# 70 Churchway, London, NW1 1LT

# Fire Strategy

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## Report Details:

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| **Date:** | 12 October 2021 |
| **Revision:** | 02 |
| **Report ref:** | 001_70churchway |

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## Document History

| Issue | Date | Amendment Details | Author | Checked |
|---|---|---|---|---|
| 01 | 19/04/21 | First Issue | RB | |
| 02 | 12/10/21 | Second issue | RB | AJ |
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**CONTENTS**

## Table of Acronyms

| | |
|---|---|
| ADB | Approved Document B |
| AFFF | Aqueous Fire Fighting Foam |
| AOV | Automatic Opening Vent |
| BS | British Standard |
| CDM | Construction, Design and Maintenance |
| CoP | Code of Practice |
| HMO | House of Multiple Occupancy |
| FRA | Fire Risk Assessment |
| PRM | Person of Reduced Mobility |
| RRO | Regulatory Reform Order (Fire) |
| UKAS | United Kingdom Accredited Services |

# 1.0 INTRODUCTION

## 1.1 Scope

EWS1 Surveyors Limited has been appointed to produce the fire strategy for the proposed fit outs at 70 Churchway, London NW1 1LT. The existing building will be demolished to construct a basement, ground floor and two storeys above ground residential units as described in section 2.

This fire strategy is a live document, findings and opinions expressed are based on the conditions encountered and the information reasonably available at the date of issue of this document and shall be applicable only to the circumstances envisaged herein. Any changes to the design during the construction phase must be captured by a change control mechanism and the fire strategy updated. On completion and occupation, the fire strategy will support the management and the responsible person in conducting their fire risk assessment (FRA), this is a legal required of the Regulatory Reform Order (Fire): 2005 (RRO).

## 1.2 Fire Safety Objectives

In the event of a fire, occupants and firefighters would be at risk. The primary objective in the event of a fire are:

- To protect life – recommendations are made to ensure occupants can, if required, leave the premises without being subjected to hazardous or untenable conditions.
- To assist the fire and emergency services in firefighting – recommendations are made to include the necessary facilities.
- Collapse of assets does not endanger any occupants.

The main focus of the various codes and standards is life safety and not the protection of assets.

## 1.3 Fire Safety Approach and Applicable Legislation, Regulations and guidance

This fire strategy adopts the following documents referenced in the subsequent sections as its basis. Residential fall under dwellings and as such Building Regulations: 2010 Approved Document B; Volume 1: 2019 Edition (ADB) is applicable and various British Standards and more notably BS 9991 for fire safety design purpose and others as listed below are used for further guidance.

- Regulatory Reform (Fire Safety) Order 2005;
- Approved Document B (Fire safety) Building Regulations 2019 edition Vol. 1 Dwellings;
- BS 9991:2015 - Code of practice for fire safety in the design, management and use of residential buildings;

- BS 5266-1:2011 - Emergency lighting. Code of practice for the emergency escape lighting of premises;
- BS5395- 1 2020 Stairs Code of Practice for the design of stairs with straight stairs and winders
- BS 5839-6:2013 - Fire detection and fire alarm systems for buildings. Code of practice for design, installation, commissioning and maintenance of systems in domestic premises;
- BS 7671:2008 - Requirements for electrical installations. IET Wiring Regulations. 17th edition (+A3:2015);
- BS 6387 – Resistance to Fire for Cables;
- BS 5306-8 - Fire extinguishing installations and equipment on premises. Selection and positioning of portable fire extinguishers. Code of practice;
- BS9990 – Non-Automatic Fire Fighting Systems in Buildings: Code of Practice;
- BS EN 1634-1 Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware. Fire resistance test for door and shutter assemblies and openable windows (+A1:2018) (Incorporating corrigendum August 2018)
- BS EN 1634 -3 Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware. Smoke control test for door and shutter assemblies (incorporating Corrigendum No. 1)
- BS EN 13823: 2020 - Reaction to fire tests for building products. Building products excluding floorings exposed to the thermal attack by a single burning item;
- BS EN 13501: 2018 - Fire classification of construction products and building elements;
- BS 476: Part 6; 1989+A1:2009 – Method of Testing for Fire Propagation of Products;
- BS476: Part 7; 1997 - Method of Testing for Determining the Classification of Surface Spread of Flame of Products;
- BS476: Part 20: 1987 – Method for Determination of the Fire Resistance of Elements of Construction;

- Construction (Design and Management) Regulations 2015 (CDM)

Projects undertaken in the UK are subject to the requirements of the Construction (Design and Management) Regulations 2015 (CDM.

This report defines the strategy for meeting the functional and performance requirements for fire safety of the construction of 70 Churchway. It is intended to form part of the submission for approval under the Building Regulations, Part B (Fire safety). Where any conclusions or recommendations contained within this report specify particular materials, products or forms of construction these will have been assessed, in accordance with CDM Regulations.

In the event that these involve significant residual risks or health and safety critical assumptions, this information will be made available to the CDM Project Manager. Where the architect or other consultants use all or part of this report to specify works, they are understood to be competent in alerting the Client, CDM Project manager, Designers, Contractors and Building Occupier of issues arising under the CDM Regulations.

## 1.4 Purpose Group

Building uses are classified within different purpose groups, which represent different levels of hazard, these are shown in ADB. A purpose group can apply to a whole building or to a compartment within the building and relate to the main use of the building. 70 Churchway will be a residential dwellings, hence purpose group 1(a) for flats is applicable. Any change in use of the premises could result in change of the purpose group (e.g. increased fire load, removal or introduction of suppression systems and process risks, change of use).

## 1.5 Design Information

The following drawings and layouts have been used as reference in preparation of this fire strategy for project 1103:

| | |
|---|---|
| Drawing No 200 | Basement Plan |
| Drawing No 201 | Ground Floor Plan |
| Drawing No 202 | First Floor Plan |
| Drawing No 203 | Second Floor Plan |

Drawing and layouts of the proposed design have been provided in the Appendix A.

## 1.6 Project Stakeholders

This fire strategy has been produced in isolation. However, it will be taken into consideration by the following parties.

