# Report

## Fire Strategy

14-19 TOTTENHAM MEWS, LONDON
Derwent London PLC

CONFIDENTIAL

**Revision:** 2.0 - DRAFT
**Issued**: 5 November 2020

Norman Disney & Young
A TETRA TECH COMPANY

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# 1 EXECUTIVE SUMMARY

A fire engineering assessment has been undertaken to show the suitability of the proposed fire safety strategy for 14-19 Tottenham Mews in Fitzrovia, London, and compliance with the Performance Requirements of the Building Regulations.

The principal fire safety design guidance for the development is The Building Regulations 2010, Fire Safety – Approved Document B (ADB) Volume 1 & 2 and BS 9991:2015 Fire safety in the design, management and use of residential buildings.

14-19 Tottenham Mews is a new, mixed-use development providing high quality residential floorspace comprised of both social and intermediate housing, and workspace at ground and basement levels.

The key design aspirations include:

- Demolishing an existing, dilapidated building;
- Providing a high quality & sustainable building offering affordable housing and affordable workspace;
- An opportunity to create a new connection between Tottenham Street and the proposed Bedford Passage development which will improve pedestrian routes in the area;
- An opportunity to improve the quality of the mews with a new façade;
- A development providing 23 dwellings in total.

The fire safety strategy and fire engineering assessment are detailed in Sections 5 - 11 of this report.

It is the responsibility of designers, contractors and sub-contractors to ensure the design solution in this report is implemented in design documentation and constructed accordingly. This includes all normal and applicable guidance and codes of practice where variations from such are NOT explicitly covered within this report.

The assessment requires the implementation of the fire safety measures listed in this report and compliance with the relevant Building Regulations not assessed by this report.

Major components of the fire safety strategy that deviate from the prescriptive provisions of Approved Document B and details of BS 9991 are outlined in Table 1-1.

**Table 1-1 – Fire Engineered Proposals**

| Performance Requirement | Prescriptive Provisions | Assessment Method | Deviations from Prescriptive Provisions |
|---|---|---|---|
| BS 9991 | A secondary power supply should be provided to the fans and all actuators and controls for the mechanical smoke ventilation system. | Qualitative | A secondary power supply will not be provided. |

# 2 PROJECT SCOPE

## 2.1 General

This fire engineering assessment has been undertaken to show the suitability of the proposed fire safety systems within the building and compliance with the nominated Performance Requirements of the Building Regulations.

In addition to the Building Regulations, the Regulatory Reform (Fire Safety) Order 2005 requires a certain level of fire safety to be provided to all buildings. The Regulatory Reform (Fire Safety) Order is a risk assessment-based legalisation, requiring regular risk assessment, including at occupation.

The client / building user must familiarise themselves with the proposed fire strategy.

The goals of Approved Document B are to provide building occupants with an acceptable level of safety against the effects of fire. The only parts of Approved Document B that must be complied with are the Performance Requirements; the prescriptive provisions are deemed to satisfy the Performance Requirements. Where parts of this strategy deviate from the prescriptive provisions, alternative solutions have been assessed and shown to comply with the relevant Performance Requirement.

## 2.2 General Objectives

### 2.2.1 Introduction

The objectives of this performance assessment are to:

- Outline a fire safety strategy for the building;
- Assess the compliance of nominated design aspects with the Performance Requirements of the Building Regulations;
- Consider alternate design solutions to satisfy the relevant Performance Requirements of the Building Regulations.

### 2.2.2 Building Regulations Objectives

The goals of the Building Regulations are:

- To ensure satisfactory provision of fire alarms and a satisfactory standard of means of escape for persons in the event of fire in a building (B1);
- That fire spread over the internal linings of a building is inhibited (B2);
- To ensure the stability of buildings in the event of fire; to ensure that there is a sufficient degree of fire separation within buildings and between adjoining buildings; to provide automatic fire suppression where necessary; and to inhibit the unseen spread of fire and smoke in concealed spaces in buildings (B3);
- That external walls and roofs have adequate resistance to the spread of fire over the external envelope and that spread of fire from one building to another is restricted (B4);
- To ensure satisfactory access for fire appliances to buildings and the provision of facilities in buildings to assist fire-fighters in the saving of life of people in and around buildings (B5).

Fire safety guidance given in the Building Regulations is fully functional. There is, therefore, no obligation to adopt any particular solution contained in Approved Document B if it is intended to meet the relevant requirement (B1 – B5) in some other way.

## 2.3 Relevant Stakeholders

Development of this Fire Safety Strategy included consultation with the relevant stakeholders as identified in Table 2-1.

**Table 2-1 - Relevant Stakeholders**

| Role | Organisation |
|---|---|
| Principal | Derwent London PLC |
| Project Manager | Blackburn & Co |
| Approved Inspector | MLM |
| Fire Authority | London Fire Brigade |
| Architect | Piercy & Company |
| M&E Engineer | Norman Disney & Young |
| Fire Engineer | Norman Disney & Young |
| Structural Engineer | Elliott Wood |
| Cost Consultant | AECOM |
| Façade Consultant | FMDC Ltd |

## 2.4 Information Sources

The main sources of information used in the compilation of this report were:

- The Building Regulations 2010. Fire safety - Approved Document B Volume 1;
- The Building Regulations 2010. Fire safety - Approved Document B Volume 2;
- BS 9991 Code of practice for fire safety in the design, management and use of residential buildings;
- Architectural drawings listed in Table 2-2 by Piercy & Company.

**Table 2-2 – Architectural Drawings**

| Drawing No. | Description | Revision |
|---|---|---|
| 099 | Basement level | Not specified |
| 100 | Ground level | Not specified |
| 101 | Level 01 | Not specified |
| 102 | Level 02 | Not specified |
| 103 | Level 03 | Not specified |
| 104 | Level 04 | Not specified |
| 105 | Level 05 | Not specified |
| 106 | Roof Level | Not specified |

## 2.5 Limitations

This report does not provide guidance in respect of areas which are used for bulk storage, processing of flammable liquids, explosive materials, multiple fire ignitions or for areas/fire safety systems which are subject to sabotage.

Norman Disney & Young have compiled this report based on the following activities:

- Discussions with parties listed in Table 2-1;
- Review of available project information and drawings.

Apart from where noted in the specific sections of this report, NDY have not verified any written and / or verbal information provided by other parties. In addition, the following work has not been undertaken:

- Verification of the design;
- Checks of design calculations.

Any application of the content of this report should be made taking into full account the following items:

- Observations of the building's fire safety systems and fire hazards listed in this report have been based on examination of documentation made available by the design team;
- Any change in the above information to suit future re-organisation or planning will require further assessment to confirm compliance with the intent of the objectives of this report;
- The report does not consider property damage; e.g. building and contents damage caused by fire, potential increased insurance liability and/or, loss of business continuity;
- Property insurers have not been consulted in the preparation of this report. Any insurer requirements over and above the recommendations of this report should be addressed by the client / building user.

It is the responsibility of the design team to ensure the strategy outlined in this report is implemented in design documentation and the finished building accordingly.

The strategy requires the implementation of the measures outlined in this report and compliance with the relevant and remaining prescriptive clauses of Approved Document B and details of BS 9999 not specifically mentioned in this report.

This strategy does not cover fire incidents arising from arson where fire is started in multiple locations or accelerant is used. Conventional building design only provides limited protection against malicious attack and large-scale incendiary and multiple ignition sources can potentially overwhelm any fire safety systems. Strategies such as security, housekeeping and other management practices may be more effective than additional fire protection in addressing arson.

## 2.6 Liability

This report is applicable to the proposed development at 14-19 Tottenham Mews, Fitzrovia, London.

The fire engineering analysis contained in this report demonstrates that the level of life safety offered by the proposed fire safety strategy meets the performance required by the Performance Requirements of Building Regulations.

This report is prepared in good faith and with due care for information purposes only and should not be relied upon as providing any warranty or guarantee. Attention is drawn to the nature of the inspection and investigations undertaken and the limitations these impose in determining with accuracy the state of the building, its services, equipment and life safety.

Users of this report should not rely on any statements or representations contained within but should undertake further and more detailed investigations to satisfy themselves as to the correctness of any statement or representation contained in this report.

Norman Disney & Young will not be held liable for any loss or damage resulting from any defect of the building, services, equipment or for any non-compliance of the building, services or equipment with any legislative or operational requirement, whether or not such defect or non-compliance is referred to or reported upon in this report.

## 2.7 Revision History

| Revision | REF | Date Issued | Comment |
|---|---|---|---|
| First Issue | 1.0 | 16th September 2020 | Draft Stage 2 Issue |
| Second Issue | 2.0 | 5th November 2020 | Updated Draft Stage 2 Issue |

# 3 BUILDING DESCRIPTION

## 3.1 General

14-19 Tottenham Mews is a new, mixed-use development providing high quality residential floorspace comprised of both social and intermediate housing, and workspace at ground and basement levels.

The key design aspirations include:

- Demolishing an existing, dilapidated building;
- Providing a high quality & sustainable building offering affordable housing and affordable workspace;
- An opportunity to create a new connection between Tottenham Street and the proposed Bedford Passage development which will improve pedestrian routes in the area;
- An opportunity to improve the quality of the mews with a beautiful façade;
- A development providing 23 dwellings in total.

The building is 15.5m high as measured from fire service access level to the finished floor level (FFL) of level 05 and has a basement level 3.15m below ground.

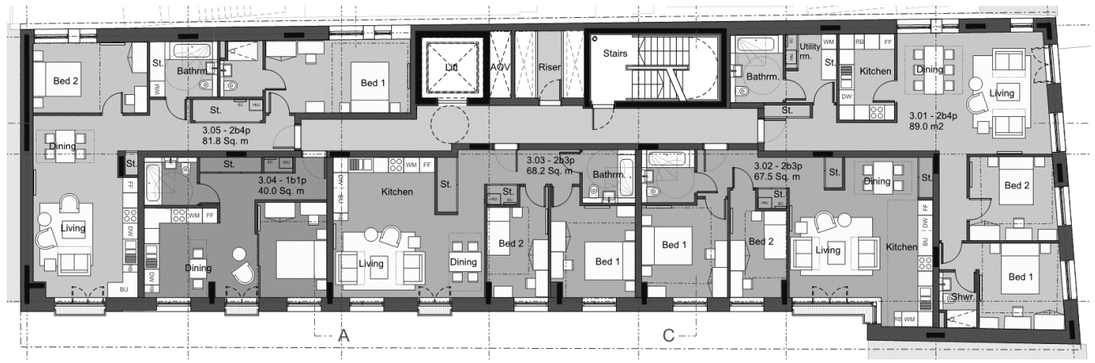
The development will provide 2,347m$^2$ (GIA) of Class C3 and 372m$^2$ (GIA) of Class E(g) accommodation.

Please refer to Table 3-1 and Figure 3-1 for further site details.

