Planning Fire Safety Strategy - Demonstrating compliance with Policy D12

Planning Application No.	T.B.A.
Project Address	115 Rydal Drive, DA7 5EG
Date	2nd JANUARY 2024
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Competency Statement

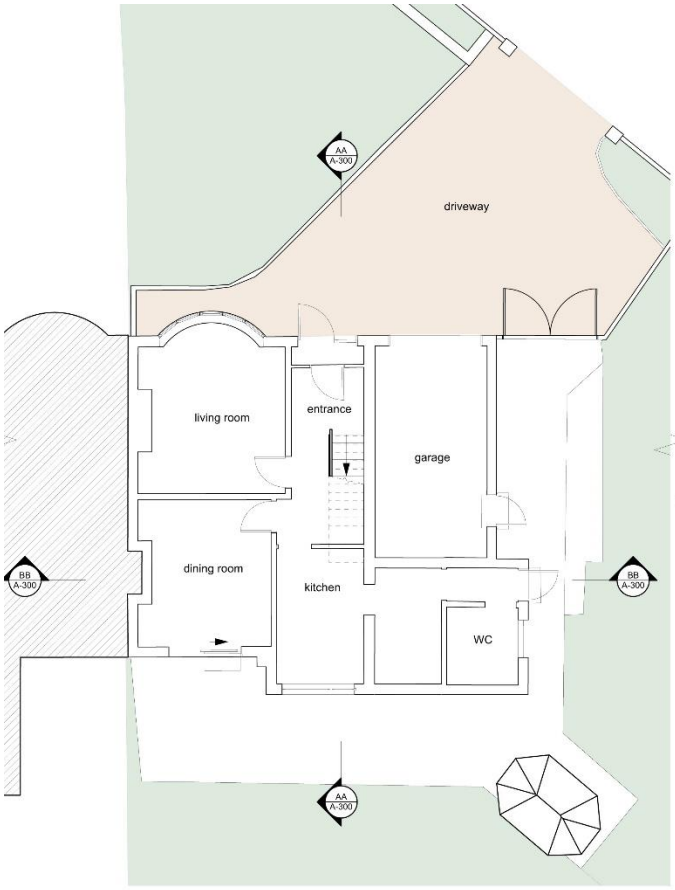
Paragraph 2.4.1 of Policy D12(A) states that a Planning Fire Safety Strategy (PFSS) should be produced by a person that has a suitable fire safety background with the appropriate knowledge, understanding and qualifications commensurate with the size, scope and complexity of the proposed development. This PFSS has been prepared and written by Mark Aiston, Managing Director of AFC Fire & Security Ltd, who has 8 years' experience of conducting fire risk assessments on more than 3000 residential and commercial properties, including high rise blocks (HRB's in excess of 18m), low rise blocks (up to 18m), flats (converted and purpose built), specialized housing, and a wide variety of commercial buildings. Mr Aiston has Member grade membership of the Institute of Fire Safety Managers, is a member of the Institute of Fire Engineers, a qualified Fire Risk Assessor, and a certified fire door inspector.

Building Description

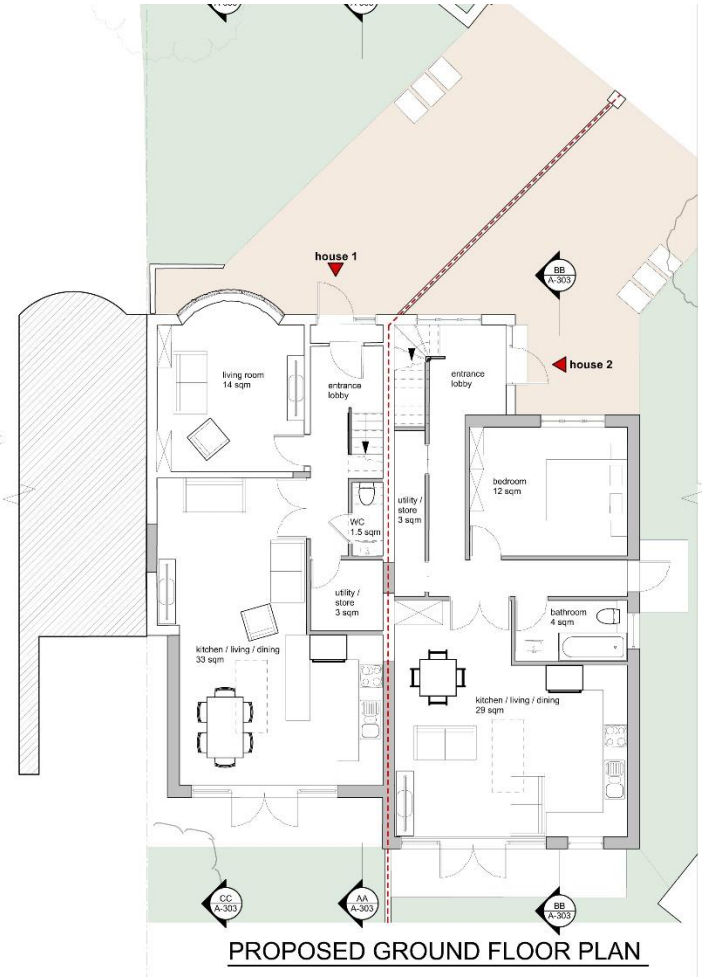
The planning application that this PFSS relates to is for the proposed conversion of an existing 3 storey, semi detached, 1930's residential single-family dwelling into 2 separate single-family dwellings – see plans below in figures 1a, 1b, 1c & 1d. These proposed dwellings will be a 3b6p house arranged over 3 floors (House 1), and a 2b4p house arranged over 2 floors (House 2). The proposal allows for 1 parking space per house – with additional on-street parking available in Rydal Drive & Heversham Road. Access to the main entrances for the 2 dwellings is provided via separate driveways at street level to the front of the properties. There is no access from the rear of the properties. The plans allow for the conversion of the existing ground floor, 1st floor, and loft space, plus the erection of additional part-one and part-two storey side and rear extensions. The plans propose a separate entrance door to each of the 2 houses, with a single (non-communal) stairway providing access to the upper floors within each house.

