The O2 Centre Masterplan S73 Submission

Fire Statement

Jensen Hughes

January 2025

Landsec

JENSEN HUGHES

Report

Project	O2 Finchley Road, London, S73 Application
Report Title	N3E, N4 and N5 London Plan Fire Statement
Our Ref	HL8889/R2 Issue 4

Issue Record

REV	DATE	AUTHOR	REVIEW	APPROVED	SECTION	AMENDMENTS
Issue 1	11/11/2024	JL	EH	PM	-	n/a
Issue 2	17/01/2025	AP	EH	PM		Updated based on new drawings
Issue 3	27/01/2025	EH	PM	PM		Updated based on comments and new cribsheet
Issue 4	30/01/2025	EH	PM	PM		Update based on new cribsheet and information regarding secondary power supply and hydrants

CONTENTS

1.0 INTRODUCTION

1.1 Planning Description

This London Plan Fire Statement has been prepared by Jensen Hughes on behalf of LS (Finchley Road) Limited ("the Applicant"), to support a Section 73 application which seeks to vary planning permission ref. 2022/0528/P, granted on 20 December 2023, in respect of the O2 Masterplan Site ("the Site") within the London Borough of Camden ("LBC").

This is a new fire statement which relates specifically to the changes brought forwards under the s73 for the Detailed Element of the O2 Masterplan (Phase 1).

This fire statement reflects changes to regulations, standards and emerging best practice since the original planning permission was granted.

The fire statement for Outline Elements will be reviewed and updated at the time of the Reserved Matters Applications to reflect the proposals and relevant guidance at the time of submission

Whilst the Section 73 application will grant a new planning permission for the entire Site, amendments are only proposed to the Detailed Element. The Outline Elements will be unaffected by the proposed changes except for a reduction in the maximum residential floor area proposed.

The Site is subdivided into 10 Development Plots (N1, N2, N3, N3-E, N4, N5, N6, N7, S1 and S8). These are identified on Parameter Plan ref. 19066_X_(02)_102. The 10 plots sit within three indicative phases.

The proposed Section 73 amendments relate to Development Plots N3E, N4 and N5, and the associated landscaping, access roads and infrastructure. These plots are located in the centre of the Site and are approved in detail as they form the first phase of the development – the "Detailed Element". The Detailed Element of the Site extends to 1.79ha.

Development Plots S8, N7 and N6 located in the west of the Site are approved in outline and form "Outline Element West". Development Plots N3, N2, N1 and S1 located in the east of the Site are approved in outline and form "Outline Element East". These plots together are referred to as the "Outline Elements." The Outline Elements are not affected by the amendments proposed as part of this Section 73 application except for a reduction in the maximum residential floor area proposed.

The amendments proposed as part of this Section 73 application are herein referred to as the "Proposed Development".

In summary, the Section 73 design amendments relate principally to the Detailed Element and involve adjustments to the height, massing and footprints of the buildings; the replacement of Block N4D with a two storey community centre; new landscaping and additional public realm; revisions to architecture; and revisions to unit mix and internal layouts. Overall, there is an increase in floorspace of 5,766 sqm (GIA) for the Detailed Element compared with the Approved Scheme, an increase of 43 residential units, an increase in the size of the community centre and a slight reduction in commercial floorspace. The affordable housing provision within the Detailed Element remains the same at 36% of the floorspace (GIA).

While there is an increase in the floorspace proposed in the Detailed Element, there is a corresponding reduction in floorspace in the Outline Elements such that overall, there is no change proposed to the total floorspace permitted for the O2 Masterplan as a whole, apart from an 8sqm (GIA) reduction in commercial floorspace from the Detailed Element.

The Proposed Description of development is as follows:

"Application under Section 73 of the Town and Country Planning Act 1990 (as amended) to vary Conditions I4 (Severability Condition), AD1 (Approved Drawings - Masterplan), AD2 (Approved Drawings - Reserved Matters), AD3 (Approved Drawings - Phase 1), RM1 (Parameter Plans and Development Specification), RM6 (Phasing Plan), RM11 (Reserved Matters – Access Statement), RM21 (Reserved Matters – Total floorspace), D20 (Photo-voltaic Cells), D21 (Phase 1 Long Stay Cycle Parking), D22 (Phase 2 Short Stay Cycle Parking), D24 (Phase 1 Disabled Car Parking), D26 (Phase 1 Fire Safety Implementation of Approved Measures), and M28 (Phase-Wide Lighting Strategy) and the removal of Conditions M6 (Enabling Works) and M7 (Major Utilities Infrastructure) of planning permission ref. 2022/0528/P dated 20 December 2023 for 'Detailed planning permission for Development Plots N3-E, N4, and N5 and Outline planning permission for Development Plots N1, N2, N3, N6, N7, S1 and S8, including demolition of all existing structures and associated works, and redevelopment to include residential development (Class C3), commercial, business and service uses (Class E), local community uses (Class F2), and Sui Generis leisure uses (including cinema and drinking establishments) together with all landscaping, public realm, cycle parking and disabled car parking, highway works and infrastructure within and associated with those Development Plots, in accordance with the Development Specification. For the avoidance of doubt, the Detailed and Outline planning permission are separate and severable for each of the Plots shown on plan P011 and the description of development on any decision notice issued pursuant to the application would reflect that', to allow for amendments to the Detailed Element (Plots N3-E, N4 and N5) including additional height, alterations to the design, massing and footprint of the buildings; the replacement of Block N4D with the relocated community centre; additional residential floorspace (and corresponding reduction in floorspace within Outline Elements); revisions to unit mix and internal layouts; additional community (Class F2) floorspace, reduction in retail (Class E,a) floorspace, reduction in professional services (Class E,c) floorspace, additional blue badge parking and cycle parking; revised landscaping and additional public realm; and associated works".

Full details and scope of the Section 73 application are described in the submitted Planning Statement Addendum, prepared by Newmark and the Design and Access Statement prepared by GRID.

This report is intended to demonstrate that the requirements of Policies D5 and D12 as detailed in the London Plan 2021 have been addressed within the S73 Application amendments to the Detailed Element.

1.2 Site Location and Description

The Site is approximately 5.7 ha in size and comprises the O2 Centre, which is arranged over three floors and contains a cinema, a mix of retail units, restaurants and cafes, a health club, a community room and a Sainsbury's store; hard-standing, which is used as a car-park with space for 520 vehicles, car wash and a Homebase store (which was recently demolished), and to the western part of the Site are two purpose-built car showrooms and a builder's merchant.

The amendments proposed by the S73 application relate to the central part of the site. This area is covered by the Detailed Element of the approved O2 Masterplan planning permission. This part of the Site is approximately 1.79 ha in size and currently comprises of hard standing, which is used as a carpark, car wash and the site of the former Homebase store (which was recently demolished)

The land contained within the red line plan for the O2 Masterplan planning permission (both Outline and Detailed Elements) comprises the following:

- O2 Centre;
- Associated O2 Centre car park;
- Site of the former Homebase store (which was recently demolished);
- Car wash;

- Car showrooms; and
- Builder's merchant.

(Thereafter referred to as 'the Site')

The site comprises three residential buildings – N3E, N4 and N5. N4 and N5 are divided further into three and four separate blocks respectively. Each block and the split of its uses is summarised in the table below.

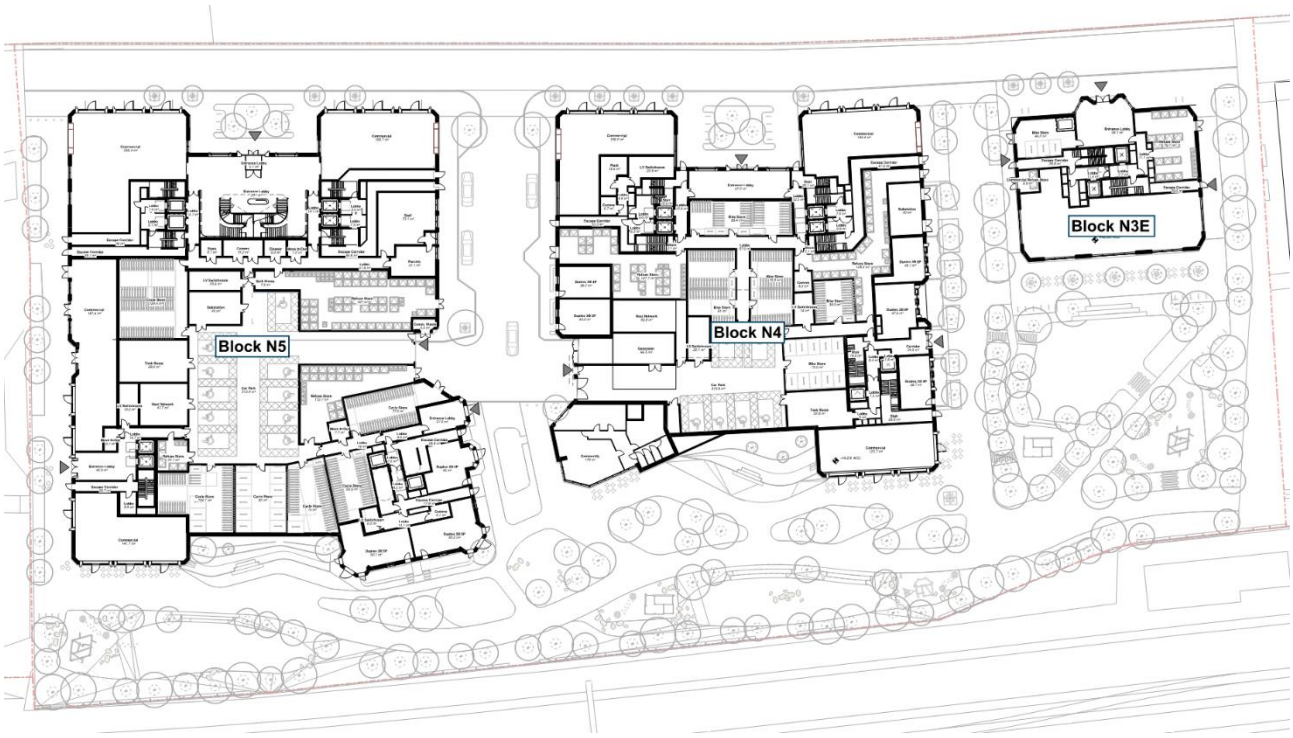


Figure 1: Site Plan (Ground Level)

Block	Part of Block	Use	*Height*
N3E	Basement	Bike store Plant	n/a
	Ground	Residential entrance, bike store and refuse store Commercial unit	n/a
	Levels 01 to 11	Residential Units	***36.5m***
N4	Ground	Residential entrances, bike stores and refuse stores Car Park Residential Units Plant Commercial and community units Shared workspaces	n/a
	N4A (Levels 01 to 14)	Residential Units Roof plant (Level 15)	***43m***
	N4B (Levels 01 to 08)	Residential Units Community unit	***26.8m***
	N4C (Levels 01 to 15)	Residential Units Roof Plant (Level 16)	***49.2m***

N5	Ground	Residential entrances, bike stores and refuse stores Car Park Residential Units Plant Commercial and community units	n/a
	All sub-blocks (Level 01)	Podium community garden	n/a
	N5A (Levels 01 to 16)	Residential Units	***52.8m***
	N5B (Levels 01 to 9)	Residential Units	***29.8m***
	N5C (Levels 01 to 15)	Residential Units Amenity at L10	***49.7m***
	N5D (Levels 01 to 10)	Residential Units Amenity at L10	***34.7m***

Table 1: Summary of site

1.3 Aim of Report

This Fire Statement has been prepared by Jensen Hughes on behalf of the applicant. The purpose of this Fire Statement is to demonstrate that fire safety has been considered at the earliest opportunity and that the requirements of Policies D5 and D12 as detailed in the London Plan 2021 have been addressed.