**Table 3-1 – Summary of Proposed Site Usage**

| Level | Use | Purpose Group – (ADB Table 0.1) |
|---|---|---|
| Basement | Office; Cycle Store; LV Switch Room; Plant | 3 – Office |
| Ground | Office; Residential Apartments; UKPN Substation; Refuse Stores; Cycle Store | 3 – Office; 1(a) – Residential (dwellings), Flats |
| First – Fourth | Residential Apartments | 1(a) – Residential (dwellings), Flats |
| Fifth | Residential Apartments; Plant | 1(a) – Residential (dwellings), Flats |

**Figure 3-1 – Typical Above Ground Floor**



# 4 OCCUPANT CHARACTERISTICS

Following consultation with the design team, we understand that the characteristics of the building population are as described below.

## 4.1 Distribution

### 4.1.1 Office Area

Published floor space factors have been used to determine the expected occupancy with the office spread over ground and basement floors.

**Table 4-1 – Population within the office**

| Level | Floor Area ($m^2$) | Floor Space Factor ($m^2$ / person) | Maximum Expected Occupancy |
|---|---|---|---|
| **Basement** | | | |
| Office | 195 | 6 | 33 |
| **Ground** | | | |
| Office | 74 | 6 | 13 |

## 4.2 Physical and Mental Attributes

### 4.2.1 Office Area

The building will be mainly occupied by occupants who are awake and familiar with the layout of the building.

All occupants are considered representative of staff members or office tenants and able to recognise and respond to an alarm signal in a rational way.

There is not expected to be any dependent or highly dependent occupants at the premises who would require significant assistance in the event of an evacuation. Suitable provision will be made for the evacuation of disabled individuals where identified.

### 4.2.2 Residential Areas

Due to the use and function of the residential building, occupants could be asleep or impeded in some other way which would delay their response in the event of a fire. In ancillary areas, occupants are generally expected to be alert and awake and respond to emergencies with minimal delay.

All occupants are expected to have a level of understanding where they can recognise an emergency and the ability to take and implement decisions independently. Their behaviour is likely to be rational and they are not expected to require assistance in the event of an emergency.

Occupants are expected to be familiar with the primary access and egress routes from the building. General fire safety advice, including the instruction on the actions necessary on the activation of the fire alarm system, will be given to all occupiers of the dwellings.

# 5 B1 - MEANS OF WARNING AND ESCAPE

## 5.1 Evacuation Strategy

### 5.1.1 Office Area

The evacuation strategy for the office area is based on a simultaneous evacuation philosophy. Thus, the fire alarm system will be configured such that all office occupants are evacuated at the same time in the event of a fire emergency.

### 5.1.2 Residential Areas

The residential areas will operate a defend in place strategy where only the apartment on fire would initially be expected to evacuate. Other apartments are considered to be a place of relative safety and further evacuation would be completed under the advice of the attending fire and rescue services. Each dwelling is designed to be fire separated from all adjacent accommodation and mechanical smoke control systems are provided within the common corridors to maintain suitable conditions for escape during a fire event.

## 5.2 Fire Alarm and Fire Detection Systems

### 5.2.1 Office Area

The office will have a designated fire indicator panel that is networked to the main panel serving the residential portion of the building.

Smoke detection will be installed throughout the office to achieve a Category L3 system as per BS 5839 Part 1. Alarm sounders will be installed to sound an evacuation signal on activation of the system achieving the minimum required sound pressure levels in accordance with BS 5839 Part 1.

Manual call points will be installed at all exits from the office.

Visual alarm devices will be provided to supplement audible alarm signals in toilets where occupants with hearing impairment may be alone in the building.

Where electronic locking devices and/or door holders are provided along common escape routes these will be interfaced with the fire alarm system to ensure they release on activation of the alarm.

### 5.2.2 Residential Areas

Each apartment will be served by a standalone fire alarm and detection system i.e. Grade D system to achieve a category LD1 system in accordance with BS 5839 Part 6. An LD1 system requires interlinked smoke/heat alarms located in all habitable rooms within each apartment excluding bathrooms.

A defend in place strategy is adopted in the residential buildings therefore smoke/heat detection devices installed in each apartment will provide means of warning to the individual apartment only. The smoke/heat alarms between apartments do not need to be interlinked.

Smoke and heat alarms should be mains powered with battery backup and conform to BS 5446 Parts 1 and 2.

Sounders will achieve the required sound pressure of at least 75db(A) at each bed head.

An addressable fire detection and alarm system will be provided throughout the common residential areas of the building. The system will be designed as a category L5 system in accordance with BS 5839-1 and will, as a minimum, cover the following areas:

- All common residential corridors including the corridor leading to the stair at basement level;
- All plant rooms;

- All ancillary accommodation including bin stores and cycle stores.

The system will be interlinked to:

- The mechanical smoke ventilation system that is provided to protect the single staircase;
- The basement fire curtain that is provided to ensure smoke does not travel via the lift shaft and adversely affect escape routes on the upper storeys;
- Interface devices will be provided to allow each apartment system to be linked to the common system. This is to allow an indication of the apartment of fire origin to be displayed at the main fire panel for the building. It is also recommended to future proof the building design should it be necessary to incorporate a mass evacuation signal in the building.

Manual call points will be provided throughout the common residential areas at storey exits and final exits from the building.

Fire alarm sounders will be provided within common parts of the building and within ancillary accommodation.

The main landlord fire panel will be located at the residential entrance at ground level.

## 5.3 Means of Escape Provisions

### 5.3.1 Office Area

Two main components of the evacuation strategy need to be considered:

- Horizontal Escape from the room or storey;
- Vertical Escape via the stairs to a place of safety outside the building.

It should be noted that where exit and stair widths are discussed within this section of the report these are considered to be the minimum required to provide satisfactory means of escape in the event of a fire in the building and that in order to meet the requirements of other guidance documents such as Approved Document M (ADM) the minimum widths may need to be increased.

#### 5.3.1.1 Travel Distances

Approved Document B Volume 2 gives guidance on maximum travel distances in a single direction and for situations where more than one direction of escape is available.

Table 5-1 sets out the travel distance limitations to the nearest exit within the building:

**Table 5-1 – Office Travel Distance Limitations**

| Use | Maximum Travel Distance | |
|---|---|---|
| | One-way Travel (m) | Two-way Travel (m) |
| Office and ancillary areas | 18 | 45 |

Where the internal partition layout is unknown, direct distances should be adopted. Direct distances are two thirds of the distances nominated in Table 5-1.

Travel distances within the office area will achieve the values given in Table 5-1.

#### 5.3.1.2 Exit Widths

Generally, the largest exit should be discounted when assessing the maximum permitted exit capacity from each area. On a single escape route, the maximum population permitted is 60 persons and the exit discounting rule can be disregarded.

It is acceptable that exit doors be hung to swing against the direction of escape providing the numbers of people that might be expected to use the door at the time of a fire is not more than 60.

The required storey exit widths for the office area are given in Table 5-2.

**Table 5-2 – Office Storey Exit Capacity**

| Level | Proposed Occupancy | Number of Available Storey Exits | Required Clear Width per Exit (mm) |
|---|---|---|---|
| **Basement** | | | |
| Office | 33 | 2 | 750 |
| **Ground** | | | |
| Office | 13 | 2 | 750 |

Storey exit widths based upon current proposals achieve the values given in Table 5-2.

### 5.3.2 Residential Areas

#### 5.3.2.1 Travel Distances

Table 5-3 sets out the travel distance limitations to the nearest exit within the building in accordance with BS 9991.

**Table 5-3 – Residential Travel Distance Limitations**

| Use | Maximum Travel Distance | |
|---|---|---|
| | One-way Travel (m) | Two-way Travel (m) |
| Residential common corridors | 15 *Note 1* | N/A |
| Residential units | 20 *Note 2* | N/A |
| Ancillary areas | 18 | 45 |
| Terraces | 45 | Unlimited |

*Note 1: This is increased to 15m from 7.5m where sprinklers are to be provided in accordance with BS 9991.*

*Note 2: This is increased to 20m from 9m where sprinklers and LD1 fire alarm and detection systems are to be provided in accordance with BS 9991. Cooking facilities will also be sited away from the flat entrance doors and the internal escape routes.*

Travel distances within the residential areas will achieve the values given in Table 5-3.

#### 5.3.2.2 Exit Widths

To meet the requirements of BS 9991, the minimum widths of individual escape routes are required to be 750mm.

#### 5.3.2.3 Open Plan Flats

A sprinkler system installed in accordance with BS 9251:2014 enables open plan flat layouts that are subject to the following restrictions:

- The dimensions of each open plan flat will not exceed 16m × 12m;
- Ceilings within the open plan flats will have a minimum height of 2.25m;
- A category LD1 detection system will be installed throughout the flats i.e. smoke detection in all rooms.

Non enclosed kitchens are proposed within open plan flats having an area exceeding 8m x 4m. Each flat is provided with an automatic wet sprinkler system and category LD1 detection system. Cooking facilities are sufficiently remote from the main entrance doors and do not impede the escape route from anywhere in the flats.

## 5.4 Vertical Escape Provisions

### 5.4.1 Office Area

The basement floor office area is served by an unprotected accommodation stair and a protected stair that extends down to this level from ground.

To reflect a worst-case escape scenario, the wider unprotected stair has been discounted when assessing vertical escape provisions.

**Table 5-4 – Stair Escape Capacity**

| Stair | Number of Floors Served | Available Stair Width, mm | Max. Expected Occupancy, People | Capacity of Stair, No. People |
|---|---|---|---|---|
| **Below Ground** | | | | |
| Accommodation Stair | 1 | 1200 | 33 | 240 |
| Residential Stair | 1 | 1100 | 33 | 220 |

The stairs will provide an escape capacity significantly in excess of the maximum expected occupancy.

### 5.4.2 Residential Areas

#### 5.4.2.1 Single Protected Stair

The residential areas will be provided with a single protected escape stair with minimum clear escape width of 1100mm. The stair will serve all above ground levels in the building and discharge to outside at ground level via a protected exit passageway. The stair will be divided at ground floor so that the stair serving the basement level is separated from the stair serving the above ground floors.

The residential stair will be approached at each upper level by a protected common corridor. A single escape route from each flat entrance door to the stair is proposed. This is acceptable if travel distances within the common corridor do not exceed 15m.

Ancillary accommodation (except rooftop plant) will not be located within, or entered from, the protected corridor.

The stair's protected exit passageway will also be separated from the flats at ground level by protected lobbies.

