

Fire Safety Strategy Report

For:

***91 Station Road,
West Drayton,
Middlesex,
UB7 7LT***

01 August 2021

***Advice on Safety Matters
Specialising in Fire Safety***



**Fire Safety Strategy Document
For Mr Nash Karbani.**

**For the proposal of;
91 Station Road, West Drayton, Middlesex, UB7 7LT**

Statement

This document has been prepared by Ivorfire Safety Services Ltd at the request of Mr Jonathan Williams on behalf of Mr Nash Karbani.

The purpose of this report is to provide an acceptable fire safety strategy design assessment of the risk to life from fire in the proposed premises, and to ensure compliance with building and fire safety legislation.

The report does not address directly the risk to property or business continuity from fire, but by default some of the measures used for life safety may offer a degree of property protection.

Report up dated 23/10/2021.



Date: 1st August 2021

Ivor Shaun Doyle
BSc (Hons) IEng FIFireE MIFSM CMIOSH FInstLM FRACS
Director

For and on behalf of

IVORFIRE SAFETY SERVICES LTD

Mobile: 07747693453
E mail: shaun@ivorfire.co.uk
Office: 02920330885
Website: www.ivorfire.com



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1) INTRODUCTION

1.1) This document was prepared following discussions with Mr Jonathan Williams of RFP Architects. It is the proposed fire safety strategy design assessment of the risk to life from fire in the proposed premises, ensuring compliance with building and fire safety legislation. It sets out the basis on which the owner intends to manage and control the risk from fire at the new accommodation at 91 Station Road, West Drayton UB7 7LT.

1.2) The building will be owned and operated by Mr Nash Karbani and who is committed to securing and maintaining the health, safety and welfare of all persons, employed or otherwise, who may be affected by the services and operations undertaken and delivered at all premises including these premises.

1.3) The fire policy and procedures are grounded in the organisation's formal Health and Safety Policy and procedures. This Fire Safety Strategy document sets out the specific arrangements that will be established and maintained to secure fire safety arrangements for the accommodation including the fire safety management of the premises.

2) OVERVIEW

2.1) The development is a four-storey development consisting of lower ground, ground first, and second floors. The scheme is intended to be used as Student Accommodation with 15 bedrooms, (up to 28 persons as all bar 2 of the bedrooms are doubles) with shared communal facilities including kitchen, dining room, storage and welfare facilities.

Purpose Groups applying are: 2b: Residential Other

The construction is 'traditional', with load-bearing masonry cavity walls finished with facing brickwork, render and stone features. The flat roof will be covered in a single ply poly membrane laid on composite timber roof joists. These joists will be also used on the intermediate floors and will be finished with Screedboard 28 materials.

2.2) Fire loading will be managed to reasonable levels within bedrooms by the owner and controlled via the agreement for the bedrooms for their service users. The use of flame - retardant bedding, upholstered furniture and soft furnishings will substantially reduce the fire risk.

2.3) The fire loading of the communal areas to be managed on a day-to-day basis and limited so that all soft furnishings and furniture to be in accordance with The Furniture and Furnishings (Fire Safety) Regulations 1988, (as amended), and associated standards for soft furnishings and BS 7176.

2.4) With the combination of lower occupant numbers and who will be responsive, this premises will adopt a simultaneous evacuation approach in order to have the flexibility of design and to be able to use the building.

2.5) LEGISLATION

The proposed development to be subject to the statutory legislation, with the principal fire safety requirements being;

- a) Building Regulations 2000
- b) Regulatory Reform (Fire Safety) Order 2005

2.5a) Building Regulations 2000

The building regulations apply and deal with the following and highlighted within this report;

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

2.5b) Regulatory Reform (Fire Safety) Order 2005

On completion and occupation, the HMO development will be subject to Regulatory Reform (Fire Safety) Order 2005 (FSO) for communal parts.

A fire risk assessment is to be completed following occupation and will be in accordance to the guidance of the FSO and relevant guides published by HM Government.