1.4 Relevant Guidance

The design draws from contemporary Building Regulations guidance including the following standards:

- BS 9991 *Fire safety in the design, management, and use of residential buildings – Code of practice* (for residential areas and ancillary accommodation).
- BS 9999 *Fire safety in the design, management, and use of buildings. Code of practice* (for the commercial).
- The London Plan 2021

BS9991:2024 was published on 27 November 2024 and replaces the previous 2015 version. Much of the design work for this project was carried out prior to this updated standard being published. However, the fire safety arrangements set out in this report did consider emerging best practice and based on initial evaluation captures the key additional features and recommendations set out in the new standard. The design will of course need further review in subsequent design stages and there may be aspects of the design that need refinement that will become apparent as the industry becomes more familiar with the new British Standard.

Although not the principal guidance used to inform the design of the buildings, the design has taken into account new guidance within Approved Document B Volume 1 – Dwellings: 2019 edition incorporating the 2020 and 2022 amendments.

Further amendments to the Approved Document B were issued in March 2024. Although this guidance does not come into effect until 2026, the design follows the principles it describes. Specifically, this includes the provision of 2 stairs and the design principles of an ‘evacuation shaft’ comprising a stair, lift and lift lobby.

Where there are aspects of the design which don’t comply with the recommendations of code guidance, alternative fire engineered solutions have been developed and are discussed in this report to support a more efficient design whilst still achieving the requisite standard of safety to meet the functional requirements of the Building Regulations.

1.5 Declaration

In accordance with the London Plan, the statement has been prepared and reviewed by fire engineers who are suitably qualified and competent professionals with the demonstrable experience to address the complexity of the design being proposed.

Jensen Hughes are a highly experienced team of specialist fire engineers that have been operating in the UK and Ireland for over 30 years (predominantly under the name JGA). The qualifications of the author of this report are given below:

The report has been approved by Paul Macken MSci, CEng, MIFireE. Paul is a Chartered Engineer through the Institution of Fire Engineers. Paul is a Senior Director of Jensen Hughes (UK & Ireland) and has over 26 years of experience in developing building Fire Strategies.

The Jensen Hughes team working on the project can also draw from the experience of other fire engineers in the UK and around the world, which will ensure the quality, and the robustness of the fire strategy developed for the project.

Report by	Antti Paavola, BEng,
Checked by	Eadwyne Henry MEng, AIFireE
Approved by	Paul Macken MSci, CEng, MIFireE

2.0 LONDON PLAN 2021 – FIRE SAFETY STATEMENT

The purpose of a Fire Statement is to show how the requirements of the London Plan have been considered and addressed.

The tables below illustrate where the requirements of the relevant London Plan policies are specifically addressed:

POLICY NUMBER	DESCRIPTION	RELEVANT SECTION IN THE REPORT
Policy D12, Subsection A1(a)	Identify suitably positioned and unobstructed outside space for positioning of fire appliances	11.0
Policy D12, Subsection A1(b)	Identify suitably positioned and unobstructed outside space appropriate for use as an assembly point	7.5
Policy D12, Subsection A2	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	6.0
Policy D12, Subsection A3	The building must be constructed in an appropriate way to minimize the risk of fire spread	5.0
Policy D12, Subsection A4	Provide suitable and convenient means of escape, and an associated evacuation strategy for all building users	7.0, 8.0
Policy D12, Subsection A5	Develop a robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence in.	7.0, 8.0
Policy D12, Subsection A6	Provide suitable access and equipment for firefighting which is appropriate for the size and use of the development.	11.0

Table 2: Policy D12 Subsection A requirements

POLICY NUMBER	DESCRIPTION	RELEVANT SECTION IN THE REPORT
Policy D12, Subsection B1	Building's construction: methods, products and materials used, including manufacturers' details.	5.0
Policy D12, Subsection B2	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.	7.0, 8.0
Policy D12, Subsection B3	Features which reduce the risk to life: fire alarm systems, passive /active fire safety measures and associated management and maintenance plans.	6.0, 12.0
Policy D12, Subsection B4	Access for fire service personnel and equipment: how this will be achieved in an evacuation situation, water supplies, provision and position of equipment, firefighting lifts, stairs and lobbies, any fire suppression and smoke ventilation systems proposed, and the ongoing maintenance and monitoring of these.	6.1, 6.5, 6.6, 8.2, 11.0
Policy D12, Subsection B5	How provision will be made within the curtilage of the site to enable fire appliances to gain access to the building.	11.1
Policy D12, Subsection B6	Ensure that any potential future modifications to the building will take into account and not compromise the base build fire safety/ protection measures.	13.0

Table 3: Policy D12 Subsection B requirements

Policy Number	Description	Relevant Section in the Report
Policy D5, Subsection B5	In all developments where lifts are installed, a minimum one lift per core (or more subject to capacity assessments) should be a suitably sized fire evacuation lift	7.4

Table 4: Policy D5 Subsection B5 requirements

3.0 BUILDING SAFETY ACT 2022

The Building Safety Act was granted Royal Assent on 28 May 2022. This sets out a new regulatory framework which will cover the planning, design, construction and occupation of buildings. Compliance will be monitored by the new Building Safety Regulator (BSR), who is the new Building Control Authority for higher risk residential buildings (HRBs). HRBs are buildings comprising 7 or more storeys or a storey height of more than 18m above ground level and containing residential accommodation.

The design and construction of higher risk buildings need to pass through three specific gateways. These are:

- Planning Gateway one – at the planning application stage
- Gateway two – before building work starts
- Gateway three – when building work is completed

3.1 Gateway 1

The project will submit for planning shortly and this report details the fire safety arrangements for the project as part of the requirements for Planning Gateway one. This report should be read in conjunction with the Planning Gateway 1 fire statement form.

3.2 Gateway 2

BSR became the new Building Control Authority on 1 October 2023. It is now necessary for relevant projects to submit for a building control approval application (Gateway 2). Approval will need to be granted before work can commence on site.

The new building control approval framework will require a range of information to be submitted for approval. This includes:

- Plans, details, specifications
- Construction control plan
- Fire and emergency file
- Building regulations compliance document
- Planning statement
- Change control plan
- Competence declaration
- Description of mandatory occurrence reporting system

3.3 Gateway 3

Gateway 3 will occur when the building work is complete. During construction the BSR will carry out inspections at key milestones. Change control applications will need to be submitted and approved before those changes can be implemented. Upon completion of construction works the BSR will assess the application including as built information, carry out any final inspections and review the documentation given to the building owner (the Golden Thread of information). On approval the BSR will issue a completion certificate (Gateway 3).

Once the completion certificate is issued the buildings will need to be registered. It will not be possible to occupy a building until it is registered.

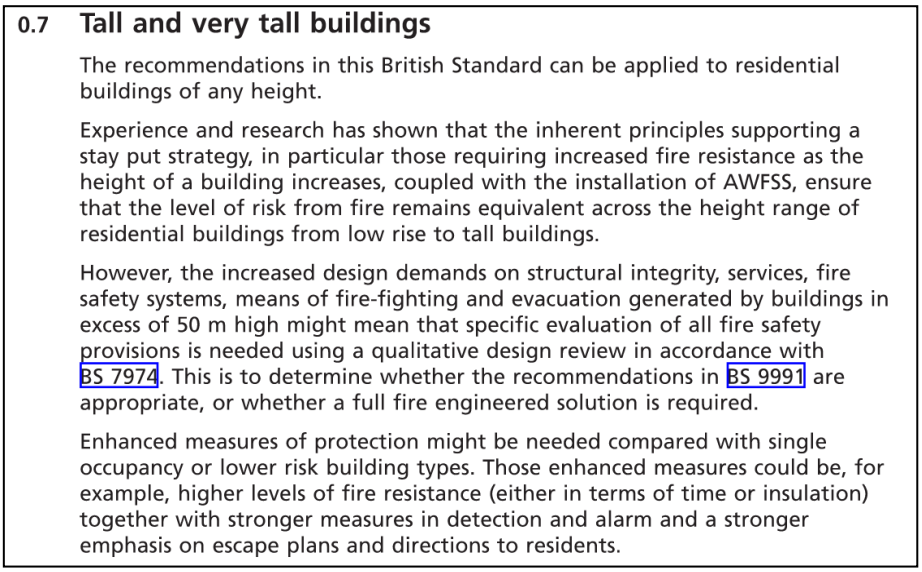
There are additional requirements for the Accountable Person once the building is occupied. The Accountable Person is responsible for the following:

- Assessing and managing safety risks
- Managing the building safety information (golden thread)
- Preparing the safety case report (and keeping it up to date)
- Engaging with residents
- Setting up a complaints procedure and a system of reporting of incidents.

4.0 QUALITATIVE DESIGN REVIEW

4.1 Qualitative Design Review (QDR) Process

BS 9991:2015 set out recommendations for the approach to tall and very tall buildings as shown in the following figure.



0.7 Tall and very tall buildings

The recommendations in this British Standard can be applied to residential buildings of any height.

Experience and research has shown that the inherent principles supporting a stay put strategy, in particular those requiring increased fire resistance as the height of a building increases, coupled with the installation of AWFSS, ensure that the level of risk from fire remains equivalent across the height range of residential buildings from low rise to tall buildings.

However, the increased design demands on structural integrity, services, fire safety systems, means of fire-fighting and evacuation generated by buildings in excess of 50 m high might mean that specific evaluation of all fire safety provisions is needed using a qualitative design review in accordance with BS 7974. This is to determine whether the recommendations in BS 9991 are appropriate, or whether a full fire engineered solution is required.