Despite the provisions above, it is probable that smoke will get into the adjacent protected corridor or lobby from a fire in a flat. A means of ventilating the common corridors and lobbies is, therefore, required to control smoke and to protect the common stair. The requirements for the proposed mechanical ventilation system are:

- Each protected corridor or lobby should have a smoke vent. The location of the vent should be as high as practicable and positioned so its top edge is at least as high as the top of the door into the stair or protected exit passageway of the stair;
- As the protected corridors and lobbies do not have direct access to an external wall, the vents should discharge into a vertical smoke shaft that:
  - Is closed at the base and open at roof level;
  - Has a minimum cross-sectional area of 0.8m$^2$;
  - Should be constructed from a class A1 material;
  - Is served by duty and standby extract fans rated at 300°C for 2 hours.
- So that the duty and standby extract fans can be housed within the top section of the shaft, it is proposed that the shaft serves all levels up to and including level 04. Level 05 will be served by an actuated door (providing the necessary minimum free area 1.5m2) opening directly to outside;
- The ground floor lobbies that separate the flats from the protected exit passageway of the stair will be served by extract grilles in the ceilings. These grilles will be connected to the vertical shaft by high level fire rated ductwork with minimum cross-sectional area 0.3m$^2$.
- The stair hatch to outside at the top of the stair will be actuated to provide a minimum free area of 1m$^2$. If smoke is detected in a protected corridor or lobby, vents on the storey where the fire is located, at the top of the smoke shaft and the stair hatch will open simultaneously. Vents in the corridors or lobbies of all other storeys should remain closed, even if smoke is subsequently detected near them.
- The design of the mechanical smoke ventilation system will limit pressure differentials so that door opening forces do not exceed 100N at the door handle when the system is in operation.
- In line with the recommendations of BS 9991, a secondary power supply should be provided to the duty and standby fans and all actuators and controls serving the mechanical smoke ventilation system. Instead, alternative power to the smoke ventilation system will be provided from the same main supply to the building which will be split at the landlord panel and routed via separate, fire protected routes to the fan controller. This is considered acceptable for the following reasons:
  - As the required electrical load is low (approx. 5-10kW), it is not considered appropriate to provide a generator as a backup power supply. Batteries are equally inappropriate as the required run time and autonomy on the fans would require a large bank of batteries;
  - The ongoing maintenance for either a generator or batteries is considered overly onerous within a residential setting and potentially prone to neglect which could severely impact upon the reliability of these systems;
  - The risk of a failure of the power network occurring at the same time as a fire within the building is considered negligible;
  - The UKPN substation and main LV switch room will be enclosed in 240 minutes and 60 minutes fire resisting construction respectively;
  - Both the UKPN substation and the main LV switch room are adequately separated by fire resisting construction and fire doors from the protected corridors and lobbies at levels ground to level 04 that are served by the mechanical smoke ventilation system. The system serves no other areas within the building.

#### 5.4.2.2 Residential Lift

The lift shaft that serves storeys above ground should not also serve the basement floor as there is only one escape stair serving the above ground levels. To minimise the risk associated with the lift serving the basement level it will be approached via a protected corridor at this level and a fire curtain is proposed in front of the opening at basement level to stop smoke from this level adversely affecting escape routes in the upper storeys. The fire curtain will descend on activation of a detector within the protected corridor at basement level (corridor served by the common residential system).

## 5.5 Disabled Evacuation

### 5.5.1 Office Area

A disabled refuge of at least 900mm x 1400mm will be located within the protected stair at basement level. The refuge will be provided with an emergency voice communication outstation which will be connected to a master panel located at the residential entrance.

Management procedures must be provided to ensure the safe evacuation of disabled people who are present within the refuge.

Where necessary, consideration should be given to means of manually evacuating any disabled people present within the refuge using evacuation aids such as evacuation chairs. It should be noted that it can take as many as four people to use an evacuation chair safely and effectively. To achieve this, it is vital that robust procedures in terms of staff training and emergency planning e.g. Personal Emergency Evacuation Plans (PEEPs) be built into the fire safety management of the building.

### 5.5.2 Residential Areas

It is considered acceptable that open plan flat layouts have been adopted for the accessible flats at ground level as these have step free access to outside.

Residential areas will operate a defend in place strategy in which residents should be safe within their dwellings during the initial stages of a fire and further evacuation will be managed by the attending Fire Services.

Where a fire starts within a resident's apartment, it is possible for the individuals to move through the common corridor into the protected stair which would act as a place of relative safety.

It is currently proposed that the normal passenger lift will remain available for use by residents who require it for evacuation during a fire. To facilitate this, it is proposed that the lift is provided with a second power supply from the same landlord panel that is diversely routed through the building.

## 5.6 Signage

Exit signage will be provided throughout the building in accordance with Approved Document B, BS 9991, ISO 7010, ISO 3864 and BS 5499.

Wayfinding signage will be installed within the single staircase for firefighting purposes.

Directional, action and identification signage will be provided throughout the building as follows:

- Illuminated exit signage to show the location of storey exits
- Outline the action to be taken in a fire alarm situation, or if a fire is discovered
- Show the location of fire safety measures
- Fire doors will be marked "FIRE DOOR KEEP SHUT" or "FIRE DOOR – DO NOT OBSTRUCT" where hold open devices are provided

## 5.7 Escape Lighting

Emergency lighting will be installed throughout the building in accordance with the requirements of Approved Document B, BS 9991 and BS 5266. The provision of emergency lighting will cover the following areas:

- Ancillary accommodation normally accessible to the occupants
- All plant rooms
- Common escape routes
- Windowless accommodation
- Open plan areas of more than 60m$^2$
- All toilet accommodation with a floor area over 8m$^2$

The emergency lighting must also be provided on sub-circuits to illuminate fire exits, exit routes (internal and external), exit signage, fire equipment, electrical panels and fire alarm panels.

## 5.8 Refuse Storage

The refuse rooms should be constructed in accordance with BS 5906 and be separated from other parts of the building by 60 minutes fire resisting construction.

The refuse rooms will be approached by way of a protected lobby provided with not less than 0.2m$^2$ of permanent ventilation.

Access to the refuse rooms is cited adjacent to the escape route from the mobility scooter storeroom. This is considered acceptable because:

- The storeroom will be accessed infrequently and for short periods of time;
- Single direction travel distance to outside from the storeroom is within limits presented in Approved Document B and is via a protected, ventilated lobby;
- A Category L5 addressable fire detection and alarm system will be provided with devices installed within all ancillary accommodation including bin stores.

# 6 B2 - INTERNAL FIRE SPREAD (LININGS)

Materials used for the surface linings of walls and ceilings will be selected to meet the classification requirements described in Approved Document B and BS 9991 with respect to the materials surface spread of flame characteristic and combustibility.

In general, wall and ceiling linings will have the minimum classifications identified in Table 6-1:

**Table 6-1 – Classification of Linings**

| Use | Location | National Class of Lining | European Class of Lining |
|---|---|---|---|
| Office and Ancillary Areas | Small rooms (< 30m$^2$) | 3 | D-s3,d2 |
| | Other rooms | 1 | C-s3.d2 |
| | Circulation space | 0 | B-s3,d2 |
| Residential Buildings | Small rooms (< 4m$^2$) | 3 | D-s3,d2 |
| | Other rooms | 1 | C-s3.d2 |
| | Circulation space within dwellings | 1 | C-s3.d2 |
| | Circulation space within common areas | 0 | B-s3,d2 |

# 7 B3 - INTERNAL FIRE SPREAD (STRUCTURE)

## 7.1 Elements of Structure and Compartmentation

The building is 15.5m high as measured from fire service access level to the finished floor level (FFL) of level 05 and has a basement level 3.15m below ground.

As such, the building will be constructed to achieve a minimum structural fire performance of 60 minutes. This includes the roof structure which will act as part of the structural stability system for the top storey.

All new compartmenting elements will be provided to meet the requirements of Approved Document B and BS 9991:

- 240 minutes enclosing the UKPN substation [Note 1].
- 60 minutes elements of structure including compartment floors at every level;
- 60 minutes enclosing the protected stair core and final exit passageway;
- 60 minutes enclosing service risers and the lift shaft that breach compartment floors;
- 60 minutes enclosing the office fire compartment;
- 60 minutes enclosing each flat;
- 60 minutes enclosing refuse stores;
- 30 minutes enclosing high fire risk areas i.e. plant and electrical rooms;
- 30 minutes cavity barriers [Note 2].

*Note 1: UKPN substation is to be enclosed with 240 minutes fire resisting construction to meet service provider requirements.*

*Note 2: Cavity barriers to meet 30 minutes integrity and 15 minutes insulation.*

Compartment walls and fire-resistant partitions will be constructed to provide a physical barrier to the passage of fire and the products of combustion. As such, these will remain imperforate throughout their height, form a seal with the structural slab or element of structure above and achieve the same or a greater level of fire resistance.

Please refer to the fire strategy drawings for further details of the proposed compartmentation in the building.

## 7.2 Fire Doors

Doors forming part of the office compartment will be FD60s.

Doors forming part of the flat compartments will be FD30s.

Doors forming part of the protected escape stair will be FD30s.

Doors enclosing a protected shaft forming a lift or service shaft will be FD30.

Doors forming part of plant rooms that open onto escape routes will be FD60s.

Doors forming part of the refuse rooms will be FD60s.

The suffix (s) is added for doors where restricted smoke leakage at ambient temperature is needed.

## 7.3 Concealed Spaces and Cavity Barriers

### 7.3.1 Office Area

Concealed cavities are to be provided with cavity barriers in accordance with the recommendations given in Section 9 of Approved Document B Volume 2.

As the office is not more than 40m in either direction, cavity barriers only need to be located at the line of the enclosing walls of the room, provided the exposed surfaces in the cavity have ratings of either Class 0 or Class 1.

### 7.3.2 Residential Areas

Concealed cavities are to be provided with cavity barriers in accordance with the recommendations given in Section 8 of Approved Document B Volume 1 and BS 9991.

## 7.4 Protection of Openings and Fire Stopping

All service penetrations through fire rated elements should be appropriately sealed in accordance with the recommendations given in Approved Document B and BS 9991.

Typical fire stopping materials include:

- Cement mortar
- Gypsum-based plaster
- Cement-based or gypsum-based vermiculite / perlite mixes
- Glass fibre, crushed rock, blast furnace slag or ceramic-based products (with or without resin binders)
- Intumescent mastics

Systems used will be designed, installed, tested and maintained in full accordance with the relevant BS 476 standard.

Any ventilation ductwork will also need to be fire protected where it penetrates a compartmenting element. As ventilation ducts provide a potential route for fire spread, consideration of how this will be fire stopped must also be made. Three basic methods should be considered:

- Protection using fire dampers
- Protection using fire resisting enclosures
- Protection using fire resisting ductwork

Where a ventilation duct serves more than one part of a compartmented or fire separated protected escape route, smoke detector operated fire dampers will be provided where ductwork enters each fire separated or smoke separated section of the escape route.

