

10-12 Whitworth Street, Manchester

OUTLINE FIRE SAFETY STRATEGY

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Quality Management

Revision	Date	Comment	Author	QA & Technical Review	Approver
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EXECUTIVE SUMMARY

Project Description

OFR have been appointed by Atri 7 6 Limited to provide fire engineering services for 10-12 Whitworth Street West, Manchester. The RIBA Stage 2 proposals consist of a over 100m tall student residential tower.

This report has been issued as part of the RIBA Stage 2 design phase and provides an outline of the proposed fire strategy arrangements for the development. These will then be developed in more detail as the design progresses. The primary objective of this report is to:

- Set out the key principals of the fire strategy and demonstrate how the relevant fire safety requirements of the Building Regulations 2010 can be satisfied.
- Provide advice to the design team and Contractor to ensure that they can incorporate any fire safety requirements into the aspects of the design for which they are responsible.
- Highlight where further design development is required.
- Provide relevant fire safety information to the Client and End-users and allow them to consider the implications of the proposed fire strategy on any future fire safety management regimes.

This report will be supplemented by a Gateway One Fire Statement form which will be included in the appendices within this report (Appendix B) to support the development in relation to planning.

Fire Strategy Summary

A summary of the key features of the fire strategy is provided in Table i below.

Table i: Fire Strategy Summary

Element of the design		Description
Basis of design – Section 1.2	Residential (including ancillary areas)	BS 9991: 2024 [1], with supplementary information from BS 9999 : 2017 [2] and BS 7974 [3] where otherwise not included in BS 9991 : 2024 guidance.
Fire detection and alarm system – Section 3.1	Flats	BS 5839-6: 2019+A1: 2020 [4] system to an LD2 Standard
	Common residential areas and amenity spaces	BS 5839-1: 2025 [5] system to at least a Category L5 standard.
	Common Corridors	BS 5839-1: 2025 [5] system to at least a Category L4 standard.
	Building-wide	BS 8629:2019 [6] evacuation alert system. Manual call points located where appropriate. As an alternative to the individual options above, the operator may instead wish to install a BS 5839-1 : 2025 [5] L1 standard of alarm throughout the building.
Automatic fire suppression – Section 3.1	Flats, and ancillary non-residential accommodation less than 100 m^2 in area	Enhanced Category 4 sprinkler system designed to BS 9251: 2021 [7]
	Residential accommodation more than 100m^2 in area (GF to SF amenity only)	BS EN 12845:2015:A1,2019 [8] commercial sprinkler system
Smoke ventilation systems – Section 3.2	Common Corridors	Common corridors serving the residential or ancillary accommodation accessed from the stairs or evacuation lift lobbies are to be provided with a mechanical extract smoke ventilation system.
	Evacuation Lift Lobbies	Evacuation lift lobbies are to be provided with natural inlet shafts
	Stairs	Stairs are provided with low level inlet air and an AOV at the head of the stair.
	Refuge Stores	Additional smoke vented lobbies are provided to separate the bin store from the rest of the building.
Vertical Transportation – Section 3.1	Evacuation lifts and Fire-fighting lift	All lifts will be designed as both evacuation and firefighting lifts. Two lifts will be associated with each core and designed provide self-evacuation, with the ability for the Fire and Rescue Service to take control of evacuation lifts to fight fires on the upper floors. All lifts are to be designed to BS EN 81-76 2025 [9] and BS EN 81-72: 2020 [10]
Evacuation arrangements – Section 4.1	Flats	Safe-to-stay, safe-to-leave, only flat of fire origin expected to leave in the first instance.
	Elsewhere, i.e. ancillary areas	Simultaneous evacuation.
Fire resistance to the elements of structure – Section 5.2		REI to be determined by the outcome of the PRA during RIBA Stage 3. Indicatively set at 120 minutes REI
Compartmentation – Section 5.3		Every dwelling is a 60 minute separate compartment. Each room will be designed as a 60 minute compartment. All floors are designed as compartment floors, achieving at least 120 minutes fire resistance. Double height spaces at lower levels will be enclosed in 120 minute fire resisting construction. Every shaft passing through a floor is a protected shaft.
External walls construction – Section 6.1		Class A2-s1, d0 or better.
Water supplies for fire-fighting – Section 7.1.1		Hydrants to BS 9990: 2015 [11] (existing hydrants to be confirmed).
Fire service vehicle access – Section 7.1		Within 18 m of the wet fire main inlet connection point and proposed adjacent to the entrance to each core.
Internal fire-fighting provisions – Section 7.2		Fire-fighting shaft comprising fire-fighting stair, fire-fighting lifts, enhanced communication and wet fire mains provided at every floor to BS 9990: 2015. [11]

Variations to Standard Guidance

Table ii lists aspects of the design where an alternative arrangement to the recommendations of BS 9991 has been provided. These may require further review and approval from the relevant authorities and are highlighted here as a design risk.

Table ii: Variations to the Recommendations of Standard Guidance – Design Risk Register

Variations to standard guidance	Discussion	Report Section
Buildings over 100m tall are outside the scope of BS 9991:2024	A QDR is proposed to review and provide additional fire strategy enhancements to account for the building height. A separate QDR report will be provided as the scheme progresses to outline the approach against the functional requirements of the Building Regulations for design team and stakeholder input. Additional measures include the provision of an enhanced category 4 sprinkler system, the provision of a PRA of the fire resistance of the buildings structure and CFD of the smoke control arrangements within the building.	1.3

Further variations to standard guidance may be incorporated as the scheme progresses.

Information Required/Design Development

Table iii lists the information that is required to progress the design and or aspects of the design that need further development.

Table iii: Information Required/Design Development

Section of the report	Design Item	Progression	Closed Out
1	Alarm System	It should be confirmed as the scheme progresses if the building operator would require a L1 alarm system throughout the building rather than a mixed domestic and amenity alarm system.	
2	Investigation Period	The operator preference of an investigation period should be confirmed as the scheme progresses.	
3	Management Regime	The level of management available on site should be confirmed (presumed to be 24/7 at this stage).	
4	Sprinkler Tank Sizing	The minimum sprinkler tank sizing will be developed as the scheme progresses in co-ordination with the sprinkler specialist.	
5	Stair Inlet air	Stair inlet air should be provided at a low level. The vent provided should comply with BS EN 12101-2 [12]. Whether this is achieved by the final exit door or a separate inlet vent should be confirmed.	
6	Smoke control in the common corridors.	Tenability of the corridors will be evidenced through a CFD analysis during the RIBA Stage 3 conceptual design.	
7	Plant Space to be confirmed.	A generator, sprinkler tank, wet riser tank, should be allocated in the plant space provided throughout the building and include any internal access arrangements. The location and type of back-up power supply / generator should be confirmed.	
8	Studio Layouts	The Studio layouts should be confirmed for OFR to further review if the guidance within BS 9991:2024, as outlined in Section 4.2, will be met	
9	Amenity accommodation occupancy	As the proposed amenity fitout is confirmed, the number of expected occupants will be determined and therefore allowing the minimum number of escape routes, required clear widths and number of stairs to be accessible to be calculated to support the fire strategy.	
10	Probabilistic Risk Assessment of Structural Fire Resistance	A probabilistic risk assessment will be undertaken during RIBA Stage 3 conceptual design to determine the required period of structural fire resistance	
11	Fire hydrants	The suitability of hydrants within 100m of the building should be confirmed.	
12	Fire service access.	Fire vehicle tracking study / access arrangement to be confirmed to meet the requirements outlined within this Fire Strategy.	

1. INTRODUCTION

OFR Consultants (OFR) have been appointed by Atri 7 6 Limited to develop the fire strategy for 10-12 Whitworth Street West development in Manchester.

This development comprises the design and construction of a 39 storey (G+38) student residential building which will contain both studio and clustered student accommodation and both lower level and top-level amenity spaces. The building description is summarised in Section 2.

This fire safety strategy forms part of the OFR Work Package 1 and forms part of the RIBA Stage 2 design package of information. The intent of the document is to provide fire safety advice and to define the key fire strategy elements, that will be further developed during RIBA Stage 3.

The objective of this strategy is to

- Set out the key principles of the fire strategy and demonstrate how the relevant fire safety requirements of the Building Regulations 2010 can be satisfied.
- Provide advice to the design team and Contractor to ensure that they can incorporate any fire safety requirements into the aspects of the design for which they are responsible.
- Highlight where further design development is required.
- Provide relevant fire safety information to the Client and End-users and allow them to consider the implications of the proposed fire strategy on any future fire safety management regimes.

This report is based upon information referenced in Section 1.5 and is subject to further information as outlined in Table iii.

1.1 Applicable Legislation & Policy

The fire strategy is provided to outline how the fire safety design can satisfy and support the applicable fire safety legislation, namely:

- **Building Regulations 2010 (as amended) & Building Safety Act 2022**

  Building Regulations cover building work and the fire strategy will address Requirements B1 – B5 of Schedule 1 to the Regulations, in addition to Regulation 7(2) relating to external wall construction. OFR's responsibility under these Regulation is as a Designer. The introduction of the Building Safety Act 2022 amended the Building Regulations and amongst other items defies a Higher Risk Building (HRB) and new regulatory process for such buildings.
- **Regulatory Reform (Fire Safety) Order 2005 & Fire Safety (England) Regulations 2022**

  The Fire Safety Order address fire safety during occupation and is based on fire risk assessment. As part of the amendments made by the Fire Safety (England) Regulations there are additional provisions that will need to be included in the design.
- **The Town and Country Planning (Development Management Procedure) (England) Order 2015 (as amended)**

  The building is defined as a Higher Risk Building and therefore a separate Gateway One Fire Statement will be submitted as part of the Planning application and is included in Appendix B.
- **Construction (Design and Management) Regulations 2015**

  The strategy has been developed in cognisance of the Construction (Design and Management) Regulations. However, the strategy does not address site fire safety during the building works.

1.2 Design Basis and Guidance

The following design documents have been used to develop the fire strategy design:

- **BS 9991: 2024 Fire safety in the design, management, and use of residential buildings – Code of practice.**

  This provides recommendations and guidance on fire safety provisions and measures to control or mitigate the effects and impact of fire in residential premises. The primary objective of the Standard is to address the safety of life of the occupants in and around the building, including fire-fighters, in the event of a fire. Secondary to this is to achieve a level of protection for the property and business. This is the principal document used for the development of the fire strategy.
- **BS 9999: 2017 Fire safety in the design, management and use of buildings – Code of practice**

  This has been used to assess exit capacity from ancillary areas of the residential accommodation, in line with BS 9991:2024 recommendations.
- **BS 7974: 2019 Application of fire safety engineering principles to the design of buildings – Code of practice and this is used as the basis for developing the fire safety strategy for the building.**

  This has been used to support any fire-engineered solutions as an alternative to the standard guidance above.

The above standards have also been supplemented further with other relevant British and European Standards as referenced throughout this Report.

1.3 Qualitative Design Review (QDR)

The design has been subject to a Qualitative Design Review (QDR) to ensure that an acceptable level of safety has been achieved and the requirements of the Building Regulations have been met on the basis that the building exceeds 100 m in height and therefore falls outside the scope of BS 9991:2024. The aim of the QDR is to review and ascertain any additional fire strategy requirements to supplement any increases in risk associated due to the increased building height to support that the functional requirements of Building Regulations 2010 (as amended) are being demonstrated as being met in design.

A formal QDR document will be appended to this Report during the next stages of the design (RIBA Stage 3). However, the following is a summary of the key fire engineering challenges that will need to be addressed:

Table 1: Preliminary QDR Considerations

Requirement	Description
B1: Means of warning and escape	The horizontal means of escape are dependent on the number of exits, exit widths and the travel distances. As these are not significantly impacted by the height of the building as each floor is typically reviewed in isolation. As such the standard guidance approaches are likely to remain appropriate. The vertical escape is affected by the height of the building. The building is proposed to be equipped with four evacuation lifts accessed through the ventilated evacuation lobby to facilitate the evacuation of mobility impaired persons, with two lifts associated with each stair, both of which will be available for use during evacuation*. This provision increases the resiliency of the vertical egress strategy and provides additional capacity to serve the increased number of occupants. *The firefighting lifts will double up as evacuation lifts prior to the Fire and Rescue Service attending site and taking control of the lifts.

B2 – Internal fire spread (linings)	Standard guidance recommendations for lining performance are not significantly affected by height. Therefore, the standard guidance approaches are likely to remain appropriate.
B3 – Internal fire spread (structure);	The building includes a significant amount of compartmentation and furthermore is fitted with sprinklers as the building height is over 11m. Therefore, the increase in height is not considered to lead to a direct detriment in the structure. However, the consequential risks of internal fire spread are expected to be increased so additional resilience is proposed to sprinkler system by utilising the larger commercial water tank to increase residential sprinkler duration. Furthermore, BS 9991 does not explicitly define an upper limit when recommending levels of fire resistance (other than being in scope for buildings up to 100m only), with any building greater than 30 m in height to the top occupied storey requiring a minimum 120-minute fire resistance period, regardless of use, size and complexity. As the building height increases, so does the consequences of the fire on the building structure and as such OFR propose that a systematic risk assessment of the building (which should also include the impact of fire on the structure) is carried out to satisfy Requirement A3 relating to disproportionate collapse. OFR's Stage 3 analysis will review the required structural fire resistance via a probabilistic risk assessment (PRA) and can be used to support the structural engineers assessment for Part A.
B4 – External fire spread	Due to the height and nature of the building, it is considered as a relevant building where Regulation 7(2) of the Building Regulations is applicable. Regulation 7 (2) states that in relevant buildings the materials which become part of an external wall, or specified attachment must be of European Classification A2-s1, d0 or Class A1. Therefore, impact of the height of the building on the external fire spread is minimal.
B5 – Access and facilities for the fire and rescue service	The guidance recommends only one firefighting shaft as all floors above have less than 900 m^2 floor area. As the scheme height increases, the approach to firefighting and risk to firefighters increases as does the reliance on the systems that serve firefighters. To support firefighting operations, the secondary stair will be designed as an additional firefighting stair for redundancy, with the same associated services, such as wet riser outlets and firefighting lifts, as per the main firefighting stair. This is discussed further in Section 7.2.

Any detailed fire engineering analysis will be developed during the future design stages following the QDR process.

1.4 General Assumptions

This Section provides a summary of the main assumptions made in the development of this fire strategy:

- There is a single source of fire.
- Fire is an accidental event, and no account has been taken to address arson, although the fire safety systems outlined in this fire strategy may help to mitigate the impact of arson on occupants and the building fabric.
- There is no reliance placed on the fire service for rescue from the building; the assumption being that people should be able to escape from the building using their own unaided efforts or supported by suitably trained staff/occupants based on the fire safety management plan.
- Where dimensions are given for the escape routes in this Strategy, they are the minimum required for means of escape or fire service access. Wider doors and corridors may be required to satisfy other legislation, such as Part M of Schedule 1 to the Building Regulations, or for functional reasons. Therefore, wider doors etc., will be able to accommodate larger numbers of people. Where no dimensions are stated, then the minimum required for other legislation or functionality will be suitable for this fire strategy.
- Additional measures may be required for the purpose of property protection and operational continuity, which are outside the scope of the Building Regulations. It is therefore recommended that the Client and their insurers are also consulted together with any other relevant parties.
- This fire strategy does not address any environmental effects resulting from a fire within the building.
- It has been assumed that all building work will be carried out in accordance with the relevant requirements of Regulation 7 of the Building Regulations. Therefore, to ensure that the proposed fire safety system detailed within this report achieves the appropriate fire performance, it is recommended that all products, components, materials, or structures relating to the fire strategy are installed using competent companies/persons and, where applicable, third-party accreditation/certification.

1.5 Drawing References

The following drawings listed in Table 2 have been used in conjunction with this fire strategy report.

Table 2: Reference information

Drawing number	Title	Issuer
22987-8000-Rev 00	Whitworth Street, Manchester – Design and Access Statement	Corstorphine-Wright Architects
22987-CWA-P1-00-DR-A-2000 - Rev P00	Proposed Site Plan	
22987-CWA-P1-00-DR-A-2001 - Rev P00	Proposed Ground Floor Plan	
22987-CW-P1-01-DR-A-2002-Rev P00	Proposed First Floor Plan	
22987-2003-Rev 02	Proposed Second Floor Plan	
22987-2010-Rev 02	Proposed Typical Lower Floor Plan	
22987-2021-Rev 02	Proposed 20th - 21st Floor Plan	
22987-2023-Rev 02	Proposed 22nd-25th Floor Plan	
22987-2028-Rev 02	Proposed 26th – 37th Floor Plan	
22987-CWA-P1-38-DR-A-2039 - Rev P00	Proposed 38th Floor Plan	
22987-2040-Rev 03	Proposed Roof Level Plan	
22987-CWA-DE-A-X096-Rev 01	Proposed Block Plan	

2. PROJECT DESCRIPTION

2.1 Site Characteristics

The proposed development site is situated to the south of Manchester's Civic Quarter, specifically along Whitworth Street West, between Cameron Street to the west and Albion Street to the east.

