

Planning Fire Safety Statement

Land rear of 601 Lordship Lane

London N22 5LG



Design stage:

RIBA Stage 2: Concept design

29th November 2024

MUK10401 – Issue 01

Client: 601 Lordship Lane Ltd, 1 The Green, London E4 7ES

Revision	Date	Description
01	29.11.24	Initial issue

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The London Plan 2021

The proposed development will feature eight residential dwellinghouses. As such, this is considered a ‘minor development’ under the London Plan 2021 [1], where featuring both less than ten residential dwellings and non-residential areas being no greater than 1,000 m² in total. A Planning Fire Safety Strategy report is therefore provided both to fulfil the expectations of the London Plan, as well as to support the client and design teams with developing their project information into detailed and technical design.

Summary Tables 1, 2 & 3 provide completed Form 2 and Form 3 pro-formas as provided within the Greater London Authority document “London Plan Guidance – Fire Safety” (February 2022 version, draft for consultation). The remainder of the document provides more detailed information to substantiate the completed pro-forma and to assist the client with the further development of the scheme.

Summary Table 1 – General

Item	Detail
Site address	Land rear of 601 Lordship Lane, London N22 5LG
Description of development	Erection of 8 no. dwellinghouses to rear of 601 Lordship Lane along with associated landscaping.
Name, qualifications, professional memberships, and experience of author	Mr Andrew O.M. Ballantyne BArch MEng CEng MIFireE PMSFPE, a Chartered Engineer registered with the Engineering Council by the Institute of Fire Engineers, and Full Member of the Institute of Fire Engineers (Member 00056660). Andy graduated with a Master’s degree in Structural and Fire Safety Engineering from the University of Edinburgh and a Batchelor’s degree in Architectural Design from the University of Dundee. Andy has subsequently worked in fire safety engineering for over 10 years and undertaken numerous commercial, residential, and governmental projects in London of varying scale and complexity.
Has a Gateway One Statement been submitted?	Not applicable, where proposal is not a ‘Relevant Building’ as defined in Regulation 7(4) of the Building Regulations.

Summary Table 3 – Form 3: Provision of an evacuation lift (London Plan Policy D5(B5))

Item	Detail
Details of the evacuation lift and shaft	The development will feature eight dwellinghouses only. As such, no evacuation lift is expected where no lifts are proposed.
Capacity assessment	Not applicable
Evacuation strategy	Not applicable
Evacuation lift management plan	Not applicable
Declaration of compliance by a competent person	The technical content produced for this planning application is considered to suitably comply with the relevant legislation and requirements of London Plan Policy D5(B5), where applicable, subject to suitable development and implementation during the Building Regulations process and construction. Signed:

Summary Table 2 – Form 2: Planning Fire Safety Strategy (London Plan Policy D12A)

Item	Detail	See also:
Identifies suitably positioned unobstructed outside space for fire appliances to be positioned on	Fire appliances will be able to use Lordship Lane as a hardstanding area, being accessible via the existing road network from multiple directions such that turning or reversing will not be expected at the site.	Section 6
Identifies suitably positioned unobstructed outside space appropriate for use as an evacuation assembly point	Assembly areas are not expected to be identified for dwellinghouses. Nevertheless, ample safe waiting space would be available within the landscaping at the site or on a pavement adjacent to Lordship Lane.	Section 3.5
Designed to incorporate appropriate features which reduce the risk to life and the risk of serious injury in the event of a fire, including appropriate fire alarm systems and passive and active fire safety measures	The dwellinghouses will each feature active fire safety systems in accordance with the expectations of BS 9991, including: - Grade D1 Category LD2 detection and alarm to BS 5839-6 - Category 2 sprinklers to BS 9251 Passive fire protection measures will include the provision of fire-resisting construction to external walls that are located near to the site boundaries, to separate the dwellings, and in support of means of escape from the development.	Section 3 & Section 4
Constructed in an appropriate way to minimise the risk of fire spread	Internal lining specifications and fire-resisting construction are to be provided to meet the expectations of BS 9991, assisting to limit fire growth, protect means of escape, and to separate the dwellinghouse from the adjacent plots. The external walls and roof elements will be of materials that meet contemporary fire safety guidance (including those expectations in Approved Document B Volume 1, being a more recently revised document that BS 9991).	Section 4 & Section 5
Provides suitable and convenient means of escape, and associated evacuation strategy for all building users	Means of escape is based in the expectations of BS 9991, with protected internal stair provided within each dwellinghouse. The dwellinghouses do not feature common areas or lifts and are not expected to be provided with additional features to support disabled users (i.e., evacuation lifts) under the expectations of Policy D5(B5) of the London Plan.	Section 3
A robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence in	Information regarding the means of escape and fire safety equipment is to be retained in accordance with the principles of the Golden Thread, and to be provided to purchasers of the dwellinghouses in accordance with relevant fire safety legislation to support their ongoing maintenance of fire safety systems within their dwellinghouse.	Section 7
Suitable access and equipment for firefighting which is appropriate for the size and use of the development	Firefighting access to each dwellinghouse will be via direct hose laying from the fire appliance hardstanding, supported by automatic suppression within each dwellinghouse to support extended hose laying distances.	Section 6
Where a lift core is provided, at least one lift is an evacuation lift	No lifts are to be provided at the development.	Summary Table 3 & Section 3.6

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1. Introduction

1.1 General

- 1.1.1 Mu.Studio (UK) Ltd have been commissioned to provide fire safety consultancy services in support of the planning stage design of eight new dwellinghouses at land to the rear of 601 Lordship Lane in the London Borough of Haringey as indicated in Figure 1.
- 1.1.2 This report may be used in support further detailed design development. It is not intended to portray detailed design information for fire safety systems or construction specifications and should be read in conjunction with the wider project documentation.
- 1.1.3 Any alternative design solutions suggested within this report are subject to agreement and eventual approval by the relevant authorities having jurisdiction (AHJs).



Figure 1 – Image of existing site (background from Google Maps)

1.2 Legislation and basis of design

- 1.2.1 This fire safety strategy is developed in cognisance of the fire safety expectations of the Building Regulations 2010 (as amended), including:
 - Regulation 7 – Materials and workmanship
 - Schedule 1, Part B1 – Means of warning and escape
 - Schedule 1, Part B2 – Internal fire spread (linings)Schedule 1, Part B3 – Internal fire spread (structure)
 - Schedule 1, Part B4 – External fire spread
 - Schedule 1, Part B5 – Access and facilities for the fire and rescue service
- 1.2.2 The fire safety strategy has not been developed to include additional property protection enhancements or to meet the expectations of insurer requirements. However, fire safety provisions as required by the Building Regulations will, to some extent, assist with the protection of property in the event of fire.

- 1.2.3 This fire safety strategy does not address site fire safety during construction. The Health and Safety Executive (HSE) [2] and Fire Protection Association (FPA) [3] issue guidance on identifying and managing fire precautions on construction sites, which should be consulted by the Principal Contractor for the scheme.
- 1.2.4 The building will be designed in accordance with the recommendations of BS 9991 [4], including further documents and standards referenced therein. This will be augmented by recent updates to Approved Document B – Volume 1: Dwellings (ADB1) [5], being above and beyond the expectations of BS 9991. Fire engineering principles may be employed to support alternative solutions where strict adherence to BS 9991 guidance would conflict with the aspirations of the scheme. Unless otherwise stated, fire safety provisions are expected to be in accordance with BS 9991 guidance as appropriate.

1.3 Reference information

- 1.3.1 This strategy is based on information provided as listed in Table 1 below. Additional contradictory information or subsequent design variations to the information supplied may render the findings and recommendations of this report invalid.
- 1.3.2 External references utilised in the generation of this report are summarised in Section 8.