Enhanced measures of protection might be needed compared with single occupancy or lower risk building types. Those enhanced measures could be, for example, higher levels of fire resistance (either in terms of time or insulation) together with stronger measures in detection and alarm and a stronger emphasis on escape plans and directions to residents.

Figure 2: BS 9991 Tall Building Guidance

It mentions that code-compliant principles and approaches may not necessarily be adequate for tall buildings with floors more than 50m above ground and recommends that a Qualitative Design Review (QDR) is carried out on all such buildings.

The 2024 standard is different and has removed reference to the need for a QDR. The new standard states that it is applicable to all buildings up to and including 100 m high.

Block N5A have a top floor more than 50m above ground and are considered a “tall or very tall building” based on the 2015 standard but are well within the 100 m height limit in the new standard.

Whilst not specifically required by the new standard the intention is nevertheless for the project to follow the principles of a QDR to establish that the fire safety arrangements are appropriate given the height of the buildings.

There are several life safety design principles that have been incorporated into the design that enhance the overall standard of fire safety in the building:

- Each building is provided with two escape stairs.
- Designing all cores in N5A as firefighting stair and lift cores with the stair and lifts accessed from fire protected lift lobbies. All lifts designed as dual purpose fire fighting and evacuation lifts. This provides an enhanced level of resiliency and flexibility for both escape and firefighting operations.
- Providing all corridors with a means of smoke venting, regardless of corridor length. This provides an additional level protection to the lift lobbies and the stairs and is line with latest guidance and standards.

5.0 CONSTRUCTION, PRODUCTS AND MATERIALS

5.1 Construction Materials

As required by the London Plan D12 B1, this section sets out the building's construction method and products and materials used as summarised below.

ELEMENT	DESCRIPTION
Construction approach / methodology	Brick cavity construction
Building structural frame	Reinforced concrete
External wall construction	Brick SFS with cavity wall
Roof construction	Concrete slab with insulation above

Table 5: Construction methods and primary materials

The Building Regulations (Regulation 7) require that building work must be carried out in a workmanlike manner using adequate and proper materials. Any materials, products or systems are to be appropriate for the circumstances in which they are used with tested and certified products that are installed in accordance with the manufacturers design details and instructions.

Building materials will be required to achieve the minimum standard for fire resistance as outlined within section 10.0 for passive fire protection. All internal linings and external wall materials will achieve the minimum requirements of Building Regulation guidance documents, as discussed in Section 10.0.

5.2 External Wall Construction

All three plots N3, N4 and N5 are considered as a "relevant building" in accordance with Regulation 7(4). Therefore, in accordance with Regulation 7(2), all materials forming part of the external wall systems including specified attachments such as balconies will achieve a performance of at least European Classification A2-s1, d0. There are specific exemptions noted in Regulation 7(3) and these will be followed as appropriate.

Cavity barriers and fire stopping will be provided at the junction of the internal compartment floors/walls within the external walls as set out in Section 10.3 and 10.4.

5.3 External Fire Spread

Each building will be designed with consideration to fire safety of the neighbouring buildings and adjacent areas to mitigate the risk of fire spread across the site (or relevant) boundary to adjacent buildings .

The extent of unprotected area to the elevations will be determined using guidance and methods given in BR 187 taking into consideration the provision of sprinklers and the building's proximity to the site boundary, surrounding roads, and notional boundaries positioned between the three blocks.

Each elevation faces adjacent buildings or site boundary line. Based on the high degree of internal compartmentation and provision of sprinklers throughout the development, it is not expected for the elevations of any flats to need to be fire rated to protect against fire spread across the boundary.

The most onerous non-residential elevation is the commercial unit on the west side of N5, with a compartment width of 30m, height of approximately 4m, and boundary distance of 6.4m. Calculations show a sprinklered retail unit is permitted an entirely unprotected façade, so it is not expected that any of the commercial units or ancillary areas will be subject to 'space separation' restrictions regarding external fie spread. However, this will be continually reviewed as the design develops, to ensure compliance with Building Regulations guidance regarding external fire spread. Figure 3 below shows the arrangement of buildings on the site and provides the dimensions which have informed this analysis.

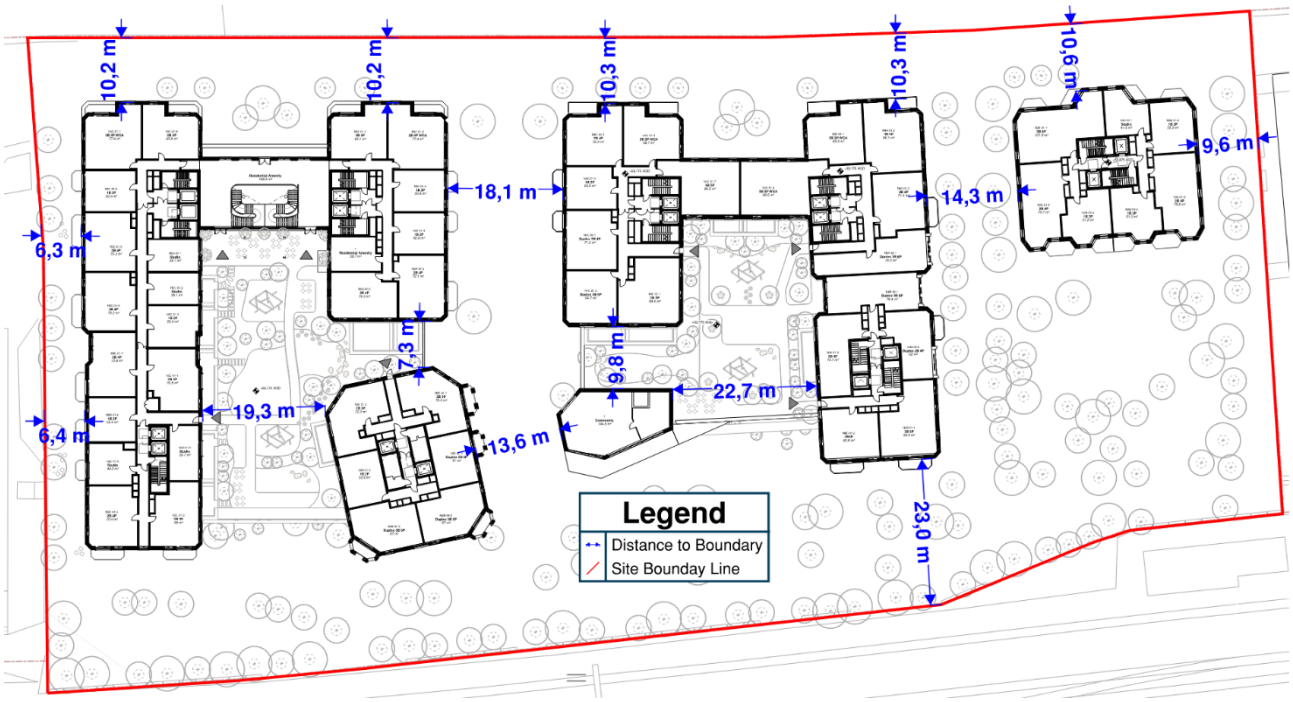


Figure 3: Site boundary and notional boundary measurements

5.4 Roof Coverings

Roof materials, including the terraces, will achieve B_{roof} (t4) classification throughout. This is in line with the recommendations of BS 9991 and the Approved Document B Volumes 1 and 2.

6.0 ACTIVE FIRE SAFETY SYSTEMS

6.1 Automatic Sprinkler System

The top floor height of each building is greater than 11m above ground floor therefore sprinklers will be provided to meet Building Regulations guidance.

For the residential units, a Type 4 residential sprinkler system will be provided and will be designed and installed in accordance with BS 9251.

The non-residential ancillary, amenity areas and commercial units will also be protected with a sprinkler system. However, where the design of the sprinkler system falls outside the scope of BS 9251, sprinkler coverage will be provided by a commercial sprinkler system designed in accordance with BS EN 12845. This will be evaluated in conjunction with a specialist sprinkler sub contractor as the design progresses to ensure the buildings have a fully compliant sprinkler system.

6.2 Fire Detection and Alarm System

A summary of the fire alarm and detection system(s) are shown in Table below.

AREA	CATEGORY	APPLICABLE GUIDANCE
Residential apartments	LD1	BS 5839-6
Residential common corridors	L5	BS 5839-1
Residential amenity and ancillary areas, e.g. Refuse store, cycle stores, plant rooms etc.	L3	BS 5839-1
Non-residential ancillary areas	L3	BS 5839-1
Commercial units	L2	BS 5839-1

Table 6: Automatic Fire Detection Provisions

An evacuation alert system (EAS) designed to BS 8629 will be provided to the residential areas in each building.

6.3 Emergency Lighting and Signage

Emergency lighting will be provided in accordance with relevant code guidance, including the BS9991 and BS 5266-1.

Wayfinding signage for firefighters will be provided in accordance with ADB V1 – Clauses 15.13 to 15.16.

6.4 Secondary Power Supplies

A secondary source of power will be provided for all life safety systems in line with the BS 9991 guidance. A generator will be located at Ground floor within N4 which will also provide secondary power to N3E and N5.

6.5 Smoke Control System

6.5.1 Residential Lobbies / Corridors

Lift lobbies and common corridors will be smoke vented via smoke extract shafts. Smoke shafts in lift lobbies will be natural smoke shafts and smoke shafts in corridors will be mechanically assisted smoke shafts. There will also be a 1m^2 AOV at the head of each stair. The natural smoke shaft in the lobby will primarily act as a source of inlet air for the mechanical extract in the corridor.

The purpose of the smoke control systems is to extract smoke from the corridor and to minimise or prevent the flow of smoke into the lift lobbies in line with the guidance in BS9991:2024 and March 2024 version of the Approved Document B.

The detailed design of the smoke ventilation in corridors will be reviewed post planning in consultation with a specialist system supplier but the intention is to maintain the lift lobbies and the stairs as smoke clear environments for fires occurring in the apartments or other rooms adjoining the circulation spaces. Further discussion on how the systems will perform in each building is given in subsequent sections of this report.

6.5.2 Covered Car Parks in N4 and N5

The residential car parking located at ground in Blocks N4 and N5 will also be provided with smoke extract designed for 10 air changes per hour in accordance with current guidance. It may, however, be necessary to provide enhanced smoke extract to address emerging concerns over the risk of electrical vehicle fires. The need for enhanced smoke extract will be considered further as the design develops.

6.6 Routine Inspection and maintenance of fire safety installations

Fire safety installations shall be maintained in accordance with the relevant British or European standards. An Inspection, maintenance and repair manual shall be part of the fire safety manual and incorporated in the building management plan.