2.5) Property Protection

The legislation is centred on 'life safety' fire safety measures. Although, indirectly some of these measures will aid property protection, this fire strategy does not consider property protection.

3) MEANS OF WARNING AND ESCAPE

Functional Requirements

The building shall be designed and constructed so that there are appropriate provisions for early warning of fire, and appropriate means of escape in case of fire from the building to a place of safety outside the building capable of being safely used at all material times.

3.1) Philosophy

3.1.1) The means of escape and giving warning provision in this premises is based on the assumption that the fire is limited and;

- a) If a fire occurs it is likely to occur in a single room or area.
- b) Simultaneous evacuation is to be used.
- c) In addition, those persons who are not service users to evacuate on the activation of the fire alarm e.g. contractors & visitors.
- d) There is no reliance on an external rescue.
- e) Although a fire may occur within the common parts of the building, the materials and construction used should prevent the fabric of the building being involved beyond the immediate vicinity.

3.1.2) An assembly point is nominated in the event of a serious fire / evacuation was needed. This is to be on the pavement outside the property approximately 30 meters from the entrance.

3.2) Means of giving warning

3.2.1) Fire Alarm

The fire alarm system to be in accordance with BS 5839 Part 1 category L2, which is an automatic fire detection system intended for the protection of life and it is installed throughout all parts of the protected building, and include;

- All escape routes.
- All bedrooms.
- Rooms adjacent to escape routes; and;
- Those areas that have a high probability of ignition, from which fire or fire products could spread to affect the building occupants e.g. the kitchen
- Places of special fire hazard such as the roof space and storage areas.

The evacuation strategy for the premises is simultaneous evacuation of the whole premises by way of lay out a design of the building and the function and support of the fire alarm system.

3.2.2) Installation, Testing and Servicing / Maintenance of fire alarm

a) The fire alarm systems to be installed by a competent person who will certify that the installation complies with BS 5839: Part 1: 2017. Copies of certificates installation and commissioning of the fire alarm system confirming this standard will be available in the health and safety file for the premises, which will be passed over to the owners and be made available for the fire risk assessment.

b) Considering the future occupation and to ensure the continuing good operation of the fire alarm system, routine inspections and tests should be undertaken as recommended in BS 5839: Part 1: 2017 sections 6 (Maintenance) & 7 (User's responsibilities) which indicates the frequencies as follows: -

By User

Daily check;
Weekly test;

By a Competent Person

Quarterly inspection;
Inspection and servicing (up to 6 monthly period).
Annual Service

c) Recording & Certification

Records to be maintained to be able to offer evidence of testing. Entries in the logbook to be provided following weekly, monthly, quarterly, annual and 5 yearly checks.

d) A servicing certificate to be provided following servicing and any remedial work undertaken (which must also be entered in the users log book). Access to all parts of the building is needed for maintenance of fire alarms and in accordance with Article 17 of the FSO.

3.2.3) Fire alarm details / activation

- a) Any text used on the fire alarm to reflect the actual use of the building.
- b) The fire alarm to be trigger occupants to instigate full evacuation procedures to evacuate the building.
- c) The detectors are smoke type in nearly all areas, except where a smoke detector type is unusable due to the presence of fumes / steam e.g. kitchen, so a heat detector is only used. Combined visual and audible types are to be provided.
- d) The fire alarm system will be wired using fire rated cable e.g. Firetuf or similar, throughout the whole system.
- e) The fire alarm system will be provided with full fire alarm panel, which will be positioned in the entrance lobby i.e., Main entry in order to satisfy the need for the fire service to see the panel externally.
- f) Adjacent to main fire alarm panel, a fire alarm zone drawing to be displayed indicating the fire alarm zones for the building and to satisfy paragraph 23.2.2e of BS 5839 Part 1.
- g) In this case, it is not advised for the fire alarm system to be monitored by a third-party company.

