# Land at Barnhill Street/Raby Street, Moss Side
# Stage 3 Fire Strategy Report

Revision: R02
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## Quality Management

| Revision | Date | Comment | Author | QA & Technical Review | Approver |
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| R00 | 11/07/2025 | Stage 3 first issue | JR | AR | RR |
| R01 | 21/07/2025 | Minor update reflecting Client's comments | JR | AR | |
| R02 | 23/07/2025 | Minor update reflecting Client's comments | JR | AR | |

# Contents


1. Introduction ..... 6
- 1.1 Appointment ..... 6
- 1.2 Development Description ..... 6
- 1.3 Applicable Legislation and Guidance ..... 6
  - 1.3.1 The Building Regulations 2010 (as amended) ..... 6
  - 1.3.2 The Regulatory Reform (Fire Safety) Order 2005 ..... 6
  - 1.3.3 The Construction (Design and Management) Regulations 2015 ..... 7
- 1.4 Design Basis and Guidance ..... 7
- 1.5 Reference Information ..... 7

2. Summary of Active Fire Safety Systems ..... 8
- 2.1 Fire Detection and Alarm System ..... 8
- 2.2 Evacuation Alert Systems ..... 8
- 2.3 Automatic Fire Suppression System ..... 8
- 2.4 Smoke Control Systems ..... 8
  - 2.4.1 Protected Stairs ..... 8
  - 2.4.2 Evacuation Lift Lobbies ..... 8
  - 2.4.3 Residential Common Corridor ..... 8
  - 2.4.4 Carpark ..... 10
  - 2.4.5 Protected lobbies ..... 10
  - 2.4.6 Refuse Stores ..... 10
  - 2.4.7 Actuators, and Ventilators ..... 11
- 2.5 Emergency Lighting and exit route signs ..... 11
- 2.6 Emergency Signage ..... 11
- 2.7 Evacuation Lifts ..... 11
- 2.8 Emergency Power ..... 11
- 2.9 Fire doors hold open devices ..... 11
- 2.10 Access control systems ..... 11
- 2.11 Heating, ventilation, and air conditioning systems (HVAC) ..... 11
- 2.12 Service Routes ..... 12

3. Means of Escape ..... 13
- 3.1 Evacuation Strategy ..... 13
  - 3.1.1 Flats and houses ..... 13
  - 3.1.2 Residential Ancillary Areas ..... 13
- 3.2 Internal Arrangement of Flats ..... 13
  - 3.2.1 Open Plan Flats ..... 13
  - 3.2.2 Houses with 3 storeys ..... 13
- 3.3 Common Escape Routes ..... 13
  - 3.3.1 Overview ..... 13
  - 3.3.2 Dwellings with single escape routes ..... 14
  - 3.3.3 Residential Ancillary Areas ..... 14
  - 3.3.4 Roof gardens ..... 14
- 3.4 Exit Discharge Route ..... 14
- 3.5 Persons with Reduced Mobility (PRM) ..... 16
  - 3.5.1 Overview ..... 16
  - 3.5.2 Evacuation Lift and Lobby Provisions ..... 16
  - 3.5.3 Protection of Evacuation Lifts from Smoke ..... 16
  - 3.5.4 Evacuation Lift Power Supplies ..... 16
- 3.6 Vertical Means of Escape ..... 16

4. Internal Fire Spread (Linings) ..... 17
5. Internal Fire Spread (Structure) ..... 18
- 5.1 Structural Fire Resistance ..... 18
- 5.2 Compartmentation and Fire Resisting Construction ..... 18
  - 5.2.1 Compartmentation ..... 18
  - 5.2.2 Additional Fire resisting Construction ..... 18
- 5.3 Concealed Spaces (Cavity Protection) ..... 19
  - 5.3.1 Overview ..... 19
- 5.4 Fire-stopping ..... 20
  - 5.4.1 Overview ..... 20
  - 5.4.2 Pipes ..... 20
- 5.5 Ventilation Ducts, Flues, etc. ..... 20

6. External Fire Spread ..... 22
- 6.1 External Wall Build-up ..... 22
- 6.2 Roof Coverings ..... 22
- 6.3 Roof garden ..... 22
- 6.4 Space Separation Assessment ..... 22
- 6.5 Flat Internal Angle ..... 24
- 6.6 Protected staircase internal angle ..... 24
- 6.7 Junction of compartment walls and roof ..... 24

7. Access and Facilities for the Fire and Rescue Service ..... 25
- 7.1 External Fire-fighting Facilities ..... 25
- 7.2 Fire-fighting shaft ..... 25
- 7.3 Hose Coverage ..... 25
- 7.4 Hydrant Provisions ..... 25
- 7.5 Wayfinding Signage for the Fire Service ..... 26
- 7.6 Secure Information Boxes ..... 26
- 7.7 Evacuation Alert Systems ..... 26

8. References ..... 27

Appendix A – Indicative Fire Strategy Drawings ..... 29

# Table of Figures

Figure 1:  Land at Barnhill Street/Raby Street, Moss Side Site Location Plan....7
Figure 2 – Legend for smoke control system figures....9
Figure 3 – Block A and B – Typical Floor Smoke Ventilation Strategy....9
Figure 4 – Block A – Ground floor Smoke Ventilation Strategy....9
Figure 5 – Block A – Floor 7-9 Smoke Ventilation Strategy....9
Figure 6 - Block C-E - Typical Floor Smoke Ventilation Strategy....10
Figure 7 - Block A-B – Protected lobbies....10
Figure 8 - Block C-D – Protected lobbies....10
Figure 9 - Block E – Protected lobbies....10
Figure 10 - Minimum separation distance of cooking facilities....13
Figure 11: Single direction travel distances exceed 15m in Block A....14
Figure 12 - Final exit route discharge example....15
Figure 13 – Block A – Ground - Exit Discharge Routes....15
Figure 14 – Block B – Ground - Exit Discharge Routes....15
Figure 15 – Block C – Ground - Exit Discharge Routes....15
Figure 16 – Block D – Ground - Exit Discharge Routes....15
Figure 17 – Block E – Ground - Exit Discharge Routes....15
Figure 18 – Lift and lobby minimum dimensions....16
Figure 19 – Cavity barriers and Fire Stopping....19
Figure 20 – Fire stopping details - Pipes....20
Figure 21 - Fire stopping details – Ventilation Ductwork....21
Figure 22: Ground Site plan with boundary....23
Figure 23: Elevation parts for the calculation between Block D and Block E....23
Figure 24: Fire service configuration....25
Figure 25: Estimated hose coverage....25
Figure 26: Existing hydrants....26

# List of Tables

Table 1: Building characteristics....6
Table 2: Reference information....7
Table 3: Travel distance....14
Table 4: Classification of linings....17
Table 5 - Fire resistance of elements within the building....18
Table 6: External fire spread allowable unprotected area percentages....23
Table 7: Firefighting appliance access route specifications....25

# 1. INTRODUCTION

## 1.1 Appointment

OFR Consultants Ltd (OFR) have been appointed by MSV / Caddick to develop the fire strategy for 'Land at Barnhill Street/Raby Street, Moss Side' development scheme located in Manchester. Currently the project is at the end of RIBA Stage 3. The intent of the document is to provide fire safety advice and to define the key fire strategy elements.

This report specifically covers life safety issues only. Property protection issues do not fall under the scope of this document. This fire strategy will allow the design to be discussed to seek agreement in principle with an appointed Building Control body. As the project progresses into RIBA Stage 4 a detailed fire strategy, including all relevant analyses, shall be developed and integrated into the final design for submittal for approval by the approval authority. Ultimately the design will need to be fully translated into the completed scheme using due skill and care by competent persons to ensure the requirements of the Building Regulations are met.

This fire strategy document serves the following key purposes:

- detail how the relevant fire safety requirements of the Building Regulations 2010 (as amended) could be satisfied;
- provide advice to the design team to ensure that they can incorporate any fire safety requirements into the aspects of the design for which they are responsible;
- highlight where further design development is required.

## 1.2 Development Description

The wider masterplan for the development comprises 6 blocks from A to F. The blocks have different height. Only Block A exceed 18m in height, measured from the ground level to the topmost habitable level, therefore is designated as a Higher Risk Building (HRB) for the purposes of the Building Safety Act 2022. Block C is planned as "older person block" but it is not assisted living area. Block F is planned as dwelling houses. Key characteristics of the site are outlined in Table 1.

OFR understands that the site will be bound by Moss Lane East to the North, Princess Road to the West, Raby Street to the South, and Barnhill Street to the East. The site location plan is shown in Figure 1.

## 1.3 Applicable Legislation and Guidance

### 1.3.1 The Building Regulations 2010 (as amended)

Fire safety of building works is legislated by the Building Regulations 2010 (as amended) "the Regulations" [1]. The Regulations have been enacted under the Building Act 1984 [2] and are published by the Controller of HMSO. The Regulations impose requirements on people carrying out building work. The requirements are functional rather than prescriptive in nature which means that the designer is given the freedom to choose the method they use to satisfy the legislation.

This strategy has been developed to address the requirements of Part B of the Regulations that governs fire safety of building design. These requirements are segregated into distinct aspects of building design as follows:

- B1 – Means of warning and escape;
- B2 – Internal fire spread (linings);
- B3 – Internal fire spread (structure);
- B4 – External fire spread; and
- B5 – Access and facilities for the fire and rescue service.

No additional employer's requirements have been provided to OFR. For higher risk buildings (HRBs), the Building Safety Regulator (BSR) will be the approval authority at each gateway stage. The work in Block A cannot be progressed until each gateway has been approved by BSR.

*Table 1: Building characteristics*

| Plot | Key Characteristics | Description |
|---|---|---|
| Block A | Building height (topmost storey) | 27.0 m |
| | Number of storeys | Ground + 9 |
| | Ground Floor | Bin Store, Plant room, Management Office, Parcel room, Cycle hub |
| | Floor 1 – Floor 9 | Flats |
| Block B | Building height (topmost storey) | 15.0 m |
| | Number of storeys | Ground + 5 |
| | Ground Floor | Bin Store, Plant room, Post room, Cycle store |
| | Floor 01 – Floor 05 | Flats |
| Block C | Building height (topmost storey) | 15.0 m |
| | Number of storeys | Ground + 5 |
| | Ground Floor | Bin Store, Plant room, Post room, Cycle store, Post mobility scooters |
| | Floor 01 – Floor 05 | Flats |
| Block D | Building height (topmost storey) | 15.0 m |
| | Number of storeys | Ground + 5 |
| | Ground Floor | Bin Store, Plant room, Post room |
| | Floor 01 – Floor 05 | Flats |
| Block E | Building height (topmost storey) | 12.0 m |
| | Number of storeys | Ground + 4 |
| | Ground Floor | Bin Store, Plant room, Post room, Cycle store |
| | Floor 01 – Floor 04 | Flats |
| Block F | Building height (topmost storey) | 6.0 m |
| | Number of storeys | Ground + 2 |
| | Ground - Floor 02 | Dwelling houses |

### 1.3.2 The Regulatory Reform (Fire Safety) Order 2005

The Regulatory Reform [Fire Safety] Order 2005 (FSO) came into effect in October 2006 [3]. The Order applies to all non-domestic premises in England and Wales, including the common parts of blocks of flats or houses in multiple occupation. It has subsequently been amended by the Fire Safety Act 2021 [4], in explicitly bringing structure, external walls (inclusive of specified attachments) and apartment entrance doors under the remit of the Order. Secondary legislation setting out regulations for these changes are formalised in the Fire Safety (England)

Regulations 2022 [5]. Furthermore, the Building Safety Act 2022 [6] has further strengthened the Order – particularly with respect to the duties of the 'Responsible Person' (RP).

The RP under the FSO has a duty to make the premises safe and must undertake regular fire risk assessments. It is the responsible person who will be held accountable under the new legislation for any breaches in fire safety.

### 1.3.3 The Construction (Design and Management) Regulations 2015

The strategy has been developed in cognisance of the Construction (Design and Management) Regulations 2015 [7] CDM 2015), which sets out what designers are required to consider in order to protect anyone involved in the construction or ongoing use of a project. The strategy does not address site fire safety during the building works. The Health and Safety Executive (HSE) issues guidance notes on identifying and managing fire precautions during the works and they should be consulted by the appropriate party.

## 1.4 Design Basis and Guidance

The recently released guidance BS 9991:2024 [8] has been used as the principal basis for this fire strategy for all residential and residential ancillary areas.

Both BS 9991 allows for alternative fire engineering methods to be employed to support solutions where strict adherence to the codes would conflict with the wider aspirations for the scheme, or where the prescriptive expectations would be applied beyond their remit/scope.

In accordance with the fire safety engineering principles detailed in PD 7974 [9], all fire precautions are designed based on there being a single seat of fire.




*Figure 1: Land at Barnhill Street/Raby Street, Moss Side Site Location Plan*

## 1.5 Reference Information

This report has been prepared based on the information provided below in Table 2 produced by Modern City Architecture & Urbanism. It should be noted that the revisions indicated below may be superseded but it is not envisaged any such changes will have a fundamental impact on the Stage 3 fire strategy principles given the stage the project is currently at.

*Table 2: Reference information*

| Document Name | Description | Revision | Date |
|---|---|---|---|
| 1215-02-00-P4 | Existing Site plan | P04 | 03/2025 |
| 1215-17K-03-00-P24 | Ground floor plan | P24 | 07/2025 |
| 1215-17K-03-01-P24 | First floor plan | P24 | 07/2025 |
| 1215-17K-03-02-P24 | 2nd floor plan | P24 | 07/2025 |
| 1215-17K-03-03-P24 | 3rd floor plan | P24 | 07/2025 |
| 1215-17K-03-04-P24 | 4th floor plan | P24 | 07/2025 |
| 1215-17K-03-05-P24 | 5th floor plan | P24 | 07/2025 |
| 1215-17K-03-06-P24 | 6th floor plan | P24 | 07/2025 |
| 1215-17K-03-07-P24 | 7th floor plan | P24 | 07/2025 |
| 1215-17K-03-08-P24 | 8th floor plan | P24 | 07/2025 |
| 1215-17K-03-09-P24 | 9th floor plan | P24 | 07/2025 |
| 1215-17K-03-10-P24 | Roof plan | P24 | 07/2025 |
| 1215-03-00-BLKF-P8 | Floor plans BLK F houses | P8 | 01/2025 |
| 1215-17K-04-01-P11 | Site sections | P11 | 01/2025 |

# 2. Summary of Active Fire Safety Systems

## 2.1 Fire Detection and Alarm System

An automatic fire detection and alarm system will be provided throughout each block as per the list below. The system should be designed and installed in accordance with the recommendations of the relevant parts of BS 5839-6:2019+A1:2020 [8] for residential areas and BS 5839-1:2025 [9] for non-residential areas.

- Flats: Category LD1 Grade D1;
- Common corridors: Category L5 (akin to L4 coverage); and
- Ancillary and amenity spaces: Category L2.

Manual call points will be fitted in accordance with BS EN 54-11 [10] (Type A).

Heat detectors should be provided in the evacuation lift lobby to ground the lifts and that lifts should continue to operate even if a smoke detector is activated.

## 2.2 Evacuation Alert Systems

As Block A has a top storey more than 18 m above ground level, an evacuation alert system (EAS) will be provided in accordance with BS 8629 for use by the local fire and rescue service. Said system will allow for the fire and rescue service to initiate operation of evacuation alert sounders within each dwelling on any single floor, multiple floors or the entire building, according to circumstances.

The EAS should not be integrated with the fire detection and alarm system (or any other system), and no devices (such as fire detectors), other than evacuation alert devices should be connected to the EAS.

Within each flat, at least one evacuation alert sounder, conforming to BS EN 54-3 should be provided. The sound pressure level of the alarm signal at each open bedroom should be at least 85 dB(A). The sound pressure within other habitable rooms should be at least 60 dB(A) when all doors in the dwelling are closed. Facilities should be incorporated in accordance with BS 8629 to enable additional devices to be added to alert people who are Deaf or have a hearing impairment.

In other Blocks, where the top storey is less than 18 m above ground floor, there are no proposed evacuation alert systems.

## 2.3 Automatic Fire Suppression System

The residential Blocks A to E will be fitted with a domestic sprinkler system complying to BS 9251 [11], which will extend to all residential ancillary areas. As per BS 9991:2024, sprinklers should extend to all sterile areas including residential corridors and stairs.

As the height to the top occupied storey for Block A exceed 18 m, a Category 4 system is proposed per Table 1 in BS 9251 [11]. In Block C, D and E should be protected with Category 2 system where any non-fire sterile communal building parts as Category 3.

Section 5.4 in BS 9251 states that sprinkler protection may be omitted from bathrooms with a floor area less than 5m$^2$, with linings conforming to BS EN 13501-1, Class A1, A2-s3, d2 and B-s3,d2, and which are not prepared for white goods, such as washing machines, dryers, electric showers or water heaters.

## 2.4 Smoke Control Systems

### 2.4.1 Protected Stairs

At this stage it is proposed that all protected stairs within the scheme will be provided with an (Automatic Openable Vent) AOV at the head of the stair with a minimum aerodynamic free area of 0.7 m$^2$ as per BS 12101-2:2017 [12].

### 2.4.2 Evacuation Lift Lobbies

In every building blocks – except Block F - the lifts are proposed to design as evacuation lifts, which are connected to every staircase with the stair/evacuation lobby. These lobbies are served either with a natural shaft (minimum of 1 m$^2$ cross section) or natural inlet supply points to push smoke out of the lobby.

BS 9991 recommends that where a stair is expected to be protected by the smoke control provisions in the common corridor, the evacuation lift well and evacuation lift lobby should be afforded the same minimum level of protection as the stairs.

Since the evacuation lift lobby provides refuge for escaping occupants waiting to use the lift, some means of ventilating the evacuation lift lobby should be provided to minimise the exposure of occupants to smoke and heat whilst also preventing further smoke ingress to the lobby.

The ventilation solution should protect the area from the ingress of fire and smoke. The operation of the evacuation lift(s) should not be compromised by the fire detection system designed to activate the smoke ventilation provisions protecting the stairs from a fire in a flat or other spaces linked to the evacuation lift lobby.

### 2.4.3 Residential Common Corridor

It is proposed to adopt a mechanical smoke ventilation system (MSVS) as opposed to a natural option within residential common corridors; the design of the system should limit pressure differentials so that the door opening forces do not exceed 100N at the door handle when the system is in operation. The mechanical shaft should also meet the following recommendations:

- The smoke shaft should be fully open to the external air at the top and closed at the base and will be connected with a set of fans.
- The top of the corridor vent should be located as close to the ceiling of the corridor as is practicable and should be at least as high as the top of the door connecting the corridor to the stairwell.
- The corridor vents in the closed position, should have a minimum fire and smoke resistance performance of 60 minutes and integrity (leakage) no greater than 360 m$^3$/h/m$^2$ when tested in accordance with BS EN 1366-2 [13].
- Smoke shafts should be constructed of materials classified as A1 in accordance with BS EN 13501-1 [14], or of materials determined to be non-combustible when tested in accordance with BS 476-4 [15], or of any material which when tested in accordance with BS 476-11 [16] does not flame or cause any rise in the temperature on either the centre of the specimen or the furnace thermocouples.
- Smoke shafts should be constructed of either masonry, blockwork or in accordance BS EN 1366-8.
- Given the size of the building the mechanical shaft sizes are proposed to be a minimum of 1 m$^2$ in cross section.
- No services other than those relating to the smoke shaft should be contained within the shaft.

It is important that the ventilation rate of an MSVS is decided through an assessment of any specific risks within the building and verification through a computational fluid dynamics (CFD) analysis or mathematical calculation. A CFD analysis is based upon building specific geometries and, ideally, includes a sensitivity analysis. A CFD analysis

should be undertaken at the next design stage to validate the proposed systems and will specify required shaft sizes and extract rates.




*Figure 2 – Legend for smoke control system figures*

### 2.4.3.1 Block A




*Figure 3 – Block A and B – Typical Floor Smoke Ventilation Strategy*

Block A consists of three corridors (A1, A2 and A3 below) as shown on Figure 3. Corridor A1 consists of two smoke shafts with a push pull system the shaft at the remote end being a mechanical shaft and the shaft near the stair core being an inlet shaft. Such a system is considered necessary for A1 given the extended travel distances in a single direction in the common corridor as discussed in Section 3.3. Corridor A2 and A3 will be provided with a single mechanical extract in the corridor and inlet shafts will be provided in the lobby these corridors open into, aligning with the guidance in BS 9991.

On the ground floor (shown on Figure 4) and on the upper floors between Floor 7 and Floor 9 (shown on Figure 5) the A1 corridor parts are shorter than the common corridor, therefore only one mechanical shaft will be provided. On the ground floor A2 corridor part has no other connected accommodation other than the A1 corridor and the evacuation lift lobby, therefore there is no proposed smoke ventilation to this portion of corridor.

