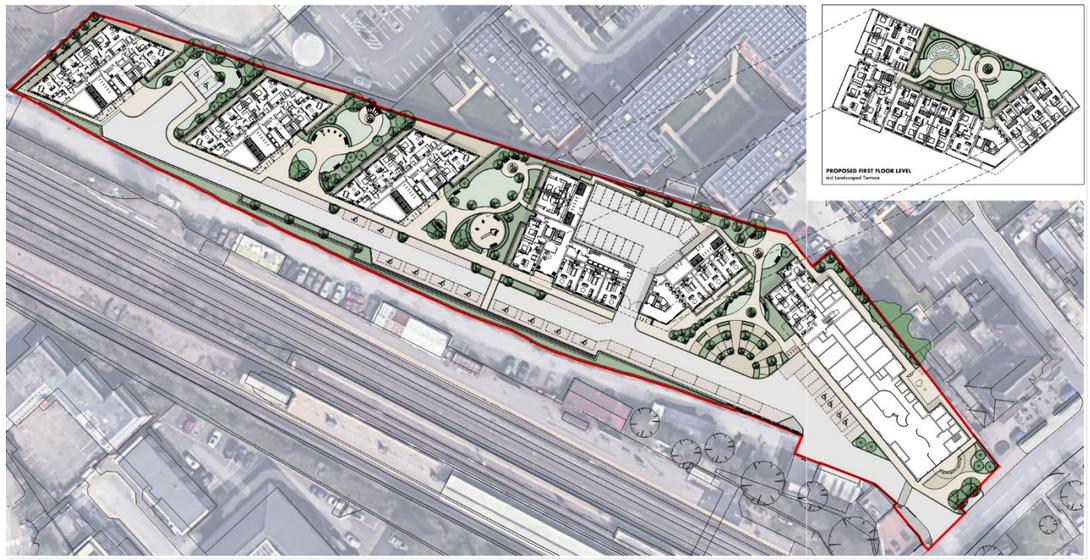
mu.studio

Fire Statement

Land off Long Drive

South Ruislip, London HA4 0HG



Client: Hotel Top Limited, c/o Savera Hotel Long Drive, Station Approach, South Ruislip, HA4 0HG

Revision	Date	Description
01	09.12.25	Initial issue

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Institution of Fire Engineers Member 00056660

Chartered Engineer

SFPE Engineering A Fire Safe World PROFESSIONAL MEMBER

Fire Engineering credentials maybe validated using the online directory at:

https://portal.ifehosting.org.uk/Resources/IFE-Member-and-Engineering-Council-Registrant-Directory

Design stage:

RIBA Stage 2: Concept design

9th December 2025

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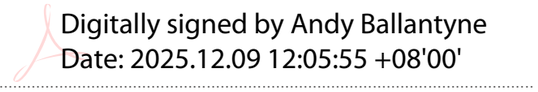
The London Plan 2021

Mu.Studio (UK) Ltd have been commissioned to provide fire safety consultancy services for the proposed extension of an existing hotel building, alongside the construction of four new residential apartment buildings at Long Drive in the London Borough of Hillingdon.

This Fire Statement report is provided both to fulfil the expectations of the London Plan 2021 [1] for a 'major development', as well as to support the client and design teams with developing their project information into detailed and technical design. The report includes completed Form 1 and Form 3 pro-forma as provided within the Greater London Authority document "London Plan Guidance – Fire Safety" (February 2022 version, draft for consultation). The remainder of the document provides more detailed information to substantiate the completed pro-forma and to assist the client with the further development of the scheme.

In the event that planning permission is granted for the proposal, this is not to be construed as providing consent or support for any aspect of the fire safety design set out in this report. All aspects of the fire strategy approach will remain subject to approval under the requirement of the Building Regulations following planning.

General information

Item	Description
Site address	Land off Long Drive, South Ruislip, London HA4 0HG
Description of development	Partial demolition of existing buildings and erection of three buildings comprising 114no. residential apartments, plus extension to existing hotel, along with access, car parking, servicing, landscaping, and other associated works.
Name, qualifications, professional memberships, and experience of author	Mr Andrew O.M. Ballantyne BArch MEng CEng MIFireE PMSFPE, Director of Mu.Studio (UK) Ltd. Andy is a Chartered Engineer registered with the Engineering Council via the Institute of Fire Engineers, being a Full Member of the Institute of Fire Engineers with membership number 00056660. Andy graduated from the University of Edinburgh with the First-Class Master's degree in Structural and Fire Safety Engineering. Prior to this, Andy also received a Batchelor's degree in Architectural Design from the University of Dundee. Following graduation, Andy has worked in fire safety engineering for over 10 years, based primarily in the London area and undertaken numerous commercial, residential, and governmental projects of varying scale and complexity.
Has a Gateway One Statement been submitted?	Not applicable, where proposal is not a 'Relevant Building' as defined in the Town and Country Planning (Development Management Procedure and Section 62A Applications) (England) (Amendment) Order 2021.
Declaration of Compliance*	
The technical content produced for this planning application is considered to suitably comply with the relevant legislation and requirements of London Plan Policies D5(B5), D12A and D12B, subject to suitable development and implementation during the Building Regulations process, construction, and occupation. Signed:  	
* Note – a combined declaration for Policies D5(B5) and D12 is included to facilitate use of a digital signature	

Form 1: Fire Statement – Policy D12A & D12B

Item	Detail	See also:
The building's construction: methods, products, and materials used		
Structure	Expected to be a non-combustible concrete structural frame or a combination of concrete and steel framing, with concrete composite floors.	-
Internal walls	Generally, a combination of masonry or gypsum dry-lining walls. Internal wall lining classifications to be accordance with ADB1 or ADB2.	Section 4.1
External walls and attachments	The external walls will meet contemporary fire safety guidance in ADB1 and ADB2. External balconies and terraces to meet the expectations of BS 8579.	Section 5.1
Roof coverings	Roofing systems to typically meet either B_{ROOF}(t4) to BS EN 13501-5, or green (inc. brown or sedum) roofs design in accordance with the GRO code.	Section 5.2
Means of escape for all building users and the evacuation strategy		
Design basis	Means of escape from residential, Hotel and ancillary areas based on Approved Document B Volume 1 & 2 (ADB1 and ADB2).	Section 1.2
Evacuation regime	A simultaneous evacuation strategy throughout the hotel building, with each of the residential buildings to use a defend-in-place strategy.	Section 3.1
Hotel area escape	Escape from the bedroom and amenity areas is based on the expectations of ADB2 with respect to travel distances, dead-end distances, exit widths, and protection of corridors. This is to be achieved using escape through protected bedroom corridors leading to the protected stairs, with exits located to suitably limit dead-end travel distances. Each floor of the hotel is served by at least two stairs, with ample capacity provided to support the simultaneous evacuation strategy for the building.	Section 3.3 & 3.4
Residential area escape	Maisonettes will utilise escape windows in accordance with ADB1, whereas apartments feature open-plan design supported by automatic suppression and enhanced detection and alarm. The common areas of Block 2 feature escape via either external common decks or internal vented lobbies that lead to one of two protected common stairs. In the Block 3 design, all apartments are accessed via the internal vented common corridors which lead to the single escape stair.	Section 3.5 & 3.7
Final exits	The maisonettes and common escape stairs will each discharge directly to outside at Ground floor.	Section 3.8
Evacuation lifts	Evacuation lifts are provided in each of the residential buildings, supporting egress for all occupants from the above-ground levels of each building.	Section 3.9
Passive and active fire safety measures		
Structural fire resistance	Structural elements required to be fire-resisting are to achieve a fire resistance rating of 60 minutes in each block.	Section 4.3

Compartmentation and fire-resisting walls	Fire resistance ratings are to be provided in accordance with ADB1 and ADB2. All floors are to be compartment floors, including external access decks but excluding floors within maisonettes. Protected shafts (incl. stairs and service risers) are to have a fire resistance rating of at least 60 minutes. Apartments are to be separated from one another by construction rated to at least 60 minutes, and from the singe-direction areas of external common decks by fire-resisting construction rated to at least 30 minutes and to a height of at least 1,100 mm above deck level. All bedroom corridors in the hotel are to be protected corridors enclosed by fire-resisting construction rated to at least 30 minutes with smoke-sealed fire doors.	Section 4.4
Fire detection and alarm	A Category L1 system to BS 5839-1 is expected to be provided throughout the hotel building. Grade D1 Category LD1 detection and alarm to BS 5839-6 provided within each of the apartments and maisonettes. Category L5 system to BS 5839-1 provided throughout the internal common and ancillary areas of the apartment building, in support of the smoke control systems and to support building management in monitoring the building.	Section 3.2 and 3.5
Smoke control	Natural smoke venting is available at Block 2 via external common decks or AOVs serving the internal corridors and stairs. The common corridors in the Block 3 design are each vented via a natural smoke shaft, with an AOV provided at the head of each common stair. The evacuation lifts are each accessed from the protected stairs, offering equivalent smoke protection to users of the evacuation lift and common stairs.	Section 3.3 and 6.4
Automatic suppression	Automatic suppression is not required to meet the expectations of ADB2 for the extended areas of the hotel. Incorporation of suppression may be at the discretion of the client (i.e., to meet a hotel brand standards). A Category 2 sprinkler system to BS 9251 is to be provided throughout each of the residential buildings, except of the car park in Block 2 (which is to be a separated part).	Section 4.2
Stand-by power	Stand-by power is expected to be provided through in-built batteries to smaller items of equipment, and by robust single intakes to the sprinkler system and evacuation lifts in accordance with BS 9251 and BS 9999 respectively, subject to undertaking of a risk assessment for the evacuation lifts during detailed design.	Section 6.7
Access and facilities for the fire and rescue service		
Building access	External doors are provided at the front of each building, offering street level access to the common circulation routes, maisonettes, or ancillary areas.	Section 6.2
Fire hydrants	An existing fire hydrant is available at the front of the development adjacent to Long Drive, being circa 25 m from the existing hotel building. The rear of the site is to be served by a new fire hydrant installed in accordance with BS 9990 and located within 90 m of each of the residential buildings.	Section 6.3
Firefighting shafts	Not required where no floor exceeds 18 m in height. Firefighting access is available to the interior of the building via the common circulation routes.	Section 6.4
Firefighting lifts	Not required where no floor exceeds 18 m in height.	
Rising mains	A rising main not required for Block 1 (hotel) where suitable façade access is available. A dry rising main to BS 9990 is to be provided within each protected stair in each of the residential blocks.	
Smoke control	As per provisions in support of means of escape	
Basement venting	No basement is proposed at the development.	Section 6.5
Car park venting	Open-sided car park provided in Block 2, to be naturally vented via the car park entrance and rear façade.	Section 6.6
Site access for the fire and rescue service		
Access via public roads	Public highways provide the primary route of access to the development, with Long Drive being an existing road that would allow access to the private road from multiple directions.	Section 6.2
Internal / private road access	A new private access road will be provided to the rear of the hotel building and to each of the residential apartment buildings, sized to meet the expectations of LFB Guidance Note 29 and with a fire appliance turning area at the end of the road.	
Hardstanding areas	Suitable appliance hardstanding areas will be available on the private access road, being adjacent to the hotel façade and within 18 m of the dry riser inlets at each of the residential buildings.	
Modifications to the development and the 'golden thread' of information		
During design and construction	Further development of the fire safety provisions within this Fire Statement are expected during the Building Regulations approvals process, including the selection of specific products, systems, or materials. Modification to the fire safety provisions in this Fire Statement should not be incorporated unless agreed in writing by the appointed building control authority.	Section 7.1
Handover of information	The as-built fire safety strategy for the building, as agreed by the appointed building control authority, should be documented and provided to the building owner and Responsible Person for the building as defined in the Regulatory Reform (Fire Safety) Order 2004, as well as to meet the principles of the Golden Thread of Information. This should include, but not be limited to: • This Fire Statement report • The as-built fire safety strategy report and associated fire strategy drawings • Manufacturer's literature for fire safety products and equipment • Drawings indicating the locations of fire safety products and equipment	
Storage of information	It is recommended that the above information is provided to the Responsible Person in a digital format that may be retained using a cloud-based or other remote service, to reduce the potential for loss of information.	
Use of information	The Responsible Person and their appointed Building Safety Manager are expected to ensure that periodic maintenance of the fire safety equipment is undertaken in accordance with manufacturer's recommendations. The information provided within the Regulation 38 documentation is to assist maintenance professionals in identifying the systems, spare parts, operational procedures, maintenance procedures, etc. for the various systems present.	
Future changes to the development	Any amendment to the fire safety provisions at a building will require consent from an appointed building control authority. The building owner should consult with a building control authority or fire safety professional prior to conducting any modification works, to ensure that these will meet any relevant fire safety legislation in force at that time.	

Form 3: Provision of evacuation lifts – Policy D5(B5))

Item	Detail
Details of the evacuation lift and shaft	
Design standard	To meet BS EN 81-76, as well as being in accordance with Annex G.2 of BS 9999 as relevant.
Location	Each lift is located within the area of the protected stair.
Waiting area	The lift waiting spaces are designed as a place of relative safety, including protection and smoke control supported by venting of heat / smoke with equivalent protection to that provided to the common stair. Communication equipment meeting BS 5839-9 is to be provided at waiting spaces / refuges areas adjacent to each evacuation lift.
Capacity assessment	
Size of cars	The evacuation lifts are to be sized in accordance with the recommendations of Part M of the Building Regulations, as well as to facilitate day-to-day maximum lift traffic and furniture removals. This is considered sufficient for the transportation of typical wheelchair or other less mobile users, plus potential for a lift operator. Should an apartment resident have temporary or permanent additional requirements, such as being bed-bound or requiring medical equipment, a suitable evacuation plan is recommended to be developed in co-operation with building management for that specific individual based on current best practice government guidance.
Capacity of lifts	Specific guidance for undertaking capacity assessments for the evacuation of disabled occupants from residential areas has not yet been developed / published. All lifts serving each of apartment buildings will be evacuation lifts. These will meet the peak day-to-day capacity requirements and are considered as reasonably sufficient to support disabled users only in the event of a fire. The residential buildings are designed such that travel distances to the stair cores are suitable for occupants of all apartments. With the lift being within the main route of access to each residential floor, all occupants would be familiar with the location of the lifts.
Evacuation strategy	
General philosophy	The residential buildings will each utilise a defend-in-place evacuation strategy, with only the apartment of fire origin evacuating initially in the event of a fire. Other residents, including disabled residents, would remain within the building, where suitable fire-resisting construction and active fire safety measures support their safety during routine fire incidents. In the event of a large fire developing that causes concern, the full evacuation of the building may then be initiated by building management or the fire and rescue service.
Operation	BS 9999 guidance recommends that evacuation lifts are driven by trained members of staff. However, for a residential building this would require the presence of 24hr management which may not be present for a development of this scale. Development of standards for automatic evacuation lift operation is occurring as part of the implementation of BS EN 81-76. Use of such protocols would be preferred, allowing a resident to escape without reliance on management, and without requiring management staff to place themselves at heightened risk by attending the upper floor in the event of a fire. The method of evacuation lift operation is to be confirmed by the time of lift purchase, depending on the available technology and in accordance with best practice guidance. It is envisioned that this should use an automatic system if available at that time.
Use of lifts	It would be recommended that an evacuation lift is used to support disabled occupants only in the event of a fire, with ambulant occupants using the stairs to escape. It would be recommended that where possible, an automatic operated evacuation lift be limited to occupants that require additional support only. However, this would be dependent on the available technology at the time of lift purchase.
Evacuation lift management plan	
Responsibility	The evacuation lift management plan must be developed by each building operator as part of the wider fire safety management plan. This should include consideration of the organisation's fire safety policies and support tools, guidance provided by the manufacturer for operation of the evacuation lift, development of a general evacuation plan for unspecified occupants, a process for identifying and developing an evacuation plan for occupants with additional needs, and a plan for liaising with the fire service in an incident.
Roles	The required roles in support of the evacuation lifts should be developed following best practice guidance for the type of lift available at installation. For an automatically operated lift, this would not be expected to require management staff to be present within the building during operation of the evacuation lift.
Maintenance	It is recommended that planned maintenance of an evacuation lift occurs during times when the building is less occupied, such as during normal work hours, and where practicable the lift is returned to operation overnight for works requirement multiple days. Management is recommended to provides notification of planned or unplanned maintenance of evacuation lifts to disabled residents. In the event of residents having additional concerns, further contingency (such as evacuation chairs) could be considered.

Table of contents

1. Introduction

1.1 General

1.1.1 Mu.Studio (UK) Ltd have been commissioned to provide fire safety consultancy services in support of the design of a four-storey extension (G + 3) to an existing hotel building, alongside provision of four new five-storey (G + 4) residential apartment buildings at Long Drive in the London Borough of Hillingdon, being located as illustrated in Figure 1.

1.1.2 This report may be used in support further detailed design development. It is not intended to portray detailed design information for fire safety systems or construction specifications and should be read in conjunction with the wider project documentation.

1.1.3 Any alternative design solutions suggested within this report are subject to agreement and eventual approval by the relevant authorities having jurisdiction (AHJs).