- Residential Infrastructure Owner/Manager
- Construction Company
- Local Fire and Rescue Services
- Building control

# 2.0 BUILDING DESCRIPTION

This project involves the demolition of existing buildings and construction of 3 new residential flats. Proposal is to have a basement and further three floors. Residential flats will be split over four floors including the basement, all floors are served by stairs. Total height of the building from ground to roof is proposed to be less than 18m. Any residential building, which is under 11m in height, has no more than three stories above the ground level and with stairs not serving other purpose groups or a car park are defined as small single stairs building. Residential flats at 70 Churchway fall into this category.

The main entrance is from the ground floor, leads directly onto the stairs for access to flats at first and second floors. On the ground floor the proposal is for a two bedroom flat, both bedrooms are on the ground floor with the kitchen and other amenities in the basement. Two further one-bedroom flats are proposed on the first and second floors.

The flats will be constructed as purpose group 1(a) as defined in ADB: The main fire safety legislation applicable to the residential flats once constructed includes, ADB of the Building Regulations and The Regulatory Reform (Fire Safety) Order 2005.

Proposed design plans for the dwellings building are listed in section 1.6 and are presented in Appendix A.

# 3.0 FIRE SAFETY STRATEGY

## 3.1 Means of Escape

### 3.1.1 Overview

This section provides a description of the means of escape available to the residents of the building. The following assumptions and principles apply:

- The flats are designed for simultaneous evacuation in the event of fire anywhere in the building.
- All evacuees shall be able to turn their back to the fire and evacuate in a safe manner.
- Fire scenario - a single fire in one flat at any one time.
- From ground floor evacuation will be by direct exit from the main exit/entry door at front of the building. All other floors evacuation will be by the stairs, which lead to the final exit on the ground floor. Evacuation routes will be deigned such both horizontal and vertical evacuation will be within fire protected corridors and stairs.
- The escape routes will be designed and sized in accordance with ADB purpose group 1(a) and guidance from various British Standards.
- Maximum number of guests that will need to be evacuated based on 2 occupants per bedroom will be 8, 4 on ground floor and two each on first and second floors.
- No facilities for persons of reduced mobility (PRM) are shown on the proposed design, therefore assumption is that there will be no PRM that will be full time occupants of any of the flats.

### 3.1.2 Design for Evacuation

Escape routes from all floors are to be in accordance with Building Regulations Approved Document B: 2019 Edition. All escape routes will be designed to meet the requirements of purpose group 1(a) and for small single stairs building.

The general philosophy for means of escape is that the occupants of the flats should be able to turn their back on a fire and escape via the nearest storey or final exit without additional assistance from other occupants or fire fighters. This will be achieved by limiting the travel distances from each flat through sufficient exit width and protected escape routes which will have specified periods of fire resistance with respect to integrity and where required also insulation.

The residential flats as described in section 2 and the proposed plans in appendix A will be constructed on 4 levels including the basement.

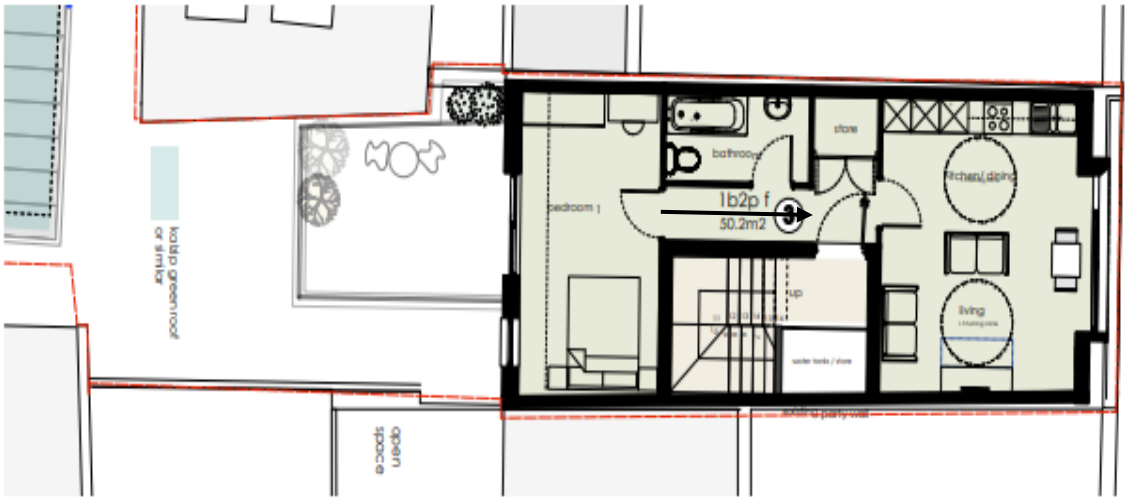
The basement and first floor are designed with provision of escape from any rooms on these floors with one way exit to a storey exit or direct exit to the outside respectively. First and second floors will be evacuated by storey exit from each floor.
Storey exit will lead to the ultimate place of safety via the protected staircase and directly to the outside from the front external entrance.

### 3.1.2.1 Horizontal Escape

Escape from ground floor will be directly to the final exits, which is the front external entrance to the building. Requirements is that all habitable rooms (excluding kitchens) shall have an opening directly onto a hall leading to a final exit.
Proposed plans show access from ground floor directly into passageway, which leads directly to the final exit, therefore this requirement will be met.

Escape from first and second floor are via a single common stairs, the requirement is to restrict travel distance from habitable rooms to protected stairs to 7.5m or less, proposed design shows that furthest habitable rooms on each floor from protected stairs will be less than 7.5m, see diagram 1. The protected stairway will need to be fire rated to REI30 (30 minutes fire integrity, insulation and structure). Therefore, provided its built to design this requirement will be satisfied.

**Diagram 1 – Horizontal Escape to Flat Entrance**




→ Escape route from furthest habitable rooms to protected stairs on first and second floors.

Basement – There is provision of a protected stairway, fire rated as REI30 leading from basement to final exit will be required. Provision of this protected stairs to final exit is shown in appendix A (basement layout). There are no sleeping facilities in the basement and all occupants will be alert in the event of evacuation. Travel distance from furthest habitable room to exit from basement needs to be the same as for first and second floors as described above.

