

Bancil Property Consultants Ltd

Project:-

**90 Long Lane
Ickenham
Middlesex
UB10 8SX**

Fire Safety Strategy

**Bancil Property Consultants Ltd
131 Heston Road
Heston
TW5 0RD**

For Planning Application of 9 Self Contained flats

Quality Assurance:

Version	Description	Date	Produced By	Reviewed By
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NFCC Guidance on E-bikes and E-Scooters

1: Executive Summary

Bancil Property Consultants Ltd have been commissioned to develop a fire engineering strategy for the proposed new building to accommodate 9 self contained flats at 90 Long Lane, Ickenham Middlesex, UB10 8SX.

The following section summarises the key elements of fire safety provisions that are to be provided within the project build. The table is broken down into features affecting active and passive measures, and construction.

The table is a summary of the key elements and therefore should not be read in isolation. The full report should be read before implementation of the strategy.

	Fire Safety Requirements	Clarification
Construction	Occupancy	The construction of 9 self-contained flats
	Fire Service Access Route	Fire and rescue access point is on Long Lane.
	Corridors	All corridors are sterile areas
	Compartmentation	FR 60-minute floors, 60-minute walls separating each apartment, 60-minute walls separating apartments, stairwell, and corridors.
Active and Passive Measures	Fire detection and fire alarm for the building	BS 5839 Part 6 LD1 within the apartments. BS 5839 Part 1 L5 to common areas of the apartments to operate AOV and smoke ventilation.
	Fire Resisting Doors	FD30s, FD60sor FD30 according to schedule
	Ventilation of internal flats corridors	Due to the extended travel distances inside the flats, automatic opening windows will be provided on the elevation to open air.
	Emergency Lighting	In accordance with BS 5266: Part 1 2016 – Code of Practice for the emergency lighting of premise,
	Escape Signage	In accordance with BS 5499: Part 4 2013 – Code of Practice for escape route signage
	Ventilation of Stairs	Automatic opening vents with override facility in accordance with ADB & BS9991.
	Compartmentation-Stairs	60 Minute FR
	Compartmentation-Walls	60 Minute FR
	Compartmentation-Floors	60 Minute FR
	Internal Apartment Walls	30 Minute FR

Openings in compartment walls and floors	Should be suitably fire stopped in accordance with compartmentation section, protection of openings and fire stopping
Cavity barriers	60 Minute FR (to the same degree of FR as the wall or floor)

1.1 Occupants response in the event of an incident

Each residential accommodation will be provided with its own interlinked fire detection system comprising of smoke detection in the hall and bedrooms, and heat detection in the living/kitchen/dining room.

On activation of the part 6 fire alarm system only persons residing in the accommodation where the alarm has activated should evacuate, all other residents will be unaware of the incident and will remain in their own apartment which is adequately separated by fire resisting construction.

1.2 Fire and Rescue Service response

Fire Service arrival in the event of an incident is likely to be on Long Lane, where the accesses to the entrances of the block is situated. The Fire Service gain access from this points and parking of the appliance is within a short distance of the communal doors. Adequate water supplies for fire-fighting are provided by hydrants situated on the surrounding streets.

1.3 Conclusion

With the application of the passive and active fire safety measures in line with Approved Document B and BS 9991 to be implemented within this project, and guidance within this report, it is concluded the design of the 90 Long Lane construction project satisfies the functional requirements of Part B of the Building Regulations 2010.

2: INTRODUCTION

2.1 General:

Bancil Property Consultants have been commissioned to develop a fire safety strategy for the residential building project known as 90 Long Lane. The project is new build of 9 self-contained flats.

Whilst the design of this building will be compliant with current guidance, a fire engineering approach is permitted under Approved Document B, as stated under paragraph 0.18.

'Fire safety engineering might provide an alternative approach to fire safety. Fire safety engineering may be the only practical way to achieve a satisfactory standard of fire safety in some complex building and in buildings that contain different uses.'

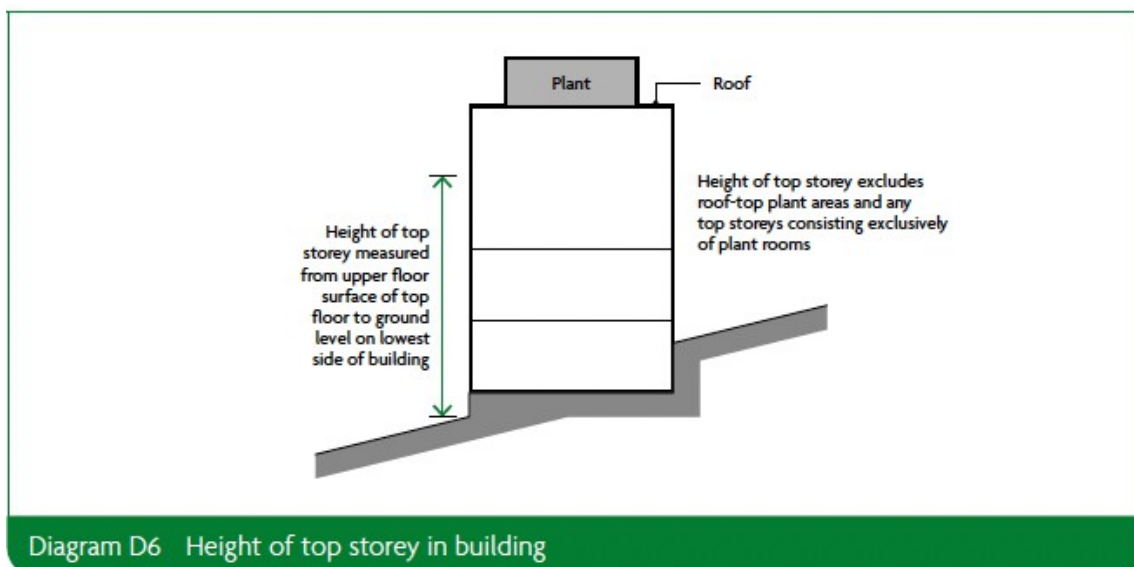
Fire safety engineering may also be suitable for solving a specific problem with a design that otherwise follows the provisions in this document'.

The Fire Strategy demonstrates a means of compliance with the requirements of BS 9991.

2.2 Site Description:

The given address for the project is, 90 Long Lane, Ickenham, Middlesex, UB10 8SX. The scope of the project is the construction of a block of residential flats.

Diagram D6 of ADB Voume1 of the building regulations indicates the height of a building is determined by measuring from the ground floor of the lowest side of the building to the highest floor plate of the highest livable floor excluding roof plant. As depicted below:



Plans depict the new building will give a height to the highest floor plate of 6.5m. The total height of the roof is 10.2m

Small single stair buildings

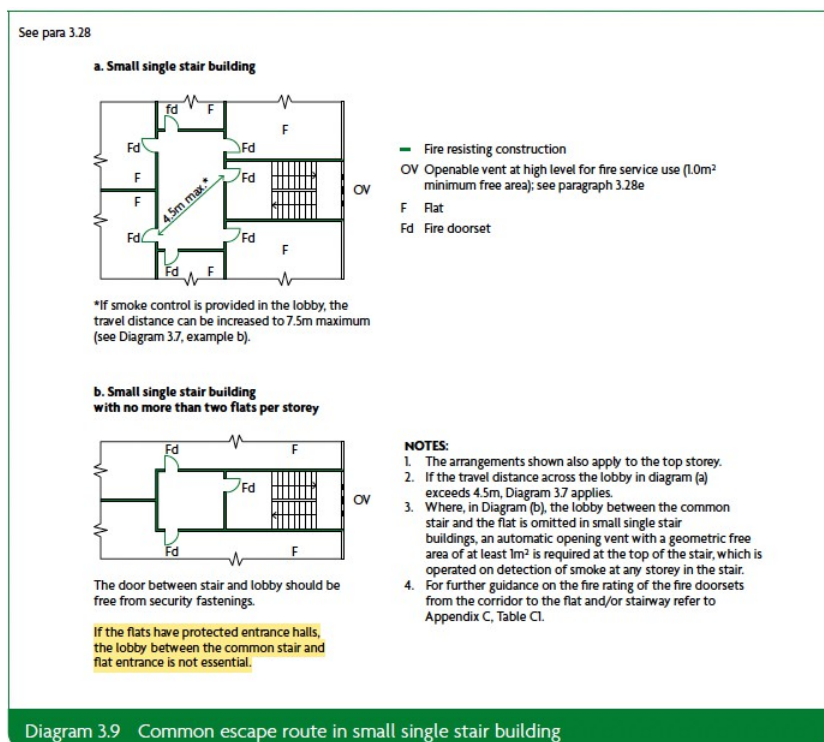
3.28 For some low-rise buildings, the provisions in paragraphs 3.26 and 3.27 may be modified and the use of a single stair, protected in accordance with Diagram 3.9, may be permitted where all of the following apply.

- The top storey of the building is a maximum of 11m above ground level.
- No more than three storeys are above the ground storey.
- The stair does not connect to a covered car park, unless the car park is open sided (as defined in Section 11 of Approved Document B Volume 2).
- The stair does not serve offices, stores or other ancillary accommodation. If it does, they should be separated from the stair by a protected lobby or protected corridor (minimum REI 30) with a minimum 0.4m² of permanent ventilation or be protected from the ingress of smoke by a mechanical smoke control system.

Either of the following is provided for the fire and rescue service.

- A high-level openable vent with a free area of at least 1m² at each storey.
- A single openable vent with a free area of at least 1m² at the head of the stair, operable remotely at the fire and rescue service access level.

Diagram 3.9



This strategy, based on small single stair buildings is heavily reliant on adequate compartmentation, see section 6.1 of this report on Compartmentation.

It is also reliant on staircase protection and internal apartment layout. See sections 4.1.2 on Common Areas-Stairs and 4.1.3 of this report on Internal Layout of Apartments

Proposed plans show that the design of the block of flats conform to the requirements of section 3.28 of ADB Volume 1 for small single staired buildings.

2.3 Project Timescale:

It is estimated the project will take twelve (12) months from commencement to completion.

2.4 Purpose Groups:

Title	Purpose Group	Purpose for which the building or compartment of a building is intended to be used
Residential (dwellings)	1(a)	Flats

2.5 Estimated Occupancy:

Floor Level	Maximum Occupancy
Ground floor (based on two persons per double bedroom and one person per single)	16
1st Floor (based on two persons per double bedroom and one person per single)	12
2nd Floor (based on two persons per double bedroom and one person per single)	4

3: Statutory Considerations

3.1 Building Regulations:

The building will be subject to the statutory requirements of the Building Regulations 2000. It will therefore be necessary for the building to meet the functional requirements of Part B of Schedule 1 of these Regulations. These requirements relate to:

- B1 – Means of Warning and Escape
- B2 - Internal Fire Spread (Linings)
- B3 – Internal Fire Spread (Structure)
- B4 – External Fire Spread
- B5 – Access and Facilities for the Fire and Rescue Service

Compliance with these requirements is normally achieved by meeting the standards contained in Approved Document B 'Fire Safety' (AD:B) and/or the relevant parts of BS 5588 'Fire precautions in the design, construction and use of buildings'. However, where it was not practicable to meet the recommendations contained in these 'deemed to satisfy' documents, a fire safety engineering approach has been adopted.

This legislation is primarily concerned with life safety and property protection is not specifically considered although the fire protection provisions to be provided for the building will offer some degree of property protection. Furthermore, other issues such as insurer's requirements, cultural heritage, environmental, property protection or business continuity issues have not been specifically addressed or included within the development of the fire safety strategy.

"The Approved Documents are intended to provide **guidance** for some of the more common building designs. However, there may well be alternative ways of achieving compliance with the requirements. Thus, there is no obligation to adopt any particular solution contained in an Approved Document if you prefer to meet the relevant requirement in some other way".

The fire engineering design of the building may include a number of variations from the general guidance documents, with alternative or additional fire safety provisions and strategies employed to ensure that an adequate and appropriate level of fire safety is achieved within the building.

A fire engineering approach is permitted under Approved Document B, as stated under paragraph 0.30

'Fire safety engineering can provide an alternative approach to fire safety. It may be the only practical way to achieve a satisfactory standard of fire safety in some large and complex building and in buildings containing different uses e.g. airport terminals. Fire safety engineering may also be suitable for solving a problem with an aspect of the building design which otherwise follows the provisions in this document'.

Guidance documents used

- BS 9997:2019 Fire Risk Management Systems
- BS 9991:2015 Fire Safety in the design, management and use of residential buildings
- DCLG Guide for Sleeping Accommodation
- PAS 79-1 Fire Risk Assessment Guidance
- PAS 79-2 Fire Risk Assessment Guidance
- CIBSE Guide E: Fire Engineering 2019
- Building Regulations Approved Document B Volume 1
- Building Regulations Approved Document M
- Building Regulations Approved Document K
- Building Regulations Approved Document 7
- BR187-2014
- BS 5839 Part 1
- BS 5839 Part 6
- BS 5306 Parts (0,1,2,3,4,8)
- BS 5266
- BS 9251

The functional requirements required for B1 – B5 are provided below

Building Regulations	Functional Requirements
B1 Means of warning and escape	The building shall be designed and constructed so that there are appropriate provisions for the early warning of fire, and appropriate means of escape in case of fire from the building to a place of safety outside the building capable of being safely and effectively used at all material times
B2 Internal fire spread (linings)	To inhibit the spread of fire within the building the internal linings shall adequately resist the spread of flame over their surfaces; and have, if ignited, either a rate of heat release or a rate of fire growth, which is reasonable in the circumstances. In this section, "internal linings" means the material or products used in any partition, wall ceiling or other internal structure.
B3 Internal fire spread (structure)	The building shall be designed and constructed so that, in the event of fire, its stability will be maintained for a reasonable period. Where reasonably necessary to inhibit the spread of fire within the building, measures shall be taken, to an extent appropriate to the size and intended use of the building, comprising either or both of the following: (a) sub-division of the building with fire resisting construction, (b) installation of suitable automatic fire detection systems. The building shall be designed and constructed so that unseen spread of fire and smoke within concealed spaces in its structure and fabric is inhibited.
B4 External fire spread	The external walls of the building shall adequately resist the spread of fire over the walls and from one building to another, having regard to the height, use and position of the building. The roof of the building shall adequately resist the spread of fire over the roof and from one building to another, having regards to the use and position of the building.
B5 Access and facilities for the fire service	The building shall be designed and constructed so as to provide reasonable facilities to assist fire fighters in the protection of life. Reasonable provision shall be made within the site of the building to enable fire appliances to gain access to the building.