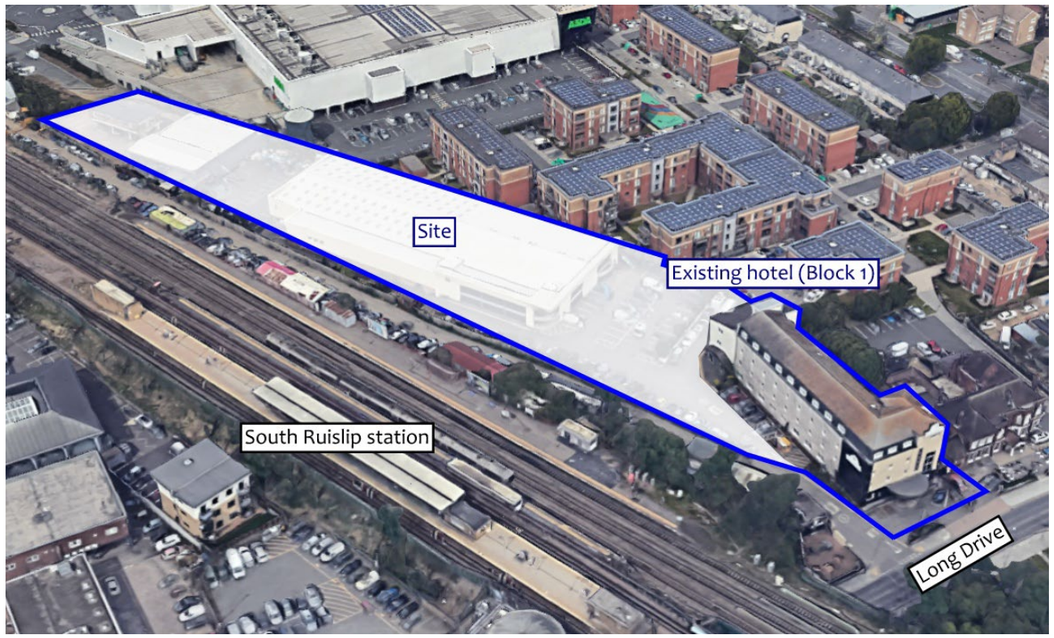


Figure 1 – Location of site (image from Google Maps)

1.2 Legislation and basis of design

1.2.1 This fire safety strategy is developed in cognisance of the fire safety expectations of the Building Regulations 2010 (as amended), including:

- Regulation 7 – Materials and workmanship
- Schedule 1, Part B1 – Means of warning and escape
- Schedule 1, Part B2 – Internal fire spread (linings)
- Schedule 1, Part B3 – Internal fire spread (structure)
- Schedule 1, Part B4 – External fire spread
- Schedule 1, Part B5 – Access and facilities for the fire and rescue service

1.2.2 The fire safety strategy has not been developed to include additional property protection enhancements or to meet the expectations of insurer requirements. However, fire safety provisions as required by the Building Regulations will, to some extent, assist with the protection of property in the event of fire.

1.2.3 This fire safety strategy does not address site fire safety during construction. The Health and Safety Executive (HSE) [2] and Fire Protection Association (FPA) [3] issue guidance on identifying and managing fire precautions on construction sites, which should be consulted by the Principal Contractor for the scheme.

1.2.4 The building will be designed based on the recommendations of Approved Document B – Volume 1 (ADB1) [4] for the residential areas and Approved Document B - Volume 2 (ADB2) [5] in the hotel and non-residential areas, including further documents and standards referenced therein.

1.2.5 Fire engineering principles are employed to support alternative solutions where strict adherence to design guidance would conflict with the wider aspirations for the scheme. In accordance with the fire safety engineering principles detailed in the PD 7974 codes of practice [6], it is considered appropriate that all fire precautions are determined based on there being one seat of fire (i.e., accidental fires).

1.3 Reference information

1.3.1 This strategy is based on information provided as listed in Table 1. Additional contradictory information or subsequent design variations to the information supplied may render the findings and recommendations of this report invalid.

1.3.2 External references utilised in the generation of this report are summarised in Section 8.

Table 1 – Project design documentation

Description	Author	Document	Rev.
Proposed Site Plan	Oak & Prosper Construction Ltd	302021.OP.FS.ZZ.DR.A.21.110	P6
Proposed Block 1 Floor Plans		302021.OP.FS.ZZ.DR.A.21.121	P3
Proposed Block 1 Elevations		302021.OP.FS.ZZ.DR.A.21.123	P4
Proposed Block 2 Floor Plans		302021.OP.FS.ZZ.DR.A.21.125	P6
Proposed Block 2 Floor Plans		302021.OP.FS.ZZ.DR.A.21.126	P5
Proposed Block 2 Elevations		302021.OP.FS.ZZ.DR.A.21.127	P6
Proposed Block 2 Elevations		302021.OP.FS.ZZ.DR.A.21.128	P6
Proposed Block 3 Floor Plans		302021.OP.FS.ZZ.DR.A.21.130	P6
Proposed Block 3 Elevations		302021.OP.FS.ZZ.DR.A.21.131	P7

2. Development summary

2.1 Description of proposal

2.1.1 The proposed development is for the extension of an existing hotel building alongside the construction of new four residential buildings located as illustrated in Figure 1 and summarised as follows:

- Hotel area: the hotel building will be laterally extended at each of the four existing floors (G + 3), providing a total of 30 new bedrooms. The existing reception and ancillary areas will also serve the new bedrooms, with the common corridors and stairs being reconfigured to suit the revised arrangement.
- Block 2: a new residential building set over 5 storeys (G + 4) and containing 42 apartments. The Ground floor of the block will also feature the residential entrance and ancillary areas, with an external podium area provided at First floor. An open-sided car park will be provided below the podium at Ground floor.
- Blocks 3.1, 3.2 & 3.3: Three new residential buildings each based on a single design arrangement. Each building will set over five floors (G + 4) and contain 24 apartments with associated ancillary areas.

2.1.2 The uppermost floor of the hotel and each residential building will be at circa 9.0 and 11.7 m above-ground respectively. As such, none of the buildings are a 'relevant building' under Regulation 7(4) of the Building Regulations, nor will a 'firefighting shaft' be expected. However, each of the apartment buildings are expected to be provided with fire safety features in support of an occupied floor at greater than 11 m above ground level, including automatic suppression.

2.1.3 Figure 2 to Figure 8 provides an overview of the internal arrangements of the proposed buildings, with full fire safety mark-ups also included within Appendix A.

Table 2 – Summary of proposed new accommodation

Floor	Block 1 (hotel)	Block 2	Block 3.1 / 3.2 / 3.3
Fourth		10x single-level apartments	5x single-level apartments
Third	8x bedrooms	10x single-level apartments	5x single-level apartments
Second	8x bedrooms	10x single-level apartments	5x single-level apartments
First	8x bedrooms	8x duplex maisonettes (upper level), 3x single-level apartments, external podium	5x single-level apartments
Ground	6x bedrooms	8x duplex maisonettes (lower level), 1x single-level apartment, residential entrances, refuse store, cycle stores, plant room, car park	4x single-level apartments, residential entrance, refuse store, cycle store, plant room

2.2 Occupancy

2.2.1 In accordance with Table 0.1 in ADB, the hotel is considered as 'Residential (Other)' in Purpose Group 2(b). This use includes sleeping accommodation within managed buildings such as hotels or boarding houses. The residential apartment buildings are each 'Residential (dwellings)' buildings in Purpose Group 1(a).

2.2.2 The maximum number of occupants within the extended hotel has been calculated using a combination of floor space factors given by Table D1 in ADB and available bedrooms, summarised in Table 3. It is assumed that all bedrooms feature two guests for conservatism.

2.2.3 For the residential apartments, the defend-in-place regime is expected to result in only a small number of occupants from the apartment of fire origin escaping. As such, the maximum occupancy of the apartments need not be utilised for the sizing of means of escape routes using ADB1 for the residential buildings.

2.2.4 The apartments will each be for domestic residential use only. No additional fire safety features to support disabled or assisted living have been requested, and this fire strategy has been developed premised on meeting the expectations of Part B in Schedule 1 of the Building Regulations only.

2.2.5 It will be the responsibility of apartment residents to develop an escape plan in the event of a fire. Where elderly, immobile, or young children need assistance to escape, the fire safety provisions provided may assist in maintain tenable escape conditions for a reasonable duration. In particular:

- A high standard of detection and alarm will provide early warning to all residents, assisting in the rousing of sleeping occupants and supporting investigation of the fire prior to untenable conditions developing.
- Suppression provided throughout the apartments may assist in restricting fire growth prior to means of escape occurring.

Table 3 – Design occupancy of hotel (Block 1)

Floor	Use	Area (m²)	Floor space factor	Occupancy
Third	8x new bedrooms 21x existing bedrooms	N/A – number of bedrooms		16 42
Second	8x new bedrooms 21x existing bedrooms	N/A – number of bedrooms		16 42
First	8x new bedrooms 21x existing bedrooms	N/A – number of bedrooms		16 42
			Total above-ground occupancy	**174**
Ground	6x new bedrooms 7x existing bedrooms	N/A – number of bedrooms		12 14
	Kitchen (existing)	39	7 m²/person	5
	Offices (existing)	25	6 m²/person	4

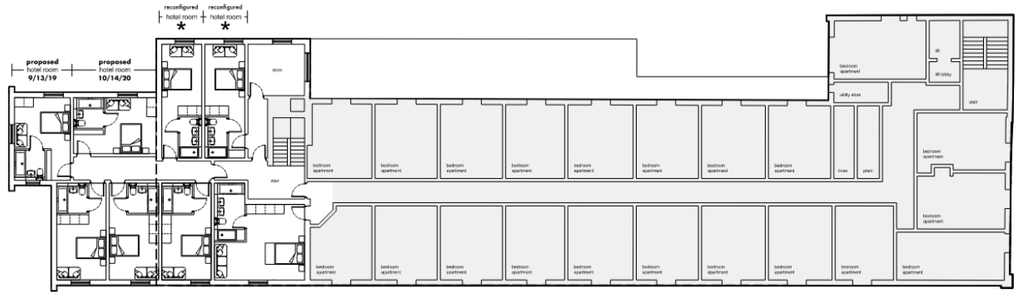


Figure 2 – Proposed typical upper floor arrangement of Block 1

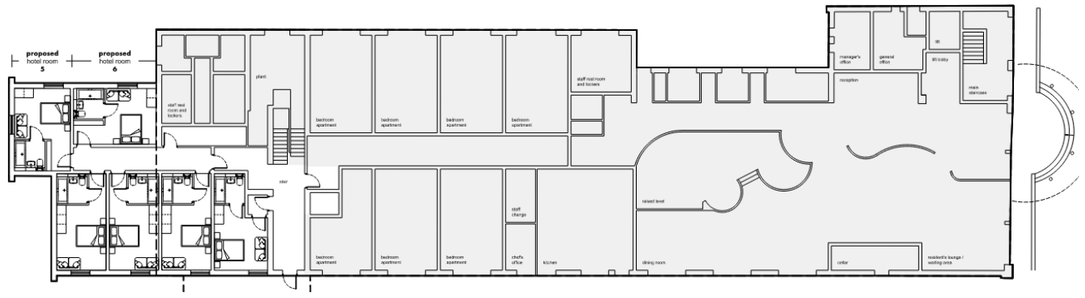


Figure 3 – Proposed Ground floor arrangement of Block 1

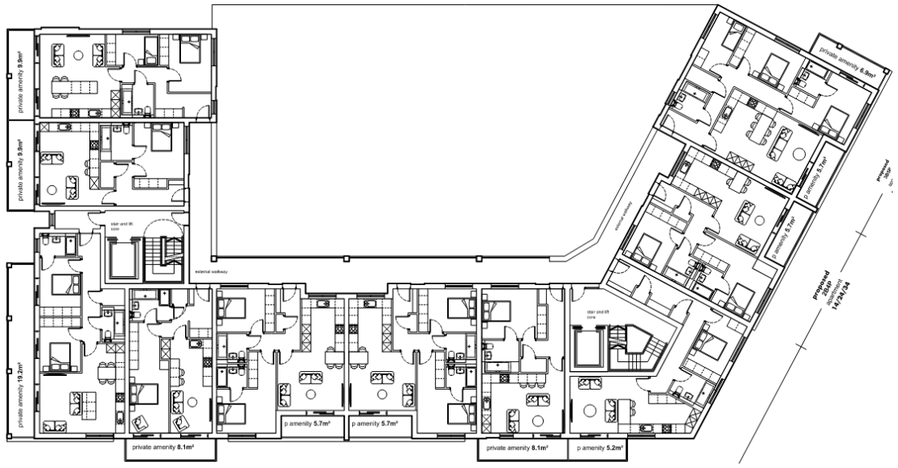


Figure 4 – Proposed typical upper floor arrangement of Block 2

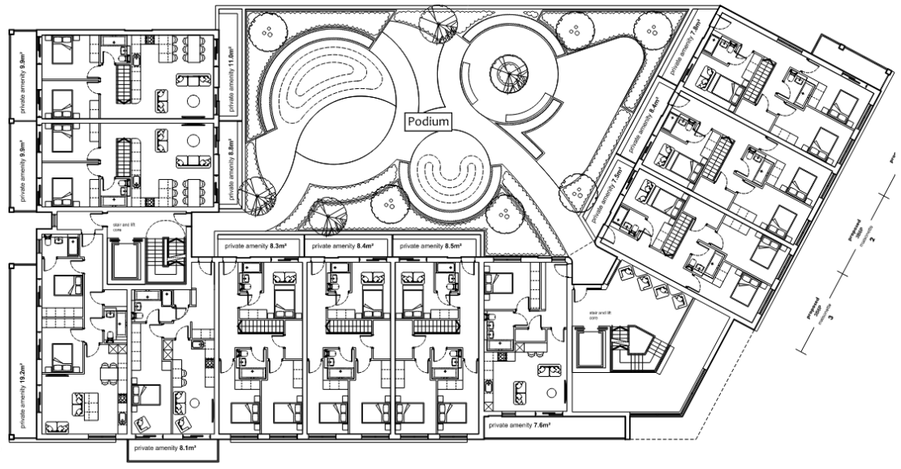


Figure 5 – Proposed First floor arrangement of Block 2

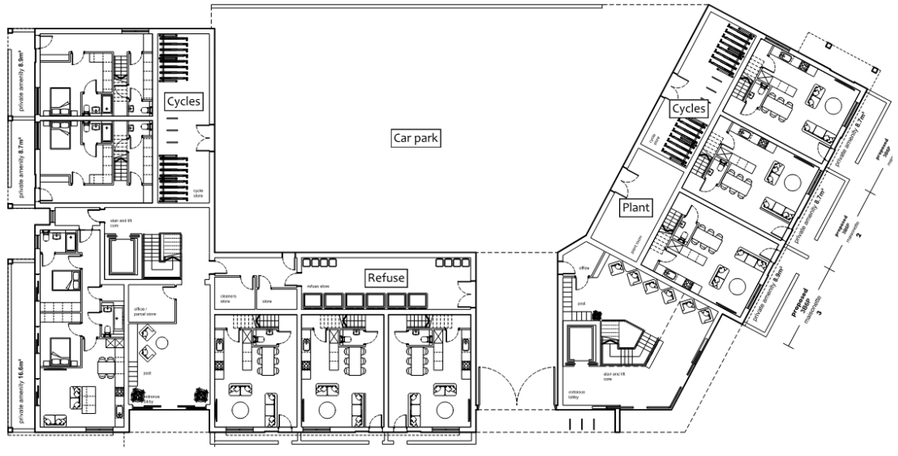


Figure 6 – Proposed Ground floor arrangement of Block 2

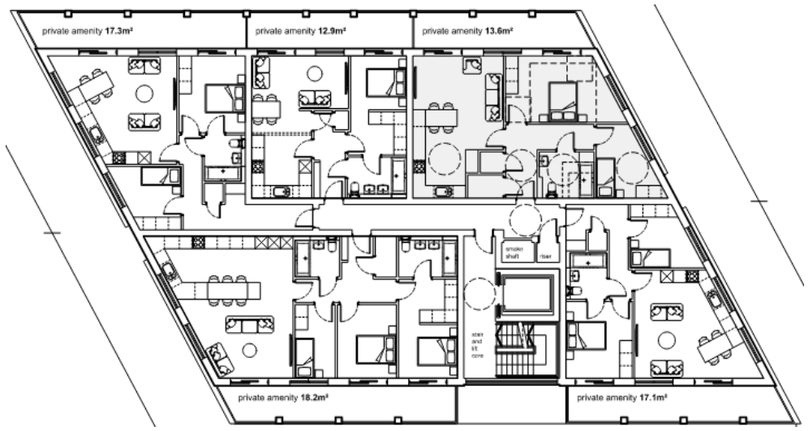


Figure 7 – Proposed typical upper floor arrangement of Block 3

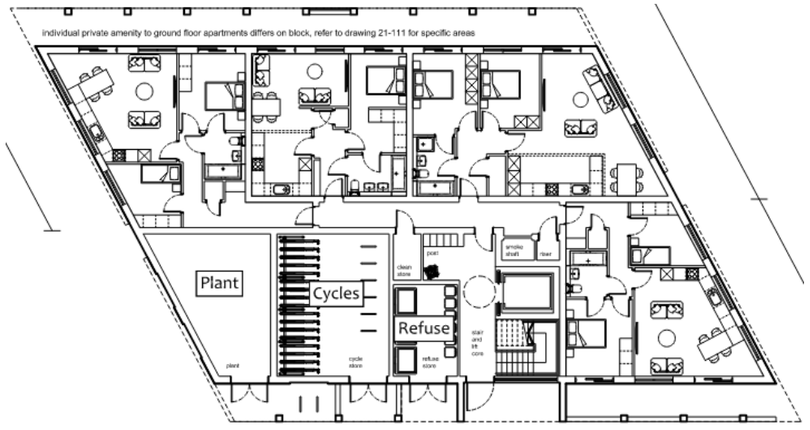


Figure 8 – Proposed Ground floor arrangement of Block 3

3. Means of warning and escape

3.1 Evacuation philosophy

3.1.1 A simultaneous evacuation strategy will be implemented throughout the hotel, whereby all occupants are to be signalled to immediately evacuate upon activation of the fire alarm anywhere in the hotel building.

3.1.2 The residential apartments utilise a defend-in-place evacuation strategy. In the event of a residential apartment fire, only the unit of fire origin will receive a signal to evacuate. No other flats will receive an automatic alert notification, though should residents become aware of a fire in another flat they may leave the building if they wish to do so.

3.1.3 If a fire were to spread beyond the apartment of fire origin, the wider evacuation of the building would be initiated and managed by the London Fire Brigade.

3.2 Means of detection and alarm in the hotel

3.2.1 The existing hotel is expected to feature a fully addressable Category L1 detection and alarm system, which is to be extended to cover the extended area of the building in accordance with BS 5839-1 [7]. A Category L1 system would typically include smoke detection in all rooms except toilets, stairway lobbies or toilet lobbies, small cupboards not more than 1 m^2, and shallow voids less than 800 mm in depth unless featuring a heightened risk of fire. Manual call points will be provided at storey and final exits, and such that all areas of the building are within 45 m of the nearest manual call point.