Horizontal means of escape from all levels except the ground floor will be achieved once evacuees have reached the single common protected stairs. All doors leading from the flat onto the protected stairs will need to be fire doors rated at E30 Sa (30

minutes fire integrity and smoke containment to BE EN 1634-1), this is to ensure that the single common stairs remain tenable in the event of fire in any flat.

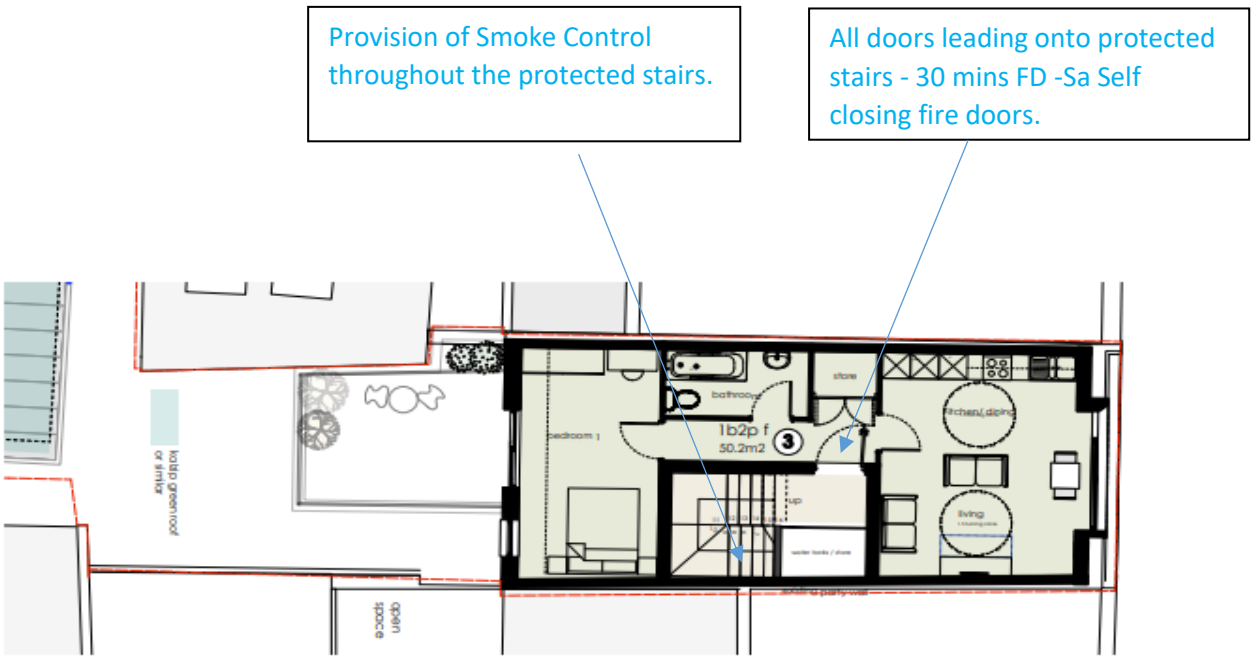
Assumption is that the common single stairs will also be used by the fire and rescue service and shall be at least 1100mm wide designed to BS 5395-1. The width is the clear width between the walls or balustrades. Any handrails and strings intruding into that width by a maximum of 100mm on each side may be ignored.

Proposed design shows that all habitable rooms lead to a single common protected Stairs. Evacuees will be able to travel from any room to the storey exit which will be within the restricted travel distance; storey exits lead to protected stairs and onto the final exit. Escape routes (stairs) will be adequately fire protected by REI30 structure when tested in accordance with BS476: Part 20; Fire tests on building materials and structures, Method for determination of the fire resistance of elements of construction.

All doors leading into the fire protected stairs will need to be fitted with self-closing mechanism and be Classified as E 30 Sa, this is 30 minutes integrity and Insulation with additional requirement for smoke penetration to BS EN 1634-3.
Provision of smoke control in the stairs will be by 30 minutes fire and smoke Containment 30 minutes of fire and smoke containment and natural smoke ventilation provision by having suitable and sufficient automatic opening vents (AOV) at the head of each stairway and in-take air at low level, making the protected routes tenable for the duration.

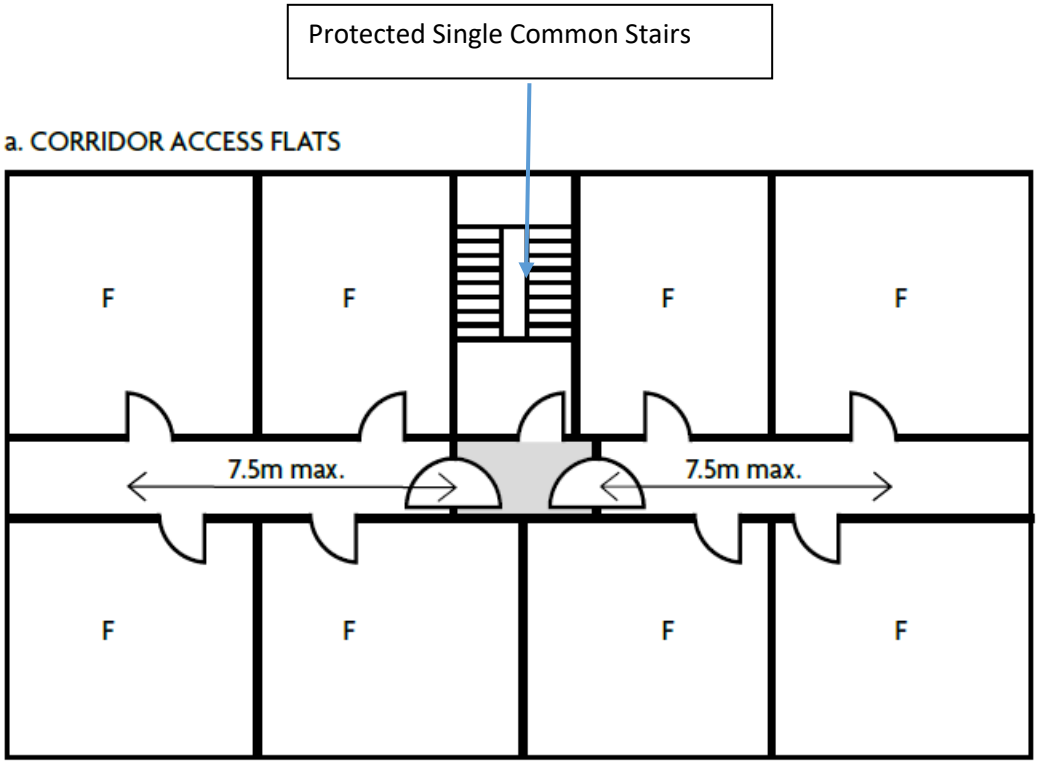
Any cavities above the fire enclosure partitions that do not extend to the soffit or the structural floor provisions of cavity barriers shall be made, see section 3.4.3.4 for further details for cavity barriers.