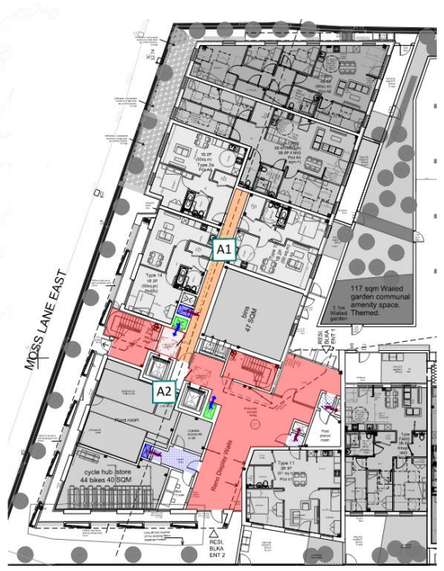



*Figure 4 – Block A – Ground floor Smoke Ventilation Strategy*




*Figure 5 – Block A – Floor 7-9 Smoke Ventilation Strategy*

### 2.4.3.2 Block B-C

These consists of a single corridor and will be provided with single mechanical smoke ventilation shaft. In addition, a natural smoke shaft will be provided in the evacuation lift/stair lobby.

### 2.4.3.3 Block D

Block D's one corridor will be provided with a two mechanical extract - except the top floor where only one shaft will be provided - in the corridor and inlet shaft in the evacuation lift lobby.

To protect the evacuation lift lobby the connected short corridor part for the shafts (shown on Figure 6 with blue dotted marking) will have a minimum 0.4 $m^2$ natural ventilation.

### 2.4.3.4 Block E

These consists of a single corridor and will be provided with single mechanical smoke ventilation shaft. In addition, a natural smoke ventilation will be provided in the evacuation lift/stair lobby through an AOV with a minimum 1.0 $m^2$ aerodynamic free area.

### 2.4.3.5 Block F

There is no proposed smoke ventilation within the houses.

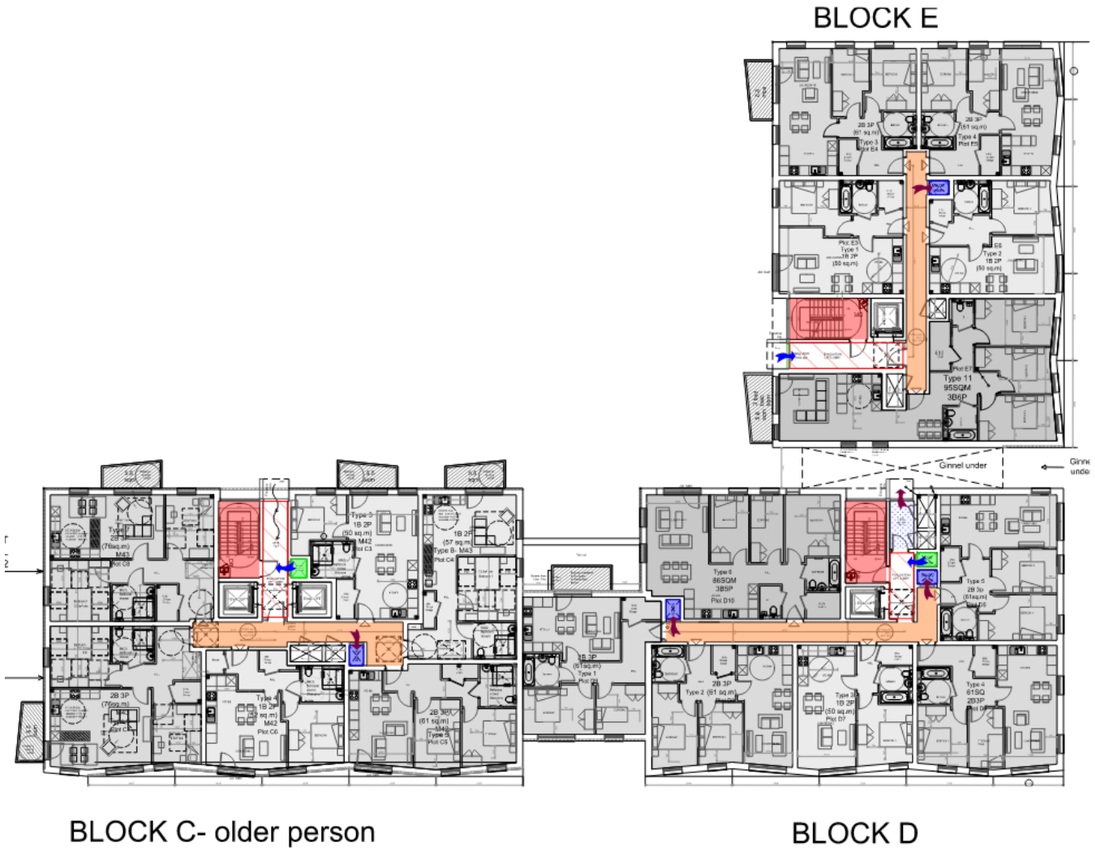



*Figure 6 - Block C-E - Typical Floor Smoke Ventilation Strategy*

### 2.4.4 Carpark

In the inside garden and parking area are the only proposed parking places.

There are covered parking places connected to Block F dwelling houses, which are open on 3 sides and covered with a compartments floor to provide protection for flat terraces.

To achieve a naturally ventilated/ open sided car park, then openings on opposing elevations are necessary which should be a minimum of 1/40 of that level's floor area, at least half of which should be provided equally by two opposite walls (1/160 on each side).

### 2.4.5 Protected lobbies

On the ground floor there are more accommodation which are connected to the protected discharge route from the staircase. These will be designed with protected lobbies and a minimum 0.4 $m^2$ of permanent ventilation or mechanical equivalent (marked with blue dots on Figure 7, Figure 8 and Figure 9).

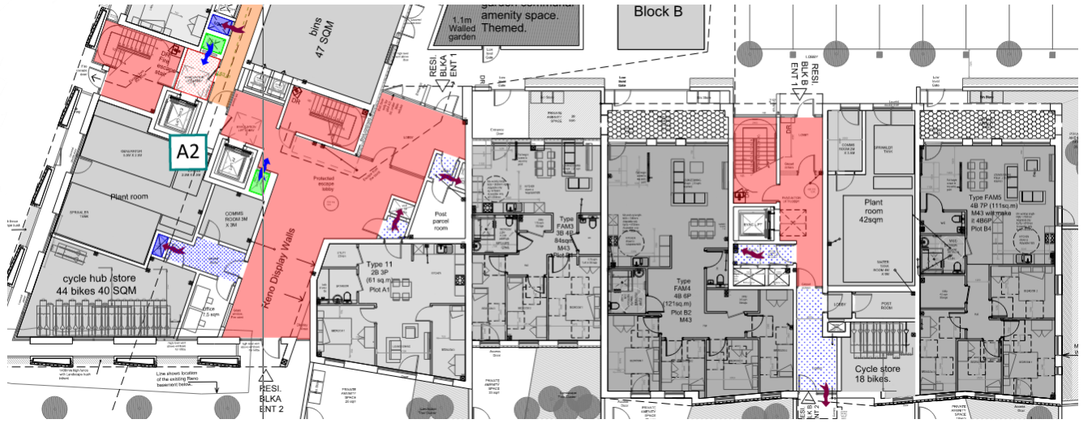



*Figure 7 - Block A-B – Protected lobbies*

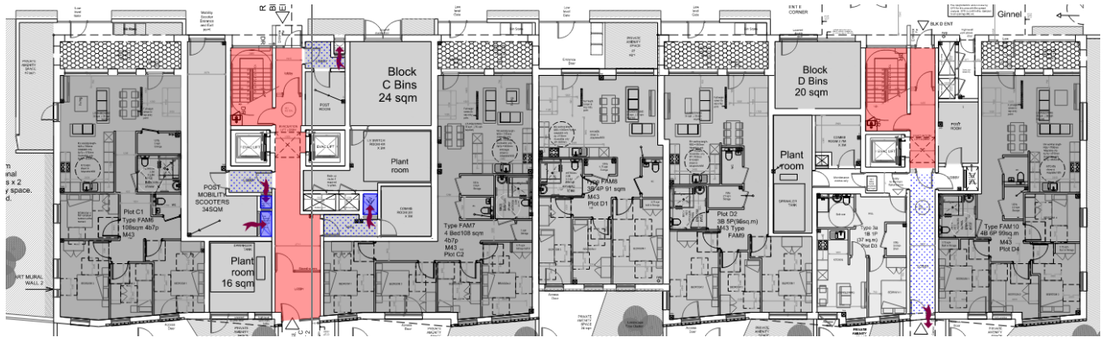



*Figure 8 - Block C-D – Protected lobbies*

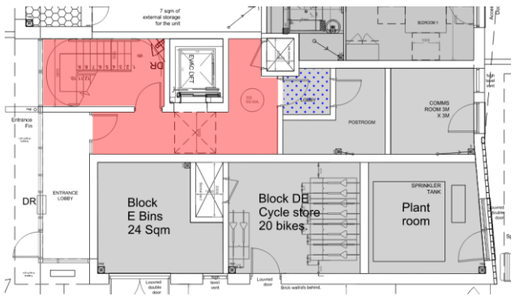



*Figure 9 - Block E – Protected lobbies*

### 2.4.6 Refuse Stores

As per BS 9991 [17] recommendations, rooms containing refuse chutes or provided for the storage of refuse should be approached from a protected lobby having not less than (geometric free) 0.2 $m^2$ of permanent ventilation or suitable mechanical alternative. In Block A the lobby Is connected to the corridor between Level 01 and Level 09, but the refuse chute and bin store has no connection to the internal circulation area (only external door).

### 2.4.7 Actuators, and Ventilators

For natural smoke inlets / exhausts, aerodynamic free areas should be used based on the calculation method detailed in BS EN 12101-2 [12]. This aligns with the recent SCA guidance on specifying exhaust vents. Further, any smoke vent should be certified to BS EN 12101-2 and BS EN 12101-8 [18] as a complete assembly including both the actuator and opening. The proposed inlet and outlet points are marked on fire safety drawings.

Fans should be in accordance with BS EN 12101-3 and should be capable of handling gas temperatures of 300 °C for a continuous period of not less than 60 min.

For other characteristics, compliance with Annex F of standard BS 9991 is recommended.

## 2.5 Emergency Lighting and exit route signs

Escape routes within the building should be provided with effective lighting to allow persons to safely use these routes in the event of a fire occurring or in the event of failure of the normal lighting power supply. Emergency lighting should be installed in accordance with BS 5266-1:2016 [19].

Every escape route should be distinctively and conspicuously marked with appropriate fire safety signage to comply with The Health and Safety (Signs and Signals) Regulations 1996, i.e. signage to be specified in accordance with BS 5499-4 [20], BS 5499-10 [21] and BS ISO 3864- 1 [22].

## 2.6 Emergency Signage

Fire safety signs are to be installed within the building where necessary to provide clear identification of fire precautions, fire equipment and means of escape in the event of a fire. To assist the fire service to identify each floor of the building, floor identification signs and flat indicator signs should also be provided as per Section 48.2 of BS 9991.

Additional fire signage, such as ‘fire door keep shut’ signs, fire action notices, etc. will also be required. The type and location of these signs will need to be discussed and agreed as the design progresses.

## 2.7 Evacuation Lifts

Evacuation lifts are proposed for each block, connected to the staircases with an ‘evacuation lift lobby’. All evacuation lifts should be provided with temporary waiting space which should be located within either an escape stair or a lobby to the stair and an associated emergency voice communication system within the evacuation lift lobby. The expected sizes are shown on Figure 18.

The lifts should be designed and installed in accordance with BS EN 81-20 [23] and BS EN 81-70 [24] and BS EN 81-76 [25]. BS EN 81-76 has not yet been published, but is anticipated to be published before the construction of this development. Therefore, this development should follow the recommendations of BS EN 81-76 when made available. In the interim, the design of such lifts should be in accordance with BS EN 81-72. The design intent is such that the lifts will continue operating normally during a fire scenario to allow persons with reduced mobility (PRM) to use the lifts to escape. As such, upon activation of the smoke detectors within the common corridors, the lifts will not ground. They will only ground upon activation of the heat detectors located within the stair lobbies or manual recall initiated by the fire service. This should be agreed with the local Fire and Rescue Service.

## 2.8 Emergency Power

Emergency power supplies are necessary for all active fire safety systems, including the following:

- Fire detection and alarm system;
- Emergency lighting and exit signage;
- Suppression systems including sprinklers
- Smoke control systems (fans, control equipment and vents);
- Firefighting provisions;
- Evacuation Lifts; and
- Emergency Voice Communication (EVC) systems.

For an evacuation lift, the associated voice communication system (EVC) and lighting to both the lift car and the temporary waiting space should have both primary and secondary power supplies as follows:

The recommendations within BS 8519 [26] should be followed for the configuration of the circuits within the building and fire protection measures. An evacuation lift using such an alternative supply route through the building should be provided with an automatic rescue operation that, in the event of a power failure, moves the lift car automatically to the final exit level and opens the doors to allow passengers to escape, and is then removed from service until sufficient power is restored.

If the primary power source fails, then the power supply should be automatically switched over to a secondary power source. Failure of or damage to one of the power sources should not cause the failure of the other power source or the failure of the supply of power to the system. All power and control cabling should comply with the relevant recommendations of BS 8519 [26] and Section 15 of BS 9991 [17].

## 2.9 Fire doors hold open devices

Where hold-open devices are considered necessary as part of the normal access requirements, these should be designed in accordance with BS 7273-4:2015 +A1:2021 [27], designed to release the door on activation of the fire alarm system, and on loss of power.
Where self-closing doors may provide a hinderance to occupants, then the use of free swing door closers conforming to BS EN 1155 [28] and other similar devices should be considered.

## 2.10 Access control systems

Where doors are normally secured against entry, they will only be fitted with a lock or fastening, which is readily operated, without the use of a key and without having to manipulate more than one mechanism.

Where electrically powered locks are provided, then they should be designed in accordance with BS 7273-4 [27] and return to the unlocked position under the following conditions:

- On operation of the fire alarm system;
- On loss of power to the system;
- On system error; and
- On activation of a manual door release unit positioned on the side of the door approached by occupants making their escape.

## 2.11 Heating, ventilation, and air conditioning systems (HVAC)

Where ductwork passes through fire resisting construction, then the fire resistance of that element will be maintained and the potential for smoke spread through the element is minimised. This can be achieved via a combination of thermally activated dampers, fire resisting enclosures or fire resisting ductwork (providing both the integrity and insulation requirements of fire resistance), and/or automatically activated fire/smoke dampers operated by the fire alarm system. This should be achieved in accordance with the recommendations of Section 33 of BS 9991.

Where a ductwork system serves more than one part of a compartmented or fire separated escape route or more than one flat, smoke detector operated leakage rated ES fire and smoke dampers should be provided where the ductwork enters each fire separated or smoke separated section of the escape route or dwelling.

Dampers will be designed and installed in accordance with BS EN 15650 [29] and tested in accordance with BS EN 1366-2, meeting the following:

- Thermally activated dampers will have an E classification of 60 minutes
- Smoke detector operated fire/smoke dampers will have an ES classification in accordance with BS EN 13501-3:2005+A1 to achieve at least the same level of fire resistance as the compartment barrier in which they are fitted.
- The dampers will need to be installed within the thickness of the fire separating element (and be suitable for the construction type in which they are situated
- They need to be securely fixed in place, taking account the expansion of ductwork within the fire; and
- Suitable access for inspection, maintenance and testing will be provided.

Where practicable, air transfer grilles should avoid being provided within fire resisting walls and doors. However, intumescent type grilles may be fitted where the construction does not form a protected escape route. Where the wall or door forms part of a protected escape route, air transfer grilles are not permitted and fire and smoke dampers that operate on activation of the fire detection and alarm system should be provided where an air path is required during normal operations.

## 2.12 Service Routes

BS 7671: 2018 + A2: 2022 (including the Corrigendum 2023) (BSI) recommends that cables or other electrical equipment shall not be installed in a fire-fighting lobby, shaft, or staircase of a protected escape route unless it forms part of an essential life safety system; general needs lighting; or socket outlets provided for cleaning or maintenance.

The design intent is to not run cables through these areas, other than those which provide a service to the area itself. Whilst firefighting lifts open into the lobbies on this scheme, such lobbies are not considered to be a firefighting lobby and as such, the services can be run through these areas as well as other common corridors subject to the following criteria being met:

- The exposed surface of the material/ product used is Class B-s3,d2 or better
- The supports and fixings in the cavity are Class A1
- Any pipe insulation system is Class B-s3,d2 or better; and
- Any electrical wiring in the cavity is laid in metal trays or metal conduits
- Service risers and distribution boards are permitted to have direct access to an evacuation lift lobby provided that they do not contain motorised equipment or similar with a potential to malfunction and cause fire.

# 3. Means of Escape

The following sub-sections outline the key principles with regards to the means of escape.

## 3.1 Evacuation Strategy

### 3.1.1 Flats and houses

The residential Flats in the buildings will operate what is referred to as a "safe to stay, safe to leave" evacuation strategy. There is no specific difference between this strategy and a "stay put" strategy as the approach set out in BS 9991 [17] is sometimes referred to. However, the term "stay put" can be confusing as it implies all occupants other than those in the residential unit of fire origin remaining in place. The strategy envisaged in the standard guidance interpreted by OFR is that:

- only the occupants from the flat of fire origin should need to evacuate initially;
- all other occupants should be safe to remain in place;
- if further occupants decide to leave or need to leave because they become affected by heat or smoke, they can;
- if the fire and rescue service consider wider evacuation is required, then this can be accommodated.

### 3.1.2 Residential Ancillary Areas

The evacuation strategy for the residential ancillary areas will be localised evacuation. Occupants within these areas should evacuate in either of the following scenarios:

- activation of the automatic fire detection and alarm system in these areas;
- fire suppression system activation; or
- activation of a manual call point in these areas.

The residential ancillary alarm system should not be linked to the residential system.

## 3.2 Internal Arrangement of Flats

There are more types of residential flats, which are one-, two-, three- and four-bedroom flats. Block C is proposed to be accessible but not assisted living.

### 3.2.1 Open Plan Flats

Open plan flats do not have protected corridors or hallways but have bedrooms that are inner rooms without having an alternative means of escape, and that are accessed directly from a lounge or similar type accommodation.

The open-plan flats should meet the following recommendations:

a. Grade D1 Category LD1 fire detection and alarm system installed per BS 5839-6 [10] and an automatic fire suppression system to BS 9251 [14];

b. The size of the flat should not exceed 16m x 12m (192m$^2$);

c. The flat should be situated on a single level only;

d. The ceilings within the flat have a minimum height of 2.25m;

e. Travel distance from any point of the flat to the entrance door limited to 9m (extended to 20m if sprinklers are provided) owing to the provision of the Grade D1 Category LD1 fire detection system.

BS 9991 recommends that where the escape route from a separate habitable room is through a living area containing a kitchen that is not located within a separate enclosure, the following recommendations should be met (Figure 10) in addition to those required for open-plan flats.

a. All cooking apparatus, with a fixed connection to the dwelling's electricity or gas supply, should be located as far away from the escape route as practicable. The edge of the cooking apparatus should be not less than 1.8m away from an escape door, a door to an adjoining habitable room or a means of escape route to an escape door;

b. All egress routes from the habitable rooms to the escape door (s) from the dwelling should be not less than 0.9m in width. No fixed obstructions (such as radiators or cupboards) should be located within the 0.9m escape route;

c. A gap of 0.3m should be provided between the leading edge of the exit door from the space containing the cooking facility and the 1.8m zone from the cooking apparatus, to allow people with mobility impairments to access the door hardware.

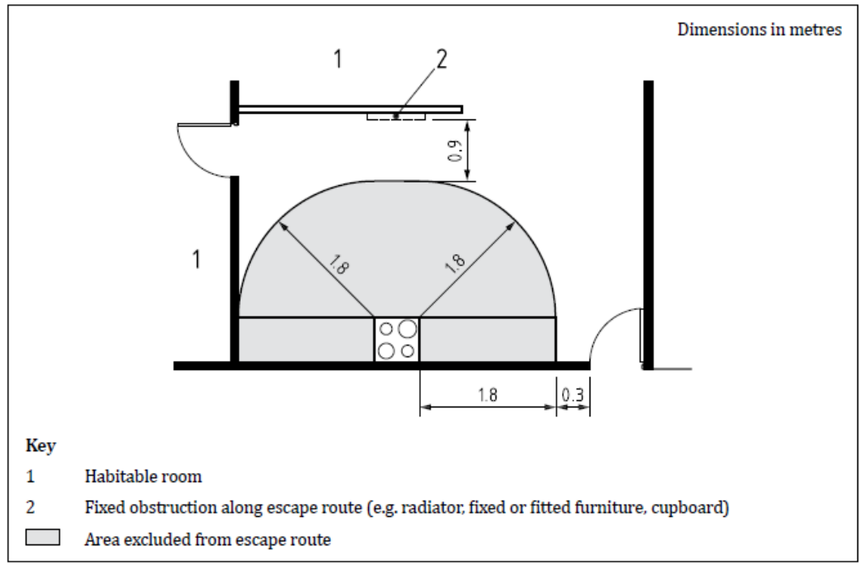



*Figure 10 - Minimum separation distance of cooking facilities*

### 3.2.2 Houses with 3 storeys

Block F contains several houses ., which are to be provided with a protected entrance stair that will provide access to all rooms within the house as per Section 6.2 in BS9991 [17] . The house entrance door shall open directly into the protected entrance stair and the hall may be part of the protected stair.

## 3.3 Common Escape Routes

### 3.3.1 Overview

All flats in the scheme – except Block F - are accessed via common residential corridors. BS 9991 [17] recommends that the travel distances between the exit doors from the dwellings and a relatively smoke free area are limited, and that the amount of smoke and other combustion products in the internal corridor are kept to a minimum by providing cross-corridor fire doors and ventilation.