3.2.2 The activation of the fire alarm is expected to utilise a 'double-knock' cause and effect protocol, with an investigation period of up to 5-minutes during which hotel management may seek to confirm whether a real fire or false alarm has occurred prior to evacuation of the entire building. The amended system design is to be developed in detail by the fire detection and alarm supplier, but is expected to feature the following:

- In the event of the first activation of a smoke detector head:
  - An alarm would sound immediately at the activated head within a hotel bedroom or ancillary area.
  - An alert signal at the fire alarm panel will sound. Acknowledgement of the alert will commence a silent investigation period of up to 5-minutes. Failure to acknowledge the alert at the panel within 1 minute will result in activation of the fire alarm.
  - During the investigation period the alarm may be either manually activated should a real fire be discovered or reset should a false alarm be confirmed. The alarm will activate automatically following expiration of the investigation period.
- Immediate activation of the fire alarm in the event of any one manual call point or heat detector being activated, or in the event that a second smoke detector head activates during the acknowledgement or investigation periods as set out above.
- Activation of the fire alarm would occur simultaneously throughout the entirety of the hotel premises.

3.2.3 New manual call points are to be provided with transparent hinged covered, to reduce the instances of casual or malicious operation. Operation of this two-action manual call point then involves lifting the cover and operating the manual call point in the normal manner.

3.2.4 Visual beacons or alternative means of warning should be provided in rooms or spaces where the background sound level could be louder than the fire alarm, e.g., plant rooms. Visual beacons should also be considered in areas where occupants with hearing difficulties may be in isolation, and issuance of vibrating pillows to hard-of-hearing guests would support rousing of all occupants from sleep.

3.2.5 The fire alarm control panel is expected to be located at the main hotel entrance, where this may be monitored by reception staff and be easily located by the attending fire and rescue service.

3.2.6 It would be recommended that key staff members are provided with a handheld means of communication that may be used to convey information in the event of a fire. This could be via mobile phone, radio, or pager, or other suitable device for use in supporting management of the hotel.

3.3 Means of horizontal escape from the extended area of the hotel

3.3.1 To meet the recommendations of ADB2, the maximum permitted travel distance for the various areas of the hotel building to either a point of choice (for single directional travel) or storey / final exit are to be in accordance with the limits summarised in Table 4.

3.3.2 Corridors which provide access to guest rooms will be protected corridors. Cross corridor doors are provided to sub-divide the protected corridors greater than 12 m in length that connect storey exits.

3.3.3 The dead-end corridors that will provide access to the new bedrooms are limited to no greater than 9 m in length from the furthest guest bedroom to the protected stair.

3.3.4 Areas occupied by greater than 60 occupants are to be supported by exits of adequate capacity as summarised in Table 5. The sizes of exits to suit the expected number of occupants is set out in Table 6, including discounting of the largest exit where considered the maximum capacity of the available exits.

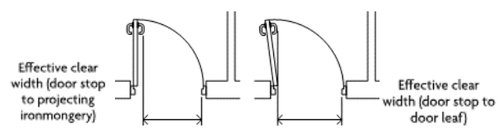
Table 4 – Travel distance limitations

Area	Recommended maximum travel distance	
	Single direction (m)	Multi-direction (m)
Within bedrooms	9	18
Within bedroom corridors	9	35
Places of special fire hazard (i.e., boiler room)	9	18
Elsewhere	18	45
Note: These figures are for actual travel distances, including consideration for furnishings, and must be respected by the fit-out and furnishing arrangements of the spaces when occupied.		

Table 5 – Exit width capacities

Exit width (mm)	Maximum number of people served
750 to 849	60
850 to 949	110
1,050 to 1,099	220
1,100 and greater	Door width (in mm) / 5

Notes: Exit widths are for clear widths measured in accordance with Diagram D1 in ADB as per below:



Where an area has an occupancy of greater than 60 people, at least two exits are to be provided. The largest exit provided is to be discounted when calculating the required width for the remaining exits.

Doors hung to swing against the flow of escaping occupants are to serve a maximum of 60 people, irrespective of the available clear exit width.

Only exits provided with suitable door fastening hardware may be included in escape capacity calculations.

Table 6 – Exit width provisions for the hotel

Floor	Area	Occupants	Provided width (mm)	Capacity
1F - 3F	Existing area + 1 new bedroom	44 per floor	2x ≥850 (swing in either direction)	60
GF	Reception and dining area	209	3x ≥850 (outward swinging)	220
Note: For areas with multiple exits, the exit having the greatest capacity is to be discounted prior to assessing available escape capacity				

3.4 Vertical means of escape from the extended area of the hotel

3.4.1 The available capacity of the stairs is summarised in Table 7. With each of the stairs expected to feature access via a protected lobby or protected corridor in support of the sleeping accommodation, discounting of a stair is not required when considering the capacity of the provided vertical egress routes.

3.4.2 The maximum occupancy of the above-ground floors is estimated to be 460 people in the hotel, based on Table 3. The provided stairs offer ample capacity for escape where capable of serving up to 174 people.

Table 7 – Stair capacities

Stair	Floors served	Provided width (mm)	Capacity (persons)
Refurbished stair	3	≥1,000	230
Existing stair	3	≥1,000	230
Note: Handrails which do not intrude more than 100 mm into the clear escape route width may be included without reducing the considered available stair width.			

3.5 Means of detection and alarm within the residential apartment buildings

3.5.1 The residential apartments are to each be fitted with an automatic fire detection system to meet Grade D1 Category LD1 in BS 5839-6 [8]. This will include heat detection in kitchens, and smoke detection throughout living areas and hallways. Grade D1 systems are recommended such that the dwellings would be suitable as either rental investments or for owner-occupation under BS 5839-6.

3.5.2 The residential common area of each apartment building is to feature a Category L5 detection and alarm system in accordance with BS 5839-1, specified to meet the following:

- Smoke detection will be provided within the common stairs and internal common corridors / lobbies to activate the relevant smoke ventilation equipment (see Section 3.4). No sounders are expected to be provided within this area.
- The ancillary areas should each be provided with either smoke or heat detection (as appropriate) with internal sounder heads, to provide a local alert in the event of alarm activation in this area.
- The external podium area at First floor of Block 2 should be provided with external sounders, to offer alert in the event of fire detection within the covered car park area below.
- The fire alarm panel for the BS 5839-1 system is recommended to be located adjacent to the relevant residential entrance at Ground floor. This will sound an audible alert upon activation of the common detection system.
- It would be recommended that the system be specified to allow remote monitoring by a management company or the responsible person. This could provide an automated warning message (such as via phone call or messaging service) in the event of system activation or fault.

3.5.3 Suitable means of warning are to be provided to private balconies and terraces where these are accessed directly via the living areas. With balconies being of limited size and having a clear view of the internal access space, it would be considered that external alarms or beacons would not be necessary to avoid creating public nuisance during false alarms.

3.5.4 It is recommended that the residential sprinkler systems (see Section 4.2) are interfaced with the associated common area fire alarm panel, to also provide an alert in the event of activation of the sprinkler system.

3.6 Means of escape from within apartments

3.6.1 The single level apartments are to be designed as open-plan units to support design flexibility and future use. ADB1 does not provide recommendations for open-plan apartments so reference is made to the findings of the NF19 study conducted for NHBC [9], which considered the necessary fire safety provisions for open-plan design in order to equal or exceed the level of safety expected by ADB1 through comparison with a protected entrance hall arrangement. The results of the initial NF19 study recommended that:

- Apartments are to be set over a single level only.
- The area of the flat is not to exceed 192 m^2 (i.e., 16 m x 12 m). Kitchens in apartments exceeding 32 m^2 (i.e., 8 m x 4 m) should be enclosed. The ceilings will have a minimum height of 2.25 m.
- Automatic suppression is to be provided in accordance with BS 9251 or BS 8458.
- A Grade D1 Category LD1 system is to be provided to meet BS 5839-6.
- Adequate separation is to be provided between escape routes and cooking equipment.

3.6.2 To support the used of open-kitchen arrangements in larger apartments, where these had not been considered in the original study, further research by BRE (who undertook the initial NF19 study) was commissioned by Trenton Fire and publicly disseminated [10]. This research concluded that open-plan kitchens may also be utilised within the maximum sized apartments considered in the study (three bedrooms, 192 m^2), while also justifying the use of concealed sprinkler heads in open-plan apartments.

3.6.3 As such, the revised specification is utilised for the design of open-plan residential apartments is as follows:

- Apartments are to be set over a single level.
- The area of each apartment will not exceed 192 m^2 (i.e., 16 m x 12 m), which may include open kitchens. Ceilings within the apartments will have a minimum height of 2.25 m.
- Automatic suppression will be provided throughout the apartments in accordance with BS 9251 (see Section 4.2), and this may utilise concealed sprinkler heads.
- A Grade D1 Category LD1 system will be provided in apartments to meet BS 5839-6.
- Adequate separation is to be provided between escape routes and cooking equipment, recommended to be a minimum of 1.8 m clear to a 0.9 m wide escape channel (as per Figure 9) where lift / wheelchair access will be provided within each of the buildings.

3.6.4 Escape from the private balconies or terraces will be via the kitchen and living area. Cooking appliances are to be positioned such that these do not prejudice the escape routes from external terraces, also to be achieved through inclusion of a suitable separation distance as per the guidance in Figure 9.

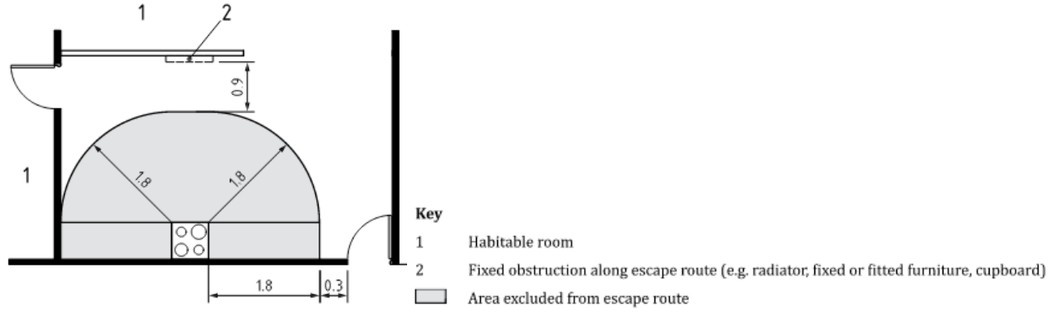


Figure 9 – Recommended separation distance between cookers and escape routes (Figure 2, BS 9991 [11])

3.6.5 The maisonettes at Ground and First Floor of Block 2 have an uppermost floor located at less than 4.5 m above the adjacent ground level. As such, means of escape using escape windows from each bedroom may be used in accordance with Section 3.7(e) of ADB1. Each of the escape windows are to meet Section 3.6 of ADB1, including:

- Having an unobstructed openable area of at least 0.33 m^2, including minimum dimensions of 450 mm for both height and width.
- The bottom of the openable area at no greater than 1.1 m above the finished floor level of the bedroom.
- The area beneath the window should be sufficiently unobstructed such that a portable ladder could be used to facilitate escape, or a connecting roof area that allows access to a suitable position for a ladder.
- The windows may be lockable from inside, though it is recommended that the key is stored within the bedroom and near to the escape window.
- Onward escape being available from below each escape route without requiring an occupant to return through the dwelling of fire origin.

3.7 Means of escape within common areas of residential apartment buildings

3.7.1 The maisonettes at Ground floor of Block 2 feature escape directly to outside, with onward escape in accordance with Section 3.8.

3.7.2 Most of the apartments in Block 2 will have means of escape via a common external deck leading to one of two protected internal stairs, as illustrated in Figure 10, based on Section 7.3 and Figure 11(b) in BS 9991 (as referenced in Section 3.29 of ADB1), including:

- The floor of the access deck should be imperforate, construction from non-combustible materials, and be of and equal fire resistance rating to the compartment floors in the building.
- The maximum distance from the furthest point in an apartment to the protected common stair is limited by firefighting hose laying distances, as discussed in further detail in Section 6.4.
- Smoke is to be able to disperse to atmosphere from the common access deck area, with at least 50% of the area between the soffit and 1.1 m above the access deck to provide evenly distributed venting area.
- Smoke venting is to also be provided at the head of each of the protected common stairs.
- Fire-resisting construction will be provided to separate common escape routes from accommodation areas, as detailed in Section 4.4.

3.7.3 Where the external common decks provide means of escape in a single direction, prior to reaching a point of choice, these parts are to also meet the expectations of Section 7.3.1(e) of BS 9991, including:

- The façade of the apartments adjacent to the single direction of escape route should have a fire resistance rating of at least 30 minutes to a height of at least 1,100 mm above floor level, with apartment entrance doors being self-closing FD30 fire doors.
- The external balustrade should be of imperforate construction to a height of at least 1,100 mm above floor level of the access deck.
- Surface materials (walls, soffits, and balustrade) adjacent to the common escape route should achieve Class A2-s1, d0 or better to BS EN 13501-1 [12].

3.7.4 One apartment at each floor of Block 2 will be accessed via an internal common corridor in accordance with Diagram 3.7(b) in ADB1, with travel through the lobby being limited to a maximum distance of 7.5 m. Smoke venting will be provided to each of the internal common corridors by an automatically opening vent (AOV) in accordance with BS EN 12101-2 [13] on the building façade with a geometric free area of at least 1.5 m^2, to meet Section 3.51(a) of ADB1.

3.7.5 The apartments in Block 3 which each have common means of escape based on Section 3.27(a) and Diagram 3.7(b) in ADB1, as illustrated in Figure 11. This requires that a ventilated corridor is provided between each apartment and the protected common stair, and that travel distances through the common corridors are limited to a maximum of 7.5 m where available in a single direction only.

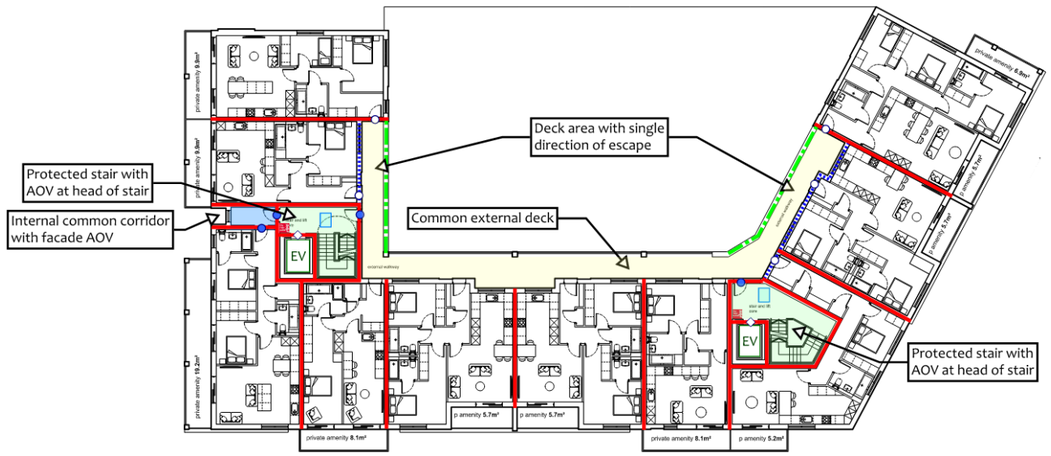


Figure 10 – Common means of escape provisions at Block 2

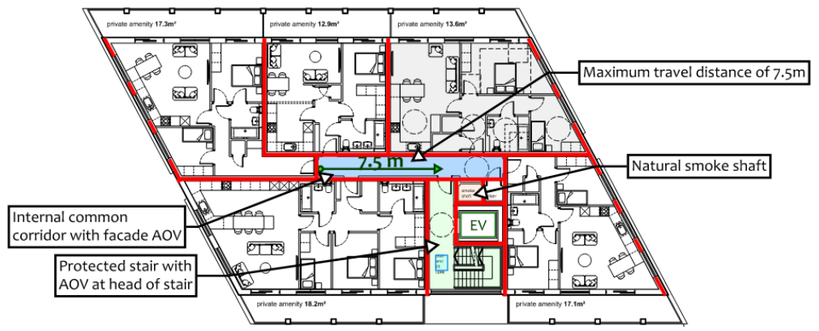


Figure 11 – Common means of escape provisions for Block 3

3.7.6 A natural smoke shaft will be provided to ventilate each of the common corridors in Block 3 in accordance with the expectations of Section 3.51(b) of ADB1, including:

- The smoke shaft has a cross-sectional area of at least 1.5 m^2 with principal dimensions of at least 0.85 m in each direction. This may locally narrow to 1.0 m^2 at internal grills or vents through floor slabs.
- The smoke shaft is to be constructed from Class A1 materials to BS EN 13501-1.
- Shaft corridor vents are to have a minimum geometric free area of 1.0 m^2 and should be located as close to the corridor ceiling as reasonably practicable. These should be certified to have a fire resistance rating of least 60 minutes in accordance with BS EN 12101-8 [14].
- The uppermost floor and head of the shaft will feature a 1.5 m^2 vents (geometric free area), to support venting of the uppermost common corridor in accordance with Section 3.51(a) of ADB1. As such, the uppermost floor served by a smoke shaft arrangement will be the 3rd floor, such that roof level will be greater than 2.5 m above the uppermost floor served by the shaft.
- The top of the smoke shaft should be at least 0.5 m above any structure being within a horizontal radius of 2.0 m at roof level, to ensure that this is not subject to adverse wind pressures.
- Upon smoke detection within a corridor, the vent at the head of the shaft and the vent at the floor of smoke detection should open. All vents of that smoke shaft on other floors should remain closed, even should smoke subsequently be detector at another floor.

3.7.7 The common residential stairs are to each feature an automatically opening vent (AOV) at the head of the stair, having a geometrical free area of at least 1.0 m^2 and being in accordance with BS EN 12101-2.

3.7.8 Residential ancillary areas are to have travel distances in accordance with Table 2.1 of ADB2, as follows:

- Places of special fire hazard (i.e., refuse stores, higher-risk plant): Up to 9 m in a single direction to the room exit, with a further 9 m in a single direction through circulation areas.
- Other areas (i.e., bicycle stores, normal risk plant): Up to 18 m where in a single direction.