This buildings within this proposed development are classified as purpose group 1(b) in accordance with Table 0.1 within ADB1 Dwellings 2019 edition including 2020 amendments and ADB amendment booklet June 2022.

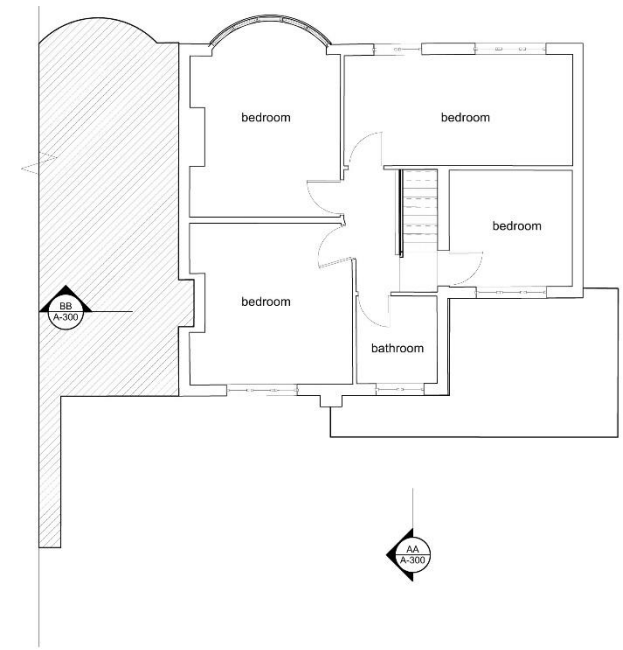
Fig.1a – Existing & Proposed Ground & 1st Floor Plans