7.0 EVACUATION STRATEGY

7.1 Residential Areas

The residential accommodation areas (i.e., flats) will operate a “defend in place” evacuation strategy. This means only the apartment where the alarm originated will evacuate initially. However, an evacuation alert system (EAS) designed to BS 8629 will be provided to the building, which will allow for the progressive evacuation of the residential building if required.

7.2 Communal and Ancillary Areas

Upon detection in any of the common areas of any building, all communal areas / ancillary areas in that building will evacuate. This includes evacuation of all common areas, such as:

- Bin / bike Stores.
- Car Park
- Plant rooms.
- Amenity spaces including external amenity spaces, such as the N5 podium garden.

The detection of a fire within the ancillary spaces will not signal the evacuation of the residential apartments.

An evacuation alert system (EAS) designed to BS 8629 will be provided to each building. As these areas will be ancillary to the residential floors, the systems will be extended to the areas and will be connected to the residential alarm systems in their respective building to allow for fire service use and coordination.

7.3 Non-Residential Commercial Areas

The commercial spaces at Ground Floor in each building will be independent of the rest of the building and will follow their own evacuation strategy. The units will evacuate immediately upon alarm in the unit; a fire alarm activation will not cause the evacuation of the rest of the building. However, there will be a link from the non-residential areas to the residential building management to inform them of a fire alarm activation in the commercial areas and vice versa.

7.4 Disabled Occupants

Residential buildings follow a stay-put evacuation strategy and for that reason guidance does not make any specific recommendation for the need for additional features to assist mobility impaired occupants from the building. However, the London Plan proposes that at least one lift per core should be an evacuation lift i.e. usable for mobility impaired escape; this is applicable to residential and non-residential buildings.

Firefighting lifts are designed to operate in a fire and potentially could be used by mobility impaired occupants who need to escape from the fire flat. However, once the fire brigade arrives on site, they will take control of the lift for operational firefighting activities. Therefore, all lifts will be designed as dual-purpose firefighting / evacuation lifts to ensure maximum operational flexibility and redundancy for the fire brigade.

Occupants of reduced mobility can either use the evacuation lift(s) to make their escape, or they can temporarily wait in the protected lobby. The emergency voice communication (EVC) systems will allow residents to communicate with onsite staff or firefighters, who could assist if necessary. Refuges will be located within the protected evacuation lift lobby. These will give residents direct access to the evacuation lifts. The intention is to ensure that the evacuation lift lobbies remain relatively free of smoke during the escape period. This will be reviewed during the detailed design period.

Management plans specifically addressing the needs of all building users but in particular those who need assistance will be developed by the building management team in due course.

7.5 Evacuation Assembly Point

A suitable place of assembly will be provided as part of the development. The location of the evacuation assembly points will be confirmed as the design develops. However, potential option for assembly point is shown in figure below.

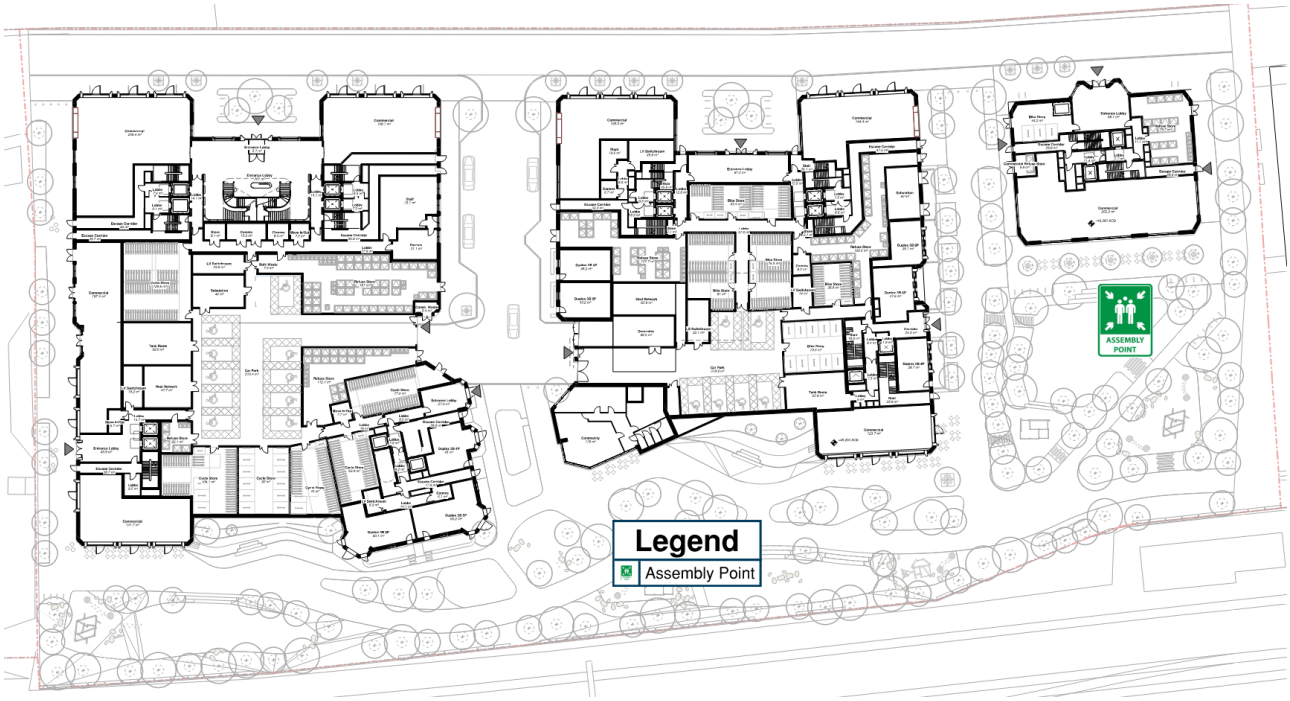


Figure 4: Option for Suitable Assembly Points

8.0 MEANS OF ESCAPE - PRINCIPLES

8.1 Residential Apartments

8.1.1 Open-plan Apartments

As per the approved masterplan, the apartments will be a mixture of studio, open-plan, and conventional layouts, and in each case will be designed in line with BS 9991 guidance. To support the open-plan and studio flats, the following will be provided:

- sprinklers and an LD1 automatic fire detection and alarm system.
- cooking facilities will be located as remote as practicable from the entrance of units. In open plan flats kitchens will be located such that the means of escape from the bedrooms and other habitable rooms is not within 1.8m of the hob. The escape route zone will be at least 0.9m wide to provide a suitable route for occupants to escape.
- The size of the open-plan flat will not exceed 16m×12m.

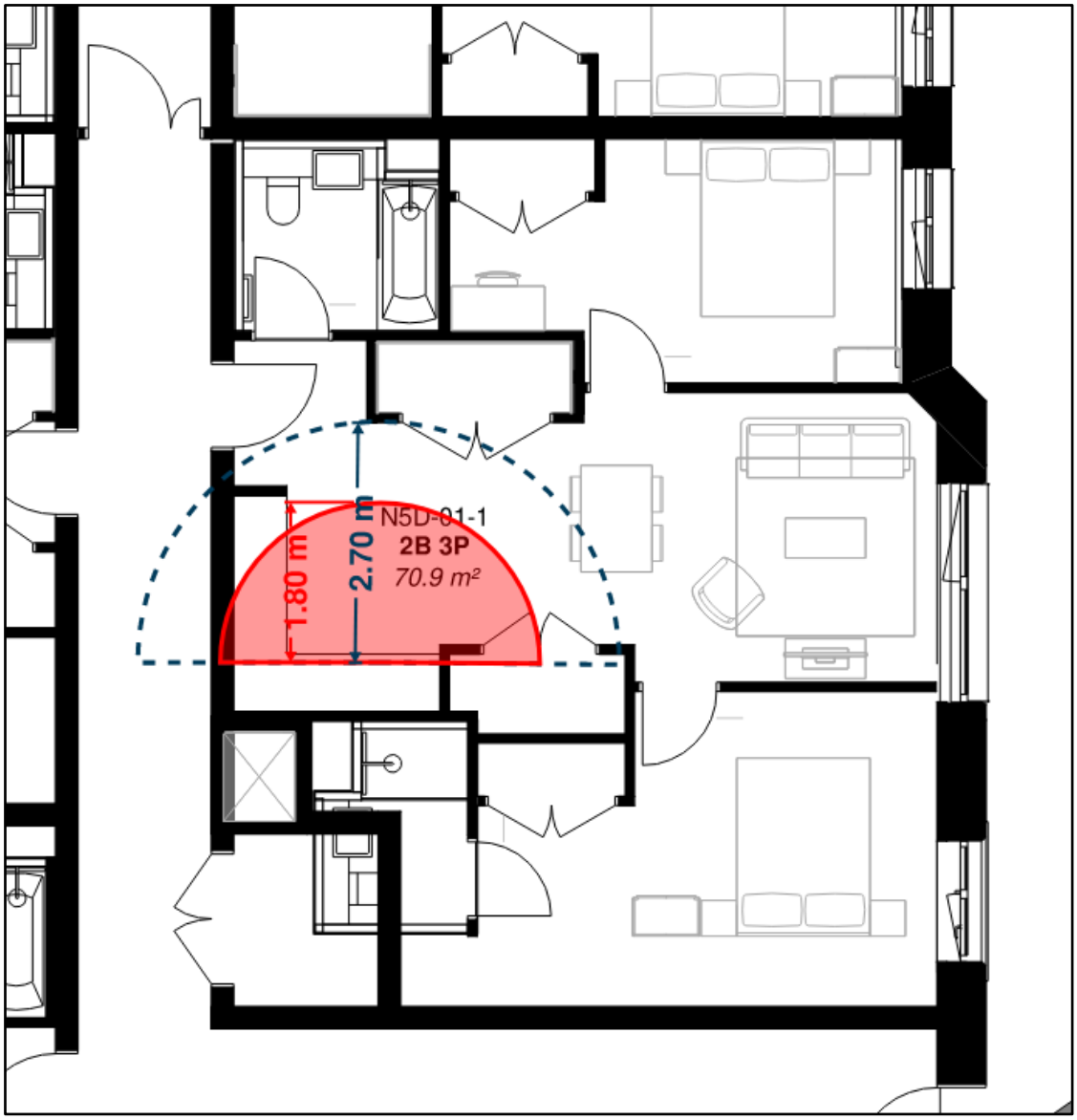


Figure 5: Typical Open-Plan Apartments

:

8.2 Common Corridors / Lift Lobbies

The cores in each building comprise of two adjoining stairs, except for the core in N5D which contains a single stair on the basis it links to N5C and can also escape via the cores in that building. Every stair opens into its own smoke vented lift lobby, from which the common corridors and lifts associated with that stair are accessed. This provides two fire door separation between flats and lift lobbies, and three door separation between flats and stairs. Common corridors will also be provided with a means of smoke extract.