3.7.9 The car park and refuse store in Block 2 will be separated from the residential areas by a protected lobby with at least 0.4 m^2 of permanent ventilation, to meet the expectations of Section 3.75 in ADB2. The bicycle store and plant room are accessed from the car park only and does not connect with escape routes.

3.8 Final exits and onward escape

3.8.1 The final exit from the amended protected stair serving the hotel is recommended to have a clear width at least as wide as the stair they serve and to be hung in the direction of escape, to prevent congestion from occurring at the base of the stair.

3.8.2 The residential common stairs are to be retained as fire sterile and should not be used for the storage of deliveries, refuse, etc. Limited displays within the common stairs (such as a notice board) should be provided in accordance with Section 4.1, and should post boxes be included in this area, these should be constructed of non-combustible materials and arranges such that items cannot be stored above or below.

3.8.3 It is considered that a final exit width of 850 mm would be sufficient from common residential stair, with this being the minimum width for unassisted use of the exit by wheelchair users. This would be sufficient for the small number occupants expected to use a residential stair at any one time.

3.8.4 Travel beyond the final exits of a building and toward a place of ultimate safety should not be jeopardised by unprotected openings. This is achieved by provision of escape in a direction from the building to a distance of at least 1.8 m prior to the onward escape route passing in front of unprotected areas of the façade.

3.8.5 Assembly areas are not required to be designated for residential buildings. In the event of a fire, residents are recommended to retreat to a safe distance from the building and away from fire service access routes. For the hotel, assembly areas are to be designated as part of the fire risk assessment process under the Regulatory Reform (Fire Safety) Order 2005, which requires building or demise management to periodically review the location and suitability of the designated assembly area.

3.8.6 In the event of a fire incident, apartment residents are recommended to use the pavement adjacent to the site access road to retreat to a safe distance from the building and away from fire service access routes. Management of the hotel will be responsible for identifying a suitable assembly area for their premises, expected to use a nearby area of public pavement adjacent to the site access road or Long Drive.

3.9 Means of escape for disabled persons

3.9.1 In accordance with the expectations of Policy D5(B5) of the London Plan, an evacuation lift is to be provided to all areas of the development served by a new lift. As such, the above-ground floors in each of the residential blocks are to have access to an evacuation lift. As the proposed extension of the hotel will not introduce any new lift shafts or stair, this expectation would not be applicable to the hotel building.

3.9.2 For the hotel, it should be noted that under the Regulatory Reform (Fire Safety) Order 2005, it is the duty of the responsible person along with their appointed fire safety assistants to assist everyone to a place of relative safety or ultimate safety outside in the event of an emergency.

3.9.3 It is envisaged that hotel occupants will be able to escape to a place away from danger, either unassisted or with assistance from trained hotel staff. There will be a certain proportion of building occupants, such as those who are non-ambulant disabled (e.g., wheelchair users), who will not be able to negotiate stairs unaided. Refuge areas should be provided in which their safety can be assured for a short duration prior to being assisted to safety elsewhere within or outside the building.

3.9.4 Refuge areas of at least 900 mm by 1,400 mm are to be provided in which the safety of occupants can be assured for a short duration prior to being assisted to safety. Refuge areas are to be provided adjacent to each escape stair at each of the above ground levels, located either on the landing of the protected stair or an associated protected lobby / corridor.

3.9.5 Each refuge areas are to be provided with emergency voice communication (EVC) between the refuge and suitable management position (i.e., adjacent to fire alarm panels) to meet BS 5839-9 [15].

3.9.6 In each residential building, the evacuation lift(s) will be accessed from the landing of the residential stair, offering equivalent protection from smoke to that provided to ambulant residents escaping via the protected stair (see also Section 3.7 regarding smoke control).

3.9.7 The evacuation lifts are recommended to be in accordance with BS EN 81-20 [16], BS EN 81-70 [17], and BS EN 81-76 [18] as relevant. The car should be at least Type 2 under BS EN 81-70 to support the evacuation of persons with disabilities.

3.9.8 It is expected that the evacuation lift would utilise an automatic evacuation procedure as discussed in Section 7.4 of BS 9991. If the evacuation lift is required to be procured prior to products being available that comply with BS EN 81-76, then this should meet the expectations of Annex G.2 in BS 9999 [19].

3.9.9 Refuge points for disabled occupants are not expected in the common residential areas, where occupants are expected to wait within their apartments under the 'defend-in-place' evacuation regime. However, with evacuation lifts provided, the stair landing will also be used to offer a suitable waiting space for the evacuation lift should disabled occupants seek to leave the building in an emergency.

3.9.10 Each lift waiting area should also be provided with emergency voice communication (EVC) between the waiting area and a suitable location at the residential entrance.

3.9.11 Management and maintenance staff should consider whether they could adequately escape from the building in the event of a fire. For any member of staff having restricted mobility, it is recommended that a Personal Emergency Evacuation Plan (PEEP) is developed and practised in support of their work at the site.

3.9.12 A General Emergency Evacuation Plan (GEEP) should also be developed for each building in accordance with any future guidance resulting from the recommendations of the Grenfell Enquiry and the ongoing review of emergency evacuation plans for residential buildings. Further information can also be found in BS 8300-2 [20] and the DCLG Publication "Fire Safety Risk Assessment Supplementary Guide – Means of Escape for Disabled People".

3.10 Doors on escape routes

3.10.1 All doors on escape routes in common areas will either not be provided with a securing device or be provided with a securing device that is easily openable without the use of a key and without having to manipulate more than one mechanism.

3.10.2 Any doors fitted with an electronic latch (e.g., operated by a swipe card reader) on the un-secure side should have door latches operated by a handle on the secure side (so people inside the room will always be able to escape without the need for a key in an emergency).

3.10.3 Doors on escape routes will generally be hung to open in the direction of exit, apart from certain instances where the doors will serve less than 60 people, will open not less than 90° and have a swing which is clear of any change in level, other than a threshold or single step on the line of a doorway.

3.10.4 Any fire doors fitted with swing-free door closers or hold-open devices should release on:

- actuation of the fire alarm system or local smoke detector head,
- manual operation or operation of a switch fitted in a suitable position, if necessary, or
- failure of the electricity supplies.

3.10.5 Doors opening onto stairways or corridors will be sited not to encroach on the effective width of any stairway, landing, or corridor.

3.10.6 Vision panels are to be provided in doors subdividing corridors on escape routes.

3.10.7 Fire doors are to be specified in accordance with Section 4.4 and Table 9.

3.11 Emergency lighting

3.11.1 Emergency lighting will illuminate all occupiable areas (excluding bedrooms and apartments), common evacuation routes (internal and external as necessary), and essential areas including plant areas. It will illuminate a safe exit route including fire exits, fire alarm call points, changes in level or direction and firefighting equipment.

3.11.2 Emergency lighting will be installed in accordance with the recommendations of BS 5266 [21], BS EN 1838 [22], and BS EN 60598-2-22 [23]. Lighting to escape stairs should be on a separate circuit from that supplying any other part of the escape route.

3.11.3 Primary and emergency lighting will also be required for any external escape routes that will not be lit by surrounding street lighting.

3.11.4 Discharge lighting installations may operate at voltages that are a hazard to firemen. An exterior discharge lighting installation, or an interior discharge lighting installation operating unattended, operating at a voltage exceeding low voltage (as defined in Statutory Instrument number 1018, part of the Building Regulations), should be controlled by a firefighter's emergency switch.

3.12 Fire safety signage

3.12.1 Fire safety signs will be installed where necessary to provide clear identification of fire precautions, fire equipment and means of escape in a fire. All parts of the development will be fitted with appropriate fire safety signage to comply with The Health and Safety (Signs and Signals) Regulations 1996, i.e., signage to be specified in according to BS ISO 3864-1 [24], BS 5499-4 [25] and BS 5499-10 [26].

3.12.2 The purpose of fire signs is to direct persons towards fire exits, or to provide specific information or warning about equipment, doors, rooms, or procedures. They should be recognisable, readable, and informative, as they convey essential information to regular and infrequent users of the premises, and the fire and rescue service. Fire notices should be permanently displayed in conspicuous positions throughout the building, including storey exits, and should provide information specific to the building.

3.12.3 All fire doors, other than lift landing doors and residential apartment entrance or internal doors, will be marked with an appropriate fire safety sign conforming to BS 5499-1 [27] (white on blue) according to whether the door is:

- to be kept closed when not in use ('FIRE DOOR - KEEP SHUT').
- to be kept locked when not in use ('FIRE DOOR - KEEP LOCKED').
- held open by an automatic release mechanism ('AUTOMATIC FIRE DOOR - KEEP CLEAR').

3.12.4 Any emergency securing device fitted to doors on escape routes are to be provided with instruction notices, adjacent to the device, indicating the method of operation.

3.12.5 Section 15.13 to 15.16 in ADB1 recommends that residential buildings having an occupied floor at greater than 11 m in height should be provided with additional wayfinding signage for the fire and rescue service. As such, it is recommended that each apartment building includes:

- Floor identification signs at each landing of the protected stair and each common lobby accessed from the firefighting lift, formatted in accordance with Section 15.14 and 15.15 in ADB1.
- Flat / room indicator signs, located beneath the floor indicator signs and indicating the flats / rooms present at each level. These should be formatted in accordance with Section 15.16 in ADB1.

4. Internal fire spread

4.1 Internal wall and ceiling linings

4.1.1 During the development of a fire in a building, the choice of material for the lining of walls and ceilings can significantly affect the spread and growth of fire. Restrictions are placed on the wall and ceiling lining materials within certain areas of buildings to limit the spread of fire and production of smoke in these areas.

4.1.2 It is particularly important that in circulation spaces, where the rapid spread of fire is most likely to prevent occupants from escaping, the surface linings are restricted, by making provision for them to have low rates of heat release and surface spread of flame.

4.1.3 All wall and ceiling linings in the building should meet the recommendations summarised in Table 8 below.

4.1.4 The surface linings of walls and ceilings should generally conform to the classification recommended above for the appropriate location. However, parts of walls in rooms may be of a lower class but not lower than European Class D-s3, d2, provided that the area of linings having the lower classification does not exceed half of the floor area of the room, subject to a maximum of 20 m^2 in bedrooms / apartments and 60 m^2 in other non-residential areas.

4.1.5 No thermoplastic rooflights shall be used at the development.

Table 8 – Reaction to fire classification expectations

Location	Minimum classification to BS EN 13501-1
Within hotel bedrooms or apartments:	
Small rooms ≤ 4 m^2	Class D-s3, d2
Other rooms	Class C-s3, d2
Within non-residential areas:	
Small rooms ≤ 30 m^2	Class D-s3, d2
Circulation spaces (including corridors and stairs)	Class B-s3, d2
Other rooms	Class C-s3, d2

4.2 Automatic fire suppression

4.2.1 Automatic suppression system is not required within the hotel by ADB2 for a Residential (other) premises based on the height of Block 1. It is understood that the existing building does not feature automatic suppression, and no new suppression system has been requested as part of the extension works.

4.2.2 The uppermost floor of each of the apartment buildings will be circa 11.7 m above access level. As such, the buildings each features a floor at greater than 11 m above ground level and automatic suppression is to be provided in Blocks 2, 3.1, 3.2, and 3.3 to meet the expectations of Section 7.4 and Table B2 in ADB1.

4.2.3 Automatic suppression is to be provided by a BS 9251 [28] sprinkler system in each residential apartment building. In accordance with the recommendations of Table 1 in BS 9251 a Category 2 system is to be provided within each building, including the design density in Footnote B) of Table 2 in BS 9251 (except for the areas set out in Section 5.4 of BS 9251).

4.2.4 This fire statement does not expect sprinklers to be installed within the common corridors or stairs of the apartment buildings, which should be maintained as fire sterile. This is supported by guidance in Note 2 of Table B2 of ADB1, which is considered as extending the allowable unprotected areas set out in BS 9251.

4.2.5 In accordance with Table 2 in BS 9251 a minimum water supply duration of 30 minutes is to be provided for the Category 2 sprinkler system.

4.2.6 A single zone valve may be used for each residential floor of each apartment building, as opposed to one per apartment, based on the recommendations and commentary in Section 5.18 of BS 9251. This is supported by the provision of Category LD1 detection and alarm in each apartment as detailed in Section 3.2.

4.2.7 The non-residential areas of each apartment building (excluding the car park in Block 2) are to be suppressed in accordance with expectations of Sections 5.5 and 5.6 and Tables 3 and 4 of BS 9251. As these ordinary hazard areas have uses as per Table 4 of BS 9251 and are subdivided into compartments of no greater than 100 m^2, these may be served by the BS 9251 system.

4.2.8 The car park in Block 2 will be a 'separated part', being structurally separated and featuring a compartment wall between the car park and the wider building at Ground floor. No suppression is proposed within the car park area, supported by separation of this area from the adjacent residential building.

4.2.9 The residential sprinkler systems may be shared with the boosted cold-water systems where arranged in accordance with the expectations of BS 9251. The volume of stored sprinkler water may also be reduced should suitable infill water be available. Further review of the required stored water volumes would be expected during detailed design following planning.

4.3 Structural fire resistance

4.3.1 Elements of structure within each of the apartment and hotel buildings should be designed and / or protected to achieve 60 minutes fire resistance in accordance with Table B2 of ADB1, where each featuring an uppermost floor no greater than 18 m in height.

4.3.2 Elements of structure that only support a roof do not generally require fire resistance. Structure is considered to support more than only a roof if it supports a load other than the roof itself (e.g., rooftop plant), or is essential to the stability of a compartment or other fire resisting wall (internal or external).

4.3.3 When determining the elements required to be fire-resisting, the structural engineer may utilise safety factors for the fire design loading case. These are typically less onerous than for the maximum ambient design loading case for primary members, or less onerous than the wind design loading case for stabilising members such as cross-bracing.

4.4 Fire-resisting construction and fire doors

4.4.1 No limit is placed on the area of compartments for Residential (Other) buildings in Section 8.10 of ADB2. As such, each floor within the hotel may be formed as a single compartment.

4.4.2 All floors within the hotel and residential buildings are recommended to be compartment floors, where occupants will sleep within each building. All shafts (e.g., risers, lift shafts and stair cores) are to be constructed as protected shafts where these will pass through compartment floors.

4.4.3 The exception to the above is floors located internally within the duplex maisonettes in Block 2, which are to be fire-resisting floors in support of inclusion of an internal protected stair within the dwelling.

4.4.4 A compartment wall is to be provided between the residential / ancillary areas and the car park at Ground floor of Block 2, to separate these parts in support of the suppression strategy for the block (see Section 4.2).

4.4.5 Elements of fire-resisting construction are to be provided in accordance with the recommendations in Table 9, and as indicated on the fire safety drawings included in Appendix A.

4.4.6 BR 128 [29] contains advice for the nominal fire-resistance ratings of masonry walls. New drylining partitions or floor systems should be selected using a manufacturer's guidance documents for complete systems (such as the White Book from British Gypsum or the Knauf Manual), which will also provide a fire-resistance rating for the selected build-up.

4.4.7 Fire door assemblies are to comply with BS 476-22 [30] or BS EN 1634-2 [31] for fire resistance, and where applicable BS 476-31 [32] or BS EN 1634-3 [33] for smoke leakage. Timber fire doors should be installed in accordance with the expectations of BS 8214 [34].

4.4.8 Doors within the residential apartments are not required to have self-closing devices. It is recommended that doors are closed at night, or in the event of a fire alarm activation the first occupant to response then closes any doors which may assist with containing the fire.

Table 9 – Periods of fire resistance for fire-separating elements (in minutes, for loadbearing, integrity, and insulation where exposed from each side separately unless otherwise stated)

Element requiring fire-resistance	Fire resistance rating	Fire doors
Elements of structure	60	N/A
Compartment floors / fire-resisting floors	60 (from underside)	N/A
Compartment walls	60	FD60
External walls (if required by Section 5.3): Less than 1,000 mm from a point in the relevant boundary More than 1,000 mm from the relevant boundary	 60 60 integrity, 15 insulation	 FD60 N/A
External walls adjacent to common access decks with escape in a single direction, to at least 1,100 mm above floor level	30	FD30
Protected shafts – common stairs, service risers	60	FD30S
Protected shafts – lifts	60	E30 (Note 1)
Protected shafts – smoke shafts	60	60 (Note 2)
Separating apartments and residential common areas	60	FD30S
Separation of ancillary areas (i.e. cycle stores, refuse stores)	60	FD60
Protected lobbies or corridors within the hotel	30	FD30S
Places of special fire hazard	30	FD30S
Enclosure of life safety plant	120	FD120
Cavity barriers	30 integrity, 15 insulation	N/A
* Lift doors may also be tested to BS EN 81-58 [35]		

4.5 Concealed spaces and cavity barriers

4.5.1 Cavity barriers are provided in concealed spaces to prevent the rapid spread of unseen fire or smoke in voids, and to prevent the spread of fire around compartmentation via voids.

4.5.2 All cavity barriers are to have a fire resistance rating of at least 30 minutes for integrity (E) and 15 minutes for insulation (I). Cavity barriers should be at no greater than 20 m centres in roof spaces or cavities with Class C-s3, d2 linings or better to BS EN 13501-1, as well as being located to align with fire-resisting construction as indicated in Figure 12. For other linings, the spacing between cavity barriers should be reduced to 10 m.

4.5.3 Cavity barriers provided around openings may be formed of:

- steel at least 0.5 mm thick or timber at least 38 mm thick (not permitted in external walls); or
- polythene-sleeved mineral wool, or mineral wool slab under compression when installed cavity; or
- calcium silicate, cement-based or gypsum-based boards at least 12 mm thick.