Table 1 – Project design documentation

Description	Author	Document	Rev.
Proposed Site Location Plan	Trevor Horne Architects Ltd	24230/PLA.01/	-
Proposed Site Block Plan		24230/PLA.02/	-
Proposed Ground Floor Plan		24230/PLA.06/	-
Proposed First Floor Plan		24230/PLA.07/	-
Proposed Second Floor Plan		24230/PLA.08/	-
Proposed Roof Plan		24230/PLA.09/	-
Proposed Section A		24230/PLA.16/	-
Proposed Section B		24230/PLA.17/	-
Proposed Section C		24230/PLA.18/	-
Proposed H01-04 Elevations		24230/PLA.20/	-
Proposed H05-08 Elevations		24230/PLA.21/	-
Proposed Axonometric		24230/PLA.29/	-
Proposed Site Plan with Vera Court		24230/PLA.33/	-

2. Development summary

2.1 Description of proposal

- 2.1.1 The proposed development is for the construction of eight new residential dwellinghouses on land to the rear of Lordship Lane in north London.
- 2.1.2 The development will feature seven houses set over two storeys and a single house set over three storeys as summarised in Table 2. To facilitate access and refuse storage at the site, and existing extension at the rear of 601 Lordship Lane will be demolished.
- 2.1.3 The uppermost floor of Units 01 – 04 and 06 – 08 will be located at circa 2.9 m above Ground level. As such, these dwellinghouses does not feature a floor at greater than 4.5 m in height. The uppermost floor of Units 05 will be located at circa 5.7 m above Ground level, with a single floor being located at greater than 4.5 m above ground level.
- 2.1.4 The development is not considered to be a 'relevant building' by Regulation 7(4) of the Building Regulations, nor is it expected to be provided with a 'firefighting shaft'. As the building will not feature a floor greater than 11 m in height, suppression need not be installed unless supporting the wider fire safety strategy design.
- 2.1.5 Figure 2 to Figure 4 provide an overview of the internal arrangement of the proposed dwellinghouses, with full fire safety mark-ups also included within Appendix A.

Table 2– Summary of accommodation

Floor	2-storey houses	3-storey house (Unit 05)
Second		Bedroom / Study
First	Bedrooms or study areas	Bedrooms
Ground	Living and kitchen areas	Living and kitchen areas

2.2 Occupancy

- 2.2.1 The dwellinghouses will each be for domestic residential use only. No additional fire safety features to support disabled or assisted living have been requested, and this fire strategy has been developed premised on meeting the expectations of Part B in Schedule 1 of the Building Regulations only.
- 2.2.2 It will be the responsibility of residents to develop an escape plan in the event of a fire. Where elderly, immobile, or young children need assistance to escape, the fire safety provisions provided may assist in maintain tenable escape conditions for a reasonable duration. In particular:
- A good standard of detection and alarm will provide early warning to residents, assisting in the rousing of sleeping occupants and supporting investigation of the fire prior to untenable conditions developing.
 - The protected internal stair within each dwellinghouse would allow occupants to escape through a space which can be separated from a fire occurring within a living or bedroom area.
 - Automatic suppression provided throughout the dwellinghouses would assist with limiting growth of a fire prior to untenable conditions developing for means of escape.

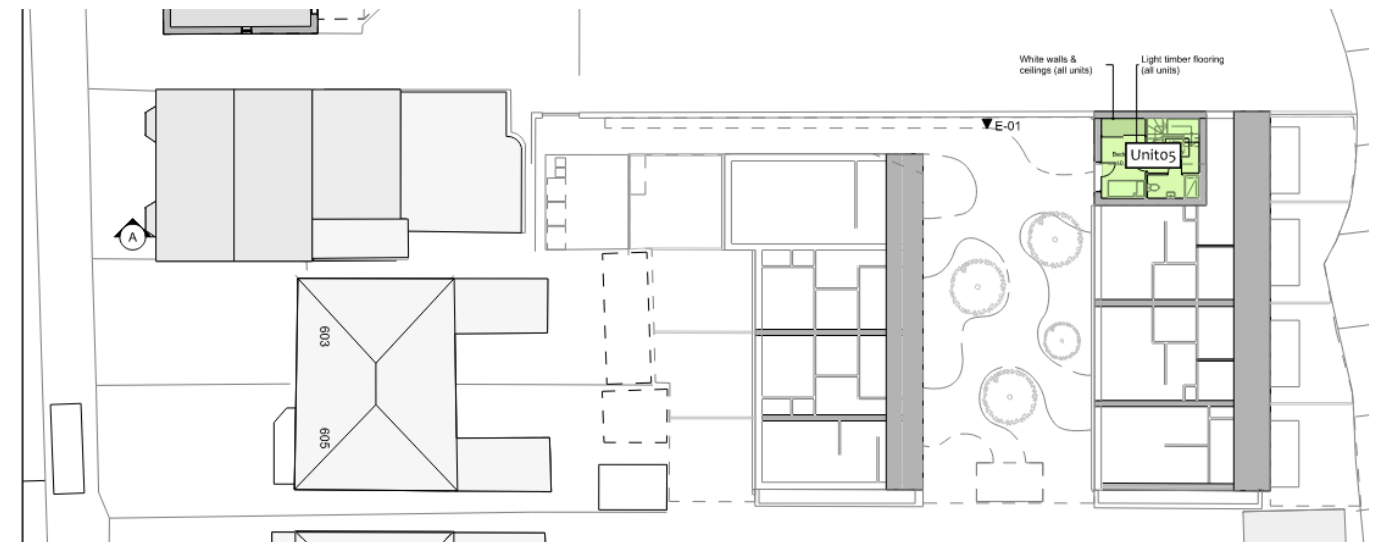


Figure 2 – Proposed Second Floor



Figure 3 – Proposed First Floor



Figure 4 – Proposed Ground Floor

3. Means of warning and escape

3.1 Evacuation philosophy

- 3.1.1 Each dwellinghouse will utilise a simultaneous evacuation strategy, with immediate activation of the fire alarm provided throughout the dwelling upon first activation of any fire detector head.
- 3.1.2 In the event of a fire, only the unit of fire origin will receive a signal to evacuate. No other dwelling will receive an automatic alert notification, though should residents become aware of a fire in a neighbouring dwelling they may also leave their house if they wish to do so.
- 3.1.3 If a fire were to spread beyond the dwelling of fire origin, the wider evacuation of the site would be initiated and managed by the attending fire and rescue service.

3.2 Means of detection and alarm

- 3.2.1 The dwellinghouses are to each be fitted with an automatic fire detection system to meet Grade D1 Category LD2 in BS 5839-6 [6], in support of the arrangements detailed in Section 3.3. This will include heat detection in the kitchen area, and smoke detection throughout living areas, stairs, and landings.
- 3.2.2 A Grade D1 system is included such that the dwellinghouse would be suitable as either a rental investment or for owner-occupation under BS 5839-6.

3.3 Means of escape from within the dwellinghouses

- 3.3.1 The dwellinghouses will either feature bedrooms at a floor at greater than 4.5 m above ground level, or with feature bedrooms that overlook enclosed gardens from which onward escape without returning through the house would not be available. As such, window escape cannot be provided from all bedrooms and protected internal stairs and hallways are to be provided.
- 3.3.2 The protected internal stairs are to be provided based on the guidance in Section 6.1 of BS 9991 (using the guidance in Section 6.3(b) of BS 9991 for the arrangement of the protected internal stair), with each stair connecting to a final exit at the front of the house at Ground level as visible in Figure 5 and Figure 6.
- 3.3.3 Walls and doors enclosing the protected internal stair are to be constructed in accordance with Section 4.4 of this report.

3.4 Means of escape from ancillary and non-residential areas

- 3.4.1 Escape from the ancillary areas (bicycle and refuse stores) are to be in accordance with the recommendations for travel distance limits provided in Table 14 of BS 9991, summarised as follows:
- Places of special fire hazard: Up to 9 m in a single direction to the room exit, 18 m where available in multiple directions.
 - Other areas: Up to 18 m where in a single direction, and up to 45 m where escape is available in multiple directions.
- 3.4.2 As access to the ancillary areas will be directly from outside air only, additional fire safety measures such as ventilated lobbies are not required to separate ancillary and residential areas.

3.5 Final exits and onward escape

- 3.5.1 Travel beyond the final exits of the building and toward a place of ultimate safety should not be jeopardised by unprotected openings. The external escape route from the dwellings to Lordship Lane is an external path running alongside the façade of the proposed buildings. As such, fire-resisting construction in accordance with Table 4 is to be provided to a height of at least 1.1 m above escape level for areas in which the onward escape route is located within 1.8 m of an external façade.
- 3.5.2 Assembly areas are not required to be designated for residential buildings. However, in the event of a fire incident, residents are recommended to retreat to a safe distance from the building and away from fire service access routes. This could be within the wider landscaping at the site or on a pavement adjacent to Lordship Lane.

3.6 Means of escape for disabled persons

- 3.6.1 In accordance with the expectations of Policy D5(B5) of the London Plan, evacuation lifts are to be provided to all areas of a development served by a lift. As no lifts are provided within the development, no evacuation lifts are expected to be provided to meet the expectations of Policy D5(B5).
- 3.6.2 Refuge points for disabled occupants are not expected in dwellinghouses and have not been included.