### 3.3.2 Dwellings with single escape routes

As the building will be provided with sprinkler protection, BS 9991 [17] recommends that the maximum single direction travel distance is limited to 15 m, and the maximum travel distance where there are multiple means of escape is limited to 30 m.

In Block B-C-D-E, recommended travel distances from BS 9991 [17] are met. However, in Block A on floors 1 to 6, the single direction travel distances within the common corridors exceed 15 m as indicated in Figure 11.

BS 9991 [17] states that where the travel distances from the furthest dwelling entrance door to the means of escape staircase/or lobby cannot be met, then a mechanical smoke ventilation system in conjunction with the sprinkler system may be used to extend the travel distances.

Therefore, an enhanced smoke ventilation system incorporating smoke shafts at each of the corridor is necessary. This approach is a derogation from guidance and will need to be agreed with the approval authorities. This will be subject to a CFD analysis has discussed in Section 2.4.2.




*Figure 11: Single direction travel distances exceed 15m in Block A*

### 3.3.3 Residential Ancillary Areas

As the building will be provided with sprinkler protection, BS 9991 [17] recommends that the maximum single direction travel distance is shown in Table 3

*Table 3: Travel distance*

| | Maximum part of travel distance within the room or area (m) | | Total maximum travel distance to the nearest storey exit (m) | |
|---|---|---|---|---|
| | Escape in one direction only | Escape in more than one direction, in directions 45° or more apart | Escape in one direction only | Escape in more than one direction, in directions 45° or more apart |
| Boiler room | 9 | 18 | 18 | 45 |
| Refuse stores | 9 | 18 | 18 | 45 |
| Communal lounges and common amenity areas | 18 | 45 | 18 | 45 |
| External and rooftop plant | 60 | 200 | 60 | 200 |

### 3.3.4 Roof gardens

The roof gardens that are used as a common amenity and have only single-direction escape route, the travel distance should not exceed 18 m. Single-direction escape routes from a terrace should be into either:

- a protected stairway; or
- a protected corridor meeting the recommendations for travel distance given above measured from the door of the terrace to a stair enclosure.

The automatic fire detection and fire alarm system serving the protected corridors and stairs that give access to the terrace or roof garden should be supplemented by audio and visual alarms in the outside space.

## 3.4 Exit Discharge Route

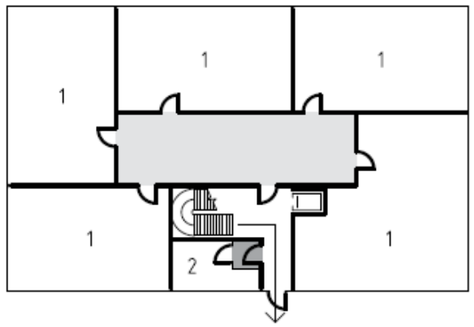
Protected stairways and evacuation lifts should discharge to a final exit either separately or using a common protected exit discharge corridor. Separation between the routes from the stair and from the lift that are entered from a common lobby on the accommodation floors is not necessary.

The discharge route and final exits from common stairs and evacuation lifts should meet the following (Figure 12 demonstrates acceptable discharge routes from stairways and evacuation lifts):

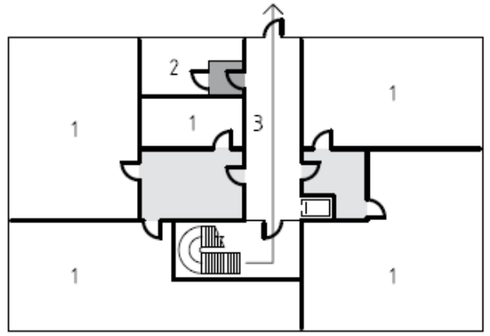
- Protected stairways and evacuation lifts should discharge either:
  - directly to a final exit; or
  - into a protected corridor leading to a final exit.
- Any protected corridor leading to a final exit should have the same standard of fire-resisting enclosure and lobby protection as the stairway and/or evacuation lift that it serves.
- Where two stairs provide alternative means of escape from a dwelling, they should not terminate in the same enclosure at final exit level.
- Where two evacuation lifts provide alternative means of escape from a dwelling, they should not terminate in the same enclosure at final exit level.
- Where the exit passageways from two or more stairs providing alternative means of escape adjoin, they should be separated by imperforate construction, i.e. there should be no openings (e.g. doors) in the separating element common to both passageways up until discharging from the building to the open air.

- In Block A, where the exit passageways from two or more evacuation lifts providing alternative means of escape adjoin, they should be separated by imperforate construction, i.e. there should be no openings (e.g. doors) in the separating element common to both passageways up until discharging from the building to the open air on the ground floor. The lobbies which the lift open into however do not need to be separated by imperforate construction.
- Any final exit should be immediately apparent to any person using a common stair that serves storeys both above and below the point of final exit.
- Final exits should discharge directly to a street, passageway, walkway or open space.
- Final exits should have a level threshold and should lead to level ground where practicable.
- Final exits should be sited such that they are clear of any risk from fire or smoke.
- Ancillary areas should be separated from the exit route using a protected lobby with ventilation.

The proposed discharge route for the stairs and lifts for the Blocks A-E are indicated in Figure 13, Figure 14 – Block B – Ground - Exit Discharge RoutesFigure 14, Figure 15, Figure 16 and Figure 17. OFR consider said discharge routes to be suitable as they are independent from each other, with the lift and stair enclosures separated further with fire resisting construction.




a) Final exit direct to outside (layout acceptable)




b) Final exit direct to outside (layout acceptable)

**Key**

| | | | |
|---|---|---|---|
| 1 | Dwelling | 3 | Protected exit corridor |
| 2 | Ancillary area | 4 | Protected entrance hall to dwelling |
| ▬ | Fire-resisting construction | | |
| ▭ | Area requiring smoke control system (see 20.2) | ▭ | Ventilated lobby (see Table 1) |
| ⌐ | Self-closing E 30 $S_{a4}$ or FD 30S fire door | ▯ | Evacuation lift with E 30 lift landing doors |

*NOTE This figure illustrates three acceptable layouts and one unacceptable layout for routes and protection to a final exit from a stair and evacuation lift using an example from one stair. It is not to be assumed this is applicable only for a single-stair building.*

*Figure 12 - Final exit route discharge example*

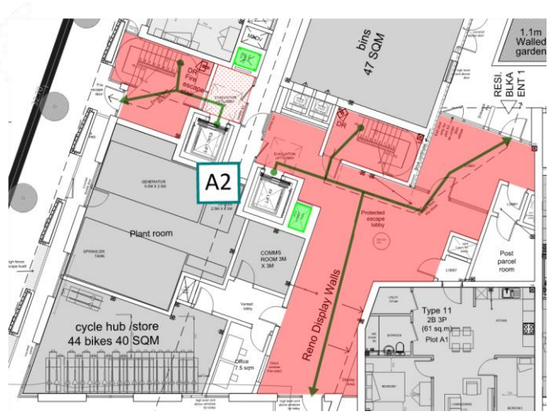



*Figure 13 – Block A – Ground - Exit Discharge Routes*

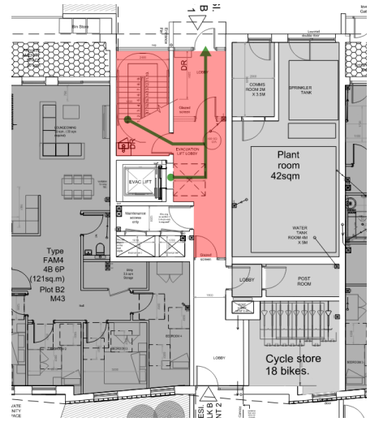



*Figure 14 – Block B – Ground - Exit Discharge Routes*

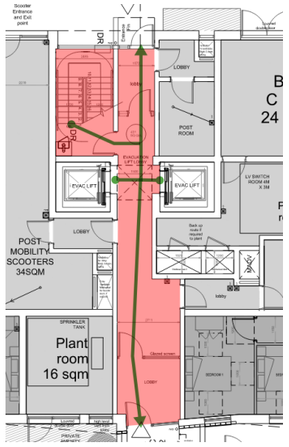



*Figure 15 – Block C – Ground - Exit Discharge Routes*

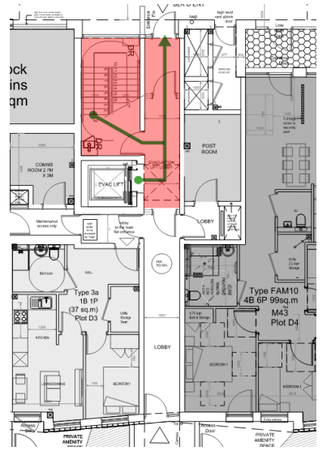



*Figure 16 – Block D – Ground - Exit Discharge Routes*

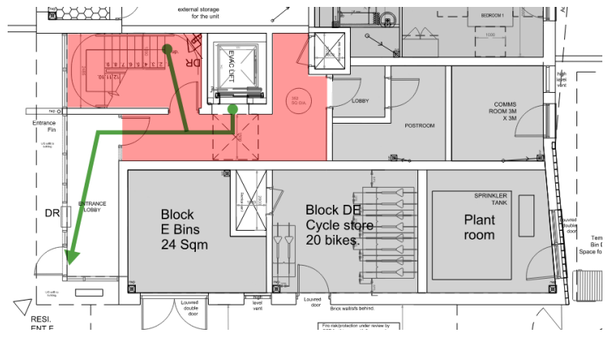



*Figure 17 – Block E – Ground - Exit Discharge Routes*

## 3.5 Persons with Reduced Mobility (PRM)

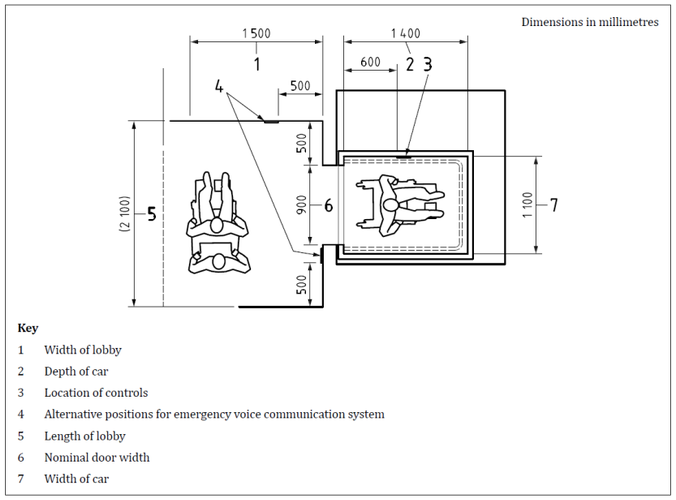
### 3.5.1 Overview

BS 9991 recommends that buildings that are provided with passenger lift access to an upper or lower level should also be provided with a means of using lifts for escape. At least one evacuation lift should be provided for each escape stairway, or more if required by capacity assessment.

### 3.5.2 Evacuation Lift and Lobby Provisions

Lifts should be located within an 'evacuation lift lobby' (due to the dual functioning evacuation/firefighting lift) that provides access to nothing other than an escape stair, adjoining corridor serving flats, service risers (excluding those containing motorised equipment or similar with the potential to malfunction and cause fire) and distribution boards.

The lift lobby minimum dimensions should be as per Figure 14 of BS9991, shown on Figure 18. The temporary waiting space for an evacuation lift should be provided with an emergency voice communication system in accordance with BS 5839-9 [29]. Communication points should be at least 500 mm from any wall (this communication system is separate from the evacuation lift communication system that is expected to be described in BS EN 81-76 when it is published).




**Key**

1 Width of lobby
2 Depth of car
3 Location of controls
4 Alternative positions for emergency voice communication system
5 Length of lobby
6 Nominal door width
7 Width of car

*Figure 18 – Lift and lobby minimum dimensions*

### 3.5.3 Protection of Evacuation Lifts from Smoke

BS 9991 recommends that where a stair is expected to be protected by the smoke control provisions in the common corridor, the evacuation lift well and evacuation lift lobby should be afforded the same minimum level of protection as the stairs. The proposed design is in Section 2.4.2.

### 3.5.4 Evacuation Lift Power Supplies

An evacuation lift, the associated voice communication system (EVC) and lighting to both the lift car and the temporary waiting space should have both primary and secondary power supplies. As the top storey height is in Block A above 18 m, the power supply should align with BS 8519 [27] with the primary power source taken from the public electricity supply. The secondary source should come from one of the following:

a. A life safety generator; or
b. An independent high voltage supply fed from an independent utility primary network substation to that feeding the primary supply; or
c. An uninterruptible power supply (UPS) according to the electrical load requirements

The electrical supply arrangements should align with BS 7671.

## 3.6 Vertical Means of Escape

Each building is designed with one stair, while Block A have access to two stairs.

BS 9991 recommends the stairs are designed for common circulation in accordance with BS 5395-1 or Approved Document K are expected to be sufficient for means of escape in residential buildings.

# 4. Internal Fire Spread (Linings)

All wall and ceiling linings in the building are to meet the recommendations from BS 9991 [17] in residential area the recommendations of both are summarised in Table 4.

*Table 4: Classification of linings*

| Location | European Class [1] |
|---|---|
| Small rooms of area not more than:<br>4 $m^2$ in residential accommodation<br>30 $m^2$ in non-residential accommodation | D-s3, d2 |
| Other rooms [2] | C-s3, d2 |
| Circulation spaces within dwellings | |
| Other circulation spaces (including the common areas of the building) | B-s3, d2 |

*Notes:*

*When classified in accordance with BS EN 13501-1:2018* [30].

*Parts of walls in rooms may be of European Class D-s3, d2 provided that the total area of those parts in any one room does not exceed one half of the floor area of the room, subject to a maximum of 20 $m^2$ in residential accommodation, and 60 $m^2$ in non-residential accommodation.*

# 5. Internal Fire Spread (Structure)

## 5.1 Structural Fire Resistance

Block A is more than 18 m in height from the access level to the highest occupied storey, while Block B-E have height of topmost occupied storey above access level between 11 m and 18 m, and in Block F below 11 m.

Therefore, BS 9991 [17] recommends that all loadbearing elements of structure should be provided in Block A-E with a minimum of 60 minutes (R 60) and in Block F with a minimum of 60 minutes (R 60) fire resistance based on sprinklers being installed – except Block F - in accordance with BS 9251 [11] or BS EN 12845 [31].

Fire resistance is a measure of one or more of the following:

- Loadbearing capacity (R) – resistance to collapse, which applies to loadbearing elements only;
- Integrity (E) – resistance to fire penetration; and
- Insulation (I) – resistance to the transfer of excessive heat.

If a roof forms part of an escape route or functions as a floor (roof terrace), then the structure of that roof, and the structure that supports only the roof, should be of fire-resisting construction.

Any part of the structure which supports any fire resisting element should be of fire-resisting construction.

The structural fire resistance should also be ensured in the design of structural junctions for the current level of fire safety, taking into account the possible deformation or partial collapse.

## 5.2 Compartmentation and Fire Resisting Construction

### 5.2.1 Compartmentation

The proposed buildings contain several compartments, based on the principles below:

- All floors should be designed as compartment floors in Block A-E.
- All separation walls between the building blocks should be designed as compartment walls in Block A-E.
- All enclosure walls of flats should be designed as compartment walls in Block A-E.
- All separation walls between houses should be designed as compartment walls in Block F.

Table 5 provides indicative fire resistance of element, for the scheme during RIBA Stage 3, based on the recommendations within BS 9991: 2024.

### 5.2.2 Additional Fire resisting Construction

In addition to the fire compartment boundary structures, to following fire resisting constructions are proposed in the building:

- protected shafts: stair and lift, service risers, smoke shafts and firefighting shaft;
- protected stair within houses
- protected lobbies;
- cross corridor partitions;
- refuse room;
- sprinkler tank room;
- cavity barriers.

Table 5 provides indicative fire resistance of these elements, for the scheme during RIBA Stage 3, based on the recommendations within BS 9991: 2024.

#### 5.2.2.1 Flat Utility Cupboards

Utility cupboards in flats with a protected entrance hall should be enclosed with 30 minutes fire resisting construction with FD 30S fire doors. Where sprinkler coverage is required, utility cupboards should be protected in accordance with BS 9251.

#### 5.2.2.2 Electric wheelchair / mobility scooter storage

Electric wheelchair / mobility scooter storage in ancillary area or in flats should be enclosed with 60 minutes fire resisting construction with FD 30S fire doors. Where sprinkler coverage is required, these storage areas should be protected in accordance with BS 9251.

*Table 5 - Fire resistance of elements within the building*

| Element | Minimum Fire Resistance Period [(1)] for Block A-E | Minimum Fire Resistance Fire Door set for Block A-E | Minimum Fire Resistance Period [(1)] for Block F | Minimum Fire Resistance Fire Door set for Block F |
|---|---|---|---|---|
| Loadbearing elements | R 60 | N/a | R 60 | N/a |
| Compartment floor | REI 60 | N/a | N/a | N/a |
| Compartment walls | (R)EI 60 | E 60 $S_{a4}$ / FD 60S | (R)EI 60 * | N/a |
| Flat enclosures (compartment walls, fire rated doors) | (R)EI 60 | E 30 $S_{a4}$ / FD 30S | N/a | N/a |
| Protected shaft (stair, lift) | (R)EI 60 | E 30 $S_{a4}$ / FD 30S | N/a | N/a |
| Firefighting shaft enclosure | (R)EI 120 | E 60 $S_{a4}$ / FD 60S | N/a | N/a |
| Walls inside the firefighting shaft | (R)EI 60 | E 60 $S_{a4}$ / FD 60S | N/a | N/a |
| Protected stairs within houses | N/a | N/a | (R)EI 30 | FD 30S |
| Protected shaft (service risers) | (R)EI 60 | E 30 $S_{a4}$ / FD 30S | N/a | N/a |
| Protected shaft (smoke shaft) | (R)EI 60 | E 60 (vent or damper) | N/a | N/a |
| Protected Lobbies | (R)EI 30 | E 30 $S_{a4}$ / FD 30S | N/a | N/a |
| Cross-corridor partitions | (R)EI 30 | E 30 $S_{a4}$ / FD 30S | N/a | N/a |
| Refuse room | (R)EI 60 | FD 120S | N/a | N/a |
| Communal lounges, enclosed spaces of special fire hazard, | (R)EI 30 | E 30 $S_{a4}$ / FD 30S | (R)EI 30 | E 30 $S_{a4}$ / FD 30S |
| Plant room, Electric wheelchair/mobility scooter storage, bicycle store ** | (R)EI 60 | E 60 $S_{a4}$ / FD 60S | N/a | N/a |
| Sprinkler tank room | (R)EI 60 | E 60 / FD 60 | N/a | N/a |
| Cavity barriers | E 30 / I 15 | E 30 / FD 30 | E 30 / I 15 | E 30 / FD 30 |
| External wall | (R)E 60 I15 | E 30 / FD 30 | N/a | N/a |

Notes:

The 'R' rating only applies to elements that are loadbearing.

* Applies for the party wall dividing the houses.

** Increased recommendation for bicycle stores at Client request.

#### 5.2.2.3 Fire Doors

Fire doors are to be provided as per Table 5. Fire doors penetrating a fire rated partition should be provided in accordance with BS 476-22 [32] or classified in accordance with BS EN 13501-2 [33] and provided with smoke seals (where specified) in accordance with BS 476-31.1:1 [34] or BS EN 1634-3 [35].

All fire doors will be fitted with self-closers except for fire doors to utility cupboards and service risers, which are to be kept locked shut. Fire doors within the flats and houses don't need self-closer device.

Where a self-closing device is considered of hindrance to the normal use of the building, automatic hold-open devices linked to the fire detection and alarm system in accordance with BS 7273-4 [27]may be provided.