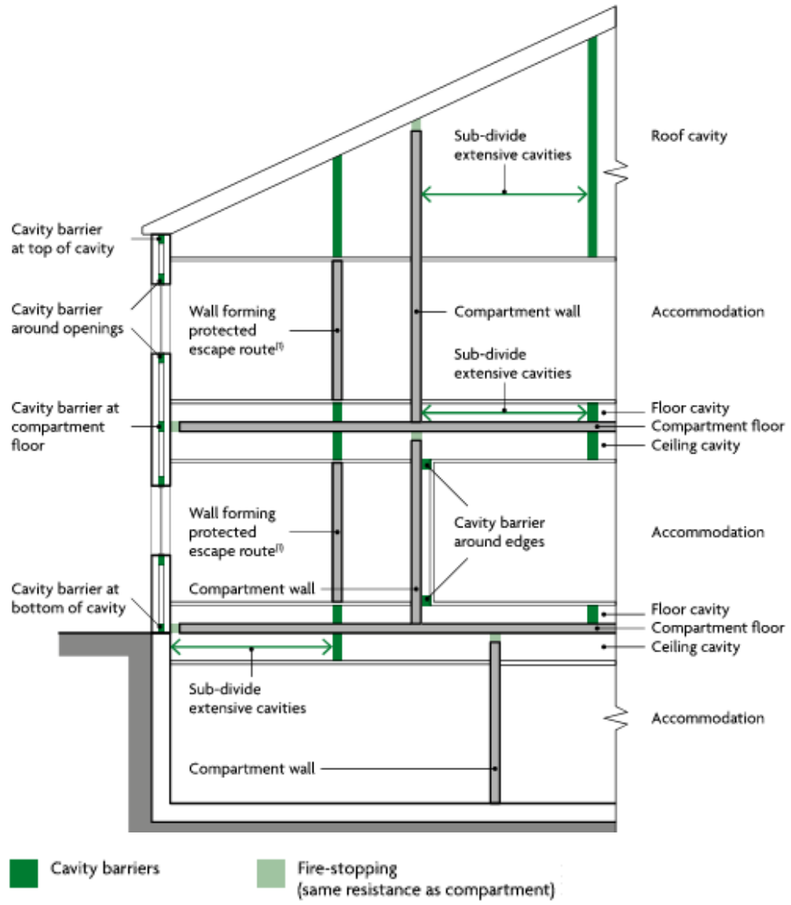


Figure 12 – Generic cavity barrier expectations

4.6 Fire-stopping and penetrations through fire-resisting construction

4.6.1 Fire-stopping should be provided at the junction of fire-separating walls and external walls to maintain the fire resistance period of fire-separating walls and prevent a fire from travelling around the junction and into the neighbouring space. Penetrations through lines of fire-resisting separation should also be fire-stopped using a product or system that will achieve the same fire resistance rating as the penetrated wall or floor.

4.6.2 To maintain the fire resistance rating of separating construction, any pipe or cable penetrations through lines of fire-resisting separation should be fire-stopped in accordance with one of the following methods set out by Section 9 in ADB1 or Section 10 in ADB2, unless located within a protected shaft. Figure 13 is provided to assist in the interpretation of the above recommendations.

- for pipes of any diameter, a proprietary seal which has been shown by test to meet the fire-resistance rating of the wall, floor, or cavity barrier for the penetration circumstance; or
- for pipes with a restricted diameter, keeping the opening as small as possible and providing fire-stopping around the pipe. The nominal interior diameter of the pipe should not be more than the relevant dimensions given in Table 9.1 in ADB 1 or Table 10.1 in ADB2.

4.6.3 In the hotel building, where a duct crosses fire-resisting construction protecting escape stairs, corridors, lobbies, or compartment walls, dampers on fusible links are not sufficient. Either combined fire-and-smoke dampers activated upon smoke detection (ES-type dampers) are provided, or the duct should be fire-resisting / enclosed within fire-resisting construction.

4.6.4 For other areas of ductwork in the hotel building, ADB2 recommends that these be provided with both smoke detector controlled and thermally actuated mechanisms unless:

- A Category L1(M) detection and alarm system in accordance with BS 5839-1 is provided; and
- All occupants can be expected to make an unaided escape.

4.6.5 As unaided escape is not expected from each of the above-ground floors for non-ambulant disabled persons (i.e. no evacuation lift will be available), automatic fire-and-smoke dampers are expected to be utilised where ducts cross fire-resisting construction in the hotel building.

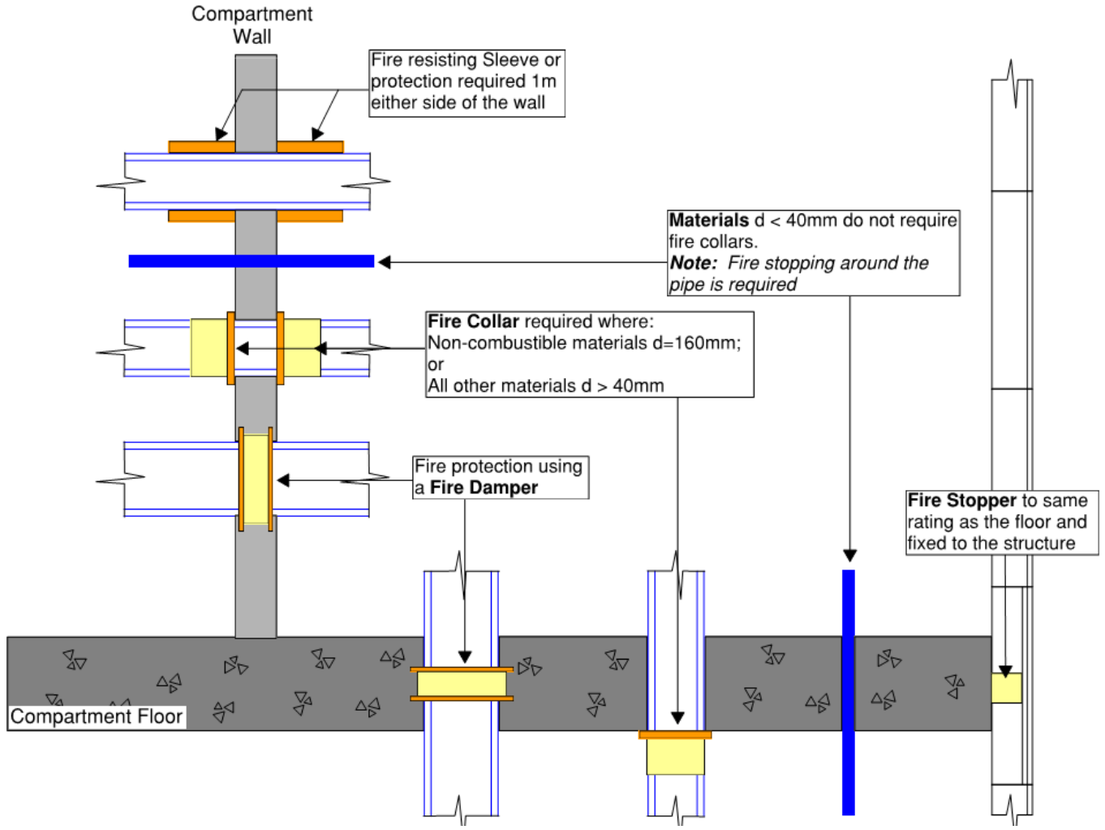


Figure 13 – Generic fire-stopping expectations

5. External fire spread

5.1 Construction and materials used for external walls

5.1.1 To prevent the spread of flame across the surface of building at a speed which may pose a threat to life, materials used for the external walls of the residential apartment buildings (each being greater than 11 m in height) are to meet the following recommendations:

- External surfaces of walls are to achieve Class A2-s1, d0 or Class A1 to BS EN 13501-1.
- Insulation materials are to achieve Class A2-s1, d0 or Class A1, except for those insulation materials located between two leaves of brick or concrete each being at least 75 mm thick which are not required to meet any set level of classification to BS EN 13501-1.

Other materials used for the external walls (such as structural elements, sheathing or gypsum boards, or membranes) would be permitted to be combustible provided these meet the overall intent of Building Regulation B4, which states that external walls should be constructed to adequately resist fire spread.

5.1.2 The hotel building has an uppermost floor at less than 11 m above ground level, and should meet the following expectations for external wall materials:

- Class B-s3, d2 or better to BS EN 13501-1 where located within 1,000 mm of the site boundary or used as protected area within Section 5.3; else
- No restriction.

For buildings less than 11 m to the uppermost floor no restrictions are placed on the combustibility of materials within the external wall. As such, the external wall materials may be combustible provided these meet the overall intent of Building Regulation B4, which states that external walls should be constructed to adequately resist fire spread. As such, combustible materials should not be used for construction of new external walls or external wall attachments without prior consideration and suitable care.

5.1.3 External walls are also expected to have cavity barriers in accordance with Section 4.5, located to align with internal fire resisting construction or to limit the unbroken length of external wall cavities.

5.1.4 The apartment buildings will feature external balconies, being defined as an occupiable external space with external space below, which are to be provided in accordance with Section 12.2 of BS 8579 [36]. These should be constructed of materials which achieve Class A2-s1, d0 or Class A1 to BS EN 13501-1, though minor elements such as seals, gaskets, and laminated glass may be exempted from this expectation if deemed to present a sufficiently low risk of fire spread. Balconies with an open deck structure should also be provided with a non-combustible, imperforate soffit below to reduce the risk of fire spread from below.

5.2 Roof coverings

5.2.1 Roof coverings are to be resistant to fire spread where being either close enough to a boundary to be at risk of ignition from a fire in another building, or where needed to resist fire spread between compartments via the roof coverings above.

5.2.2 Roof coverings 1.5 m either side of compartment walls should achieve an $B_{ROOF}(t4)$ rating in accordance with Diagram 8.2 of ADB2. The remaining areas should meet the recommendations of Table 14.1 in ADB2, as summarised in Table 10. In general, it would be recommended that all roof areas achieve $B_{ROOF}(t4)$.

5.2.3 Balustrades of terraces are recommended to be constructed from materials that would achieve Class A1 or Class A2-s1, d0 to BS EN 13501-1, though the use of laminated glazing may also be considered where supported by a suitable risk assessment during detailed design as per Section 12.3 in BS 8579.

5.2.4 Roof coverings may constitute a number of materials (but does not include the roof structure as a whole). Therefore, the top covering material should be considered in tandem with the substrate(s) to assess the performance of the coverings. The covering system as a whole is to meet the provisions of Section 5.2.2.

5.2.5 Should green roofs (including brown or sedum roofs) are used at the development, as an alternative to the $B_{ROOF}(t4)$ classification these could also be provided in accordance with the GRO code [37], including:

- Having a growing medium / substrate of at least 80 mm thick.
- Have a growing medium / substrate that features <20% organic content and no peat.
- Having a growing medium / substrate that has been tested in accordance with BS 8616 [38].
- Have fire breaks (i.e., gravel areas) of a least 300 mm around rooflights, soil pipes, rainwater outlets, and of at least 500 mm where adjacent to openable windows or doors. Large areas of green roof should be subdivided by 1 m wide fire breaks such that no single area is greater than 40 m in length.
- Fire breaks should consist of 20 – 50 mm rounded pebbles to a depth of at least 50 mm or concrete paving stones at least 40 mm thick placed directly onto the drainage board. No substrate should be present within the fire break area.

5.2.6 Any photovoltaic panels should also be in accordance with roof classification guidance. If the photovoltaic array results in live cables with a current / voltage that may pose a hazard to firefighters, a remote isolation switch should be provided to allow these to be disconnected prior to commencement of wet operations.

Table 10 – Limitations on roof coverings

Distance from boundary	Allowable roof covering classifications to BS EN 13501-5 [39]		
	$B_{ROOF}(t4)$	$C_{ROOF}(t4)$	$D_{ROOF}(t4)$
Less than 6 m	✓	×	×
At least 6 m	✓	✓	×
At least 20 m	✓	✓	✓

5.3 Space separation and unprotected areas of the façade

5.3.1 Should a fire occur, heat will radiate through openings in the external walls. This heat can be enough to set fire to nearby buildings. To reduce the likelihood of this occurring, the Building Regulations guidance place limits on the area of the external elevation with no fire resistance, known as the unprotected area.

5.3.2 The building is to be designed and constructed with sufficient space separation and / or fire-resisting construction in the external façade to adequately limit the likelihood of fire spread to, or from, the adjacent relevant boundaries.

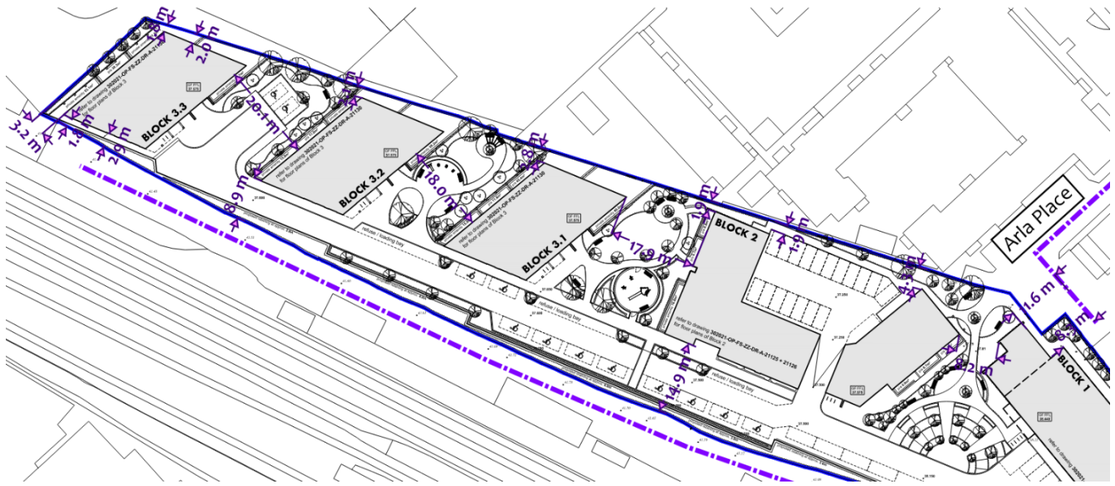


Figure 14 – Distances to relevant boundaries

5.3.3 The relevant boundaries are the reference distances at which the potential for fire spread is considered, being the site boundary or a notional boundary created at the centreline of an adjacent road, railway, or other area with a sufficiently low likelihood of development. These are indicated on Figure 14, being the centreline of the access road, Long Drive and Arla Place for southwest, southeast and part of the northeast façade respectively, and the site boundary elsewhere.

5.3.4 Compartment walls and floors will reduce the extent of façade likely to be radiating at any one time. Following the recommendations of BR 187 [40], the lower emitted radiation of 84 kW/m^2 may be used for hotel, residential, and sprinkler plant areas (reduced to 42 kW/m^2 in sprinklered residential buildings), with the higher value of 168 kW/m^2 used for storage areas (reduced to 84 kW/m^2 within sprinklered areas).

5.3.5 Fire-resisting external façades located within 1.0 m of the site boundary are to achieve a fire resistance rating of at least 60 minutes for integrity and insulation, as per Table 9. The exception to this would be any small unprotected areas that may be disregarded in accordance with Diagram 11.5 in ADB1.

5.3.6 For façades located at least 1.0 m from the boundary, the methodology in BR 187 is used to analyse the available distance between the building and the boundaries, as indicated in Figure 14. The findings of this analysis for the various compartments are presented in Table 11, which calculates the percentage of the façade permitted to be unprotected based on the available separation distances.

5.3.7 Following this analysis, for external walls located at least 1.0 m from the site boundary, the provided space separation, compartmentation, and suppression will typically be sufficient for preventing external fire spread without support from fire-resisting areas of façade. The exception is for the north-east façade of the car park at Block 2. Fire-resisting construction should be provided to limit the unprotected areas in accordance with Table 11, to meet a minimum of 60 minutes for integrity and 15 minutes insulation in accordance with Table 9 in Section 4.4. This would allow up to 20 m^2 of unprotected areas at the rear of the car park to also serve as natural smoke and exhaust ventilation as discussed in Section 6.6.