**Diagram 2 - Provisions to Control Spread of Fire and Smoke**



### 3.1.2.2 Vertical Escape

Provision will need to be made for protected stairs fire rated to REI30 from basement to final exit, which is the main entrance to the residential building. Proposed design shows that there is provision of protected single common stairs (SCS) from the first and second floors. All flats served by this SCS will be separated from the SCS by fire resistance of REI30 where travel distance from habitable rooms to the SCS will not exceed 7.5m, also see Plan 1 for typical layout and access from protected corridor to SCS. Both of these requirements will need to be satisfied.




Horizontal escape from every habitable room in the flat, noting that there are no inner rooms leading into a corridor from where the escapees have access to protected SCS to enable vertical escape to the final exit. Once storey exit (protected stairs lobby) has been reached this is assumed to be place of relative safety from which evacuees will evacuate from the final exit to the outside. As the Protected SCS will also be used by fire and rescue services they will need to be minimum of 1.1m wide. There is no requirement for provision of lift in the building.

There are no provisions for PRM shown on the proposed design, therefore assumption is that should there be PRM's in the building they will be assisted by able bodied persons and escape via same means as provided for able bodied person.

### 3.1.2.3 Evacuation Analysis

The proposed design drawings (Appendix A) showing layout of the residential flats have been used in the analysis of the evacuation routes and measuring the lengths and width

of protected corridors and stairs. Provisions will be made to prevent fire spread and smoke entering the protected SCS are shown in drawings diagram 2 along with provisions required to protect these routes. Sections 3.1.2.1 and 3.1.2.2 describe horizontal and vertical escape routes and guidance from ADB for required travel distances and widths of escape routes. Escape from all floors except the ground is via protected stairs, which lead directly to the final exit and out onto the street, which is place of ultimate safety.

## 3.2 Means of Detection and Alarm

### 3.2.1 Detection and Alarm System

Fire detection and fire alarm systems are usually installed in premises to protect life and the level of protection afforded to occupants needs to be related to the fire risk.

The building once constructed will have three separate flats on different levels. Therefore, the requirements of BS9991 need to be met -extract below

A fire alarm and detection system designed and installed in accordance with BS 5839-6 should be provided in all dwellings in order to warn occupants of fire within the dwelling, to provide them with time to evacuate the premises and to call the fire and rescue service.
*NOTE 1 BS 5839-6 does not apply to the communal parts of purpose-built sheltered housing and blocks of flats or maisonettes. With the exception of dwellings such as sheltered housing or extra care housing, it is not necessary to install fire detection and alarm systems in communal areas. The level of compartmentation that exists within most dwellings is generally considered to provide an adequate level of fire protection that only the evacuation of the compartment of origin of a fire is required.*

## 3.3 Fire Suppression

### 3.3.1 Automatic Fire Suppression

There is no requirement for fixed suppression systems for this residential building as it is not considered as necessary for life safety purposes.

### 3.3.2 Portable Extinguishers

The provision of portable extinguishers is not a requirement but is optional to supply as per room type in table 1 below.

There are various classifications of fires outlined within BS 5306-8. The type of extinguisher selected based on the fuel source anticipated within a room or space and is presented in Table 1. Typical fire load within residential flats are class A, B or electrical and recommendation is to install carbon dioxide and/or AFFF foam extinguishers.

**Table 1: Fire Classification**

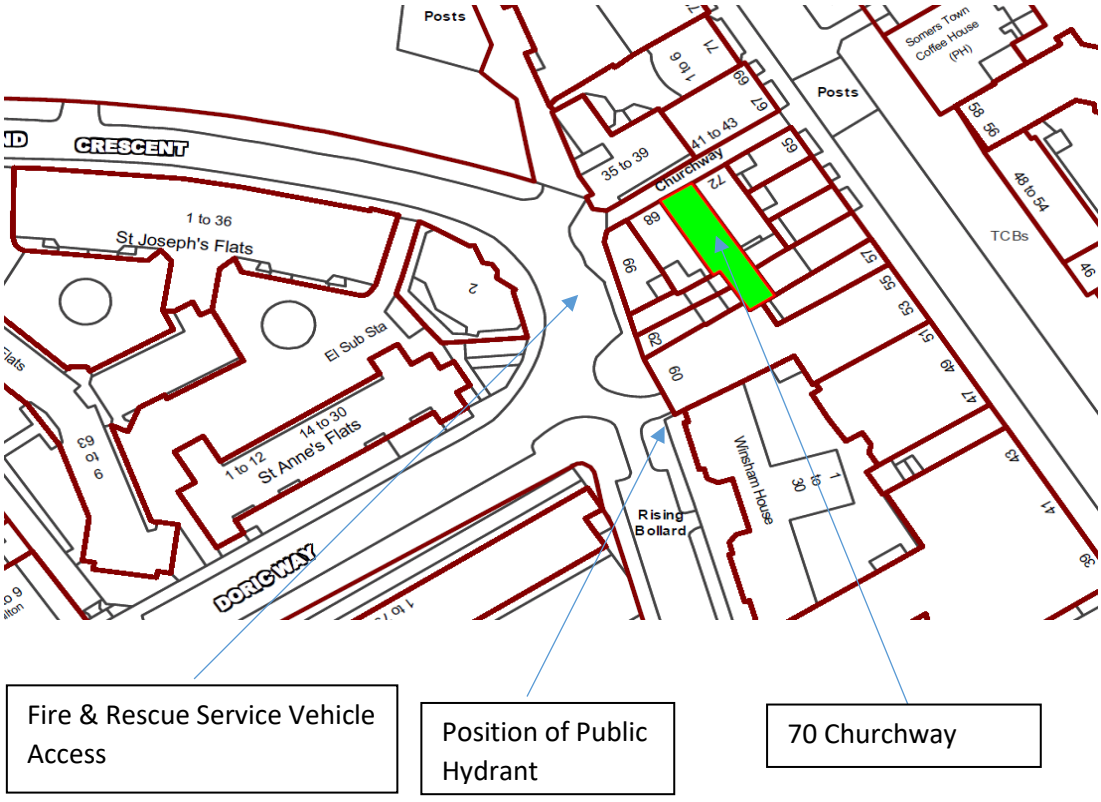
| Room Type | Room Includes | Class of Fire | Extinguisher Type Recommended |
|---|---|---|---|
| Kitchen | Cooking facilities including oil pans | Fat & Cooking oils, class A or electrical | CO2/Foam and Fire Blanket |
| Other areas | Furniture | Class A or Electrical | CO2 and Foam |