3.3) Means of escape

a) The population of the building is based on the 15 bedrooms and 28 persons. Consequently, the means of escape, routes are calculated out for evacuation on this basis in accordance with Approved Document B.

b) The travel distances are within limits of 18m and 35m for escape in two directions.

3.3.1) Bedrooms

a) Bedroom fire protection includes;

- Each bedroom will be entered via a self-closing fire door FD30s.

- Passive fire protection with thirty-minute fire protection for walls and floors.
- Certification is to be obtained for all fire safety arrangements, including fire resisting doors.

3.3.2) Communal areas

a) The means of escape from each of the communal areas are based on the internal protected stairs, with two door protection.

- Common corridors are protected by the walls and floors between each room being a minimum of sixty minutes fire resistance to prevent fire spreading from other room and doors FD30s.
- Stairs are suitably enclosed by sixty-minute fire resisting construction with FD30s doors.
- All fire resisting doors in communal areas (not bedrooms entrance doors) shall be FD30s and provided with a blue disc shaped notice stating “fire door keep shut “or “fire door keep locked shut “depending on the fire door’s location on store rooms or similar such as riser doors.
- Lever type handles / thumb turns or push pad panic type door furniture on egress ironmongery for final exit doors in accordance with BS EN 1125.
- Travel distances are acceptable as they do not exceed 18 meters in escape in one direction and 35 meters with escape in two directions.

b) Protected routes that include stairs take building users down to ground floor level and permit occupants to escape via final exit doors that are fitted with suitable and to permit quick and easy means of escape. There is an outside Assembly point.

c) There is no roof space.

d) Therefore, no services run through the roof void.

e) Vertical means of escape is satisfied by internal staircase which has fire protection.

f) There is a small shop on the ground floor which will be stand alone in fire safety terms and enclosed by one hour fire resisting construction. There to be smoke detector linked to the main system to provided early warning in case of fire.

3.3.3) Furnishings

a) All furnishings within the communal parts of the property will be in accordance with ‘The Furniture and Furnishings (Fire Safety) Regulations 1988, as amended, and BS 7176.

3.3.4) Ventilation

a) Ventilation is provided with openable windows in rooms if smoke is present following a fire. The windows will be normally fixed shut and opened with a key fixing or similar type.

An automatic opening ventilator is to be provided in the main stair on top floor second floor. There should be a vent, with a free area of at least 1.0m², from the top storey of the

stairway to the outside. This to be at the highest level to ensure to be effective i.e. above the top edge of the flat entrance doors. It should have controls adjacent to the fire alarm panel and at local level on top floor.

3.3.5) Emergency lighting & signage

a) Emergency lighting is to be provided in accordance with BS 5266: Part 1 2016. The main communal exit routes to be provided 'non-maintained' units. This includes external routes on the side of the building.

b) Emergency route is provided with limited fire exit signs as the building is small and is based on single stairs.

3.3.6) Refuge Areas

a) Disabled Refuge areas with communications equipment are not provided. This is because the whole building effectively can be used with fire resisting protection and with type of evacuation used.

3.3.7) Door release systems

a) There are electronic door release systems provided which are support by green boxes to release electronic locks in an emergency in accordance with BS 7273 Part 4.

3.3.8) Lifts

a) There is passenger lift provision in this scheme for up to 8 persons. This is to be supported with lift sings on each floor stating not to be used in the event of an emergency.

3.3.9) Atrium / Void

a) There is no atrium within the design of this project.

3.3.10) Fire Safety Signs and Evacuation Notices

a) Fire action notice to be displayed adjacent to the break glass points and adjacent to the front door. The wording to reflect the emergency action procedure (and subject to a later section).

b) All signs and notices to be in accordance with the The Health and Safety (Safety Signs and Signals) Regulations 1996 regulations and BS 5499 Part 1.

3.4) Higher Risk Areas

The following area are considered to be higher risk / special fire risk areas;

a) Kitchen

This area to be enclosed by FD60S fire construction and provided with FD30S self-closing fire door and covered by heat detection as part of the BS 5839 Part 1 fire alarm system.