Residential levels will be arranged so that the escape distances from the apartments to the door to the lift lobby are less than 15m, except for flats in N4D which have a choice of escape routes.

Each building is addressed in more detail in following sections.

8.3 Residential Stairs and Final Exits

Each residential floor will be served by at least two stairs.

Each stair will have a minimum clear width of 1.1m and will be provided with a $1m^2$ automatically opening vent at the head of the stair.

The stair cores in the building will exit to outside at ground level either direct to outside or via protected corridors. Protected corridors will not interface with non-residential areas and will not provide direct access for any services. The final exits from the stairs are protected to the same standard as the stair on upper levels as recommended by BS 9991 guidance. Any connections to ancillary accommodation or services at ground floor will be via a smoke vented lobby.

Each building is addressed in more detail in following sections.

8.4 Residential Ancillary Areas

Residential ancillary areas will be provided across the building as summarised in Table 1.

From the ancillary areas, sufficient means of egress will be available via the stair cores and exits direct to outside to meet BS 9991 guidance.

The ground level will be provided with escape routes leading directly to outside and/or via the protected lobbies / corridors.

Upper levels amenity spaces including external amenity areas have access at least to two separate stair cores that are provided with evacuation lifts. The roof terrace at Level 10 of N5 will be provided with access direct to lift lobbies. This is compliant with BS9991 guidance.

Travel distances within the amenity spaces / ancillary accommodation will be designed in accordance with Table 7 below:

Area	Maximum part of travel distance within the room or area		Maximum part of travel distance to the storey exit	
	Single direction	Multiple direction	Single direction	Multiple direction
Plant room Bin store Cycle Store	9m	18 m	18 m	45 m
Car park	18 m	45 m	18 m	45 m
Amenity spaces	18 m	45 m	18 m	45 m

Table 7: Travel distance requirements in ancillary accommodation

8.5 Commercial Units

The travel distances within commercial units will comply with the BS 9999 recommendations, the travel distances will be determined once the end user has been confirmed.

Where a unit is provided with a single escape route the capacity will be limited to 60 occupants. Where the occupancy will exceed 60, multiple escape routes will be provided to meet the requirements of BS 9999. This will be further assessed as the design develops.

The commercial and residential areas will be completely fire separated from each other with no internal connection.

9.0 RESIDENTIAL MEANS OF ESCAPE – BLOCK BY BLOCK

9.1 N3E

9.1.1 Typical Floor

Upper floors in N3E comprise two firefighting stairs, each with an associated lift lobby and dual-purpose evacuation / firefighting lift. Lift lobbies and corridors are smoke vented, as shown in the figure below. Travel distances from the furthest flats are within 15m, which is compliant with BS 9991 guidance for sprinklered buildings.

The proposed back-to-back stair arrangement means that to reach the secondary escape stair occupants must pass through the protected lobby of the first stair. This is compliant with BS9991:2024.

Lift lobbies and corridors are smoke vented, as shown in the figure below. The smoke shafts in the corridors will be designed to extract smoke on detection of smoke in the corridor. The smoke shafts in the lift lobby are natural shafts and will provide replacement air such that the direction of airflow is from lobby into corridor to minimise the potential for smoke to flow into the lift lobby.

Computer smoke modelling will be carried out as part of the Gateway 2 design to prove and validate the performance of the system.

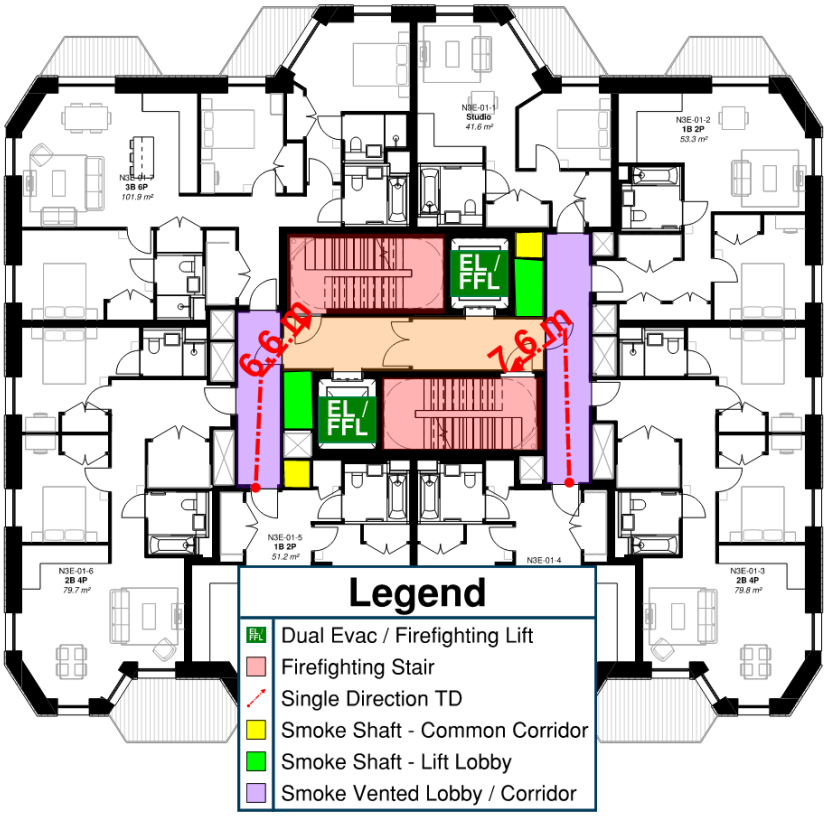


Figure 5: N3E Typical Floor

9.1.2 Ground Floor and Final Exit

Both stairs discharge to outside via corridors at ground. These corridors are considered extensions of the stair from a fire strategy perspective and therefore require an equivalent level of protection.

Both lifts open into protected lobbies which connect directly to the respective stairs and share the same step-free final exit route as the stair.

Protection to the stair and the lift lobbies is achieved via smoke vented corridors, separating the escape routes from ancillary accommodation. This is shown in the following figure.

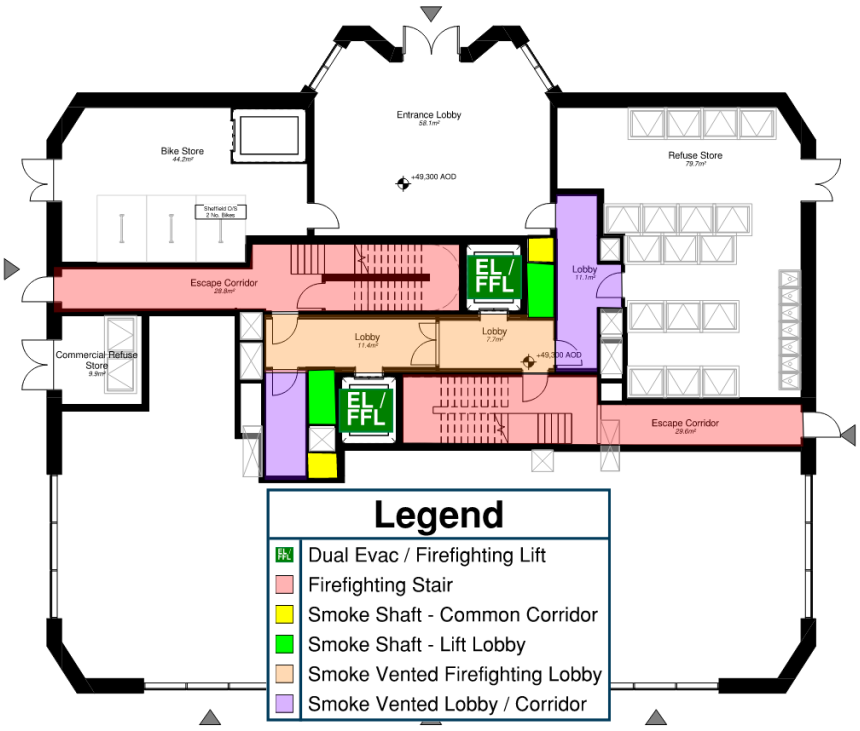


Figure 6: N3E Ground Floor

9.1.3 Basement

Only one of the two residential stairs continues to basement level, which contains bike storage and plant rooms. Both dual-purpose lifts serve basement level. Protection to the stairs and lift lobbies is as per the upper levels, with natural smoke shafts in the lift lobbies and mechanically assisted smoke shafts in the corridors.

The arrangement of the cycle store will be developed at the detailed design stage to reduce travel distances to within 9m in a single direction.

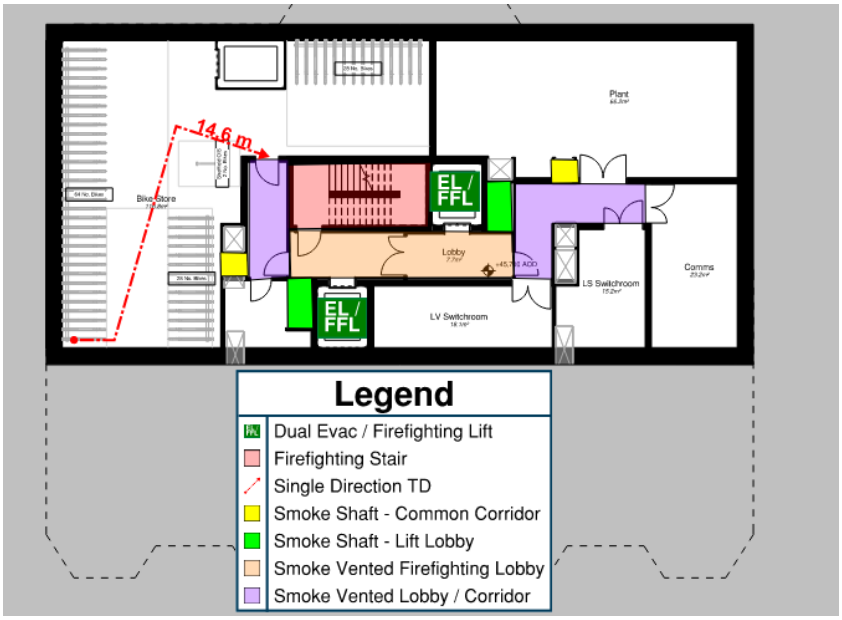


Figure 7 - N3E Basement means of escape

9.2 N4

9.2.1 Typical Floor

The upper floors in N4 comprise two firefighting stairs, each with an associated lift lobby and dual-purpose evacuation / firefighting lifts. Lift lobbies and corridors are smoke vented, as shown in the figure below. Travel distances from the furthest flats are within 15m, which is compliant with BS 9991 guidance for sprinklered buildings.