3.2 Regulatory Reform (Fire Safety) Order 2005

The common parts of the building will be subject to the application of the Regulatory Reform (Fire Safety) Order (RRO). Once the building is completed and occupied, the RRO becomes the controlling fire safety legislation for the common parts.

The Order revokes the Fire Precautions Act and the Workplace Regulations. It is necessary, among other things, under this order for the owner/occupier of the building to carry out and maintain a fire safety risk assessment.

The building's management team will also be responsible under this order to ensure that the building's fire safety provisions are appropriately managed, maintained and tested over the whole life of the building.

However, these requirements will only apply to the common parts of the building under the responsibility of the landlord/manager. The Order does not apply to individual apartments.

3.3 Construction, Design and Management Regulations (CDM Regs)

Projects undertaken within Great Britain and Northern Ireland are subject to the requirements of the Construction (Design and Management) Regulations 2015 (CDM Regs). The object of the CDM Regs is to reduce risk as low as reasonably practicable concerning Health and Safety during construction and maintenance of construction sites and occupied buildings.

This report defines the strategy for meeting the functional and performance requirements for fire safety in the finished building. It is primarily intended to form part of the submission for Building Regulation Part B approval. Where any conclusions or recommendations have been arrived at which specify particular materials, products, or forms of construction these will have been assessed, in accordance with CDM Regulations 9 (duties for designers).

In addition, this fire safety strategy plays an important role in providing appropriate fire safety measures for people in and around the building in the event of fire. Where aspects of the strategy involve significant residual risks or health and safety critical assumptions when the building is in use, appropriate information will be made available to the CDM Coordinator (for example, this might include a tailored management regime, or controls on certain aspects of the building).

3.4 Report limitations

Within this report are illustrations and drawings that are suggestive only and are envisioned only to describe the notions and principles of the building fire strategy. Property protection and business continuity are not covered within this report; the fire strategy addresses the life safety elements of Building Regulations.

4: B1 - Means of Warning and Escape

4.1 Means of Escape

4.1.1 Means of Escape and Exits

The layout of the residential accommodation is such that “Escape routes from dwellings with corridor or lobby approach”, is applicable. This strategy provides limitations to the travel distance between the exit doors from the dwellings and a relatively smoke-free area, and a means of keeping the amount of smoke and other products of combustion in the internal corridor or lobby to a minimum. This is achieved with the construction of a REI 30 lobby created from the apartment door with all habitable rooms leading off of it.

The evacuation principles will be developed in accordance with standard recommendations for residential developments.

In case of a fire in one of the apartments, only the occupants in the apartment of fire origin are expected to evacuate. All other occupants within the building would remain in place and only evacuate on the instructions of the fire service. Therefore, the means of escape is not capacity driven. This evacuation strategy is based on the low probability of fire spreading beyond the apartment of fire origin due to the high degree of compartmentation provided throughout the block.

The other tenants would stay in their properties unless they;

- Are being directly affected when they should Stay-Safe and leave their property
- They can hear a fire alarm sound (but not their fire alarm) in their apartment and want to Stay- Safe and leave
- They are concerned with their own safety and should Stay-Safe and leave their property
- They can see smoke or flame from their property and want to Stay-Safe by leaving their property
- Tenants should not need to leave unless they are being directly affected by a fire in their property or smoke is affecting/making entry into their apartment, but if any tenant feels uncomfortable, they should be advised to Stay-Safe and evacuate if safe to do so.

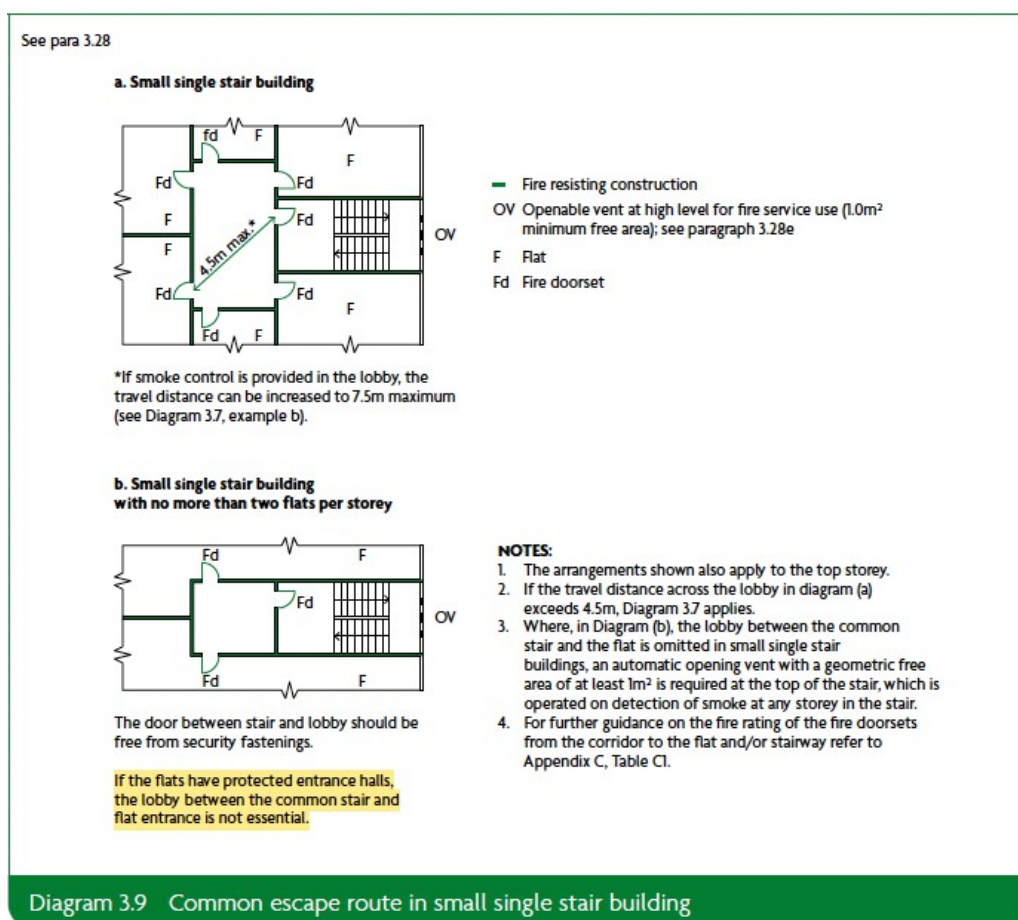
4.1.2 Common Areas - Stairs

The upper storeys are served by a single internal staircase. The staircase discharges internally only at the ground level entrance corridor from the upper floors.

As the building has a single staircase and has a storey under 11m

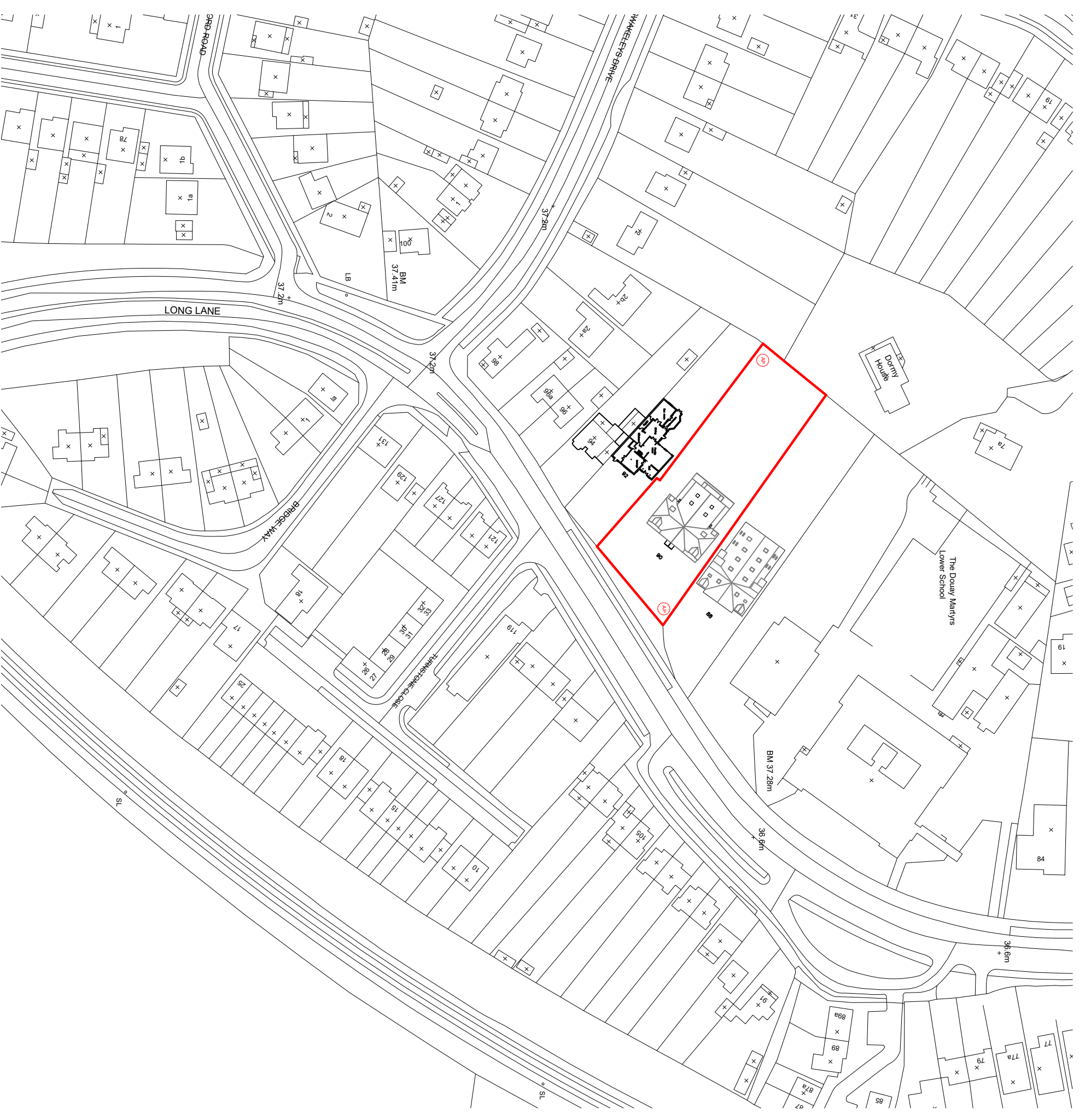
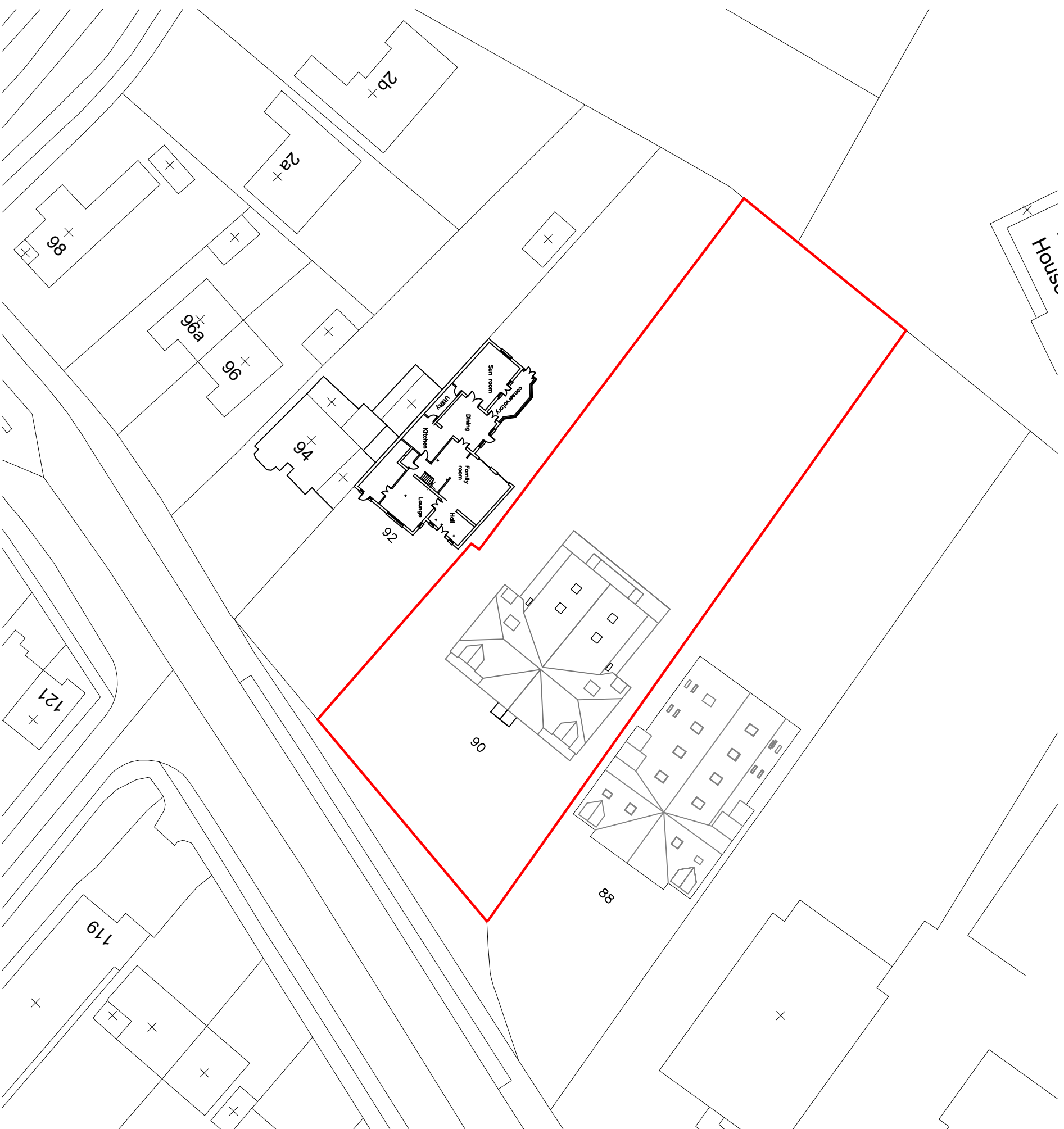
The central staircase will be of the minimum width of 1000mm which serves a maximum of 150 persons, which in comparison to the estimated occupancy, complies with table 3.1 of ADB Volume 2 for simultaneous evacuation.