The site sits directly west of the South Deansgate junction behind the City Road Inn and in close proximity to Deansgate train station, with the Grade II listed Manchester South Junction and Altrincham Railway Viaduct located directly to the south of the site. To the west sits Cameron Street and to the north sits Whitworth Street itself. This site area spans approximately 896 m^2 in total.

The proposed site location with the surrounding landmarks is shown in Figure 1 below, with the site layout drawing shown in Figure 2.



Figure 1: Location of Site

2.2 Description of the Building

This scheme includes the design and construction of a new high-rise purpose built student accommodation (PBSA) on a vacant site that used to function as a car park. This residential building is a large single tower which will comprise ground plus 38 storeys. The topmost occupied storey reaches an approximate height of 113.7 m. The total floor area in the proposed building layout is c. 650 m^2.

The lower floors (ground to 2nd) will be used for amenities and plant, including an entrance reception, bike store, bin store at ground floor, with further amenity, alongside double height sprinkler tank and wet riser tank rooms on the first floor.

The upper floors (3rd to 37th) will consist of both cluster and studio flats, including a "twodio" studio layout, with an intermediate plant level alongside the student residential rooms at levels 20 and 21. Level 38 is proposed to be an amenity level only and provides both internal amenity and external terrace space.

Several floor plans are shown below in Figure 2 through to Figure 6 which display the layouts at these levels. The key characteristics of the building are summarised in Table 3.

Table 3: Building Characteristics

Key Characteristics		Description
Building height *(to the topmost occupied storey)*		+113.7 m
Number of storeys *(includes Ground and all upper levels)*		39 storeys
Area of a typical residential floor		circa 650 m^2
Building areas	Ground floor	Reception, Student Amenity, Bin Store, Bike Store and Plant
	Floors 1 to 2	Student Amenity, Sprinkler Tank and Pumps, Wet Riser Tank, Portable Water and Plant
	Floors 3 to 37 *[excluding floors 20 and 21]*	Clustered Student Accommodation, Standard Studios, Premium Studios and Twodios
	Floors 20 to 21	Clustered Student Accommodation, Standard Studios, Premium Studios and Twodios and Plant
	Floor 38	Amenity

Based on the above, as the building height is in excess of 18 m and contains at least two residential units, the building is therefore classified as a Higher Risk Building under the Building Safety Act 2022.

The building is also considered a relevant building for the purposes of Regulation 7(2) of the Building Regulations.

2.3 Management Regime

At this stage of design the management regime is subject to further confirmation, but given the size and occupancy of the building it is anticipated that there will be a 24/7 management presence on site. This will be confirmed as the scheme progresses.

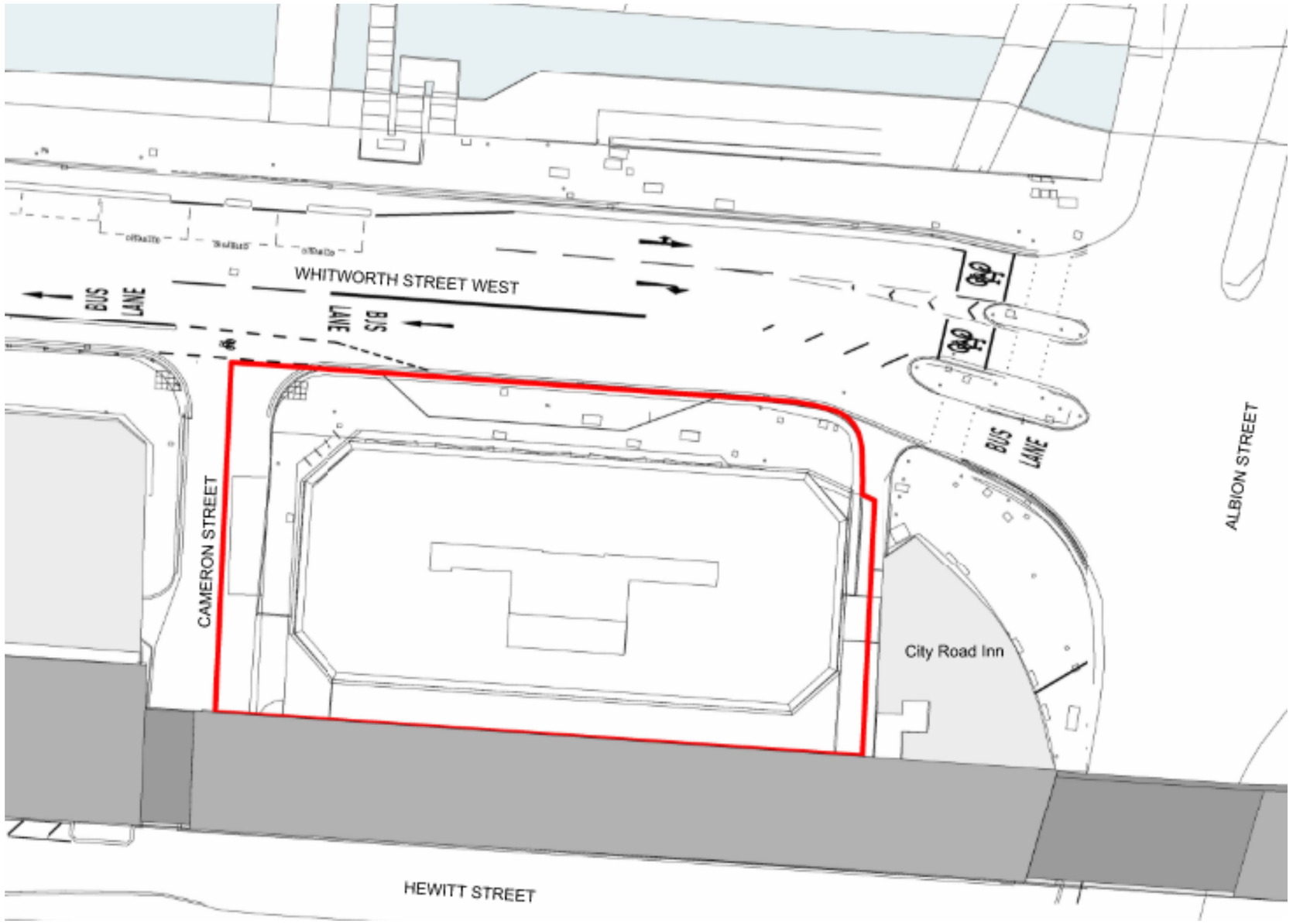


Figure 2: Site Location - Drawing

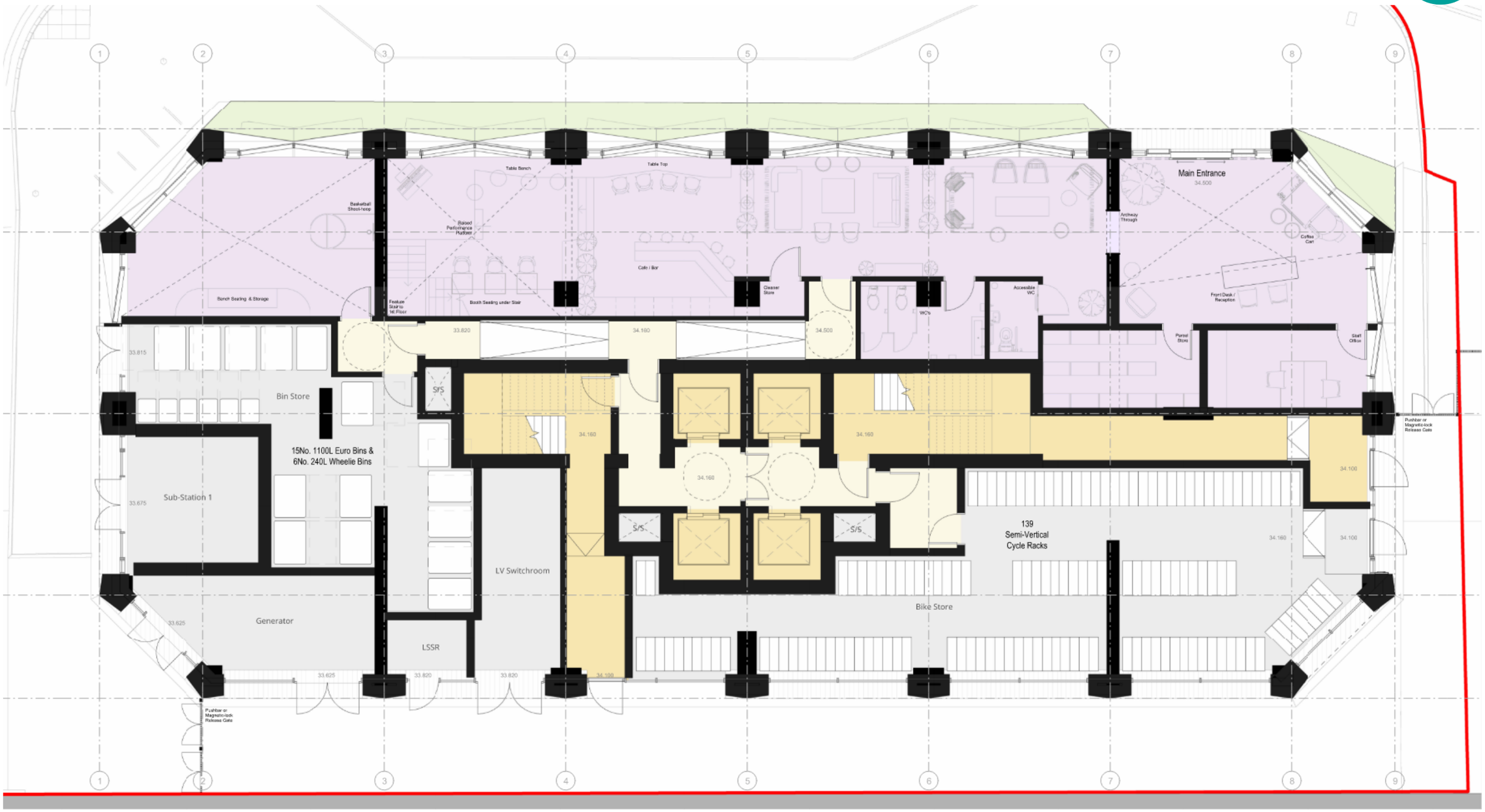


Figure 3: Ground Floor General Arrangement

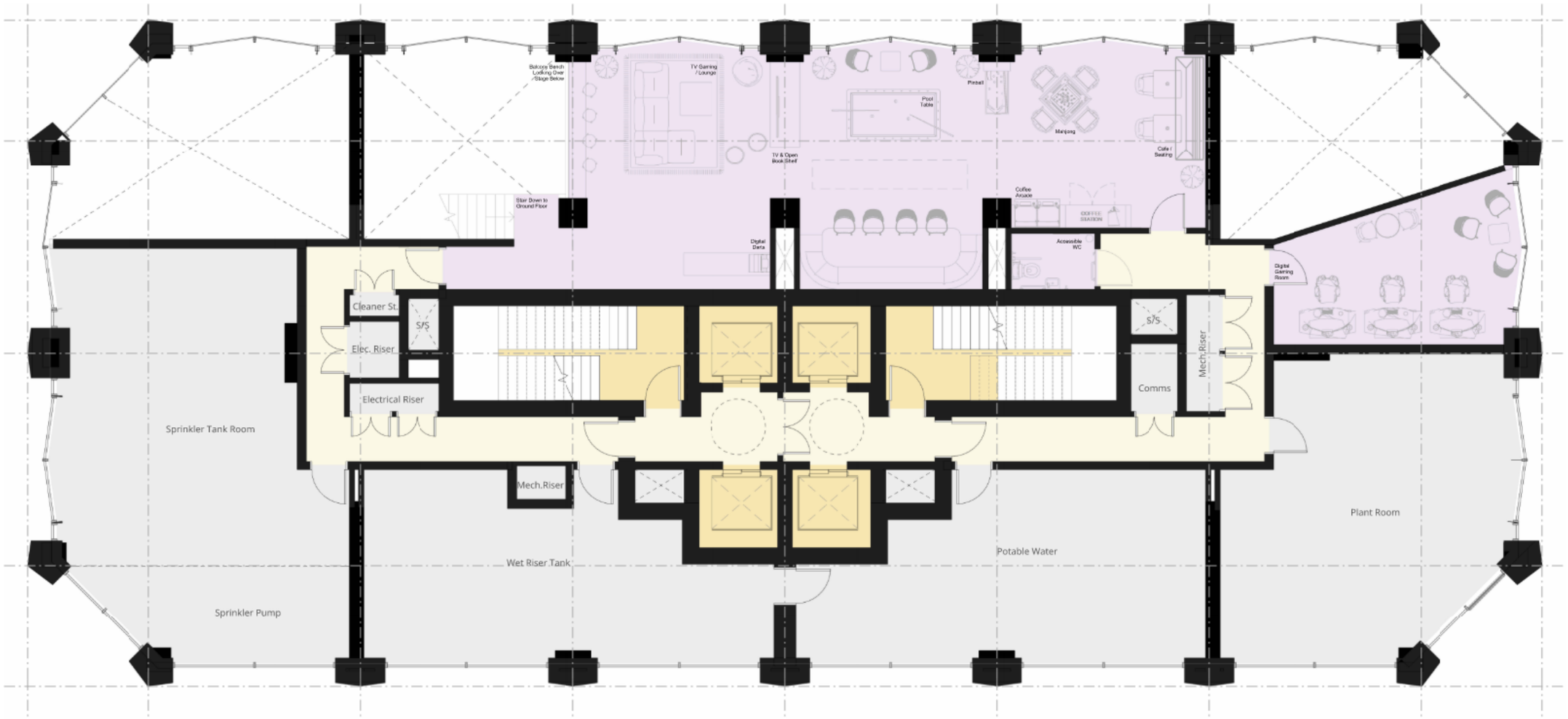


Figure 4: First Floor General Arrangement



Figure 5: Typical Residential Upper Floor Level (Levels 3 to 37, excluding 20 and 21)

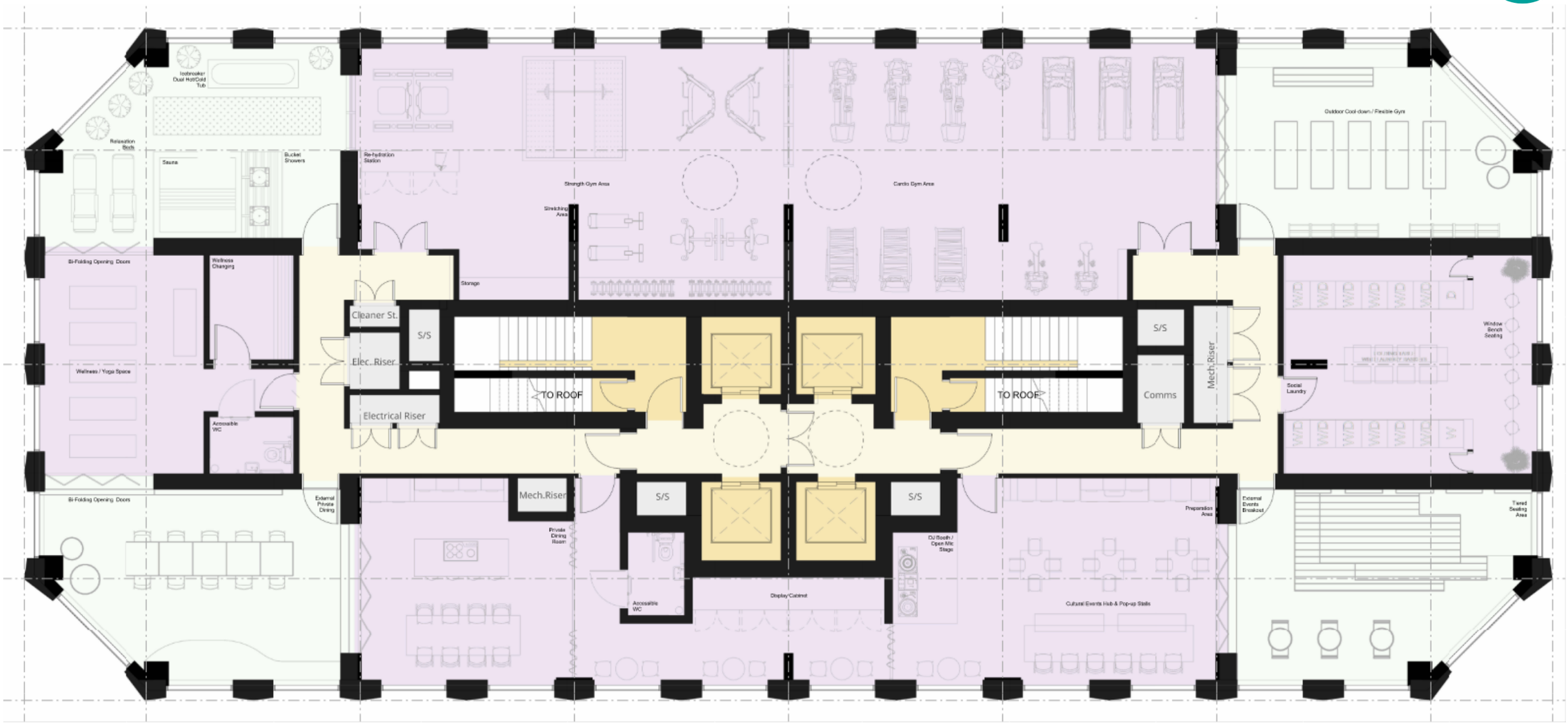


Figure 6: Level 38 - Rooftop Amenity Level

3. FIRE SAFETY AND MEP SYSTEMS

The performance criteria for these systems will be developed during future stages of the design. The detailed specification is to be undertaken by the relevant designer/sub-contractor at the appropriate stage, and they will also be responsible for submitting the relevant information to the authorities as part of the Building Regulations approval process.