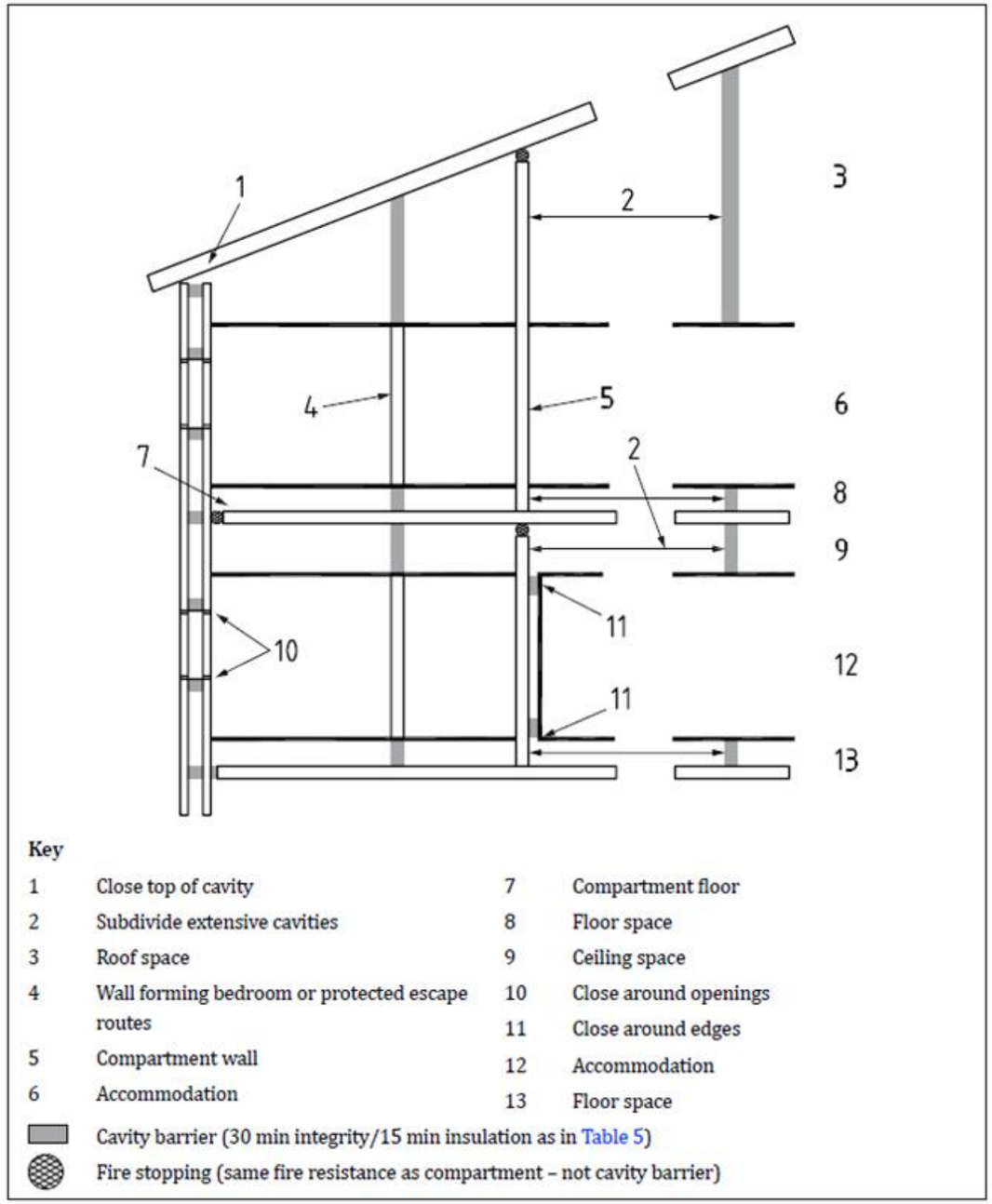
## 5.3 Concealed Spaces (Cavity Protection)

### 5.3.1 Overview

In order to restrict smoke and/or fire spread through concealed spaces or cavities, cavity barriers are provided as described in Section 25.1 within BS 9991:

- at the edges of cavities, including around openings (such as windows, doors and exit/entry points for services);
- at the junction between an external cavity wall and every compartment floor and compartment wall; and
- at the junction between an internal cavity wall and every compartment floor, compartment wall or other wall or door assembly forming a fire resisting barrier.

A compartment wall should be carried up full storey height to a compartment floor or to the roof, as appropriate, to maintain the standard of fire resistance. A line of compartmentation should not be completed by fitting cavity barriers above the compartment wall.




**Key**

| | | | |
|---|---|---|---|
| 1 | Close top of cavity | 7 | Compartment floor |
| 2 | Subdivide extensive cavities | 8 | Floor space |
| 3 | Roof space | 9 | Ceiling space |
| 4 | Wall forming bedroom or protected escape routes | 10 | Close around openings |
| | | 11 | Close around edges |
| 5 | Compartment wall | 12 | Accommodation |
| 6 | Accommodation | 13 | Floor space |

Cavity barrier (30 min integrity/15 min insulation as in Table 5)

Fire stopping (same fire resistance as compartment – not cavity barrier)

*Figure 19 – Cavity barriers and Fire Stopping*

## 5.4 Fire-stopping

### 5.4.1 Overview

As described below, any openings in fire resisting walls and floors are fire-stopped achieving the same fire rating as the wall or floor through which they pass, including all relevant openings for pipes, ducts and conduits for cables. The number of openings should be kept to as few in number as possible and the size as small as is practicable. Fire-stopping is also installed where joints between fire resisting elements are provided in Figure 20.

Where fire stopping, dampers or similar are used to maintain protection when services pass through fire resisting elements, the design of the penetration ensures the configuration of the chosen sealing product is compatible with the relevant substrate and application. Where practicable, penetration details align with standard details provided by product manufacturers supported by relevant test data.

Where achieving a standard detail is not practicable, the non-standard detail is supported by assessments or engineering judgements by a suitably qualified party and is based on appropriate primary and secondary test data.

All fire stopping, dampers or similar are installed by suitably qualified persons and certified by the installer (if a member of a self-certification scheme) or by a suitable third party.

### 5.4.2 Pipes

Pipes that pass through a fire separating element, as shown in Figure 20, meet one of the following provisions:

- Proprietary seals - Provide a proprietary fire-stopping sealing system (e.g. a pipe collar) which has been shown by test to maintain the fire resistance of the wall, floor or cavity barrier; or
- Restricted pipe diameter - Where a proprietary sealing system is not used, and the nominal internal diameter of the pipe is not more than the relevant dimension given in Figure 14 providing a suitable fire stopping sealant applied around the pipe is sufficient. The opening will be kept as small as possible; or
- Sleeving - A pipe of lead, aluminium, aluminium alloy, fibre-cement or uPVC (BS 4514:2001 [37] and uPVC pipes complying with BS 5255:1989 [38]), with a maximum nominal internal diameter of 160mm, may be used with a sleeve made out of a high melting point metal. The opening in the structure will be as small as possible and suitable fire stopping sealant will be provided around the sleeve. The sleeve will extend no less than 1000mm on either side of the structure.

## 5.5 Ventilation Ducts, Flues, etc.

One of the following methodologies, as illustrated in Figure 15, is implemented where a ventilation duct passes through a fire resisting element to maintain the integrity of this element:

- Protection using fire and smoke dampers, conforming to BS EN 15650 [39]. It will be noted that thermally activated fire dampers only are not adequate to protect escape routes and in residential parts of the building. Penetrations into protected escape routes, lobbies and stairs etc shall be protected with motorised fire and smoke dampers, which are activated on the detection of smoke or fire within the associated compartments;
- Protection using fire-resisting enclosures; and
- Protection using fire-resisting ductwork (E 30).

Shared ductwork between flats should be avoided, otherwise fire and smoke dampers would be required at penetrations where a duct enters or leaves a flat, which would likely lead to difficulties in terms of access, testing and maintenance.

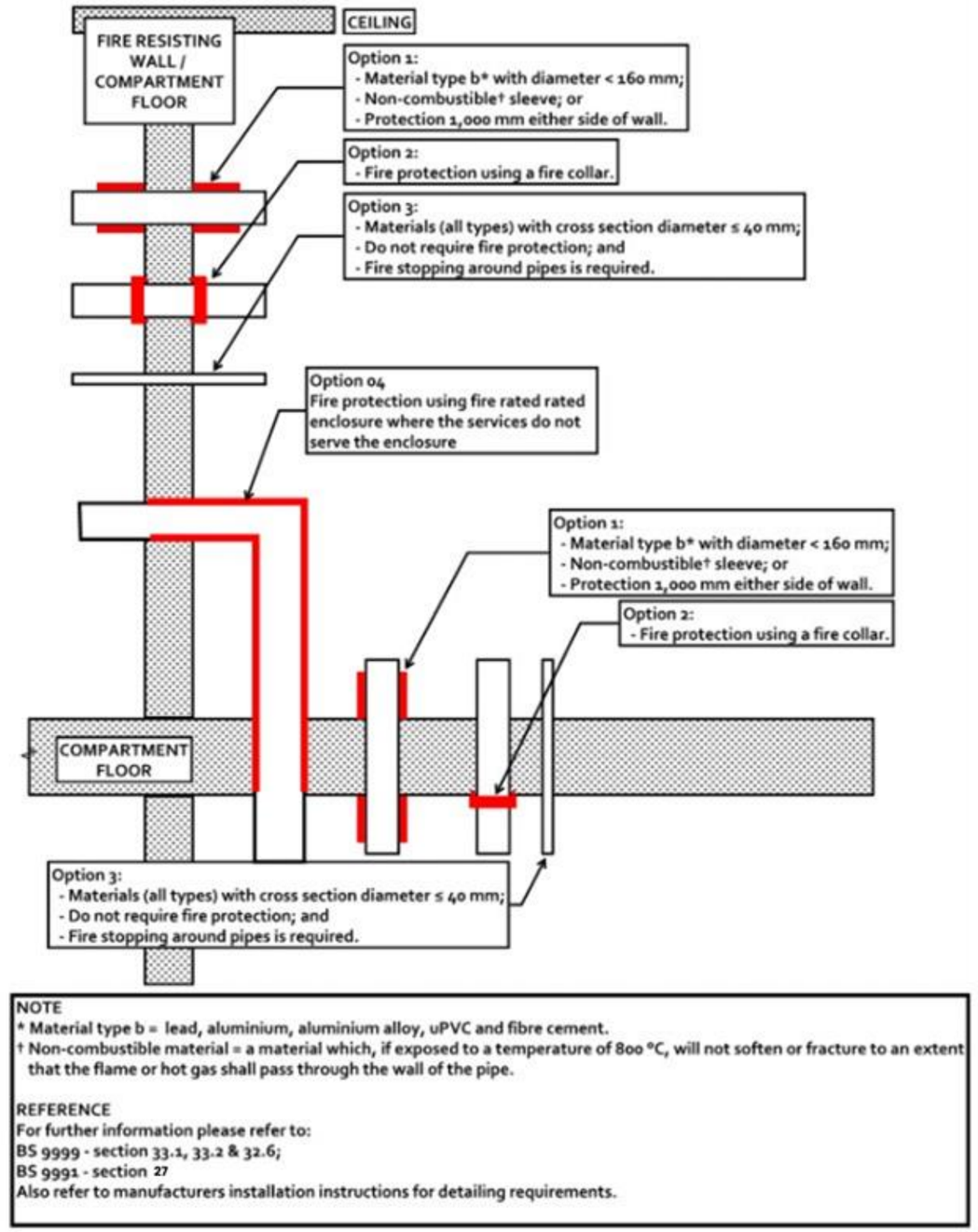



*Figure 20 – Fire stopping details - Pipes*

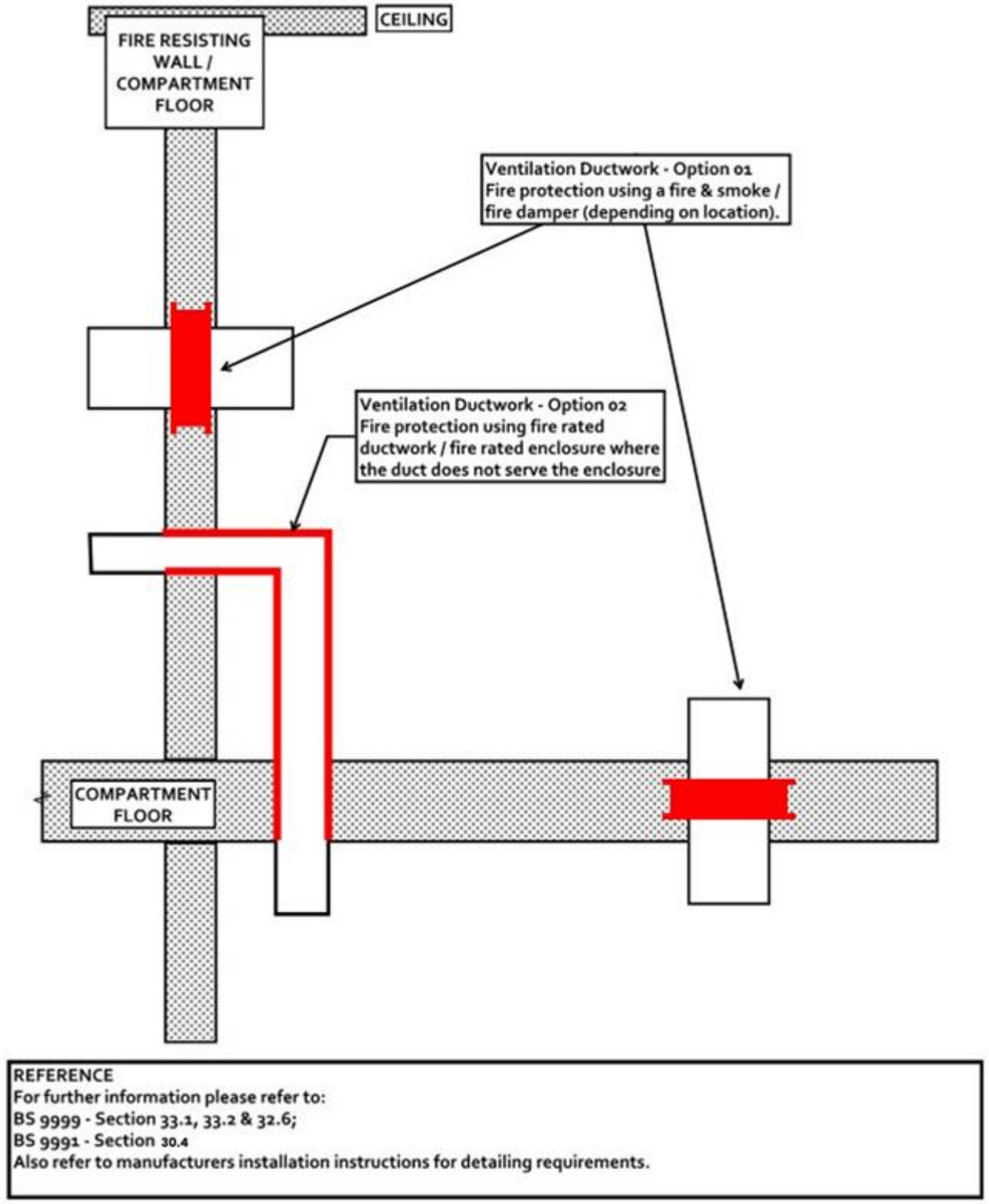



*Figure 21 - Fire stopping details – Ventilation Ductwork*

# 6. External Fire Spread

## 6.1 External Wall Build-up

As the height to the top occupied storey of Block A exceeds 18 m, the building is a classed as a 'relevant building' as defined in the Building Regulations. A relevant building is 'any building with a storey at least 18 m above ground level which contains one or more dwellings; an institution; or a room for residential purposes'.

Therefore, all materials which are part of the external wall or specified attachment are to be of European Classification A2-s1,d0 or Class A1, classified in accordance with BS EN 13501-1 [40] as per the requirements in Regulation 7(2).

Regulation 7(3) sets out some exceptions from the requirements in Requirement 7(2), which includes the following:

- cavity trays when used between two leaves of masonry;
- any part of a roof (other than any part of a roof which falls within paragraph (iv) of regulation 2(6)) if that part is connected to an external wall;
- door frames and doors;
- electrical installations;
- insulation and water proofing materials used below ground level;
- intumescent and fire stopping materials where the inclusion of the materials is necessary to meet the requirements of Part B of Schedule 1;
- membranes;
- seals, gaskets, fixings, sealants and backer rods;
- thermal break materials where the inclusion of the materials is necessary to meet the thermal bridging requirements of Part L of Schedule 1; or
- window frames and glass.

Whilst regulation 7(3) states that the requirements do not apply to membranes, the revised statutory guidance (BS 9991) recommends that membranes used as part of the external wall construction should achieve a minimum classification of European Class B-s3, d0.

Thermal breaks should not span two compartments and be limited in size to the minimum required to restrict the thermal bridging (the principal insulation layer is not regarded as a thermal break).

It is recommended that all practical endeavours should be applied to seek the best performing materials (subject to other performances being satisfactory).

As the height to the top occupied storey of the Block B-E exceeds 11 m, the fire performance for external surfaces of walls should be Class A2-s1, dd0 or better, with the exceptions mentioned below:

- cavity trays when used between two leaves of masonry;
- any part of a roof pitched at an angle of 70° or more if that part is connected to an external wall;
- door frames and doors;
- electrical installations;
- insulation and water proofing materials used below ground level;
- intumescent and fire-stopping materials where the inclusion of the material is necessary to meet recommendations;
- membranes (these should be of class B-s3, d0 or better materials);
- seals, gaskets, fixings, sealants and backer rods;
- thermal break materials where the inclusion of the materials is necessary to meet regulatory requirements for thermal bridging;
- window frames and glass;
- the operating mechanisms for adjustable solar shading devices; and
- external walls of buildings that comprise only masonry construction, or in which combustible materials are limited to insulation within the cavity of double-leaf masonry walls.

For Block F is recommended to keep the same fire performance.

## 6.2 Roof Coverings

Performance of the resistance of roofs to external fire exposure is measured in terms of penetration through the roof construction and the spread of flame over its surface. Roof covering designations are derived in accordance with the means detailed in BS EN 13501-5 [41].

Due to the proximity of the building to the relevant boundary, it is recommended that the roof coverings for the building achieve $B_{roof}(t4)$.

## 6.3 Roof garden

As per Annex E in BS9991 for communal terraces and roof gardens, the roof should be constructed as a compartment floor and the upper surface should have a $B_{roof}(t4)$ classification or areas such as green roofs, planters, and soft surfaces to playgrounds that do not achieve this should be isolated:

- 3 m away from any vertical building façade above the terrace surface; and
- 0.5 m from other perimeters of the terrace (e.g. lift overruns) and from roof lights, ventilation openings or other penetrations of the roof.

Any fire risk or roofed structure on a terrace, such as barbecue stations and enclosed buildings should be erected on a slab of class A1 material that also extends at least 1.2 m from the edges of such feature. Planting structures should be constructed of class A1 materials. For buildings with a storey 11 m or more above ground level, any perimeter construction that forms part of an external wall, such as parapets or balustrading, should be constructed of class A2-s1, d0 or better materials.

## 6.4 Space Separation Assessment

Preliminary calculations in accordance with BR 187 [36] have been conducted, in order to determine the requisite quantity of fire rated external wall construction to mitigate the risk of fire spread across relevant boundaries.

The relevant boundaries on ground floor shown in Figure 22, and the relevant elevation drawings in Figure 23. The calculation results are further tabulated in Table 6.

The following assumptions have been made for these calculations:

- each area has been measured as an equivalent rectangle;
- the fire has been assumed to compromise the entirety of a compartment;
- the fire will be restricted to a single floor of single flat due to the compartmentation;
- the relevant boundaries on all elevations have been measured to the centreline of the adjacent roadways, to the centreline between two buildings within the same site or site boundary.
- in areas where the building is constructed on the relevant boundary, this calculation was not carried out as external walls in these areas should be fire resisting from both sides, with only small, unprotected openings allowed, as defined in BS 9991 [17];
- the largest compartment facing each elevation across the building height is selected to check allowable unprotected area as it will generate the maximum area for each building face. In this building, the largest compartment in all elevations is calculated in both ground floor and first floor.
- the automatic sprinkler system was accounted by reducing the heat flux by half.

In addition, on ground and first floor between Block D and Block E the separation distance between blocks is only 2.46 m. A notional boundary on Block E where there are no flats has been assumed to maximise the amount of unprotected area allowed on Block D.

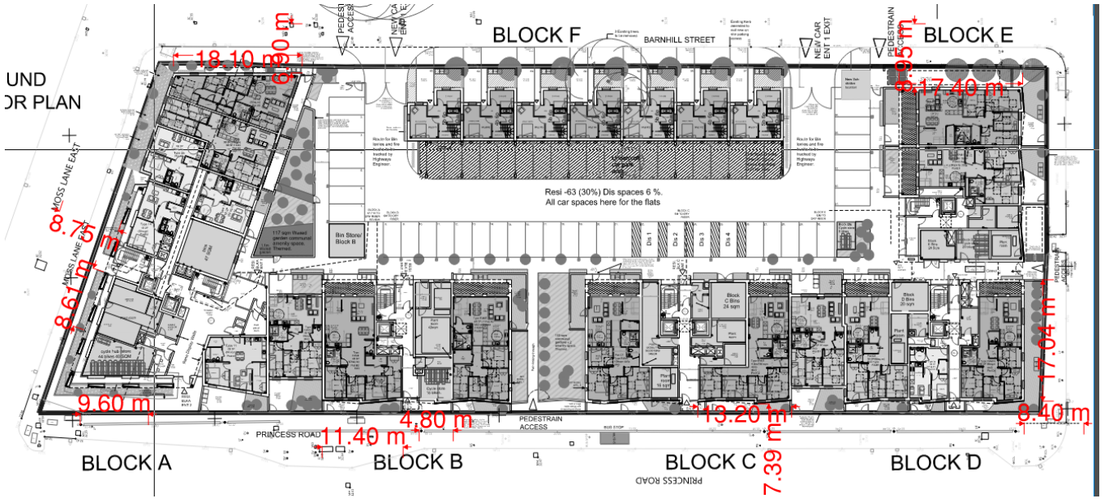



*Figure 22: Ground Site plan with boundary*




*Figure 23: Elevation parts for the calculation between Block D and Block E*

*Table 6: External fire spread allowable unprotected area percentages*

| Elevation | Heat Flux ($kW/m^2$) | Relevant Boundary | Boundary Distance (m) | Enclosing Rectangle (W x H) (m) | Allowable Unprotected Area (%) |
|---|---|---|---|---|---|
| From Block D to Block E – bin store | 84 | building | 1.13 | 5.20 x 2.80 | 30 |
| From Block D to Block E – Flat first floor | 42 | building | 1.13 | 9.10 x 2.40 | 65 |
| From Block E to Block D – bin store, cycle store, plant room | 84 | building | 1.13 | 4.30 x 2.80 | 35 |
| From Block E to Block D – Flat first floor | 42 | building | 1.13 | 17.65 x 2.40 | 60 |

| | | | | | |
|---|---|---|---|---|---|
| Block A – Ground floor plant room | 84 | Middle of Moss Lane | 8.75 | 8.60 x 2.80 | 100 |
| Block A – Ground floor flat | 42 | Middle of Barnhill Street | 6.90 | 18.10 x 2.80 | 100 |
| Block A – Bicycle store ground floor | 84 | Middle of Princess Street | 17.40 | 9.60 x 2.80 | 100 |
| Block C – Ground floor flat | 42 | Middle of Princess Street | 17.40 | 13.20 x 2.80 | 100 |
| Block D – Ground floor flat | 42 | Middle of Raby Street | 8.40 | 17.05 x 2.80 | 100 |

## 6.5 Flat Internal Angle

On various upper residential levels, there are multiple instances where flats are located at an internal angle to each other. 60 minutes fire resisting construction (integrity and insulation and loadbearing where relevant) is proposed to a 1m strip at the internal angle of the flats, to prevent flat to flat fire spread. This provision is to be fire resistance from the inside only.