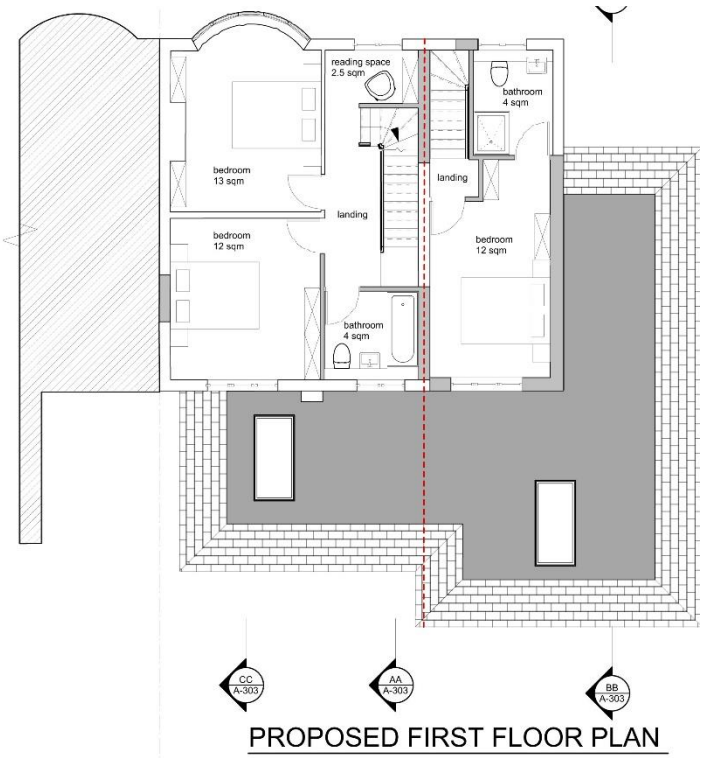
EXISTING GROUND FLOOR



PROPOSED GROUND FLOOR PLAN

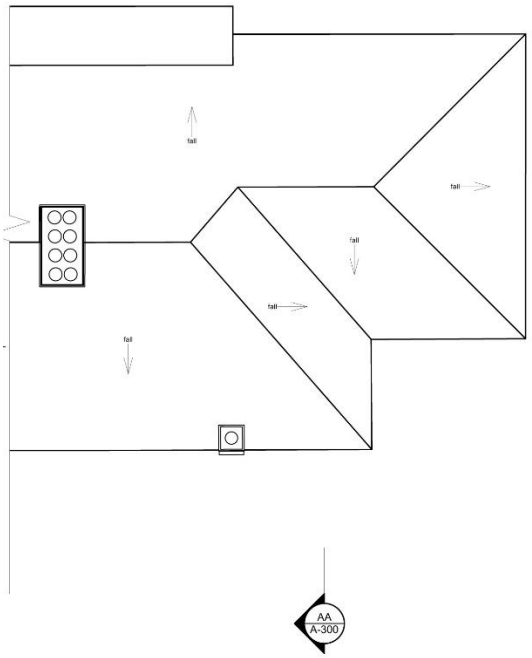


EXISTING FIRST FLOOR

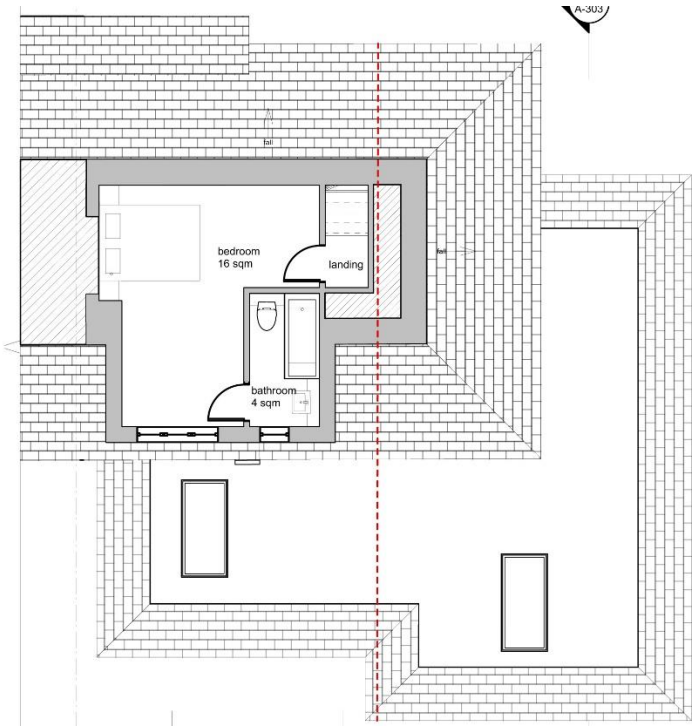


PROPOSED FIRST FLOOR PLAN

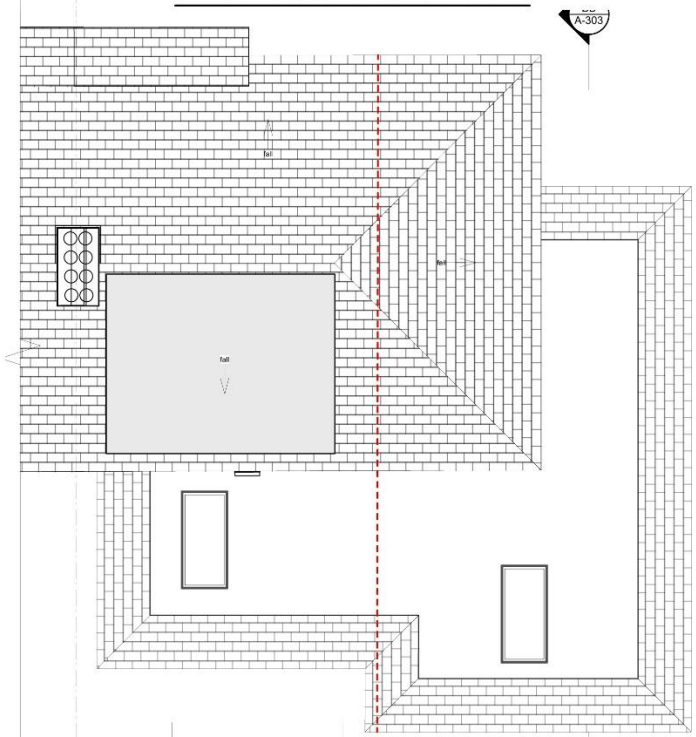
Fig.1b – Existing & Proposed 2nd Floor & Loft Plans