3.1 Summary of Fire Safety Systems Proposed

Table 4 summarises the main fire safety systems expected to be provided in order to support the fire strategy.

Table 4: Fire Safety Systems Expected to Form Part of the Fire Strategy

System		Description
Automatic fire detection and alarm systems	Flats	LD2 system designed to BS 5839-6: 2019+A1: 2020. [4]
	Residential common corridors /ancillary areas	Category L4 system designed in accordance with BS 5839-1: 2025 [5] for residential common corridors and an L5 system of coverage in ancillary spaces. No alarm will be raised in common areas serving flats (detectors will only operate other fire safety systems, but local alarms will be raised in ancillary spaces).
	Terraces and Rooftops	The communal terraces at Level 38 and any rooftops should be afforded both audio and visual alarms linked to the BS 5839-1:2025 [5] alarm system to alert occupants on the terraces / rooftop in the event of a fire.
	Alternative	Alternatively, the building can be fitted out with an L1 BS 5839-1:2025 [5] alarm system throughout the building. This is typically the preferred standard of alarm and detection in student residential buildings to suit management / operator needs.
Evacuation alert system		Provided to all sleeping accommodation to BS 8629: 2019 [6]
Automatic fire suppression systems		Sprinkler system to be provided throughout the building in accordance with BS 9251: 2021 [7] and BS EN 12845: 2015 + A1: 2019 [8] (residential and commercial sprinkler systems respectively) to support lower level amenity areas which will be over 100m^2. An enhanced Category 4 BS 9251:2021 system and an Ordinary Hazard 3 Category BS EN 12845 system is proposed. The Level 38 amenity areas will be sub-compartmented to be no more than 100m^2 and therefore will be supported by a BS 9251:2021 enhanced Category 4 sprinkler system. At this stage, these systems are proposed to share a single tank, sized to the larger requirement of the commercial system.
Smoke ventilation systems	Residential common areas	Mechanical ventilation shafts with a 1.2m^2 geometric free area as per BS EN 12101-13:2020 [13]. The geometric free area sizing requirement is based on an indicative calculation due to the height of the building and extract rate required and will be further developed as the scheme progresses.
	Lobbies to ancillary spaces	Natural or mechanical ventilation where ancillary spaces are accessed from common areas serving flats.
	Stairs	AOV with minimum 0.7 m^2 aerodynamic free area as per BS EN 12101-2:2017 [12]
	Lift Lobby	Natural smoke shafts achieving a minimum of 1.0m^2 aerodynamic free area.
Emergency lighting	General	To be designed in accordance with BS 5266-1:2025 [14].
	Stairs	A low-mounted way guidance system should be provided within the stairway in addition to the normal emergency lighting. This can be formed of low-mounted LED lights or phosphorescent guidance lines.
Lifts	Evacuation and firefighting lifts	Each core is provided with two dual evacuation/ firefighting lifts designed in accordance with BS EN 81-76: 2025 [9] and BS EN 81-72: 2020 [5] . These will be at least Class B lifts designed to BS EN 81-70:2021+A1:2022 [16] to support evacuation and will be provided with an override function for use by the Fire and Rescue Service.
Emergency voice communication systems (EVCs)		Provided to each evacuation lift lobby designed in accordance with BS 5839-9: 2021 [17]
Access control systems		Any electronic locks to be designed to BS 7273-4: 2015 + A2: 2023 [18]. Any locks provided on escape routes will be simple fastenings that can be readily operated from the escape side and only require the operation of a single mechanism.
Fire door hold open devices		Locations are to be confirmed but where provided they will be designed to BS 7273-4: 2015 + A2: 2023. [8]
Heating, ventilation, and air-conditioning systems		The location and type of dampers, and/or any fire resisting ductwork is to be confirmed as the scheme progresses however will be designed in line with the options outlined in Section 27 of BS 9991:2024 [1].
Emergency power supplies		All fire protection systems to be provided with secondary power supplies and designed in accordance with BS 8519: 2020 [19], BS 9991: 2024 [1], and BS 9999: 2017 [2] and the design standards for the relevant system.
Fire safety signage		Every escape route will be suitably signed in accordance with BS EN ISO 3864-1:2011 [20] and BS 5499-4:2013 [21]. Additional wayfinding signage will also be provided for fire-fighters in accordance with the recommendations of Approved Document B.
Fire hydrants		The location and suitability of the existing fire hydrants will be determined once a full utility survey is undertaken to review the existing condition. Where existing hydrants are not located or suitable within 90m of all fire main inlets, new hydrants will be provided within 90m. Hydrants should be designed in accordance with BS 9990: 2015 [11].
Fire mains		Each core will be provided with a wet riser main, with an outlet located within the stair which discharges at each level. Wet riser inlets will be located on separate facades to support alternative firefighting access. The wet riser mains will be designed in accordance with BS 9990: 2015 [11].
Fire service communications		Fire and rescue service communications should be extended by the installation of systems such as a radiated cable (leaky feeder, distributed antennae systems (DAS) or the installation of fire telephones.
First-aid fire-fighting equipment		To be determined by those responsible for the management of the building when in use.
MEP services in common areas		Comply with BS 7671: 2018 + A2: 2022 [22] (including Corrigendum 2023)
Photovoltaic panels		Not currently incorporated into the design. If incorporated, OFR will provide advice accordingly as the scheme progresses.
Electric vehicle charging points (EVCPs)		Not currently incorporated into the design. If incorporated, OFR will provide advice accordingly as the scheme progresses.

3.2 Smoke Ventilation Strategy to Residential Common Areas

The following sub-sections sets out the proposed smoke ventilation strategy for the building to allow the incorporation of the space requirements into the building design.

Figure 7 outlines the principles of the smoke ventilation arrangements for the common areas serving flats, with marked up plans showing the proposed arrangements provided in Figure 8 and Figure 9.

The objective of the systems will be to:

- Protect the stair and allow occupants to escape safely in the event of a fire (see Section 4.3.1.1 with regards to evacuation arrangements of the flats).
- Protect the use of the evacuation lift (see Section 4.3.1.1) and afford the same level of protection as the stairs.
- Restore tenable conditions in the corridor within an acceptable timeframe, where the distance exceeds the maximum recommended (see Section 4.3.1.1).
- Support access for fire-fighting and assist fire-fighters in undertaking fire-fighting operations internally within the building, see Section 7.

All stairs will be provided with an automatic opening vent (AOV) at its head and also at the ground level to supplement the smoke control strategy due to the height of the building. The performance of both systems will achieve an equivalent of at least 0.7m^2 aerodynamic free area in line with BS EN 12101-2:2017 [12] with the ground level system either provided by an actuated door designed in line with BS EN 12101 [23] , or another opening.

Evacuation lift lobbies will be provided with a natural smoke shaft achieving a free area of at least 1.0m^2 (see blue in Figure 7). The doors providing access to the evacuation lift lobbies will be swung against the direction of escape to support the smoke control design not exceeding more than 100 N for door opening forces.

All common corridors adjoining to residential units will be ventilated by a mechanical extract shaft.

A separate 0.2 m^2 permanent ventilation should be provided to refuse stores when it connects to a ventilated common corridor.

The mechanical ventilation shaft size is recommended to have 1.2 m^2 geometric free area based on OFR's calculation based on the building height to allow 6 m^3/s flow rate within the system until the required flow rates throughout the building are confirmed (see the purple shaft in Figure 7). The shaft aspect ratio is recommended to a maximum of 2:1 when using the minimum shaft dimensions. When mechanical ventilation system is provided, the opening force of the escape door should be no more than 100 N. It is also recommended that the door between the lobby and the common corridor opens to the corridor to act as a source of pressure relief, so that when the extraction system is running it will act to reduce the door opening force to gain entry to the evacuation lobby.

Where doors open within close proximity, i.e. within 2m, of the lift lobby entrance door, there is a high likelihood of smoke temporarily entering the lift lobby which should be prevented as much as practicable. As such, at this stage of design, where this arrangement occurs, it is recommended that the smoke control system within the common corridor and lift lobby operates upon detection within these flats to improve the smoke ventilation performance to limit the likelihood of smoke entering the lift lobby.

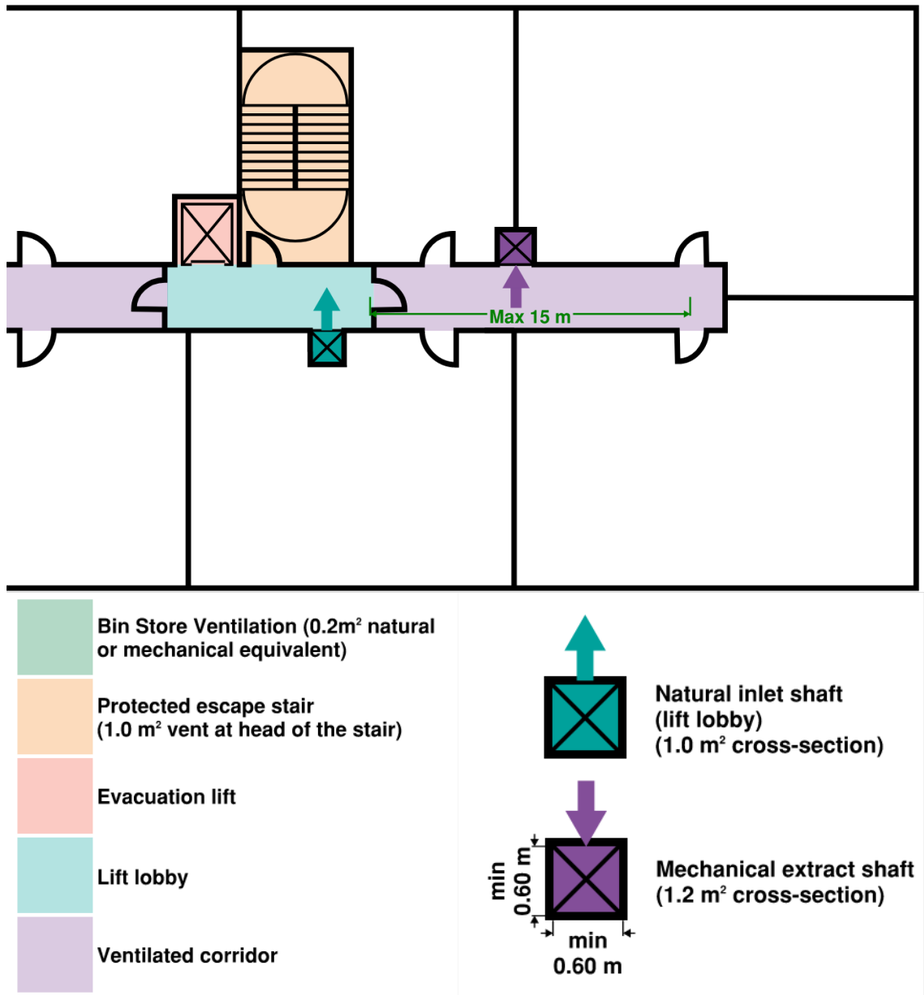
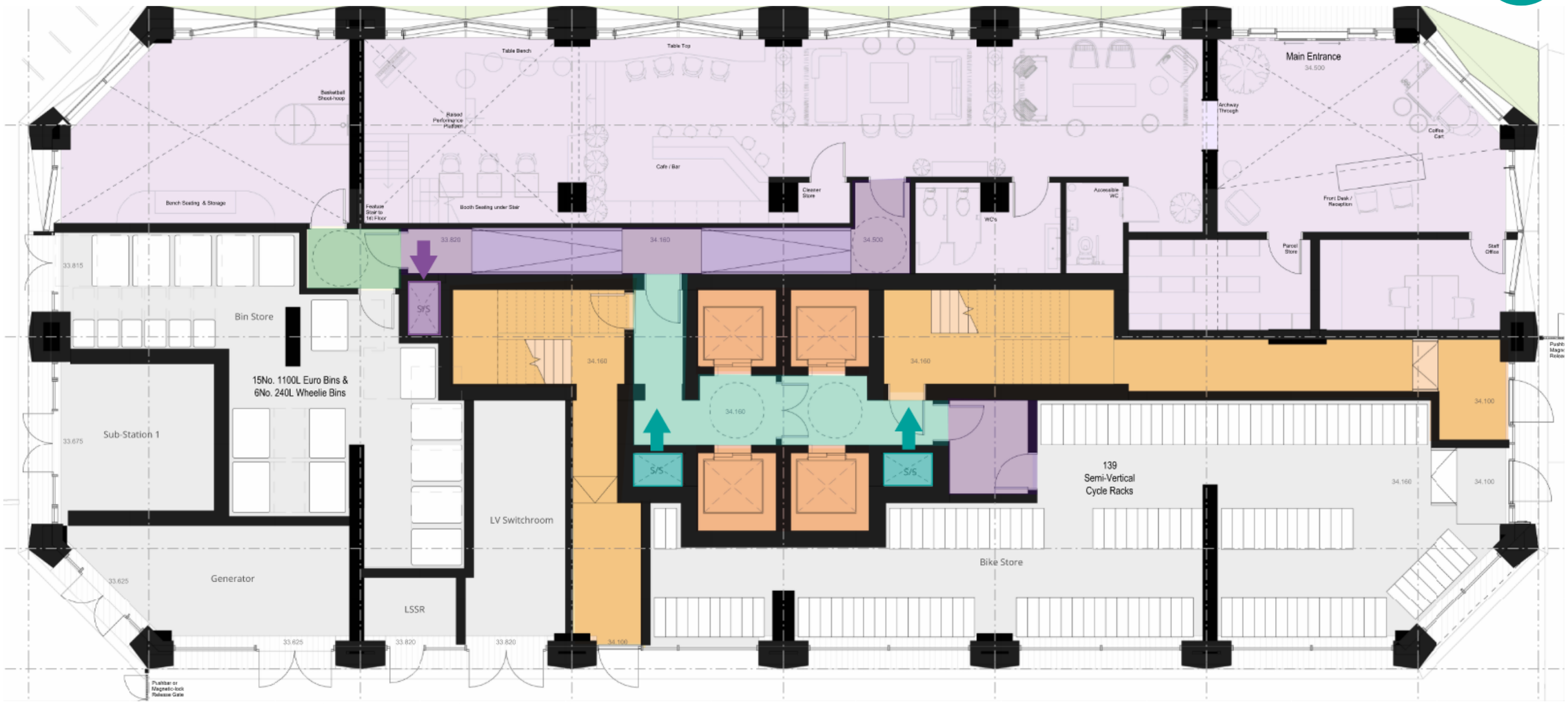


Figure 7: Fire Strategy Principle – Typical Residential Common Corridors - Maximum 15m in a Single Direction

These principles have been applied to the building and will be achieved as per the current design, as shown in Figure 8 and Figure 9 below.



Note - Bike store lobby ventilation to be achieved by horizontal ducting from adjacent shaft, or direct ducting to the outside as the scheme progresses.

Figure 8: Ground Floor - Smoke Ventilation Layout



Figure 9: Typical Residential Smoke Ventilation Layout

4. MEANS OF ESCAPE FROM STUDENT RESIDENTIAL ACCOMMODATION

4.1 Evacuation Arrangements

4.1.1 Dwellings

The dwellings will operate what is referred to as a "safe-to-stay, safe-to-leave" evacuation strategy. There is no specific difference between this strategy and the true meaning of the "stay put" strategy set out in standard guidance. However, the term "stay put" can be confusing as it implies all occupants other than those in the flat of fire origin remaining in place. The actual strategy envisaged in standard guidance is that:

- Only the occupants from the flat of fire origin should need to evacuate initially.
- All other occupants should be able to remain safely in place.
- If further occupants decide to leave they can provided it is safe to do so.
- Similarly, they can be instructed to leave by fire-fighters via the evacuation alert system or in person instruction. Occupants may also to need to leave because they become affected by heat or smoke.

Clustered accommodation will be treated as a single entity and therefore in the event of detection within a cluster flat, all occupants should evacuate the cluster.

4.1.2 Ancillary Areas

Residential ancillary accommodation, back of house and plant areas will all evacuate simultaneously from the spaces local to the fire.

4.1.3 Investigation Period

The operator may want to introduce an investigation period to the cause and effect to reduce the effect of false alarms and to which areas this will apply to (i.e. common areas only, or if this would include clusters etc).