## 6.6 Protected staircase internal angle

Where an escape stairway, or the protected route leading to that stair, projects beyond or is recessed from the external enclosures to a building and forms an angle of less than 135°:

- the distance between any opening in the external enclosure to the building and any opening in the enclosure to the stair should be not less than 1.8 m; and
- the enclosures within that distance [see list item e)1)] should be of fire-resisting construction, which may include unopenable fire-resisting glazed areas.

## 6.7 Junction of compartment walls and roof

BS 9991 [17] recommends restricting of fire spread over roofs, in the vicinity of a compartment wall, to avoid fire spread between compartments via a roof covering but

As per Approved Document B [37] a compartment walls should meet the underside of the roof covering or deck, with fire-stopping to maintain the continuity of fire resistance. To reduce the risk of fire spreading over the roof from one compartment to another, a 1500 mm wide zone of the roof, either side of the wall, should have a covering classified as $B_{ROOF}$(t4), on a substrate or deck of a material rated class A2-s3, d2 or better.

# 7. Access and Facilities for the Fire and Rescue Service

## 7.1 External Fire-fighting Facilities

The Block A-E will be provided with dry fire mains, BS 9991 [17] recommends that the fire appliance should be able to park within 18 m of the fire main inlet connection point, typically on the face of the building close to the entrance point leading to the stair enclosure, with the inlet visible from the fire appliance.

The dry rising mains will be accessed from the block inside garden and parking area, which can be accessed from the Barnhill Street and for the Block D from the Raby Street. Additionally, the inside garden can be left without the need of turning.

As the protected stair cores are not directly accessible from the fire tender parking position, access to the stair core is proposed to be via protected corridor. The fire service in this instance can connect to the dry riser inlet directly adjacent to the fire tender parking position and migrate to the protected stair enclosure (which houses the dry riser outlet) via a fire protected corridor. The horizontal run of the dry riser should not exceed 18 m per BS 9990 [38] recommendations.

The fire appliance access route should, as a minimum, comply with Table 7, however fire tenders are not standardised in the UK. These values should therefore be confirmed by the local Fire and Rescue Service.

*Table 7: Firefighting appliance access route specifications*

| 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 |
| High-Reach | 3.7 | 3.1 | 26 | 29 | 4 | 17 |

As Block F is not fitted with fire mains, the houses should allow access for a fire appliance within 45 m of all point within the house, measured on a route suitable for laying hose.

## 7.2 Fire-fighting shaft

In Block A the floor area is below 900 $m^2$ and has a topmost storey high above 18 m, therefore one of the stairs is proposed as firefighting shaft, aligns with the recommendations of BS 9991 [12]. The connected lift proposed as firefighter lift as shown on the layouts.

Block A and Block B adjoin each other, but Block B is separated and no internal connections between these blocks are provided, therefore Block B does not need firefighter shaft.

In Block B-E the stairs are designed as protected staircases with lobbies, but they are not firefighter shafts.

## 7.3 Hose Coverage

BS 9991 [39] outlines that when a building is fitted throughout with a sprinkler system in accordance with BS 9251 [11], then sufficient fire-fighting shafts should be provided so that every part of every storey is no more than 60 m from a fire main outlet in a fire-fighting shaft, as measured on a route suitable for laying hose. As per the current drawings, all areas of the building are within 60 m from a firefighting stair. The first floor, as an example, is provided in Figure 25.

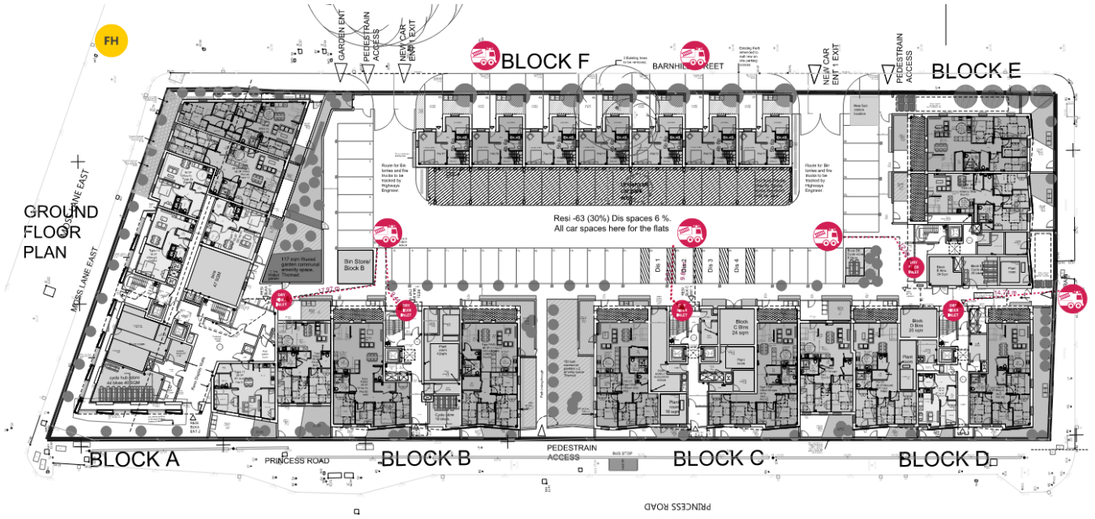



*Figure 24: Fire service configuration*

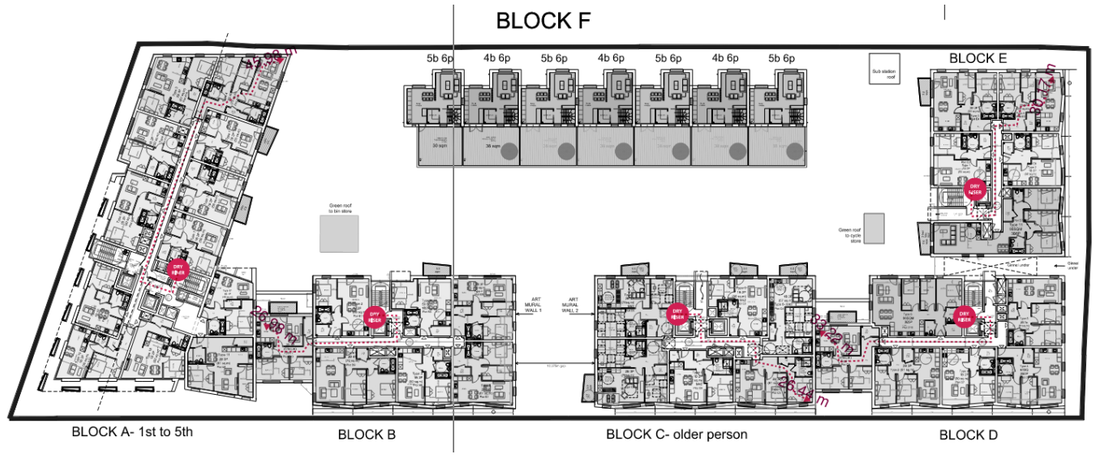



*Figure 25: Estimated hose coverage*

## 7.4 Hydrant Provisions

BS 9991 [39] recommends that hydrants be located in positions that are near to building entry points (including entry points to the protected stairs containing fire mains) and fire appliance parking positions.

For buildings that are provided with dry rising mains such as these buildings, hydrants should be provided within 90 m of an entry point to the building and not more than 90 m apart.

The existing fire hydrants are shown on Figure 26:

- Moss Lane East and Barnhill Street corner
- Raby Street and Barnhill Street corner
- Princess Road

The Block entrances from the inside parking area are usually within 90 m from the existing hydrants, but regarding to the Block C the exact distance needs to be checked on site.

The performance of these fire hydrants is yet to be determined. Should any hydrants be deemed to not meet the recommended pressure/flow rate, by the fire service or local water authority then this will be discussed with the fire and water authorities as to whether new hydrants are deemed necessary.

All hydrants should have signage in accordance with BS 3251 [40], which might currently missing on site.

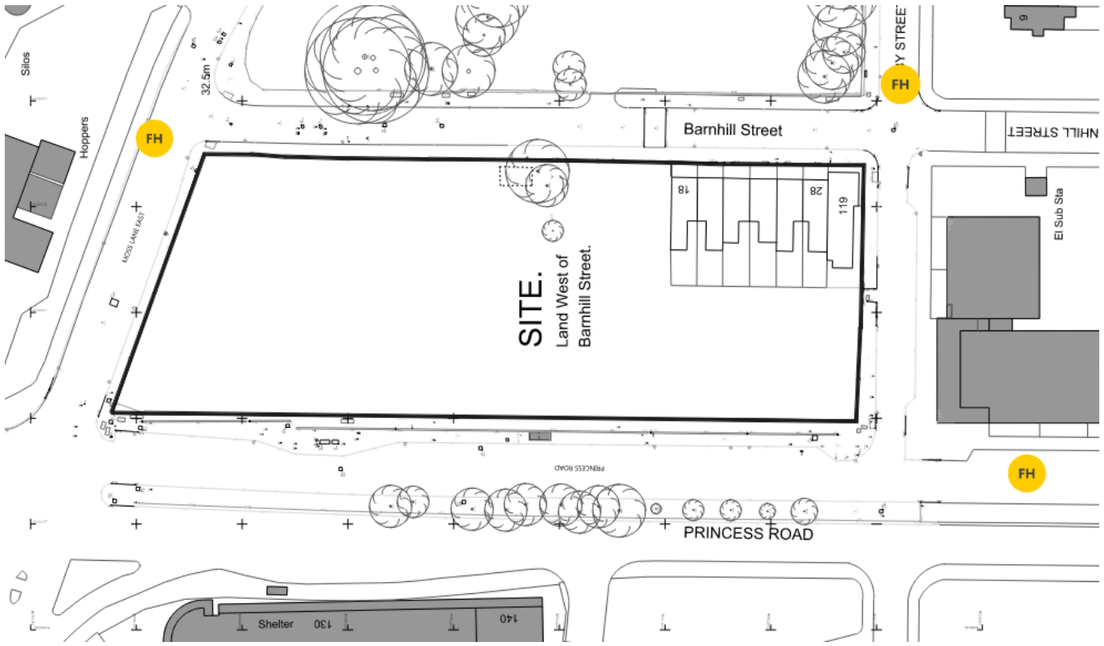



*Figure 26: Existing hydrants*

## 7.5 Wayfinding Signage for the Fire Service

To assist the Fire and Rescue Service to identify each floor of the building, and individual flats, floor identification signs will be provided as per best practice and as per BS 9991 to meet all of the following conditions:

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

Refer to Section 48.1 in BS9991 C.1 for more information related to fire service wayfinding.

## 7.6 Secure Information Boxes

A secure information box provides a secure facility to store information about a building for use by the fire and rescue service during an incident. As Block A-E have a top storey height more than 11 m above ground level, the buildings should be provided with a secure information box. The box should meet all the following conditions:

- sized to accommodate all necessary information;
- easily located and identified by firefighters;
- secured to resist unauthorised access but readily accessible by firefighters;
- protected from the weather.

Best practice guidance for the adoption of these secure information boxes is contained within Sections 2 to 4 of the *'Code of Practice for the Provision of Premises Information Boxes in Residential Buildings'* published by the Fire Industry Association (FIA).

## 7.7 Evacuation Alert Systems

As Block A has a top storey more than 18 m above ground level, an evacuation alert system (EAS) will be provided in accordance with BS 8629 for use by the local fire and rescue service. System details are in Section 2.2.

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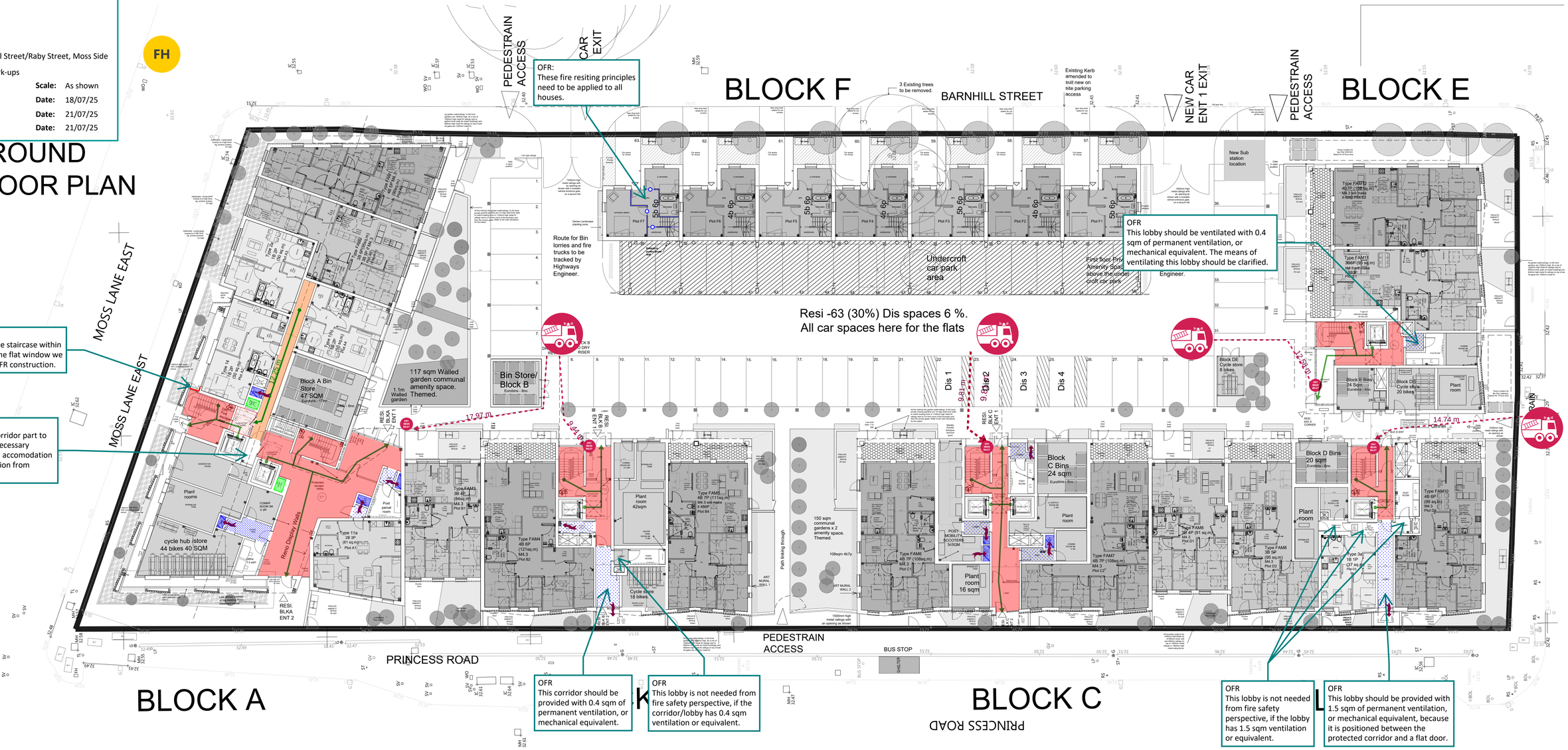
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OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

# GROUND FLOOR PLAN




## OFR - Drawing Legend

- Escape stair (and exit from)
- Storey Exit
- FH — Existing fire hydrant
- Evacuation lift lobby
- Ventilated lobby
- DRY RISER INLET — Dry riser inlet point
- Corridor 1
- Corridor 2
- DRY RISER — Dry riser outlet point
- Corridor 3
- Mechanical shaft
- Natural shaft
- Discharge route
- Natural supply shaft
- Air inlet / smoke extract point
- 2.58 m — Travel distance
- Distance between hob and escape route (the green area is needed near the red dotted area)
- (R)EI 60 minutes fire resistance
- (R)EI 30 minutes fire resistance
- E 30 / FD30 fire door

Notes:
OFR notes are based on BS9991:2024


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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Ground Floor Plan

| | | | |
|---|---|---|---|
| Status | Stage 3 - Planning | | Drawn By PJS/JT/SR |
| Job Number | 1215-MCAU | Scale 1.200@A1 | Date JAN 25 |
| Drawing Number | 03-00 | | Revision P24 |

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|---|---|---|---|
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| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
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| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

OFR
General note on all flat arrangements, the new BS 9991:2024 asks for hobs to remote from the means of escape in open plan flats, such that a 0.9 m wide escape route can be 1.8 m away from the edge of the hob.

OFR:
These fire resiting principles need to be applied to all houses.

OFR
As travel distances exceed the recommended maximum of 15 m for a single direction in BS 9991:2024, a twin shaft system should be provided to demonstrate the return to tenability of the corridor for persons escaping.

The mechanical extract shaft should be placed at the remote end of the corridor, with a natural supply shaft at the near end of the corridor to the stair. This should also be 1 sqm in cross section.

OFR
To protect the staircase within 1.8 m from the flat window we recommend FR construction.

OFR
These shafts will serve as natural inlet supply points to push smoke out of the lobby. These should be a minimum of 1 sqm in cross sectional for natural shaft.

OFR
General comment to all evacuation lift lobby:
Figure 14 in BS9991 gives the minimum dimensions for lobby in 1.5x2.1m. Please check and mark this size on the drawings.

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm (if mechanical).

The AOV in the lobby should have a cross sectional area of 1 sqm (if natural).

OFR
The corridor needs to have a 0.4 sqm natural ventilation or mechanical equivalent.

OFR
As the building heigh is < 30 m this could be a natural shaft with 1.5 sqm or or a mechanical extract shaft with a minimum of 1 sqm in cross section.

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm (if mechanical).

The shaft in the lobby should be a natural shaft, with a cross sectional area of 1 sqm.

BLOCK F

BLOCK E

BLOCK A

BLOCK B

BLOCK C

BLOCK D

Sub station roof

Green roof to cycle store

Ginnel under

Ginnel under

10.375m gap

## OFR - Drawing Legend

- Escape stair (and exit from)
- Storey Exit
- FH — Existing fire hydrant
- Evacuation lift lobby
- Ventilated lobby
- DRY RISER INLET — Dry riser inlet point
- Corridor 1
- Corridor 2
- DRY RISER — Dry riser outlet point
- Corridor 3
- Mechanical shaft
- Natural shaft
- Discharge route
- Natural supply shaft
- Air inlet / smoke extract point
- 2.58 m — Travel distance
- Distance between hob and escape route (the green area is needed near the red dotted area)
- (R)EI 60 minutes fire resistance
- (R)EI 30 minutes fire resistance
- E 30 / FD30 fire door

Notes:
OFR notes are based on BS9991:2024


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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
First Floor Plan

| | | | |
|---|---|---|---|
| Status | Stage 3 - Planning | | Drawn By PJS/JT/SR |
| Job Number | 1215-MCAU | Scale 1.200@A1 | Date MAR 25 |
| Drawing Number | 03-01 | | Revision P24 |

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OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

# 2ND FLOOR

**See comments on below floors too according to corridors, smoke control, travel distances, etc. !**

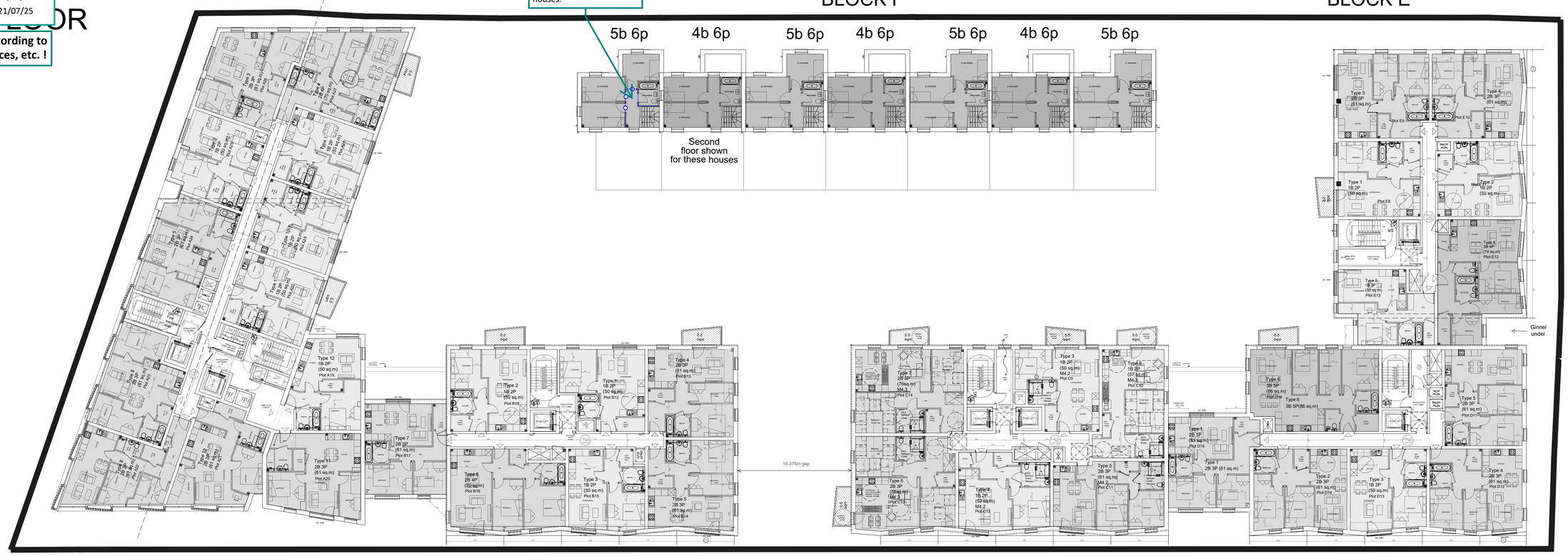
OFR:
These fire resiting principles need to be applied to all houses.