EXISTING ROOF PLAN



PROPOSED LOFT PLAN



PROPOSED ROOF PLAN

Fig.1c – Existing & Proposed Elevations

EXISTING NORTH ELEVATION

EXISTING EAST ELEVATION

EXISTING SOUTH ELEVATION

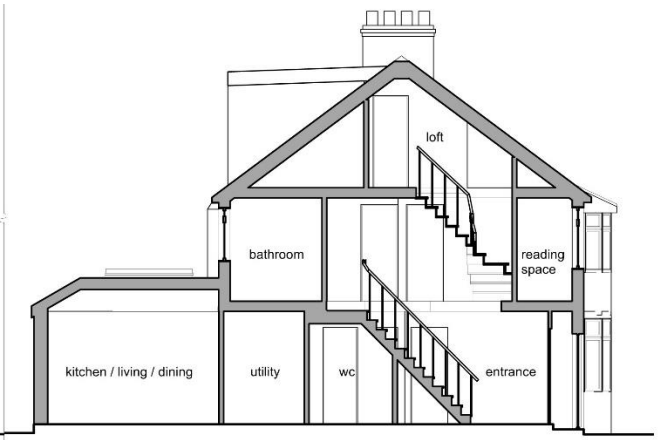
PROPOSED NORTH ELEVATION

PROPOSED EAST ELEVATION

PROPOSED SOUTH ELEVATION

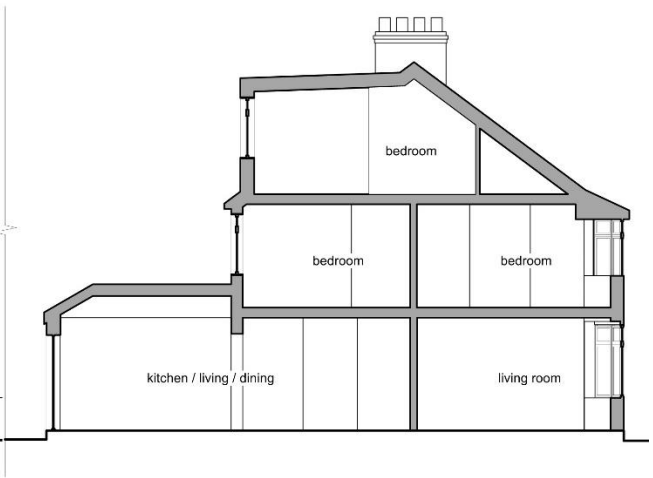
Fig.1d – Existing & Proposed Sections

EXISTING SECTION A-A

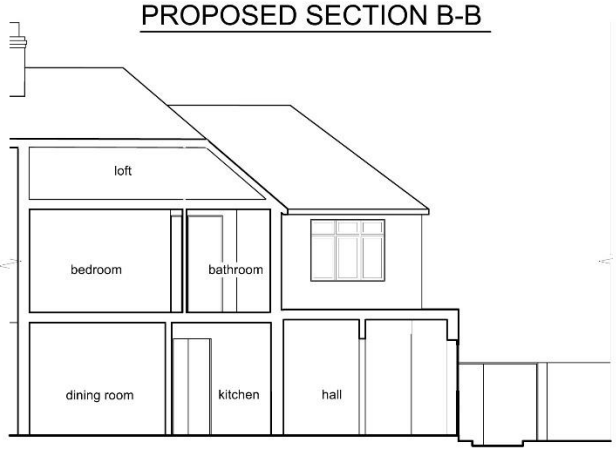


PROPOSED SECTION A-A

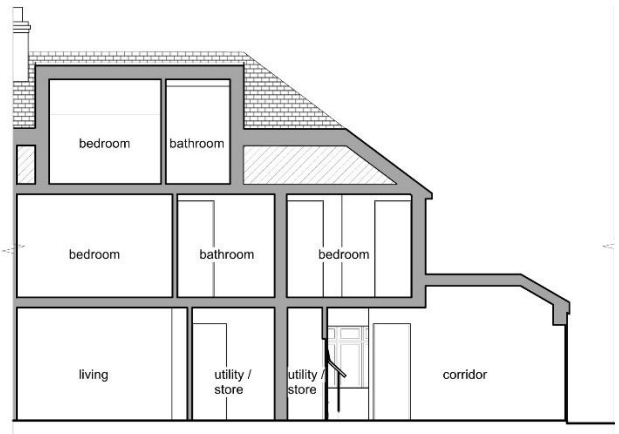
PROPOSED SECTION B-B



PROPOSED SECTION C-C



EXISTING SECTION B-B



PROPOSED SECTION D-D

The fire strategy advice in this document was developed based on the drawings and information provided by Lawrence Tang, of Spheron Architects, Unit 5C, 26-32 Voltaire Road, London SW4 6DH

Fire strategy objectives

In accordance with section D12 of The London Plan 2021, all major development proposals should be submitted with a Planning Fire Safety Strategy statement, which is an independent fire strategy, produced by a third party, suitably qualified, assessor.

The statement should detail how the development proposal will function in terms of:

1) the building's construction methods: products and materials used, including manufacturers' details
2) the means of escape for all building users: suitably designed stair cores, escape for building users who are disabled or require level access, and associated evacuation strategy approach
3) features which reduce the risk to life: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans
4) access for fire service personnel and equipment: how this will be achieved in an evacuation situation, water supplies, provision and positioning of equipment, firefighting lifts, stairs and lobbies, any fire suppression and smoke ventilation systems proposed, and the ongoing maintenance and monitoring of these
5) how provision will be made within the curtilage of the site to enable fire appliances to gain access to the building
6) ensuring that any potential future modifications to the building will take into account and not compromise the base build fire safety/protection measures.

The objectives of the fire strategy are to satisfy the requirements of the London Plan Policy D12 for this planning application. Ultimately, the design will meet the functional requirements of Parts B1-B5 of the Building Regulations 2010 (ADB1 Dwellings 2019 edition including the 2020 amendments and ADB amendment booklet June 2022). This is concerned with life safety of the occupants and facilitating adequate fire service access. The fire strategy considers single accidental fires of those associated and most likely to occur in a residential building. The main principles of the fire strategy are to demonstrate that building occupants can escape into a place of relative safety and evacuate the building to an ultimate place of safety. It also demonstrates that there are reasonable facilities provided to ensure that the fire service can access and commence firefighting operations in the event of a fire incident.

Guidance documents used

BS 9991:2015 - Fire safety in the design, management and use of residential buildings – Code of practice
ADB1 Dwellings 2019 edition including 2020 amendments and ADB amendment booklet June 2022
BS 5266-1:2016 - Emergency Lighting - Code of practice for the emergency lighting of premises
BS 5839-6:2019 - Fire detection and alarm systems for buildings. Code of practice for domestic premises

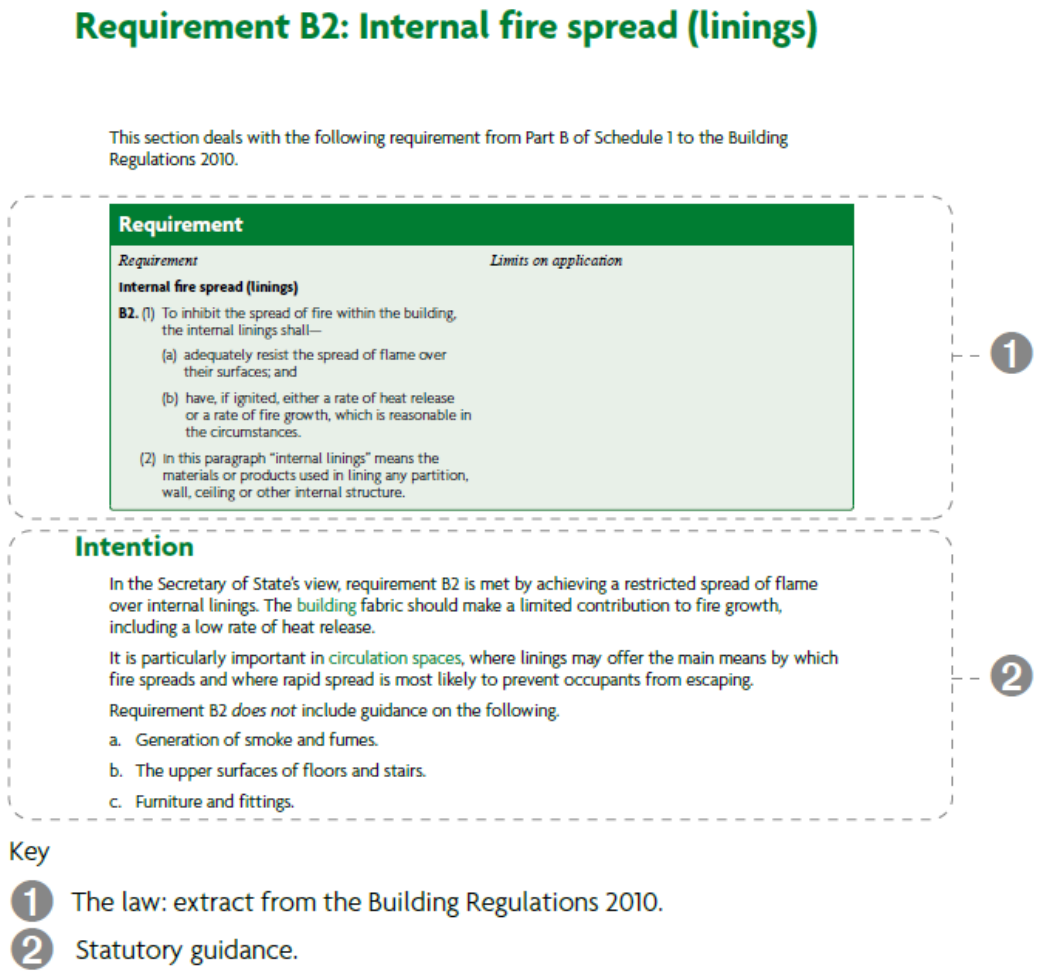
1. Construction methods, products and materials used

The information regarding the proposed building construction methods and materials are provided by Lawrence Tang, of Spheron Architects, the managing architects for the redevelopment scheme, and can be summarised as follows:

- All new external walls are to be constructed from 300mm brick cavity and masonry to minimise the risk of external fire spread.

