



Trout Road

Planning Fire Statement



Written Record

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00	First Issue, for comment	25/09/2025	Ben Green	Shami Smith-Sandhu	Craig English
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02					
03					

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1. Introduction

1.1. General

- 1.1.1. Semper has been appointed by Troutbourne LLP ('the Applicant') to develop a fire statement in support of a planning application for Trout Road, at Rainbow and Kirby Industrial Estates, Trout Road, Yiewsley, UB7 7XT, in London.
- 1.1.2. This report serves as the Fire Statement for the scheme, addressing the policies set out in the London Plan [1] Policy D12, which are required to be met by new developments within the Greater London Area. The statement should be read in conjunction with other information provided by the Project Team.
- 1.1.3. Additionally, the report provides a RIBA Stage 2 (Conceptual Design) level of information in support of design development. Consequently, this statement provides high level advice as to how a reasonable level of life safety will be achieved in accordance with (Part B) of the functional requirements of the Building Regulations 2010 [2].

1.2. Purpose

- 1.2.1. This Fire Statement is submitted to the planning authority with the objective of clearly transmitting the project design principles that will be adopted, with regards to life safety. The Fire Statement has been prepared and reviewed by suitably qualified fire engineers.
- 1.2.2. This statement covers the matters described in London Plan Policy D12(B), listed below:
 - Part D12 (B1): the building's construction: methods, products and materials used, including manufacturers' details;
 - Part D12 (B2): the means of escape for all building users: suitably designed stair cores, escape for building users who are disabled or require level access, and associated evacuation strategy approach;
 - Part D12 (B3): features which reduce the risk to life: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans;
 - Part D12 (B4): access for fire service personnel and equipment: how this will be achieved in an evacuation situation, water supplies, provision and positioning of equipment, firefighting lifts, stairs and lobbies, any fire suppression and smoke ventilation systems proposed, and the ongoing maintenance and monitoring of these;
 - Part D12 (B5): how provision will be made within the curtilage of the site to enable fire appliances to gain access to the building;
 - Part D12 (B6): ensuring that any potential future modifications to the building will take into account and not compromise the base build fire safety / protection measures.
- 1.2.3. This Fire Statement lends reference within the report section headings to the 6 matters listed above as they are addressed herein.
- 1.2.4. This Fire Statement can also be used to support the Planning Gateway One application, introduced by the Town and Country Planning (Development Management Procedure and Section 62A Applications) (England) (Amendment) Order 2021 [3] [4].
- 1.2.5. Two key elements of which are:
 - to require the developer to submit a fire statement setting out fire safety considerations specific to the development with a relevant application for planning permission for development which involves one or more relevant buildings, and

- to establish the Health and Safety Executive as a statutory consultee for relevant planning applications.
- 1.2.6. Relevant buildings under the Planning Gateway One have a height of at least 18m or at least 7 storeys and contains two or more dwellings or educational accommodations.
- 1.2.7. A separate Fire Statement Form has been provided by Semper.

1.3. Authorisation

- 1.3.1. This Fire Statement has been drafted, reviewed and authorised by the following staff members at Semper:
- Ben Green - holds a Masters in Aerospace Engineering and is an Associate Member of the Institution of Fire Engineers and Interim Chartered Engineer with the Engineering Council. Ben has developed, led, and delivered fire engineering designs on many tall residential and mixed-use developments within the London area.
 - Shami Smith-Sandhu – holds a Master of Science in Fire and Explosion Engineering and is an Associate with the Institution of Fire Engineers. Shami has led the fire engineering consultancy on many tall residential and mixed-use developments from concept design through to completion.
 - Craig English – holds a Doctorate in fire safety engineering methods coupled with quantified risk assessment, is a Chartered Engineer and a Member with the Institution of Fire Engineers.
- 1.3.2. The author, reviewer and authoriser of this Fire Statement declare, for and on behalf of Semper, that the proposed development will satisfy the requirements of London Plan Policy D12.

1.4. Summary Declaration

- 1.4.1. The Fire Statement for Trout Road has identified the following considerations for the planning authority, with regards to the holistic fire safety strategy for the scheme and for the satisfaction of Planning Gateway One and London Plan Policy D12(B):
- The performance of materials used in the construction of the external walls will be in accordance with Regulation 7(2) of the Building Regulations. To this end, all materials (considering the permitted exceptions noted in Regulation 7(3) for fixings, thermal breaks, membranes, etc.) will achieve European Classification A2-s1,d0, or better, classified in accordance with BS EN 13501-1.
 - The means of escape provisions are considered to meet the functional requirements of the Building Regulations. Residential accommodation will operate under a stay-put evacuation policy. Non-residential accommodation will evacuate simultaneously. Travel distances and exit widths shall comply with the prescriptive recommendations of BS 9991:2024 [5]. The accommodation will be provided with suitable active life safety systems, such as automatic fire detection and alarm system, automatic fire suppression, smoke control in common corridors and stairs, and passive fire protection measures.
 - Each building over 18 m will be provided with a firefighting shaft and a secondary escape stair as a minimum. The design of the stairs, cores and residential corridors will generally follow the guidance in BS 9991:2024 [5].
 - In accordance with Policy D5 of the London Plan, one evacuation lift per core will be provided. The scheme accommodates combined passenger/evacuation lifts and passenger/firefighters lifts, designed in accordance with BS EN 81-70 and BS EN 81-72 respectively.