BLOCK F

BLOCK E

5b 6p | 4b 6p | 5b 6p | 4b 6p | 5b 6p | 4b 6p | 5b 6p

Second floor shown for these houses




BLOCK A

BLOCK B

BLOCK C

BLOCK D

## OFR - Drawing Legend

- Escape stair (and exit from)
- Storey Exit
- FH — Existing fire hydrant
- Evacuation lift lobby
- Ventilated lobby
- DRY RISER INLET — Dry riser inlet point
- Corridor 1
- Corridor 2
- DRY RISER — Dry riser outlet point
- Corridor 3
- Mechanical shaft
- Natural shaft
- Discharge route
- Natural supply shaft
- Air inlet / smoke extract point
- 2.58 m — Travel distance
- Distance between hob and escape route (the green area is needed near the red dotted area)
- (R)EI 60 minutes fire resistance
- (R)EI 30 minutes fire resistance
- E 30 / FD30 fire door

Notes:
OFR notes are based on BS9991:2024

1:200 scale

0 1 2 5 10 15m
Scale 1:200


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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Second Floor Plan

| | | | |
|---|---|---|---|
| Status | Stage 3 - Planning | | Drawn By PJS/JT/SR |
| Job Number | 1215-MCAU | Scale 1.200@A1 | Date MAR 25 |
| Drawing Number | 03-02 | | Revision P24 |

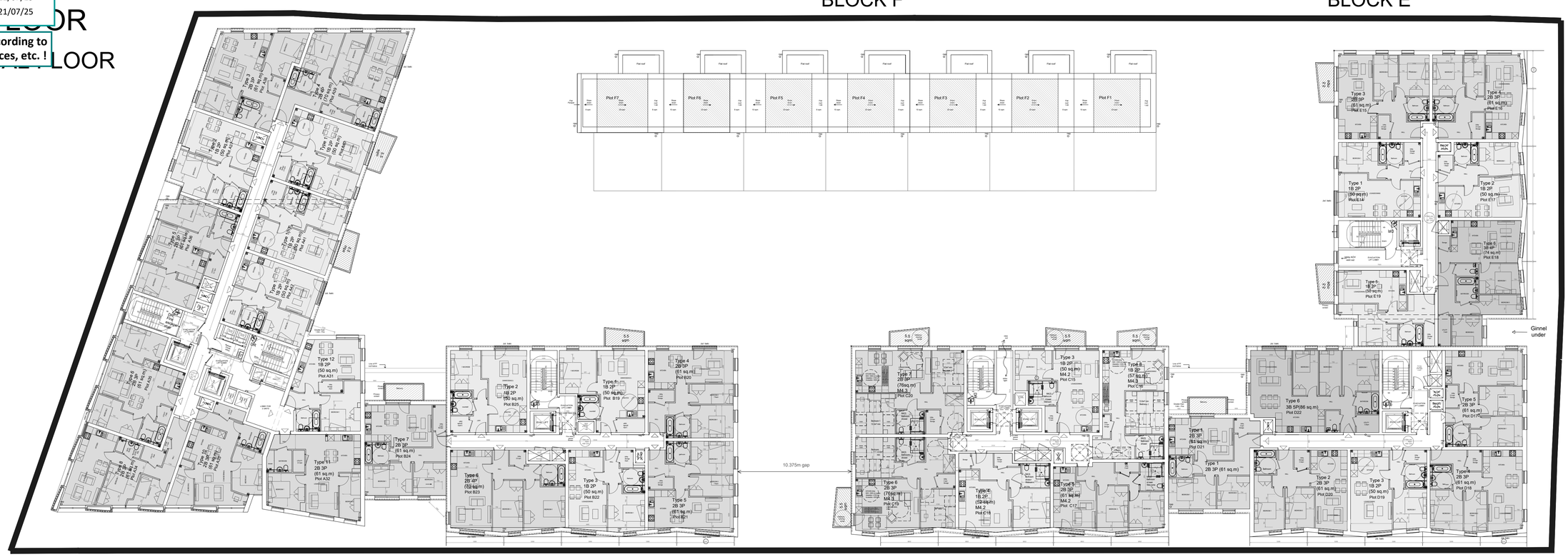
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OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

**See comments on below floors too according to corridors, smoke control, travel distances, etc. !**

# 3RD FLOOR
# TYPICAL FLOOR




BLOCK A BLOCK B BLOCK C BLOCK D

1:200 scale

0 1 2 5 10 15m
Scale 1:200


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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Third Floor Plan

| | | |
|---|---|---|
| Status | | Drawn By |
| Stage 3 - Planning | | PJS/JT/SR |
| Job Number | Scale | Date |
| 1215-MCAU | 1.200@A1 | JAN 25 |
| Drawing Number | | Revision |
| 03-03 | | P24 |

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OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

# ROOF PLAN

OFR
As travel distances exceed the recommended maximum of 15 m for a single direction in BS 9991:2024, a twin shaft system should be provided to demonstrate the return to tenability of the corridor for persons escaping.

The mechanical extract shaft should be placed at the remote end of the corridor, with a natural supply shaft at the near end of the corridor to the stair. This should also be 1 sqm in cross section.

OFR
These shafts will serve as natural inlet supply points to push smoke out of the lobby. These should be a minimum of 1 sqm in cross sectional for natural shaft.

OFR
As the building heigh is < 30 m this could be a natural shaft with 1.5 sqm or or a mechanical extract shaft with a minimum of 1 sqm in cross section.

OFR
General comment to all evacuation lift lobby:
Figure 14 in BS9991 gives the minimum dimensions for lobby in 1.5x2.1m.
Please check and mark this size on the drawings.

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm (if mechanical).

The shaft in the lobby should be a natural shaft, with a cross sectional area of 1 sqm.

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm (if mechanical).

The AOV in the lobby should have a cross sectional area of 1 sqm (if natural).

OFR
The corridor needs to have a 0.4 sqm natural ventilation or mechanical equivalent.

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm (if mechanical).

The shaft in the lobby should be a natural shaft, with a cross sectional area of 1 sqm.

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm.
The shaft in the lobby should be a natural shaft, with a cross sectional area of 1 sqm.

BLOCK F

BLOCK E

BLOCK A

BLOCK B

BLOCK C

BLOCK D

## OFR - Drawing Legend

- Escape stair (and exit from)
- Storey Exit
- FH — Existing fire hydrant
- Evacuation lift lobby
- Ventilated lobby
- DRY RISER INLET — Dry riser inlet point
- Corridor 1
- Corridor 2
- DRY RISER — Dry riser outlet point
- Corridor 3
- Mechanical shaft
- Natural shaft
- Discharge route
- Natural supply shaft
- Air inlet / smoke extract point
- 2.58 m — Travel distance
- Distance between hob and escape route (the green area is needed near the red dotted area)
- (R)EI 60 minutes fire resistance
- (R)EI 30 minutes fire resistance
- E 30 / FD30 fire door

Notes:
OFR notes are based on BS9991:2024

1:200 scale

0 1 2 5 10 15m
Scale 1:200


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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Fourth Floor Plan

| | | | |
|---|---|---|---|
| Status | Stage 3 - Planning | | Drawn By PJS/JT/SR |
| Job Number | 1215-MCAU | Scale 1.200@A1 | Date JAN 25 |
| Drawing Number | 03-03 | | Revision P24 |

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OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

# 5TH FLOOR

OFR
As travel distances exceed the recommended maximum of 15 m for a single direction in BS 9991:2024, a twin shaft system should be provided to demonstrate the return to tenability of the corridor for persons escaping.

The mechanical extract shaft should be placed at the remote end of the corridor, with a natural supply shaft at the near end of the corridor to the stair. This should also be 1 sqm in cross section.

OFR
These shafts will serve as natural inlet supply points to push smoke out of the lobby. These should be a minimum of 1 sqm in cross sectional for natural shaft.

OFR
As the building heigh is < 30 m this could be a natural shaft with 1.5 sqm or or a mechanical extract shaft with a minimum of 1 sqm in cross section.

BLOCK A

BLOCK B

OFR
General comment to all evacuation lift lobby:
Figure 14 in BS9991 gives the minimum dimensions for lobby in 1.5x2.1m.
Please check and mark this size on the drawings.

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm (if mechanical).

The shaft in the lobby should be a natural shaft, with a cross sectional area of 1 sqm.

BLOCK C

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm (if mechanical).

The shaft in the lobby should be a natural shaft, with a cross sectional area of 1 sqm.

OFR
The corridor needs to have a 0.4 sqm natural ventilation or mechanical equivalent.

BLOCK D

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm.
The shaft in the lobby should be a natural shaft, with a cross sectional area of 1 sqm.

BLOCK F

BLOCK E

## OFR - Drawing Legend

- Escape stair (and exit from)
- Storey Exit
- FH — Existing fire hydrant
- Evacuation lift lobby
- Ventilated lobby
- DRY RISER INLET — Dry riser inlet point
- Corridor 1
- Corridor 2
- DRY RISER — Dry riser outlet point
- Corridor 3
- Mechanical shaft
- Natural shaft
- Discharge route
- Natural supply shaft
- Air inlet / smoke extract point
- 2.58 m — Travel distance
- Distance between hob and escape route (the green area is needed near the red dotted area)
- (R)EI 60 minutes fire resistance
- (R)EI 30 minutes fire resistance
- E 30 / FD30 fire door

Notes:
OFR notes are based on BS9991:2024

1:200 scale

0 1 2 5 10 15m
Scale 1:200


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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Fifth Floor Plan

| | | | |
|---|---|---|---|
| Status | Stage 3 - Planning | | Drawn By PJS/JT/SR |
| Job Number | 1215-MCAU | Scale 1.200@A1 | Date JAN 25 |
| Drawing Number | 03-05 | | Revision P24 |

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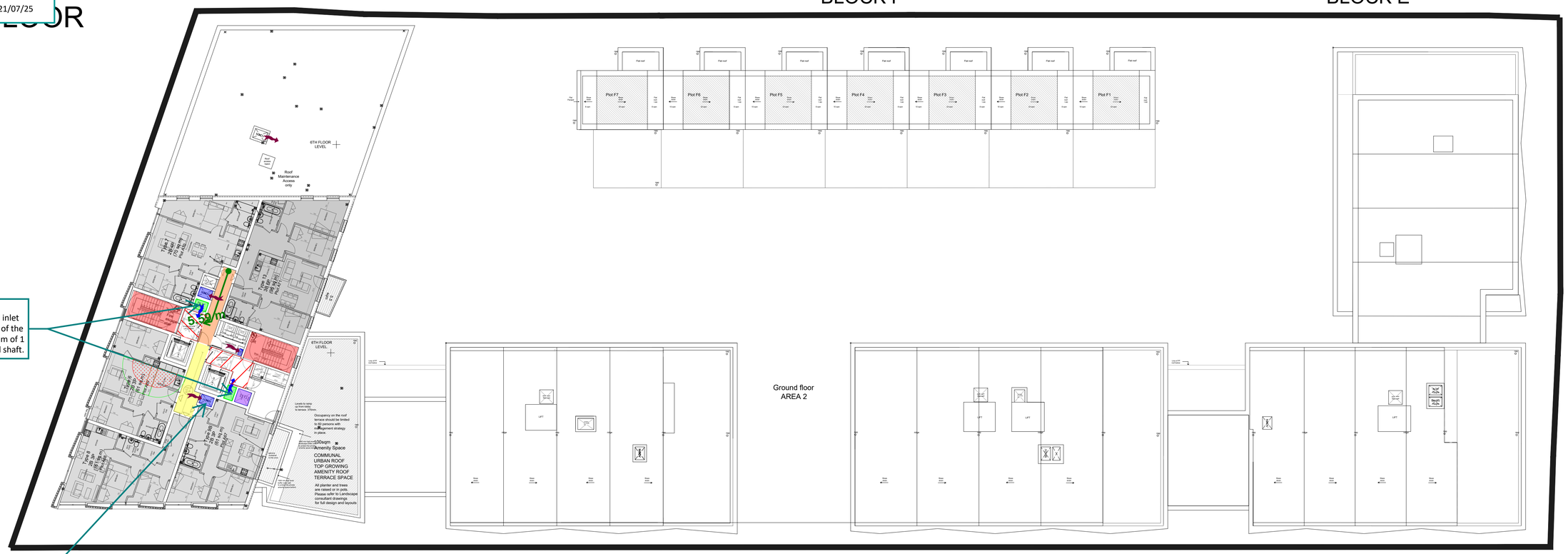
OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

# 6TH FLOOR

BLOCK F

BLOCK E




OFR
These shafts will serve as natural inlet supply points to push smoke out of the lobby. These should be a minimum of 1 sqm in cross sectional for natural shaft.

OFR
The shaft should be a mechanical extract shaft, a minimum of 1 sqm in cross section.

BLOCK A

BLOCK B

BLOCK C

BLOCK D

## OFR - Drawing Legend

- Escape stair (and exit from)
- Storey Exit
- FH — Existing fire hydrant
- Evacuation lift lobby
- Ventilated lobby
- DRY RISER INLET — Dry riser inlet point
- Corridor 1
- Corridor 2
- DRY RISER — Dry riser outlet point
- Corridor 3
- Mechanical shaft
- Natural shaft
- Discharge route
- Natural supply shaft
- Air inlet / smoke extract point
- 2.58 m — Travel distance
- Distance between hob and escape route (the green area is needed near the red dotted area)
- (R)EI 60 minutes fire resistance
- (R)EI 30 minutes fire resistance
- E 30 / FD30 fire door

Notes:

OFR notes are based on BS9991:2024


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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Sixth Floor Plan

| | | | |
|---|---|---|---|
| Status | Stage 3 - Planning | | Drawn By PJS/JT/SR |
| Job Number | 1215-MCAU | Scale 1.200@A1 | Date JAN 25 |
| Drawing Number | 03-06 | | Revision P24 |

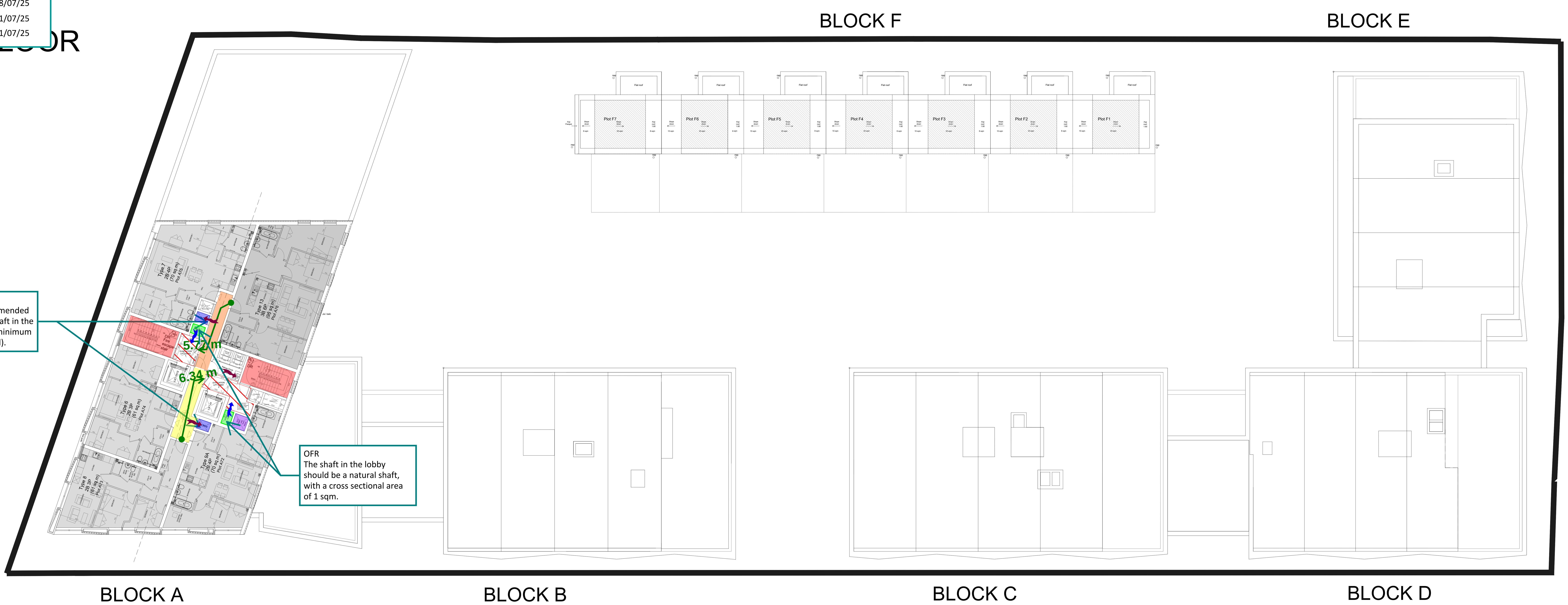
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OFR

**Project:** Land at Barnhill Street/Raby Street, Moss Side

**Title:** Fire Safety Mark-ups

| | | | |
|---|---|---|---|
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |




## OFR - Drawing Legend

- Escape stair (and exit from)
- Storey Exit
- FH — Existing fire hydrant
- Evacuation lift lobby
- Ventilated lobby
- DRY RISER INLET — Dry riser inlet point
- Corridor 1
- Corridor 2
- DRY RISER — Dry riser outlet point
- Corridor 3
- Mechanical shaft
- Natural shaft
- Discharge route
- Natural supply shaft
- Air inlet / smoke extract point
- 2.58 m — Travel distance
- Distance between hob and escape route (the green area is needed near the red dotted area)
- (R)EI 60 minutes fire resistance
- (R)EI 30 minutes fire resistance
- E 30 / FD30 fire door

Notes:

OFR notes are based on BS9991:2024

1:200 scale

Scale 1:200 (0 1 2 5 10 15m)

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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Seventh Floor Plan

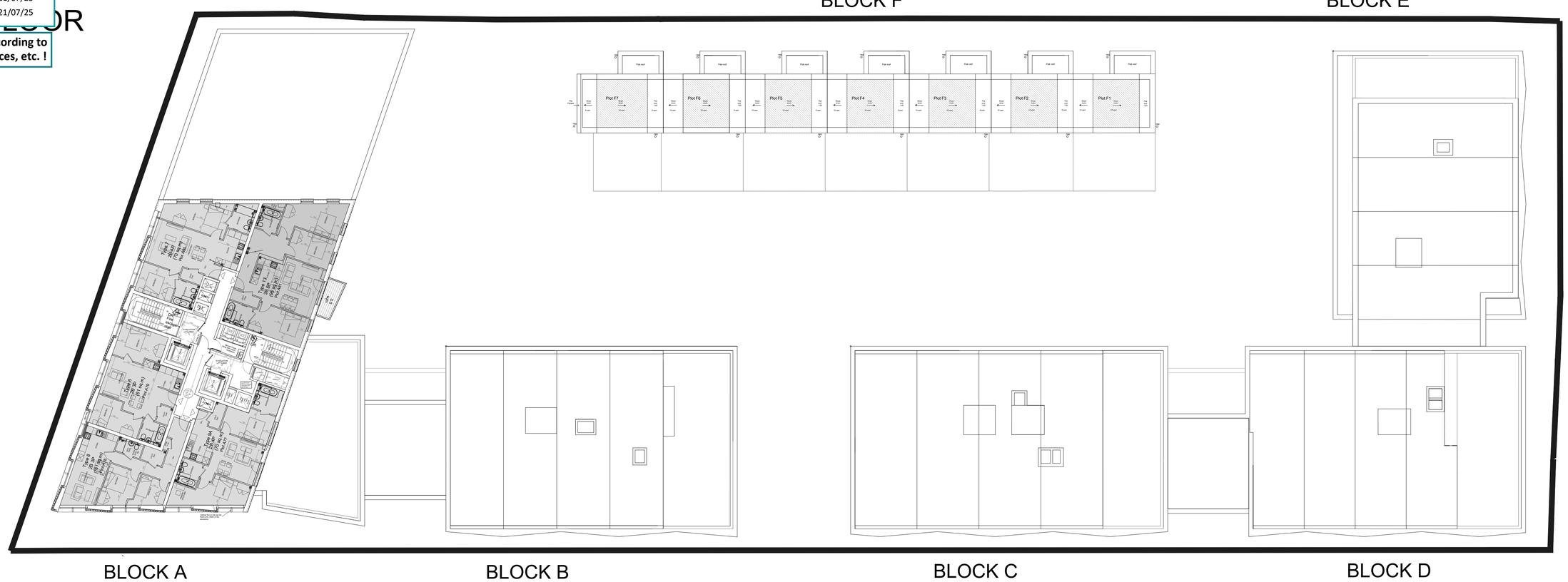
| Status | | Drawn By |
|---|---|---|
| Stage 3 - Planning | | PJS/JT/SR |
| Job Number | Scale | Date |
| 1215-MCAU | 1.200@A1 | JAN 25 |
| Drawing Number | | Revision |
| 03-07 | | P24 |