- A wall common to two or more buildings shall be designed and constructed so that it adequately resists the spread of fire between those buildings. For this proposed development, where the height of the top floor above ground is less than 11m, the minimum period of fire resistance required between House 1 and House 2, and between House 1 and 108 Heversham Road, is 60 minutes (In accordance with ADB1 -Table B4). Accordingly, the common wall between House 1 and House 2 will be constructed from 300mm brick cavity and masonry to minimise the risk of fire spread between the 2 properties. The existing walls between House 1 and 108 Haversham Road will be upgraded (if required) with fire resistant plasterboard to provide a minimum of 60 minutes of fire resistance.

- The relationship between regulations and guidance (page iv in ADB1 Dwellings 2019 edition including 2020 amendments and ADB amendment booklet June 2022).



Requirement B2: Internal fire spread (linings)

This section deals with the following requirement from Part B of Schedule 1 to the Building Regulations 2010.

Requirement

Requirement	*Limits on application*
Internal fire spread (linings)	
B2. (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, either a rate of heat release or a rate of fire growth, which is reasonable in the circumstances.	
(2) In this paragraph "internal linings" means the materials or products used in lining any partition, wall, ceiling or other internal structure.	

1

Intention

In the Secretary of State's view, requirement B2 is met by achieving a restricted spread of flame over internal linings. The building fabric should make a limited contribution to fire growth, including a low rate of heat release.

It is particularly important in circulation spaces, where linings may offer the main means by which fire spreads and where rapid spread is most likely to prevent occupants from escaping.

Requirement B2 *does not* include guidance on the following.

a. Generation of smoke and fumes.

b. The upper surfaces of floors and stairs.

c. Furniture and fittings.

2

Key

1 The law: extract from the Building Regulations 2010.

2 Statutory guidance.

- Partition walls within each of the 2 houses will be 100mm stud walls constructed from fire-retardant plasterboard which will provide a minimum of 30 minutes of fire resistance (Note 5 – Table B4).

- All internal ceilings will be fitted with fire-retardant plasterboard to provide a minimum of 30 minutes of fire resistance (Note 5 – Table B4).

- All gaps, joints, and penetrations in plasterboard fitted to all walls and ceilings will be sealed with a suitable intumescent paste to retain the fire resistance integrity (minimum of 30 minutes) of the walls and ceilings throughout the building.

- Cavity barriers will be provided in accordance with clause 19 of BS9991: 2015 (where required) to close the edges of all cavities, including around openings, at the junctions between external cavity walls, at every compartment floor and compartment wall, and at the junctions between internal cavity walls, in protected escape routes, and any corrugated or profiled insulated roof sheeting.

- The single (non-communal) stairways in House 1 and House 2 will be protected stairways* providing a minimum of 30 minutes of fire resistance (ADB1 Paragraphs 2.2b, 2.5, and Note 5 – Table B4).
  * See also Section 2 below regarding protected stairways.

- All doors within the protected stairways of House 1 and House 2 (except bathrooms and WC's) will be FD30(S) fire door sets providing a minimum of 30** minutes fire resistance and classified in accordance with BS EN 13501-2, tested to the relevant European method from the following - BS EN 1634-1, BS EN 1634-2, or BS EN 1634-3. These doorsets will incorporate intumescent strips and cold smoke seals to both side rails and the top rail of the door, and a rebated drop-down smoke seal to the threshold.
  NB - Self-closing devices need not be provided on fire doors within a dwelling, flat or maisonette, except between an attached or integral dwelling and on the door between a flat and communal areas (In accordance with guidance on page 103 of BS9991:2015)
  **As a minimum in accordance with Table 12 of BS9991:2015

- For a residential building less than 18m in height (measured to the top occupied floor), the load bearing elements of structure require a minimum of 60 minutes fire resistance according to BS 9991: 2015. This development is proposed to be 6.0m. The loadbearing elements of structure for the building will be designed to provide a period of 60-minutes fire resistance.

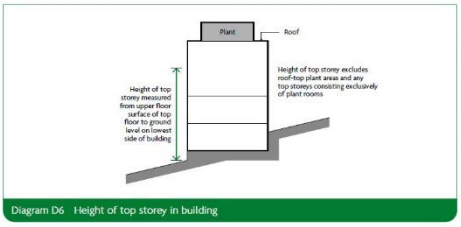


Diagram D6 Height of top storey in building

- Roof coverings will meet National class AA, AB, or AC, or European class B roof(t4). Green roofs are not proposed as part of this development.

- There are no provisions required for external wall surfaces that lie at least 1m away from the site boundary. Wall surfaces that lie within 1m of the site boundary will meet national class 0 (European class B-s3, d2) requirements for fire spread. These properties are end/mid-terraced and therefore the above only applies to the front and rear elevations.

2. Means of escape for all building users and evacuation strategy

Section 2: Means of escape – dwelling house, within ADB1 Dwellings 2019 edition including 2020 amendments and ADB amendment booklet June 2022, states the following.

Escape from the ground storey – All habitable rooms (excluding kitchens) should have either of the following.

a. An opening directly onto a hall leading to a final exit
b. An emergency escape window or door

Escape from upper storeys a maximum of 4.5 m above ground level (in this development, House 2 only)

Where served by only 1 stair, all habitable rooms (excluding kitchens) should have either of the following.

a. An emergency escape window or external door
b. Direct access to a protected stairway

Escape from upper storeys more than 4.5 m above ground level (in this development, House 1 only)

The dwelling house should have either of the following.

a. Protected stairway – a stair protected by fire resisting construction at all storeys, that complies with one of the following.
   i. Extends to a final exit
   ii. Gives access to a minimum of two ground level final exits that are separated from each other by fire resisting construction and fire doorsets.