If the flats have protected entrance halls, the lobby between the common stair and flat entrance is not essential.



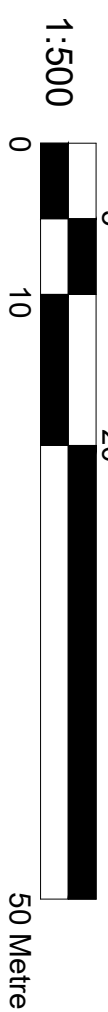
Using guidance on small single stair buildings in section 3.28 of ADB Volume 1, and diagram 3.9, staircases are not required to be lobby protected.

Using the highlighted paragraph on diagram 3.9 above, the staircase lobby doors highlighted on the plan below, can be omitted under the guidance for small single stair buildings.



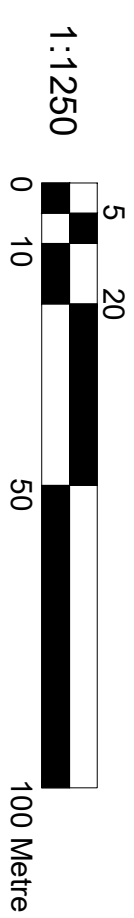
Block Plan
Scale 1:500

Scale 1:500

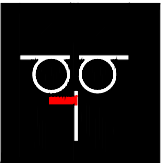
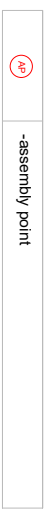


Location Plan

Scale 1:1250



Key



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Site Address:

90 Long Lane
Ickenham
UB10 8SX

Title:

Block Plan

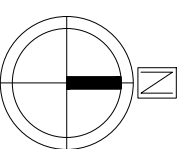
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Date:

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4.1.3 Internal Layout of Apartments

The layout of the residential accommodation is such that “Escape routes from dwellings with corridor or lobby approach”, is applicable. This strategy provides limitations to the travel distance between the exit doors from the dwellings and a relatively smoke-free area, and a means of keeping the amount of smoke and other products of combustion in the internal corridor or lobby to a minimum. This is achieved with the construction of a REI 30 lobby created from the apartment door with all habitable rooms leading off it. This is known as a fire resisting lobby approach.

Initial internal layout plans depict that all apartments have been designed with a fire resisting lobby approach.

4.1.4 Travel Distances

ADB Limitations on travel distances

Purpose Group	Use of premises or part of premises	Travel in single direction	Travel in more than one direction
1(a) Residential Dwellings	Flats	9.0m	N/A
	Flat entrance door to common stair or stair lobby	7.5m	N/A

• 4.2 Ventilation, Fire Detection and Alarm

4.2.1 Ventilation of Staircase

The staircase will be provided with an openable vent at the top, which will be a minimum 1m² in area, provided for the purpose of smoke venting and fire-fighting access. This will open when smoke detection within the corridor or stairwell activates and will be able to be manually activated at the entrance to the building by provision of an override switch. The AOV will be installed at the highest possible point, which is the ceiling at the head staircase.

4.2.2 Fire Detection and Alarm in Common Areas

Fire alarm requirements will be BS5839 Part 1, L5

- Smoke detection in all corridors, stairwell lobbies, and at the head of the stairs to operate AOV system (See section 4.2.1 and 4.2.2 for venting protected staircase and flats access corridors)
- Smoke detection within storage and plant rooms.
- No requirement for sounders as the detection is purely to operate ventilation systems.
- Fire alarm panel in the ground floor corridor.
- Manual break glass call points
- Manual override required for use by fire and rescue service

Due to the premises being designed for a stay-put policy there is no need for a communal fire alarm, as it will only be the occupants of the flat affected that will evacuate. This harmonises with the requirements of ADB with regards to reduction of false alarms.

A BS 5839-1 may be required to cover the common areas: **Fire detection and fire alarm systems for buildings** – Code of practice for the design, installation, commissioning and maintenance of fire alarm and fire detection systems in non-domestic premises, to interact with the ventilation system, selected for the fire-fighting shaft. The exact design of the ventilation system for the firefighting shaft and the communal corridors will be finalised, though the potential options are appended at appendix A of ADB. Covered in section 4.2.3.

False alarms cause disruption to the normal operation of business and create a drain on fire and rescue service resources. False alarms can even seriously prejudice the safety of occupants, who might not react correctly when the system responds to a real fire if they have recently experienced a number of false alarms.

Responsibility for limitation of false alarms rests with every party involved in the specification, design, installation, commissioning, management at operational level and maintenance of the fire detection and fire alarm system. The major part of this responsibility rests with the designer, but it is important that enforcing authorities and insurers have a good knowledge of the guidance contained in this section, so that requirements for forms of automatic fire detection, which, realistically, are unsuitable for the conditions in the building, are not imposed (BS5839-P1:2017).

4.2.3 Fire Detection and Alarm in Apartments

All apartments are provided with a fire resisting internal lobby. Where internal travel distances **exceed** the maximum allowances in table in section 4.1.4 of this report, flats will be provided with a fire and detection alarm system conforming to BS 5839-part 6 Grade D LD1 as illustrated below.

Indicative room layout for reference only.

BS 5839-6:2019 D1, LD1- Each flat will be provided with interlinked detection comprising of a heat detector installed in every kitchen/dining area and a smoke detector installed in the hall and bedrooms and rooms of risk such as boilers or electrical cupboards over 1m² in size. This type of system comprises interlinked mains-powered detectors with an integral standby supply. The fire alarm system will be capable of achieving 75 dB(A) at bedhead.

Flats where travel distances **do not exceed** the maximum allowances in table in section 4.1.4 of this report, flats will be provided with a fire and detection alarm system conforming to BS 5839-part 6 Grade D LD2 as illustrated below.

BS 5839-6:2019 D1, LD2- Each flat will be provided with interlinked detection comprising of a heat detector installed in every kitchen/dining area and a smoke detector installed in the hall and rooms of risk such as boilers or electrical cupboards over 1m² in size. This type of system comprises interlinked mains-powered detectors with an integral standby supply. The fire alarm system will be capable of achieving 75 dB(A) at bedhead.

4.2.4 Ventilation of Internal Flats Corridors

All apartments are provided with a fire resisting internal lobby. Where internal travel distances exceed the maximum allowances in table in section 4.1.4 of this report, flats will be provided with automatically opening windows which will vent to the elevation facing open air. Vented windows will provide a minimum free area of 1.5m².

4.3 Emergency Lighting and Exit and Escape Signage

4.3.1 Emergency Lighting

Emergency lighting will be provided throughout the building in accordance with BS 5266-1:2016. Emergency lighting – Part 1: Code of practice for the emergency lighting of premises.

Emergency lighting will be provided in escape routes, open areas, high-risk areas, and strategic points of importance including:

- Near each exit door intended to be used in an emergency
- Near to stairs so that each flight of stairs receives direct light
- Near change in levels
- Mandatory emergency exit and safety signs
- At each change of direction
- At each intersection of corridors
- Near to each final exit and outside the building to a place of safety
- near each piece of fire-fighting equipment and call points
- Disabled toilets
- All facilities exceeding 8m²

“Near” is normally considered to be within 2m measured horizontally

4.3.2 Exit and Escape Signage



All exits and exit routes will be clearly marked with appropriate escape signs so that the occupants can easily determine their most direct route to a place of safety in the event of an emergency.

Fire escape signs are to be provided to guide occupants from any point in a building, via a place of relative safety (the escape route) to the place of ultimate safety (outside the building). Exit and directional signage should be provided in accordance with the requirements of BS 5499:Part 4 and conform to BS EN ISO 7010.

Signage is provided to identify the available escape route / routes from each location within the building. To achieve this, the following principles have been adopted.

- Escape routes or doorways leading to a means of escape should be visible from any place within a room.
- If it is not possible to see the direct means of escape, then intermediate / additional signage to be considered.
- All changes of direction in corridors, stairways and open spaces forming part of the means of escape will be marked with intermediate signs.
- Signs are not to be fixed or sited where they could be obscured by open doors.

Escape route signs are to be sited conspicuously within the normal field of vision. The following principles, which will assist the evacuating occupants to predict the location of successive signs, should be applied:

- Signs above doors or open spaces should be mounted between 2m and 2.5m from floor level, measured to the base of the sign and be sited as close to the centre line of the escape route as practicable;
- Signs sited on walls should be mounted between 1.7m and 2m from floor level to the base of the sign;
- Signs should be sited at the same height throughout the escape route, so far as is reasonably practicable.

4.4 Manual Fire Fighting Equipment

It is not normally considered necessary to provide fire extinguishers or hose reels in the common parts of blocks of flats. Such equipment should only be used by those trained in its use. It is not considered appropriate or practicable for residents in a block of flats to receive such training.

In addition, if a fire occurs in a flat, the provision of fire extinguishing appliances in the common parts might encourage the occupants of the flat to enter the common parts to obtain an appliance and return to their flat to fight the fire. Such a procedure is inappropriate.

Any proposal for the provision of fire extinguishing appliances, or continued presence of existing equipment, should be based only on full justification of the proposal by a fire risk assessment.

However, it is appropriate to provide portable firefighting extinguishers in plant rooms or similar ancillary accommodation. This may include lift motor rooms, electrical intake or distribution rooms or gas intake rooms if provided.

4.5 Storage and charging of electric bikes or scooters

E-bikes and e-scooters are becoming increasingly popular. Most are powered by lithium-ion batteries which can be charged in the home. The use of these batteries in a wide range of household products is becoming increasingly common.

It is important when charging e-bikes and e-scooters, you do so safely to avoid a risk of a fire starting and putting persons, homes, and buildings at risk.

With an increased use of e-bikes and e-scooters, comes a corresponding fire safety concern associated with their charging and storage. The use of these products is expected to continue to rise. Some fire services and fire investigators have seen a rise in e-bike and e-scooter battery fires.

Currently there is limited data relating to the number of fires, but London Fire Brigade reported 8 fires caused by e-bikes and e-scooters in 2019. This rose to twenty-four in 2020 and fifty-nine by December 2021.

On occasions batteries can fail catastrophically, they can 'explode' and/or lead to a rapidly developing fire.

The incorrect disposal of lithium-ion batteries in general household and recycling waste can lead to significant waste fires. Prevention messaging is therefore important in supporting both FRS protection and operational staff.

The NFCC (National Fire Chiefs Council) have produced guidance on charging and storage of electric bikes and scooters. It is advised that consideration be made in regard to control measures and advice for residents of 90 Long Lane.

Charging:

- Follow the manufacturer's instructions when charging and always unplug your charger when it's finished charging.
- Ensure you have working smoke alarms. If you charge or store your e-bike or e-scooter in a garage or kitchen ensure you install detection, we recommend heat alarms rather smoke detectors for these areas.
- Charge batteries whilst you are awake and alert so if a fire should occur you can respond quickly. Don't leave batteries to charge while you are asleep or away from the home.
- Always use the manufacturer approved charger for the product, and if you spot any signs of wear and tear or damage buy an official replacement charger for your product from a reputable seller.
- Do not cover chargers or battery packs when charging as this could lead to overheating or even a fire.
- Do not charge batteries or store your e-bike or e-scooter near combustible or flammable materials.
- Do not overcharge your battery – check the manufacturer's instructions for charge times.
- Do not overload socket outlets or use inappropriate extension leads (use un-coiled extensions and ensure the lead is suitably rated for what you are plugging in to it).
- In the event of an e-bike, e-scooter or lithium-ion battery fire – do not attempt to extinguish the fire. Get out, stay out, call 999.