# 8 B4 - EXTERNAL FIRE SPREAD

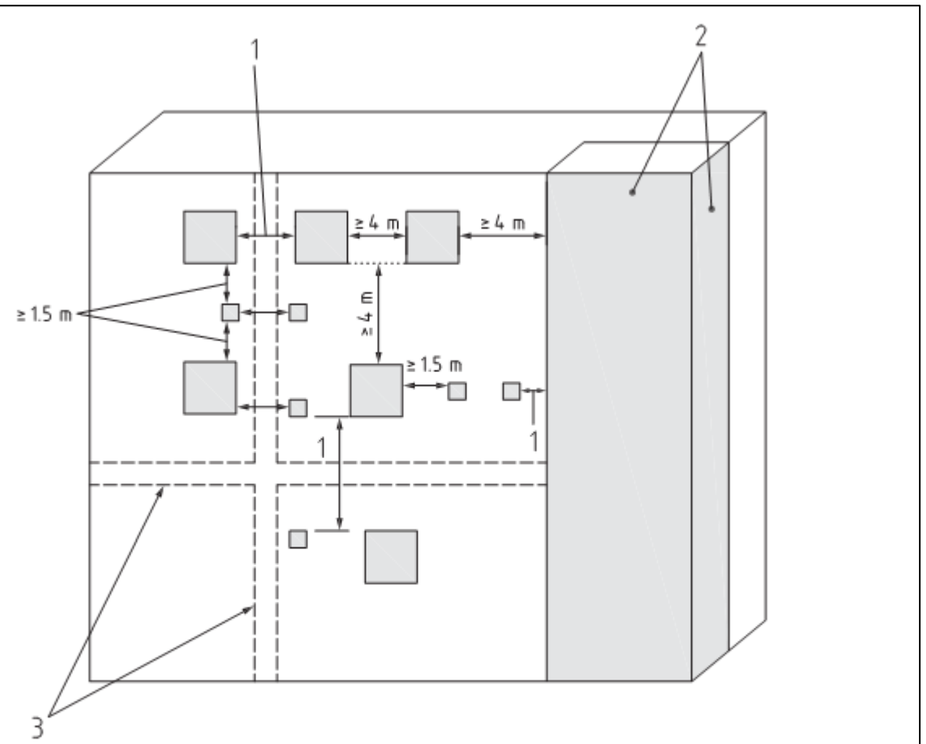
An assessment using BRE publication 'External fire spread: building separation and boundary distances' has been completed for Tottenham Mews.

Regulation 7(2), requiring all materials within the external walls or specified attachments to achieve class A2-s1,d0 or class A1 does not apply to this building because it is less than 18m tall. Materials within the external walls and specified attachments have, however, been chosen to achieve class A2-s1,d0 or class A1 to future proof the development against possible impending changes to the Building Regulations.

## 8.1 West Elevation

The relevant boundary used for the west elevation was the site boundary that is less than 1m away from the building. As such, the external wall should be 60 minutes fire resisting from both sides and all external surface materials facing the boundary should be class B-s3,d2 or better.

Unprotected openings (like openable windows with non-fire rated glazing) of up to 1m$^2$ are permitted but must be a minimum of 4m apart from any others within the same compartment. As each flat will be designed as a separate compartment, with 60-minute compartment walls and floors, openings on different stories do not need a minimum separation. Please refer to the below sketch from BS 9991:




**Key**

1 Unrestricted

2 External wall of shaft that is enclosed by a minimum of 60 min fire resistance from the accommodation side

3 Compartment boundaries

Figure 8-1 – Exclusions from unprotected area calculations

## 8.2 North Elevation

The relevant boundary used for the north elevation was the centre line of the pavement in front of the office which is 3.1m away from the facade. Using the centre line of the pavement instead of the site boundary in front of the office is deemed appropriate as it is an area where further development is unlikely.

100% unprotected area was allowed for each enclosing rectangle on every level of the north elevation.

## 8.3 East Elevation

The relevant boundaries used for the east elevation were the centre line of Tottenham Mews Road and a notional boundary halfway between the opposing buildings on each side of Bedford Passage. The site boundary was used instead for the enclosing rectangle 15.5m wide and 1.9m tall that overlooks the terrace on level 05.

100% unprotected areas were allowed for all enclosing rectangles apart from the office glazing at ground level. As only 69% of the glazing may be unprotected, it is recommended that the windows achieve 60 minutes fire resistance and be fixed shut. Please refer to Figure 8-2.

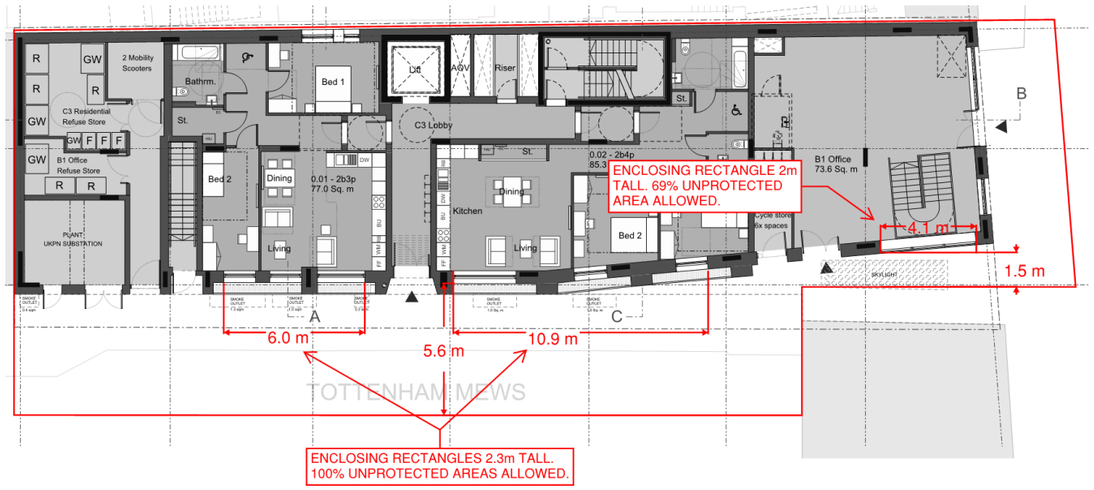



Figure 8-2 – Permissible unprotected areas on the east elevation at ground level

## 8.4 South Elevation

The south elevation consists of a 60-minute party wall only.

# 9 B5 - ACCESS AND FACILITIES FOR FIRE SERVICE

## 9.1 Fire Hydrants

The development has access to an existing fire hydrant located on Tottenham Mews Road; shown in Figure 9-1. It is not the intention of the development to provide the building with an additional, private hydrant.


Figure 9-1 – Location of the existing fire hydrant

## 9.2 Access to Building for Firefighting Purposes

A firefighting core will not be provided for the development as the building will be 15.5m tall as measured from fire service access level to the finished floor level (FFL) of level 05.

Access to the residential portion of the building for fire fighters will be via the protected, single escape stair that is provided with ventilated, protected lobbies/corridors at every level. Please refer to Section 5.4.2.1 for full details.

Fire fighters are expected to tackle a fire in the office from pavement level.

## 9.3 Firefighting Mains / Vehicle Access

As access for a pumping appliance cannot be provided to within 45m of all points inside each flat as measured along the route suitable for laying hose, a dry riser is proposed with landing valves on all levels except basement and an inlet breeching valve located on the façade by the residential entrance. Access will be available for a pumping appliance to within 18m of the dry riser inlet breeching valve.

A dry riser will not serve the office accommodation as vehicle access is available to within 45m of every point on the footprint of the office that is less than 11m above ground and smaller than 2000m$^2$.

It is noted that the notional parking position of the pumping appliance is approximately 36m away from a point at which the vehicle could turn. This is an existing condition caused because Tottenham Mews is a dead-end street.

## 9.4 Basement Ventilation

Natural smoke outlets with break-out covers are proposed for the basement level that is 3.15m deep.

The outlets will connect directly to open air and be distributed along the east side of the building. They will provide a combined clear cross-sectional area of at least 2.5% of the area of each floor they serve.

At present, smoke outlets proposed for the office have a combined clear cross-sectional area of less than 2.5% of the total floor area. This is feasible as the open connection and final exits at ground level can also be used to ventilate the basement floor.

# 10 AUTOMATIC SUPPRESSION SYSTEMS

## 10.1 Sprinkler Systems

### 10.1.1 Office Area

Sprinklers are currently proposed within the office area that spans ground and basement levels at Tottenham Mews. This is based on informal advice provided by the fire service and because the office shares elements of structure with the residential parts of the building. Access to other basement areas is also possible from the office to satisfy travel distances and disabled egress requirements.

It is likely that the office sprinkler system may be fed directly off the town main subject to a Thames Water application and adequate readings of flow and pressure.

If the town main provides inadequate flow or pressure, however, the following measures would be required:

- Inadequate pressure – A pump could be installed on the main with the permission of Thames Water;
- Inadequate flow rate – Pumps and tank (capacity needed: 55m3 minus the volume of water provided by the town main in 60 minutes (to a minimum of 10m3)) installed in accordance with BS EN 12845.

The inclusion or omission of a sprinkler system serving the office area should be evaluated and agreed with the authorities having jurisdiction at the next design stage.

### 10.1.2 Residential Areas

Sprinklers will be provided within the individual residential units but are not required in the common areas such as the stairway or protected lobbies. Sprinklers will also not be provided within the basement and ground ancillary accommodation that form separate fire compartments. The wet, residential sprinkler system will be designed in accordance with BS 9251:2014.

The water supply, tanks, pump set and rising main serving the residential sprinkler system will be shared with the public health domestic cold water system. Capped connections on the combined rising main will be provided by the public health contractor for the sprinkler contractor to extend from.

One sprinkler tapping and zone valve assembly consisting of an isolation valve, flow switch and zone check device will be provided to serve each floor level.

Cover plate sprinkler heads are proposed for the apartments which will require a clear ceiling void of 150mm.

Residential sprinkler pipework will be CPVC (e.g. BlazeMaster or equivalent) or other material permitted in the British Standard.

# 11 FIRE SAFETY MANAGEMENT

## 11.1 General

An ongoing fire safety management system will be implemented in the building in accordance with Approved Document B and BS 9991.

A fire safety manual should always be provided and held on site. This document should contain design information and operational records including records for the testing and maintenance of all fire safety appliances and system installed within the building. These records must always be kept up-to-date and held on site so that they are available for inspection. All appliances such as emergency lighting and fire alarm and detection devices are to be tested on a regular basis in accordance with installation requirements.

Policies and procedures should be in place that account for, as a minimum, the following principal factors:

- Fire Risk Assessment
- Resources and Authority
- Fire Safety Training
- Control of Work Onsite
- Maintenance and Testing
- Communications
- Emergency Planning

To facilitate firefighting operations and reduce risks to fire fighters, a premises information box should be provided adjacent to the office and residential entrances. The box should contain information such as site profile, access and security arrangements, hydrant location, evacuation strategy, communications, hazards and risks, building layouts etc.

