is responsible for delivering fire safety consultancy on some of the most technically demanding and high-profile construction projects in the UK and Europe. Farrokh is a former Fire Officer and in addition to field experience, gained extensive design and management experience across dozens of challenging and complex high-rise projects. Farrokh has 15 years of experience in the Fire Safety industry.
4. State what, if any, consultation has been undertaken on issues relating to the fire safety of the development; and what	At the time of writing, informal consultation has taken place with Building Control. At later design stages, CFD modelling will be developed to ensure the smoke control systems are adequate and no smoke enters the stairways in the protected lift lobbies. The proposed design of the buildings has been consulted with and reviewed by SWECO Fire Engineering during RIBA Stage 2 design. A mark-up has been produced to highlight key fire safety principles and challenges to

account has been taken of this. Guide: no more than 200 words	overcome in the project design stages. A detailed stage 2 fire strategy has also been produced, which includes the principles of Fire Safety Requirements of Part B1-B5 of the Building Regulations. There are no fire safety issues identified preventing the Planning Application. Nevertheless, the fire strategy will be developed further as the design progresses and will be presented to the Approving Authorities for review against Part B of the Building Regulations as part of Gateway 2. The aim is that the Fire Safety of the development achieves compliance via following the relevant British Standards i.e. BS 9999:2017 and DRAFT BS 9991:2021 etc
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	

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
1	14.1 5 5	residential flats	G: plant/storage /amenity space G-L4: residential flats	BS 9999:2017 DRAFT BS 9991:2021	class A2-s1, d0 or better	class A2-s1, d0 or better	simultaneou s stay put	yes- residential sprinklers, full	M4(2) & M4(3)
2	17.7 6 6	residential flats	G: plant/storage /amenity space G-L5: residential flats	BS 9999:2017 DRAFT BS 9991:2021	class A2-s1, d0 or better	class A2-s1, d0 or better	simultaneou s stay put	yes- residential sprinklers, full	M4(2) & M4(3)

3	18 7 7	residential flats	G: plant/storage /amenity space G-L6: residential flats	BS 9999:2017 DRAFT BS 9991:2021	class A2-s1, d0 or better	class A2-s1, d0 or better	simultaneou s stay put	yes- residential sprinklers, full	M4(2) & M4(3)
		Choose an item.		Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
		Choose an item.		Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

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

The following technical issues have been addressed in the fire safety strategy:

- Open-plan flat design will be provided within all buildings and designed in accordance with guidance of DRAFT BS 9991:2021. All flats will be sprinkler protected which will limit the spread of smoke and will be fitted with Grade D1 LD1 fire detection and alarm system providing early warning to the occupants. Additionally, the cooking hobs will be located greater than 1800mm distance from the escape route to avoid radiation damage to skin and the escape route will be a minimum of 900mm wide to accommodate all occupants passing outside the 1800mm zone.
- Residential sprinklers will be extended to serve non-residential areas in Buildings 1, 2 and 3 in line with BS 9251:2021. With the limitations of the floor areas (less than 100 m², or 72 m² for high-risk areas such as bin stores etc), there will be a limited occupancy number within each non-residential area and short escape routes. Additionally, the units will be separated by at least 60-minute fire resistant construction. It is

therefore expected that occupants will escape safely and quickly before the escape route is compromised by a fire. Furthermore, fitted L1 (non-residential) and LD1 (residential) fire detection and alarm systems will provide early warning to occupants.

- Given the mixed risk profiles a mixed evacuation strategy is used, with residential being stay put and the non-residential areas being simultaneous.
- Detection of Grade D Category LD1 in accordance with BS 5839-6:2019 will be provided throughout all residential areas and L1 detection in accordance with BS 5839-1 in all non-residential areas.
- Single evacuation lifts will be provided adjacent to the west stair core in Building 1 and north stair core in Building 2. Building 3 will be provided with 1 individual evacuation lift, and a combined evacuation and firefighting lift.
- Building 1 comprises a dead-end corridor to the west of the building which also serves residential accommodation. Travel distances within the dead-end corridor will be limited to 7.5m, measured from the flat entrance to the stair. To safeguard the protected west stair and dead-end, smoke control will be provided within the corridor through mechanical means on all floors. The common corridor on each floor will be ventilated by a mechanical smoke extract shaft located to the west of the corridor. Make-up air for the system will be drawn in from the east stair, via a minimum 1.0m² AOV at the head of the stair core.
- Building 2 comprises a dead-end corridor to the south of the building which also serves residential accommodation. Travel distances within the dead-end corridor will be limited to 7.5m, measured from the flat entrance to the stair. To safeguard the protected south stair and dead-end, smoke control will be provided to the end of the corridor on all floors. On the upper ground floor, this will be achieved through an AOV (minimum 1.5m²) to the south of the corridor. On the Ground floor, the external access door will fail open in the event of a fire to function as an AOV.

Building 3 will comprise of a firefighting shaft given the height of the building being over 18m. A Class 1 pressurisation system designed to BS EN 12101-13:2022 will be provided to the firefighting stair and associated lobby. An air flow velocity of equal to or greater than 1m/s should be provided, subject to specialist system design. An evacuation alert system in accordance with BS 8629:2019 will be provided in this building.