Isolation valves for the main fuel supplies with suitable notices are to be displayed.

b) Gas Supplies

All gas boiler and equipment to be in accordance with the manufacturer's recommendations and The Gas Safety (Installation and Use) Regulations 1998 (as amended). A certificate should be provided. Maintenance and service of all equipment to be serviced each year.

c) Electrical supply and equipment

Fixed wiring is to be provided and tested in accordance with IET Regulations and BS 7176 and supported by a suitable certificate.

d) Plant Room

The plant room to be enclosed with one hour fire protection including the fire resisting doors with fire door keep locked shut fire sign and intumescent strips and cold smoke seals. Air transfer grilles to be provided with intumescent fire damper.

3.5) Firefighting equipment

a) The firefighting equipment to be provided in accordance BS 5306 Parts 3 & 8 and subject to a separate report.

Firefighting equipment will be minimal parts as the emphasis is to evacuate and to be covered in any fire risk assessment.

4) INTERNAL FIRE SPREAD (LININGS)

Functional Requirements

To inhibit the spread of fire within the building, the internal linings shall adequately resist the spread of flame over their surfaces, and have, if ignited, a rate of heat release or a rate of fire growth, which is reasonable in the circumstances. In this paragraph 'internal linings' mean the materials or products used in lining any partition, wall, ceiling or other internal structure.

Materials used on walls and ceilings must: (i) Adequately resist the spread of flame over the surface; and (ii) If ignited, have a reasonable rate of heat release.

4.1) all linings within the scheme will comply with Section 7 Wall and Ceiling Linings Table 10 ADB; Classification of linings.

Suitable treatment to be undertaken to any materials not offering the respective classification.

Minimum Provisions for Surfaces of Walls and Ceilings

Area	UK National Class		European Class
Small Rooms Floor area not more than 4m ²	Walls: Ceiling:	Class 3 Class 3	D-s3, d2
Non-residential accommodation 30m ²	Walls: Ceiling:	Class 3 Class 3	D-s3, d2
Circulation spaces within dwellings	Walls: Ceiling:	Class 1 Class 1	C-s3, d2
Other circulation spaces including the common areas of blocks of flats	Walls: Ceiling:	Class 0 Class 0	B-s3, d2
Protected Shafts and routes	Walls: Ceiling:	Class 0 Class 0	B-s3, d2

UK National classifications used are based upon tests prescribed in BS 476: Fire Tests on building materials.

European classification information can be found in BS EN 13501-1:2002.

5) INTERNAL FIRE SPREAD (STRUCTURE)

Functional requirement

Buildings must be constructed so that in the event of fire:

- (i) Stability will be maintained for a reasonable period; and*
- (ii) Walls common to two or more buildings will resist the spread of fire between those buildings; and*
- (iii) Fire spread will be restricted by sub-dividing buildings with fire resisting walls and floors; and*
- (iv) Concealed spaces and cavities are sub-divided to restrict unseen spread of fire and smoke.*

5.1) Compartmentation

5.1.1) Compartmentation provided generally as ADB Section 7 and thirty-minute fire protection for elements of structure. Fire doors to be in accordance with ADB FD30s and be provided with intumescent strips and cold smoke seals and self-closers. Each

bedroom door is FD30s and provided with suitable intumescent and cold smoke protection and self-closing device.

5.1.2) Where services pass through fire resisting construction to be fire stopped or provided with fire protection such as intumescent collars or wraps e.g., soil pipes.

5.2) Sprinklers

There is no sprinklers system to be provided.

5.3) Cavity Barriers

Cavity barriers to be provided with protection in accordance with the principles applied in Section 8 ADB.

5.4) Fire Stopping

Fire stopping to be provided as per Section 9 ADB, with appropriate materials to reflect the fire resistance in the area of application. This can be a range of materials.