Figure 8: N4 Typical Floor

9.2.2 Ground Floor and Final Exit

Both stairs in each block discharge to outside via corridors at ground, which are considered extensions of the stair from a fire strategy perspective and therefore require an equivalent level of protection. Both lifts open into protected lobbies which connect directly to the respective stairs and share the same step-free final exit route as the stair.

Protection to the stair and the lift lobbies is achieved via smoke vented corridors, separating the escape routes from ancillary accommodation. The lifts in N4A and N4C are dual entry at ground but in a fire condition will only open into the protected lobby connecting to the stair. The other (front of house) lobby connecting to the lifts will also be smoke vented to protect the escape routes from a fire in the entrance lobby. This is shown in the following figure.

Figure 9: N4 Ground Floor

9.3 N5

9.3.1 Typical Floor

The upper floors in N5 comprise two firefighting stairs, each with an associated lift lobby and dual-purpose evacuation / firefighting lifts. The exception to this is N5D, which has a single escape stair on the basis it connects to N5C, and its two escape cores, via a common corridor. Core N5D does, however, have two dual purpose fire fighting and evacuation lifts.

Lift lobbies and corridors are smoke vented, as shown in the figure below. Travel distances from the furthest flats are within 15m (or 60m for flats in N5D with a choice of escape routes), which is compliant with BS 9991 guidance for sprinklered buildings. N5B is slightly different to the other blocks because access to the second stair is through the lobby of the primary stair. This is in line with Figure 7 in BS 9991:2024, which permits escaping through the lobby of one stair to reach another. It is proposed to only vent the lobby to the primary stair on the basis there is no fire risk open to the secondary stair or its lobby.

Figure 10: N5 Typical Floor

9.3.2 Ground Floor and Final Exit

All stairs discharge to outside via corridors at ground, which are considered extensions of the stair from a fire strategy perspective and therefore require an equivalent level of protection. Most lifts open into protected lobbies which connect directly to the respective stairs and share the same step-free final exit route as the stair, although the lifts in N5D open into the reception lobby, which will be kept completely free of fire load or ignition risk at all times.

Protection to the stair and the lift lobbies is achieved via smoke vented corridors, separating the escape routes from ancillary accommodation. The lifts in N5A and N5C are dual entry at ground but in a fire condition will only open into the rear lobby connecting to the stair. The other lobby (front of house side) will also be smoke vented to protect the escape routes from a fire in the entrance lobby. This is shown in the following figure.

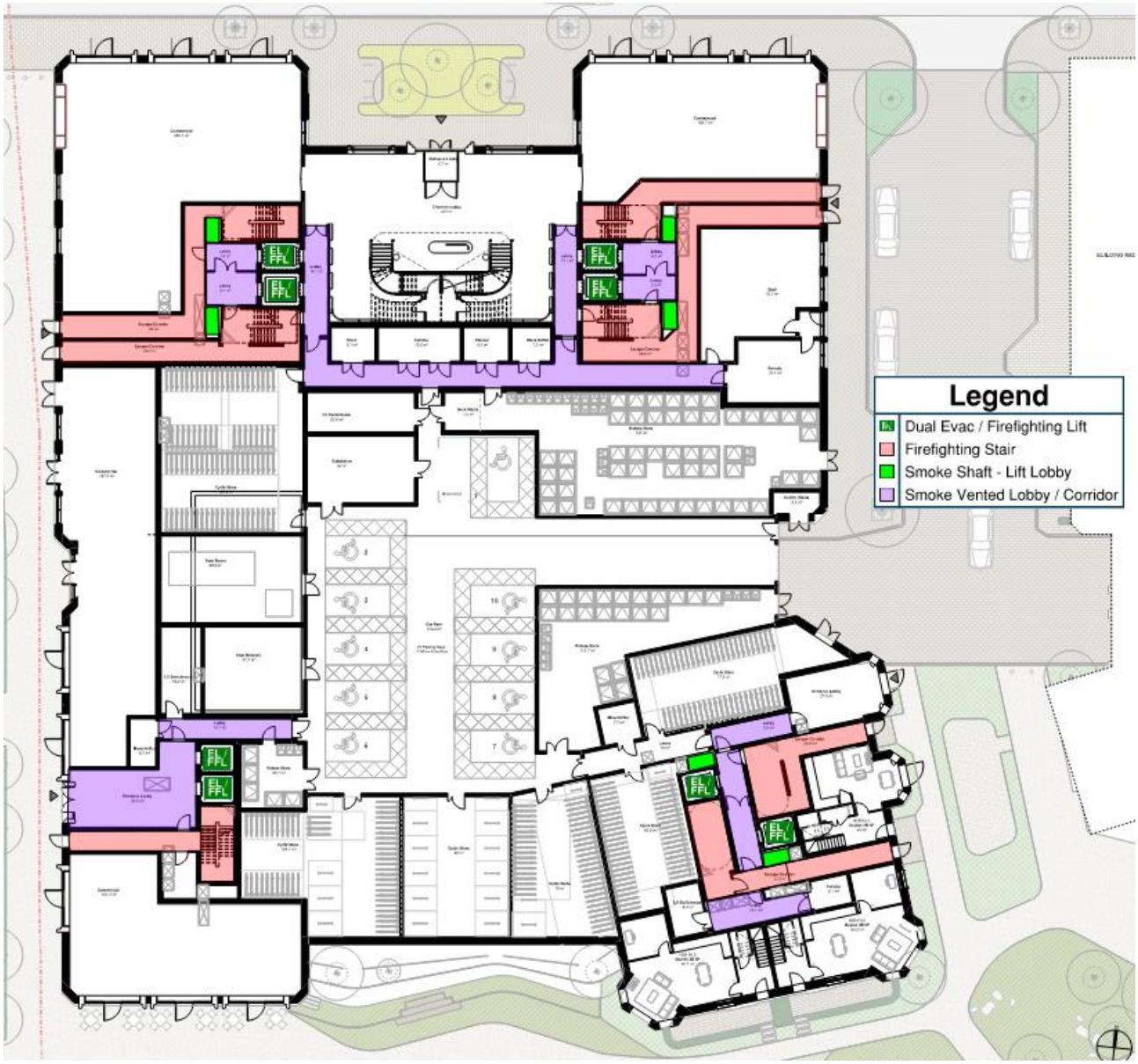


Figure 11: N5 Ground Floor

9.3.3 Level 10 Amenity

The amenity space and roof terrace at Level 10 will have access to the two cores in N5C and the core in N5D for escape. Travel distances are within recommend limits and the cores provide direct access to evacuation lifts.

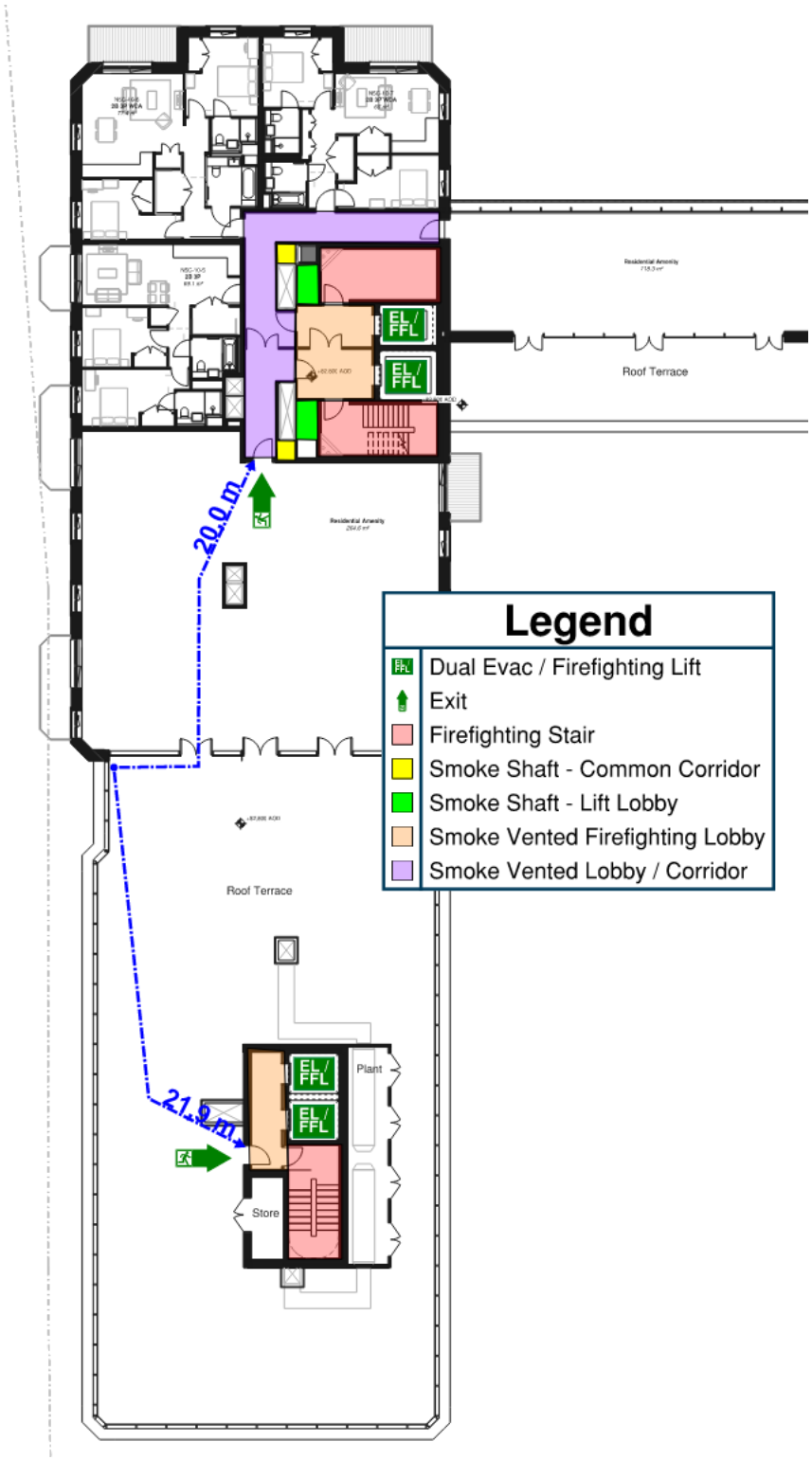


Figure 12: N5 Level 10 Amenity

The roof terrace is available for day to day use and the routes to and from the two cores will be part of the normal circulation to and from the amenity. Measures will be provided to ensure the escape routes are available at all times especially during inclement weather. This will include lighting, signage, and guarding where appropriate and any associated management procedures.