- Assembly points have yet to be determined, but there are a number of open areas around the existing site that could be used as an assembly point in the event of a significant fire event that alters the stay put evacuation strategy to an all-out evacuation strategy for the residential areas.

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

SWECO Fire Engineering team has been involved with the design during RIBA Stage 2, offering technical guidance, producing markups and constructing a comprehensive stage 2 Fire Strategy Report. We will ensure a robust fire safety design will be developed for each building, considering the uses of building and risk profile of occupants.

The proposed Building 3 on the site is high-rise and it is proposed in addition to follow the prescriptive design guidance of DRAFT BS 9991:2021 (residential) and BS 9999:2017 (non-residential). A CFD modelling will be undertaken at a later design stage to ensure occupants can escape in a tenable condition.

There are a number of areas where the design needs to evolve to address the particular nuances of Draft BS 9991:2021 / BS 9999:2017 in the design stages beyond planning. These items include roof provisions, residential corridor ventilation and fire service access.

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 proposed development is designed subject to London Plan 2021. The London Plan 2021 is the statutory spatial development strategy for the Greater London area in the United Kingdom, written by the Mayor of London and published by the Greater London Authority. At its core, the London Plan aims to ensure the highest levels of fire safety are provided to new and refurbished buildings and to maximise building resilience in line with best practice.

Policy D12 (Fire Safety) notes that developments should achieve the highest standards of fire safety and ensure that Part B of Building Regulations (Part B1-B5) is satisfied. To demonstrate this, a Fire Statement has been produced, setting out:

- The qualifications and experience of the authors
- Information to address the headings of the policy requirements
- Fire safety information specific to the development
- That evacuation lifts are provided in accordance with Policy D5
- The fire safety design standards adopted, and the additional measures provided

Policy D5 (Inclusive Design) notes that the developments should be designed for the safe emergency evacuation for all building users. In developments where lifts are provided, at least one lift per core should be designed as an evacuation lift conforming to BS EN 81-70:2021, BS EN 81-73:2020 and BS 9999:2017 Annex G. In order to satisfy Policy D5, in addition to the provisions for safe means of escape for the occupants, it is proposed to provide an evacuation lift per residential core for each building to ensure a safe evacuation for the occupants with impaired mobility.

In order to satisfy Policy D12, SWECO Fire Engineering has been appointed to review the proposed design from early stages of the design and develop a robust fire safety strategy for each block. This is a continuous liaison with the design team and during construction. The principles of fire safety design for each block, guidance documents followed, and the proposed design approach included in the above sections. Fire Safety Policy D12(A) and its aspects 1- 6 will be addressed in the contents of this Fire Statement.

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

Buildings 1 and 2 do not exceed 18m in height, therefore do not require a firefighting shaft.

A dry riser outlet will be located on each floor within the western stair core of Building 1.

A dry riser outlet will be located on each floor within the northern stair core of Building 2.

It is proposed to provide one firefighting shaft to Building 3 based on the height of the building exceeding 18m. The firefighting shaft will include the following:

- A firefighting stair (smoke ventilated – Class 1 pressurisation system designed to BS EN 12101-13:2022)
- A firefighting lobby (smoke ventilated – Class 1 pressurisation system designed to BS EN 12101-13:2022)
- A dry fire main (with an outlet on each floor)
- A firefighting lift (which is combined as an evacuation lift)

It is proposed to provide a fire appliance access route to each building with no more than 18m distance from the parking position to the fire main inlet point. The buildings on the site can be accessed via firefighting shaft/protected stair to all habitable floors.

The guidance documents informing the proposed arrangements are DRAFT BS 9991:2021 and BS 9999:2017.

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

It is proposed to provide a fire appliance access route to each building with no more than 18m distance from the parking position to the fire main inlet.

The site is within an urban area which should be provided with accessible and appropriate roads and vehicle access (adequate width and tonnage) for fire appliances.

The private vehicle access route to position the fire appliance within 18m of the dry riser inlet of Building 1 is obstructed by an access gate. The gate should be sufficiently sized to allow a pump appliance easy access. Any access control should automatically be overridden in the event of an emergency i.e., fire detection

The private access routes to Buildings 1 and 3 exceed the 20m maximum dead-end requirement for fire service vehicle access. Space for fire vehicle manoeuvring is provided adjacent to the north-west of Building 1. However, this space does not meet the turning circle requirements within ADB and BS 9999:2017 for fire vehicles. Therefore, this will carry an approvals risk and needs to be agreed with local Fire Brigade.

The Design Team will maintain co-ordination to ensure the private roads, corners and the private gate are sufficient width for fire vehicle access.

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

no

12. Siting of fire appliances

Guide: no more than 200 words

It is proposed to follow the guidance within Draft BS 9991:2021 for the Fire Service Access and Facilities.

On this basis, on the buildings being over 11m, the access routes for fire appliances will be designed to ensure adequate width and tonnage. It is proposed to provide a fire appliance access route to each block with no more than 18m distance from the parking position to the fire main inlet point

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

Guide: no more than 200 words

Each building will be provided with a dry riser. It is intended to rely on external public hydrants for additional water supplies, subject to a detailed assessment of their current quantum, spacings and flow rates.

Nature of water supply:

hydrant- public

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

don't know

14. Fire service site plan

Fire service site plan is:
inserted in the form



Fire statement completed by

15. Signature	Rhiannon Williams
16. Date	26/01/2023