3.7 Emergency lighting and signage

- 3.7.1 Emergency lighting and fire safety signage are not required to be provided within dwellinghouses to meet the guidance in BS 9991.



Figure 5 – Protected entrance hall in 3-storey unit (left: GF, centre: 1F, right: 2F)

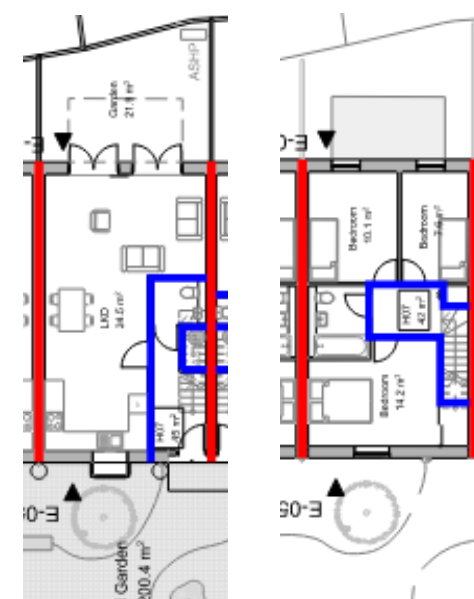


Figure 6 – Typical protected entrance hall in 2-storey unit (left: GF, right: 1F)

4. Internal fire spread

4.1 Internal wall and ceiling linings

- 4.1.1 During the development of a fire in a building, the choice of material for the lining of walls and ceilings can significantly affect the spread and growth of fire. Restrictions are placed on the wall and ceiling lining materials within certain areas of buildings to limit the spread of fire and production of smoke in these areas.
- 4.1.2 It is particularly important that in circulation spaces, where the rapid spread of fire is most likely to prevent occupants from escaping, the surface linings are restricted, by making provision for them to have low rates of heat release and surface spread of flame.
- 4.1.3 All wall and ceiling linings in the building should meet the recommendations summarised in Table 3 below.
- 4.1.4 The surface linings of walls and ceilings should generally conform to the classification recommended above for the appropriate location. However, parts of walls in rooms may be of a lower class but not lower than European Class D-s3, d2, provided that the area of linings having the lower classification does not exceed half of the floor area of the room, subject to a maximum of 20 m² in residential areas.
- 4.1.5 No thermoplastic rooflights shall be used at the development.

Table 3 – Reaction to fire classification expectations

Location	Minimum classification to BS EN 13501-1 [7]
Small rooms ≤ 4 m ²	Class D-s3, d2
Other rooms	Class C-s3, d2

4.2 Automatic fire suppression

- 4.2.1 The uppermost floor of a dwellinghouse is circa 5.7 m above access level. As such, the development does not feature a floor at greater than 11 m above ground level and automatic suppression is not expected based on the May 2020 amendment to ADB for residential buildings based on the height of the building.
- 4.2.2 However, automatic suppression is required within each of the proposed dwellings to support the extended hose laying distances from the fire appliance hardstanding, as discussed in Section 6.4.
- 4.2.3 To support extended hose laying distances, BS 9991 expects a Category 2 sprinkler system to BS 9251 [8] to be provided. This is to include the increased design density as set out in Footnote B) in Table 2 of BS 9251.
- 4.2.4 The system may use concealed sprinkler heads if considered preferable by the client, provided these also meet the wider expectations of BS 9251.
- 4.2.5 If sufficient incoming water supply is available, the sprinkler systems may be run directly from the water mains. In the event of insufficient incoming water supply, a suitably sized water tank should be provided to ensure that adequate water is available in the event of a fire. For the Category 2 sprinkler system, the available water is to be sufficient for 30 minutes of supply to support the time required for firefighting operations to commence.

4.3 Structural fire resistance

- 4.3.1 Table 4 in BS 9991 does not distinguish between apartments buildings with a defend-in-place strategy and single dwellinghouses of similar height. For a 3-storey dwellinghouse, the recommendations of BS 9991 are significantly greater than the recommendations in Table B4 of ADB, in which Note 5 suggests a fire resistance rating of 30 minutes is suitable for structure within a 3-storey dwellinghouse, increased to 60 minutes for party walls between dwellinghouses.
- 4.3.2 It is considered that use of the recommended structural fire resistance for 3-storey dwellinghouses in ADB is reasonable to incorporate for dwellinghouses otherwise designed to BS 9991, where this does not conflict with other fire safety guidance and would seem more proportionate / specific compared to the generic recommendations for residential buildings up to 18 m in height given within BS 9991.

- 4.3.3 As such, elements of structure for each of the dwellinghouses should typically be designed and / or protected to achieve 30 minutes fire resistance where set over no more than 3 storeys. Elements of structure that support walls having a higher fire resistance rating, such as party walls, will need to have a structural fire resistance rating to match the supported element.
 - 4.3.4 Elements of structure that only support a roof do not generally require fire resistance. Structure is considered to support more than only a roof if it supports a load other than the roof itself (e.g., rooftop plant), or is essential to the stability of a compartment or other fire-resisting wall (internal or external).
 - 4.3.5 When determining the elements required to be fire-resisting, the structural engineer may utilise safety factors for the fire design loading case. These are typically less onerous than for the maximum ambient design loading case for primary members, or less onerous than the wind design loading case for stabilising members such as cross-bracing.
- 4.4 Fire-resisting construction and fire doors
- 4.4.1 All floors should be constructed as fire-resisting floors. Walls separating dwellinghouses are to be party walls.
 - 4.4.2 Elements of fire-resisting construction will be provided in accordance with the recommendations in Table 4, and as indicated on the fire safety drawings included within Appendix A.
 - 4.4.3 BR 128 [9] contains advice for the nominal fire-resistance ratings of masonry walls. New drylining partitions or floor systems should be selected using a manufacturer’s guidance documents for complete systems (such as the White Book from British Gypsum or the Knauf Manual), which will also provide a fire-resistance rating for the selected build-up.
 - 4.4.4 Fire door assemblies are to comply with BS 476-22 [10] or BS EN 1634-2 [11] for fire resistance, and where applicable BS 476-31 [12] or BS EN 1634-3 [13] for smoke leakage. Timber fire doors should be installed in accordance with the expectations of BS 8214 [14].
 - 4.4.5 Doors provided within residential dwellings are not required to have self-closing devices. It is recommended that doors are closed at night, or in the event of a fire alarm activation the first occupant to response then closes any doors which may assist with containing the fire.

Table 4 – Periods of fire resistance for fire-separating elements (in minutes, for loadbearing, integrity, and insulation where exposed from each side separately unless otherwise stated)

Element requiring fire-resistance	Fire resistance rating	Fire doors
Elements of structure	30	N/A
Floors within dwellinghouses	30 (from underside)	N/A
Party walls	60	N/A
External walls (if required by Section 5.3): Less than 1,000 mm from a point in the relevant boundary More than 1,000 mm from the relevant boundary	30 30 integrity, 15 insulation	FD30 N/A
External walls adjacent to external escape routes	30	FD30
Protected internal hallways and stairs	30	FD30
Cavity barriers	30 integrity, 15 insulation	N/A

4.5 Concealed spaces and cavity barriers

- 4.5.1 Cavity barriers are provided in concealed spaces to prevent the rapid spread of unseen fire or smoke in voids, and to prevent the spread of fire around compartmentation via voids.
- 4.5.2 All cavity barriers are to have a fire resistance rating of at least 30 minutes for integrity (E) and 15 minutes for insulation (I). Cavity barriers should be at no greater than 20 m centres in cavities with Class C-s3, d2 linings or better to BS EN 13501-1, as well as being located to align with fire-resisting construction as indicated in Figure . For other linings, the spacing between cavity barriers should be reduced to 10 m.
- 4.5.3 Cavity closers provided around openings may be formed of:
- steel at least 0.5 mm thick or timber at least 38 mm thick; or
 - polythene-sleeved mineral wool, or mineral wool slab under compression when installed cavity; or
 - calcium silicate, cement-based or gypsum-based boards at least 12 mm thick.