## 11.2 Regulation 38: Fire Safety Information

To allow the responsible person for the building to effectively manage and maintain the fire safety provisions in the building, all relevant fire safety information must be made available at the handover of the project.

Essential information will include this fire strategy report and drawings as well as any associated system details including specifications, design assumptions and maintenance details.

## 12 APPENDIX A – FIRE STRATEGY DRAWING

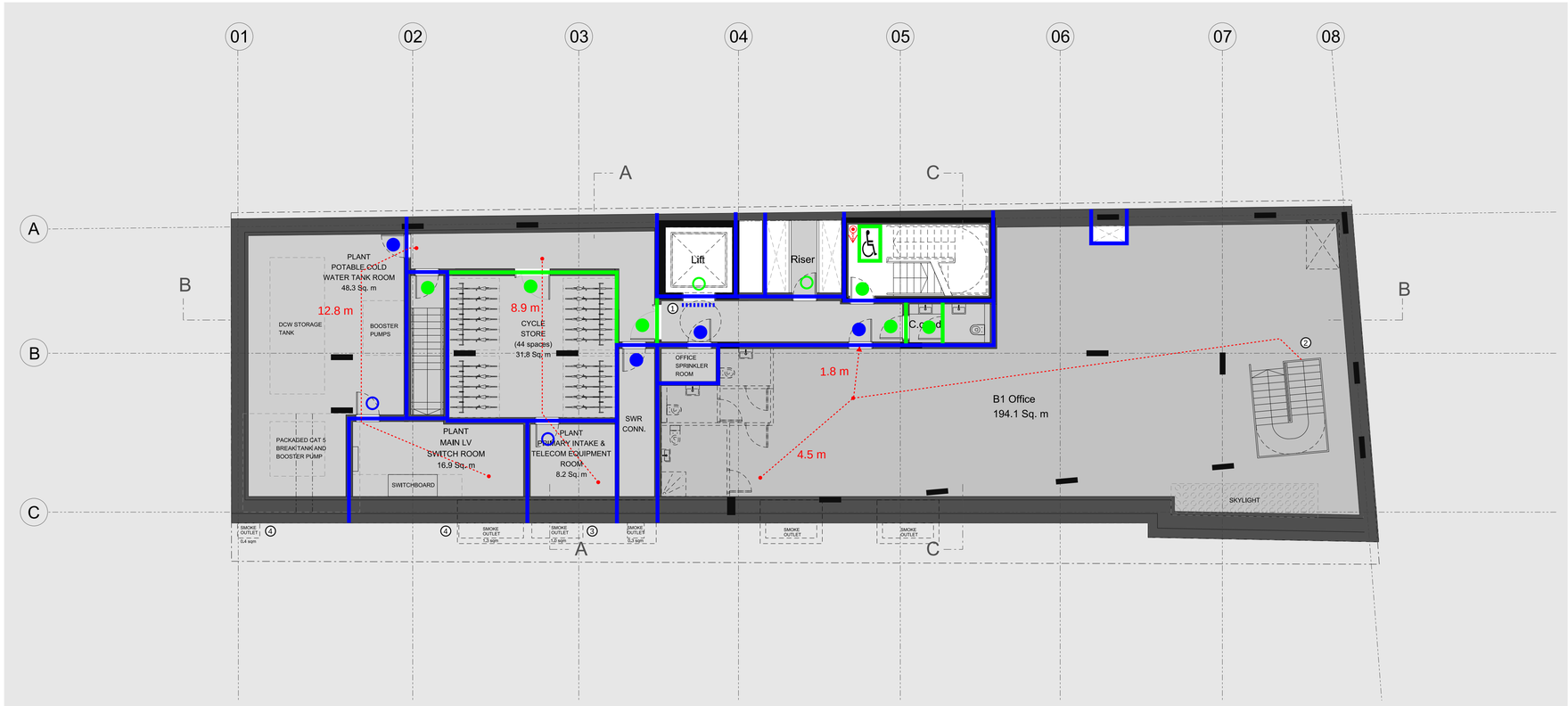
KEY: COMPARTMENTATION

- 240min Fire Rated Walls (Integrity and Insulation)
- 60min Fire Rated Walls (Integrity and Insulation)
- 60min Fire Rated Curtain (Integrity but not Insulation) with a smoke rating
- 30min Fire Rated Walls (Integrity and Insulation)

KEY: FIRE DOORS, DRY RISER, SMOKE OUTLETS & MEANS OF ESCAPE

- FD60 / FD60S - Fire Resisting Doorset
- FD30 / FD30S - Fire Resisting Doorset
- Dry Riser Inlet Breeching Valve
- Dry Riser Landing Valve
- Escape Routes (Distance in m) — XX
- Disabled Refuge (1400x900mm)
- Natural Smoke Outlet with Break-Out Cover

1. FIRE CURTAIN TO STOP SMOKE FROM THE BASEMENT LEVEL ADVERSELY AFFECTING ESCAPE ROUTES IN THE UPPER STOREYS
2. OPEN CONNECTION & FINAL EXITS ON GROUND FLOOR TO CONTRIBUTE TO REQUIRED FREE AREA OF BASEMENT SMOKE VENTILATION
3. CLEAR AREA OF SMOKE OUTLET EQUAL TO 2.5% OF THE FLOOR AREA OF THE PRIMARY INTAKE ROOM AND CYCLE STORE
4. AGGREGATE CLEAR AREA OF SMOKE OUTLETS EQUAL TO 2.5% OF THE FLOOR AREA OF THE WATER TANK ROOM AND LV SWITCH ROOM

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|---|---|---|
| 1.0 | STAGE 2 DRAFT | 16.09.20 |
| 2.0 | UPDATED STAGE 2 DRAFT | 05.11.20 |


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Reason For issue: UPDATED STAGE 2 DRAFT

Authorisation: By GS: 05.11.20

Verification Of Latest Amendment: By RS: 05.11.20



Project

14-19 Tottenham Mews

Fitzrovia, London

Title

FIRE STRATEGY DRAWING
BASEMENT FLOOR

Project No. 14072.0001

Revit Version 2017

Design: AG

Drawn: AG

Scale: 1:100 @ A1

Project Commencement: March 2020

Drawing No. FS-0B-001

Revision 2.0

A1V

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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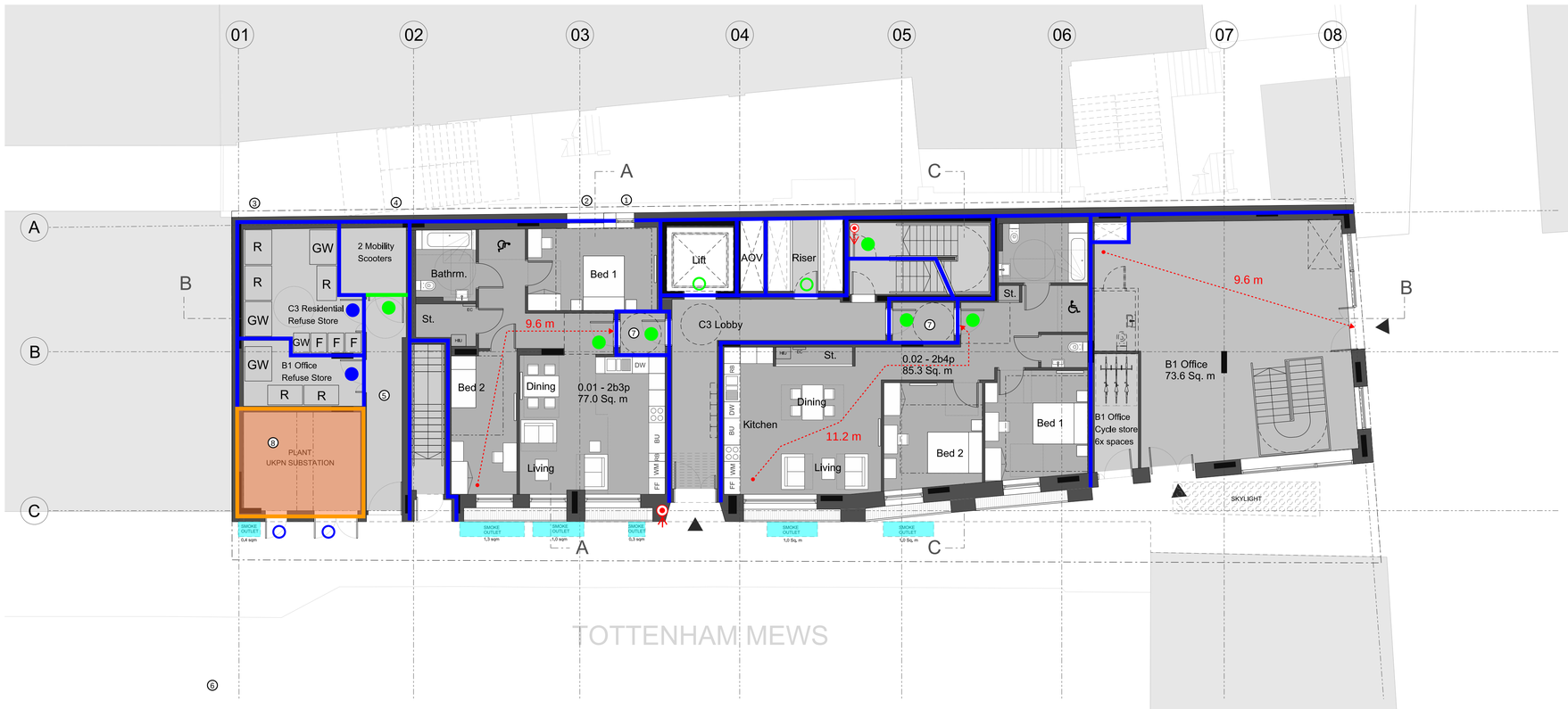
KEY: COMPARTMENTATION

- 240min Fire Rated Walls (Integrity and Insulation)
- 60min Fire Rated Walls (Integrity and Insulation)
- 60min Fire Rated Curtain (Integrity but not Insulation) with a smoke rating
- 30min Fire Rated Walls (Integrity and Insulation)

KEY: FIRE DOORS, DRY RISER, SMOKE OUTLETS & MEANS OF ESCAPE

- FD60 / FD60S - Fire Resisting Doorset
- FD30 / FD30S - Fire Resisting Doorset
- Dry Riser Inlet Breeching Valve
- Dry Riser Landing Valve
- Escape Routes (Distance in m) XX
- Disabled Refuge (1400x900mm)
- Natural Smoke Outlet with Break-Out Cover