### 3.3.3 Fire Mains and Hydrants

The building is not required to have a firefighting shaft or dry fire mains and is not designed to have a firefighting shaft or dry fire mains.

There is a public fire hydrant to 70 Churchway is in front of 60 Churchway, this hydrant is approximately 50m from 70 Churchway as shown in diagram 3 below. Assumption is that there will be no compartment within the building which will be more than 280m$^2$, therefore there is no requirement for additional private hydrants.

**Diagram 3 – Location of Residential Building and the Public Fire Hydrant**




Fire & Rescue Service Vehicle Access

Position of Public Hydrant

70 Churchway

### 3.3.4 Smoke Control

The primary means of smoke control will be by compartmentation to contain the fire and smoke within the room of origin. No dedicated smoke extraction system is considered necessary.

Natural smoke ventilation will need to be provided by having suitable and sufficient automatic opening vents (AOV) at the head of the stairway and in-take air at low level. The opening vents shall be powered with two independent power supplies, in the event of a failure of the mains power supply a secondary backup will be source of power. Requirements is to have a combined clear cross-sectional area of all smoke outlets to be a minimum of 1/40 of the area of the floor they serve.

The basement is not to be vented via the stairs and provision is made for smoke outlets, or smoke vents, which allow heat and smoke to escape from the basement levels to the open air as shown in sketch below. They can also be used by the fire and rescue service to let cooler air into the basements.

A basement storey or compartment containing rooms with fire doors or windows does not need smoke outlets. In the basement flat there are patio doors to fresh air.

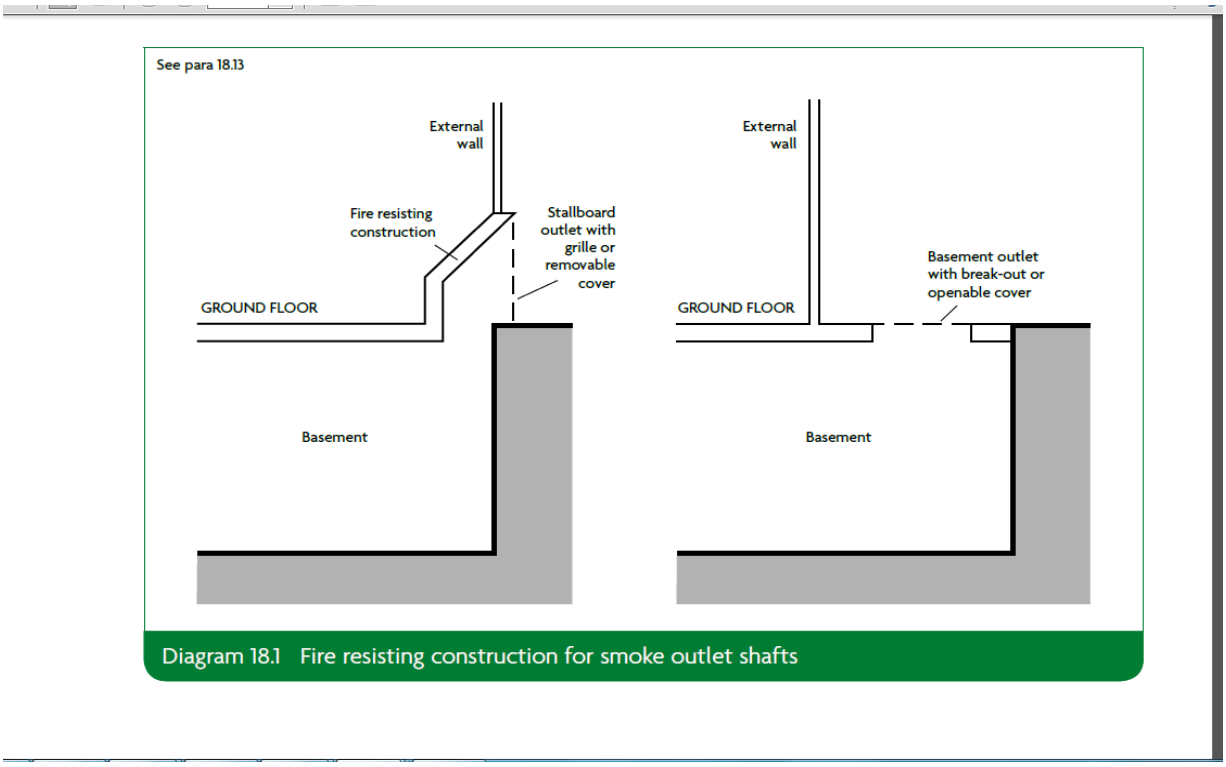



Diagram 18.1 Fire resisting construction for smoke outlet shafts

### 3.3.5 Emergency Lighting, Signage and Power

Emergency lighting should be in accordance with BS 5266: Part 1: 2005. Provision shall be made to provide adequate illumination system for evacuation with two independent power supplies, in the event of a failure of the mains power supply a secondary backup will be source of power.