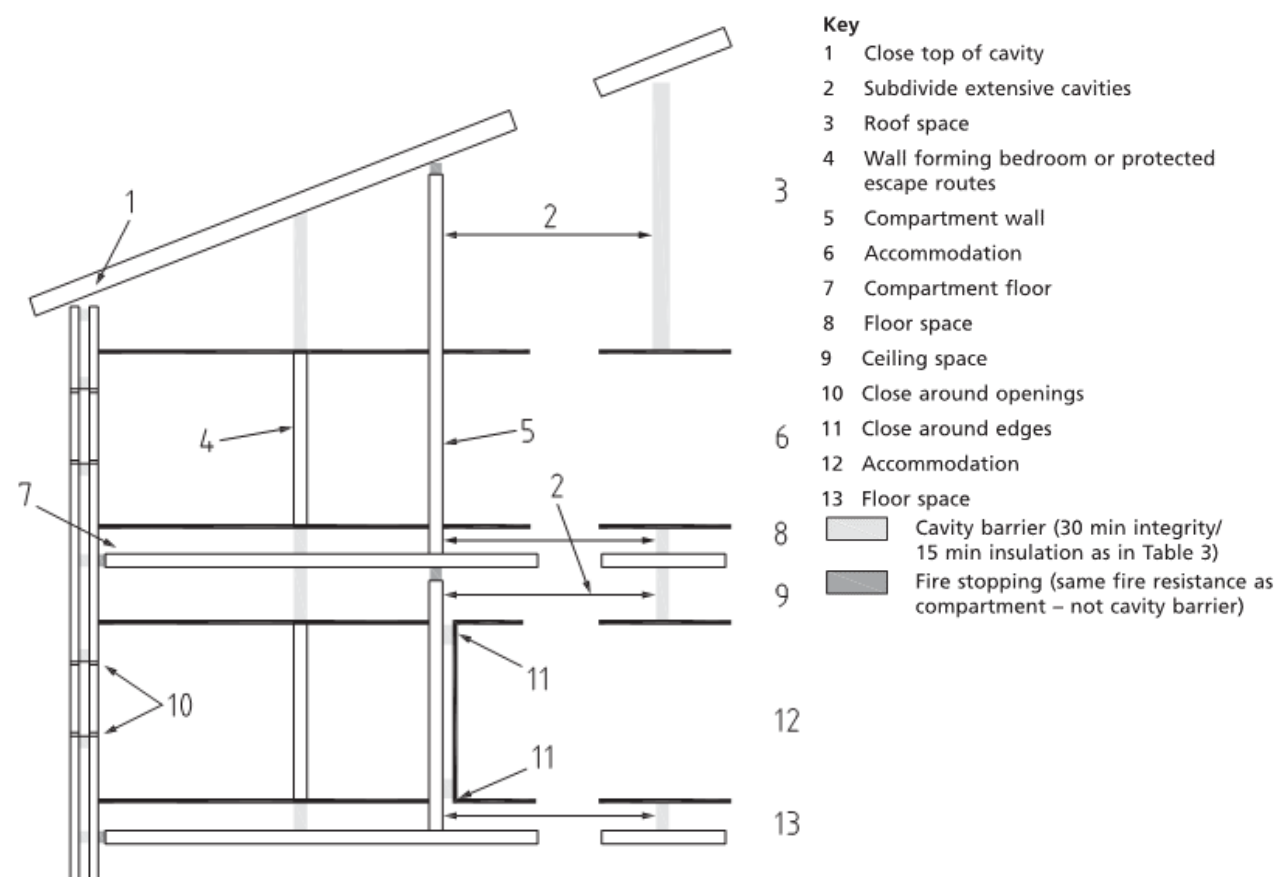


Figure 6 – Generic cavity barrier expectations

4.6 Fire-stopping and penetrations through fire-resisting construction

- 4.6.1 Fire-stopping should be provided at the junction of fire-separating walls and external walls to maintain the fire resistance period of fire-separating walls and prevent a fire from travelling around the junction and into the neighbouring space. Penetrations through lines of fire-resisting separation should also be fire-stopped using a product or system that will achieve the same fire resistance rating as the penetrated wall or floor.
- 4.6.2 To maintain the fire resistance rating of separating construction, any pipe or cable penetrations through lines of fire-resisting separation should be fire-stopped in accordance with one of the following methods set out by Section 19 in BS 9991. Figure 7 is provided to assist in the interpretation of the above recommendations.
- for pipes of any diameter, a proprietary seal which has been shown by test to meet the fire-resistance rating of the wall, floor, or cavity barrier for the penetration circumstance; or
 - for pipes with a restricted diameter, keeping the opening as small as possible and providing fire-stopping around the pipe. The nominal interior diameter of the pipe should not be more than the relevant dimensions given in Table 10 in BS 9991.
- 4.6.3 If ductwork is present which passes through fire-resisting construction enclosing of the protected stair, this is recommended to be provided in accordance with the NHBC Building Regulations Guidance Note "Ductwork passing through protected entrance halls in dwellings" [15].