Table 11 – Summary of external fire spread assessment

Area (Façade)	Enclosing rectangle (m)		Distance to boundary (m)	Permitted % of unprotected area
	Width	Height		
Block 1 (NW)	≤11.6	≤3.0	≥4.1	100
Block 1 (NE)	≤18.8		≥8.3	100
Block 1 (SW)	≤15.6		≥10	100
Block 2 apartments (NW)	≤13.2	≤2.5	≥8.9	100
Block 2 apartments (NE)	≤11.3		≥1.9	100
Block 2 apartments / maisonettes (SE)	≤8.4	≤5.5	≥4.1	100
Block 2 apartments / maisonettes (SW)	≤8.4		≥10	100
Block 2 car park (NE)	≤34	≤2.5	≥1.9	24 (20 m^2)
Block 3 apartments (NW)	≤9.4	≤2.5	≥3.2	100
Block 3 apartments (NE)	≤9.3		≥1.8	100
Block 3 apartments (SE)	≤11.3		≥8.9	100
Block 3 apartments (SW)	≤9.4		≥1.8	100
Block 3 ancillary areas (SE)	≤5.3		≥8.9	100
Block 3 ancillary areas (SW)	≤7.6		≥3.2	100

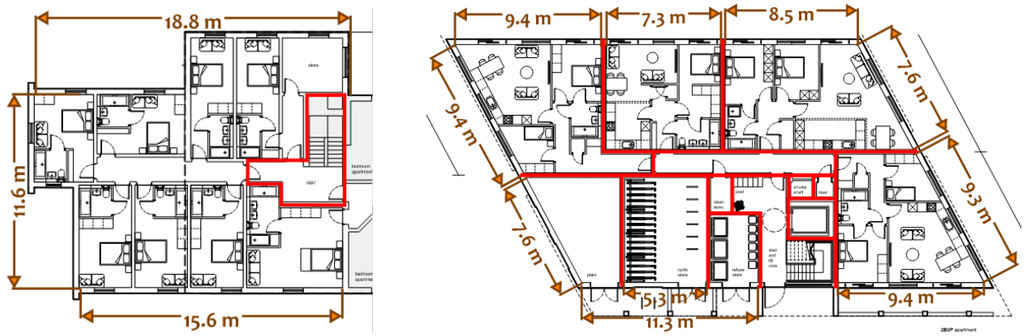


Figure 15 – Typical dimensions of the extension at Block 1 (left) and Block 3 (right)

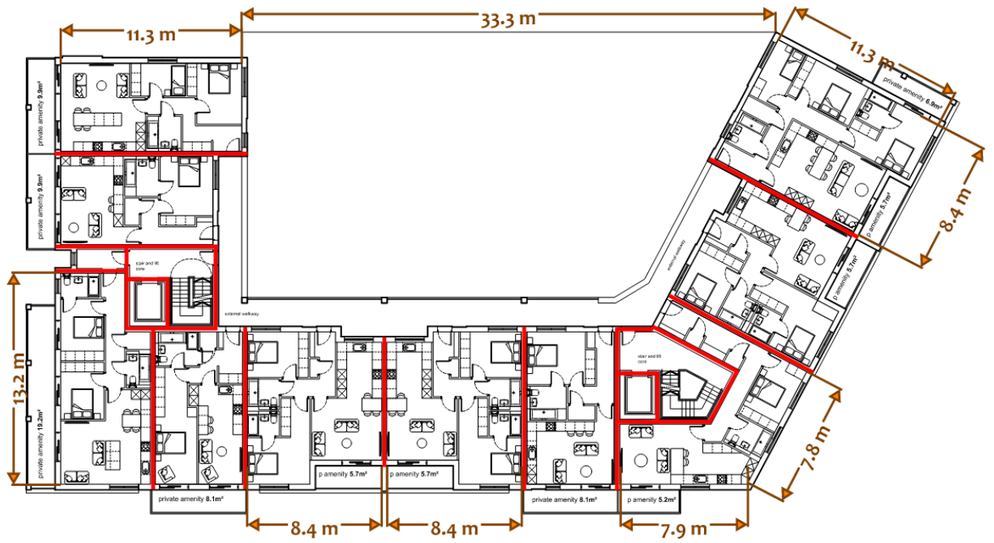


Figure 16 – Typical compartment dimensions in Block 2 at Upper floor

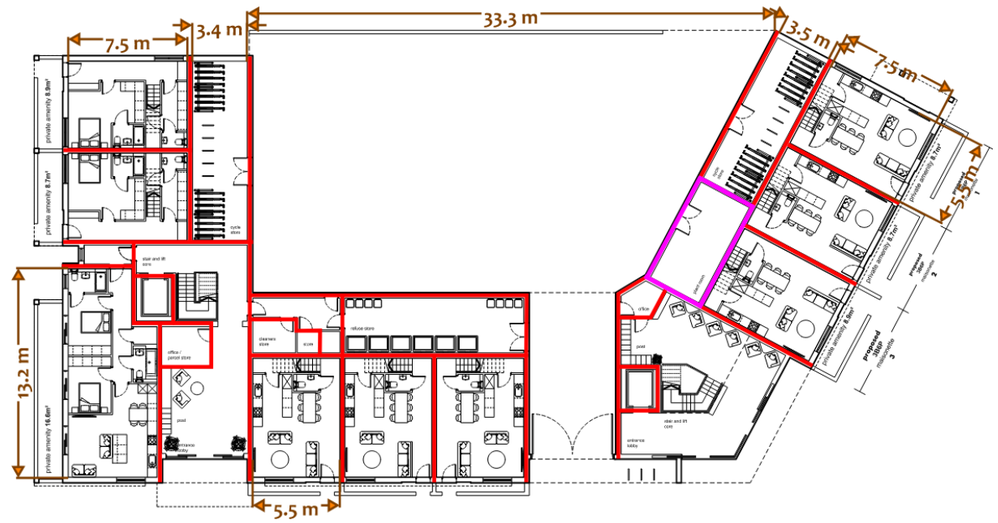


Figure 17 – Compartment dimensions in Block 2 at Ground Floor

6. Fire service access and facilities

6.1 Notification and information for the fire and rescue service

6.1.1 In the event of a fire, the local Fire and Rescue Service (FRS) are expected to be notified by a member of building management staff or apartment resident upon confirmation of a fire.

6.1.2 A secure information box for storing premises information for use by the fire and rescue service during an incident to be provided at the entrance foyer to each of the apartment buildings, where each building features a floor at greater than 11 m in height. Guidance for the design and provision of the information box is available from the FIA [41].

6.2 Fire appliance access to the site

6.2.1 Vehicle access for fire appliance will be available using the site access road to the front of each building as indicated on Figure 18. This routes will meet the fire appliance access guidance given in London Fire Brigade Guidance Note 29 [42], as summarised in Figure 18. A turning area will be provided at the end of the site access road in front of Block 3.3, such that long reversing distances are not required at the site.

6.2.2 The hotel (Block 1) has a total floor area of between 2,000 m^2 and 8,000 m^2, and an uppermost floor at less than 11 m above ground level. As such, Table 15.1 of ADB2 recommends that access for a fire appliance be available to at least 15% of the building perimeter. This will be achieved where access is provided to circa 38% of the façade as illustrated on Figure 18.

6.2.3 The residential apartment buildings will each feature dry rising mains in each common stair, as detailed in Section 6.4. Fire appliance access is to be provided to a location that is within 18 m of and having clear view of each dry riser inlet as also indicated in Figure 18.

6.3 Firefighting water supplies

6.3.1 As a mature urban site, the existing water supply provisions for firefighting will continue to serve the hotel (Block 1). This will be via a nearby public hydrant located adjacent to Long Drive as indicated in Figure 18.

6.3.2 Section 16.8 in ADB2 recommends that an existing fire hydrant be located within 100 m of a proposed building. This is achieved for Block 1 where the existing hydrant is located at circa 25 m from the building.

6.3.3 From Blocks 2, 3.1, 3.2, and 3.3, a new fire hydrant is to be provided such that each of the buildings will be located within a maximum distance of 90 m from the new hydrant to meet the guidance in Section 14.8 of ADB1. The new hydrant is to be located approximately as indicated in Figure 18, and should be installed in accordance with the expectations of BS 9990 [43].

6.4 Firefighting facilities within the development

6.4.1 As the hotel and residential buildings will not feature an occupied floor at greater than 18 m above ground level, no firefighting shafts (including firefighting stairs and firefighting lifts) are expected by virtue of the uppermost floor heights at the development.

6.4.2 Firefighting access to the Hotel is supported via perimeter vehicle access as discussed in Section 6.2. The protected stairs would be available to support firefighting access into the building if considered necessary.

6.4.3 For each residential building, firefighting facilities will include:

- One or more protected common stairs having a clear width of at least 1,000 m. Access to each of the protected stairs will be available at Ground floor via the resident's entrance lobby.
- One or more dry rising mains, each in accordance with BS 9990 and located within the protected stair enclosure with outlets located at each floor level. The maximum hose laying distance at the proposed development will be circa 31.3 m, as indicated on the fire safety mark-ups in Appendix A. This is within the maximum distance of 45 m recommended in Section 14.3 of ADB1.
- Smoke control to the protected stairs, as discussed in Section 3.7.
- Automatic suppression throughout the building, as discussed in Section 4.2.
- A firefighting floor indicator signage as detailed within Section 3.12.

6.4.4 Where measured along a route suitable for laying hose for the maisonettes at Block 2, a distance of ~49.3 m will be present from the external hardstanding area to the furthest point within the furthest maisonette, as indicated on the fire safety marked-up drawings in Appendix A. This is considered reasonable where supported by automatic suppression in each maisonette, and where access to the maisonette will be directly from outside air (rather than from within an internal common area of the building).

6.4.5 The maximum hose laying distance within an ancillary area is circa 42.3 m to the bicycle store of Block 2, being within the maximum distance of 45 m recommended in Section 14.3 of ADB1.

6.5 Basement smoke clearance

6.5.1 No basement is provided at the development, and as such, no means of basement smoke venting are expected or proposed.

Table 12 – Pump-type firefighting appliance access requirements from GN29

Minimum access route specification	Dimension
Width between kerbs	3.7 m
Width between gateways	3.1 m
Turning circle between kerbs	16.8 m
Turning circle between walls	19.2 m
Clearance height	3.7 m
Carrying capacity	14 tonnes
Maximum reversing distance	20 m

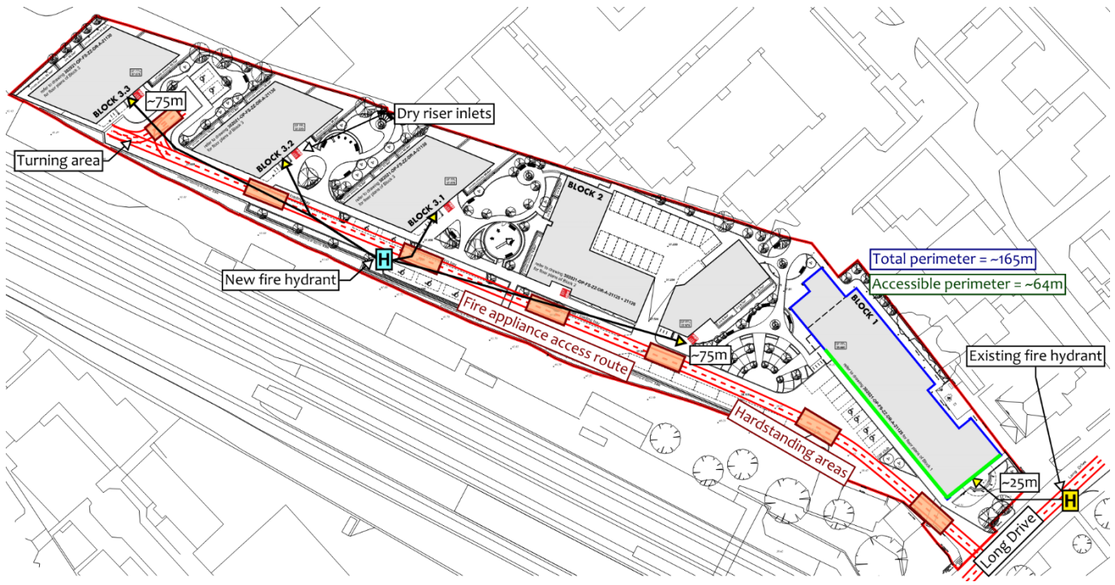


Figure 18 – Firefighting vehicle access and water supplies

6.6 Car park smoke clearance and electrical vehicles

6.6.1 The open-sided car park at Block 2 is to include natural venting to comply with the expectations of both Section 11.2 of ADB2 and Section 7.1 of BS 7346-7 [44]. To also support day-to-day venting, this requires:

- Permanent natural ventilation equivalent to at least 5% of the floor area of the car park, with at least 2.5% of the venting to be provided at opposing walls (i.e. 1.25% at each wall).
- With the car park having an area of ~473 m^2, at least 23.6 m^2 of natural venting shall be provided. This will include at least 5.9 m^2 of venting in each of the rear wall and the car park entrance, to meet the cross-venting expectation, alongside at least 11.8 m^2 of further natural ventilation to meet overall area of venting required. The entrance of the car park provides ~14 m^2 of ventilation, and at least 10 m^2 of further open-side ventilation area should be evenly distributed along the rear wall of the car park.

6.6.2 The car park may be used by residents with electric vehicles and is expected to be subject to the expectations of Part S of the Building Regulations. Measures above and beyond the expectations of ADB1 for additional robustness in the event of an electric vehicle fire are to include:

- Part S of the Building Regulations is understood to current expected cable routes to be installed for futureproofing the provision of charging points within covered car parks.
- Robust passive fire protection is to be provided between the car park and wider building. Compartmentation separating the car park is to have a fire resistance rating of at least 60 minutes, and the podium structure above the car park is to be structurally separated from the wider residential building.
- Natural venting would be available to the car park for day-to-day venting, offering double the ventilation area that would be expected as a minimum for the venting of heat and smoke in fire safety guidance.
- Drainage should be in a direction that is away from the designated charging point areas, lowering the likelihood that standing water in this area poses a risk of electrocution.
- An isolation switch is to be provided in an easily accessible location close to the car park entrance, to allow the fire service to cut electricity supplies for the charging points prior to conducting wet firefighting operations.

6.7 Stand-by power supplies

6.7.1 All powered life safety systems will have emergency back-up power in accordance with BS 8519 [45] or in accordance with their associated design standard.

6.7.2 Smaller items of equipment are expected to utilised batteries capable of a continuous stand-by supply in accordance with the relevant design standard and be fully rechargeable within a period of 24 hours.

6.7.3 The residential sprinkler system may utilise a single incoming power supply where installed in accordance with Section 5.12.2 and Figure 7 in BS 9251, as deemed sufficient for a Category 2 sprinkler system.

6.7.4 Section 20.4 in BS 8519 and Section G.2.2 in BS 9999 note that where no other life safety system which requires an external secondary power supply is present, two protected and diverse supplies from a single intake may be considered for an evacuation lift (subject to designer risk assessment during detailed design).

7. Additional fire safety guidance

7.1 Fire safety information and future development

7.1.1 This Fire Statement details an appropriate level of information to support a planning application for a development of this scale and nature.

7.1.2 Following planning, this report should be provided to the design team responsible for progressing the scheme through detailed and technical design. The design team will be required to seek approval for the development under the Building Regulations by the appointed building control authority, including consultation with the local fire and rescue service.

7.1.3 Further development of the fire safety provisions set out within this report is expected during the Building Regulations approvals process, including the selection of specific products, systems, or materials to fulfil the expectations of this report.

7.1.4 Where any modification to the fire safety provisions set out in Section 3 to 6 of this report are proposed during further design, these should not be incorporated unless agreed in writing by the appointed building control authority.

7.1.5 The as-built fire safety strategy for the buildings, as agreed by the appointed building control authority, should be documented and provided to the Responsible Person for the building as defined in the Regulatory Reform (Fire Safety) Order 2005 (as amended), to meet the expectations of Regulation 38 of the Building Regulations and principles of the Golden Thread of Information. This should be provided as part of a wider package of building information including, but not being limited to:

- This Fire Statement report
- The as-built fire safety strategy report and associated fire strategy drawings
- Manufacturer's literature for fire safety products and equipment provided at the building
- Drawings indicating the installed locations of fire safety products and equipment
- Manufacturer's literature detailing suitable methods of operation and maintenance of fire safety products and equipment

7.1.6 It is recommended that the above information is provided to the Responsible Person in a digital format that may be retained using a cloud-based or other remote service, to reduce the potential for loss of information in the event of fire, flooding, theft, etc.

7.1.7 The Responsible Person for each building is recommended to ensure that periodic maintenance of the fire safety equipment in the building is undertaken in accordance with the manufacturer's recommendations. The information provided within the Regulation 38 documentation may be used to assist maintenance professionals in identifying the systems, spare parts, operational procedures, maintenance procedures, etc. for the various systems present.

7.1.8 Any subsequent amendment to the fire safety provisions at the building will require consent from an appointed building control authority. The building owner should consult with a suitable building control authority or fire safety professional prior to conducting any future modification works, to ensure that these will be in accordance with any relevant fire safety legislation in force at that time.

7.2 Management and maintenance of fire safety systems within dwellings

7.2.1 Within each of the residential dwellings, the owner / occupier is expected to be responsible for the management and maintenance of a suitable level of fire safety. This may include:

- management to minimise the incidence of fire (e.g., good housekeeping and security)
- considering their emergency escape plan and ensuring escape routes are unobstructed
- being aware of any particular risks (e.g., cooking)
- being aware of the challenges that may be faced by disabled residents or guests
- ensuring that fire detection and fire suppression systems are appropriately maintained and / or tested
- periodically checking the adequacy of fire extinguishers or fire blankets

7.2.2 Protected entrance halls should have wall and ceiling linings achieving a Class C-s3, d2 reaction to fire standard. Display features such as posters, artwork pieces, etc. could be included if deemed appropriate by the dwellinghouse resident, who is recommended to consider fire safety within their appraisal.

7.3 Management and maintenance of fire safety systems

7.3.1 Management of fire safety must be integrated with all other management systems. If this management is lacking, then there is a danger that all the other areas such as security measures and alarm systems will be ineffective. 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 each establishment appoints a designated Building Safety Manager. It may be possible to appoint a professional to take on this role but that will depend on the size of the premises, costs, etc.

7.3.2 The appointed person should have the necessary authority and powers of sanction to ensure that standards of fire safety are maintained. The duties of the Building Safety Manager may include:

- management to minimise the incidence of fire (e.g., good housekeeping and security)
- producing an Emergency Fire Plan
- being aware of all fire safety features provided and their purpose
- being aware of any particular risks on the premises (e.g., issues relating to hot work)
- being aware of their responsibilities towards disabled people
- liaising with, and where necessary seek the advice of, the fire authority, local council, or other relevant enforcing authorities
- having powers to deal with individuals who sabotage or tamper with fire safety systems, who ignore any smoking policy or who block exits
- liaising with other fire safety managers in a multi-occupancy arrangement
- ensuring that residents, tenants, concessionaires, and caretakers are appropriately briefed
- ensuring that appropriate communication systems are in place to deal with any fire incident
- checking the adequacy of firefighting equipment and ensuring its regular maintenance
- ensuring fire escape routes and fire exits are unobstructed and doors operate correctly
- ensuring that fire detection or protection systems are maintained, tested, with records kept
- ensuring any close down procedures are followed

7.3.3 Good housekeeping is to ensure that the effectiveness of the fire safety provisions are not adversely affected, including the adequate provision for the disposal of waste and / or rubbish.

7.3.4 Maintenance procedures are to be enacted so that equipment will be able to operate effectively. Maintenance staff are to be trained in the importance of the fire safety systems and planned maintenance.

7.3.5 Common escape routes should have wall and ceiling linings achieving a Class B-s3, d2 reaction to fire standard, apart from permitted exceptions noted in this report. These finishes must be maintained for the life of the building. Display features or items such as posters, artwork pieces, etc. may be included with appropriate consideration, justification, and on-going control.