Emergency routes and exits shall be clearly indicated by the appropriate signage. Signage should be in accordance with BS 5499 Part 1: 2002, BS 5499 Part 4: 2002, and BS ISO 3864-1: 2011.

## 3.4 Internal Fire Spread

### 3.4.1 Materials of Construction

The choice of materials in the construction of the residential building especially in areas of protected escape routes shall be such as to keep the fire load and the smoke and toxic gas generation in the event of the fire as low as reasonably practicable. Cables for critical equipment such as fire safety systems shall be fire resistance cables to BS6387: Resistance to Fire of Cables, Category CWZ or equivalent.

### 3.4.2 Linings

Schedule 1 of the Building Regulations requires the following functional requirements to be met in respect of, Internal fire spread (linings):

*(1) To inhibit the spread of fire within the building the internal linings shall-*

*(a) adequately resist the spread of flame over their surfaces; and*

*(b) have, if ignited, a rate of heat release which is reasonable in the circumstances.*

*(2) In this paragraph 'internal linings' means the materials lining any partition, wall, ceiling or other internal structure.*

To demonstrate that linings fulfil 1 (a) and (b) above, linings of the walls and ceilings will need to satisfy requirements set out in table 2 below. To show that the linings satisfy requirements set out in table 2 it will need to be demonstrated by test results/certificates when testing is done by UKAS accredited test house. Nationally the tests for lining will be in accordance with BS476: parts 6 and 7, Fire Propagation and Surface Spread of Flame respectively. European testing will be in accordance with BS EN 13823: Reaction to Fire Testing for Buildings and classification as per BS EN 13501-1.

**Table 2: Fire Spread and Fire Propagation Classification**

| Location | National Class* | European Class# |
|---|---|---|
| Small Rooms of area <30m² | 3 | D-s3,d2 |
| Other circulation spaces (including common areas of multiple flats, lobbies etc.) | 0 | B-s3,d2 |

Note: * = National Classifications are based on tests in BS 476 Parts 6 and 7.
# = The European classifications are described in BS EN 13501-1:2000.

### 3.4.3 Structures

Structural fire protection will be two-fold, internal fire compartmentation and load bearing structures. Level of structural fire protection is based on the height and depth of basement. The total height of the residential building is proposed to be less than 18m and the basement to this building not more than 10m deep. See table 3 for load bearing requirements.

### 3.4.3.1 Internal Compartmentation

To inhibit the spread of fire within the flats and to prevent fire and smoke onto the protected escape routes, including protected SCS all internal elements connecting the protected corridors and shafts, e.g. rooms and stairs respectively will need to form complete fire barrier between the rooms and corridors and between compartments connected/adjacent to the protected stairs shaft. The level of fire resistance required for internal partitions will need to be 30 minutes for load bearing partitions and 30 minutes fire integrity and fire insulation, REI30, (also see table 3). Where compartment walls interface with roof the underside shall be fire stopped to maintain continuity of fire resistance.

Services that penetrate a fire barrier such as pipes, cables, ducts etc will need to be fire stopped to the same level as the fire barrier itself using propriety sealing system. All propriety fire stopping systems shall be ones which have been designed, tested and certified to the appropriate standards and installed by independent accredited installer of fire stopping systems.

### 3.4.3.2 Doors

All doors onto the protected corridors, dividing the corridors or to the protected stair shaft will need to be fire doors with 30 minutes fire integrity only with additional classification of Sa to restrict smoke leakage. In addition, all doors will need to be fitted with self-closing mechanism.

### 3.4.3.3 Load Bearing Structure

The residential building will need to be designed and constructed so that, in the event of fire, its stability will be maintained for a reasonable period. A wall common to two or more buildings shall be designed and constructed so that it adequately resists the spread of fire between those two buildings. For this residential building taking into consideration of the height and depth all load bearing structure will need to withstand fire for 60 minutes (also see table 3).

### 3.4.3.4 Cavity Barriers

Within cavities there is a likelihood of unseen spread of fire and smoke. All cavities within the building, vertical or horizontal will need to be installed with cavity barriers. Cavities barriers will need to be provided at top and bottom of vertical cavities and around any openings such as windows. Horizontal cavities will be between floor and ceilings, these cavities will need barriers at 20m apart if the cavity barrier material is classified as C-s3-d2 or better when classified in accordance with EN 13501 otherwise barriers shall be at 10m distances. Cavity barriers shall be of 30 minutes fire integrity (E30) and 15 minutes fire insulation (I15). For clarification Figure 1 below has been reproduced from ADB.