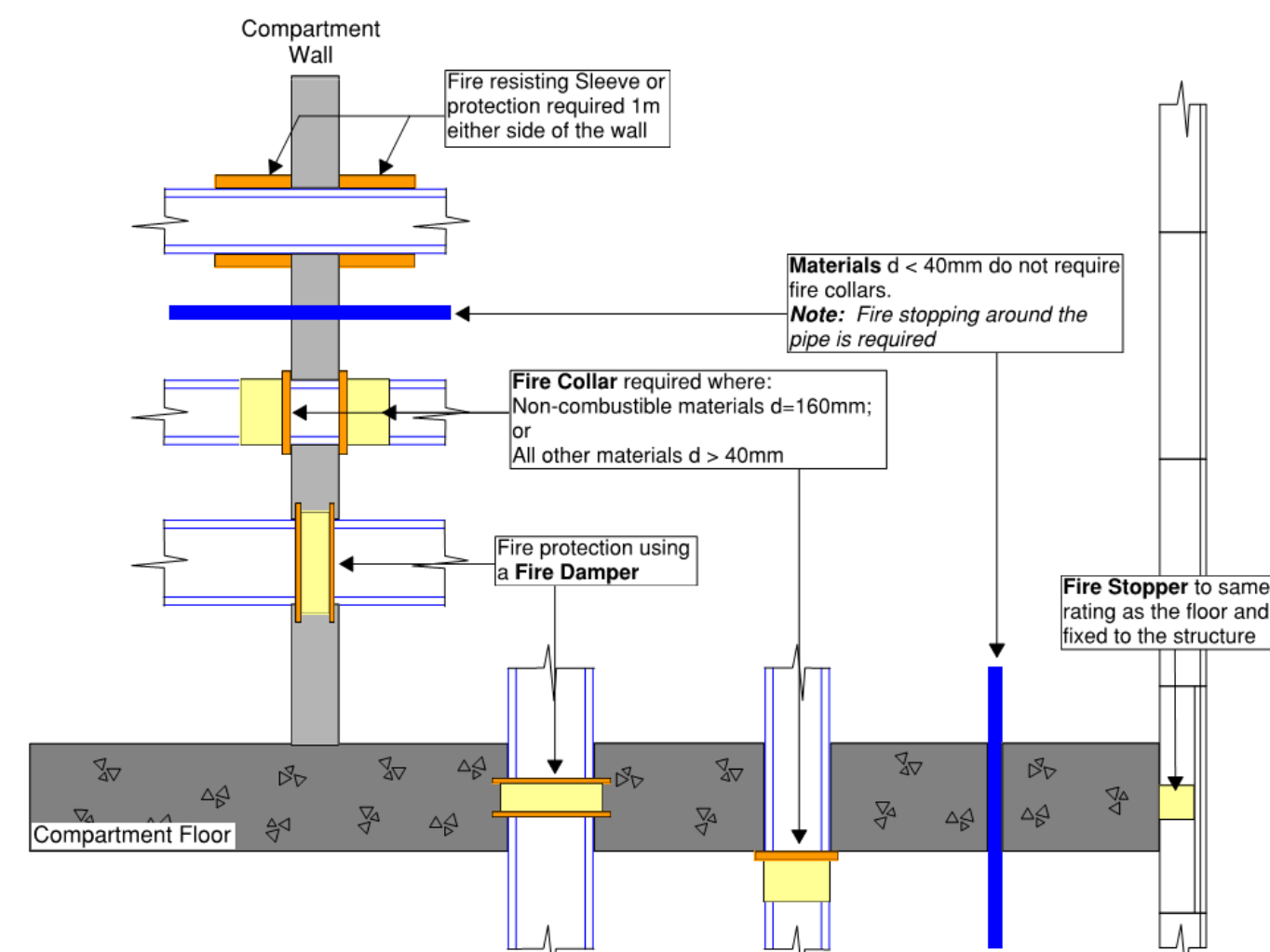


Figure 7 – Generic fire-stopping expectations

5. External fire spread

5.1 Construction and materials used for external walls

- 5.1.1 To prevent the spread of flame across the surface of building at a speed which may pose a threat to life, materials forming new areas of external walls of dwellinghouses less than 11 m in height are to meet the following recommendations from Figure 17 in BS 9991:
- Class B-s3, d2 or better to BS EN 13501-1 where located within 1,000 mm of the site boundary or used as protected area in Section 5.3; or
 - No restriction where at least 1,000 mm from the site boundary.
- 5.1.2 External walls are also expected to have cavity barriers in accordance with Section 4.5, located to align with internal fire-resisting construction or to limit the unbroken length of external wall cavities.
- 5.1.3 For buildings less than 11 m in height, insulation or filler materials in the external wall are permitted to be combustible provided that the external façade meets the remainder of the recommendations for the external façade construction and materials. Nevertheless, consideration should be given to the overall intent of Building Regulation B4, which states that external walls should be constructed to adequately resist fire spread. As such, combustible materials should not be used for construction of new external walls or external wall attachments without prior consideration and suitable care.
- 5.1.4 No external balconies or terraces are proposed at the development, where the dwellinghouses will each have use of a private garden at Ground floor.

5.2 Roof coverings

- 5.2.1 Roof coverings are to be resistant to fire spread where being either close enough to a boundary to be at risk of ignition from a fire in another building, or where needed to resist fire spread between compartments via the roof coverings above.
- 5.2.2 New roof coverings 1.5 m either side of a fire-resisting wall should achieve an B_{ROOF}(t4) rating. The remaining new roof areas should meet the recommendations of Table 8 in BS 9991, as summarised in Table 5. In general, it would be suggested that all new roof areas should achieve B_{ROOF}(t4) or better.
- 5.2.3 Roof coverings may constitute a number of materials (but does not include the roof structure as a whole). Therefore, the top covering material should be considered in tandem with the substrate(s) to assess the performance of the coverings. The covering system as a whole is to meet the provisions of Section 5.2.2.
- 5.2.4 Where green roofs (also including brown or sedum roofs) are included at the development, and are to be specified in accordance with the GRO code [16], including:
- Having a growing medium / substrate at least 80 mm thick.
 - Have a growing medium / substrate that features <20% organic content and no peat.
 - Having a growing medium / substrate that has been tested in accordance with BS 8616 [17].
 - Have fire breaks of a least 300 mm around rooflights, soil pipes, rainwater outlets, and at least 500 mm where adjacent to openable windows or doors.
 - Fire breaks should consist of either at least 50 mm depth of 20 – 50 mm sized pebbles placed directly onto a drainage board, or concrete paving stones that are a minimum of 40 mm thick.
- 5.2.5 Photovoltaic panels should also be in accordance with roof classification guidance. If the photovoltaic array results in live cables with a current / voltage that may pose a hazard to firefighters, a remote isolation switch should be provided to allow these to be disconnected prior to commencement of wet operations.

Table 5 – Limitations on roof coverings

Distance from boundary	Allowable roof covering classifications to BS EN 13501-5 [18]		
	B _{ROOF} (t4)	C _{ROOF} (t4)	D _{ROOF} (t4)
Less than 6 m	✓	✗	✗
At least 6 m	✓	✓	✗
At least 20 m	✓	✓	✓

5.3 Space separation and unprotected areas of the façade

- 5.3.1 Should a fire occur, heat will radiate through openings in the external walls. This heat can be enough to set fire to nearby buildings. To reduce the likelihood of this occurring, the Building Regulations guidance place limits on the area of the external elevation with no fire resistance, known as the unprotected area.
- 5.3.2 The building is to be designed and constructed with sufficient space separation and / or fire-resisting construction in the external façade to adequately limit the likelihood of fire spread to, or from, the adjacent relevant boundaries.
- 5.3.3 The relevant boundaries are the reference distances at which the potential for fire spread is considered, being the site boundary or a notional boundary created at the centreline of an adjacent road, railway, or other area with a sufficiently low likelihood of development. These are indicated on Figure 7, with the site boundary being used on all sides for this development.

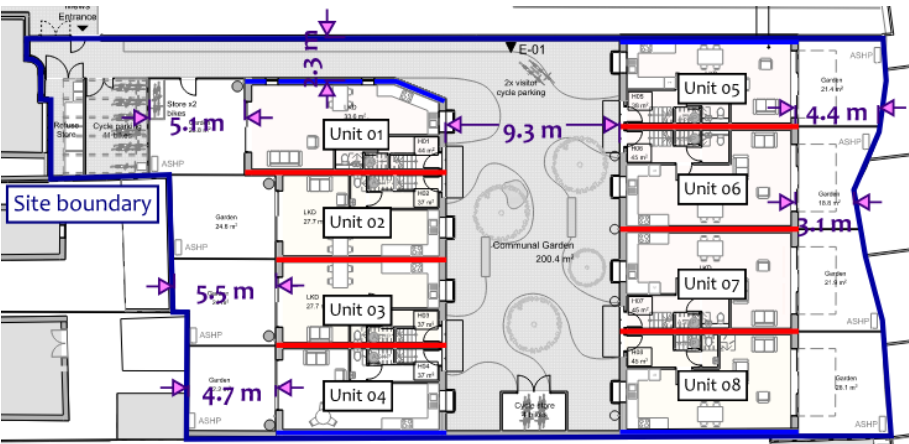


Figure 7 – Location and distances to site boundaries at Ground floor (northeast at page north)

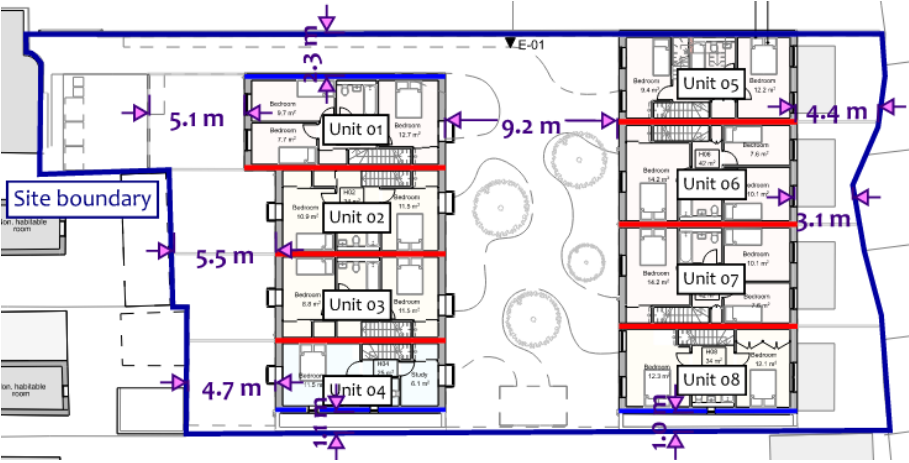


Figure 8 – Location and distances to site boundaries at First floor (northeast at page north)

- 5.3.4 Compartment / party walls will reduce the extent of façade likely to be radiating at any one time. Following the recommendations of BR 187 [19], the lower level of emitted radiation (84 kW/m^2) is used for residential areas, reduced to 42 kW/m^2 where suppression is to be provided throughout each dwellinghouse.
- 5.3.5 Where external walls are located within 1.0 m of the site boundary, these are to have a fire-resistance rating of at least 30 minutes for integrity and insulation in accordance with Table 4.
- 5.3.6 Using the methodology in BR 187 for façades located at least 1.0 m from their boundary, an analysis of the available distance between the development and the boundaries has been conducted as indicated Figure 9 and Figure 10. The findings of this analysis for the various compartments are presented in Table 6, which calculates the percentage of the façade permitted to be unprotected based on the available separation distances.
- 5.3.7 Fire-resisting construction is to be provided to solid areas of external walls to meet the expectations of Table 6, as indicated on the fire safety markups in Appendix A. For walls located at least 1.0 m from the site boundary, these are to achieve a minimum fire-resisting rating of 30 minutes for integrity and 15 minutes for insulation in accordance with Section 4.4.