10.0 PASSIVE FIRE SAFETY MEASURES

10.1 Structural Fire Resistance

Every building has storeys exceeding 30m above ground. Therefore, structure will provide 2 hours fire resistance in accordance with BS 9991 guidance.

10.2 Compartmentation and Fire Doors

Fire-resisting walls and floors will be provided in accordance with the following table.

AREA	FIRE RESISTANCE	FIRE DOOR
Compartment floors (all floors will be designed as compartment floors)	2 hours	N/A
Firefighting shafts (including firefighting stairs, lift and lobby) from other accommodation	2 hours	FD60S
Within firefighting shaft (i.e. separation between firefighting stair, firefighting lobby and firefighting/evacuation lift)	1 hour	FD30S (FD30 for the firefighting/evacuation lift)
Stair final exit corridors	2 hours	N/A
Riser shafts Note 1	2 hours	FD60 ('s' rated when opening into protected corridor or lobby)
Separating construction to commercial units	2 hours	N/A
Life safety plant rooms High risk plant rooms	2 hours	FD120
Walls between apartments	1 hours	N/A
Walls between apartments and common areas	1 hour	FD30s
LV plant rooms	30 minutes	FD30
Other non-life safety plant room Note 2	1 hour	FD60
Refuse store	1 hour	FD60
Cycle store Car park Note 3	1 hour	FD60s
Amenity spaces (i.e. co-working or other communal spaces)	30 minutes	FD30s
UKPN substation	4 hours	As required by the power supplier

Note 1 The dampers to the smoke shaft will be designed to achieve the same fire resistance as the shaft.

Note 2 Will be determined by the type of plant located within the plant room but will be at least 60 minutes with the doors achieving the same fire resistance period as the wall

Note 3 It may be necessary to provide enhanced compartmentation to address emerging concerns over the risk of electrical vehicle fires. The need for this will be considered further as the design develops.

Table 8: Fire compartmentation and fire doors requirements

10.3 Cavity Barriers

Cavity barriers will be provided within any external wall cavities, floor voids or ceiling voids in accordance with the guidance in Clause 19 of BS 9991.

10.4 Fire Stopping

Fire stopping will be provided to maintain the integrity of the fire separating elements in accordance with the recommendations of Section 24.4 of BS: 9991.

10.5 Internal Wall & Ceiling Linings

Any internal surface finishes (walls or ceilings) will be provided in line with the table below.

ROOM	PERFORMANCE (EUROPEAN CLASS)
Within circulation spaces	B-s3,d2
Rooms smaller than 4m^2 (residential areas)	D-s3,d2
Rooms smaller than 30m^2 (all other areas)	
Other rooms	C-s3,d2

Table 9: Wall and ceiling linings

11.0 ACCESS AND FACILITIES FOR THE FIRE SERVICE

11.1 Fire Vehicle Access

The access road will be suitable for a fire service pump appliance with a 3.7m clear width and 3.7m vertical clearance height. The load-bearing capacity to the access roads will be a minimum of 14 tonnes suitable for the London Fire Brigade fleet.

Appliance Type	Min. width of road between kerbs(m)	Min. width of gateways (m)	Min. turning circle between kerbs (m)	Min. turning circle between walls (m)	Min. clearance height (m)	Min. carrying capacity (tonnes)
Pump	3.7	3.1	16.8	19.2	3.7	14.0
High Reach	3.7	3.1	26.0	29.0	4.0	23.0
Special Appliance	4.0	3.1	26.0	29.0	4.27	32.0

Table 10: Typical vehicle access route specification

Fire vehicle access will be provided to ensure suitable parking positions as follows:

- within 18m of the dry fire main inlet for each firefighting shaft, which will be located near the entrance point leading to the fire-fighting shaft / escape stair and visible from the fire appliance.
- Where a wet fire main is provided, a fire vehicle will be able to park within 18m and in sight of a suitable entrance giving access to the wet fire main and within sight of the inlet for the emergency replenish of the suction tank for the wet fire main.

The fire service access route, which allows access to the site, is indicated in the figure.

This is in line with the BS 9991 guidance. Indicative vehicle access is shown in the figure below.

Vehicle access will provide within 45m hose cover of all points within the commercial units at ground level. At upper levels of commercial units, fire mains will be provided so that hose distance from fire mains outlet to any part of the unit will be within 60m. This is compliant with BS9999 guidance.

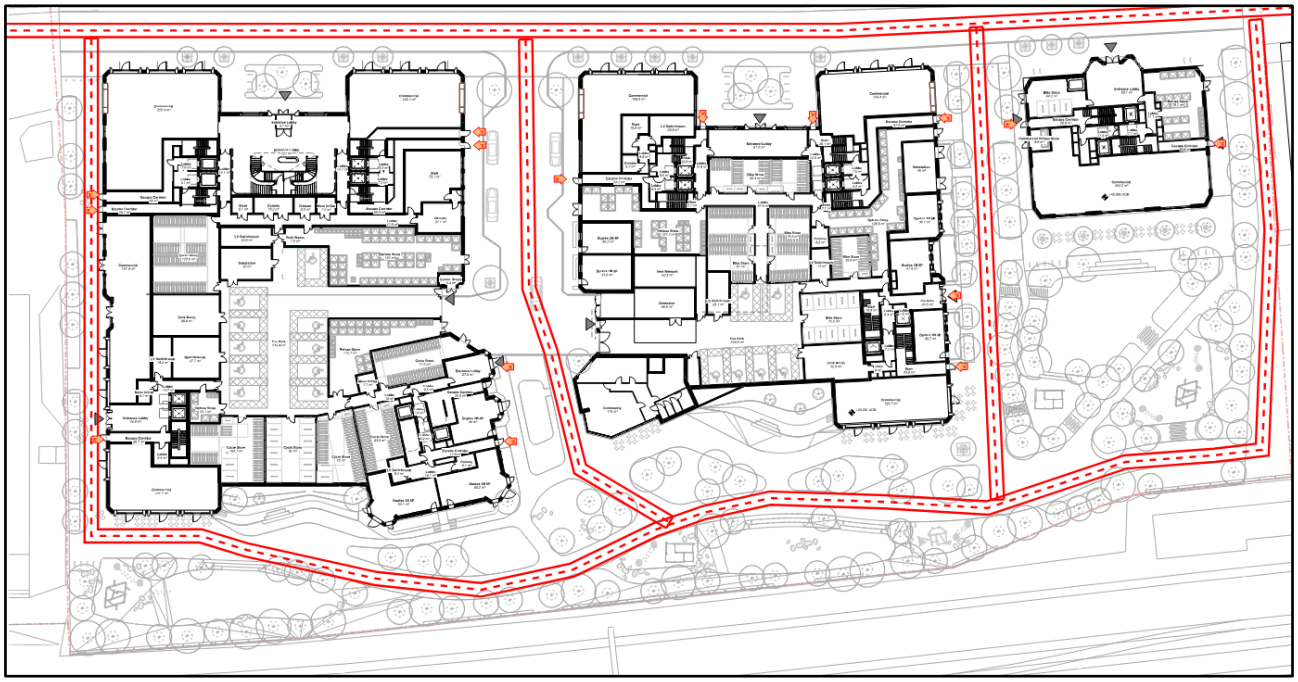


Figure 13: Sitewide fire vehicle access

11.2 Firefighting Facilities within the Buildings

Every building has a top floor height of more than 18m above ground. Every core will be designed as a firefighting shaft to provide as much operational resiliency and flexibility for the fire brigade as possible. This design also provides redundancy in the event there is an issue with one firefighting core, which reflects the fact that these are tall buildings.

All firefighting cores will be provided with the following:

- A dedicated firefighting lift.
- Firefighting stair at least 1.1m wide.
- Smoke vented firefighting lobby into which the firefighting stair and lift(s) open (refer to Section 9.0 for further information on smoke venting strategies in each block).
- 2-hour fire resisting enclosure to the firefighting shaft with 1-hour fire resisting separation between the stair, lift and lobby within the firefighting shaft.
- Dry fire main with an outlet located within the stair enclosure on all floors. Exception is Block N5A, which will be provided with wet fire mains as the building height is more than 50m.
- 1m^2 automatically opening vent at the head of the stairs.

A typical layout comprising back-to-back firefighting shafts is shown below.

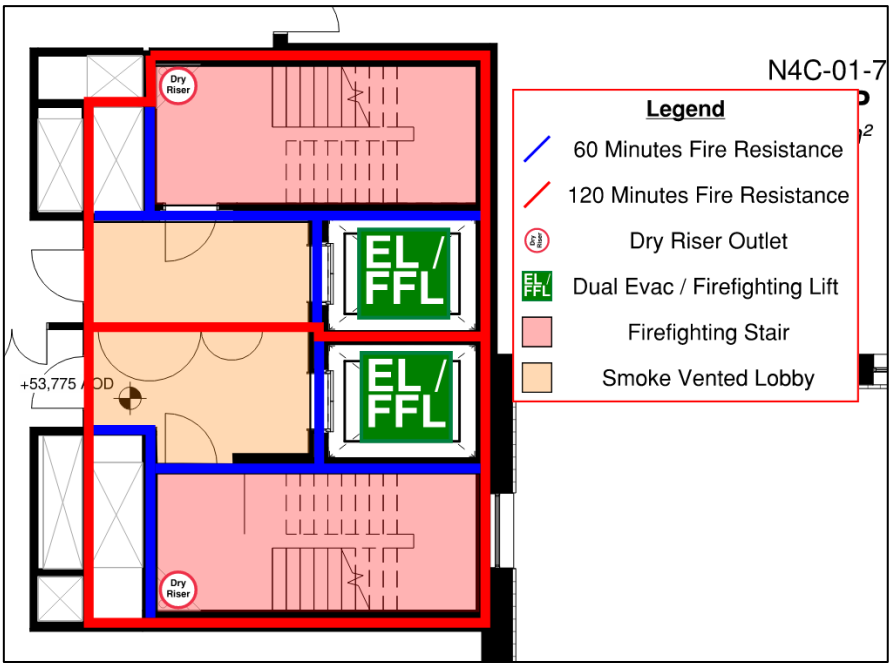


Figure 14: Typical firefighting shaft layout

11.3 Hose Coverage

Hose cover from the fire main outlet from both firefighting shafts is within the recommended limit of 60m from a firefighting shaft in a sprinklered building at 34.5m.

Vehicle access is provided within 45m hose cover of all points within the commercial units.

11.4 Firefighting Wayfinding Signage

Wayfinding signage for firefighters will be provided in accordance with ADB V1 – Clauses 15.13 to 15.16.