**Figure 2 – Cavity Barriers**

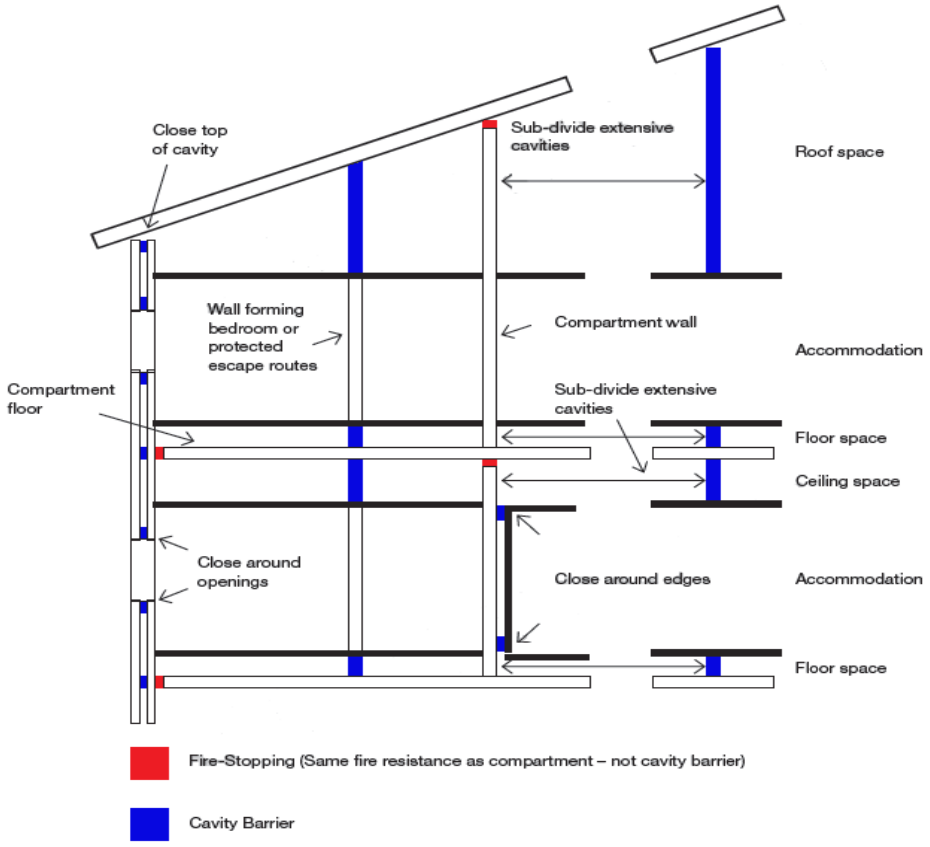



**Table 3 – Fire Resistance of Elements**

| Element of Structure | EU Standards | BS - Load Bearing | BS - Integrity | BS - Insulation |
|---|---|---|---|---|
| Protected Stairways | REI 30[2] | 30[1] | 30[1] | 30[1] |
| Protected Lobby | REI 30[2] | 30[1] | 30[1] | 30[1] |
| Protected Corridor | REI 30[2] | 30[1] | 30[1] | 30[1] |
| Fire Resisting Subdivisions, walls etc. | REI 30[2] | 30[1] | 30[1] | 30[1] |
| Doors | E30 $S_a$[3] | Not Applicable | FD 30 S[3] | Not Applicable |
| Cavity Barriers | E30[2] and I15[2] | Not Applicable | 30[1] | 15[1] |
| Ducts | E30[2] | Not Applicable | 30[1] | Not Applicable |
| External Envelope | E60 | | 60 | |

Notes:
The national classifications do not automatically equate with the alternative classifications in the European column; therefore, products cannot typically assume a European class unless they have been tested accordingly

1. BS 476-20 for general principles, BS 476-21 for loadbearing elements, BS 476-22 for non-loadbearing elements, BS 476-23 for fire-protecting suspended ceilings and BS 476-24 for ventilation ducts.
2. In the European classification: 'R' is the resistance to fire in terms of loadbearing capacity. 'E' is the resistance to fire in terms of integrity. 'I' is the resistance to fire in terms of insulation.
3. Meet the additional Sa classification when tested to BS EN 1634-3.

## 3.5 External Fire Spread

Schedule 1 of the Building Regulations requires the following functional requirements to be met in respect of external fire spread.

*1) The external walls of the building shall adequately resist the spread of fire over the walls and from one building to another, having regard to the height, use and position of the building.*

*2) The roof of the building shall adequately resist the spread of fire over the roof and from one building to another, having regard to the use and position of the building*

To demonstrate requirement 1 above the external envelope of this building considering height from the ground floor to the top level and depth of basement from ground level the structure will need to constructed from minimum of 60 minutes fire resistance materials (also see table 3). Any external cladding to the building in relation to buildings of any height or use, consideration should be given to the choice of materials (including their extent and arrangement) used for the external wall, or attachments to the wall, to reduce the risk of fire spread over the external wall.

With due regards to this building construction there will be opening (windows and doors). Should there be a fire within the residential building radiated heat will fall onto neighbouring building from window openings and other unprotected areas. To prevent fire to neighbouring building from radiated heat further assessment will be required at later date once details of size of openings on each side and boundary distance to the neighbouring buildings is available.
.
To demonstrate requirement 2 above prevention of fire spread from roof to neighbouring building there shall be minimum of 1500mm wide zone of roof on either side that will need to have covering of material classified as $B_{ROOF}(t4)$ on top of the substrate. The substrate will need to be classified minimum A2-s3-d2. These classifications are in accordance with EN 13501. Alternative means of providing prevention of fire spread on roof can be achieved by extending the through roof to 375mm above the roof level.

# 4.0 ACCESS AND FACILITIES FOR THE FIRE SERVICE

Schedule 1 of the Building Regulations requires the following functional requirement to be met in respect of B5, Access and facilities for the fire service:

> *(1) The building shall be designed and constructed so as to provide reasonable facilities to assist fire fighters in the protection of life.*
>
> *(2) Reasonable provisions shall be made within the site of the building to enable fire appliances to gain access to the building.*

To satisfy requirement 1 above provisions will be made to ensure suitable and sufficient access for fire and rescue services externally and firefighting facilities within the building.

## 4.1 External Vehicle Access

The minimum access road requirements for the vehicle access route is summarised below. Furthermore, fire and rescue service vehicles should not have to reverse more than 20m from the end of an access road. If a dead-end route is more than 20m long, turning facilities should be provided. Table 4 below describes the requirements for fire and rescue service vehicle access routes, referenced from BS 9999:2017.

**Table 4: Access Requirements**

| Access | High reach appliance | Pumping appliance only |
|---|---|---|
| Minimum width of road between kerbs | 3.7m | 3.7m |
| Minimum width of gateways etc | 3.1m | 3.1m |
| Minimum clearance height | 4.0m | 3.7m |
| Minimum turning circle between kerbs | 26.0m | 16.8m |
| Minimum turning circle between walls | 29.0m | 19.2m |
| Minimum clearance height | 4m | 3.7m |

Plan of location of 70 Churchway is shown below in diagram 3. As can be seen from the marked up plan access for fire and rescue services vehicle is from Churchway and Doric Way. This will satisfy the requirements of table 4, therefore there is no need for any other arrangements for fire and rescue services vehicles access. However, this will need to be agreed with London Fire Brigade (LFB).

### 4.2 Internal Access and Facilities to Firefight

Internally there is provision of fire protected stairs and corridors, protection is by fire compartmentation of minimum of 30 minutes (also see section 3.1). The building is less than 18m high and basement is less than 10m deep, therefore no firefighting shaft is required. Provision for firefighting is described in section 3.3.3.