Table 6 – Summary of external fire spread assessment

Area / Façade	Enclosing rectangle (m)		Distance to boundary (m)	Permitted % of unprotected area
	Width	Height		
Unit 1 (side)	10	≤ 6.5	2.3	62
Unit 1 - 4 (front)	≤ 4.5	6.5	≥ 4.6	100
Unit 1 - 4 (rear)	≤ 4.5	5.3	≥ 4.7	100
Unit 4 (side)	8.4	≤ 3.7	1.1	48
Unit 5 (front)	4.2	≤ 9.2	≥ 4.6	100
Unit 5 (rear)	4.2		≥ 4.4	100
Unit 6 - 8 (front)	≤ 5.1	≤ 5.3	≥ 4.6	100
Unit 6 - 8 (rear)	≤ 5.1	≤ 6.5	≥ 3.1	100
Unit 8 (side)	8.8	≤ 3.7	1.0	23

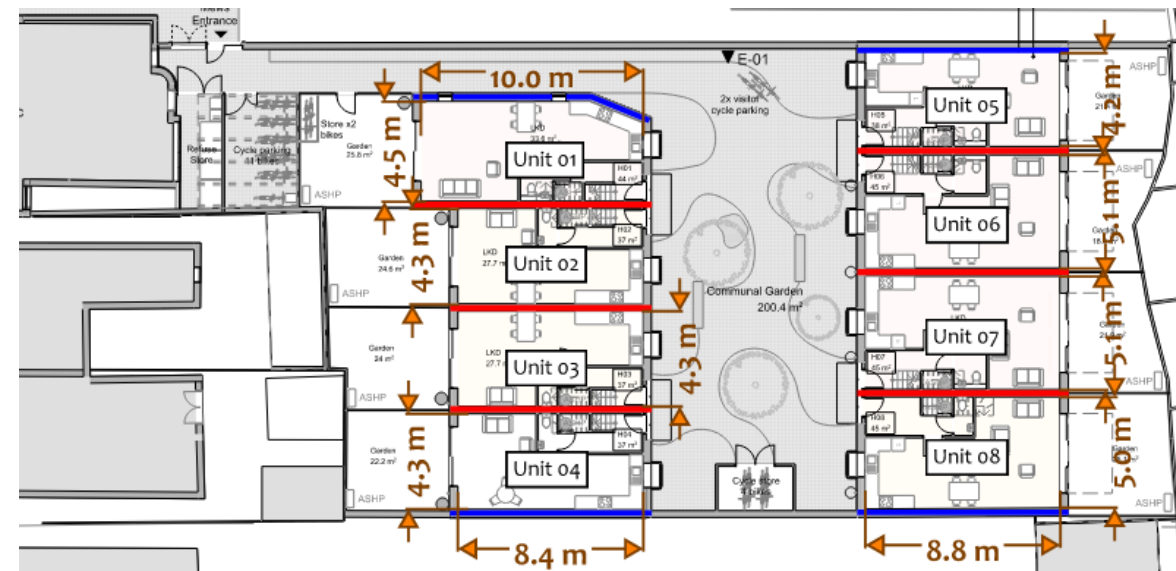


Figure 9 – Compartment dimensions at Ground floor (with unit identification for reference)

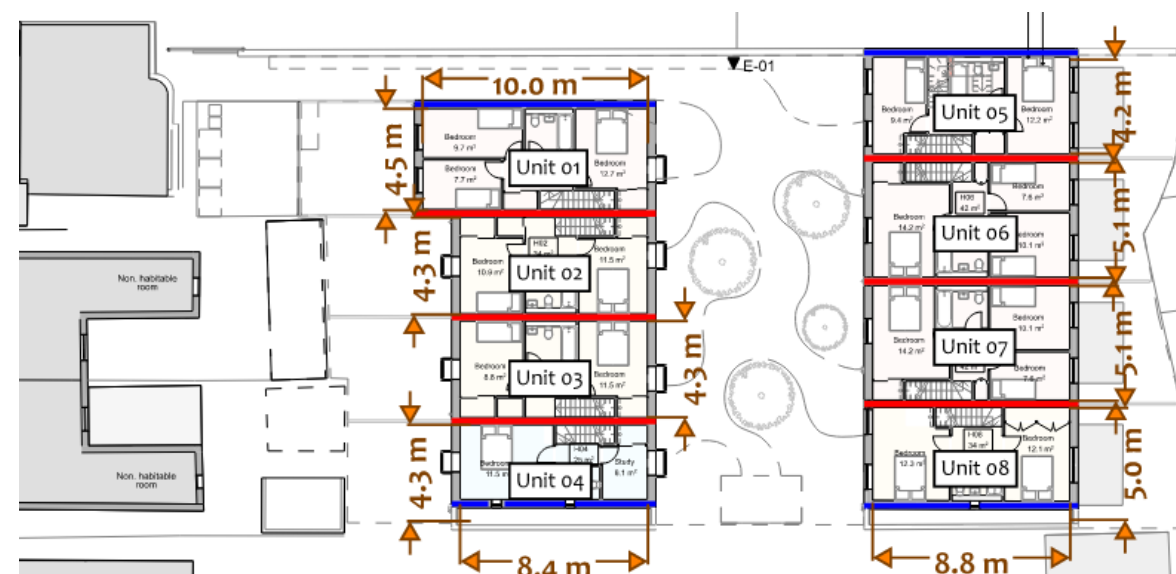


Figure 10 – Compartment dimensions at First floor (with unit identification for reference)

6. Fire service access and facilities

6.1 Notification and information for the fire and rescue service

6.1.1 In the event of a fire, the local Fire and Rescue Service (FRS) are expected to be notified by a dwellinghouse resident upon witnessing the fire.

6.2 Fire appliance access to the site

6.2.1 Vehicle access for fire appliances will be retained as per the existing condition at site, being available via Lordship Lane as indicated in Figure 11, based on the fire appliance access guidance given in LFB Guidance Note 29 [20] and as summarised in Table 7.

6.2.2 Lordship Lane is an existing public road giving access to site from multiple directions. This is sufficient for multiple fire appliances to attend the building, and such that no reversing or turning areas are necessary.

6.2.3 Hose laying is to occur from the available hardstanding area to the furthest point within the residential dwellinghouse, as discussed further in Section 6.4.

6.3 Firefighting water supplies

6.3.1 As a mature residential area, the existing water supply provisions for firefighting will continue to serve the site. This will be via a nearby public hydrant located at Lordship Lane, as indicated in Figure 11.

6.3.2 Section 51.2(a) in BS 9991 recommends that at least one fire hydrant is located within a maximum of 90 m from an entry point to the building. As illustrated on Figure 11, the fire appliance hardstanding area is located at circa 26 m from the nearest hydrant, and with the proposed dwellinghouses at a maximum of circa 90 m from the hydrant, such that water supplies for firefighting would be sufficiently available.

6.4 Firefighting facilities within the building

6.4.1 As each dwellinghouse is accessed directly from outside, no internal features to support firefighting (such as firefighting lifts and stairs, smoke extraction, dry rising mains, etc.) are expected by BS 9991, nor will be provided.

6.4.2 Section 50.1.2 of BS 9991 recommends that for unsprinklered dwellinghouses, access for a pump appliance should be provided to a location within 45 m of all points inside the dwelling measured along a route suitable for laying hose. Where automatic suppression is also provided, this may be increased to up to 90 m and 75 m for two- and three-storey dwellinghouses respectively.

6.4.3 The maximum hose laying distances to the furthest points of the two- and three-storey dwellinghouses are illustrated in the fire strategy marked-up drawings in Appendix A, being circa 73.6 m and 74.8 m to the furthest points respectively. As such, the maximum hose laying distances would meet the maximum hose laying distance of 90 m and 75 m recommended in BS 9991 where supported by automatic suppression.

6.5 Stand-by power supplies

6.5.1 The fire detection and alarm systems are expected to utilise internal batteries capable of a continuous stand-by supply to meet the relevant design standard and be fully rechargeable within a period of 24 hours.