Storage:

- Avoid storing or charging e-bikes and e-scooters on escape routes or in communal areas of a multi occupied building. If there's a fire, it can affect people's ability to escape.
- Responsible Persons should consider the risks posed by e-bikes and e-scooters where they are charged or left in common areas such as means of escape, bike stores and mobility scooter charging rooms. They may wish to offer advice to residents on the safe use, storage and charging of these products.
- Store e-bikes and e-scooters and their batteries in a cool place. Avoid storing them in excessively hot or cold areas.
- Follow manufacturer's instructions for the storage and maintenance of lithium -ion batteries if they are not going to be used for extended periods of time.

5: B2 - Internal Fire Spread (Linings)

The choice of materials for walls and ceilings can significantly affect the spread of a fire and its rate of growth, even though they are not likely to be the materials first ignited it is particularly important in circulation spaces where the rapid spread of fire is most likely to prevent occupants escaping.

All surface finishes and internal linings are to be designed in accordance with ADB. A summary of the main features and classification requirements are provided in Table 1 when tested under the national classifications in accordance with BS 476 or the European classifications in accordance with BS EN 13501-1:2002

Table 1: Internal Fire Spread Classifications

Location	National Class	European Class
Small rooms of area no more than: a) 4m ² in residential accommodation. b) 30m ² in non-residential accommodation.	3	D-s3, d2
Circulation spaces within dwellings	1	C-s3, d2
Other rooms (including garages)		
Other circulation spaces, including the common areas of flats and maisonettes	0	B-s3, d2

Note 1: when a classification includes 's3, d2' this means that there is no limit on the production of smoke or flaming droplets/particles.

Note 2: a product achieving a classification 'A' achieves a higher standard than the minimum classifications set out in Table 1.

6: B3 - Internal Fire Spread (Structure)

Consideration must be given to the construction and finishing within the building so that suitable materials are provided that offer adequate fire resistance in the structure and segregation of the fire risks. This will prevent the rapid fire spread throughout the building and limit premature collapse of the structure.

All internal structures will be designed, constructed, repaired or replaced with materials that conform to British Standards and or European Standards. The structural performances will be in accordance with ADB's Appendix B: Performance of materials, products and structures Table B3 & B4 ADB 2019.

• 6.1 Compartmentation

The spread of fire within a building can be limited with the introduction of passive fire protection, which is sub-dividing the building into compartments separated by walls and or floors with a degree of fire resisting construction. Consequently, these can restrict the spread of fire that could trap occupants of the flats, therefore, reducing the risk of fires becoming large.

Passive compartmentation will be provided in accordance with Appendix B: Performance of materials, products, and structures Table B4 ADB 2019. Where the minimum period of fire resistance for an un-sprinklered building up to 11m is 60 mins as below:

Table B4 Minimum periods of fire resistance							
Purpose group of building	Minimum periods of fire resistance ⁽¹⁾ (minutes) in a:						
	Basement storey* including floor over		Ground or upper storey				
	Depth (m) of the lowest basement		Height (m) of top floor above ground, in a building or separated part of a building				
	More than 10	Up to 10	Up to 5	Up to 11	Up to 18	Up to 30	More than 30
1. Residential:							
a. Block of flats							
– without sprinkler system	90 min	60 min	30 min ¹	60 min ^{1,5}	Not permitted ⁽²⁾	Not permitted ⁽²⁾	Not permitted ⁽²⁾
– with sprinkler system ⁽³⁾	90 min	60 min	30 min ¹	60 min ^{1,5}	60 min ^{1,5}	90 min ¹	120 min ¹

A summary of the compartmentation can be found below:

Compartmentation	Time Requirements
Compartment floors	60 Minutes
Compartment walls between apartments	60 Minutes
Compartment walls between apartments and circulation spaces	60 Minutes
Apartment internal hallway walls	30 Minutes
Staircase enclosure	60 Minutes
Storerooms/Plant Rooms	60 Minutes

It is noted that walls will be formed of existing masonry construction and existing timber stud frame as well newly installed timber stud frame. Examples of timber stud fire rated wall details are shown below. These are for reference only and not implied as finished details.

Figure 6.1a: Example of a 30-minute FR stud wall detail.

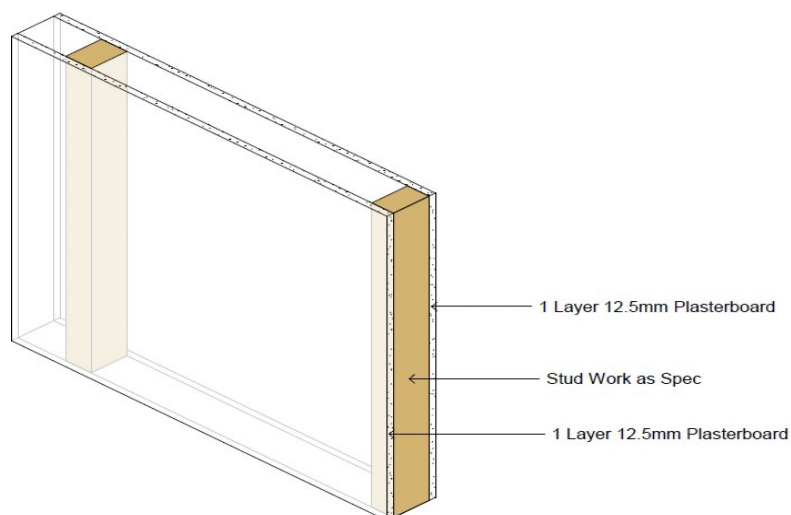
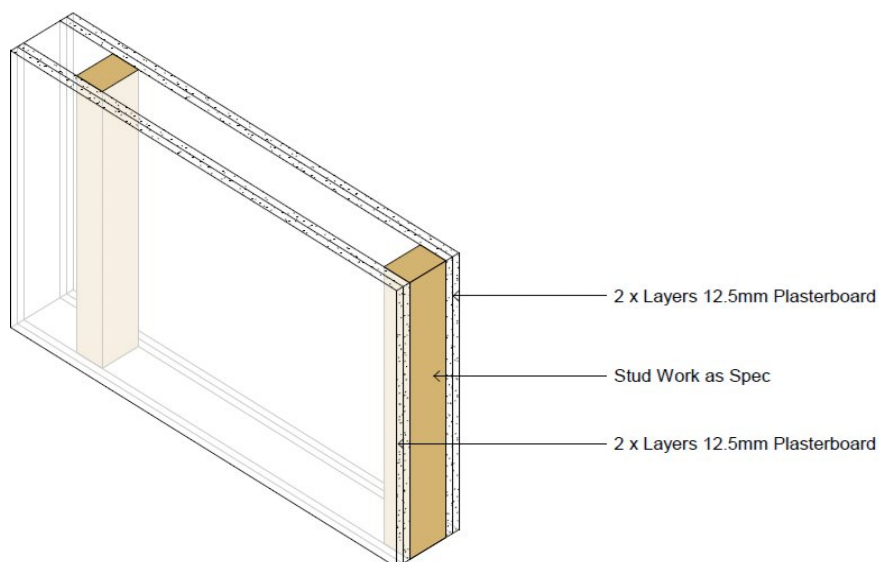


Figure 6.1b: Example of a 60-minute FR stud wall detail.



Both sides of the wall **MUST** be the same detail, therefore, each side will provide the same degree of fire resistance.

The following text discusses how the building is to be constructed to ensure that it is sufficiently safe during a fire.

- **6.2 Elements of Structure**

The elements of structure will have adequate fire resistance to ensure they do not fail prematurely and contribute to the collapse of the load bearing elements of the building that could endanger the lives of the building occupants and the Fire Service.

The requirements of the Building Regulations, with regard to the building structure is that:

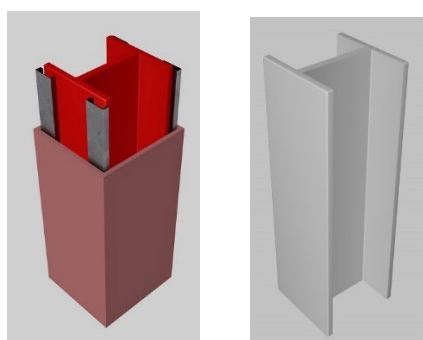
The building shall be designed and constructed so that, in the event of fire its stability will be maintained for a reasonable period. Minimum fire resistance for frame, beams and columns should be 60 minutes

For sprinklered buildings up to 18m in height, according to ADB volume 1, table B4, the minimum period of fire resistance on the ground and upper storeys is 60 minutes.

All internal structures will be designed and constructed, with materials that conform to British Standards and or European Standards. The structural performances will be in accordance with ADB's Appendix A: Performance of materials, products, and structures Table A1 ADB.

Any possible exposed steel columns, beams or joists are to be protected by intumescent covering or boarding affording 60 minutes fire protection, ensuring that where they cross lines of compartmentation, the protective materials extend into both sides of the compartment line. Certification / details of the intumescent covering to be provided by the client.

Figure 6.2a: Examples of boarded or intumescent painted beams.



- **6.3 Fire-rated doors**

All fire doors indicated with suffix (s) should be fitted with intumescent strips and cold smoke seals. The following sizes of strips and seals should be fitted to the frame or fire door.

Fire Door Rating	Intumescent strip and cold smoke seal sizes
FD30s	15mm x 4mm
FD60s	20mm x 4mm or two 10mm x 4mm

Fire door-sets and 'smoke sealing' will be provided in accordance with BS 476. The fire rated fire-sets to be rated in accordance with the Table below:

Note - s indicates intumescent strips and cold smoke seals

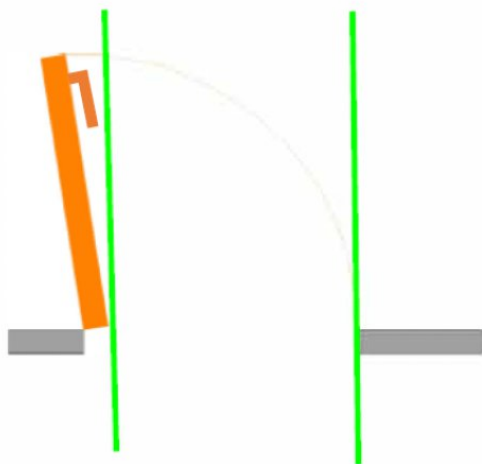
Door set location/use	Door set fire rating	Self-closing devices required	Signage required
Apartment front doors	FD 30s	Yes	Fire Door keep Shut
Apartment internal doors	FD 20s (minimum)	Yes	N/A
Apartment kitchen doors (or rooms with cooking facilities incorporated)	FD 30s	Yes	N/A
Protected lobby or stair entrance	FD 30s	Yes	Fire Door keep Shut
Doors on plant rooms, special fire hazard rooms.	FD 60s	Yes	Fire Door Keep Locked Shut
Riser Cupboards	FD 30s	No	Fire Door Keep Locked Shut

All fire door-sets, except those covering cupboards and service ducts that are normally kept locked shut, are kept closed using automatic self-closing mechanisms.

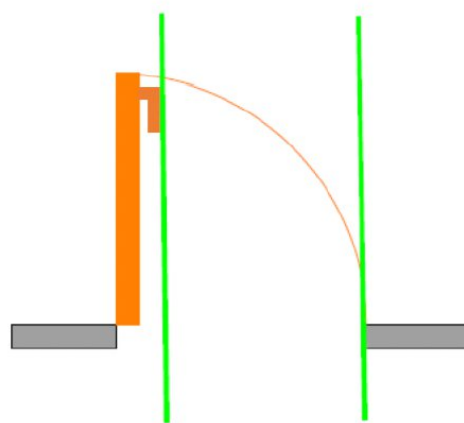
Where suitable or deemed necessary, self-closing fire door-sets may be fitted with an automatic release mechanism to enable them to be held open. These devices would be connected to the fire alarm (see section 3.2.1) and release upon local smoke detector activation or power failure.

Doors on escape routes

- The cross-corridor door can be hung in either direction.
- All doors on escape routes should be hung to open not less than 90 degrees (see figure 1).
- Any door that opens towards a corridor or a stairway should be sufficiently recessed to prevent its swing from encroaching on the effective width of the stairway or corridor.



Because the door opens further than 90° you can measure the clear width from the door to the door casing

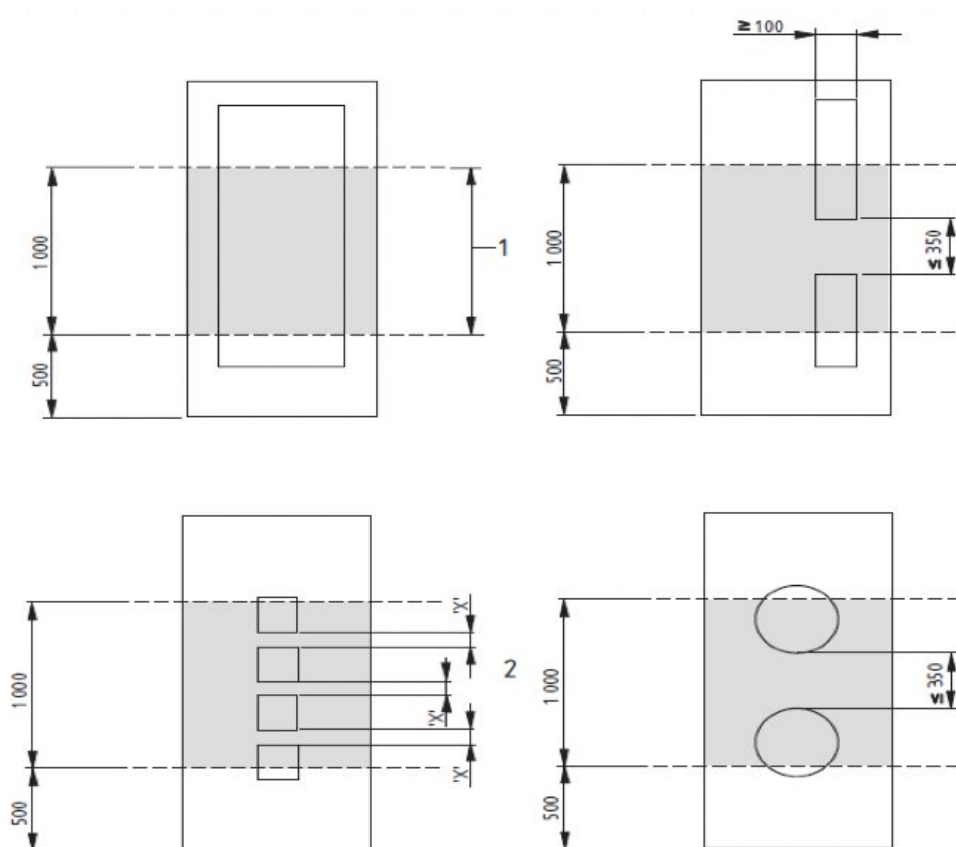


Because the door opens, less than 90° the ironmongery is now protruding into the space and therefore, the clear effective width is less. In this situation, you measure from the door ironmongery to the door casing.