- Suitable fire service access is provided, together with provisions including multiple firefighting shafts, rising mains and water supplies via external hydrants.

2. Legislation and Guidance

2.1. The London Plan

- 2.1.1. This Fire Statement has been prepared to address the overriding requirements set out in the Greater London Authority Act 1999 [6] and the Town and Country Planning (London Spatial Development Strategy) Regulations 2000 [7].
- 2.1.2. Policy D12 (Fire Safety) of the London Plan aims to ensure that the highest standards of fire safety are achieved. Specific elements of the London Plan and how this Fire Statement addresses those elements is considered in the sections that follow.

2.2. Planning Gateway One

- 2.2.1. Planning Gateway One was introduced by the UK Government to help ensure that planning issues relevant to fire safety are considered, and fire safety matters are addressed at the earliest possible stage in the development process and result in better schemes which fully integrate thinking on fire safety.
- 2.2.2. This document can also be used to support one of the two elements of Planning Gateway One – a Fire Statement setting out fire safety considerations specific to the development with a relevant application for planning permission for development which involves one or more relevant buildings.

2.3. Applicable Legislation

- 2.3.1. The proposed works are defined as “building work” in the Building Regulations 2010 (as amended). Therefore, in terms of Fire Safety, the works are required to comply with the functional requirements written in Parts B1 to B5 of Schedule 1 of the Building Regulations 2010.

2.4. Building Safety Act

- 2.4.1. The Building Safety Act 2022 [8] appoints the Health and Safety Executive as the new Building Safety Regulator in England, who will oversee the standards of all developments throughout the country and, in particular, regulate higher-risk buildings with the intention of securing the safety of people in or about these buildings.
- 2.4.2. The proposed development falls under the definition of a “higher-risk building” in the Building Safety Act 2022, as it has a height of at least 18m or at least 7 storeys and contains two or more dwellings or educational accommodations. The Building Safety Regulator will therefore act as the building control authority for this development, with the Health and Safety Executive acting as the statutory consultee for planning applications.

2.5. Regulation 38

- 2.5.1. Regulation 38 of the Building Regulations necessitates that the fire safety information for the buildings shall be given to the Responsible Person at the completion of the project or when the buildings are first occupied.

2.6. CDM

- 2.6.1. The Construction (Design and Management) Regulations 2015 (CDM) [9] are applicable for the design and construction stages of this project. The CDM aims to integrate health and safety into the management of the project and to encourage those involved to work together to:
- Improve the planning and management of projects from the very start;
 - Identify hazards early on, so they can be eliminated or reduced at the design or planning stage and the remaining risks can be properly managed;
 - Target effort where it can do the most good in terms of health and safety; and
 - Discourage unnecessary bureaucracy.

2.7. Fire Safety Guidance

- 2.7.1. The fire strategy for this development will be developed using the guidance in BS 9991:2024 [5] and BS 9999 [10]. These British standards provide a flexible approach for fire safety design through the adoption of a structured risk-based approach. The risk-based approach reflects with greater accuracy the varying physical and human factors associated with individual building designs in a way that other more traditional design documents, such as Approved Document B [11], do not. In doing so, these British Standard permits greater design freedoms.

2.8. Consultation

- 2.8.1. At the time of writing, an introductory workshop has been held with the HSE, dated. Further consultation with the relevant stakeholders will continue as the scheme develops.

2.9. Document Limitations

- 2.9.1. It is important to note that this Fire Statement prepared at RIBA Stage 2 does not represent a detailed design or specification for the proposed development. It is a series of principal recommendations that others may consider and apply to the design of the scheme, as appropriate. The information contained herein is strategic and does not address detailed aspects of design, such as construction details.
- 2.9.2. A fire strategy will evolve through each RIBA work stage to reflect developing and agreed strategies and relate to the design as the scheme progresses.
- 2.9.3. Note that any diagrams incorporated into this document are illustrative, intended to convey aspects of fire safety design and do not necessarily reflect the latest design. The diagrams are not a substitute for the architectural general arrangement drawings appended.
- 2.9.4. For clarity, the information herein does not specifically address:
- Insurance requirements;
 - Property or business protection;
 - Construction / fit-out fire safety;
 - Detailed management procedures or duties under the Regulatory Reform (Fire Safety) Order (RRO) [12].