1. OPENABLE WINDOW
2. 60 MINUTES FIRE RESISTING WINDOW THAT IS FIXED SHUT
3. FRESH AIR INTAKE FOR REFUSE STORES VIA EXTERNAL LOUVRE AT HIGH LEVEL
4. DISCHARGE AIR FROM REFUSE STORES VIA EXTERNAL LOUVRE AT HIGH LEVEL
5. PROTECTED LOBBY PROVIDED WITH NOT LESS THAN 0.2m² OF PERMANENT VENTILATION
6. NOTIONAL PARKING POSITION LOCATED WITHIN 45m OF EVERY POINT ON THE FOOTPRINT OF THE OFFICE AND WITHIN 18m OF THE RESIDENTIAL DRY RISER INLET BREECHING VALVE. THE DISTANCE FROM THE PARKING POSITION TO A POINT AT WHICH THE VEHICLE COULD TURN IS APPROXIMATELY 36m.
7. PROTECTED LOBBY SERVED BY MECHANICAL SMOKE VENTILATION SYSTEM
8. UKPN SUBSTATION SLAB AND SOFFIT TO ACHIEVE 240 MINUTES FIRE RESISTANCE

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|---|---|---|
| 1.0 | STAGE 2 DRAFT | 16.09.20 |
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Authorisation By GS: 05.11.20

Verification Of Latest Amendment By RS: 05.11.20



Project

14-19 Tottenham Mews

Fitzrovia, London

Title

FIRE STRATEGY DRAWING
GROUND FLOOR

Project No. 14072.0001

Revit Version 2017

Design AG

Drawn AG

Scale 1:100 @ A1

Project Commencement March 2020

Drawing No. FS-0G-001

Revision 2.0

A1V

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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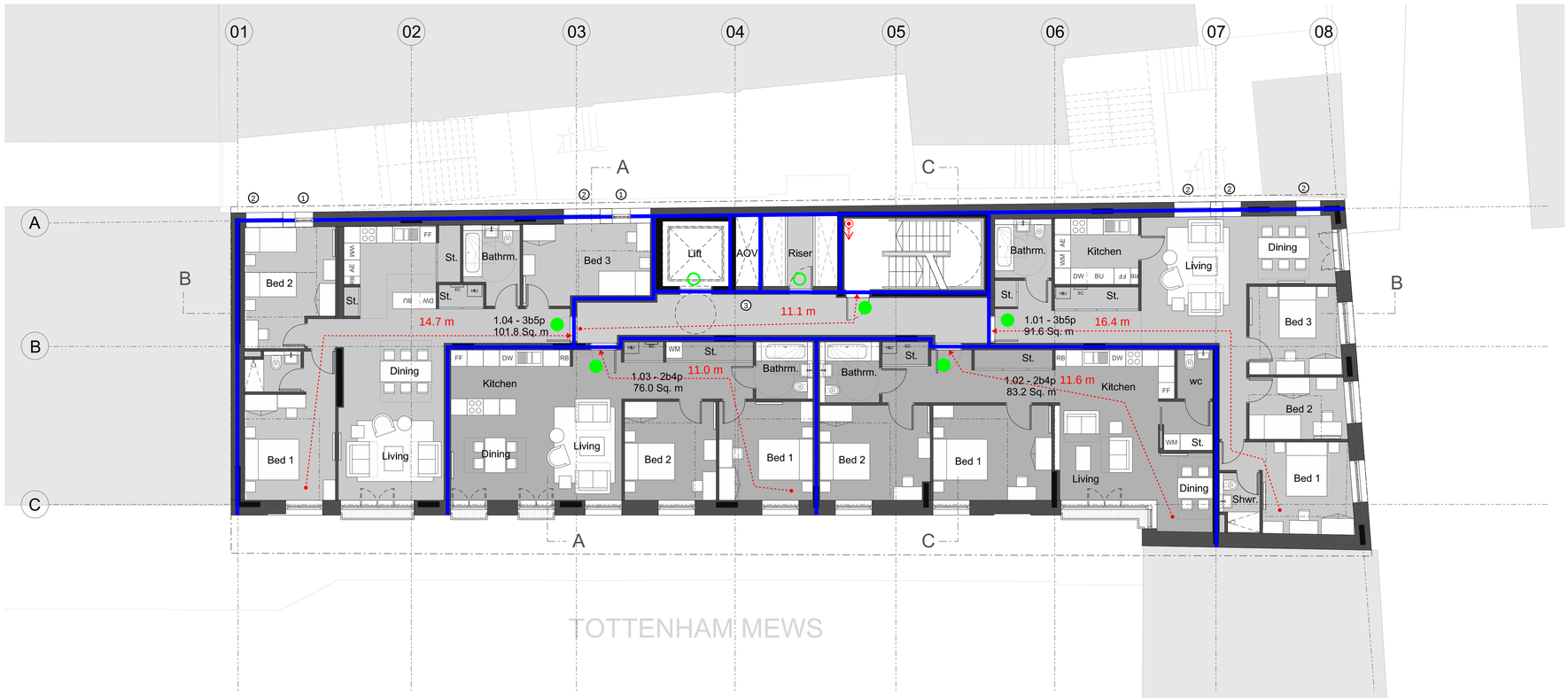
KEY: COMPARTMENTATION

- 240min Fire Rated Walls (Integrity and Insulation)
- 60min Fire Rated Walls (Integrity and Insulation)
- 60min Fire Rated Curtain (Integrity but not Insulation) with a smoke rating
- 30min Fire Rated Walls (Integrity and Insulation)

KEY: FIRE DOORS, DRY RISER, SMOKE OUTLETS & MEANS OF ESCAPE

- FD60 / FD60S - Fire Resisting Doorset
- FD30 / FD30S - Fire Resisting Doorset
- Dry Riser Inlet Breeching Valve
- Dry Riser Landing Valve
- Escape Routes (Distance in m) — XX
- Disabled Refuge (1400x900mm)
- Natural Smoke Outlet with Break-Out Cover

1. OPENABLE WINDOW
2. 60 MINUTES FIRE RESISTING WINDOW THAT IS FIXED SHUT
3. COMMON PROTECTED CORRIDOR SERVED BY MECHANICAL SMOKE VENTILATION SYSTEM

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Project

14-19 Tottenham Mews

Fitzrovia, London

Title

FIRE STRATEGY DRAWING
FIRST FLOOR

Project No. 14072.0001

Revit Version 2017

Design AG

Drawn AG

Scale 1:100 @ A1

Project Commencement March 2020

Drawing No. FS-01-001

Revision 2.0

A1V

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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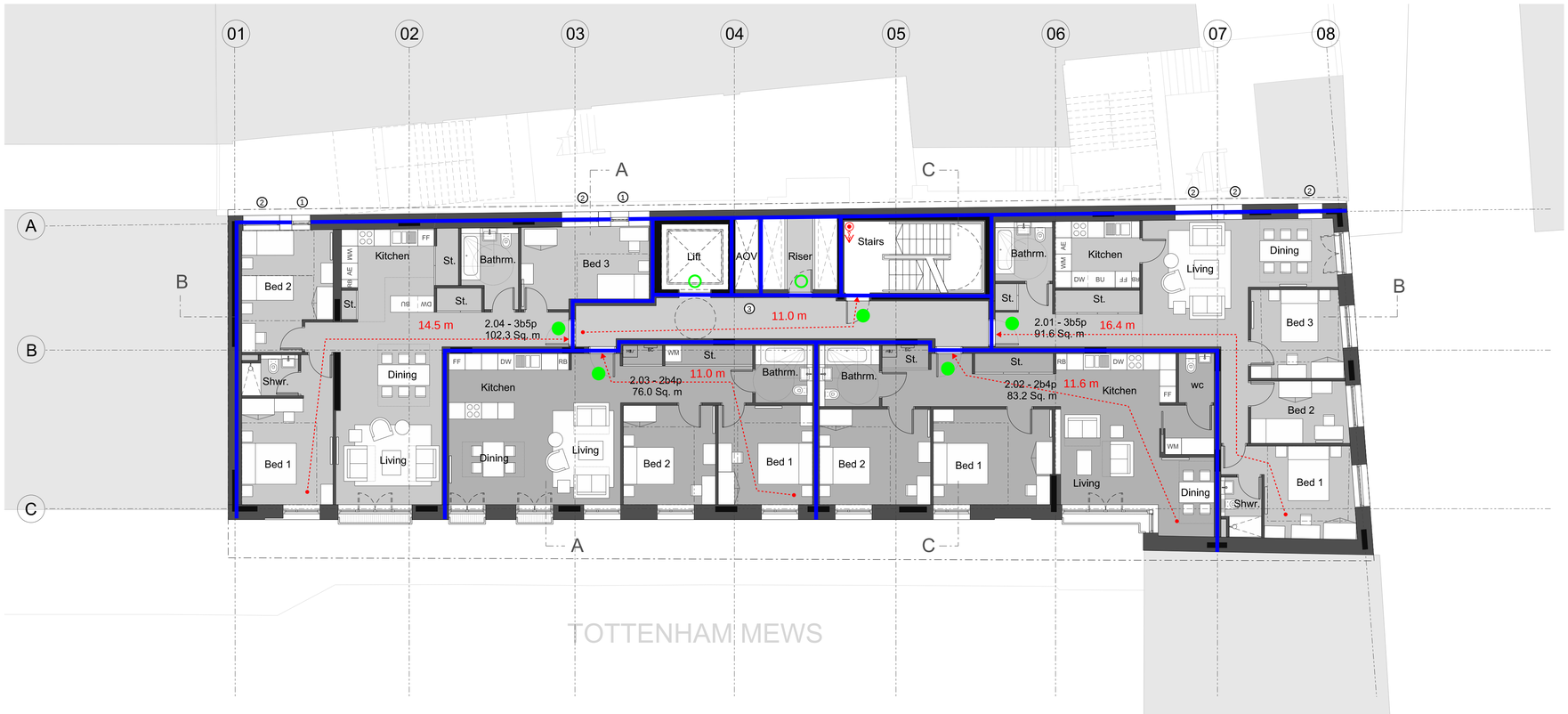
KEY: COMPARTMENTATION

- 240min Fire Rated Walls (Integrity and Insulation)
- 60min Fire Rated Walls (Integrity and Insulation)
- 60min Fire Rated Curtain (Integrity but not Insulation) with a smoke rating
- 30min Fire Rated Walls (Integrity and Insulation)

KEY: FIRE DOORS, DRY RISER, SMOKE OUTLETS & MEANS OF ESCAPE

- FD60 / FD60S - Fire Resisting Doorset
- FD30 / FD30S - Fire Resisting Doorset
- Dry Riser Inlet Breeching Valve
- Dry Riser Landing Valve
- Escape Routes (Distance in m) — XX
- Disabled Refuge (1400x900mm)
- Natural Smoke Outlet with Break-Out Cover

1. OPENABLE WINDOW
2. 60 MINUTES FIRE RESISTING WINDOW THAT IS FIXED SHUT
3. COMMON PROTECTED CORRIDOR SERVED BY MECHANICAL SMOKE VENTILATION SYSTEM