The operation and cause and effect will be developed further as the scheme progresses.

4.2 Internal Arrangement of Dwellings

At this stage of design, the internal layouts of the studios, twodios and clusters residential accommodation are subject to further design development however will apply the following principles.

4.2.1 Studios

Studios are designed as open-plan flats are where bedrooms are accessed from the living/kitchen space. In order for this arrangement to be acceptable the following measures need to be included in the design:

- Enhanced automatic fire detection (L1 or LD2) as described in Section 3.1 would need to be provided.
- A BS9251 residential automatic sprinkler system as described in Section 3.1 would be required.
- The cooker should be located remote from the entrance door and escape route from any habitable rooms that escape though the living room/kitchen. Remote is defined as being at least 1,800 mm from the edge of a 900 mm wide escape route and 300 mm from the leading edge of the entrance door.
- The flat should not exceed 16 m x 12 m.
- The ceiling height should be not less than 2.25 m.

An example of the hob distances are shown in Figure 10 based on BS 9991:2024 guidance.

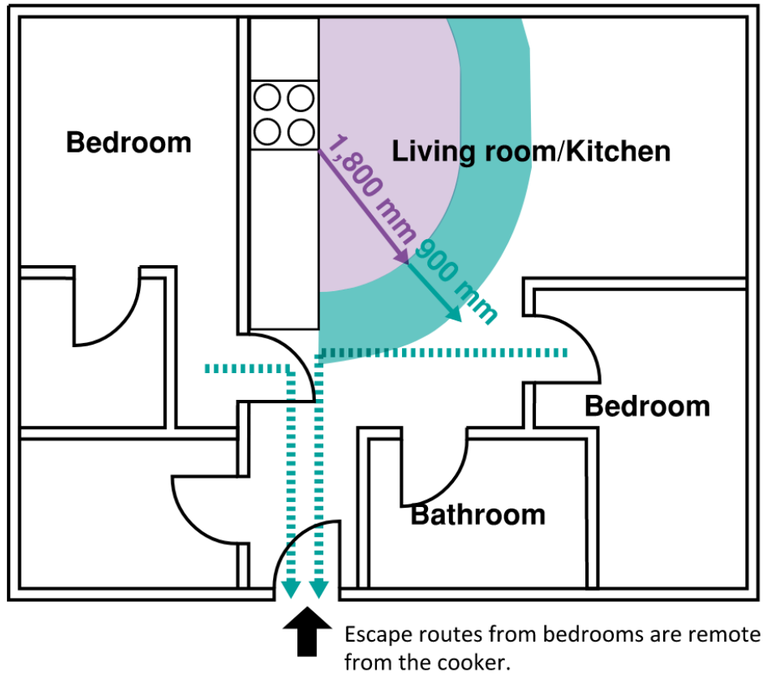


Figure 10: Fire Strategy Principle - Internal arrangements for studios

4.2.2 Twodios

Twodios are also designed as open plan flats and will therefore follow the same requirements as for studios as outlined in Section 4.2.1 however will have an additional bedroom as shown in Figure 11 below.

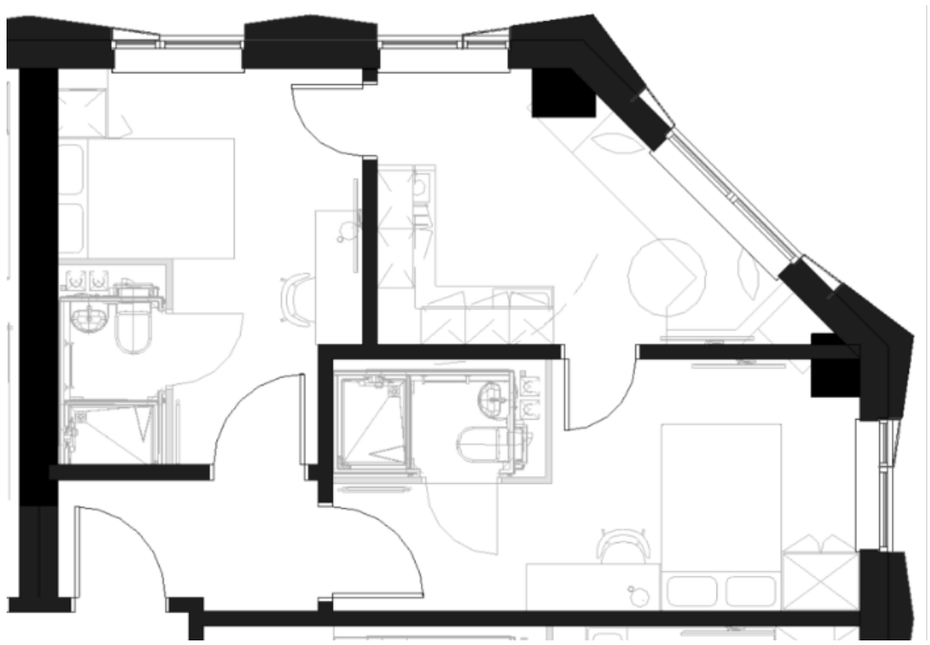


Figure 11: Typical Twodio Layout

4.2.3 Clusters ('Club Studios')

Cluster accommodation will be designed to achieve the following requirements:

- Travel distances within the common corridor will not exceed 15m in a single direction in line with BS 9991:2024 where clusters corridors are sprinklered.
- A category L1 standard of alarm will be provided throughout the cluster.
- A smoke detector will be provided in each habitable and within the cluster corridor with a heat detector provided within the kitchen.
- Kitchens will be located at the remote end of the corridor away from the final exit to the cluster so that occupants escaping from bedrooms do not have to escape past cluster kitchens to reach the final escape route of the cluster, with the final exit route being located a suitable distance away from the exit into the common corridor. Doors provided to cluster kitchens will be designed as an FD30S door, provided with a door closer designed in line with either BS EN 1154 [24] or BS EN 1155 [25] and provided with a vision panel.

A current layout of the proposed cluster accommodation is provided in Figure 12 below.

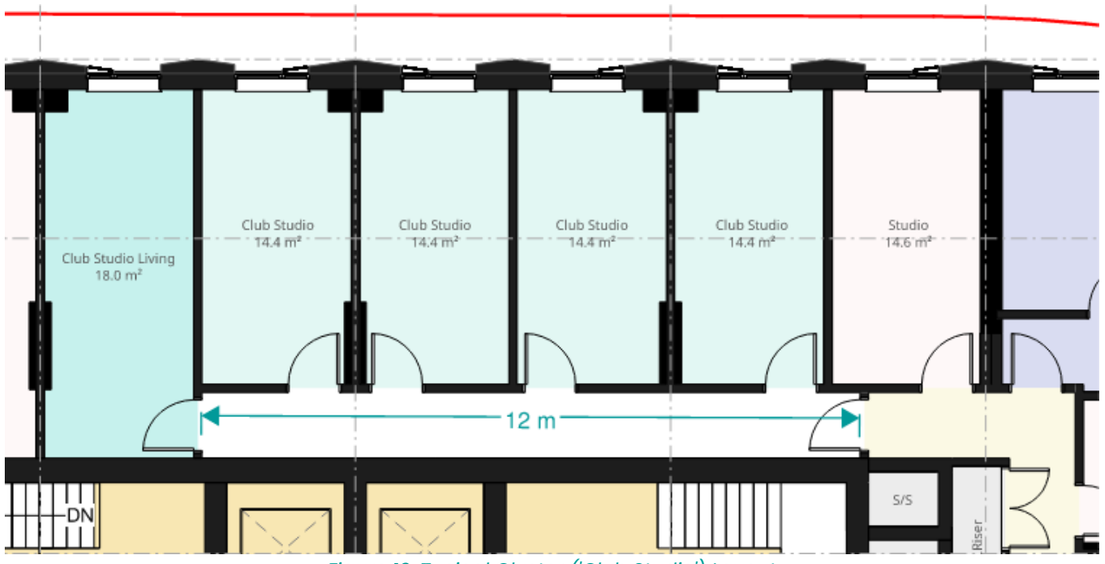


Figure 12: Typical Cluster ('Club Studio') Layout

4.3 Means of Escape in Common Areas

4.3.1 General Principles

The following sub-sections set out the general principles of the means of escape arrangements based on the recommendations of BS 9991.

4.3.1.1 Stairs and Evacuation Lifts

Each core will be provided with a protected escape stair, evacuation lift, and lift lobby. The objective of the lift lobby is to provide a safe space for occupants using the evacuation lift to wait and so no accommodation will be accessed directly from the lift lobby, other than service risers (that do not contain motorised equipment or similar with a potential to malfunction and cause fire), distribution boards, or other lifts.

An example of the arrangement, together with minimum dimensions are shown in Figure 13.The minimum stair dimensions of 1m will support a full evacuation of the building in the event of a fire and activation of the evacuation alert system based on the anticipated building occupancy. This will be substantiated as the scheme develops. Likewise, the evacuation lift capacity will be further reviewed as the scheme progresses to assess whether the provision is adequate to support the increased likelihood of non-dependent occupant use of the lifts due to the height of the building.

The stairs and evacuation lifts will discharge to a final exit either separately or using a common pathway. Where the stairs and lift lobbies do not discharge direct to outside, a protected corridor with the same level of protection as the stairs and lift lobbies will be provided.

Where exit passageways from multiple stairs and lift lobbies are adjacent to each other the construction will be imperforate with no openings, such as doors, in the common separating element.

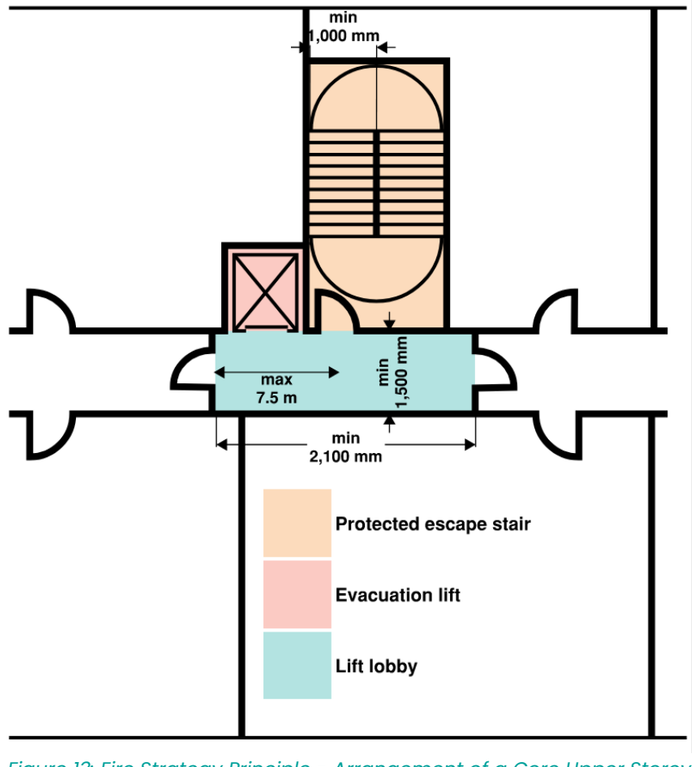


Figure 13: Fire Strategy Principle - Arrangement of a Core Upper Storey

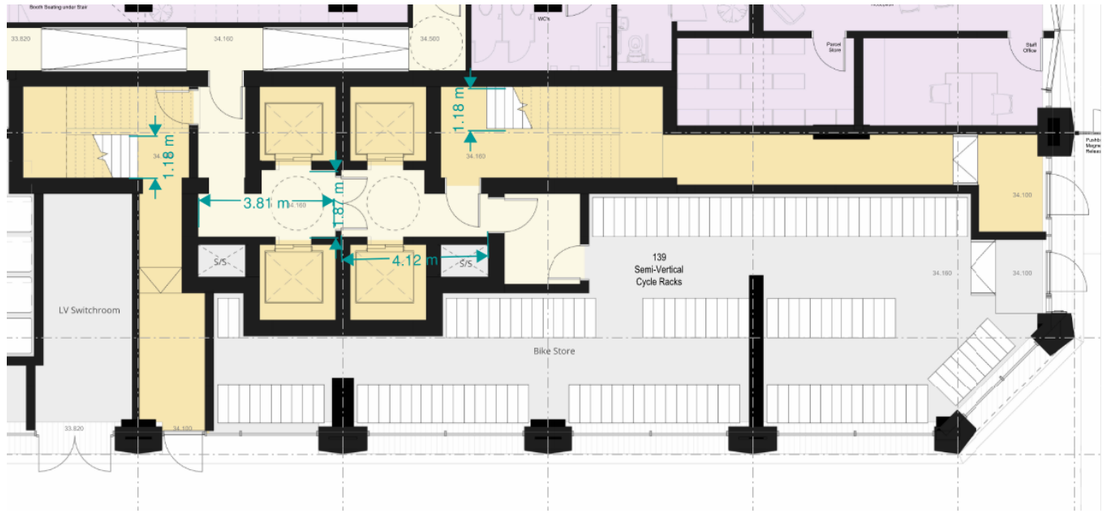


Figure 14: Centre Core Layout Arrangement – Ground Floor

Note: Figure dimensions are indicative based on the current architectural layouts and are to be confirmed as the scheme progresses.

4.3.1.2 Internal Corridors/Lobbies Serving Flats

Internal corridors will be arranged so that no single direction corridor travel distance exceeds 15m in a single direction.

Internal corridors and lobbies serving apartments will be enclosed in fire resisting construction (see Section 5.3) and provided with smoke ventilation systems in accordance with 3.2. Cross-corridor doors will be provided to separate dead-ends and to sub-divide corridors connecting more than one exit.

4.3.1.3 Ancillary Accommodation

Ancillary accommodation such as plant rooms, storerooms, refuse rooms, cycle stores, etc. will be designed so not to connect to the protected stair serving the flats unless provided with protected lobbies or a protected corridor which achieves the same ventilation performance as required for the residential common corridors. This is discussed further in Section 3.2

Travel distances in ancillary spaces should not exceed those set out in Table 5. Exit widths will be determined based on the appropriate risk profile from BS 9999 set out in Table 6 with the minimum number of doors as outlined in Table 7.

Table 5: Travel Distances in Ancillary Accommodation

Types of Amenity Spaces	Travel distance measurement	Single direction of escape	Choice of escape routes
"Low Risk" (1) • Communal lounges • Common amenity areas • Staff rooms • Offices • Water tank rooms (1)	Within the room or area	18 m	45 m
	Total maximum travel distance to the nearest storey exit	18 m	45 m
"Higher Risk" (1) • Bike Stores • Refuse Stores • Boiler Rooms • Fuel Storage Areas • Engineering Services Installation Rooms • Transformer, battery and switchgear rooms	Within the room or area	9 m	18 m
	Total maximum travel distance to the nearest storey exit	18 m	45 m
External, rooftop or weather protected Plant (2)	Total maximum travel distance to the nearest storey exit	60 m	200 m
Note 1: "Low Risk" and "Higher Risk" are terms not included in guidance but are included by OFR to associate the fire risk within rooms with travel distances. As such, where rooms are not determined, such a water tank rooms, OFR can determine an adequate level of risk. Therefore, water tank rooms are considered Low Risk. Note 2: The rooftop and terrace access arrangement is under design development and will be confirmed as the scheme develops.			

Table 6: Door Width Minimum Exit Capacity Requirements - BS 9999

Risk Profile	Door width (mm / person)
B1	3.6
B2	4.1
B3	6.0
Note: Doors under 1050mm wide should be treated as 500mm width, i.e. an 850mm or 1000mm door would both achieve a capacity for 139 occupants where serving a B1 risk profile.	

Table 7: Minimum Number of Doors Relative to the Proposed Occupancy of Amenity Areas

Number of occupants	Minimum number of doors
Less than 60	1
61 to 600	2
More than 600	3
Note – Typically all doors should be hung in the direction of escape, particularly if serving amenity spaces, however as highlighted in Section 3.2, some doors to central lift lobbies will be hung against the direction of escape to support the proposed smoke control strategy. Where doors will open against the direction of escape, each door is limited to 60 persons maximum exit capacity. If both doors open against escape at any level, the capacity of that storey is limited to 120 occupants.	

4.3.2 Door Opening Directions

Doors should open in the direction of escape and always will do where more than 60 persons are expected to use them.

4.4 Evacuation of Mobility Impaired Persons

The means of escape for MIPs needs to form an integral part of the design and be incorporated into the fire safety strategy. No reliance will be made on the fire service to assist in the evacuation of mobility impaired occupants.

The evacuation of MIPs will be facilitated by the provision of evacuation lifts (see Sections 3.1 and 4.3.1.1) which will automatically operate in the event of a fire. The evacuation lifts will be protected by the provision of smoke control within the common corridors and lift lobbies as outlined in Section 3.2.

The building is presumed to managed 24/7. Any additional measures and management procedures will be developed as the scheme progresses to supplement the egress of MIPs. At this stage, it is envisaged that occupants will request any assistance via the Emergency Voice Communication points (see Section 3.1) associated with each evacuation lift lobby, with internal radio communication and the evacuation lifts used to gain access to and then support MIPs during building operation.