   NB - Cavity barriers or a fire resisting ceiling should be provided above a protected stairway enclosure.

b. Alternative escape route – a top storey separated from lower storeys by fire resisting construction and with an alternative escape route leading to its own final exit.

Evacuation Strategy

Although this development is a 'conversion' of an existing property, the end result of the development will be 2 separate single-family dwellings, where there is no requirement for a formal Evacuation Strategy. Regardless of this, however, the author has been assured by the managing architects that the proposed development will be carried out in accordance with the Building Regulations 2010, and will satisfy the requirements of ADB1, Dwellings, 2019 edition (incorporating 2020 and 2022 amendments) which is considered suitable and sufficient to support a Stay Put policy, with particular regard to sufficient levels of compartmentation.

Vertical escape

Occupants of both houses, when within a storey above ground floor level will be expected, when required, to escape into the single stair, which will discharge into the ground floor entrance lobby and from there through the front entrance door, to a place of safety.

Final exit doors

All final exit doors on escape routes (flat entrance doors and main entrance door to the property) will be fitted with ironmongery which is easily opened without the use of a key or a code. There are no plans to provide sliding or revolving doors.

Basement stairs

There are no plans for any basements within this proposed development.

Travel distances

There is no guidance applicable to travel distances within single family dwellings, but, as a general precaution travel distances should not be excessive

Emergency Lighting

There is no guidance applicable to the provision of emergency lighting within single family dwellings. However, if emergency lighting is provided, it will be installed in accordance with BS5266-1: 2016.

Passenger Lift

There are no plans to install any passenger lifts within this development.

3. Features which reduce the risk to life

Fire detection and alarm

With regards to fire and detection system, paragraph 10.1 within BS 9991: 2015 states that 'a fire detection and fire alarm system designed and installed in accordance with BS 5839-6 should be provided in all dwellings to warn occupants of fire within the dwelling and to provide them with time to evacuate the premises and to call the fire and rescue service.'

Accordingly, both houses in this proposed development will be fitted with a category LD2 grade D1 system fitted in accordance with BS 5839-6:2019.

Smoke Control

There is no requirement for any smoke control measures within this development.

Automatic suppression system

There is no requirement for an automatic suppression system within this development.

Emergency Lighting

There is no guidance applicable to the provision of emergency lighting within single family dwellings. However, if emergency lighting is provided, it will be installed in accordance with BS5266-1: 2016.

Occupant numbers

An occupancy level of 6 and 4 has been assumed for houses 1 and 2 respectively.

Management and maintenance of passive and active fire safety measures

Fire alarms: The building owners and/or Property Management company should ensure that fire detection systems installed within the houses is tested and serviced as required in accordance with BS 5839-6:2019 and records kept on-site or in a central database.

Emergency lighting: The building owners and/or Property Management company should ensure that the any emergency lighting system is tested monthly and serviced annually in accordance with BS 5266-8:2004 and records kept on-site or in a central database.

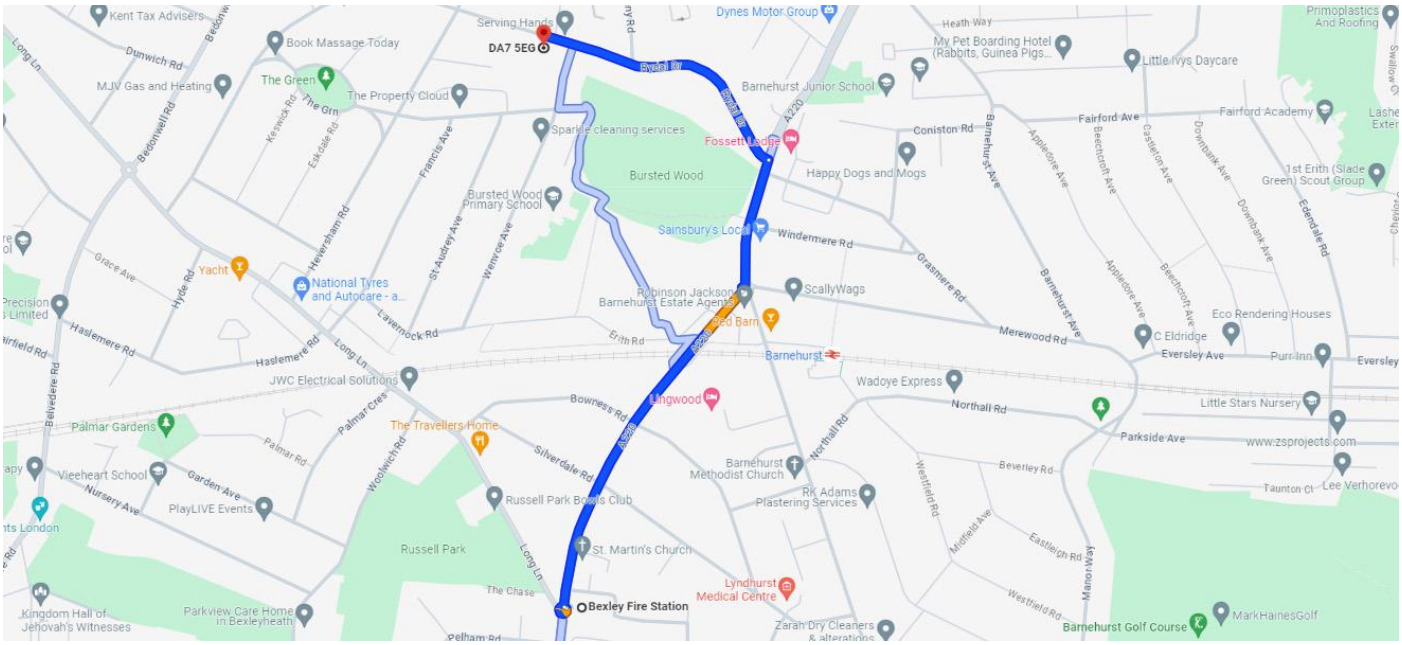
4. Access and facilities for the fire and rescue service

ADB1 - Requirement B5: Access and facilities for the fire service

These proposed 2 & 3-storey single family dwellings, in a typical urban South-East London residential street, do not present any significant access issues to the London F&RS who are used to, and trained to deal with, just such urban properties. It is not considered that the proposed development will have any impact on existing access and facilities for the fire service.