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OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

**See comments on below floors too according to corridors, smoke control, travel distances, etc. !**




1:200 scale

0 1 2 5 10 15m
Scale 1:200


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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Eighth Floor Plan

| | | |
|---|---|---|
| Status | | Drawn By |
| Stage 3 - Planning | | PJS/JT/SR |
| Job Number | Scale | Date |
| 1215-MCAU | 1.200@A1 | JAN 25 |
| Drawing Number | | Revision |
| 03-08 | | P24 |

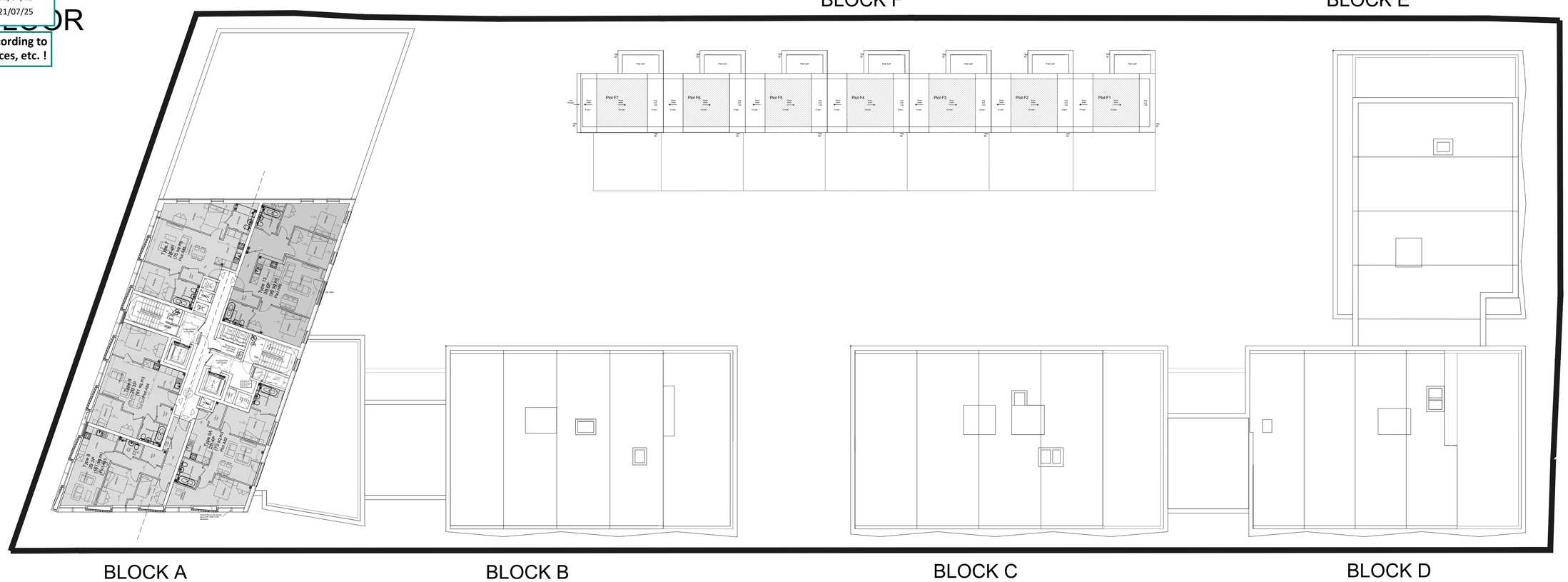
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OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

**See comments on below floors too according to corridors, smoke control, travel distances, etc. !**

# NINTH FLOOR




1:200 scale

0 1 2 5 10 15m
Scale 1:200


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Client
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Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Ninth Floor Plan

| | | |
|---|---|---|
| Status | | Drawn By |
| Stage 3 - Planning | | PJS/JT/SR |
| Job Number | Scale | Date |
| 1215-MCAU | 1.200@A1 | JAN 25 |
| Drawing Number | | Revision |
| 03-09 | | P24 |

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OFR

**Project:** Land at Barnhill Street/Raby Street, Moss Side

**Title:** Fire Safety Mark-ups

**Revision:** R04 **Scale:** As shown

**Prepared by:** JR **Date:** 18/07/25

**Checked by:** AR **Date:** 21/07/25

**Approved by:** RR **Date:** 21/07/25

# FLOOR PLAN




## OFR - Drawing Legend

- Escape stair (and exit from)
- Storey Exit
- FH — Existing fire hydrant
- Evacuation lift lobby
- Ventilated lobby
- DRY RISER INLET — Dry riser inlet point
- Corridor 1
- Corridor 2
- DRY RISER — Dry riser outlet point
- Corridor 3
- Mechanical shaft
- Natural shaft
- Discharge route
- Natural supply shaft
- Air inlet / smoke extract point
- 2.58 m — Travel distance
- Distance between hob and escape route (the green area is needed near the red dotted area)
- (R)EI 60 minutes fire resistance
- (R)EI 30 minutes fire resistance
- E 30 / FD30 fire door

Notes:

OFR notes are based on BS9991:2024


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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Roof Plan

Status
Stage 3 - Planning

Drawn By
PJS/JT/SR

Job Number
1215-MCAU

Scale
1.200@A1

Date
MAR 25

Drawing Number
03-10

Revision
P24

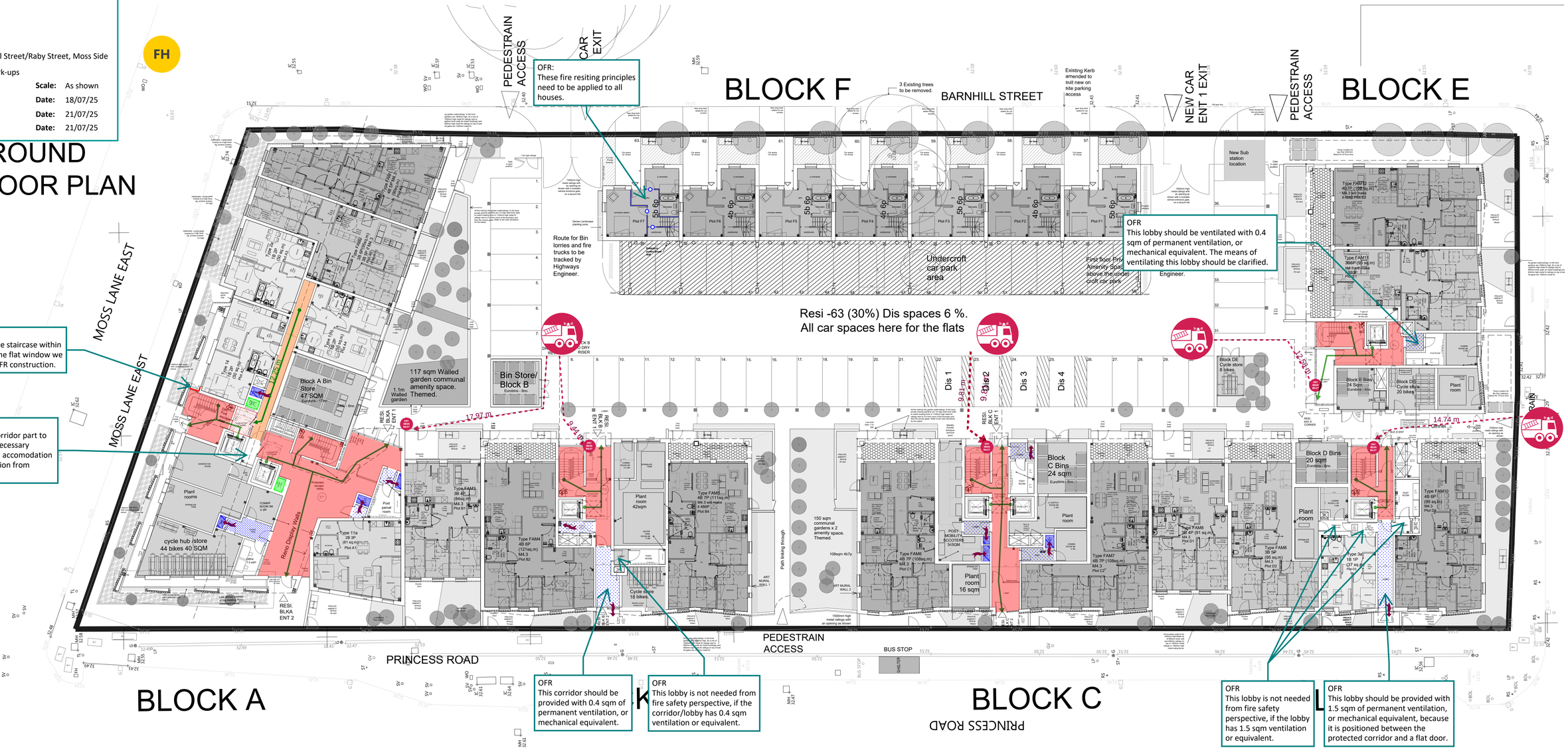
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# Appendix A – Indicative Fire Strategy Drawings

OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

# GROUND FLOOR PLAN




## OFR - Drawing Legend

- Escape stair (and exit from)
- Storey Exit
- FH — Existing fire hydrant
- Evacuation lift lobby
- Ventilated lobby
- DRY RISER INLET — Dry riser inlet point
- Corridor 1
- Corridor 2
- DRY RISER — Dry riser outlet point
- Corridor 3
- Mechanical shaft
- Natural shaft
- Discharge route
- Natural supply shaft
- Air inlet / smoke extract point
- 2.58 m — Travel distance
- Distance between hob and escape route (the green area is needed near the red dotted area)
- (R)EI 60 minutes fire resistance
- (R)EI 30 minutes fire resistance
- E 30 / FD30 fire door

Notes:
OFR notes are based on BS9991:2024


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www.mcau.co.uk


Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Ground Floor Plan

| | | | |
|---|---|---|---|
| Status | Stage 3 - Planning | | Drawn By PJS/JT/SR |
| Job Number | 1215-MCAU | Scale 1.200@A1 | Date JAN 25 |
| Drawing Number | 03-00 | | Revision P24 |

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OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

OFR
General note on all flat arrangements, the new BS 9991:2024 asks for hobs to remote from the means of escape in open plan flats, such that a 0.9 m wide escape route can be 1.8 m away from the edge of the hob.

OFR:
These fire resiting principles need to be applied to all houses.

OFR
As travel distances exceed the recommended maximum of 15 m for a single direction in BS 9991:2024, a twin shaft system should be provided to demonstrate the return to tenability of the corridor for persons escaping.

The mechanical extract shaft should be placed at the remote end of the corridor, with a natural supply shaft at the near end of the corridor to the stair. This should also be 1 sqm in cross section.

OFR
To protect the staircase within 1.8 m from the flat window we recommend FR construction.

OFR
These shafts will serve as natural inlet supply points to push smoke out of the lobby. These should be a minimum of 1 sqm in cross sectional for natural shaft.

OFR
General comment to all evacuation lift lobby:
Figure 14 in BS9991 gives the minimum dimensions for lobby in 1.5x2.1m. Please check and mark this size on the drawings.

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm (if mechanical).

The AOV in the lobby should have a cross sectional area of 1 sqm (if natural).

OFR
The corridor needs to have a 0.4 sqm natural ventilation or mechanical equivalent.

OFR
As the building heigh is < 30 m this could be a natural shaft with 1.5 sqm or or a mechanical extract shaft with a minimum of 1 sqm in cross section.

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm (if mechanical).

The shaft in the lobby should be a natural shaft, with a cross sectional area of 1 sqm.

BLOCK F

BLOCK E

BLOCK A

BLOCK B

BLOCK C

BLOCK D

Sub station roof

Green roof to cycle store

Ginnel under

Ginnel under

10.375m gap

## OFR - Drawing Legend

- Escape stair (and exit from)
- Storey Exit
- FH — Existing fire hydrant
- Evacuation lift lobby
- Ventilated lobby
- DRY RISER INLET — Dry riser inlet point
- Corridor 1
- Corridor 2
- DRY RISER — Dry riser outlet point
- Corridor 3
- Mechanical shaft
- Natural shaft
- Discharge route
- Natural supply shaft
- Air inlet / smoke extract point
- 2.58 m — Travel distance
- Distance between hob and escape route (the green area is needed near the red dotted area)
- (R)EI 60 minutes fire resistance
- (R)EI 30 minutes fire resistance
- E 30 / FD30 fire door

Notes:
OFR notes are based on BS9991:2024


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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
First Floor Plan

| | | | |
|---|---|---|---|
| Status | Stage 3 - Planning | | Drawn By PJS/JT/SR |
| Job Number | 1215-MCAU | Scale 1.200@A1 | Date MAR 25 |
| Drawing Number | 03-01 | | Revision P24 |

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OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

# 2ND FLOOR

**See comments on below floors too according to corridors, smoke control, travel distances, etc. !**

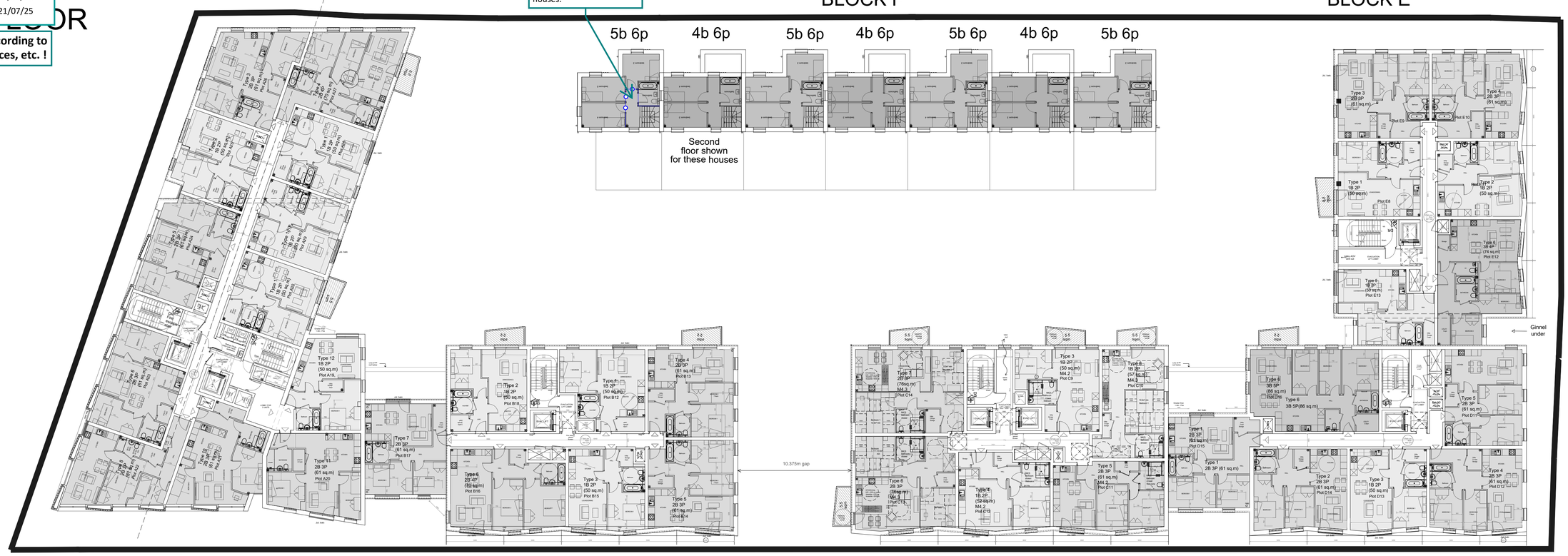
OFR:
These fire resiting principles need to be applied to all houses.

BLOCK F

BLOCK E

5b 6p | 4b 6p | 5b 6p | 4b 6p | 5b 6p | 4b 6p | 5b 6p

Second floor shown for these houses




BLOCK A

BLOCK B

BLOCK C

BLOCK D

## OFR - Drawing Legend

- Escape stair (and exit from)
- Storey Exit
- FH — Existing fire hydrant
- Evacuation lift lobby
- Ventilated lobby
- DRY RISER INLET — Dry riser inlet point
- Corridor 1
- Corridor 2
- DRY RISER — Dry riser outlet point
- Corridor 3
- Mechanical shaft
- Natural shaft
- Discharge route
- Natural supply shaft
- Air inlet / smoke extract point
- 2.58 m — Travel distance
- Distance between hob and escape route (the green area is needed near the red dotted area)
- (R)EI 60 minutes fire resistance
- (R)EI 30 minutes fire resistance
- E 30 / FD30 fire door

Notes:
OFR notes are based on BS9991:2024

1:200 scale

0 1 2 5 10 15m
Scale 1:200


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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Second Floor Plan

| | | | |
|---|---|---|---|
| Status | Stage 3 - Planning | | Drawn By PJS/JT/SR |
| Job Number | 1215-MCAU | Scale 1.200@A1 | Date MAR 25 |
| Drawing Number | 03-02 | | Revision P24 |

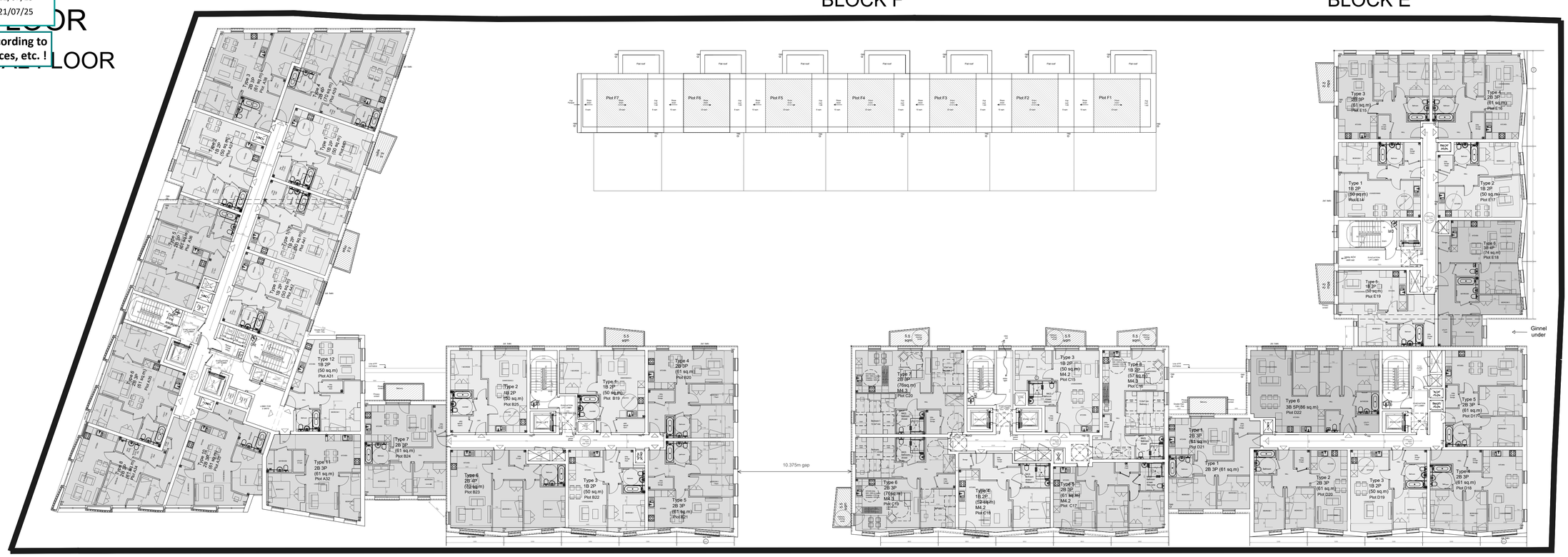
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OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

**See comments on below floors too according to corridors, smoke control, travel distances, etc. !**

# 3RD FLOOR
# TYPICAL FLOOR




BLOCK A BLOCK B BLOCK C BLOCK D

1:200 scale

0 1 2 5 10 15m
Scale 1:200


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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Third Floor Plan

| | | |
|---|---|---|
| Status | | Drawn By |
| Stage 3 - Planning | | PJS/JT/SR |
| Job Number | Scale | Date |
| 1215-MCAU | 1.200@A1 | JAN 25 |
| Drawing Number | | Revision |
| 03-03 | | P24 |

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OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

# ROOF PLAN

OFR
As travel distances exceed the recommended maximum of 15 m for a single direction in BS 9991:2024, a twin shaft system should be provided to demonstrate the return to tenability of the corridor for persons escaping.

The mechanical extract shaft should be placed at the remote end of the corridor, with a natural supply shaft at the near end of the corridor to the stair. This should also be 1 sqm in cross section.

OFR
These shafts will serve as natural inlet supply points to push smoke out of the lobby. These should be a minimum of 1 sqm in cross sectional for natural shaft.