To support the fire strategy design, level or suitable ramped egress should be maintained throughout all escape routes throughout the building (excluding plant rooms).

4.5 External Means of Escape

Both stair cores are proposed to discharge to the rear and side of the site with two directions of escape available from either final exit discharge.

The proposed assembly points for the building will be developed by the building operator as the scheme develops however will be located suitably away from the building to protect occupants from the effects of a fire within the building.

The external means of escape is shown in Figure 15 below.

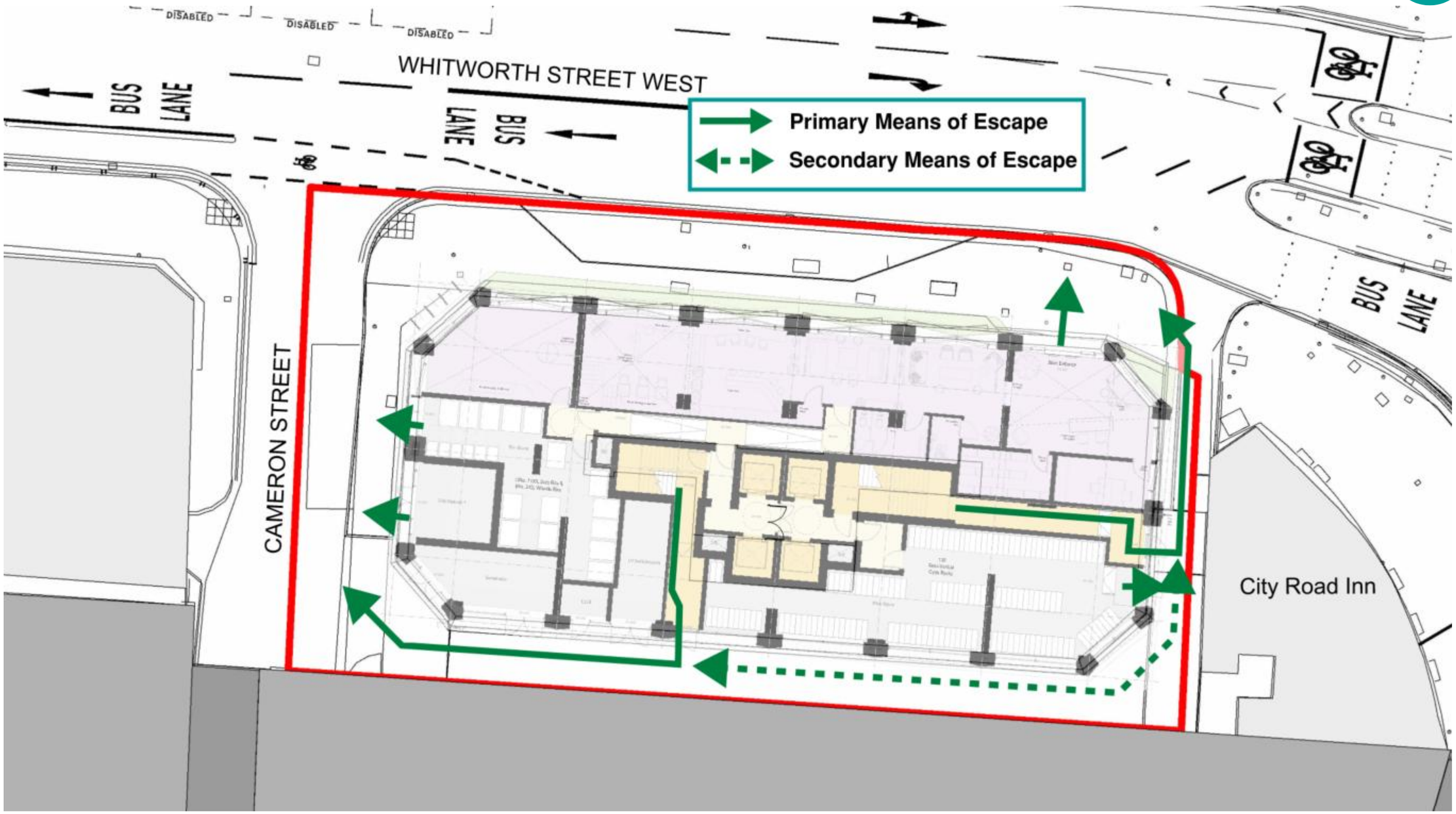


Figure 15: External Site Egress

5. PROTECTION OF THE STRUCTURE AND INTERNAL SUBDIVISION/CONSTRUCTION

5.1 Linings of Walls and Ceilings

The linings of the walls and ceilings within the buildings should satisfy the surface spread of flame classification outlined in Table 8 below.

These provisions do not apply to the upper surfaces of floors and stairs and exclude door and window frames, architraves, skirting, picture rails and fixed furniture.

Table 8: Classification of Wall and Ceiling Linings

Location	Classification (BS EN 13501-1: 2018)
Rooms not more than 4 m^2 in area (residential accommodation)	D-s3, d2
Rooms not more than 30 m^2 in area (non-residential accommodation)	
All other rooms	C-s3, d2
Circulation spaces	B-s3, d2
Linings of horizontal service voids above common areas	B-s3, d2
Internal lining of the smoke shaft	A1
Refuse Stores	A1

5.2 Structural Fire Resistance

The elements of structure forming part of the structural frame of the building will be provided with not less than 120 minutes fire resistance based on the recommendations of BS 9991:2024 guidance. As discussed in Section 1.3 however due to the height of the building the adequate performance of the fire resisting structure will be further demonstrated by a systematic risk assessment and reviewed to confirm if 120 minutes is adequate based on the building's fire strategy provisions.

For the purposes of the fire strategy, elements of structure are defined as:

- A member forming part of the structural frame of the building.
- A loadbearing wall.
- A compartment wall (where compartment wall is not loadbearing, then the wall does not need to satisfy the loadbearing requirements for fire resisting. However, any structure supporting such a wall will need to achieve the required fire resistance.).
- A floor.
- An external wall, where such a wall is either loadbearing, or is required to be provided with fire resistance to satisfy space separation (See Section 6.1.3).

Elements that only support the roof of the building do not necessarily require fire resistance. However, where the roof forms the function of a floor, e.g., rooftop plant areas, structural elements supporting these areas should be provided with the period fire resistance as described above.

Fire resistance in this section refers to load bearing only, except for:

- Floors, which are required to also achieve integrity and insulation from the underside as these are designed to be compartment floors; and
- Fire resisting walls identified in the sections below that are also loadbearing, in which case the integrity and insulation criteria also need to be satisfied.

5.3 Fire Compartmentation

5.3.1 Compartment Floors

All floors will be constructed as compartment floors. All floors will achieve not less than 120 minutes fire resistance.

Where double height spaces are provided, the floor-to-floor compartmentation should be maintained and therefore any walls which open onto this double height space will also be designed as 120 minute fire resisting walls. Currently it is proposed that the fire resisting partition to maintain the floor to floor compartmentation at first floor will be achieved by the wall shown in Figure 16 below.

This approach is proposed on the basis that the floor use between ground and first will both be residential amenity and therefore occupants will be awake and alert in both areas which will evacuate simultaneously upon alarm.

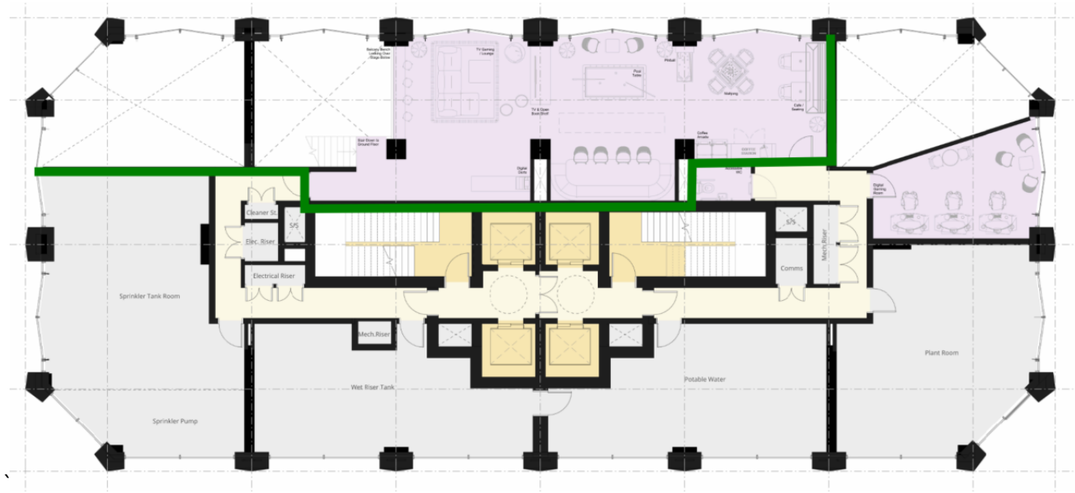


Figure 16: Double Height Proposed Compartmentation – First Floor

The current arrangement of double height spaces is subject to further design development and will be reviewed further as the scheme progresses.

5.3.2 Compartment Walls, Fire Resisting Walls and Fire Doors

Compartment walls will be provided as follows and achieve not less than the fire resistance set out in Table 9.

All compartment walls will form a complete barrier between the compartments they separate and run the full storey height.

The compartment walls will be designed to resist the deflection of the floor above; either by having a suitable head detail between the wall and floor; or can resist the additional vertical loads from the floor as it deflects.

Where a compartment wall meets the underside of the roof, the wall will be taken to the underside of the deck or roof covering and suitably fire stopped. See also Section 6.2 for fire safety provisions and arrangements for the roofs.

Table 9: Fire Resistance of Building Elements

Area		Minimum fire resistance required (integrity and insulation) [1] [min]	Minimum Fire Resistance for Doors [2, 3] [min]
Fire-fighting stair		120	FD 60S / E 60 S_a
500mm of the external wall where the firefighting shaft abuts the external wall		60	N/A
Protected escape stair		120	FD 60S / E 60 S_a
Lifts shafts containing:	Fire-fighters lift	120	FD 60 / E 60
	Evacuation lift	120	FD 60 / E 60
	Passenger lift	120	FD 60 / E 60
Evacuation lift lobby		30	FD 30S / E 30 S_a
Service risers		120	FD 60S / E 60 S_a
Other protected shafts		120	FD 60S / E 60 S_a
Walls between residential accommodation		60	FD 60S / E 60 S_a
Walls between residential accommodation and internal common areas		60	FD 30S / E 30 S_a
Cluster kitchen and common corridor		30	FD 30S / E 30 S_a
Refuge stores		120	FD 60S / E 60 S_a
Residential amenity spaces		60	FD 30S / E 30 S_a
Cycle stores		30	FD 30S / E 30 S_a
Plant rooms	Life-safety plant rooms	120	FD 60 / E 60
	Sub-stations	120 [4]	FD 60 / E 60
	HV switchroom/transformer room	120	FD 60 / E 60
	LV/EV switchrooms	120	FD 60 / E 60
	Meter rooms	30	FD 30 / E 30
	Other plant rooms	60	FD 30 / E 30
Protected lobbies to ancillary spaces		30	FD 30S / E 30 S_a
Storage areas greater than 1 m^2		30	FD 30 / E 30
Note 1: If the wall is also load-bearing then it will also need to satisfy the load-bearing aspect of fire resistance. Note 2: Doors which open directly to the outside do not need to be designed as fire resisting doors, unless otherwise specified by this fire strategy. Note 3: Where doors open directly onto protected escape routes, regardless of the proposed fire door performance, a cold smoke seal should be provided (unless the door is a lift door). Note 4: The Distribution Network Operator (DNO) should separately be consulted as they will typically require enhanced protection, such as 240 minutes fire resistance, as part of their provision to provide power to the building.			

The Level 38 amenity areas will be sub-compartmented by 60 minutes fire resisting compartments to support no more than 100m^2 for any single amenity compartment at this level to support the provision of residential BS 9251 sprinklers.

Fire doors will be provided in line with Table 9 above and provided Fire doors penetrating a fire resisting partition should be provided in accordance with BS 476-22 [26] or classified in accordance with BS EN 13501-2 and provided with smoke seals (where specified) in accordance with BS 476-31.1:1 [27] or BS EN 1634-3 [28].

All fire doors will be fitted with self-closers except for fire doors to cupboards and service risers, which are to be kept locked shut.

5.4 Concealed Spaces and Cavities (Internal Cavity Walls, Ceilings, and Floors)

Cavity barriers will be provided to:

- Sub-divide any cavities, so that they do not exceed 20 m in any direction assuming the surfaces exposed to the cavity achieve Classes A1, A2-s3, d2, B-s3, d2, or C-s3, d2. Where the above is not achieved, then the distance between cavity barriers will be reduced to 10 m.
- To close any cavities, including around openings and at the top of external wall cavities.
- Above and below any fire resisting construction forming protected escape routes, where the walls are not continued through the cavity.
- Above and below any cross-corridor fire doors where the walls/screens are not continued through the cavity.
- At the junction of any internal cavity walls and fire resisting walls.

The cavity barriers will achieve not less than 30 minutes fire resistance for integrity and 15 minutes fire resistance for insulation. The provision of cavity barriers should be coordinated with the structure, building services, acoustics, etc.

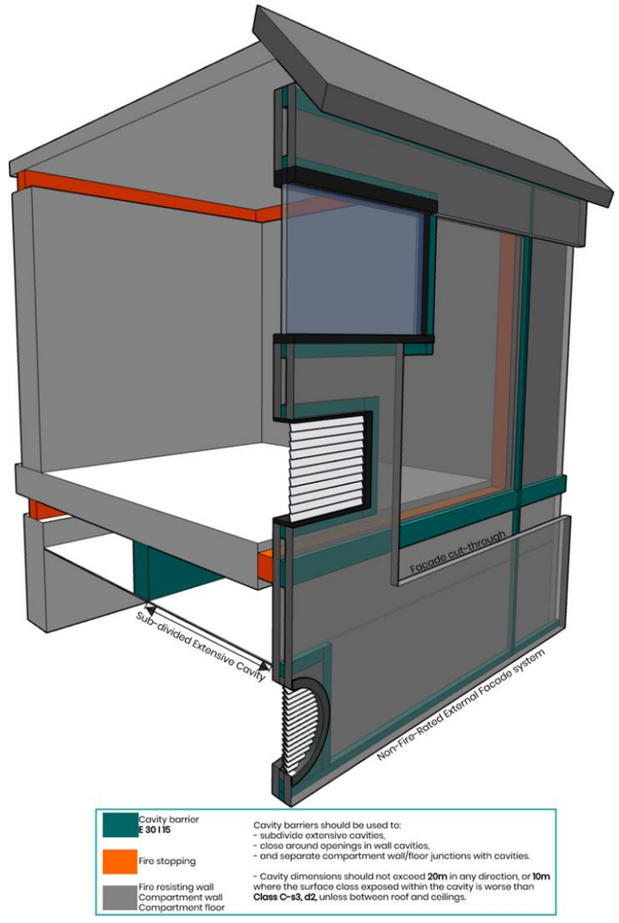


Figure 17: Cavity Barriers and Fire-Stopping

5.5 Fire Stopping of Openings and Services

The below provides a high level overview of the fire strategy firestopping recommendations. Further detail will be included within the fire strategy as the scheme develops into later RIBA Stages.

5.5.1 Services

All openings and joints between fire separating elements will be adequately fire stopped and all openings for services that pass-through fire separating elements will be:

- Kept as few in number as possible;
- Kept as small as practicable; and
- Fire stopped (which is the case of pipes or ducts allow for thermal movement).

The selection of fire stopping products and materials will take account of the size and nature of the gap and any anticipated differential movement. A summary of these principles is shown in Figure 18 below.