5.5 Ventilation

5.5.1) An automatic opening ventilation is to be provided in the main stair on top floor second floor. There should be a vent, with a free area of at least 1.0m², from the top storey of the stairway to the outside. This to be at the highest level to ensure to be effective i.e. above the top edge of the flat entrance doors. It should have controls adjacent to the fire alarm panel and at local level on first floor.

6) EXTERNAL FIRE SPREAD

Functional Requirement

The external walls of a building shall be constructed to resist the spread of fire from one building to another.

The roof of a building shall resist the spread of fire over the roof and from one building to another.

6.1) Exterior Wall nearest to nearby property

Due to the overall distances from neighboring properties this is considered unnecessary and has not been considered as part of this report. The existing property is end of terrace with the rear elevation 17m from the neighboring properties to the north.

7) ACCESS AND FACILITIES FOR THE FIRE SERVICE

Functional Requirement

(i) The building shall be designed and constructed so as to provide facilities to assist fire fighters in the protection of life.

(ii) Provision shall be made within the site of the building to enable fire appliances to gain access to the building.

7.1) Vehicle Access & Fire Main and hydrants

7.1.1) The total area of the building is likely to up to 2,000m² 19 ADB. Consequently, the building should have 15% access for pumping fire appliances and is with 45 metres travel distance of the roadway. The 15% access is achievable from the face of the building which includes the main front entrance of the building, (for fire service access via main public highway).

7.1.2) As the building is not greater than 11 metres then a fire fighting shaft and dry riser is not required.

7.1.3) It is expected that a fire hydrant provision is available in the area and a relatively short distance from the property e.g., within 90 metres.

7.1.4) Vehicle access route specification is in accordance with ADB Table 13.1. Turning facility provision is not necessary as premise is adjacent to the main high way. Fire service pedestrian access is via the front entrance of the property.

8) GENERAL

8.1) All information contained in the report to be made available to the responsible person or representative in order to be available to undertake the fire risk assessment. Copies of certification and verification of standards evidence to be made available in order to satisfy Section 38 Building Regulations.

9) CONCLUSIONS AND SUMMARY

9.1) The fire strategy document deals with life safety issues as part as the initial design. It provides fire safety information in accordance with ADB Appendix G and Section 38 of Building Regulations.

9.2) This fire strategy is written to integrate with the fire risk assessment on completion of the building works and when the building is occupied, so as to be in accordance with Regulatory Reform (Fire Safety) Order 2005. It is also provided to satisfy the fire safety information for Section 38 of Building Regulations. Overall, it offers a suitable design, meeting functional requirements of ADB, whilst offering a flexible design as an HMO.

End of Document

Revisions of Document

Document:	Fire Safety Strategy Report		
Client:	Mr Jonathan Williams for Mr Nash Karbani.		
Author:	Shaun Doyle on behalf of Ivorfire Safety Services Ltd.		
Issue Date	Version No:	Details of Changes	Page or reference
01/8/2021		Draft document prepared prior to visit site.	
23/10/2021	1.0	Issued 26/10/21 Report updated following comments.	General

Fire Safety Signs and Notices Schedule

The following schedule sets out a proposed provision of fire safety signs and notices at the above new premises.

In each case, please refer to the test and detail associated with each safety sign.

1. Legislation.

Fire safety signs should comply with:

The Health & Safety (Safety Signs and Signals) Regulations, 1996 and conform to relevant parts of BS 5499: Part 1.

Signs must contain a pictogram as part of the design feature.

The design and wording of all safety signs are typically agreed with the Client.

1. Fire Notices.

Safety Sign	Detail	Text and Detail
1.1. Action in Case of Fire		Notices detailing the action to be taken in the event of a fire should be prominently displayed as follows: - Adjacent to each final exit route / break glass manual call point. - Staff bedroom on the rear of the door to aide staff. - Boiler room where contractors may work from time to time (if applicable). Notes: a) These notices are for the information and guidance for occupants, (including visitors, contractors etc.) and will include details of the location of the designated assembly point.