For full coverage of to all points within the residential building provision of dry main outlet when measured along a route suitable for laying hose shall be maximum of 45m. As required by ADB the dry riser outlets will need to be in the staircase.

# 5.0 FIRE SAFETY MANAGEMENT

## 5.1 General

This fire strategy will need to be fully integrated into the emergency planning procedures.
Management procedures and evacuation plans will need to be developed by the management and implemented for the following:

• Acknowledging a fire alarm;

• Contacting the fire brigade;

• Controlling the fuel load within the escape routes, void spaces and other areas of controlled fire load (housekeeping).

The primary focus of this fire strategy is for life safety for all residents and their visiting guests and safe means of fire intervention by the fire and rescue services.
It is believed that the strategy outlined in the previous sections together with an effective maintenance of all fire safety equipment and a fire risk assessment developed from this strategy will provide a template for effective fire management of the residential flats.

## 5.2 Maintenance

All fire safety systems in this building are to be routinely checked, serviced and tested as required by the relevant British and European Standards. This includes all passive and active fire systems referred to in this report, namely the following:

• Fire detection and alarm system

• Emergency lighting and signage

• Fire resisting construction (walls, floors and doors)

• Portable fire extinguishers

• Emergency power supplies

Further to the above, suitable management procedures by the management will be required to ensure that any changes that affect the fire safety features of the premises are properly recorded and agreed with authorities.
All the fire systems are designed, so far as is reasonably practicable, such that the maintenance can be managed effectively by an accredited and competent maintainer, without reliance on the installer or manufacturer of the system.

## 5.3 Regulatory Reform (Fire Safety) Order (RRO) responsibilities and ongoing FRA

The Regulatory Reform (Fire Safety) Order 2005 places a general duty of fire safety care on employers, occupiers and owners of almost all premises and requires them to take such fire precautions as may be reasonably required to ensure that premises are safe for the occupants and those in the immediate vicinity.

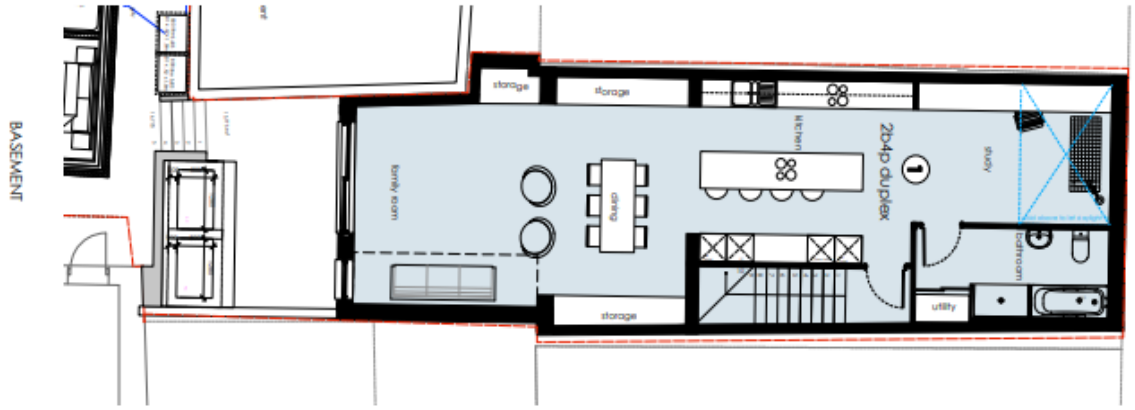
The responsible person has a duty to carry out a fire risk assessment which must focus on the safety in case of fire of all 'relevant persons'. The risk assessment should pay particular attention to those at special risk, such as the disabled and those with special needs, and must include consideration of any dangerous substance likely to be on the premises.

A fire risk assessment process should identify risks that can be removed or reduced and assist with the decision-making process regarding the nature and extent of the general fire precautions to protect people against the fire risks that may exist. The significant findings of the fire risk assessment must be presented to the Fire and Rescue Authority where requested, to demonstrate compliance with the requirements of the fire safety order.

This fire strategy document forms the first stage of the fire risk assessment process and details the key fire safety design objectives and provisions within the residential building. This strategy forms part of the Fire Safety Information, as required by the RRO, and should be handed to the Responsible Person as required by Regulation 38 of ADB in fulfilling their duty to conduct a suitable and sufficient fire risk assessment.

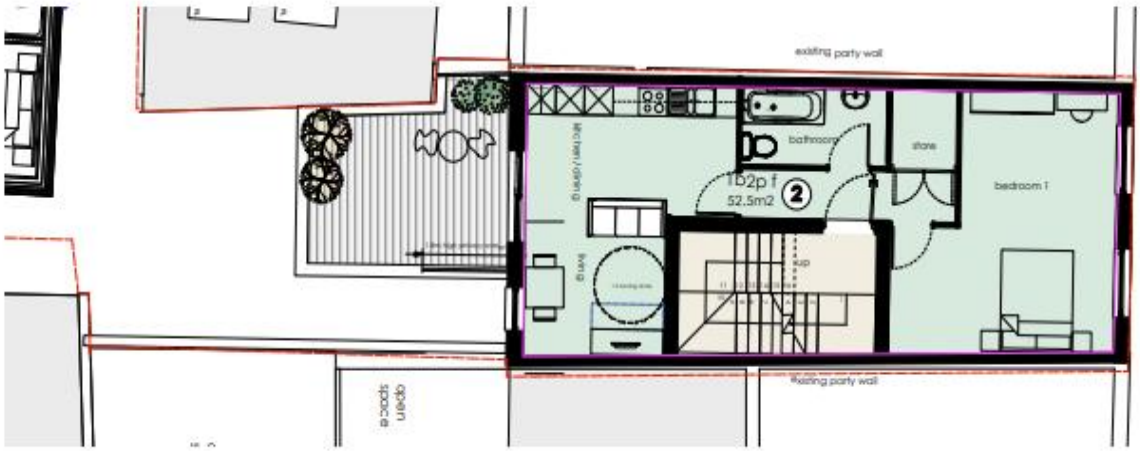
# APPENDIX A – PROPOSED DRAWINGS

## Basement Layout




## Ground Floor Layout

## First Floor Layout




## Second Floor Layout