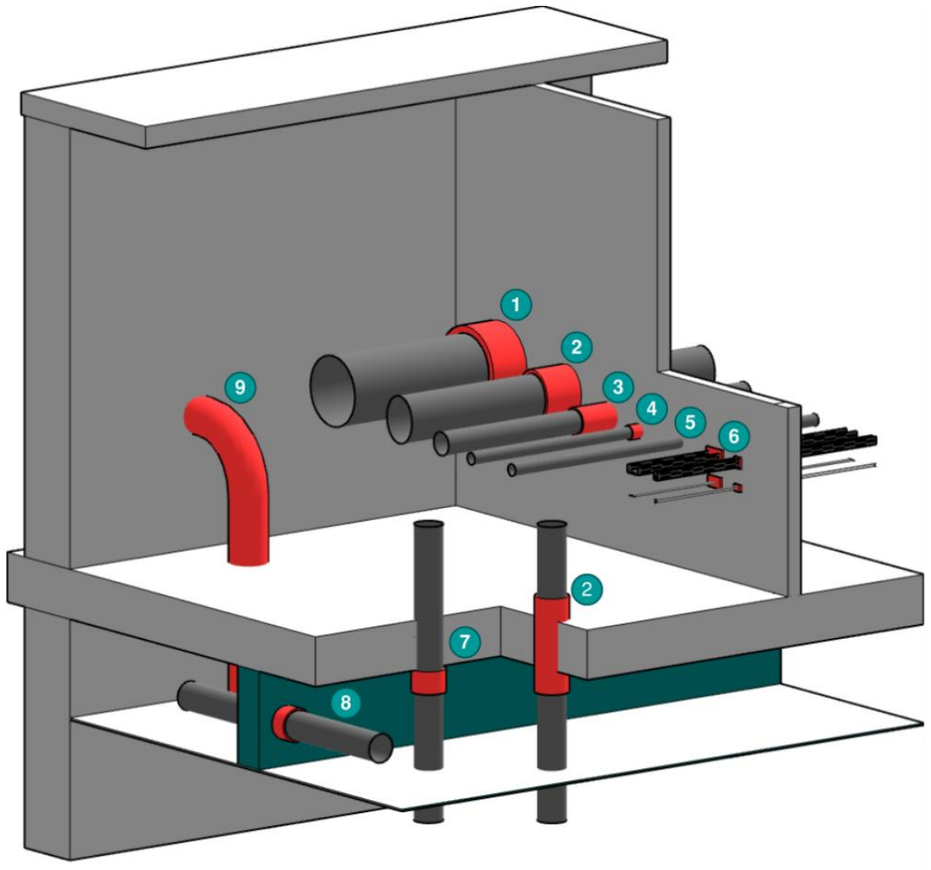


Figure 18: Firestopping Details for Pipe Penetrations or other Services

5.5.2 Ductwork

All dampers should conform to BS EN 15650:2010, and be tested to BS EN 1366-2 (as referenced in BS EN 15650) and should achieve an E and/or S rating matching the fire resistance of the wall it penetrates.

Where ducts pass through any fire-separating elements such as compartment walls/floors, enclosures or protected escape routes, then the integrity of those elements should be maintained using one or a combination of the methods outlined in Table 10 and Table 11.

Table 10: General Ductwork Firestopping Scenario

Scenario	Recommendation
1	Fire resisting construction forming a riser or flue, either; - Passing through compartment wall or floor; or - Built into compartment wall; - should have a fire resistance of at least one half of that required for the wall/floor and Class A1 construction.
2	Fire resisting ductwork used where the duct is not required to serve the space. In accordance with BS EN 13501-3
3	Ventilation duct work - fire stopping using a fire & smoke / fire damper. AFD where applicable (depending on location)
4	Fire resisting construction used to contain the ductwork, where the duct is not required to serve the space, and excluding ventilation services. In accordance with BS EN 13501-2
- Where dampers are provided, suitable access should be provided to allow for maintenance and inspection access	

Table 11: Protection to Ductwork Passing Through Protected Escape Routes

Scenario	Recommendation
1	Fire and smoke damper. AFD actuated. (1)
2	Fire resisting ductwork, EIS(2), in accordance with BS EN 13501-3
3	Ductwork enclosed in fire resisting construction, EI*, in accordance with BS EN 13501-2
(1) This method may allow the ductwork to serve the protected lobby (2) Equivalent to the fire resistance rating (in minutes) of the walls of the protected escape route	

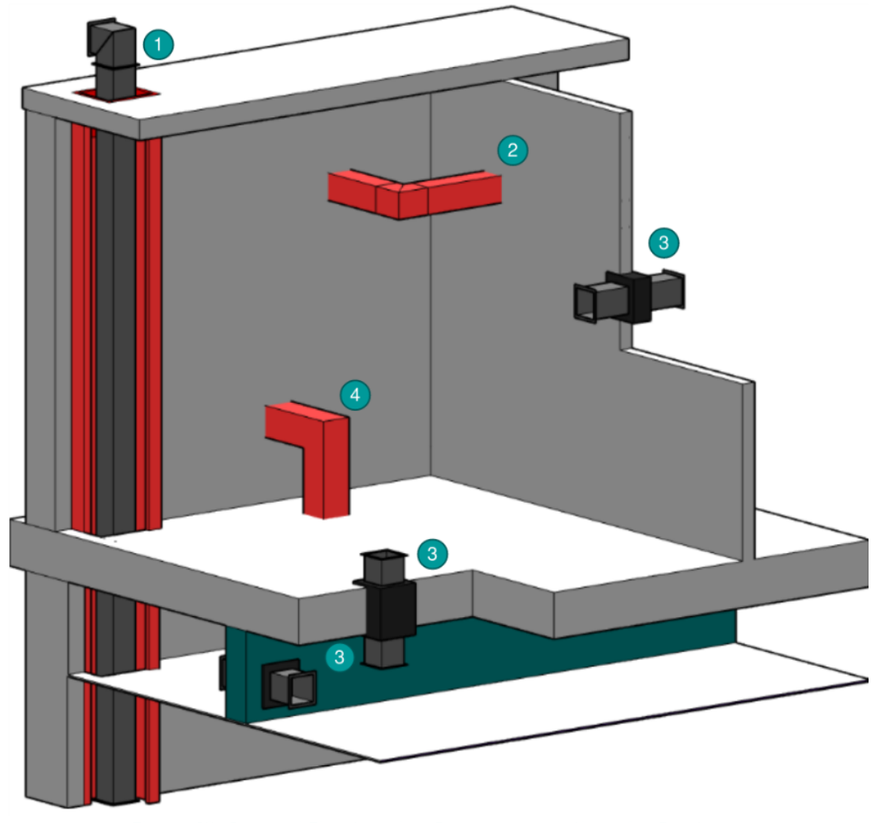


Figure 19: General Firestopping Recommendations for Ductwork

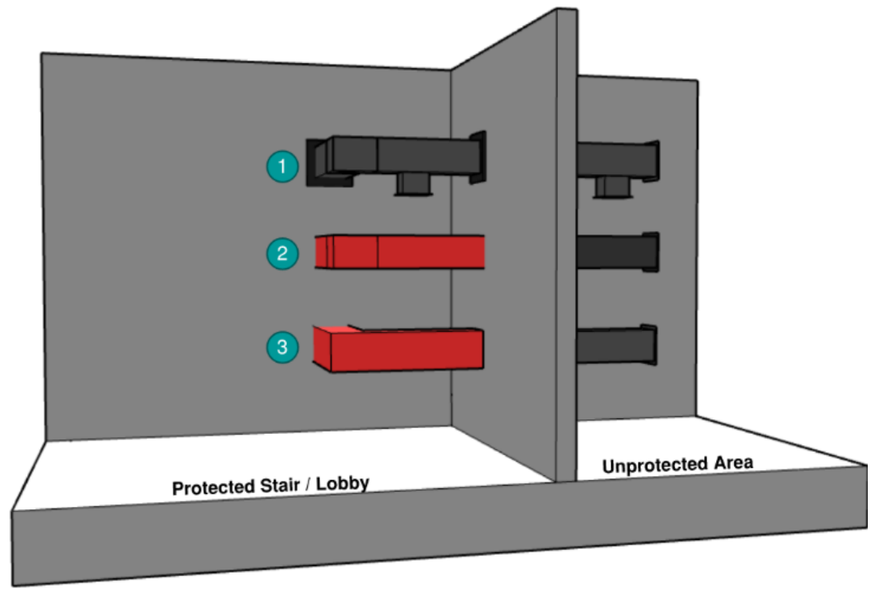


Figure 20: Protection to Ductwork Passing Through Protected Escape Routes

6. EXTERNAL WALLS AND ROOFS

6.1 Construction of External Walls

It is a requirement of the Fire Safety (England) Regulations 2022 to provide the local Fire and Rescue Service information about the design and materials of a high-rise building's external wall system and to inform the Fire and Rescue Service of any material changes to these walls.

6.1.1 Reaction to Fire Classification

All materials used in the construction of the external wall will achieve Class A2-s1, d0 or better in accordance with BS EN 13501-1: 2018. This including any specific attachments, such as balconies, brise soleil, etc. fixed to the external wall, with the exception of the following elements:

- Internal linings of the external walls will follow Section 5.1 of this Report.
- Membranes (these should achieve a minimum Class B-s3, d0).
- Window and door frames
- Glass, including laminate glass, (window spandrel panels and infill panels must comply).
- Thermal breaks, where they do not span the compartments.
- Seals, gaskets, fixings, sealants, and backer rods.
- Electrical installations.
- Shop front signs and similar.

6.1.2 Fire Resistance

Fire resistance can be required to the façade for various reasons. These are described below in the following sub-sections.

6.1.2.1 Space Separation Requirements

An analysis is provided in Appendix A for assessing the potential for fire spread between neighbouring sites and buildings. No fire resistance is required for the purposes of reducing the effects external fire spread.

Should this change as the scheme progresses, where any fire resistance would be required, this will achieve not less than 120 minutes fire resistance for integrity and 15 minutes for insulation, measured from inside the building. No facades are proposed less than 1m from the relevant boundary.

6.1.2.2 External Walls to Stairs

6.1.2.2.1 Fire-fighting Stairs

Where a fire-fighting shaft is sited against an external wall, if any glazed areas or openings of the fire-fighting shaft is less than 500 mm from the junction of the fire-fighting shaft and the external wall, then the fire resistance of the external wall immediately adjacent to the glazed area or opening will be fire resisting for 60 minutes (measured from both sides of the wall) for a horizontal distance of 500 mm.

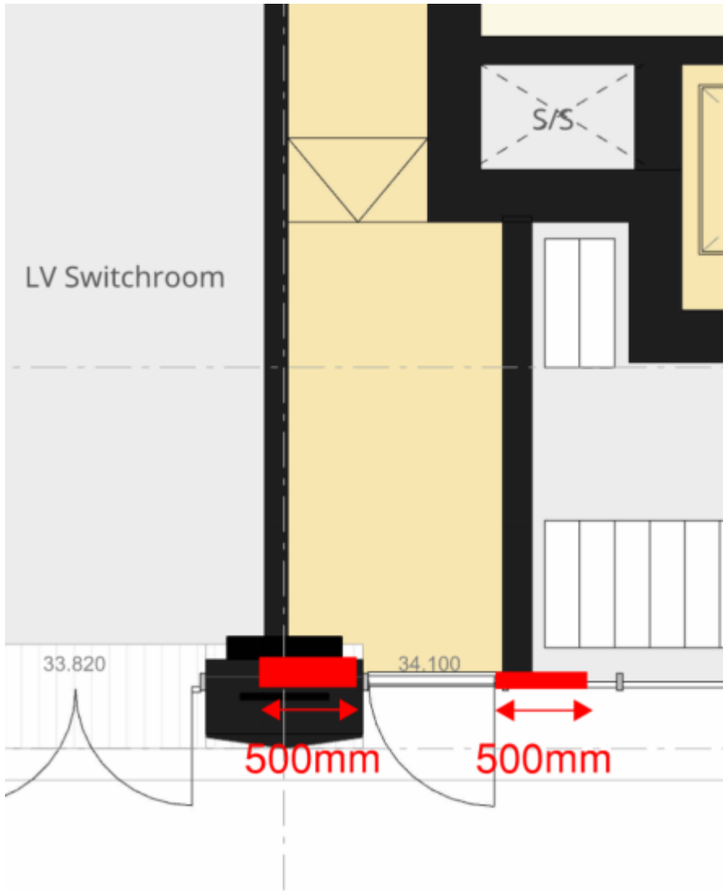


Figure 21: 60 Minutes Fire Resistance for Firefighting Shafts

6.1.3 Provision of Cavity Barriers Within External Walls

Cavity barriers should be provided in any cavities formed within the external wall construction as follows:

- To close any openings, e.g., around windows, doors, service penetrations, at the edges of a cavity wall, etc.
- At the junction of every compartment floor.
- At the junction of every compartment wall.
- Sub-divide any cavities, so that they do not exceed 20 m in any direction assuming the surfaces exposed to the cavity achieve Classes A1, A2-s3, d2, B-s3, d2, or C-s3, d2. Where the above is not achieved, then the distance between cavity barriers will be reduced to 10 m.

NOTE: *The last three bullet points do not apply where the cavity is formed between two leaves of brick or concrete, each at least 75 mm thick and the cavity is closed at the top.*

The cavity barriers will achieve not less than 30 minutes fire resistance for integrity and 15 minutes fire resistance for insulation.

6.2 Classification of Roofs

6.2.1 General

The roofs will be designed and constructed to achieve a classification $B_{ROOF}(t4)$. Where the roof passes over a compartment wall, then the roof will be laid on a substrate or decking formed from materials of limited combustibility (Class A2-s3, d2 or better) for a distance of 1,500 mm either side of the wall.

Alternatively, the roof can be constructed from a material which inherently provides a Class A “No Contribution to Fire” as outlined in the European Commission Decision 96/603/EC.

6.2.2 Roof Terraces

Where roofs form communal terraces and roof gardens the roof will be constructed as a compartment floor (see Section 5.3.1) and satisfy one of the following:

- The upper surface will achieve $B_{ROOF}(t4)$; or
- Areas such as green roofs, planters, and soft surface playgrounds that do not achieve $B_{ROOF}(t4)$ should be isolated:
  - 3.0 m from any vertical building façade above the terrace surface; and
  - 0.5 m from other perimeters of the terrace (e.g., lift overruns) and from roof lights, ventilation openings or other penetrations of the roof.

Planting structures should be constructed of Class A1 materials. Any attachments to the façade will be considered specific attachments and need to satisfy Section 6.1.1 in regards to the reaction to fire.

7. ACCESS AND FACILITIES FOR THE FIRE AND RESCUE SERVICE

7.1 External Access and Facilities

7.1.1 Fire Hydrants

An existing hydrant is located to the northeast of the proposed building, it should be confirmed as the scheme progresses that the operational status of this hydrant is suitable for the proposed development and that the hydrant is public. Other hydrant locations within 100m of the building should be confirmed as the scheme progresses.

If existing hydrant provisions do not align with BS 9991 recommendations, additional hydrant(s) will be provided within 90m of the fire main infill inlet to meet BS 9991 recommendations.

7.1.2 Vehicle Access

Fire service access to and around the site are shown in Figure 22 below, with access available via Whitworth Street and Cameron Street.

Fire Vehicle access will be provided to within 18 m (and in sight of) of the entrance to the core and will also include access to the fire inlet main along this route as a replenishment inlet for the wet riser tank will be provided along each route. The fire appliance access route should, as a minimum, comply with Table 12, however fire appliances are not standardised in the UK. Therefore, the figures provided in Table 12 should be confirmed by the local Fire and Rescue Service, Greater Manchester Fire and Rescue.

Table 12: Pump-type firefighting appliance access route specifications

Minimum access route specification	Dimension
Width between kerbs (m)	3.7
Width between gateways (m)	3.1
Turning circle between kerbs (m)	16.8
Turning circle between walls (m)	19.2
Clearance height (m)	3.7
Carrying capacity (tonnes)	12.5

7.1.3 Protection Against Falling Debris

To provide protection against falling debris, the final exits from the stairs are located on separate elevations which are not overlooked by any one single compartment as is a secondary wet fire main inlet which are located along these routes. This provides flexibility in the fire service access approach and redundancy in the event of a worst-case fire where debris is falling from one of the two access elevations to support continued firefighting operations.

7.2 Internal Access and Facilities

As the building height is more than 18 m above the fire service access level and maximum floor area of a floor plate on an upper level is less than 900 m^2, BS 9991 recommends the building is provided with a single firefighting shaft with a firefighting lift.

However, for additional redundancy given the building height it is proposed that both cores are designed as firefighting stairs. This recommendation will be met by the current design. Each core should contain:

- A Firefighting Stair, achieving:
  - At least a 1000mm clear width between the handrails
  - Providing no access to cupboards or service shafts serving the remainder of the building.
  - Flights and landings construction of Class A2-s1,d0 materials or better.
- Firefighting / Evacuation lift lobby, consisting of:
  - A firefighters Lift. For redundancy both lifts provided within the lobby will be designed as a firefighters lift designed in line with BS EN 81-20 and BS EN 81-72. These lifts will also be designed to double up as evacuation lifts as discussed in Section 3.1.
  - A primary and secondary power supply and lighting.
  - A means to minimise the effect of water penetration into the lift well be either:
    - Providing draining channels and drainpipes; or
    - Ramping of the floor in front of the lift landing entrance so that any water drains away from the stairs
- Wet Firefighting main with an outlet located at each level, designed in accordance with BS 9990:2015 located within the stair.

Fire-fighting lobbies are not required, but the stairs and lifts open into shared protected lobbies which contains no direct access to dwellings or ancillary accommodation. The fire-fighters lift landing doors will not be located more 7.5 m from the door to the associated fire-fighting stair.

Hose-laying distances will not exceed 60 m from a fire main outlet to the most remote point on a floor.