7.4 Management access to apartments and maisonettes

7.4.1 To suitably maintain the common fire safety provisions within the residential buildings, management will require the ability to access and intervene with certain fire safety elements within dwellings. As such, it is recommended that contracts between building management and occupants (i.e., tenancy agreements, leaseholds, freeholds, building management agreements, etc.) include the ability from management to be able to inspect, repair or enforce repairs to fire safety items such as the following non-exhaustive list:

- Apartment entrance fire doors, being critical to the success of the means of escape strategy. These should be regularly reviewed by building management to ensure that these have not been damaged or altered, and that the self-closing device is operating correctly. Building management should retain the ability to enforce repairs or install new doors where flat entrance doors are found to be sub-standard.
- Fire-resisting construction provided to separate flats or common areas is required to be maintained throughout the life of the building. Management should ensure that occupants of flats are not able to lower the fire-resistance ratings of separating walls or soffits through unapproved alterations.
- Sprinkler heads within apartments need to be able to operate effectively in order to limit fire growth and support means of escape within the common areas, prevention of fire spread, and firefighting operations. Management should ensure that sprinkler heads are not deactivated or impaired. Where concealed heads are used, particular care is required to ensure that these are not painted over as this may prevent the cover plate from releasing in the event of a fire.
- If dampers are installed to or between flats, where ductwork crosses fire-resisting construction between flats or common areas, management should be able to access, inspect, repair, or reset dampers.
- Fire spread between balconies or terraces presents a route via which fire may simultaneously affect apartments at multiple levels, placing the wider building at risk. Resident's private terraces should not be used for storing combustible items. Management would be recommended to be able intervene should excessive fire load become apparent in these areas.

7.5 Hoarding

7.5.1 'Compulsive hoarding' or 'Hoarding' is a mental health issue characterised by the accumulation of large quantities of goods within an occupant's home. Amongst the number of health and safety issues associated with hoarding, this also poses a challenge with regards to fire safety.

7.5.2 The fire safety provisions provided within a building assume certain characteristics, including fire load. Hoarding may significantly increase the fire load above that which is typically assumed within a residential unit and present a greater likelihood of sheltered or deep-seated fires occurring which could pose a challenge to fire-resisting construction, suppression systems, or firefighting operations.

7.5.3 Should there be cause to believe an occupant is hoarding goods, it is recommended that this be reported to the local health or mental health service provider as well as to the local fire and rescue service.

7.6 Fire extinguishers and fire blankets

7.6.1 First-aid firefighting provisions should be assessed and provided as part of the fire risk assessment for each of the hotel and the common areas of the residential building, including consideration for the day-to-day management of these provisions. Suitable first-aid firefighting provisions can help with the extinguishment of small fires, preventing these from growing into significant fires.

7.6.2 In general, fire points should be provided within common circulation areas and areas presenting a significant fire ignition risk, such as kitchens, refuse stores and plant rooms. The fire risk assessment that should be undertaken upon occupation of the building may assist with the placement of suitable fire extinguishers.

7.6.3 Where provided, the type and size of extinguisher(s) are recommended to be chosen in accordance with the guidance given in BS 5306-8 [46], as summarised by Table 13 and the classification of fire fuel hazards summarised as follows:

- Class A – fires involving solid materials, usually of an organic nature (general hazards);
- Class B – fires involving liquid or liquefiable solids (such as liquid fuels, lubricants, paints, etc.);
- Class C – fires involving gases;
- Class D – fire involving metals; and
- Class F – fires involving cooking media (vegetable or animal oils or fats).

7.6.4 Residents may wish to provide fire blankets in kitchens for extinguishing cooking fires. These would be recommended to be affixed vertically to a wall or door to for ease of deployment in an emergency. The blanket should be located close to the cooking appliance, but far enough away such that a hob fire would not prevent access to the fire blanket.

Table 13 – Fire extinguisher types

Medium	Colour code	Application	Do NOT use for
Water	White	Class A fires	Liquid, electrical, metal or cooking fires
Powder	Blue	Class A, B or C fires	Metal or cooking fires
Foam	Cream	Class A or B fires	Electrical*, metal or cooking fires
CO_2	Black	Class B fires	Metal or cooking fires
Wet chemical	Yellow	Class A or F fires	Liquid, electrical or metal fires
* AFFF Foam extinguishers may be used for electrical fires up to 35 kV (dielectric test) and where operated from a distance of at least 1 m.			

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Appendix A – Fire safety and fire-resisting construction mark-ups

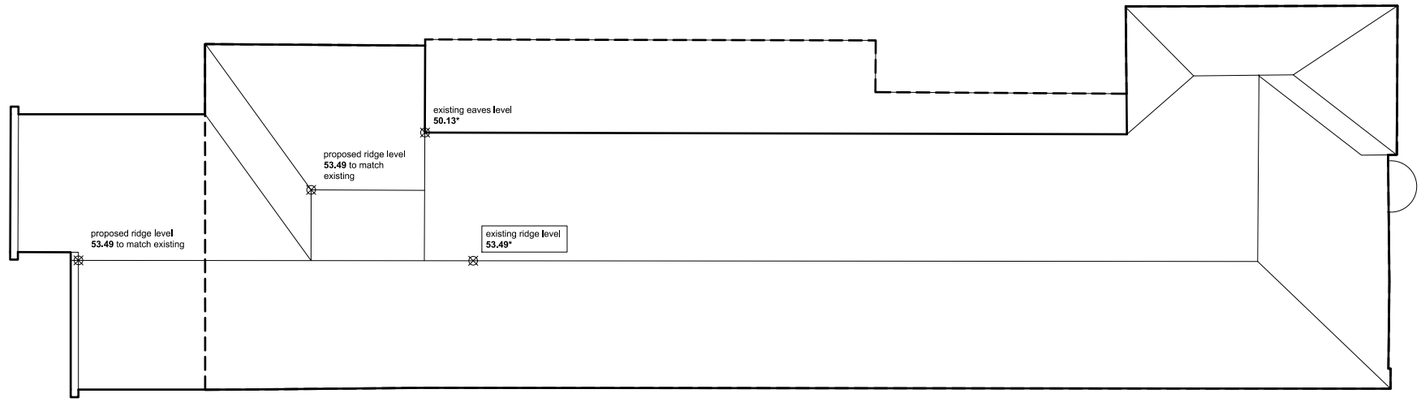
BLOCK 1

Proposed Extension to Existing Hotel

53.49* denotes existing survey level as taken from drawing **3766-1001-P1 by Structa**
level 53.49 AOD has been used as the limiting height across the proposed development so as not to exceed the existing and retained hotel structure on site

denotes line of existing building footprint

PROPOSED **Roof Plan**



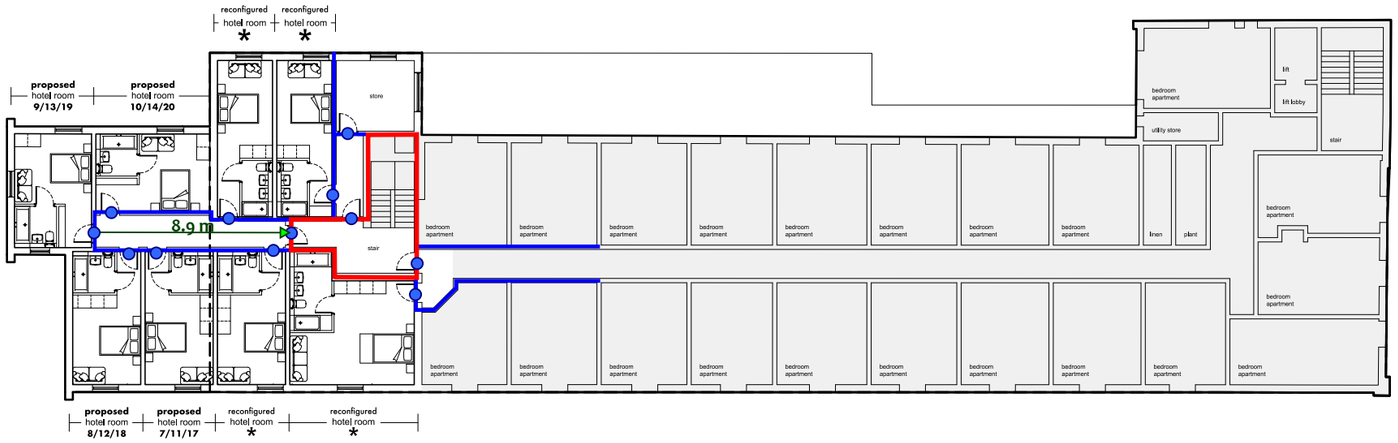
* denotes corresponding hotel room that has been identified as 'reconfigured' is to be replicated as a new build and proposed hotel room on the third and uppermost storey, this arrangement will provide 4no additional hotel rooms to the building

denotes line of existing building footprint

denotes extent of existing building to be retained as part of the proposed scheme

x 3no Levels

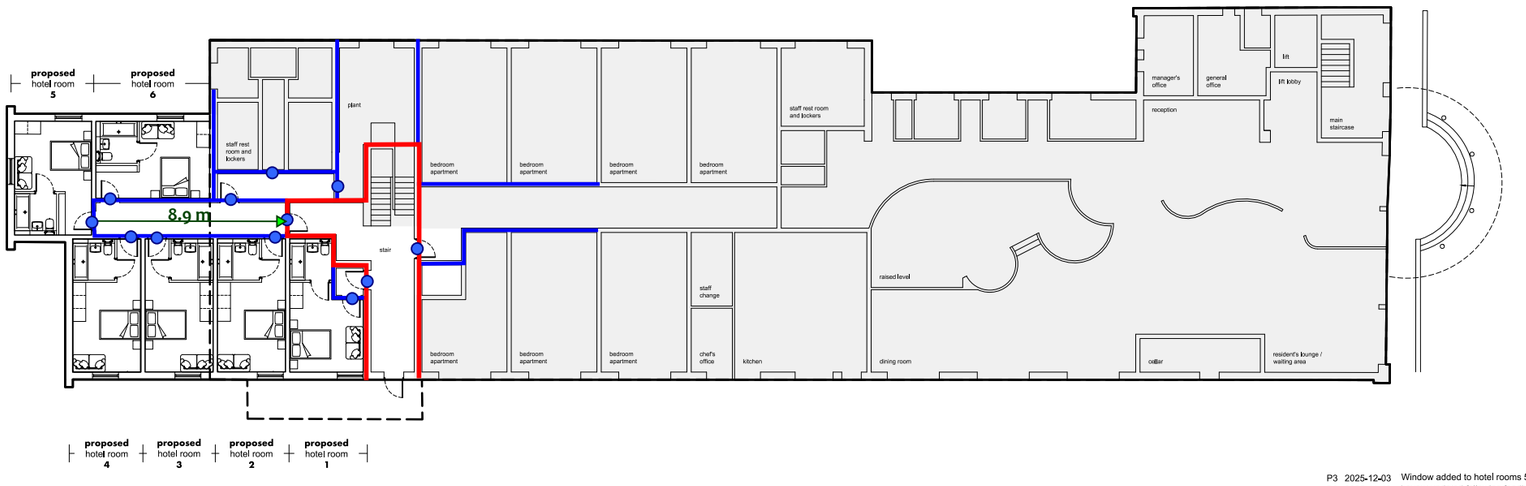
PROPOSED **Upper Floor Plan**



denotes line of existing building footprint

denotes extent of existing building to be retained as part of the proposed scheme

PROPOSED **Ground Floor Plan**



Fire safety mark-ups v1.0 mu.studio

- Fire resistance rating of 120 minutes
- Fire resistance rating of 60 minutes
- Fire resistance rating of 30 minutes
- FD120S Fire door
- FD120 Fire door
- FD60S Fire door
- FD60 Fire door
- FD30S Fire door
- FD30 Fire door
- E30 Fire door

Rev	Date	Description	Drn	Chk
P3	2025-12-03	Window added to hotel rooms 5, 9, 13 and 19	CY	CY
P2	2025-11-13	Layout updated following feedback from LPA	CY	CY
P1	2025-10-29	Initial issue	CY	CY

0 5 10 20m

Project

Ramada South Ruislip

Long Drive / Station Approach / HA4 0HG

Johal

Drawing Title

Proposed
Block 1 Floor Plans

Scale	1:200 @ A2
Date	September 2025
Purpose	Planning
Job No.	302021
Drawing Ref.	302021.OP.FS.ZZ.DR.A.21.121
Revision	P3

OAK & PROSPER

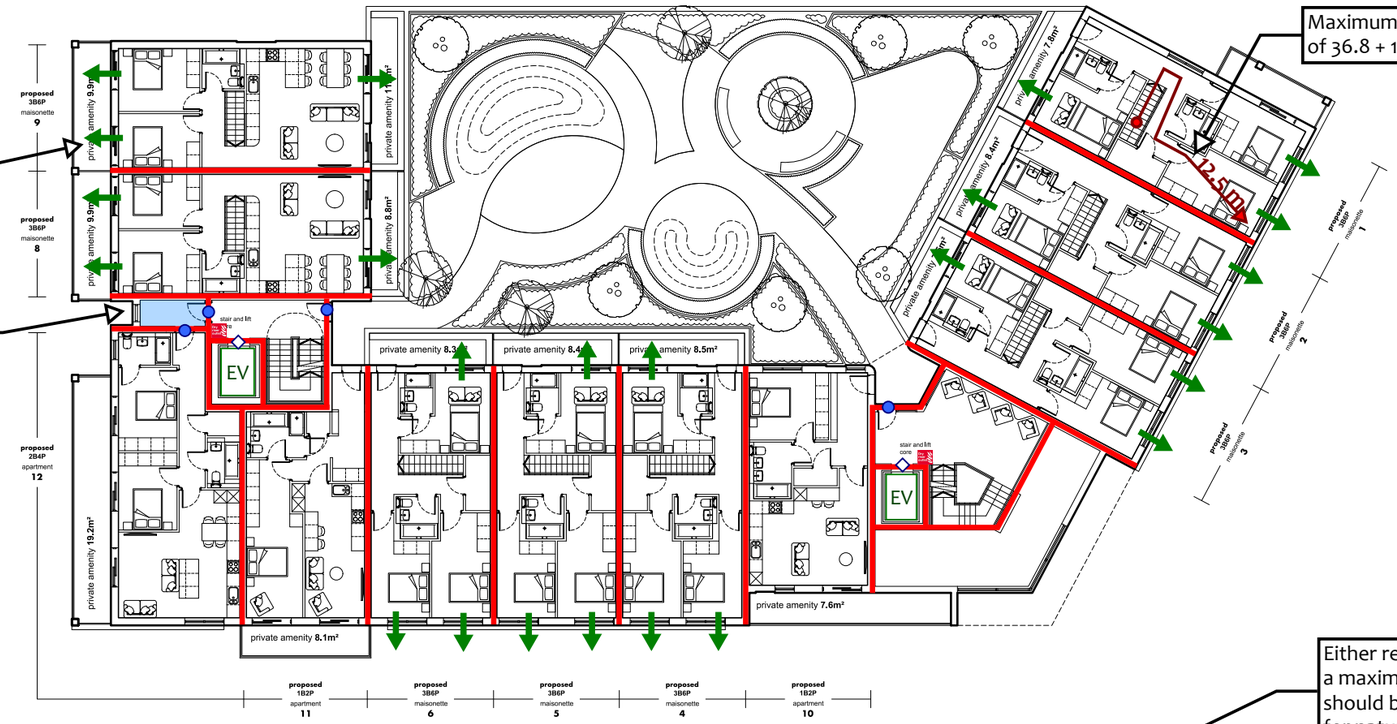
BLOCK 2

Proposed New Build Residential Block

Escape windows in support of open-plan ground floor arrangement

Corridor to be vented via 1.5m² facade AOV

Maximum hose lying distance of 36.8 + 12.5 = 49.3 m



proposed finished floor level of **40,500 AOD** to Block 2 First Level

PROPOSED **First Floor Plan**

Maximum hose lying distance within an ancillary area

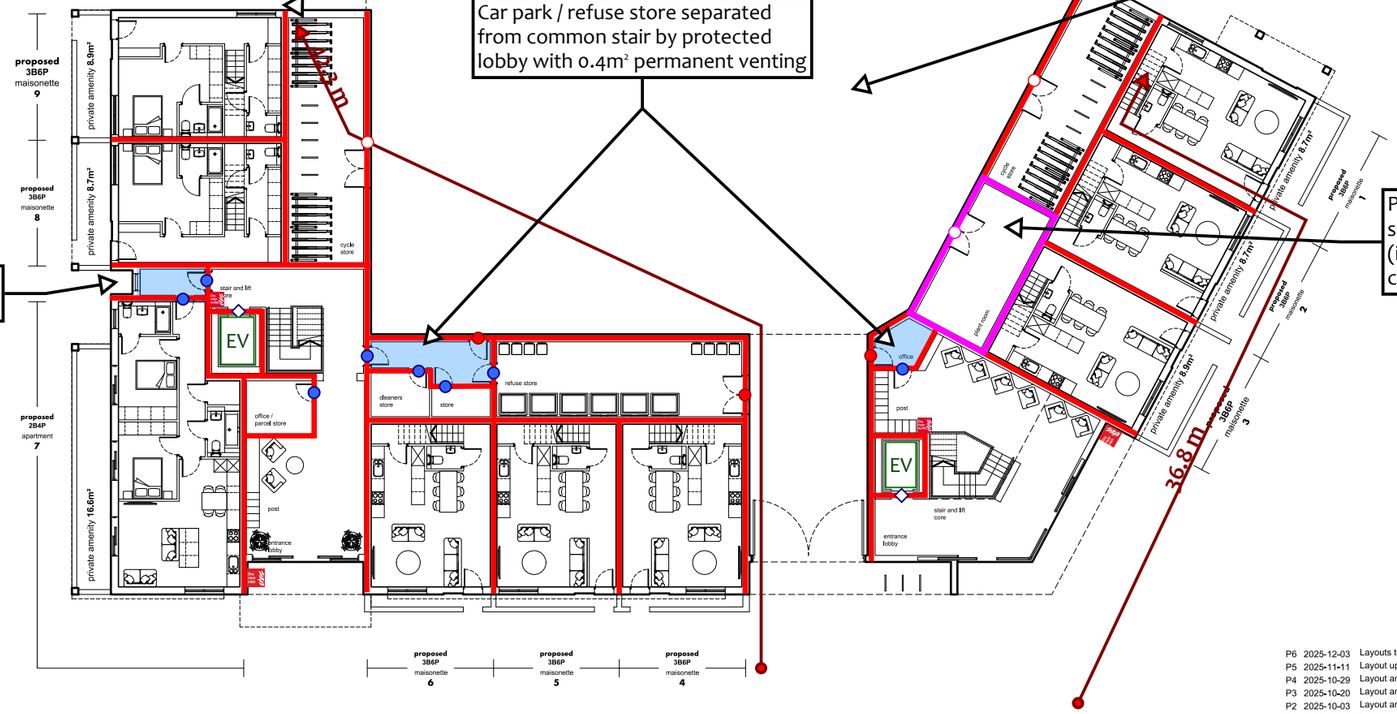
Either rear facade of the car park to be fire-resisting with a maximum of 24% / 20m² being unprotected. At least 10m² should be open to atmosphere, to meet the expectations for natural smoke and exhaust venting to the car park