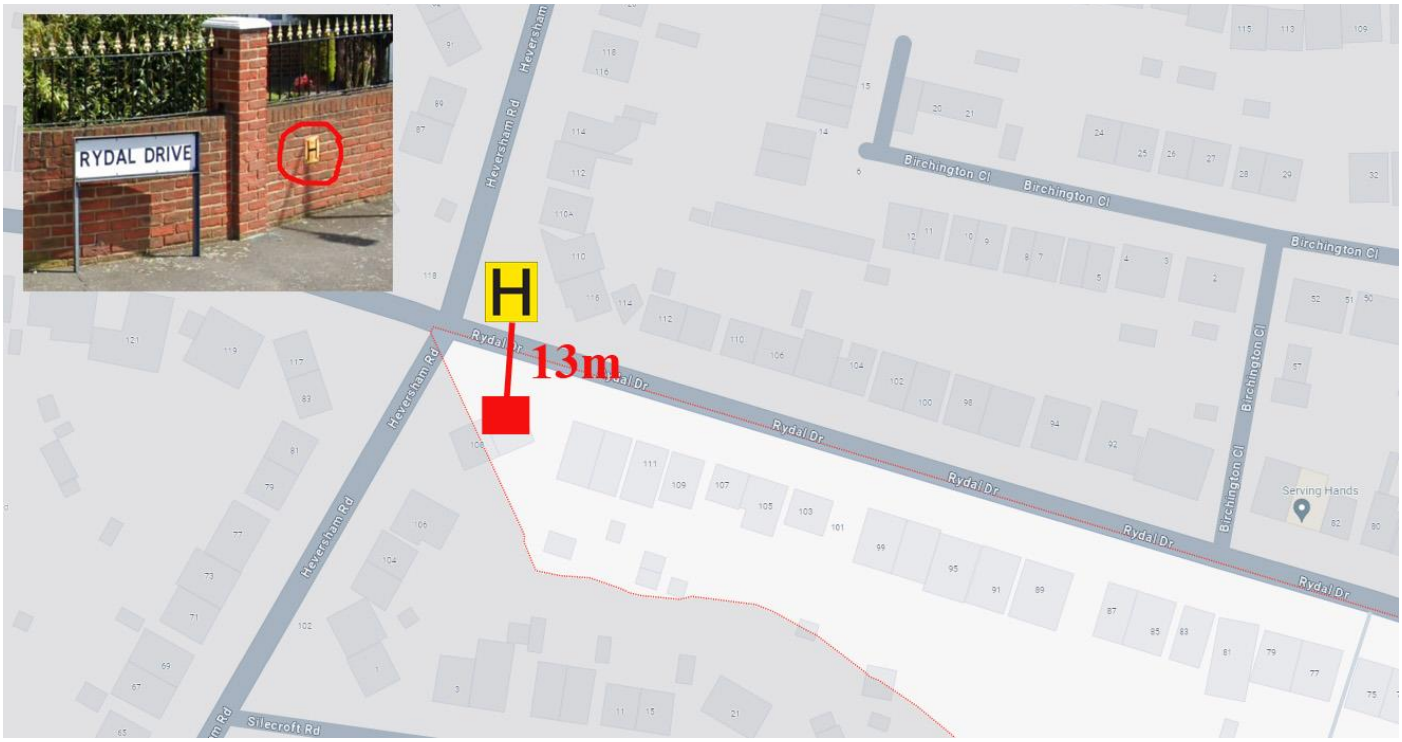
Location of nearest fire station

The nearest F&RS station to 115 Rydal Drive, DA7 5EG, is Bexley Fire Station, 172 Erith Rd, Bexleyheath, DA7 6BY, which is 0.9 miles away.



Location of nearest fire hydrant

The nearest fire hydrant is located directly opposite the properties, approximately 13m away, outside No.116 Rydal Drive. The F&RS would be able to access Rydal Drive either via Heversham Road or Dalmeny Road.



5. How provision will be made within the curtilage of the site to enable fire appliances to gain access to the building

Part B5 of ADB1 Dwellings 2019 edition including 2020 amendments states that (1) The building shall be designed and constructed so as to provide reasonable facilities to assist fire fighters in the protection of life, and that (2) Reasonable provision shall be made within the site of the building to enable fire appliances to gain access to the building.

The development allows for the provision of front access drives and protected stairwells which is considered to satisfy part (1) above.

Part (2) above is considered to be satisfied as there will be sufficient space in Rydal Drive to provide reasonable access, i.e. within 45m of all points inside each house, measured along the route of the hose, for the F&RS pumping appliance attending any fire at the proposed development.

6. **Ensuring that any potential future modifications to the building will take into account and not compromise the base build fire safety/protection measures.**

Regulation 38: Fire safety information

Fire safety information

38. (1) This regulation applies where building work—

(a) consists of or includes the erection or extension of a relevant building; or

(b) is carried out in connection with a relevant change of use of a building,

and Part B of Schedule 1 imposes a requirement in relation to the work.

(2) The person carrying out the work shall give fire safety information to the responsible person not later than the date of completion of the work, or the date of occupation of the building or extension, whichever is the earlier.

(3) In this regulation—

(a) "fire safety information" means information relating to the design and construction of the building or extension, and the services, fittings and equipment provided in or in connection with the building or extension which will assist the responsible person to operate and maintain the building or extension with reasonable safety;

(b) a "relevant building" is a building to which the Regulatory Reform (Fire Safety) Order 2005 applies, or will apply after the completion of building work;

(c) a "relevant change of use" is a material change of use where, after the change of use takes place, the Regulatory Reform (Fire Safety) Order 2005 will apply, or continue to apply, to the building; and

(d) "responsible person" has the meaning given by article 3 of the Regulatory Reform (Fire Safety) Order 2005.