Table 7 – Pump-type firefighting appliance access requirements from GN29

Minimum access route specification	Dimension
Width between kerbs	3.7 m
Width between gateways	3.1 m
Turning circle between kerbs	16.8 m
Turning circle between walls	19.2 m
Clearance height	3.7 m
Carrying capacity	14 tonnes
Maximum reversing distance	20 m



Figure 11 – Firefighting vehicle access and water supplies

7. Additional fire safety guidance

7.1 Fire safety information and future development

- 7.1.1 This Planning Fire Safety Strategy details an appropriate level of information to support a planning application for a development of this scale and nature.
- 7.1.2 Following planning, this report should be provided to the design team responsible for progressing the scheme through detailed and technical design. The design team will be required to seek approval for the development under the Building Regulations by the appointed building control authority, including consultation with the local fire and rescue service.
- 7.1.3 Further development of the fire safety provisions set out within this report is expected during the Building Regulations approvals process, including the selection of specific products, systems, or materials to fulfil the expectations of the Planning Fire Safety Strategy.
- 7.1.4 If modification to the fire safety provisions in Section 3 to 6 of this report are proposed during further design, these should not be incorporated unless agreed in writing by the appointed building control authority.
- 7.1.5 The as-built fire safety strategy for the building, as agreed by the appointed building control authority, should be documented and provided to the subsequent dwellinghouse owner, to meet the expectations of Regulation 38 of the Building Regulations and principles of the Golden Thread of Information. This should be provided as part of a wider package of building information including, but not being limited to:
- This Planning Fire Safety Strategy report
 - The as-built fire safety strategy report and associated fire strategy drawings
 - Manufacturer’s literature for fire safety products and equipment present at the building
 - Drawings indicating the installed locations of fire safety products and equipment
 - Manufacturer’s literature detailing suitable methods of operation and maintenance of fire safety products and equipment
- 7.1.6 It is recommended that the above information is provided in a digital format that may be retained using a cloud-based or other remote service, to reduce the potential for loss of information in the event of fire, flooding, theft, etc.
- 7.1.7 The dwellinghouse owners are recommended to ensure that periodic maintenance of the fire safety equipment is undertaken in accordance with the manufacturer’s recommendations. The information provided within the Regulation 38 documentation may be used to assist maintenance professionals in identifying the systems, spare parts, operation, maintenance procedures, etc. for systems present.
- 7.1.8 Any subsequent amendment to the fire safety provisions within a dwellinghouse will require consent from an appointed building control authority. The owner should consult with a suitable building control authority or fire safety professional prior to conducting any future modification works, to ensure that these will be in accordance with any relevant fire safety legislation in force at that time.

7.2 Management and maintenance of fire safety systems within dwellings

- 7.2.1 In residential dwellinghouses the owner / occupier is expected to be responsible for the management and maintenance of a suitable level of fire safety. This may include:
- management to minimise the incidence of fire (e.g., good housekeeping and security)
 - considering their emergency escape plan and ensuring escape routes are unobstructed
 - being aware of any particular risks (e.g., cooking)
 - being aware of the challenges that may be faced by disabled residents or guests
 - ensuring that the fire detection and fire suppression systems are appropriately maintained and tested
 - periodically checking the adequacy of any fire extinguishers or fire blankets

- 7.2.2 Protected entrance halls and stairs should have wall and ceiling linings achieving a Class C-s3, d2 reaction to fire standard. Display features such as posters, artwork pieces, etc. could be included if deemed appropriate by the dwellinghouse resident, who is recommended to consider fire safety within their appraisal.

7.3 Hoarding

- 7.3.1 ‘Compulsive hoarding’ or ‘Hoarding’ is a mental health issue characterised by the accumulation of large quantities of goods within an occupant’s home. Amongst the number of health and safety issues associated with hoarding, this also poses a challenge with regards to fire safety.
- 7.3.2 The fire safety provisions provided within a building assume certain characteristics, including fire load. Hoarding may significantly increase the fire load above that which is typically assumed within a residential unit and present a greater likelihood of sheltered or deep-seated fires occurring which could pose a challenge to fire-resisting construction, suppression systems, or firefighting operations.
- 7.3.3 Should there be cause to believe an occupant is hoarding goods, it is recommended that this be reported to the local health or mental health service provider as well as to the local fire and rescue service.

7.4 Fire extinguishers and fire blankets

- 7.4.1 First-aid firefighting provisions are recommended should be assessed and provided as part the dwellinghouse owner’s fire safety measures. Suitable first-aid firefighting provisions can help with the extinguishment of small fires, preventing these from growing into significant fires.
- 7.4.2 Where provided, the type and size of extinguisher(s) are recommended to be chosen in accordance with the guidance given in BS 5306-8 [21], as summarised by Table 8 and the classification of fire fuel hazards summarised as follows:
- Class A – fires involving solid materials, usually of an organic nature (general hazards);
 - Class B – fires involving liquid or liquefiable solids (such as liquid fuels, lubricants, paints, etc.);
 - Class C – fires involving gases;
 - Class D – fire involving metals; and
 - Class F – fires involving cooking media (vegetable or animal oils or fats).
- 7.4.3 Fire blankets may be provided in kitchens for extinguishing cooking fires and should be affixed vertically to a wall or door to for ease of deployment in an emergency. The blanket should be located close to the cooking appliance, but far enough away such that a hob fire would not prevent access to the fire blanket.

Table 8 – Fire extinguisher types

Medium	Colour code	Application	Do NOT use for
Water	White	Class A fires	Liquid, electrical, metal or cooking fires
Powder	Blue	Class A, B or C fires	Metal or cooking fires
Foam	Cream	Class A or B fires	Electrical*, metal or cooking fires
CO ₂	Black	Class B fires	Metal or cooking fires
Wet chemical	Yellow	Class A or F fires	Liquid, electrical or metal fires
* AFFF Foam extinguishers may be used for electrical fires up to 35 kV (dielectric test) and where operated from a distance of at least 1 m.			

8. External references

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- [4] BSI, "BS 9991:2015 Fire safety in the design, management and use of residential buildings - Code of Practice," British Standards Institution, London, 2015.
- [5] HM Government, "Approved Document B - Volume 1: Dwellings (2019 Edition incorporating 2020 and 2022 amendments)," Online Version, London, 2022.
- [6] BSI, BS 5839-6:2019 + A1:2020 Fire detection and fire alarm systems for buildings - Part 6: Code of practice for the design, installation and maintenance of fire detection and fire alarm systems in dwellings, London: British Standards Institution, 2019.
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- [9] BRE, "BR 128: 1988 Guidelines for the construction of fire-resisting structural elements," BRE Bookshop, Watford, 1988.
- [10] BSI, "BS 476-22:1987 Fire tests on building materials and structures. - Part 22: Methods for determination of the fire resistance of non-loadbearing elements of construction," British Standards Institution, London, 1987.
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- [15] NHBC, "Building Regulations Guidance Note: Ductwork passing through protected entrance halls in dwellings," NHBC, Milton Keynes, 2014.
- [16] GRO, "The GRO Green Roof Code: Green Roof Code of Best Practice for the UK 2021," Green Roof Organsition, London, 2021.
- [17] BSI, "BS 8616:2019 Specification for performance parameters and test methods for green roof substrates," British Standards Institute, London, 2019.
- [18] BSI, "BS EN 13501-5:2016 Fire Classification of construction products and building elements - Classification using test data from extenal fire exposure to roof tests," British Standards Institute, London, 2016.
- [19] BRE, "BR 187: 2022, External fire spread - Building separation and boundary distances 2nd Edition (Revised 2022)," IHS BRE Press, Bracknell, 2022.
- [20] London Fire Brigade, "GN29: Fire Safety Guidance Note - Access for Fire Appliances," London Fire Brigade, London, 2020.
- [21] BSI, "BS 5306-8:2012 Fire extinguisher installations and equipment on premises. - Part 8: Selection and positioning of portable fire extinguishers. Code of practice," British Standards Institution, London, 2012.