Podium / car park structure to be structurally separated from wider building, in support of this area remaining unsuppressed (as a separated part)

Car park / refuse store separated from common stair by protected lobby with 0.4m² permanent venting

Plant space for a Category 2 suppression system to BS 9251 (including provision for the OH areas - cycle store, refuse stores, plant room)

Corridor to be vented via 1.5m² facade AOV



proposed finished floor level of **37.575 AOD** to Block 2 Ground Level

PROPOSED **Ground Floor Plan**

Fire safety mark-ups v1.0 — mu.studio

- Fire resistance rating of 120 minutes
- Fire resistance rating of 60 minutes
- Fire resistance rating of 30 minutes
- FD120S Fire door
- FD120 Fire door
- FD60S Fire door
- FD60 Fire door
- FD30S Fire door
- FD30 Fire door
- E30 Fire door

Rev	Date	Description	Drn	Chk
P6	2025-12-03	Layouts to maisonettes 8 and 9 amended	CY	CY
P5	2025-11-11	Layout updated following feedback from LPA	CY	CY
P4	2025-10-29	Layout amended following design team feedback	CY	CY
P3	2025-10-20	Layout amended to correspond with elevations rev P3	CY	CY
P2	2025-10-03	Layout amended to account for fire consultant feedback	CY	CY
P1	2025-09-12	Initial issue	CY	CY

0 5 10 20m

Oak and Prosper Construction Limited is a limited company registered under company number 05963316 whose registered office is The White Hart, Top Road, Barnby Dun, DN3 1DA.
Email: contact@oakandprosper.co.uk Tel: 020 7101 3724

Project

Ramada South Ruislip

Long Drive / Station Approach / HA4 0HG

Johal

Drawing Title

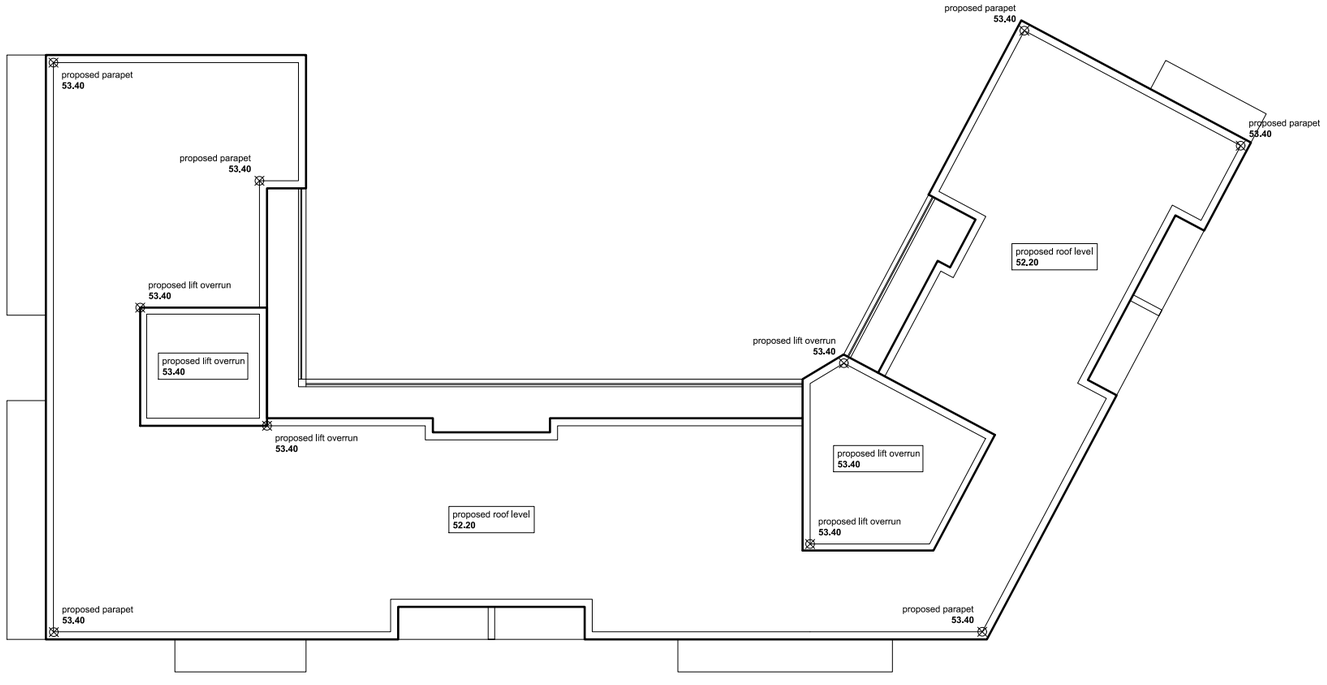
Proposed
Block 2 Floor Plans

Scale	1:200 @ A2
Date	September 2025
Purpose	Planning
Job No.	302021
Drawing Ref.	302021.OP.FS.ZZ.DR.A.21.125
Revision	P6

OAK & PROSPER

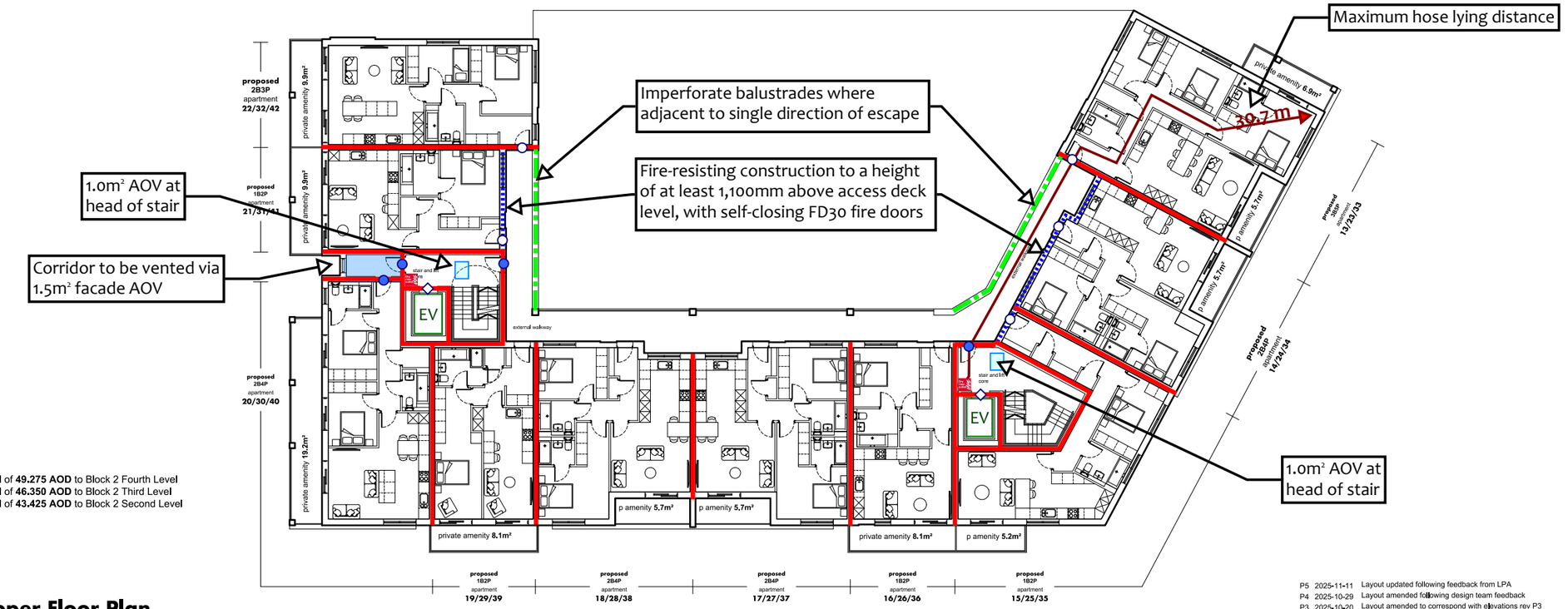
BLOCK 2

Proposed New Build Residential Block



proposed finished floor level of **52,200 AOD** to Block 2 Roof Level

PROPOSED **Roof Plan**



proposed finished floor level of **49.275 AOD** to Block 2 Fourth Level
proposed finished floor level of **46.350 AOD** to Block 2 Third Level
proposed finished floor level of **43.425 AOD** to Block 2 Second Level

x 3no Levels

PROPOSED **Upper Floor Plan**

0 5 10 20m

Fire safety mark-ups v1.0 mu.studio

- Fire resistance rating of 120 minutes
- Fire resistance rating of 60 minutes
- Fire resistance rating of 30 minutes
- FD120S Fire door
- FD120 Fire door
- FD60S Fire door
- FD60 Fire door
- FD30S Fire door
- FD30 Fire door
- E30 Fire door

Rev	Date	Description	Dm	Chk
P5	2025-11-11	Layout updated following feedback from LPA	CY	CY
P4	2025-10-29	Layout amended following design team feedback	CY	CY
P3	2025-10-20	Layout amended to correspond with elevations rev P3	CY	CY
P2	2025-10-03	Layout amended to account for fire consultant feedback	CY	CY
P1	2025-09-12	Initial issue	CY	CY

Project

Ramada South Ruislip

Long Drive / Station Approach / HA4 0HG

Johal

Drawing Title

Proposed
Block 2 Floor Plans

Scale	1:200 @ A2
Date	September 2025
Purpose	Planning
Job No.	302021
Drawing Ref.	302021.OP.FS.ZZ.DR.A.21.126
Revision	P5

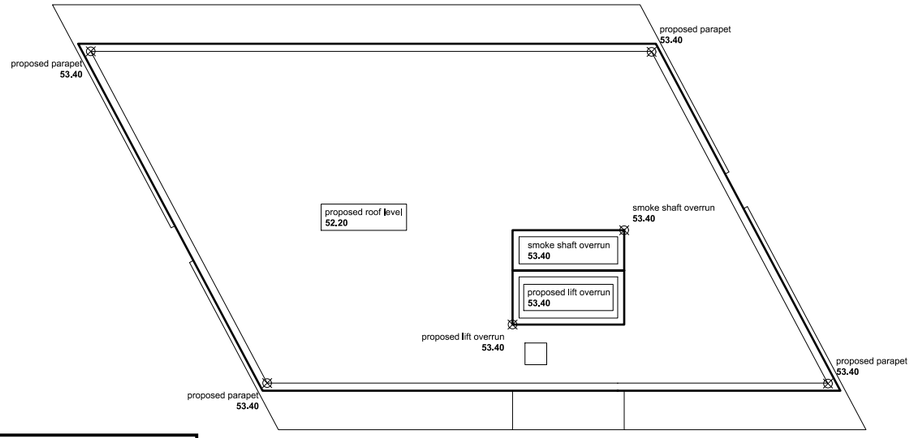
OAK & PROSPER

BLOCK 3

Proposed New Build Residential Block x3

proposed finished floor level of **52.200 AOD** to Block 3.1 + 3.2 + 3.3 Roof Level

PROPOSED **Roof Plan**

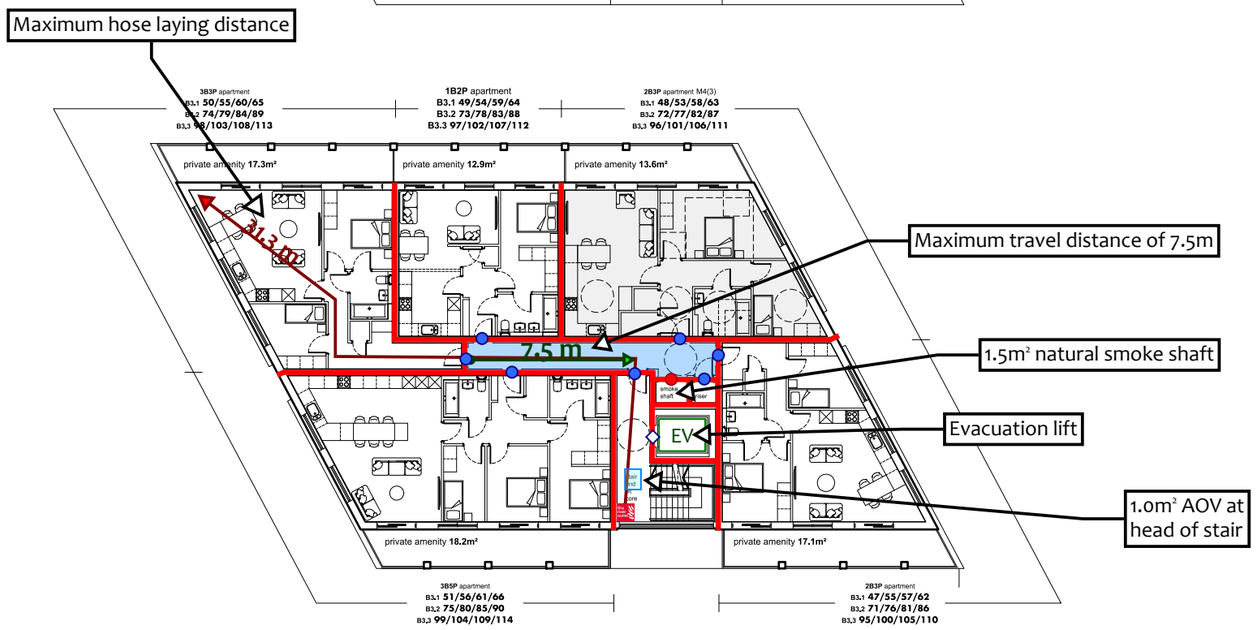


denotes corresponding to be designed to meet M4(3) standards

proposed finished floor level of **49.275 AOD** to Block 3.1 + 3.2 + 3.3 Fourth Level
proposed finished floor level of **46.350 AOD** to Block 3.1 + 3.2 + 3.3 Third Level
proposed finished floor level of **43.425 AOD** to Block 3.1 + 3.2 + 3.3 Second Level
proposed finished floor level of **40.500 AOD** to Block 3.1 + 3.2 + 3.3 Second Level

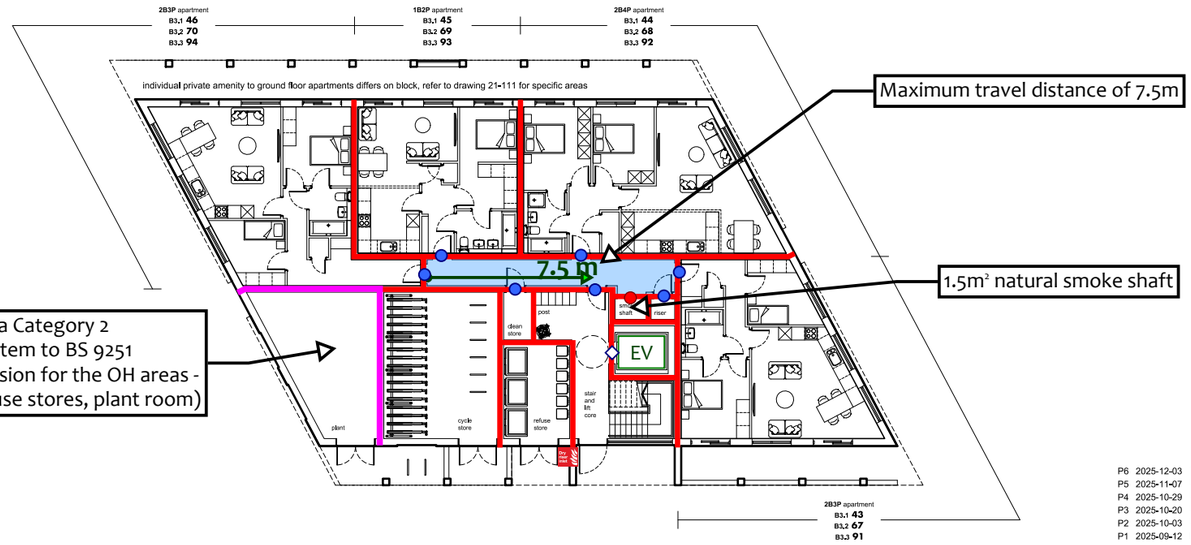
x 4no Levels

PROPOSED **Upper Floor Plan**



proposed finished floor level of **37.575 AOD** to Block 3.1 + 3.2 + 3.3 Ground Level

PROPOSED **Ground Floor Plan**



Fire safety mark-ups v1.0

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- Fire resistance rating of 120 minutes
- Fire resistance rating of 60 minutes
- Fire resistance rating of 30 minutes
- FD120S Fire door
- FD120 Fire door
- FD60S Fire door
- FD60 Fire door
- FD30S Fire door
- FD30 Fire door
- E30 Fire door

Rev	Date	Description	Drn	Chk
P6	2025-12-03	1B2P and 2B4P unit on ground floor layout amended	CY	CY
P5	2025-11-07	Layout updated following feedback from LPA	CY	CY
P4	2025-10-29	Layout amended following design team feedback	CY	CY
P3	2025-10-20	Layout amended to correspond with elevations rev P3	CY	CY
P2	2025-10-03	Layout amended to account for fire consultant feedback	CY	CY
P1	2025-09-12	Initial issue	CY	CY

0 5 10 20m

Project

Ramada South Ruislip

Long Drive / Station Approach / HA4 0HG

Johal

Drawing Title

Proposed
Block 3 Floor Plans

Scale	1:200 @ A2
Date	September 2025
Purpose	Planning
Job No.	302021
Drawing Ref.	302021.OP.FS.ZZ.DR.A.21.130
Revision	P6

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