Above: Effective Door Width

Vision panels

Vision panels are to be installed in cross- corridor doors and lobby doors to alert people approaching a door to the presence of another person on the other side. If a door has a single viewing panel, the minimum zone of visibility should be between 500 mm and 1 500 mm from the floor. If a door has multiple viewing panels, the minimum zone of visibility should not be interrupted by opaque areas that obstruct more than 350 mm of the vertical height of the zone. Where the minimum zone of visibility is interrupted, there should be a vision panel at both the top and bottom of the zone. Vision panels should be positioned centrally on the door or offset towards its leading edge (see Figure 13). Each individual viewing panel should be not less than 100 mm in width.

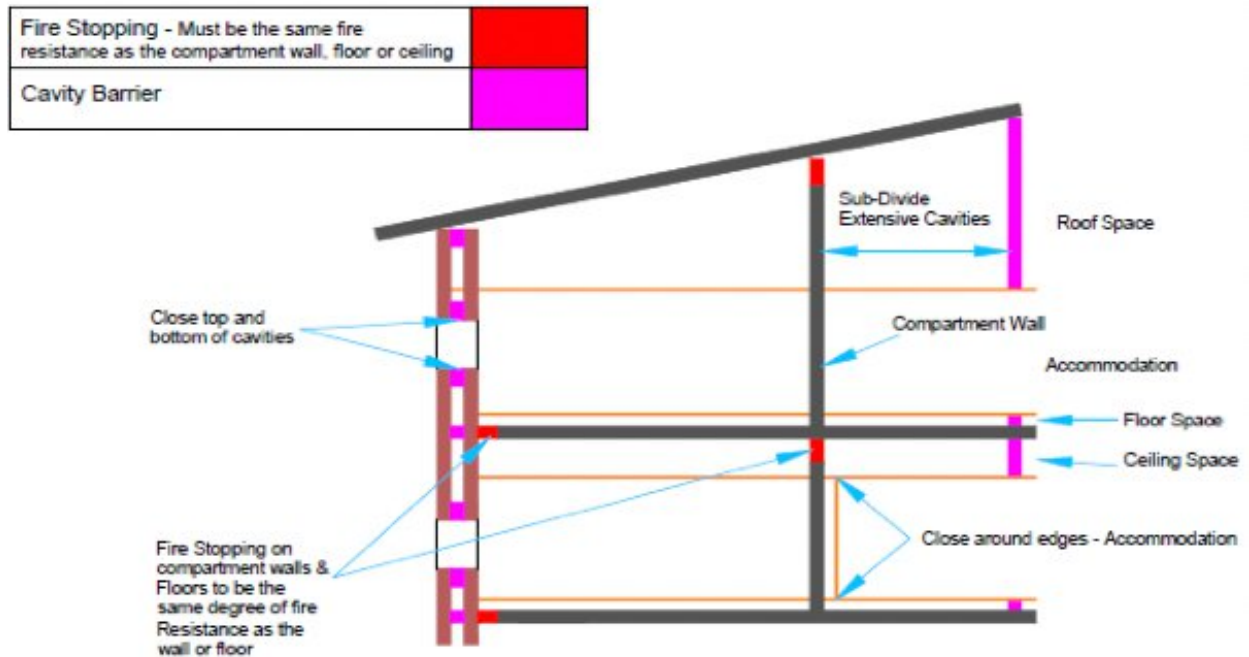


Key

- 1 Minimum zone of visibility between 500 mm and 1 500 mm above floor level, with maximum interruption of 350 mm vertically within the zone
- 2 Maximum obstruction (X + X + X) no more than 350 mm

- **6.4 Unseen Fire Spread (Cavity Barriers)**

The provision of cavity barriers in concealed spaces such as walls, floors and ceiling cavities will be in accordance with Section 9 of ADB. Cavity barriers shall offer a minimum of 30 minutes fire resistance in terms of integrity and 15 minutes fire resistance in terms of insulation. However, should the wall, floor or ceiling be of a greater fire resistance than that of 30 minutes the cavity barrier should be the same fire resistance as the wall, floor or ceiling. Sub-division of the roof space should be in line with ADB and therefore, should any roof space span be greater than 20m then the roof space should be sub-divided



• 6.5 Fire-Stopping and Protection of Openings

If a fire-separating element is to be effective, every joint or imperfection of fit, or opening to allow services to pass through the element, should be adequately protected by fire collars, fire resistant sealant or intumescent fire stopping so that the fire resistance of the element is not impaired. During the construction phase, the utilisation of intumescent pillows is recommended to fire stop services, which breach compartment walls and floors.

All services, cables or pipe work that penetrates a compartment wall or floor will be fire-stopped in line with sections 10.5 – 10.8 ADB and the following table 11 below. As the project progresses the project manager and the Regulatory bodies who will ultimately sign off each floor should regularly monitor stopping.

The period of fire resistance of any fire stopping materials used, should match that of the compartment wall or enclosure it is sealing.

All ventilation that may possibly span compartmentation will be fitted with fire dampers to prevent the spread of fire from one compartment to another. The exhaust paths for the ventilation shall not be located within communal areas and should be expelled external to the building.

Maximum nominal internal diameter of pipes passing through a compartment wall or floor

Situation	Pipe materials and maximum nominal internal diameter (mm)		
	(a) Non-combustible materials	(b) Lead, aluminium, aluminium alloy, uPVC2, fibre cement	© Any other material
1. Structure (but not a wall separating buildings) enclosing a protected shaft which is not a stairway or lift shaft	160	110	40
2. Compartment wall or compartment floor between flats	160	160 (stack pipe) 110 (branch pipe)	40
3. Any other situation	160	40	40

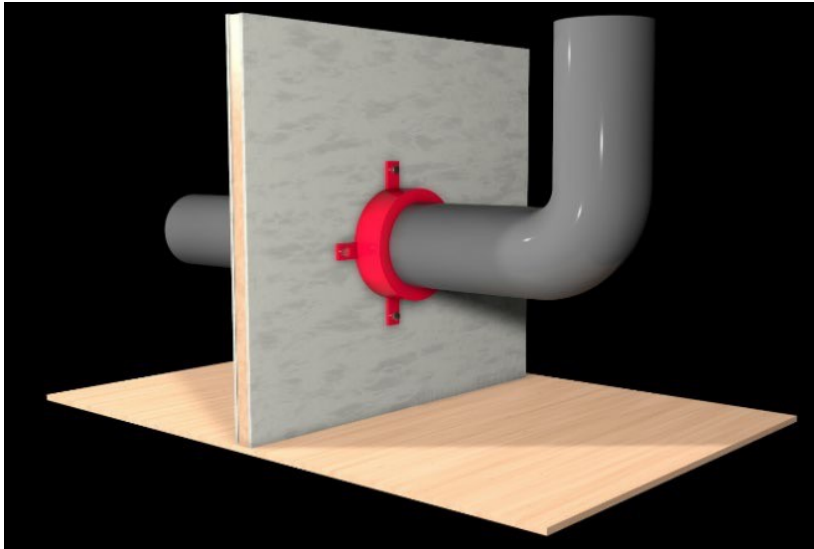
Note:

- Any non-combustible material (such as cast iron, copper or steel) which, if exposed to a temperature of 800oC, will not soften or fracture to the extent that flame or hot gas will pass through the wall of the pipe.
- uPVC pipes complying with BS 4514:2001 and uPVC pipes complying with BS 5255:1989.
- These diameters are only in relation to pipes forming part of an above-ground drainage system and enclosed as shown in Diagram 38. In other cases the maximum diameters against situation 3 apply.

Pipes that pass through a fire-separating element (unless the pipe is in a protected shaft), should meet the appropriate provisions in alternatives A, B or C below.

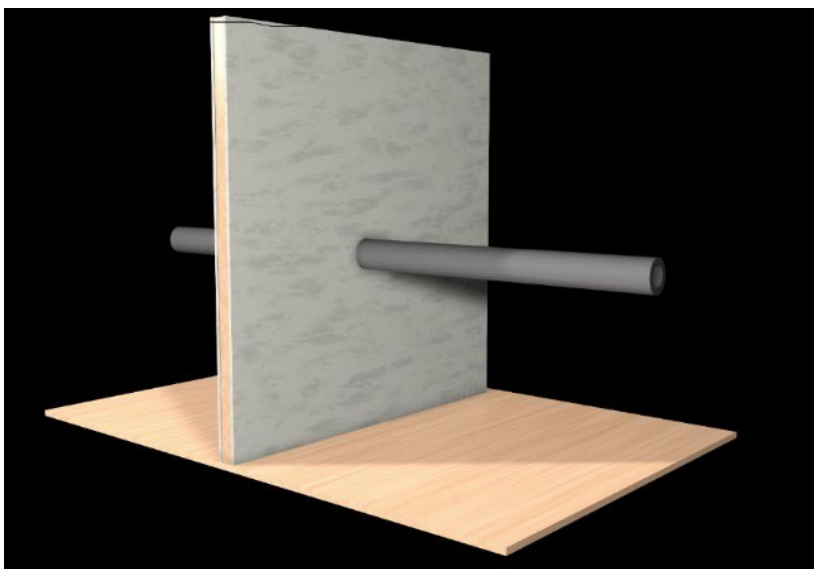
Alternative A: Proprietary seals (any pipe diameter)

Provide a proprietary sealing system, which has been shown by test to maintain the fire resistance of the wall, floor or cavity barrier.



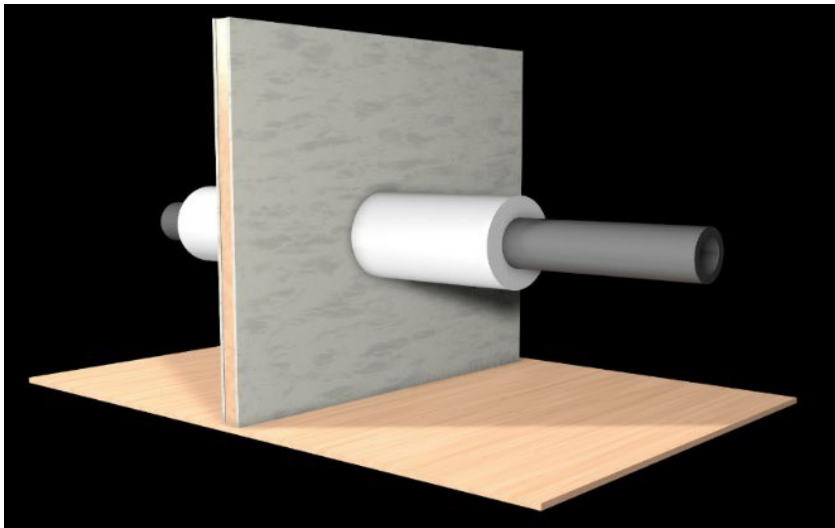
Alternative B: Pipes with a restricted diameter

Where a proprietary sealing system is not used, fire-stopping may be used around the pipe, keeping the opening as small as possible. The nominal internal diameter of the pipe should not be more than the relevant dimension given in the table above.