Appendix A – Fire safety and fire-resisting construction mark-ups

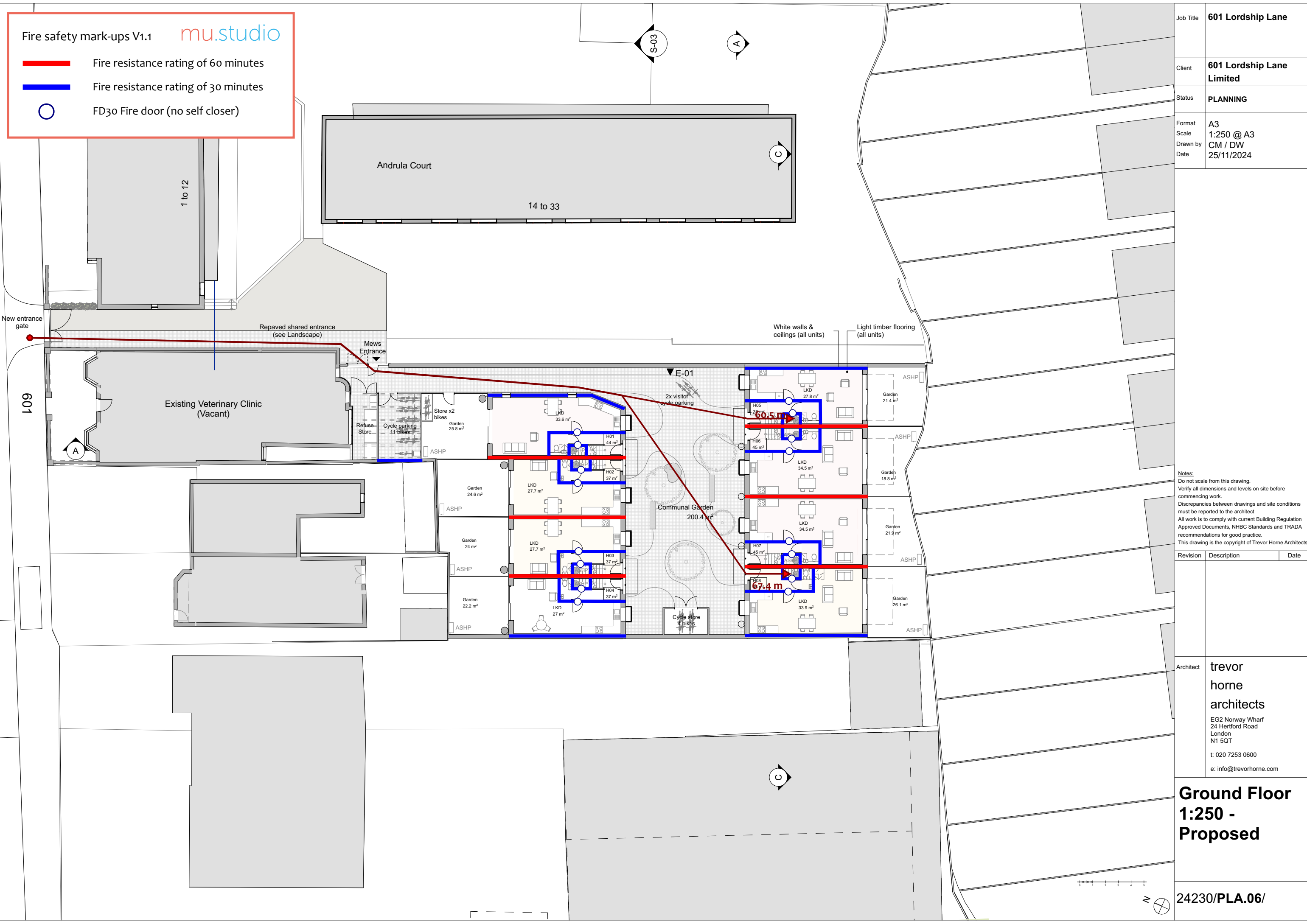
Fire safety mark-ups V1.1

Fire resistance rating of 60 minutes

Fire resistance rating of 30 minutes

FD30 Fire door (no self closer)

mu.studio



Job Title	601 Lordship Lane
Client	601 Lordship Lane Limited
Status	PLANNING
Format	A3
Scale	1:250 @ A3
Drawn by	CM / DW
Date	25/11/2024

Notes:
Do not scale from this drawing.
Verify all dimensions and levels on site before commencing work.
Discrepancies between drawings and site conditions must be reported to the architect.
All work is to comply with current Building Regulation Approved Documents, NHBC Standards and TRADA recommendations for good practice.
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Ground Floor
1:250 -
Proposed

24230/PLA.06/

mu.studio

-  Fire resistance rating of 60 minutes
-  Fire resistance rating of 30 minutes
-  FD30 Fire door (no self closer)

Job Title	601 Lordship Lane
Client	601 Lordship Lane Limited
Status	PLANNING
Format	A3
Scale	1:250 @ A3
Drawn by	CM / DW
Date	25/11/2024

Notes:
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First Floor
1:250 -
Proposed

24230/PLA.07/



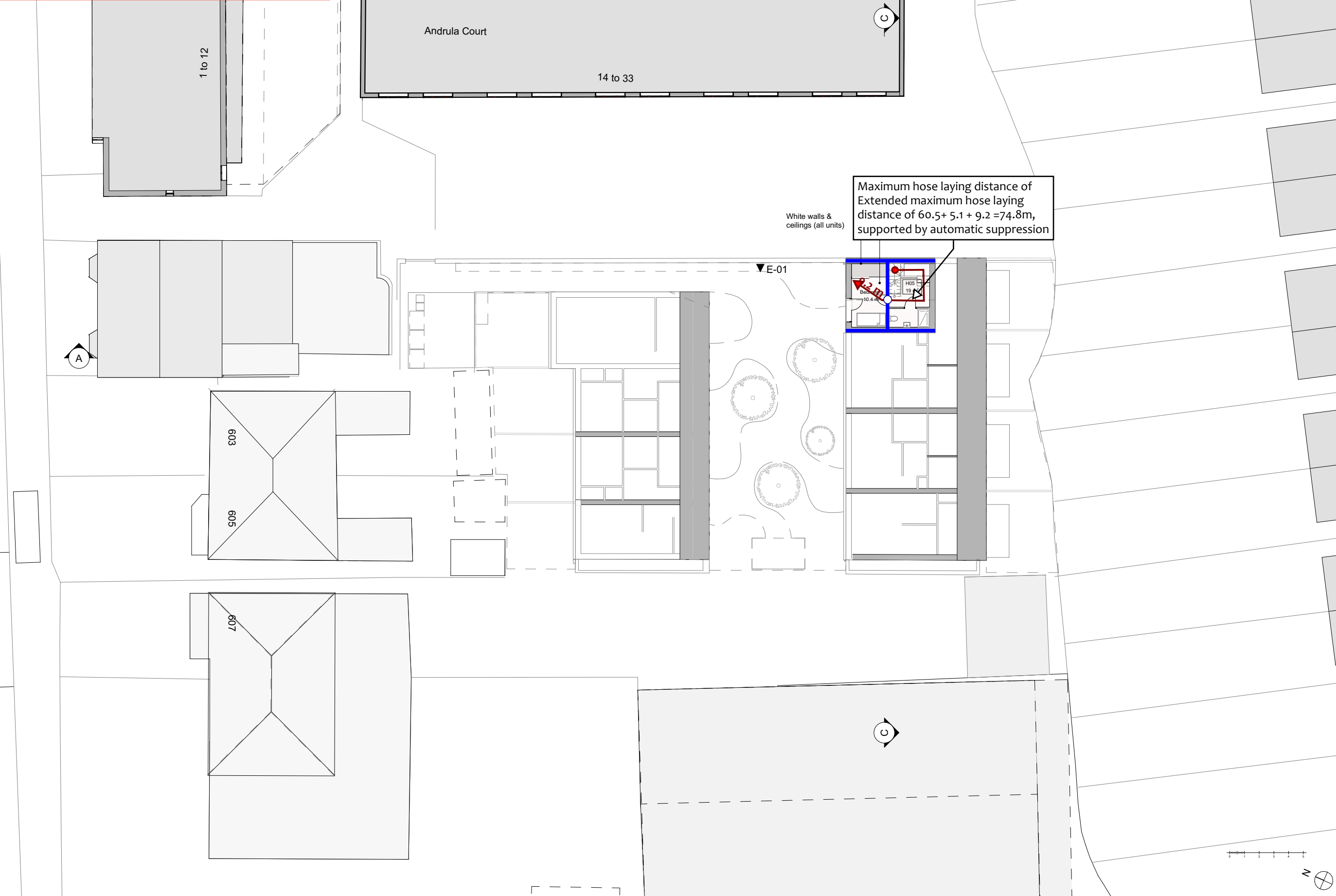
Fire safety mark-ups V1.1

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Fire resistance rating of 60 minutes

Fire resistance rating of 30 minutes

FD30 Fire door (no self closer)



Job Title	601 Lordship Lane	
Client	601 Lordship Lane Limited	
Status	PLANNING	
Format	A3	
Scale	1:250 @ A3	
Drawn by	CM / DW	
Date	25/11/2024	
Notes: Do not scale from this drawing. Verify all dimensions and levels on site before commencing work. Discrepancies between drawings and site conditions must be reported to the architect All work is to comply with current Building Regulation Approved Documents, NHBC Standards and TRADA recommendations for good practice. This drawing is the copyright of Trevor Horne Architects		
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Second Floor 1:250 - Proposed		
24230/PLA.08/		