To ensure the aim of this regulation is achieved, the person responsible for the proposed development will be provided with sufficient information relating to fire safety to enable them to manage the building effectively. This information will include the following;

a. How to understand and implement the fire safety strategy of the building.

b. How to maintain any fire safety system provided in the building.

c. How to carry out an effective fire risk assessment of the building (if required).

The above can be achieved by means of adequate collaboration between all relevant parties during the planning and erection of the planned building, e.g. the owners of the land and subsequent planned development, the architects, building contractors, and any installers of ancillary fire safety equipment.

Future development of the asset and the 'Golden Thread' of information

The Independent Review of Building Regulations and Fire Safety was commissioned by government following the Grenfell Tower fire to make recommendations on the future regulatory system. The report, chaired by Dame Judith Hackitt, is entitled Building a Safer Future (2019) and provides recommendations in section 2 on the competency of those operating within the fire safety framework and requires overall consistency in fire safety from initial design through to occupation and future management. This is commonly referred to as the "Golden Thread". Whilst this report is primarily written in the context of high rise residential and complex buildings, there are common recommendations which are applicable throughout the fire safety and construction industries.

The following information outlines how AFC Fire & Security and Spheron Architects Ltd. will consider the Golden Thread in the context of fire safety for 115 Rydal Drive, DA7 5EG.

Construction Monitoring & Practical Completion

For fire safety design in buildings, it is important to monitor the procurement and construction of the property to ensure that the approved building design is constructed in accordance with the relevant approved documents and Building Regulations. The detailed design of recommended fire systems will be important, including the commissioning and testing of these systems.

Locations of passive fire protection can sometimes change. Therefore, having a project leader in fire protection installation appointed by the contractor/construction company can ensure a smoother route to practical completion. The contractor has an obligation under Regulation 38 (2) of the Building Regulations 2010 (ADB1) to hand over all fire related information for the project to the client, to allow them to manage the building successfully in accordance with their obligations under the Regulatory Reform (Fire Safety) Order 2005.

This will require a Final Issue fire strategy report that reflects the final condition of the building constructed. It will be necessary for the contractor to update the design fire strategy as this stage.

Fire Safety Management

Fire safety in buildings is a balance between the technical systems within the building and how the building is then used and managed. It is not possible to rely solely on the technical provisions in the building, and an active role on the part of the management is essential. It is therefore necessary that the building is used as intended in the fire strategy report and that the systems are managed appropriately.

As with all buildings, there will be standard fire safety management requirements for the day-to-day operation of the building. It is a fundamental assumption that features described within the fire strategy will require management and maintenance throughout the life of the building.

Managing fire safety is a process that lasts throughout the life of a building, starting with the initial design, which is intended both to minimize the incidence of fire and to ensure that if a fire does occur, appropriate fire safety systems (including active, passive and procedural systems) are in place and are fully functional.

Effective management of fire safety can contribute to the protection of the building occupants in many ways:

- By working to prevent fires occurring in the first place
- By monitoring the fire risk on an on-going basis and taking appropriate action to eliminate or reduce risk
- By ensuring that all the fire safety measures in the building are kept in working order and that the means of escape are always available
- By providing adequate means for the fire service to effectively gain access to the building should a fire occur
- By updating the Fire Strategy for changes in the use of the building

Upon completion, the building owners or managers (including owners/tenants) will need to undertake fire risk assessments (if applicable under the Regulatory Reform (Fire Safety) Order 2005) and have these available for inspection by the fire service at any time. This should typically be undertaken annually by a competent person or when there are significant changes in the building and is carried out to ensure that the fire strategy is upheld throughout the life of the building and that the risk of fire is kept low.

For this specific building, management areas that are of particular importance for the longevity of the proposed fire safety design solutions include:

- Implementation and maintenance of adequate fire safety management by all responsible persons for the building

- Management, monitoring, and maintenance of all fire safety systems, and in particular the automatic fire detection and alarm systems, and the emergency lighting system

- Provision of appropriate premises information for the fire service.

- Co-operation and co-ordination between the responsible persons for the building (landlord/tenants) in regard to fire safety matters relevant to the building, including ensuring that emergency plans are co-ordinated and consistent with one another.

Summary

This Fire Statement has been produced to support the planning application for 115 Rydal Drive, DA7 5EG. It is outlined as required by the section D12 of the London Plan Policy 2021, which requires development proposals to achieve the highest standards of fire safety, embedding these at the earliest possible stage.

This Fire Statement is a standalone document which defines the fire safety objectives and performance requirements of a development, and the methods by which these objectives will be provided/ satisfied.

The Fire Statement has evidenced the provisions made for the safety of occupants and protection of property as well as the provision of suitable access and equipment for firefighting in light of the London Plan fire safety policy requirements and the justification for these measures as described below:

The fire statement and subsequent fire strategy for 115 Rydal Drive, DA7 5EG has been developed by competent fire safety professionals.

The fire safety objectives have been identified which include compliance with Part B of the Building Regulations performance recommendations.

The safe means of escape has been documented within this document.

Access and facilities for the fire service has been outlined with the provision of protected stairways.

It has been outlined that the nearest fire hydrant is within 13m of the expected pumping appliance parking location.

The firefighting provisions do not adversely impact on neighbouring sites or access to the surrounding areas.

The consistency in fire safety has been demonstrated to meet the Golden thread by virtue of AFC Fire & Security's involvement in the development of the fire strategy and the potential future appointments through construction to support regulation 38 of the building regulations and allow the users of the building to execute their responsibilities for fire safety under the Regulatory Reform (Fire Safety) Order 2005 which is the legislation for fire safety in occupied buildings.

AFC Fire & Security Ltd. believe this fire statement meets the requirements of the London Plan Policy D12.