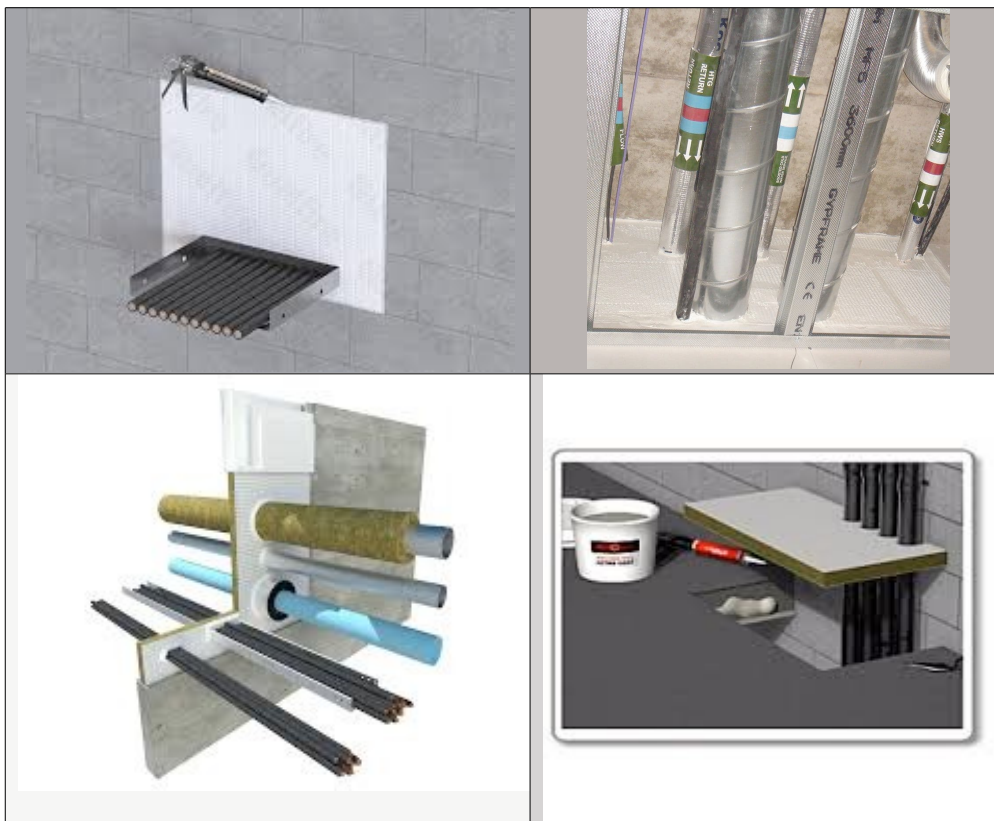


Alternative C: Sleeving

A pipe of lead, aluminium, aluminium alloy, fibre- cement or uPVC, with a maximum nominal internal diameter of 160mm, may be used with a sleeving of non-combustible pipe as shown below.



Examples of fire stopping or fire barrier installation in riser or compartment breach situations.



7: B4 - External Fire Spread

The Building Regulations require that reasonable precautions be taken to minimise the risk of fire spreading between buildings by radiant heat transfer. This can be achieved by ensuring that buildings are located far enough apart to prevent fire spread or by reducing the level of unprotected area (glazing) on a façade wall.

7.1 External Wall Fire Spread and Space Separation

External wall surfaces will achieve a Class 0 surface spread of flame classification. As this is an internal refurbishment, the external façade will not be adversely affected therefore, the external fire spread from the building will be deemed acceptable if all cavities, areas of insulation etc., are suitably protected against fire spread.

Note - Buildings over 18m or less than 1m from a relevant boundary (not including Assembly or Recreation Buildings of more than one storey) - The external envelope of the building needs to be comprised of materials that achieve A2 to BSEN13501 - limited combustibility with a surface spread of flame of Class 0 (BS476:7 & 6) or B-s3, d2 (BSEN13501) or better.

Or - tested as a system to BS8414 parts 1 or 2 (depending on the system) with a BR135 classification.

Should the external envelope fall outside the scope of the two above specifications then a technical assessment will be undertaken by D R Davis Fire Solutions to ensure the suitability of the system.

8: B5 - Access and Facilities for The Fire Service

To assist the Fire and Rescue Service, some or all of the following facilities may be necessary depending on the size of the building:

- Vehicle access for fire appliances
- Access for fire-fighting personnel
- The provision of fire mains within the building
- The provision of adequate water supplies

The requirements of the Building Regulations in respect to access and facilities for the fire service are as follows:

- The building shall be designed and constructed so as to provide reasonable facilities to assist fire-fighters in the protection of life.
- Reasonable provision shall be made within the site of the building to enable fire appliances to gain access to the building.

8.1 Fire-Fighting Approach and Dry Rising Main

In accordance with AD B, any points within any apartment will should be within 45m of a fire service appliance parking point or a fire main outlet. Due to the height of the residential sections of the building and the likelihood of the fire-fighting appliance being parked within 45m of all parts of all apartments, the fire-fighting approach **will not** be to provide internal dry mains.

8.2 Fire Service Vehicle Access Route

Fire appliances will be able to access the property from Long Lane.

Main firefighter access to the flats is achievable from the front parking area only.

The Fire Service access route appears to conform with information of requirements given in the following table.

Appliance Type	Minimum width of road between kerbs (m)	Minimum width of gateways (m)	Minimum turning circle between kerbs (m)	Minimum turning circle between walls (m)	Minimum clearance height (m)	Minimum carrying capacity (tonnes)
Pump	3.7	3.1	16.8	19.2	3.7	12.5

8.3 Internal Access for Fire Service Personnel

Main firefighter access level to the internal spaces of building will be via the main entrance located on the central staircase area.

From the location of the fire engine on the front parking area there is a travel distance of 34m to the furthest point in the second floor Flat 9. This distance is less than the allowable 45m travel distance under ADB.

8.4 External Fire Hydrants

External fire hydrants are provided in accordance with the requirements of the Building Regulations within 90m of the expected fire pump appliance parking position. The fire Hydrant is located outside 90 Long Lane.

9: Fire Safety Management

It is widely acknowledged that the design and engineering put into a building for life safety can only do its job properly if it can be managed, maintained, and tested over the whole life of the building, and if the staff are trained to handle incidents and operate effective and tested emergency plans.

Upon hand-over of the building by the design team, good management of fire safety becomes the key element to fire safety for the life of the building. Effective management of fire safety can contribute to the protection of the building occupants in many ways:

- by working to prevent fires occurring in the first place (e.g. housekeeping, regular building maintenance, security)
- by being aware of the types of people in the building and any special risks or needs (such as disabled people)
- by ensuring that all of the fire safety measures in the building are kept in working order, and in particular that the means of escape are always available
- by undertaking safety system reviews and fire risk assessments and ensuring that they are both constantly reviewed so that the precautions are adequate and effective by taking command in the event of a fire until the fire service arrives

Fire safety provisions are dependent upon a sufficient level of management within the building and these responsibilities can reside with a single defined individual or be distributed amongst a number of managers or staff. For the management of fire safety to be effective, the fire safety manager needs to be empowered and to command sufficient resources to maintain the systems. The manager or managers with responsibility for fire safety need to be empowered to enforce requirements, initiate testing, maintenance or repair and where necessary command staff.

Reference is made in this document to BS 5588 Part 12, which gives recommendations for the management of fire safety over the lifetime of a building and considers issues during the design process as well as those that will apply whilst the building is in use or which need to be taken into account when alterations to the building or the use of it are being considered. These issues are the responsibility of the management of the occupied building.

Fire safety management within the building, including any eventual tenancies, will be detailed in a “Fire Safety Management Plan”. This plan would be a working document and therefore frequently updated to reflect the nature of the changing risks within the building.

Fire Safety Management Assumptions

The strategy contained herein has been written on the assumption that the building concerned will be properly managed. This section of the report defines the minimum standard of management that has been assumed as well as any specific management requirements or procedures that are required to validate the strategy defined in subsequent sections. Failure to comply with these requirements will invalidate this fire strategy.

Management Standards

The building should be properly managed, and a Fire Safety Management Plan and Manual should be developed. Once the building is in use, the management regime should be maintained and any variation in that regime should be the subject of a suitable Fire Risk Assessment.

Regulatory Reform (Fire Safety) Order 2005

The Regulatory Reform (Fire Safety) Order came into force on the 1st October 2006. The order consolidates nearly all previous fire safety legislation revoking the Fire Precautions Act and the Workplace Regulations. The Order places a general duty of fire safety care on employees, occupiers and / or owners of businesses to provide and maintain adequate fire precautions throughout their premises.

The responsible person has a duty to carry out a fire risk assessment which must focus on the safety in case of fire of all 'relevant persons'. The risk assessment should pay particular attention to the following areas:

- Identifying Fire hazards – sources of ignition, fuel, oxygen
- Identifying people at risk
- Reducing the risk
- Recording the findings
- Reviewing the outcomes

Regulation 38

Regulation 38 requires that, where building work involves the erection or extension of a relevant building, or relevant changes of use of a building, fire safety information shall be given to the responsible person at the completion of the project or when the building or extension is first occupied. The information will facilitate the production of the fire risk assessment. This strategy should be maintained throughout the building works and all stakeholders are required to inform the Fire Engineers of any changes to the building design to ensure that the finished strategy accurately reflects the complete design.

10: References

The Building Regulations (Amendment) Regulations 2010

The Building Regulations 2010: Approved Document: B Volume 1 2019 (incorporating 2021 amendments),

BS 5588-1:1990 Fire precautions in the design, construction, and use of buildings. Code of practice for residential buildings

The Regulatory Reform (Fire Safety) Order 2006

BS 5588: Part 5: Fire precautions in the design, construction, and use of buildings. Access and facilities for firefighting.

BR 187, External Fire Spread: building separation and boundary Distances, 2014

BS 476: Part 7: Fire tests on building materials and structures. Method of test to determine the classification of the surface spread of flame of products.

BS EN 13501: Part 1: Fire classification of construction products and building elements. Classification using test data from reaction to fire tests.

BS 5588: Part 9: Fire precautions in the design, construction, and use of buildings. Code of practice for ventilation and air conditioning ductwork.

BS 476: Part 22: Fire tests on building materials and structures. Methods for determination of the fire resistance of non-loadbearing elements of construction.

BS 476 Part 6: Fire tests on building materials and structures. Method of test for fire propagation for products.

BS EN ISO 1182: Reaction to fire tests for building products. Non-combustibility test.

BS 5266 Part 1: Emergency lighting. Code of practice for the emergency lighting of premises.

BS EN 1838:1999 * BS 5266-7: Lighting applications. Emergency lighting.

BS 5499: Part 1. Graphical symbols and signs. Safety signs, including fire safety signs. "Specification for geometric shapes, colours and layout"

BS 5499: Part 4: Safety signs, including fire safety signs. Code of practice for escape route signing.

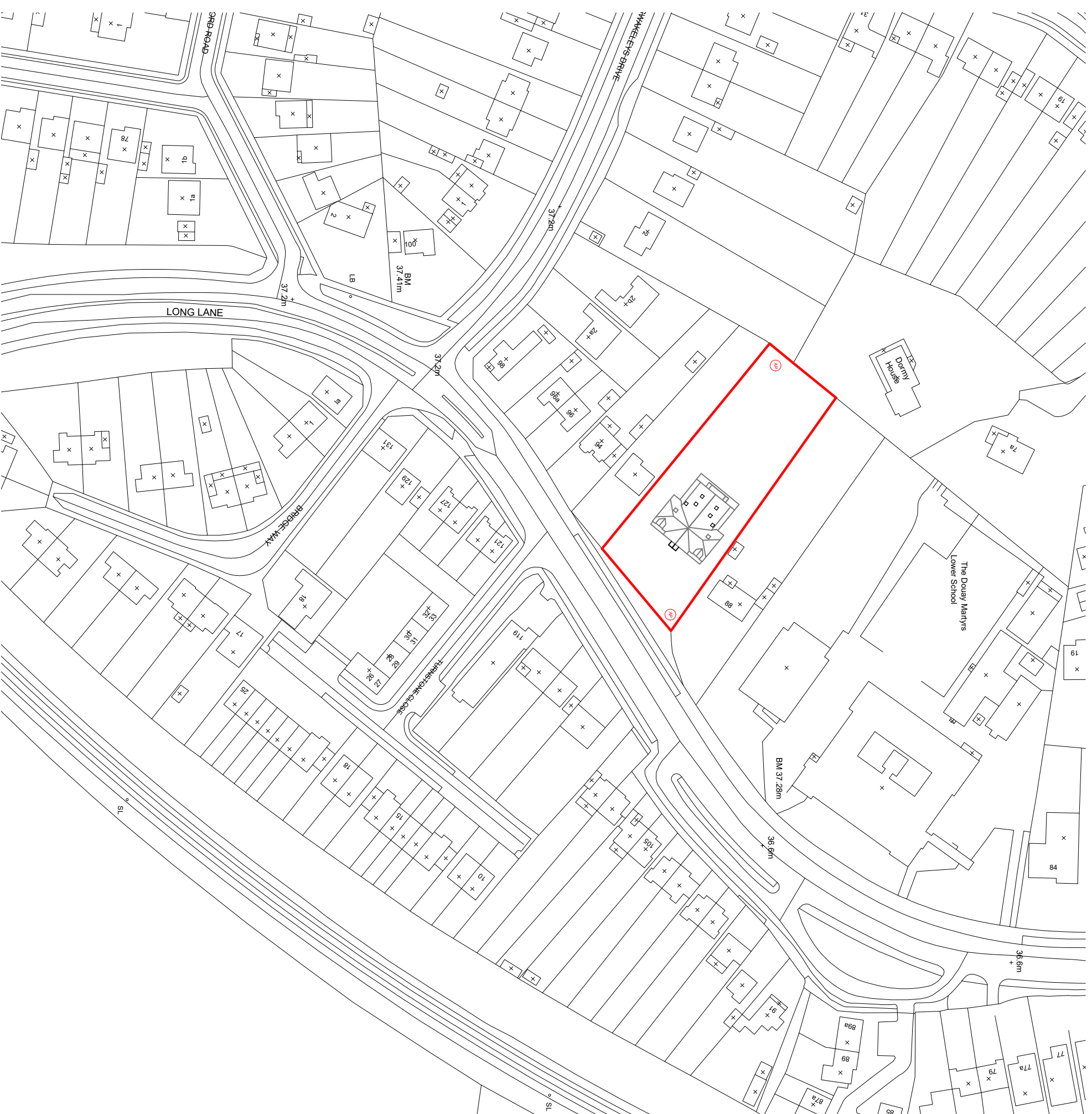
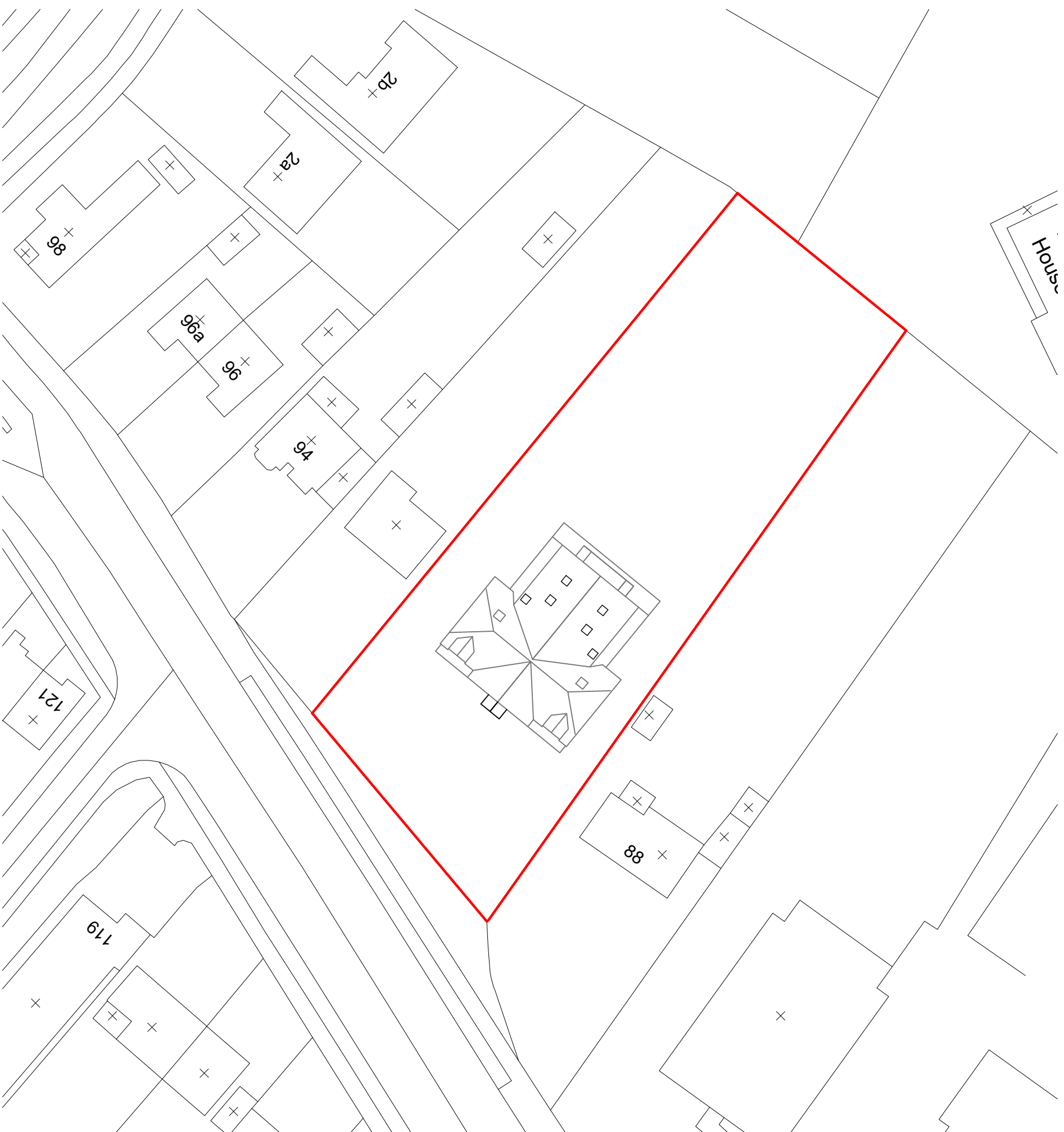
BS 5839: Part 1