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|---|---|---|
| 1.0 | STAGE 2 DRAFT | 16.09.20 |
| 2.0 | UPDATED STAGE 2 DRAFT | 05.11.20 |


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Authorisation: By GS: 05.11.20

Verification Of Latest Amendment: By RS: 05.11.20



Project

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Title

FIRE STRATEGY DRAWING
SECOND FLOOR

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|---|---|
| Project No. 14072.0001 | Revit Version 2017 |
| Design AG | Drawn AG |
| Scale 1:100 @ A1 | Project Commencement March 2020 |
| Drawing No. FS-02-001 | Revision 2.0 |

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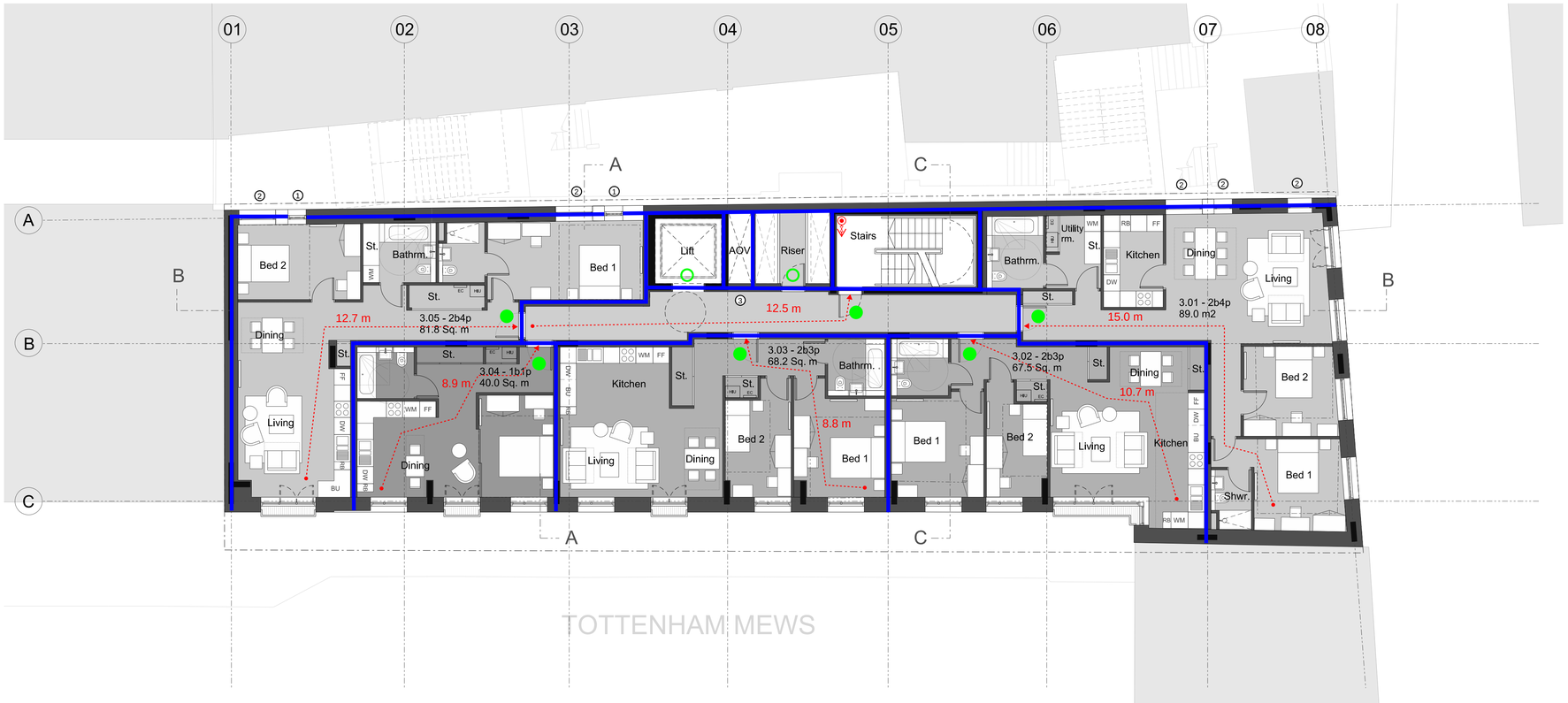
KEY: COMPARTMENTATION

- 240min Fire Rated Walls (Integrity and Insulation)
- 60min Fire Rated Walls (Integrity and Insulation)
- 60min Fire Rated Curtain (Integrity but not Insulation) with a smoke rating
- 30min Fire Rated Walls (Integrity and Insulation)

KEY: FIRE DOORS, DRY RISER, SMOKE OUTLETS & MEANS OF ESCAPE

- FD60 / FD60S - Fire Resisting Doorset
- FD30 / FD30S - Fire Resisting Doorset
- Dry Riser Inlet Breeching Valve
- Dry Riser Landing Valve
- XX — Escape Routes (Distance in m)
- Disabled Refuge (1400x900mm)
- Natural Smoke Outlet with Break-Out Cover

1. OPENABLE WINDOW
2. 60 MINUTES FIRE RESISTING WINDOW THAT IS FIXED SHUT
3. COMMON PROTECTED CORRIDOR SERVED BY MECHANICAL SMOKE VENTILATION SYSTEM

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| 1.0 | STAGE 2 DRAFT | 16.09.20 |
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Authorisation: By GS: 05.11.20

Verification Of Latest Amendment: By RS: 05.11.20



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Title

FIRE STRATEGY DRAWING
THIRD FLOOR

| Project No. | Revit Version |
|---|---|
| 14072.0001 | 2017 |
| Design: AG | Drawn: AG |
| Scale: 1:100 @ A1 | Project Commencement: March 2020 |
| Drawing No.: FS-03-001 | Revision: 2.0 |

A1V

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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KEY: COMPARTMENTATION

- 240min Fire Rated Walls (Integrity and Insulation)
- 60min Fire Rated Walls (Integrity and Insulation)
- 60min Fire Rated Curtain (Integrity but not Insulation) with a smoke rating
- 30min Fire Rated Walls (Integrity and Insulation)

KEY: FIRE DOORS, DRY RISER, SMOKE OUTLETS & MEANS OF ESCAPE

- FD60 / FD60S - Fire Resisting Doorset
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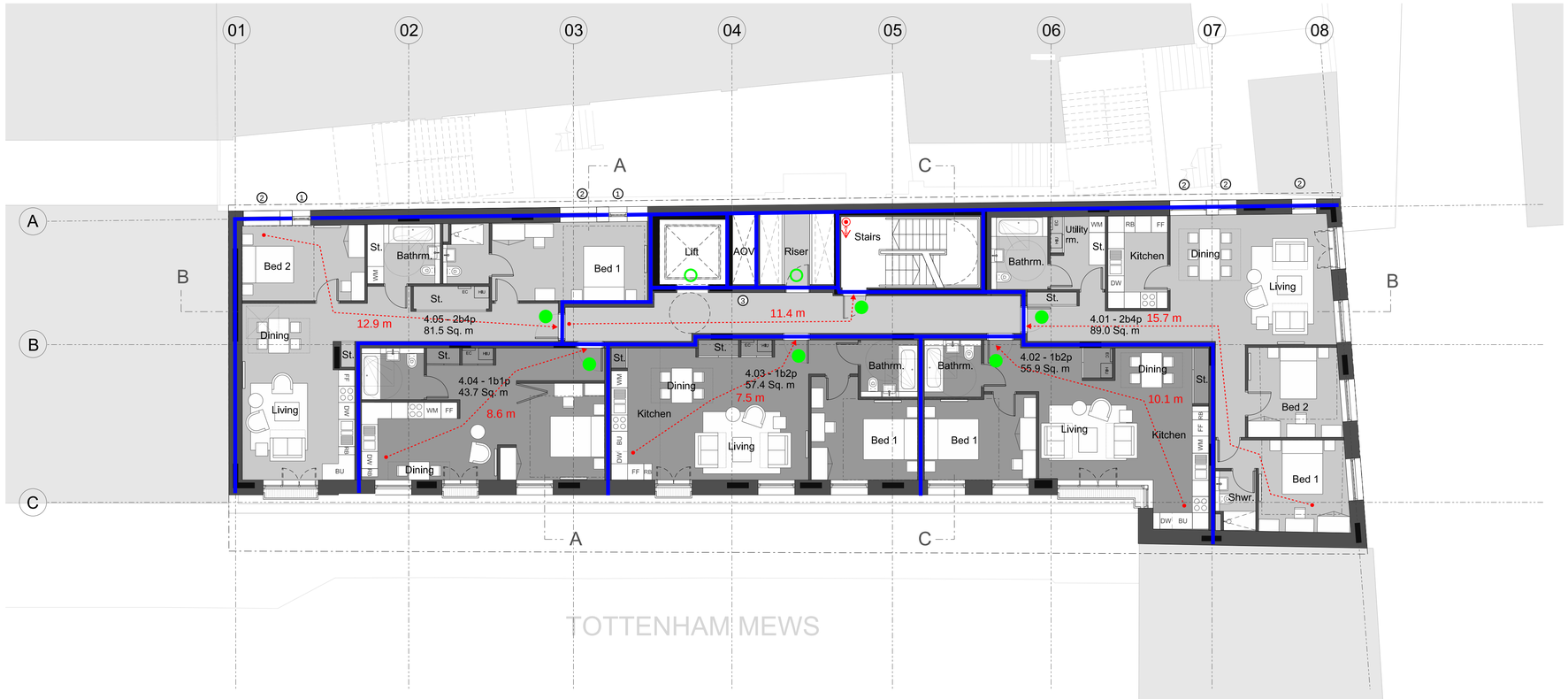
- Dry Riser Inlet Breeching Valve
- Dry Riser Landing Valve
- XX — Escape Routes (Distance in m)
- Disabled Refuge (1400x900mm)
- Natural Smoke Outlet with Break-Out Cover

1. OPENABLE WINDOW
2. 60 MINUTES FIRE RESISTING WINDOW THAT IS FIXED SHUT
3. COMMON PROTECTED CORRIDOR SERVED BY MECHANICAL SMOKE VENTILATION SYSTEM

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| 1.0 | STAGE 2 DRAFT | 16.09.20 |
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Authorisation: By GS: 05.11.20

Verification Of Latest Amendment: By RS: 05.11.20



Project

14-19 Tottenham Mews

Fitzrovia, London

Title

FIRE STRATEGY DRAWING
FOURTH FLOOR

Project No.: 14072.0001

Revit Version: 2017

Design: AG

Drawn: AG

Scale: 1:100 @ A1

Project Commencement: March 2020

Drawing No.: FS-04-001

Revision: 2.0

A1V

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KEY: COMPARTMENTATION

- 240min Fire Rated Walls (Integrity and Insulation)
- 60min Fire Rated Walls (Integrity and Insulation)
- 60min Fire Rated Curtain (Integrity but not Insulation) with a smoke rating
- 30min Fire Rated Walls (Integrity and Insulation)