2. Means of Escape.

Note: All means of escape signage should be illuminated either internally or otherwise to ensure that they are clearly legible and visible at all times. Where appropriate, safety signage should be incorporated with elements of the emergency and escape lighting scheme proposed for this development.

Safety Sign	Detail	Text and Detail
2.1. FIRE DOOR Keep Shut		Fire resisting, self-closing doors should have an obligatory safety sign affixed to each side of the door, at about eye level.



Notes:

The requirement to display this safety sign on fire resisting doors accessing bedroom accommodation may be dispensed with, as this is classed as their home. (However, it is still a fire door).

2.2 FIRE DOOR Keep Locked



Fire resisting doors to hazard rooms such as storerooms, cupboards, and riser cupboards (other than doors to sanitary accommodation), opening onto means of escape routes should have an obligatory safety sign affixed, at about eye level, to the outside face of the door.

Notes: Each riser cupboard door, (if applicable).

2.3 AUTOMATIC FIRE DOOR KEEP CLEAR



Fire resisting, self-closing doors fitted with automatic self-closing devices linked to the fire alarm system should have an obligatory safety sign affixed, at about eye level, on each side of the door.

Safety Sign

Detail

Text and Detail

2.4 FIRE EXIT Keep Clear



Where there is the potential for obstruction outside final fire exit doors, an obligatory sign should be displayed on the outside face of the door. The sign should be of a size that is easily noticeable.

Note: Optional to help maintain and manage the staircase or fire exit clear.

2.6 FIRE EXIT



Fire Exit signs should be provided immediately above any door designated as a final Fire Exit and used for means of escape purposes. These may be incorporated with the emergency lighting unit.

Note: Position above the final exit door for the front and rear exit and per floor.

2.7 Directional FIRE EXIT Route signs



Where the designated means of escape route changes direction, leads through an intermediate door or any door or route leading to safety that is not obvious to persons seeking means of escape, then Fire Exit signs incorporating an appropriate directional arrow should be provided.

2.8

Doors designated as Fire Exits should be easily

Fire Exit
Door –
Method of
Opening



openable in an emergency and, depending on the fastening device fitted, should have an appropriate sign affixed showing the method of opening.

Specific fire exit doors may be fitted with electromagnetic securing devices that release automatically on actuation of the fire alarm system, or the emergency override manual break glass point, (green boxes).

Note: If conventional type handle is provided and can be opened manually no sign is required.

2.9
Fire
Assembly
Point



→
25 metres

The location of the designated assembly point should be conspicuously identified by displaying an appropriate safety sign.

Note: In this case an arrow and a note 25 meters on pavement to be added. This is so that the assembly point will not interfere with the attendance of the fire service).

3. Fire Alarm System

No signs required as fire alarm system in accordance with BS 5839 Part 1; 2013 and as the property is small and it is to be homely as opposed to instutionlised.

4. Fire Fighting Equipment.

Safety Sign	Detail	Text and Detail
4.1 FIRE POINT		Where the location of firefighting equipment is not obvious e.g. where extinguishers are placed out of reach of unauthorized staff, then the location should be clearly indicated by an appropriate safety sign including the pictogram element.
4.2 FIRE Extinguishers And Fire Blankets		A safety information sign should be displayed at the location of each fire extinguisher and fire blanket giving details of the type of equipment, the type of fires it can safely be used on and fires that it is not suitable for use on.

Note: These signs in Section 4, are referred to in the report for firefighting equipment. However, these are not provided as the premises is smaller and will be conspicuous.

GENERAL

5.12 No Smoking signs



A "No smoking sign" should be displayed at each entry into the building to help remind persons that smoking is not permitted in the building.

Note: These signs can also be used in other parts of a building to assist the no smoking policy (if required).

5.13 Lift sign; Do Not Use



A "In the event of a fire do not use the lift" which should be displayed on each floor level of the building adjacent to the lift.