OFR
As the building heigh is < 30 m this could be a natural shaft with 1.5 sqm or or a mechanical extract shaft with a minimum of 1 sqm in cross section.

OFR
General comment to all evacuation lift lobby:
Figure 14 in BS9991 gives the minimum dimensions for lobby in 1.5x2.1m.
Please check and mark this size on the drawings.

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm (if mechanical).

The shaft in the lobby should be a natural shaft, with a cross sectional area of 1 sqm.

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm (if mechanical).

The AOV in the lobby should have a cross sectional area of 1 sqm (if natural).

OFR
The corridor needs to have a 0.4 sqm natural ventilation or mechanical equivalent.

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm (if mechanical).

The shaft in the lobby should be a natural shaft, with a cross sectional area of 1 sqm.

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm.
The shaft in the lobby should be a natural shaft, with a cross sectional area of 1 sqm.

BLOCK F

BLOCK E

BLOCK A

BLOCK B

BLOCK C

BLOCK D

## OFR - Drawing Legend

- Escape stair (and exit from)
- Storey Exit
- FH — Existing fire hydrant
- Evacuation lift lobby
- Ventilated lobby
- DRY RISER INLET — Dry riser inlet point
- Corridor 1
- Corridor 2
- DRY RISER — Dry riser outlet point
- Corridor 3
- Mechanical shaft
- Natural shaft
- Discharge route
- Natural supply shaft
- Air inlet / smoke extract point
- 2.58 m — Travel distance
- Distance between hob and escape route (the green area is needed near the red dotted area)
- (R)EI 60 minutes fire resistance
- (R)EI 30 minutes fire resistance
- E 30 / FD30 fire door

Notes:
OFR notes are based on BS9991:2024

1:200 scale

0 1 2 5 10 15m
Scale 1:200


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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Fourth Floor Plan

| | | | |
|---|---|---|---|
| Status | Stage 3 - Planning | | Drawn By PJS/JT/SR |
| Job Number | 1215-MCAU | Scale 1.200@A1 | Date JAN 25 |
| Drawing Number | 03-03 | | Revision P24 |

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OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

# 5TH FLOOR

OFR
As travel distances exceed the recommended maximum of 15 m for a single direction in BS 9991:2024, a twin shaft system should be provided to demonstrate the return to tenability of the corridor for persons escaping.

The mechanical extract shaft should be placed at the remote end of the corridor, with a natural supply shaft at the near end of the corridor to the stair. This should also be 1 sqm in cross section.

OFR
These shafts will serve as natural inlet supply points to push smoke out of the lobby. These should be a minimum of 1 sqm in cross sectional for natural shaft.

OFR
As the building heigh is < 30 m this could be a natural shaft with 1.5 sqm or or a mechanical extract shaft with a minimum of 1 sqm in cross section.

BLOCK A

BLOCK B

OFR
General comment to all evacuation lift lobby:
Figure 14 in BS9991 gives the minimum dimensions for lobby in 1.5x2.1m.
Please check and mark this size on the drawings.

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm (if mechanical).

The shaft in the lobby should be a natural shaft, with a cross sectional area of 1 sqm.

BLOCK C

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm (if mechanical).

The shaft in the lobby should be a natural shaft, with a cross sectional area of 1 sqm.

OFR
The corridor needs to have a 0.4 sqm natural ventilation or mechanical equivalent.

BLOCK D

OFR
Given the travel distance meets the recommended maximum for a sprinklered building, the shaft in the corridor should be an extract shaft with a minimum cross sectional area of 1 sqm.
The shaft in the lobby should be a natural shaft, with a cross sectional area of 1 sqm.

BLOCK F

BLOCK E

## OFR - Drawing Legend

- Escape stair (and exit from)
- Storey Exit
- FH — Existing fire hydrant
- Evacuation lift lobby
- Ventilated lobby
- DRY RISER INLET — Dry riser inlet point
- Corridor 1
- Corridor 2
- DRY RISER — Dry riser outlet point
- Corridor 3
- Mechanical shaft
- Natural shaft
- Discharge route
- Natural supply shaft
- Air inlet / smoke extract point
- 2.58 m — Travel distance
- Distance between hob and escape route (the green area is needed near the red dotted area)
- (R)EI 60 minutes fire resistance
- (R)EI 30 minutes fire resistance
- E 30 / FD30 fire door

Notes:
OFR notes are based on BS9991:2024

1:200 scale

0 1 2 5 10 15m
Scale 1:200


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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Fifth Floor Plan

| | | | |
|---|---|---|---|
| Status | Stage 3 - Planning | | Drawn By PJS/JT/SR |
| Job Number | 1215-MCAU | Scale 1.200@A1 | Date JAN 25 |
| Drawing Number | 03-05 | | Revision P24 |

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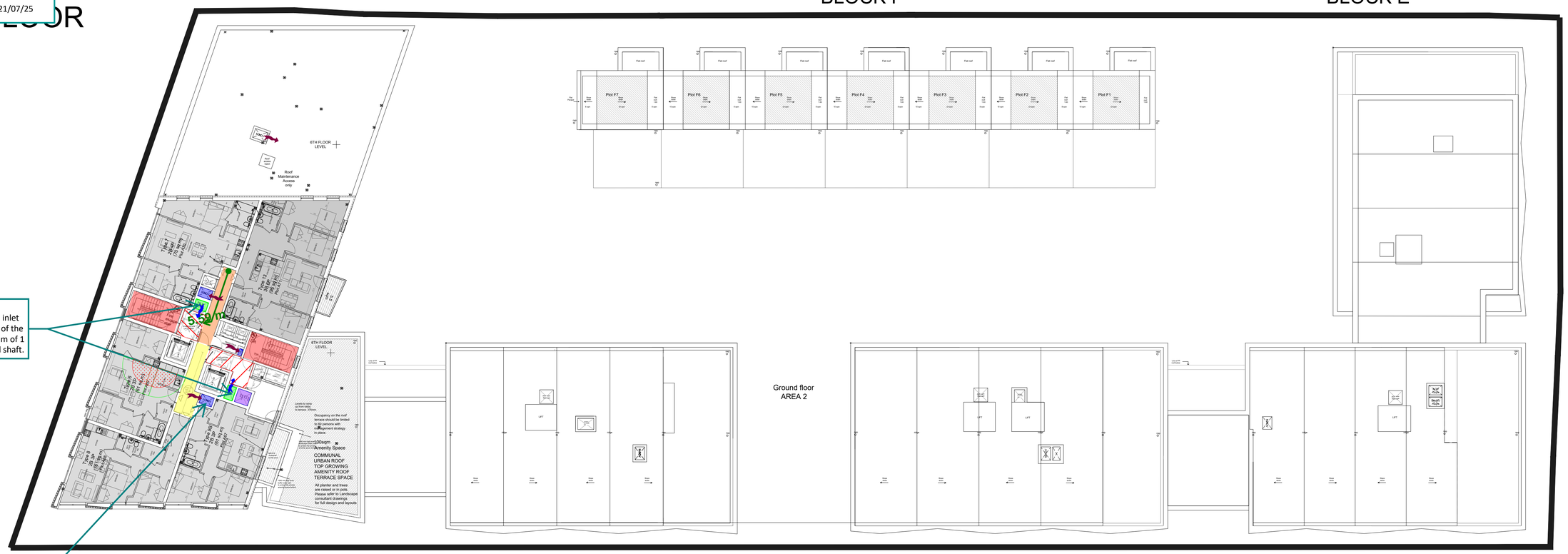
OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

# 6TH FLOOR

BLOCK F

BLOCK E




OFR
These shafts will serve as natural inlet supply points to push smoke out of the lobby. These should be a minimum of 1 sqm in cross sectional for natural shaft.

OFR
The shaft should be a mechanical extract shaft, a minimum of 1 sqm in cross section.

BLOCK A

BLOCK B

BLOCK C

BLOCK D

## OFR - Drawing Legend

- Escape stair (and exit from)
- Storey Exit
- FH — Existing fire hydrant
- Evacuation lift lobby
- Ventilated lobby
- DRY RISER INLET — Dry riser inlet point
- Corridor 1
- Corridor 2
- DRY RISER — Dry riser outlet point
- Corridor 3
- Mechanical shaft
- Natural shaft
- Discharge route
- Natural supply shaft
- Air inlet / smoke extract point
- 2.58 m — Travel distance
- Distance between hob and escape route (the green area is needed near the red dotted area)
- (R)EI 60 minutes fire resistance
- (R)EI 30 minutes fire resistance
- E 30 / FD30 fire door

Notes:

OFR notes are based on BS9991:2024


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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

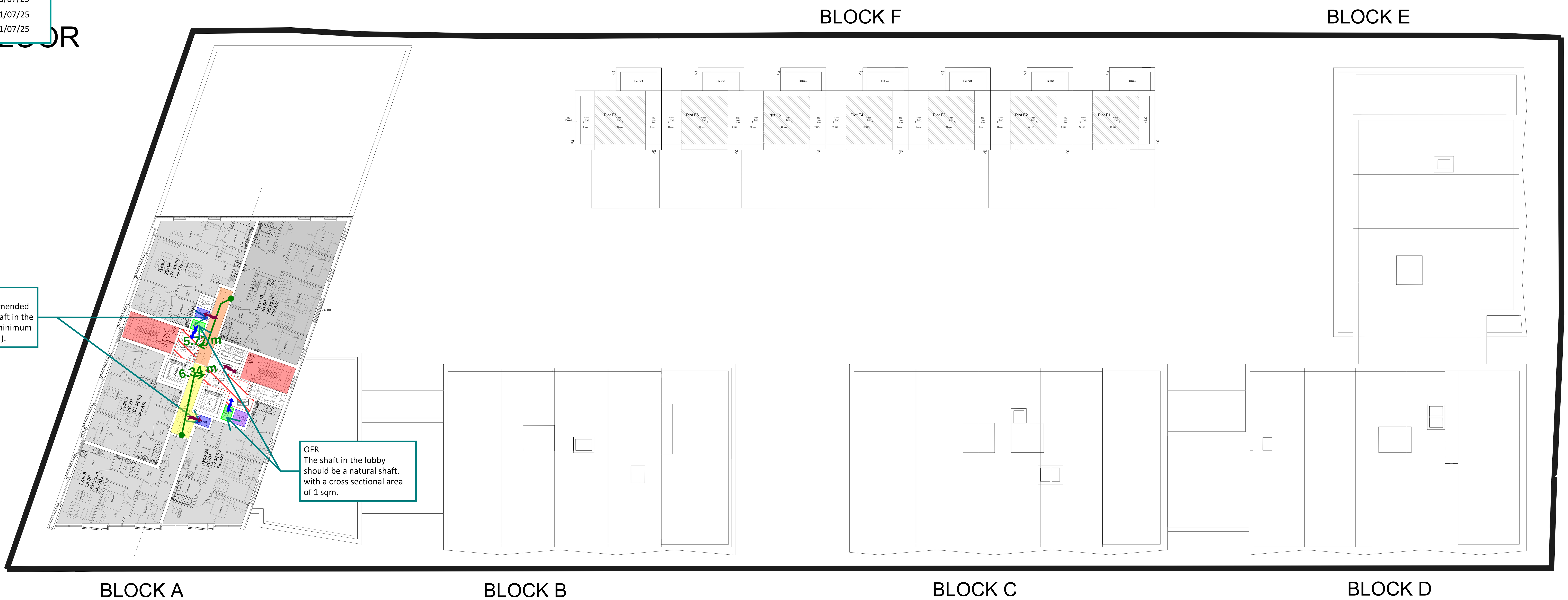
Description
Proposed
Sixth Floor Plan

| | | | |
|---|---|---|---|
| Status | Stage 3 - Planning | | Drawn By PJS/JT/SR |
| Job Number | 1215-MCAU | Scale 1.200@A1 | Date JAN 25 |
| Drawing Number | 03-06 | | Revision P24 |

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OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |




## OFR - Drawing Legend

- Escape stair (and exit from)
- Evacuation lift lobby
- Corridor 1
- Corridor 3
- Mechanical shaft
- Natural supply shaft
- Storey Exit
- Ventilated lobby
- Corridor 2
- Natural shaft
- Air inlet / smoke extract point
- FH — Existing fire hydrant
- DRY RISER INLET — Dry riser inlet point
- DRY RISER — Dry riser outlet point
- Discharge route
- 2.58 m — Travel distance
- Distance between hob and escape route (the green area is needed near the red dotted area)
- (R)EI 60 minutes fire resistance
- (R)EI 30 minutes fire resistance
- E 30 / FD30 fire door

Notes:

OFR notes are based on BS9991:2024

1:200 scale

0 1 2 5 10 15m
Scale 1:200

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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Seventh Floor Plan

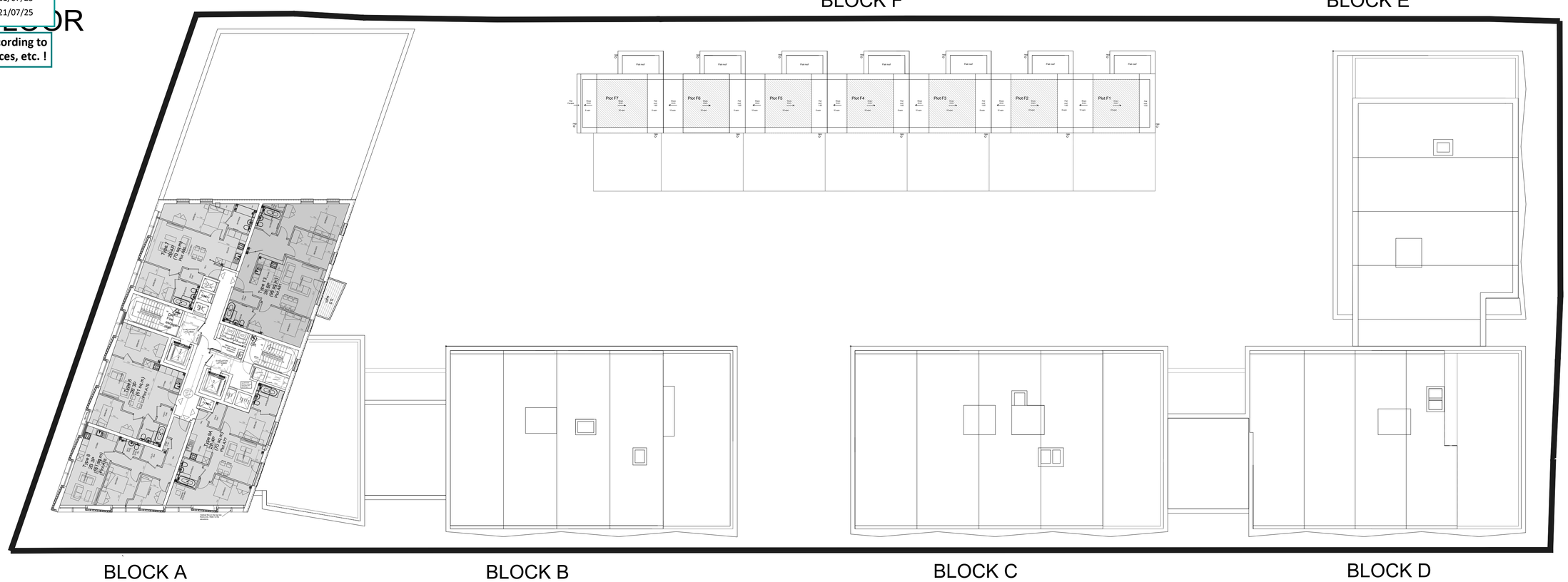
| Status | | Drawn By |
|---|---|---|
| Stage 3 - Planning | | PJS/JT/SR |
| Job Number | Scale | Date |
| 1215-MCAU | 1.200@A1 | JAN 25 |
| Drawing Number | | Revision |
| 03-07 | | P24 |

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OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

**See comments on below floors too according to corridors, smoke control, travel distances, etc. !**




1:200 scale

0 1 2 5 10 15m
Scale 1:200


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www.mcau.co.uk


Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Eighth Floor Plan

| | | |
|---|---|---|
| Status | | Drawn By |
| Stage 3 - Planning | | PJS/JT/SR |
| Job Number | Scale | Date |
| 1215-MCAU | 1.200@A1 | JAN 25 |
| Drawing Number | | Revision |
| 03-08 | | P24 |

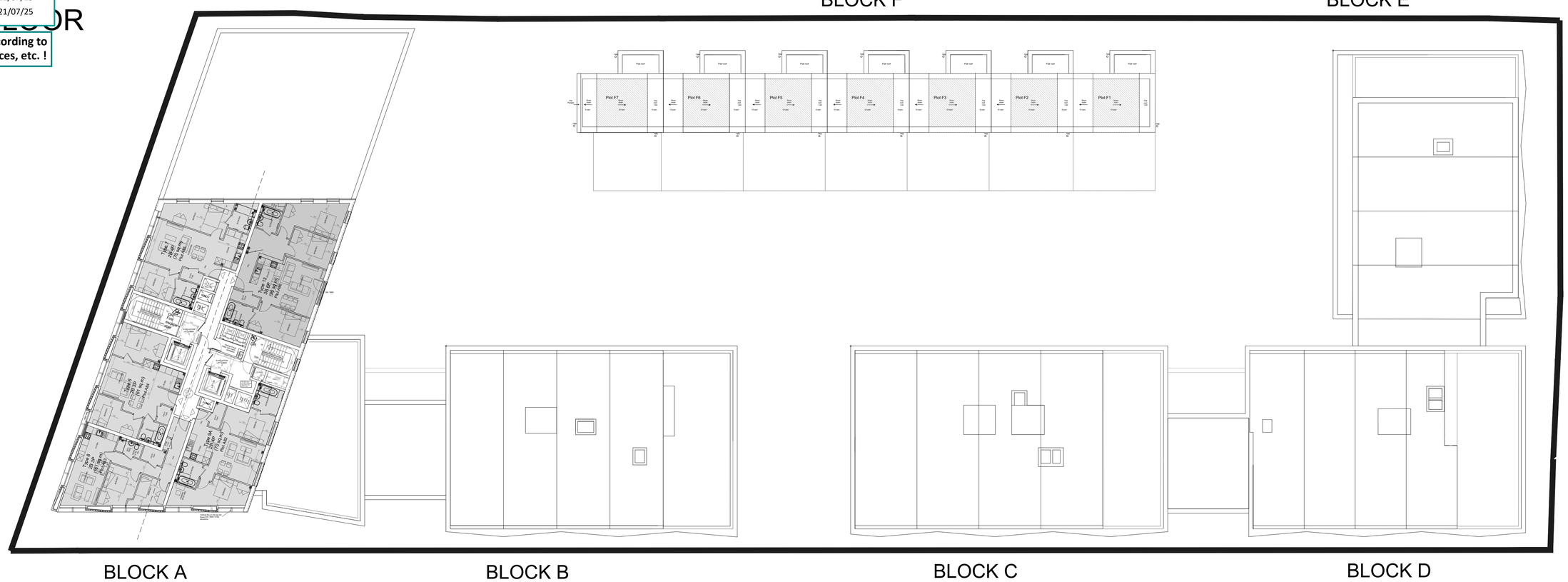
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OFR

| | | | |
|---|---|---|---|
| **Project:** | Land at Barnhill Street/Raby Street, Moss Side | | |
| **Title:** | Fire Safety Mark-ups | | |
| **Revision:** | R04 | **Scale:** | As shown |
| **Prepared by:** | JR | **Date:** | 18/07/25 |
| **Checked by:** | AR | **Date:** | 21/07/25 |
| **Approved by:** | RR | **Date:** | 21/07/25 |

**See comments on below floors too according to corridors, smoke control, travel distances, etc. !**

# NINTH FLOOR




1:200 scale

0 1 2 5 10 15m
Scale 1:200


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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Ninth Floor Plan

| | | |
|---|---|---|
| Status | | Drawn By |
| Stage 3 - Planning | | PJS/JT/SR |
| Job Number | Scale | Date |
| 1215-MCAU | 1.200@A1 | JAN 25 |
| Drawing Number | | Revision |
| 03-09 | | P24 |

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OFR

**Project:** Land at Barnhill Street/Raby Street, Moss Side

**Title:** Fire Safety Mark-ups

**Revision:** R04 **Scale:** As shown

**Prepared by:** JR **Date:** 18/07/25

**Checked by:** AR **Date:** 21/07/25

**Approved by:** RR **Date:** 21/07/25

# FLOOR PLAN




## OFR - Drawing Legend

- Escape stair (and exit from)
- Storey Exit
- FH — Existing fire hydrant
- Evacuation lift lobby
- Ventilated lobby
- DRY RISER INLET — Dry riser inlet point
- Corridor 1
- Corridor 2
- DRY RISER — Dry riser outlet point
- Corridor 3
- Mechanical shaft
- Natural shaft
- Discharge route
- Natural supply shaft
- Air inlet / smoke extract point
- 2.58 m — Travel distance
- Distance between hob and escape route (the green area is needed near the red dotted area)
- (R)EI 60 minutes fire resistance
- (R)EI 30 minutes fire resistance
- E 30 / FD30 fire door

Notes:

OFR notes are based on BS9991:2024


**Modern City Architecture & Urbanism**

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Client
MSV/Caddick

Project
Land at Barnhill Street/Raby Street
Moss Side

Description
Proposed
Roof Plan

Status
Stage 3 - Planning

Drawn By
PJS/JT/SR

Job Number
1215-MCAU

Scale
1.200@A1

Date
MAR 25

Drawing Number
03-10

Revision
P24

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