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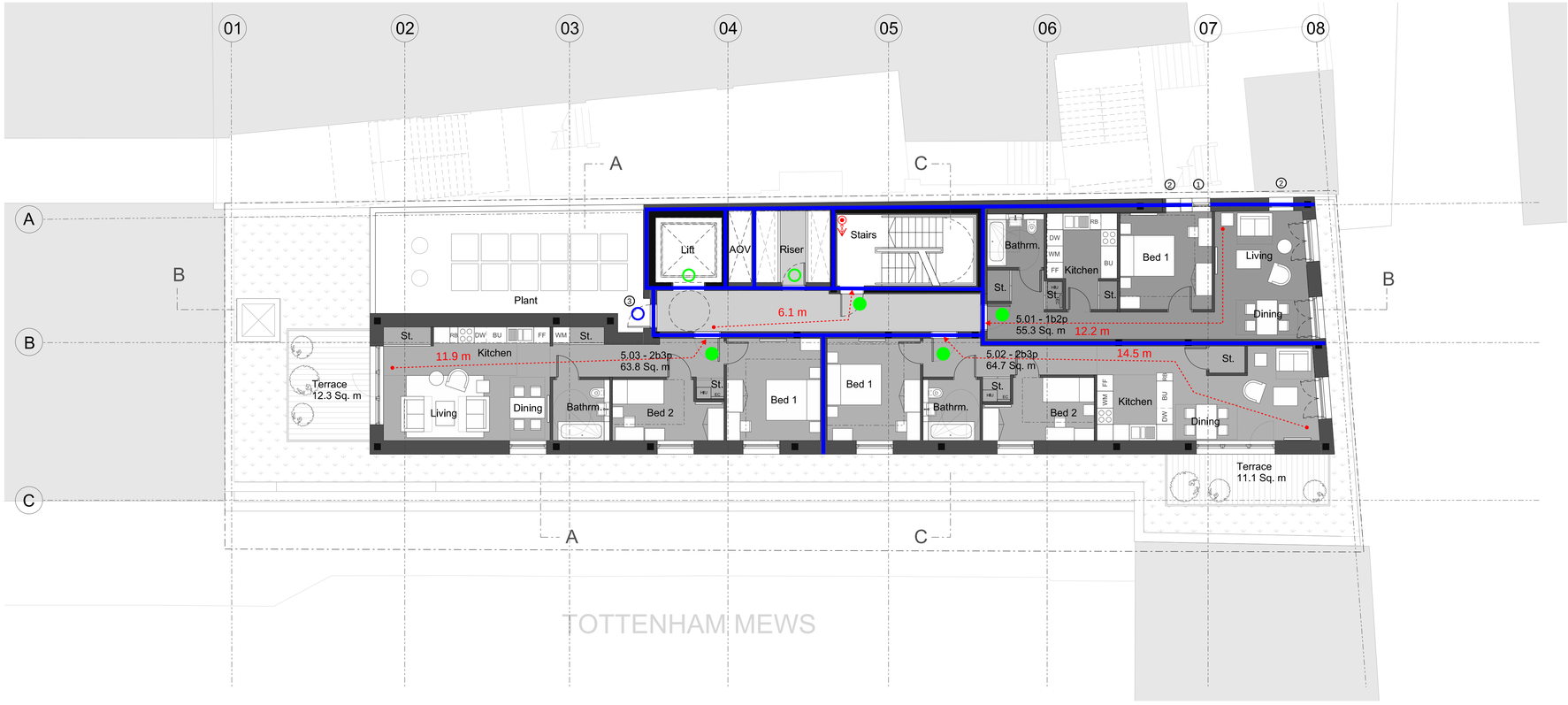
- Dry Riser Inlet Breeching Valve
- Dry Riser Landing Valve
- XX — Escape Routes (Distance in m)
- Disabled Refuge (1400x900mm)
- Natural Smoke Outlet with Break-Out Cover

1. OPENABLE WINDOW
2. 60 MINUTES FIRE RESISTING WINDOW THAT IS FIXED SHUT
3. ACTUATED DOOR TO PROVIDE NATURAL SMOKE VENTILATION FOR COMMON PROTECTED CORRIDOR




| Rev | Description | Date |
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| 1.0 | STAGE 2 DRAFT | 16.09.20 |
| 2.0 | UPDATED STAGE 2 DRAFT | 05.11.20 |


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NDY QA SYSTEM

Reason For Issue: UPDATED STAGE 2 DRAFT

Authorisation By: GS: 05.11.20

Verification Of Latest Amendment By: RS: 05.11.20



Project

14-19 Tottenham Mews

Fitzrovia, London

Title

FIRE STRATEGY DRAWING
FIFTH FLOOR

Project No. 14072.0001

Revit Version 2017

Design AG

Drawn AG

Scale 1:100 @ A1

Project Commencement March 2020

Drawing No. FS-05-001

Revision 2.0

A1V

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

When reproduced at correct scale this line measures 150mm

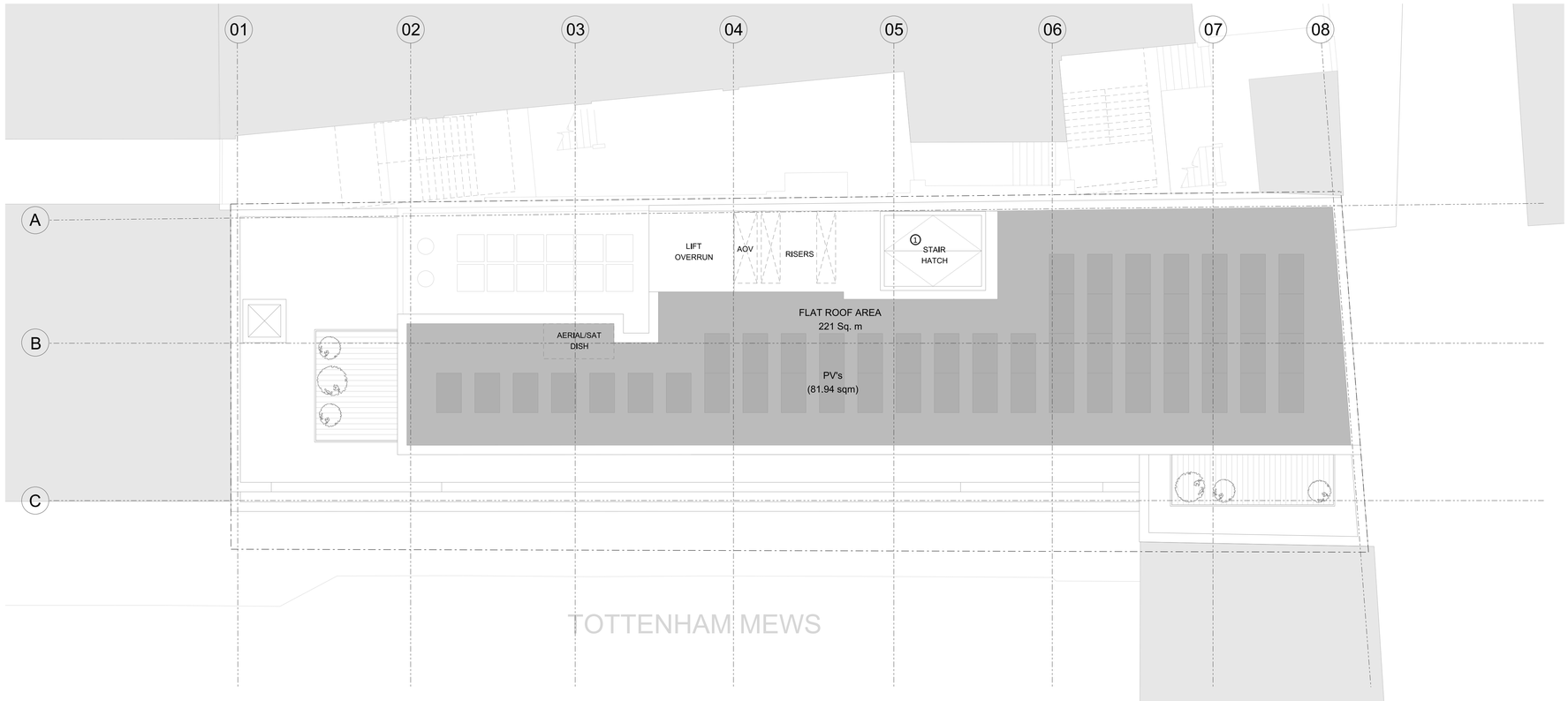
KEY: COMPARTMENTATION

- 240min Fire Rated Walls (Integrity and Insulation)
- 60min Fire Rated Walls (Integrity and Insulation)
- 60min Fire Rated Curtain (Integrity but not Insulation) with a smoke rating
- 30min Fire Rated Walls (Integrity and Insulation)

KEY: FIRE DOORS, DRY RISER, SMOKE OUTLETS & MEANS OF ESCAPE

- FD60 / FD60S - Fire Resisting Doorset
- FD30 / FD30S - Fire Resisting Doorset
- Dry Riser Inlet Breeching Valve
- Dry Riser Landing Valve
- XX — Escape Routes (Distance in m)
- Disabled Refuge (1400x900mm)
- Natural Smoke Outlet with Break-Out Cover

1. ACTUATED STAIR HATCH TO OPEN ON SMOKE DETECTION IN THE COMMON RESIDENTIAL PARTS. OPENING TO HAVE A MINIMUM FREE AREA OF 1m$^2$.




| Rev | Description | Date |
|---|---|---|
| 1.0 | STAGE 2 DRAFT | 16.09.20 |
| 2.0 | UPDATED STAGE 2 DRAFT | 05.11.20 |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NDY QA SYSTEM

Reason For Issue: UPDATED STAGE 2 DRAFT

Authorisation By: GS: 05.11.20

Verification Of Latest Amendment By: RS: 05.11.20



Project

14-19 Tottenham Mews

Fitzrovia, London

Title

FIRE STRATEGY DRAWING
ROOF LEVEL

| | |
|---|---|
| Project No. 14072.0001 | Revit Version 2017 |
| Design AG | Drawn AG |
| Scale 1:100 @ A1 | Project Commencement March 2020 |
| Drawing No. FS-RF-001 | Revision 2.0 |

A1V

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

When reproduced at correct scale this line measures 150mm

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### NDY QA SYSTEM

| | |
|---|---|
| Revision No: | 2.0 |
| Revision Date: | 5 November 2020 |
| Reason Description: | DRAFT |
| File Location: | \\tt.local\ndy\lon\w\U140xx\U14072\001\FE\24_Reports |
| Filename: | rp200914u0001 |
| Client Name: | Derwent London PLC |
| - | - |
| Project Leader: | George Sundac |
| Editor: | Archer Goodall |

Authorisation by: GS

Verification by: RS

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