11.5 Premises Information Box

A Premise Information Box (PIB) will be provided and suitably located for the building. The location of the PIB will be such that it is readily accessible for the fire service on their arrival; this will be confirmed as the design and management strategy develops.

11.6 External Water Supply

New fire hydrants will be provided in accordance with the guidance in the BS9991, such that they are within 90m of the fire main inlets. Indicative locations are shown in the figure below.

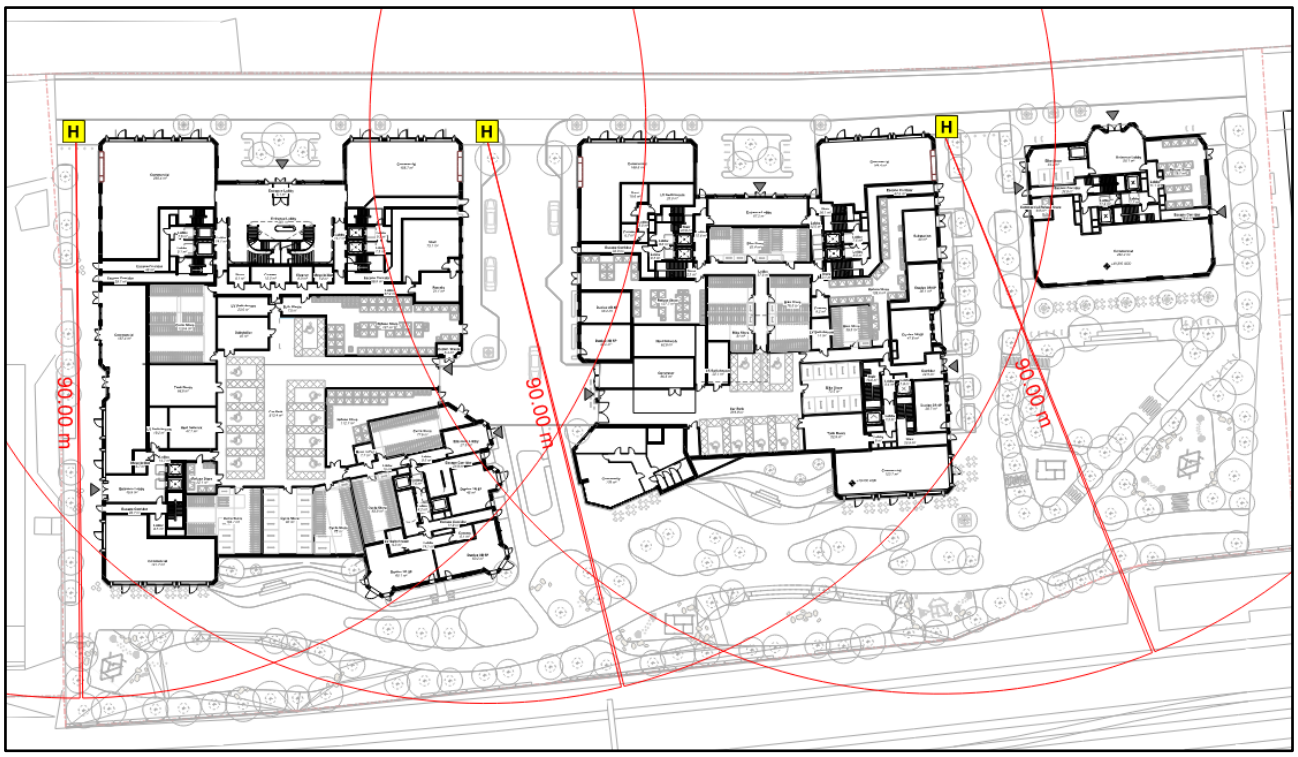


Figure 15 – Indicative New Hydrant locations

12.0 MANAGEMENT

Management procedures have not been developed at this stage of the project. However, there are areas requiring a level of management and an appropriate management strategy will be developed in due course.

The fire strategy report will form part of the Building Regulations Application. It will also be used to inform any future alterations to the building to ensure that they meet the requirements of the fire strategy.

The owners will be responsible for implementing a management plan for the ongoing maintenance of fire safety systems and ensuring safe access routes to and within the buildings. These plans shall be in line with the requirements of the Regulatory Reform (Fire Safety) Order and relevant British Standards for the fire safety equipment.

13.0 FUTURE DEVELOPMENT OF THE ASSET AND THE 'GOLDEN THREAD' OF INFORMATION

In line with the recommendations for providing a 'golden thread' of information, digital records of core fire safety components during the design and construction phases will be provided. Records will be initiated by the relevant duty holders during the design and construction phase, on completion of work the records will be handed over to the building owners to maintain for the life of the building.

A Fire and Emergency File (FEF) will be established for this development to record relevant information throughout the design, construction and life of the building. This will be an ongoing process as the scheme is developed and built and will include this fire statement and subsequent fire strategies as outlines of the key fire safety design provisions of the building, including assumptions of fire loads, occupant characteristics, evacuation strategies, passive fire safety measures, active fire safety systems, fire safety equipment, key fire properties of building materials, access for fire and rescue services. As the design develops relevant documents shall be recorded including technical specifications and product datasheets, detailing specific information on the building materials, safety systems and equipment. On completion of construction the commissioning documents and the operation and maintenance manuals shall be recorded. Throughout the life of the building regular inspections and maintenance are required to ensure the fire strategy is upheld and fire safety systems are operational. Records of inspections, fire risk assessments and maintenance work shall be recorded.

The details of the information retention systems will be determined by the client.

Modification of the following elements of the building may adversely affect the original fire safety strategy:

- Fire detection and alarm systems
- Fire suppression systems
- Smoke clearance and control systems
- Increasing population, e.g., if further flats were provided in the future.
- Changing the use of the areas
- Escape routes
- Number and dimension of escape stairs
- Refuge areas
- Wall and ceiling linings
- Fire protection of the building structures
- Changing fire and smoke doors
- Changing, penetrating fire compartments, cavity barriers
- Increasing fire load in certain areas
- Creating, changing openings on the external envelope
- Changes in the external envelope of the building
- Changes in the environment of the building related to the fire service access points and parking.

14.0 INFORMATION, LIMITATIONS AND ASSUMPTIONS

The information limitations and assumptions used in the preparation of this report are noted below:

14.1 Drawings

This report is based on drawings issued to us. Dimensions have been taken from these drawings. The following drawings were used:

DRAWING NUMBER	REVISION	DRAWING DESCRIPTION
232-TPB-ZZ-GF DR-A-114-0002-S1	-	Proposed GA Site Plan – Ground Floor
232-TPB-AB-B1-DR-A-086-0199-S1	P04	Block A&B - Basement
232-TPB-AB-GF DR-A-114-0100-S1	-	Proposed Block A&B – Ground Floor Plan
232-TPB-AB-01-DR-A-086-0101-S1	P04	Block A&B – Level 01
232-TPB-AB-02-DR-A-086-0102-S1	P05	Block A&B – Level 02
232-TPB-AB-ZZ-DR-A-086-0103-S1	P04	Block A&B – Level 03 - 21
232-TPB-AB-22-DR-A-086-0122-S1	P04	Block A&B – Level 22
232-TPB-AB-ZZ-DR-A-086-0123-S1	P04	Block A&B – Level 23 - 27
232-TPB-AB-28-DR-A-086-0122-S1	P04	Block A&B – Level 28
232-TPB-AB-RF-DR-A-086-0129-S1	P04	Block A&B – Roof Level Plan
232-TPB-CD-B1-DR-A-086-0199-S1	P04	Block C&D - Basement
232-TPB-CD-GF DR-A-114-0100-S1	-	Proposed Block C&D – Ground Floor Plan
232-TPB-CD-01-DR-A-086-0101-S1	P04	Block C&D – Level 01
232-TPB-CD-ZZ-DR-A-086-0102-S1	P04	Block C&D – Level 02 - 09
232-TPB-CD-ZZ-DR-A-086-0110-S1	P04	Block C&D – Level 10 - 11
232-TPB-CD-RF-DR-A-086-0116-S1	P04	Block C&D – Roof Level Plan

14.2 Building Regulations

This report considers building regulations, which deal with life safety. Property protection and insurance issues are not addressed in this report. Guidance on property protection and insurance requirements can be found in the document *Approved Document B: Fire Safety (Volume 2) – Buildings other than dwellinghouses Incorporating Insurers' Requirements for Property Protection,* RIBA Publishing 2015.

14.3 Other Limitations

Complying with the recommendations of this report will not guarantee that a fire will not occur.

Unless otherwise described in this report, the fire strategy assumes that the building design, the mechanical and electrical systems, construction methods and materials specifications will comply with current Building Regulations guidance, and relevant British Standards and Codes of Practice. The design of mechanical and electrical systems such as fire alarm and sprinklers are specialist areas. Fire strategy recommendations are given in this report, however, the design and specifications need to be developed at the appropriate stage in consultation with the specialist designers of these systems.

This report has been prepared for the sole benefit, use and information of Landsec and the liability of Jeremy Gardner Associates Limited, its directors and employees in respect of the information contained in the report will not extend to any third party.

OFFICES AND CONTACT INFORMATION

Should you have any queries with this report please contact our London Office.

London Office:
209-215 Blackfriars Road
London
SE1 8NL
Tel: +44 (0)20 7202 8484
london-jga@jensenhughes.com

OTHER JH OFFICES AT:

Manchester Office:
2nd Floor
Swan Buildings
20 Swan Street
Manchester
M4 5JW
Tel: +44 (0)1612366527
manchester-jga@jensenhughes.com

Birmingham Office:
5th Floor,
126 Colmore Row,
Birmingham,
B3 3AP
Tel: +44 (0) 121 281 4513
birmingham-jga@jensenhughes.com

Edinburgh Office:
22 Hanover Street
Edinburgh
EH2 2EP
Tel: +44 (0)131 226 1661
edinburgh-jga@jensenhughes.com

Glasgow Office:
30 Gordon Street
Glasgow
G1 3PU
Tel: +44 (0)141 847 0446
glasgow-jga@jensenhughes.com

Dublin Office:
9 Upper Baggot Street
Dublin 4
D04 A6W7
Tel: +353 (0)1 661 4925
dublin-jga@jensenhughes.com

Belfast Office:
Victoria Place
Wellwood Street
Belfast
BT12 5GE
Tel: +44 (0)2890 230 300
belfast-jga@jensenhughes.com

Galway Office:
Office 3, Monterey Court
Salthill, Galway
Ireland
Tel: +353 (0)91 528 342
galway-jga@jensenhughes.com


JENSEN HUGHES