BS 5839: Part 6

BS 5588: Part 12: Fire precautions in the design, construction, and use of buildings. Managing fire safety.

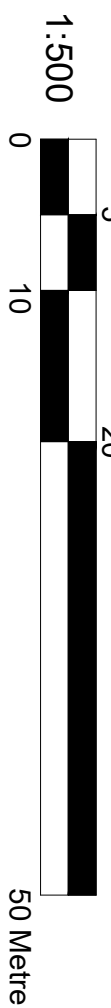
BS 9991:2015 Fire Safety in the design, management, and use of residential buildings. Code of Practice

10: Drawings



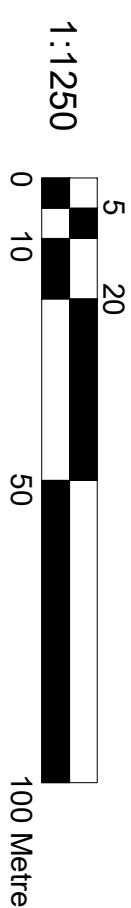
Block Plan
Scale 1:500

Scale 1:500

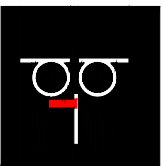


Location Plan
Scale 1:1250

Scale 1:1250



SYMBOL	DESCRIPTION
	-assembly point



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Site Address:

90 Long Lane
Ickenham
UB10 8SX

Title:

Block Plan

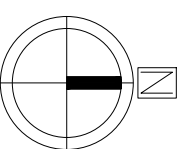
Location Plan

Scale:

1:500/1250

Paper Size:

A3



Drawn By:

NM

Checked By:

RB

Date: 01/2026

01/2026

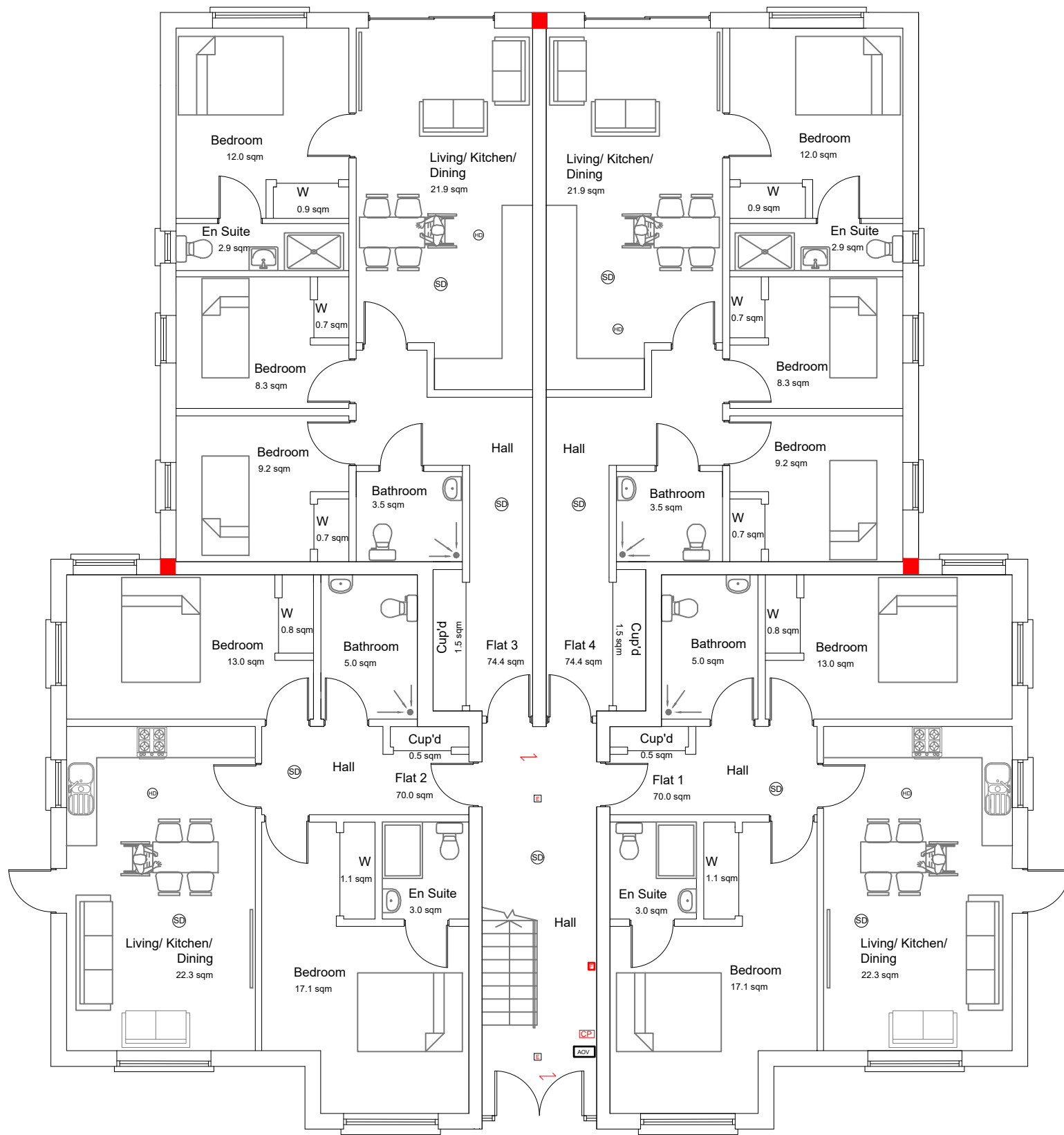
Drawing No.

PL7/SM/2964 - 00

Revisions:

Rev	Revision
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Date _____



Proposed Ground Floor Plan
Scale:1:100

SYMBOL	DESCRIPTION
	MAINS OPERATED SMOKE DETECTOR
	EMERGENCY LIGHT
	CALL POINT
	FIRE EXIT SIGN
	EXTRACT FAN
	HEAT DETECTOR
	EXTERNAL LIGHT
	FIRE PANEL
	-assembly point
	-fire exit
	- fire extinguisher
	- AOV
	- Fire stop

NOTE:- CAT 6 CABLE AND SKY PLUS CABLE TO BE USED

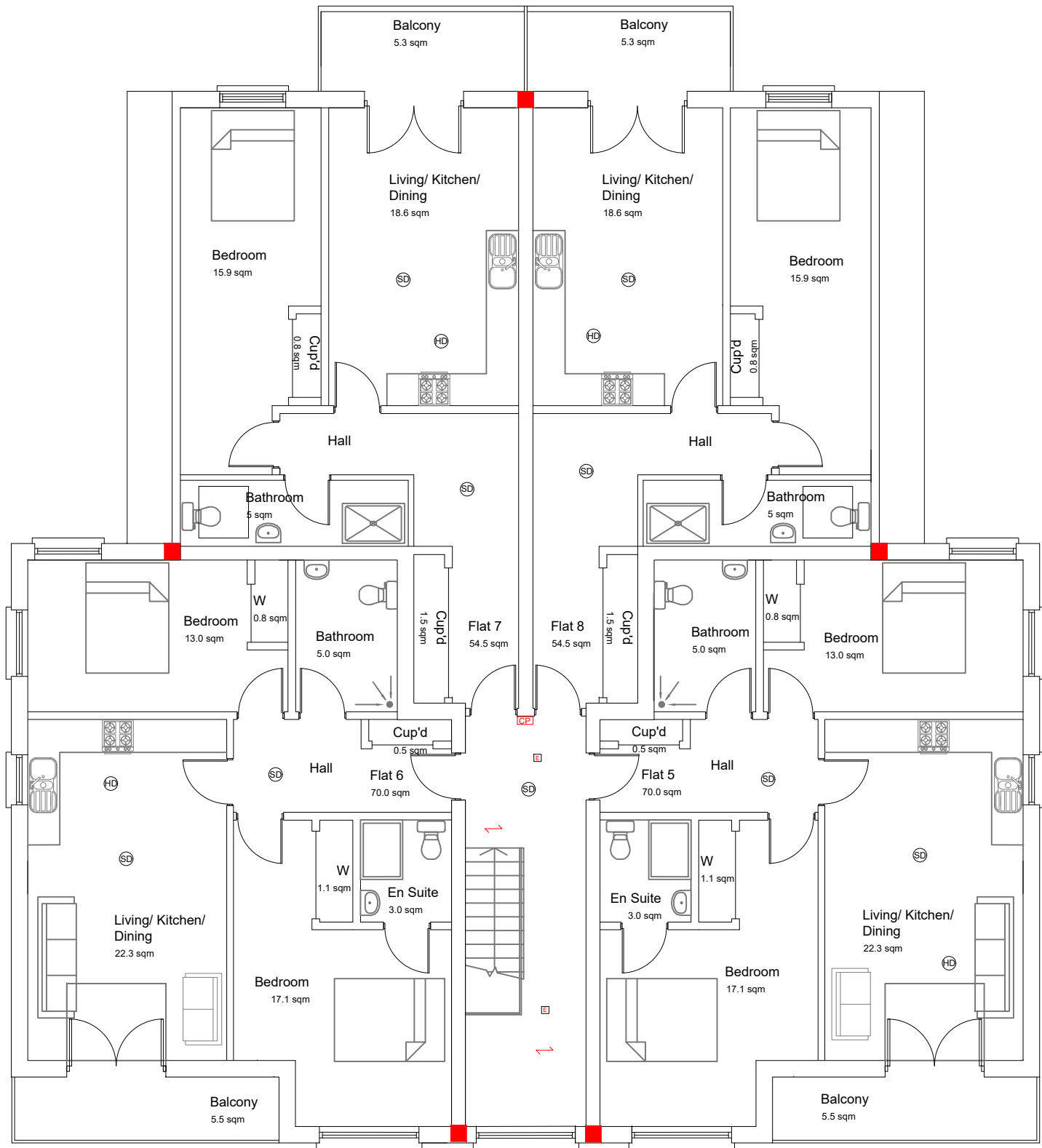
- Smoke alarm and heat alarms as per BS 5446-2 :2003
- Smoke alarm and heat alarms as per BS 5446-2 :2003
- Emergency Lights as per BS 5266-1 :2016

FD30 All doors to be half hour fire check door unless otherwise stated.