7.3

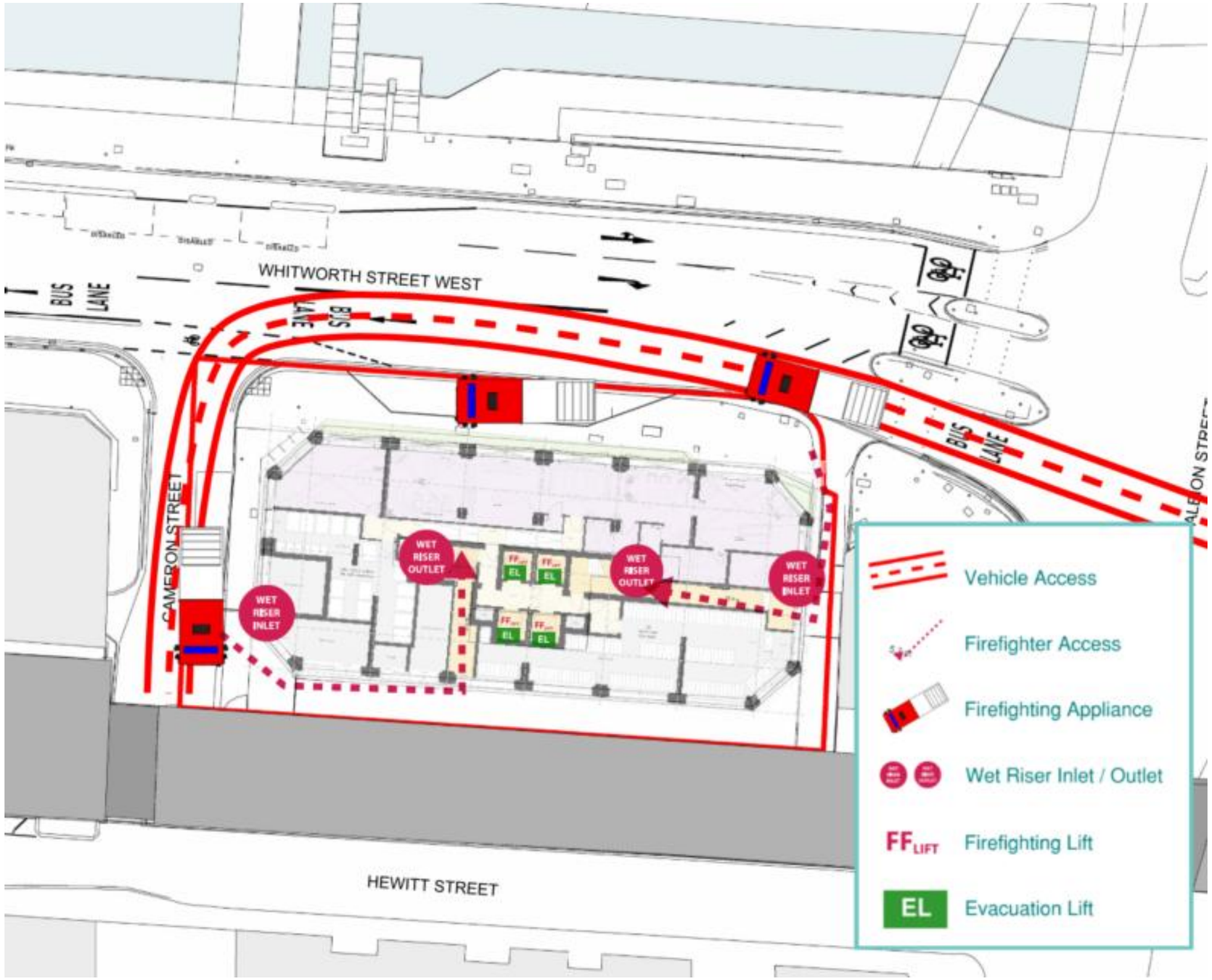


Figure 22: Indicative Fire Service Access

7.4 Information for Fire-Fighter Use (Premises Information Boxes)

Secure Information boxes will need to be provided as per the requirements of the Fire Safety (England) Regulations 2022. The boxes will be sized to accommodate all the necessary information; be easily located and identified by fire-fighters; and suitable secure to resist unauthorised access but easily accessible by fire-fighters. Where external they should be suitably protected from the weather.

The information that will be required to be included is:

- A logbook for the purpose of recording relevant events and incidences.
- An 'Off the Run' notice containing details of any fire-fighting fixed installations not available for use/or any unresolved fire safety issues.
- An orientation plan showing the location of the building in relation to surrounding buildings, water supplies for fire-fighting, e.g., hydrants, wet riser tanks, etc.
- Building layout plan showing internal layouts.
- Plans showing fire-fighting facilities and systems, and control locations relevant to operational fire-fighting.
- Personal rescue emergency plans for residents with mobility impairments who may require assistance in an evacuation situation.
- A list on any significant fire safety issues that may affect the fire behaviour and operational response, e.g., compartmentation, external wall details, etc.
- A description of the current evacuation arrangements.
- Any other useful information for fire-fighters on arrival to the building.

Further information is available in the Code of Practice for the Provision of Premises Information Boxes in Residential Buildings published by the Fire Industry Association (FIA).

7.5 Other Firefighting Provisions

7.5.1 Enhanced Fire and Rescue Service Communication Provision

In buildings over 50 m, communications should be extended by the installation of a system such as,

- A radiating cable (leaky feeder);
- Distributed antennae systems (DAS); or
- Fire telephones.

At least one of these provisions should be allowed for and provided to the building.

7.5.2 Evacuation Alert System

As detailed within Section 3.1, a BS 8629:2019 [6] evacuation alert system will be provided to the building given the building height and use.

This system will allow for further evacuation of the building by the fire service, for a single floor/several floors at a time, as necessary. Within each flat, at least one evacuation alert sounder, conforming to BS EN 54-3:2014+A1:2019, will be provided. Facilities will be incorporated in accordance with BS 8629 to enable additional devices to be added to alert people who have hearing impairments. The system design should not support a simultaneous evacuation of the building by use of a single "master" switch.

7.5.3 Wayfinding Signage for the Fire Service

Signage identifying floors and flats will be provided for firefighters. These will meet the following conditions:

- The signs should be located on every landing of a protected stairway and every protected corridor / lobby into which a firefighting lift opens;
- The text should be in sans serif typeface with a letter height of at least 50 mm. The height of the numeral that designates the floor number should be at least 75 mm;
- The signs should be visible from the top step of a firefighting stair and, where possible, from inside a firefighting lift when the lift car doors open;
- The signs should be mounted between 1.7 m and 2.0 m above floor level and, as far as practicable, all the signs should be mounted at the same height; and
- The text should be on a contrasting background, easily legible and readable in low-level lighting conditions or when illuminated with a torch.

The wording used on each floor identification sign should take the form 'Floor X', with X designating the number of the storey, with 'Floor 0' being the Ground floor. Floor signs should also be supplemented with flat indicator signs which provide information relating to flats accessed at each storey. The wording of the signs should take the form of 'Flats X – Y'; be in sans serif typeface with the letter heights at least half the height of the floor indicator signs. Arrows should be used to indicate directions of the flats when more than one direction.

8. FIRE SAFETY MANAGEMENT

8.1 Overview

Building Regulations do not impose any specific fire safety management requirements other than to assume that a building will be properly managed. Once the building is in use the requirements of the Regulatory Reform (Fire Safety) Order 2005 (FSO) will be in force. This will require those responsible for the building to take precautions to safeguard other persons who may be affected by a fire in a building. The management procedures therefore play a pivotal role in complying with the FSO and reducing the risks and consequences associated with fire.

8.2 Management Expectations

This fire strategy has sought not to impose any reliance on any unrealistic or unsustainable management regimes. Various fire safety management advice is contained in documents such as:

- BS 9999: 2017 Fire safety in the design, management and use of buildings – Code of practice
- BS 9997: 2019 Fire risk management systems. Requirements with guidance for use.

It is recommended that those responsible for the management of the building (and the overall site) review the contents of the fire safety strategy and other associated fire safety documentation (e.g., fire safety system specifications, fire strategy plans, etc.) to assess the suitability of the fire strategy and the assumptions made that could affect the operational and day-to-day functionality and management of the building.

8.3 Handover of Relevant Fire Safety Information

As part of the requirements of Regulation 38 of the Building Regulations relevant fire safety information must be provided to the responsible person (as defined by the FSO). This should include:

- Fire strategy report describing how the building is designed to address fire safety. This will include all the relevant principles, assumptions, and performance requirements of the various fire safety systems.
- Fire strategy plans showing escape routes, location of fire separating elements (including cavity barriers, fire doors, etc.), places of special fire hazard, etc.
- Specification of fire safety systems and equipment, e.g., fire alarm systems, emergency lighting systems, fire dampers, first-aid fire-fighting provisions, etc. (this should include all relevant plans showing the location of panels and control systems).
- Information for the premises information box, see Section 0.

The level of information required should be discussed in conjunction with the authorities and the Landlord.

8.4 Assessment of Fire Risks in the Building

Some of the buildings are defined as Higher Risk Buildings and as such a safety case report will be required for those buildings. However, as previously stated the building will be subject to the requirements of the FSO and therefore a suitable fire risk assessment will need to be undertaken by the responsible person (or their representatives) to ensure that adequate provisions are in place to protect the occupants in and around the building.

The risk assessment should be reviewed periodically and wherever significant changes are made that could affect the fire risk. This can include changes to the building, staff, occupancy, operational activities, etc.

8.5 Management Responsibilities

Management of fire safety must be integrated with all other management systems, such as security measures, general maintenance, etc. To ensure there is no doubt as to where the responsibility for fire safety rests, and to enable consistency of approach, it is important that a designated Fire Safety Manager is appointed who has sufficient competency and authority in undertaking the role. Where necessary outside professionals can be appointed but should report to the Fire Safety Manager.

The main duties of the Fire Safety Manager are expected to include:

- Managing the building to minimise the incidence of fire (fire prevention); e.g., good housekeeping and security.
- Producing an Emergency Fire Plan.
- Being aware of all the fire safety features provided and their purpose.
- Being aware of any particular risks on the premises (e.g., issues relating to hot work or unusual construction materials such as sandwich panels).
- Being aware of their responsibilities towards persons with cognitive or physical impairments who may need additional support or assistance in the event of a fire.
- Being in attendance on the premises when the building is occupied. It is acceptable for the Fire Safety Manager to delegate responsibility to other competent persons where the Fire Safety Manager is away. It is recommended that such roles are formally recorded, and the nominated person(s) are aware of their responsibilities.
- Having powers to deal with individuals who sabotage or tamper with safety systems, who ignore any smoking policy or who block exits.
- Ensuring that any public areas are suitably controlled.
- Ensuring that all necessary and appropriate communication systems are in place to deal with a fire incident.
- Checking the adequacy of firefighting equipment and ensuring its regular maintenance and proper records are kept.
- Ensuring fire escape routes and fire exit doors/passageways are kept unobstructed and doors operate correctly.

9. References

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[5] BSI, 'BS 5839-1:2025 Fire detection and fire alarm systems for buildings. Code of practice for design, installation, commissioning and maintenance of systems in non-domestic premises', BSI, London, 2025.

[6] BSI, 'BS 8629:2019+A1:2023 Code of practice for the design, installation, commissioning and maintenance of evacuation alert systems for use by fire and rescue services in buildings containing flats', BSI, London, 2023.

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[15] BSI, 'BS EN 81-70', BSI, London, 2020.

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APPENDIX A SPACE SEPARATION ANALYSIS

To limit the potential for the spread of fire from one building to another, limitations are placed upon the amount of unprotected area permissible upon a building façade. These limits are prescribed as a function of the distance to the boundary and the size of the compartment and can be determined using the methodology contained in BR 187: *External fire spread. Building separation and boundary distances., second edition*.

The analysis has been based on the following assumptions:

- Only a single compartment needs to be evaluated.
- The radiant heat flux emitted from any unprotected areas of the façade is 84 kWm^{-2}. This is increased to 168 kWm^{-2} for non-water based plant rooms and the ground floor bike store.
- Where the boundary is located between buildings a notional boundary will be set midway between the two buildings.
- Where the boundary overlooks the south boundary, no further development is anticipated on the basis that the boundary overlooks a railway and therefore the boundary is taken to the structure for the raised railway at ground level and to the midpoint of the railway on the upper levels.
- Boundary distances are doubled as per BR 187 due to the provision of sprinklers.

The locations of the relevant boundaries are shown in Figure 23 and the results of the analysis are provided in Table A1, with all worst case elevations and elevations which do not achieve a 100% unprotected area detailed below.

Table A1: External fire spread analysis

Elevation	Location	Width of facade [m]	Height of compartment [m]	Boundary distance [1] [m]	Allowable unprotected area [%]
North	Top Level Amenity	23.2 m	4.58 m	> 11 m	100%
East	Bike Store	5.4	3.59	3 m	100%
	Double Height Ground Floor Amenity	7.9 m	7.18 m	2.8 m	100%
	Plant Room, First Floor	8.4 m	3.59 m	3 m	100%
	Amenity Room, Second Floor	16.7 m	3.59 m	2.8 m	100%
South	Bike Store, Ground Floor	23.4 m	3.59 m	3.6 m	81%
	Potable Water / Wet Riser Tank, Double Height, First Floor	11.2 m	7.18 m	3.6 m	100%
	Sprinkler Tank, Double Height, First Floor	8 m	7.18 m	3.6 m	100%
	Plant Room, First Floor	8 m	3.59 m	3.6 m	100%
	Top Level Amenity	23.2 m	4.58 m	7.8 m	100%
West	Sprinkler Tank, Double Height, First Floor	11.2 m	7.18 m	6.8 m	100%
Note 1: This is the measured boundary and not the calculated effective boundary due to the provision of sprinklers.					

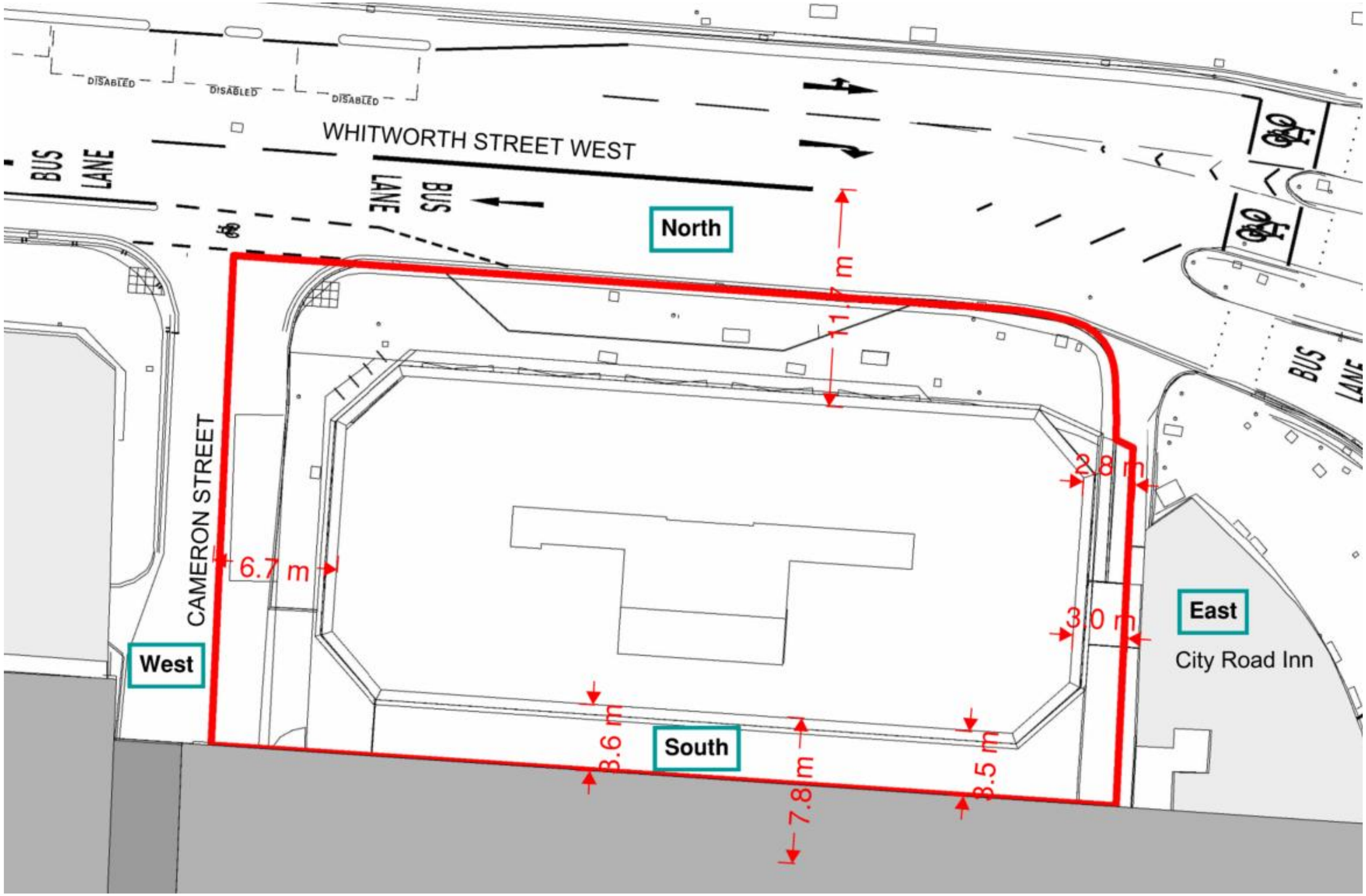


Figure 23: External Fire Spread - Site Boundary Measurements - Indicative

APPENDIX B FIRE STATEMENT FORM

Fire Statement – 10-12 Whitworth Street West, Manchester

Project No.: MA25137 | Date: 15/05/2026 | Revision: R02

Author: RW | Reviewer: JG | Approver: RR

1 INTRODUCTION

OFR Consultants Ltd (OFR) have been appointed by Atri 7 6 Limited to develop a fire statement for 10-12 Whitworth Street West, Manchester. The fire statement is required under Article 9A of the Town and Country Planning (Development Management Procedure) (England) Order 2015 (*'the 2015 Order'*) inserted by article 4 of the Town and Country Planning (Development Management Procedure and Section 62A Applications) (England) (Amendment) Order 2021.