FD30S All flat entrance doors to be FD30S.
All windows to have 0.33m2 min openable area with 450mm in either direction.

Escape signage to BS 5499-part 4 2013
Ventilation of stairs - automatic opening vents with override facilities in order accordance with ADB and BS 9991
Compartmentisation stairs - 60min FR
Compartmentation walls and floor - 60min fire rating
Internal apartment walls - 30 min fire rating
Cavity barriers - 60 min fire rating
All doors in corridors and common areas to have fire door keep shut signage
All steel to have 1Hr.Fire Protection

 BANCIL PROPERTY CONSULTANTS LTD	Dimensions to be verified on site DO NOT SCALE FROM THIS DRAWING. Any areas indicated on this drawing are for guidance only. No responsibility is taken for their accuracy. This drawing is the property of BANCIL ROPERTY CONSULTANTS LTD Copyright is reserved by them and the drawing is issued on the condition that it is not copied, reproduced, retained or disclosed to any unauthorised person, either wholly or in part without the consent in writing of BANCIL ROPERTY CONSULTANTS LTD	Site Address:	Client Detail:	Title:				Drawn By: NM	Revisions:		
		90 Long Lane Ickenham UB10 8SX		Proposed Ground Floor Plan	Checked By: SM	Date: 01/2026	Drawing No. PL7/SM/2964 - 20	Rev	Revision	Date	
	131 Heston Road, Hounslow, Middx, TW5 ORD Tel: 020 8574 4546 Fax: 020 8574 4526			Scale:	1:100	Paper Size:	A3				



Proposed First Floor Plan
Scale:1:100

SYMBOL	DESCRIPTION
	MAINS OPERATED SMOKE DETECTOR
	EMERGENCY LIGHT
	CALL POINT
	FIRE EXIT SIGN
	EXTRACT FAN
	HEAT DETECTOR
	EXTERNAL LIGHT
	FIRE PANEL
	-assembly point
	-fire exit
	- fire extinguisher
	- ADV
	- Fire stop

NOTE:- CAT 6 CABLE AND SKY PLUS CABLE TO BE USED

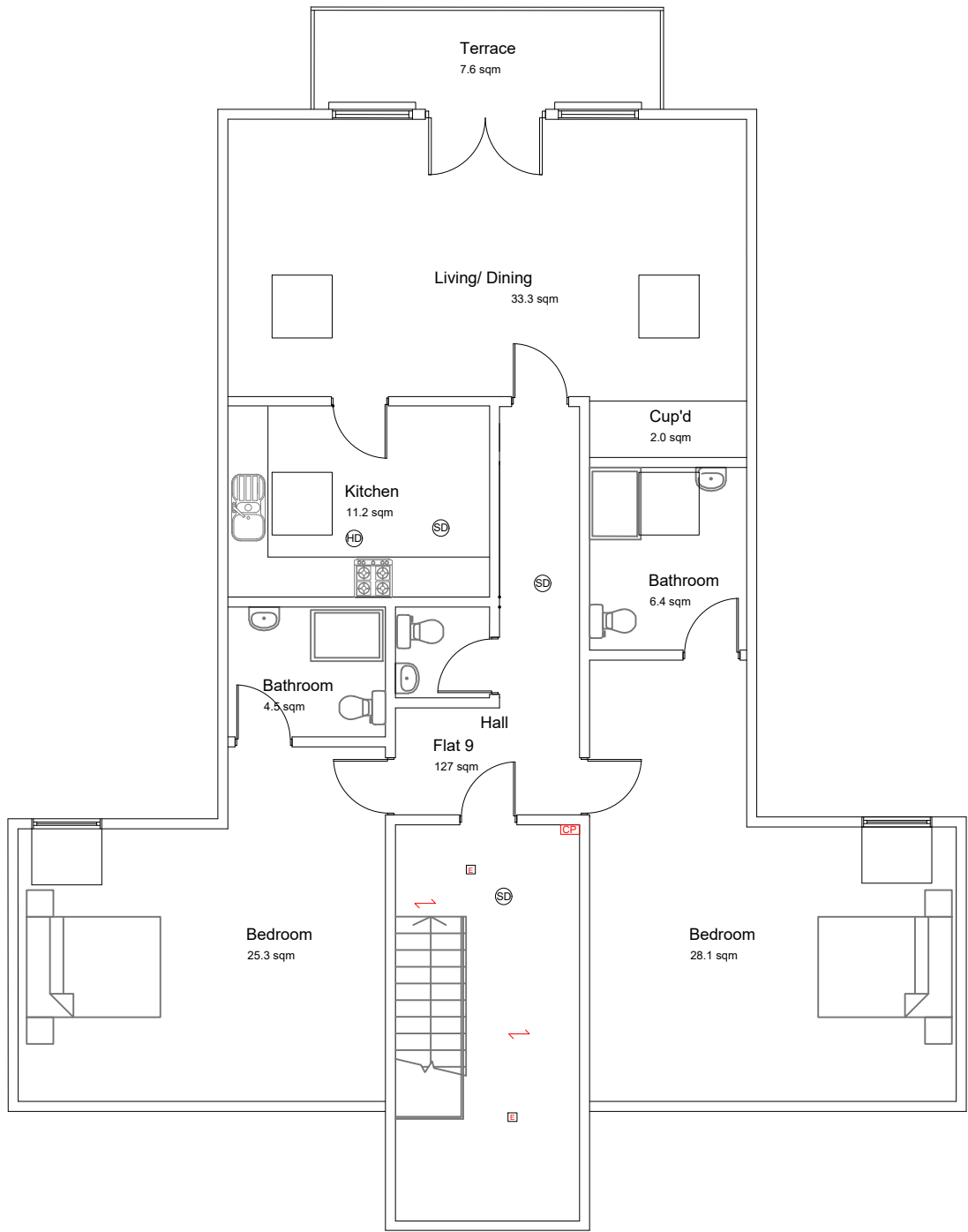
- Smoke alarm and heat alarms as per BS 5446-2 :2003
 Smoke alarm and heat alarms as per BS 5446-2 :2003
 Emergency Lights as per BS 5266-1 :2016

FD30 All doors to be half hour fire check door unless otherwise stated.

FD30S All flat entrance doors to be FD30S.
All windows to have 0.33m2 min openable area with 450mm in either direction.

Escape signage to BS 5499-part 4 2013
Ventilation of stairs - automatic opening vents with override facilities
in order accordance with ADB and BS 9991
Compartmentisation stairs - 60min FR
Compartmentation walls and floor - 60min fire rating
Internal apartment walls - 30 min fire rating
Cavity barriers - 60 min fire rating
All doors in corridors and common areas to have fire door
keep shut signage
All steel to have 1Hr.Fire Protection

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		90 Long Lane Ickenham UB10 8SX		Proposed First Floor Plan				Checked By:	SM	Rev	Revision	Date
								Date:	01/2026			
								Drawing No.	PL7/SM/2964 - 21			
		131 Heston Road, Hounslow, Middx, TW5 0RD Tel: 020 8574 4546 Fax: 020 8574 4526		Scale:	1:100	Paper Size:	A3					



SYMBOL	DESCRIPTION
	MAINS OPERATED SMOKE DETECTOR
	EMERGENCY LIGHT
	CALL POINT
	FIRE EXIT SIGN
	EXTRACT FAN
	HEAT DETECTOR
	EXTERNAL LIGHT
	FIRE PANEL
	-assembly point
	-fire exit
	- fire extinguisher
	- AOV
	- Fire stop

NOTE:- CAT 6 CABLE AND SKY PLUS CABLE TO BE USED

- Smoke alarm and heat alarms as per BS 5446-2 :2003
 Smoke alarm and heat alarms as per BS 5446-2 :2003
 Emergency Lights as per BS 5266-1 :2016

FD30 All doors to be half hour fire check door unless otherwise stated.

FD30S All flat entrance doors to be FD30S.

All windows to have 0.33m² min openable area with 450mm in either direction.

Escape signage to BS 5499-part 4 2013
Ventilation of stairs - automatic opening vents with override facilities in order accordance with ADB and BS 9991
Compartmentisation stairs - 60min FR
Compartmentation walls and floor - 60min fire rating
Internal apartment walls - 30 min fire rating
Cavity barriers - 60 min fire rating

All doors in corridors and common areas to have fire door keep shut signage

All steel to have 1Hr.Fire Protection

Proposed Second Floor Plan
Scale:1:100

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		90 Long Lane Ickenham UB10 8SX		Proposed Second Floor Plan				Checked By:	SM	Rev	Revision	Date
								Date:	01/2026			
		131 Heston Road, Hounslow, Middx, TW5 0RD Tel: 020 8574 4546 Fax: 020 8574 4526		Scale:	1:100	Paper Size:	A3	Drawing No.	PL7/SM/2964 - 22			



E-bikes and e-scooters fire safety guidance

E-bikes and e-scooters are becoming increasingly popular. Most are powered by lithium-ion batteries which can be charged in the home. The use of these batteries in a wide range of household products is becoming increasingly common.

It is important when charging e-bikes and e-scooters, you do so safely to avoid a risk of a fire starting and putting your families and homes at risk.

With an increased use of e-bikes and e-scooters, comes a corresponding fire safety concern associated with their charging and storage. The use of these products is expected to continue to rise. Some fire services and fire investigators have seen a rise in e-bike and e-scooter battery fires.

Currently there is limited data relating to the number of fires, but London Fire Brigade reported 8 fires caused by e-bikes and e-scooters in 2019. This rose to twenty-four in 2020 and fifty-nine by December 2021.

On occasions batteries can fail catastrophically, they can 'explode' and/or lead to a rapidly developing fire.

The incorrect disposal of lithium-ion batteries in general household and recycling waste can lead to significant waste fires. Prevention messaging is therefore important in supporting both FRS protection and operational staff.

Key messages

The following messages can be useful in communicating the risk and minimising the risk of fire to the public:

Charging

- Follow the manufacturer's instructions when charging and always unplug your charger when it's finished charging.
- Ensure you have working smoke alarms. If you charge or store your e-bike or e-scooter in a garage or kitchen ensure you install detection, we recommend heat alarms rather than smoke detectors for these areas.
- Charge batteries whilst you are awake and alert so if a fire should occur you can respond quickly. Don't leave batteries to charge while you are asleep or away from the home.
- Always use the manufacturer approved charger for the product, and if you spot any signs of wear and tear or damage buy an official replacement charger for your product from a reputable seller.

- Do not cover chargers or battery packs when charging as this could lead to overheating or even a fire.
- Do not charge batteries or store your e-bike or e-scooter near combustible or flammable materials.
- Do not overcharge your battery – check the manufacturer’s instructions for charge times.
- Do not overload socket outlets or use inappropriate extension leads (use un-coiled extensions and ensure the lead is suitably rated for what you are plugging in to it).
- In the event of an e-bike, e-scooter or lithium-ion battery fire – do not attempt to extinguish the fire. Get out, stay out, call 999.

Storage

- Avoid storing or charging e-bikes and e-scooters on escape routes or in communal areas of a multi occupied building. If there’s a fire, it can affect people’s ability to escape.
- Responsible Persons should consider the risks posed by e-bikes and e-scooters where they are charged or left in common areas such as means of escape, bike stores and mobility scooter charging rooms. They may wish to offer advice to residents on the safe use, storage and charging of these products.
- Store e-bikes and e-scooters and their batteries in a cool place. Avoid storing them in excessively hot or cold areas.
- Follow manufacturer’s instructions for the storage and maintenance of lithium -ion batteries if they are not going to be used for extended periods of time.

Buying

- Buy e-bikes, e-scooters and chargers and batteries from reputable retailers.
- Many fires involve counterfeit electrical goods. Items which don’t meet British or European standards pose a huge fire risk and while genuine chargers (or battery packs) may cost more, it’s not worth putting your life at risk and potentially destroying your home by buying a fake charger to save a few pounds.
- If buying an e-bike conversion kit, purchase from a reputable seller and check that it complies with British or European standards. Take particular care if buying from online auction or fulfilment platforms. Also be aware that if buying separate components, you should check that they are compatible.
- Register your product with the manufacturer to validate any warranties – batteries are usually included in warranties. Registering makes it easier for manufacturers to contact you in the event of safety or recall information.
- Check any products you have bought are not subject to a product recall. You can do this but checking [Electrical Safety First’s website](#) or the [government website](#).

Damage and disposal

- Batteries can be damaged by dropping them or crashing e-bikes or e-scooters. Where the battery is damaged, it can overheat and catch fire without warning. Check your battery regularly for any signs of damage and if you suspect it is damaged it should be replaced and should not be used or charged.
- If you need to dispose of a damaged or end of life battery, don’t dispose of it in your household waste or normal recycling. These batteries, when punctured or crushed can cause fires in bin lorries, recycling and waste centres. Your e- bike or e- scooter

manufacturer may offer a recycling service. Alternatively check with your local authority for suitable battery recycling arrangements in your area.

Enjoy and ride your e-bike or e-scooter safely and ensure you are using these products within the law. Further information can be found here <https://www.gov.uk/electric-bike-rules> and [for e-scooters](#)

Further information around lithium-ion batteries is available from NFCC via [FRS Learn](#)