This fire statement aims to provide an abridged version of the outline fire strategy report developed by OFR named *'10-12 Whitworth Street, Manchester, Outline fire Strategy report, dated 15/05/2026, Revision R01'*, and follows the process as outlined within the UK Government Guidance issued on 24.06.21 that came into effect on 01.08.21. Said guidance requests submission via a form published by the Secretary of State (or a form to similar effect) containing the particulars specified or referred to in the form, which includes information about the following (not an exhaustive list):

- The principles, concepts and approach relating to fire safety that have been applied to each building in the development;
- The site layout;
- Emergency vehicle access and water supplies for firefighting purposes;
- 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.

The following pages contain the fire statement, in the format provided by the UK government.

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2 FIRE STATEMENT FORM

Application information	
1. Site address line 1	10-12 Whitworth Street West,
Site address line 2	
Town	Manchester
County	Greater Manchester
Site postcode (optional)	M1 5NZ
2. Description of proposed development including any change of use (as stated on the application form):	The proposed development would erect a 39 storey (Ground + 38 upper levels) Purpose Built Student Accommodation residential tower, which would consist of sui generis accommodation and 818 beds on the existing vacant site on 10-12 Whitworth Street West. At this stage, the building is proposed to have: Ground to 2nd Floor – Amenity and Plant Use 3rd to 19th Floor – Residential Only Use 20th to 21st Floor – Residential and Plant Use 22nd to 37th Floor – Residential Only Use 38th Floor – Amenity Only Use 39th Floor - Roof

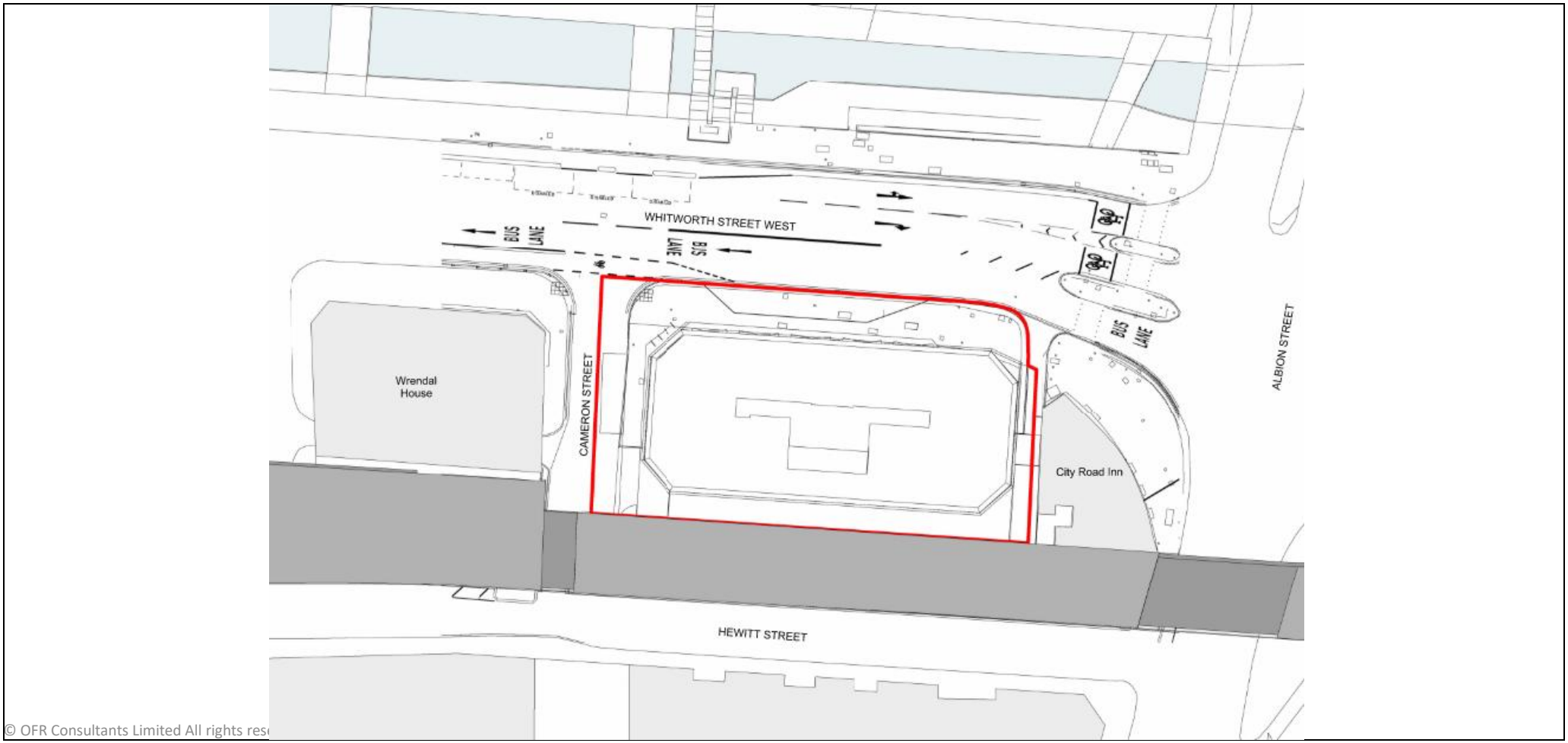
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3. Name of person completing the fire statement (as section 15.), relevant qualifications and experience.	 Richard Rankin Director CEng, MEng (Hons), MIFireE E: Richard.Rankin@ofrconsultants.com Richard is a Chartered Engineer with 20 years' experience of UK and International regulations and approval processes whilst designing fire strategies for a wide range of projects, from small department refurbishments to large and complex new builds.
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.	Consultation during this early design stage has been undertaken between the fire engineers (OFR Consultants Ltd) and the wider design team, including the Architect, Corstorphine-Wright with regards to meeting the requirements of the Building Regulations 2010 (as amended). Recommendations from these preliminary consultations have been considered and incorporated into the Stage 2 fire strategy report developed by OFR and the architectural general arrangements. No consultation has occurred with the Greater Manchester Fire and Rescue Service (GMFRS) on this scheme to date.
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)	

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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

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10-12 Whitworth Street Height c.113.7 m 39 (GF + 38)	Student Accommodation	GF + 38	BS 9991, BS 9999, BS 7974	no balconies no balconies	class A2-s1, d0 or better	Stay Put	Yes – residential sprinklers, full (residential levels)	none
	Amenity Areas over 100m^2 compartments						Yes – commercial sprinklers, full (non-residential levels)	

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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

At this stage of the design, the following items have been highlighted as they are likely to require alternative solutions to the recommendations in standard guidance as the design progresses.

- **Building Height** – The topmost floor level of the building exceeds 100m above ground level. Therefore the building would fall outside of the scope of BS 9991. OFR consider that the general principles of BS 9991 are still considered appropriate but additional work will be undertaken to determine if any additional measures are required to mitigate the increased height. A Qualitative Design Review (QDR) is proposed and is currently being developed alongside the wider design team. This QDR reviews the impacts of the increase in height for requirements B1 to B5. Initial additional measures proposed include:
    - Additional vertical egress support will be required in the event of a larger evacuation of the building. As such the building will be provided with 4 evacuation lifts, with two provided in each core to support vertical egress by providing additional capacity and providing additional resilience.
    - The structural fire resistance for the building will be reviewed using a probabilistic risk assessment to determine if the proposed structural fire resistance of 120 minutes is adequate.
    - To provide additional redundancy due to the building height, the secondary escape stair will be designed as a second firefighting stair, together with an additional firefighters lift and wet riser outlets.

  Additional measures will continue to be reviewed as the scheme and QDR progresses.
- **Smoke Control -** Whilst designed in line with guidance, the smoke control design may result in excessive depressurisation where just a single extract is proposed, particularly in smaller corridor / lobby arrangements with limited replenishment air sources.
    - A full detailed Computational Fluid Dynamic (CFD) assessment will be undertaken at RIBA Stage 3 to demonstrate that the stair and evacuation lift lobby remains tenable during the firefighting phase and that the smoke control system does not cause excessive depressurisation within the corridor (i.e. door opening forces exceed 100N).

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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

Evacuation Strategy

- All Ancillary Areas – Simultaneous Evacuation
- Residential – Cluster Flats – Stay Put (whole cluster evacuates, adjacent residential accommodation does not)
- Residential – Studios – Stay Put
- The fire alarm cause and effect will be developed in agreement with all relevant stakeholders. A two stage alarm system is likely to be proposed with a soon to be agreed investigation period.
- A BS 8629 evacuation alert system is proposed. Due to the provision of this system, vertical egress will be reviewed to confirm suitability in the event of a full building evacuation.
- The building will be 24/7 managed to support escape.

Sprinklers

- Due to the height of the building exceeds 11m, sprinklers will be provided throughout the building (including assumed to be sterile spaces, as per BS 9991:2024 guidance). The following is recommended at this stage:
    - Ancillary Areas over 100m^2 – proposed ground, first floor and second floor, BS EN 12845 commercial sprinkler system (Hazard classification to be determined).
    - Ancillary Areas under 100m^2 (such as Level 38) and Residential Areas – Category 4 Residential sprinkler system in accordance with BS 9251, with enhanced duration to supplement the building height.

External Wall

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- All materials which are part of the external wall or specified attachment will achieve at the minimum European Classification A2-s1,d0 or Class A1 as per the requirements in Regulation 7(2). Regulation 7(3) sets out some exceptions from the requirements in Requirement 7(2) which will also be followed where applicable. Membranes are to achieve at the minimum European Class B-s3,d0.
- A preliminary BR 187 external fire spread assessment has been undertaken which demonstrated that the majority of the external walls would not require fire resisting construction from a space separation perspective due to the compartmentation proposed and provision of sprinklers. Where required, the external walls will be adequately fire resisting.

Persons with Reduced Mobility (PRM)

- For all residential levels it is proposed to provide an evacuation lift lobby associated with each stair which will meet the minimum dimensions recommended in BS 9991:2024 to support occupant escape. The smoke ventilation strategy will be designed so that the temporary waiting space for the evacuation lifts will remain tenable from fire and/or smoke to facilitate egress from each level. Tenable escape will be supported with CFD as the scheme progresses, with all lifts being designed as firefighter lifts which will be programmed to operate as evacuation lifts to support occupant escape.

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

Not applicable

Emergency road vehicle access and water supplies for firefighting purposes

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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?

BS 9991 recommends that a building where the topmost story is over 18m should have a fire-fighting shaft, comprising a firefighters lift, firefighting stair, and ventilated firefighting lobby provided with a wet riser where the top occupied storey is also above 50m. All lifts will be designed as firefighters lifts which will be programmed to function as evacuation lifts in line with Clause 7.4.1 of BS 9991:2024.

The building will be served by two firefighting shafts serving all residential levels with wet risers have been provided in all stairs in the building, with hose distances well within the 60m maximum limit for a sprinklered building.

At this stage hydrants have been identified within close proximity (90m) the building however further work will be undertaken to confirm that these are operational and suitable for the building as the scheme progresses.

Hydrants and the wet fire mains will be designed in line with BS 9990:2015

11. Emergency road vehicle access

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

Vehicle access to the site is via either Whitworth Street West or Cameron Street. This allows for a fire service vehicle to park within 18m for all proposed wet riser inlet locations and the entrances into the building.

Access to the firefighter shafts and the two separate wet riser inlets are located on separate elevations to support redundancy in the access approach in the event of falling debris.

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

yes

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12. Siting of fire appliances

The building is served by two stairs. Each stair will be fitted with wet riser outlets at all levels. The wet riser replenishment inlets are indicatively proposed as per Section 14, within 18m of the fire vehicle appliance parking position and along the route of the fire service entrance to the firefighting stairs. Fire vehicle appliance parking positions can be either on the adjacent kerbs or on the street as per Section 11.

The wet riser tanks and sprinkler tanks are proposed in double height spaces spanning between first and second floor.

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

Guide: no more than 200 words

Existing fire hydrants are available within 90m of the wet riser inlets. The water main supplying these will provide pressure and flow in accordance with BS 9990.

The suitability of these existing hydrants will be confirmed by the infrastructure engineer during detailed design.

As discussed above the wet riser tank will have its own water supply via two separated inlets.

Sprinklers are also provided which are likely to reduce the scale of water supply needed from the mains to firefighters on site

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

The existing hydrants will be surveyed and supplemented with new/additional hydrants as necessary to ensure compliant provision in terms of pressure, flow rate and distance from wet riser inlets and fire service vehicle locations. From the current information available, at least one public hydrant is available within 90m of the wet riser inlet.

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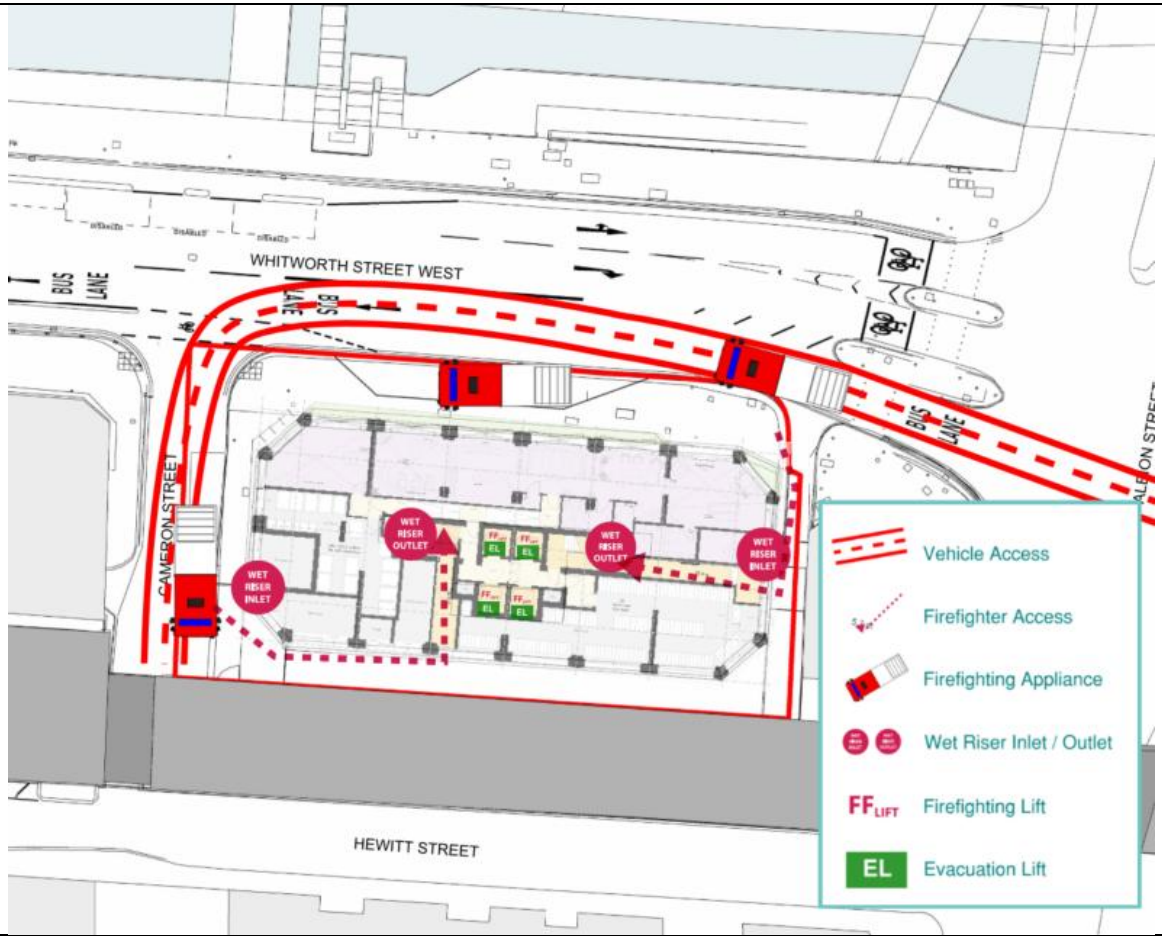
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14. Fire service site plan

Fire service site plan is: inserted in the form

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Fire statement completed by	
7. Signature	
8. Date	15/05/2026

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