2.10. Future Modifications (London Plan Part D12 B6)

- 2.10.1. Future modifications, as part of design development will require a full review by a qualified fire engineer and statutory approval. Any material changes, or alterations to the fire protection systems are to be reviewed in line with the building fire strategy to ensure the modifications do not compromise the principles of any base build fire strategy design as the scheme progresses.
- 2.10.2. Any deviation from the principles or ethos within said fire safety strategy could have major impacts on the effectiveness of its implementation post construction and should be factored into an updated document accordingly. The fire strategy may contain bespoke solutions independent from prescriptive guidance and should therefore be shared with building management and fire risk assessors, or any other relevant person.

3. Building Design

3.1. Proposed Development Description

- 3.1.1. The Site comprises the Rainbow and Kirby Industrial Estates, which accommodate an approximately 2.3 hectare plot within the London Borough of Hillingdon ('LBH'). Parts of the Site front the south side of Trout Road, the western side of Yiewsley High Street, and the northwest side of St Stephen's Road, with the entire southwest boundary bordered by the Grand Union Canal. The Site largely accommodates a range of single-storey and two-storey industrial buildings, many of which were in a poor state of repair, particularly those fronting Trout Road.
- 3.1.2. The surrounding area comprises a mix of industrial uses, commercial uses and residential properties, with building heights ranging from two storeys up to five storeys. Both the former church immediately opposite the Site's High Street frontage and the George & Dragon Public House to the north are locally listed buildings. The Site is not located within a conservation area and does not contain any statutory listed or locally listed buildings.
- 3.1.3. The Site is allocated in the LBH Local Plan, adopted in 2020, for a mixed-use development which is to be brought forward 'in accordance with the broad parameters of the approved scheme, subject to site-specific constraints (Ref: 38058/APP/2013/1756)'.
- 3.1.4. No basement floors are proposed.
- 3.1.5. The respective heights of the buildings, measured to the topmost occupied floor from the lowest adjacent ground floor are summarised in Table 1:

Building	Number of Levels (inc Ground)	Top Storey Height (m)	HRB
A	6	16.24	
B	B1	9	✓
	B2	8	✓
	B3	7	✓
C	6	17.52	
D	D1	5	13.95
	D2	5	13.95
	D3	5	13.95
E	6	16.3	
F	9	26.05	✓
G	11	32.35	✓
H1 / H2 / H3 (Townhouses)	3	6.44	
J (Workspace Only)	3	10.42	

Table 1: Building Heights

- 3.1.6. Buildings containing residential accommodation and more than 18 m or seven storeys in height, will qualify as 'Higher Risk Buildings' under the Building Safety Act 2022. Therefore, the design and construction of these buildings will follow the newly established gateway process, overseen by the Building Safety Regulator (BSR).
- 3.1.7. A site plan of the development is provided in Figure 1.

3.2. Building Construction (London Plan Part D12 B1)

3.2.1. The term 'element of structure' is applied to the main load-bearing elements of structure. Structure includes, but is not limited to:

- Structural frame;
- Beams;
- Columns;
- Load-bearing walls (internal and external);
- Floor structures.

3.2.2. The standard of structural fire resistance specified for each building as a function of height is set down with Table 2 below.

Building	Top Storey Height (m)	Structural Fire Resistance
A	16.24	60
B	B1	26.45
	B2	23.1
	B3	20.25
C	17.52	60
D	D1	13.95
	D2	13.95
	D3	13.95
E	16.3	60
F	26.05	60
G	32.35	120
H1 / H2 / H3 (Townhouses)	6.44	60
J (Workspace Only)	10.42	60

Table 2: Structural Fire Resistance

3.2.3. Structure that only supports the roof may be excluded from the definition of element of structure (and therefore not designed to achieve a predefined fire resistance period) unless:

- The structure is essential to maintain the stability of the building;
- The roof serves as a floor (i.e. supporting plant); or
- Its failure leads to unreasonable or disproportionate damage that could render the building inoperative for a prolonged period.

3.2.4. All services passing through lines of compartmentation will be suitably fire stopped.

3.2.5. All external wall materials will be reviewed and developed throughout the design process, in accordance with the requirements of Regulation 7.

3.2.6. It should be noted at this stage of the design process that the exact manufacturers' details and construction methods are currently unknown. This level of detail will be provided via a discharge of planning condition at a later design stage, prior to the commencement of development.



Figure 1: Site Plan of the Proposed Development

4. Summary of Fire Safety Measures

4.1. Risk Profile

General

- 4.1.1. The risk profile methodology in BS 9999 provides a basis upon which all other fire safety measures for the non-residential areas of the scheme can then be developed. The risk profile is a function of the occupancy characteristic (as defined in Clause 6.2 and Table 2 in BS 9999) and the fire growth rate (as defined in Clause 6.3 and Table 3 in BS 9999).

Occupancy Characteristic

- 4.1.2. The occupancy characteristic is principally determined by whether occupants are familiar with the space they occupy and whether they are likely to be awake or asleep when a fire starts, as is broadly denoted as follows as per BS 9999:

A: Awake and familiar

B: Awake and unfamiliar

Fire Growth Rate

- 4.1.3. The fire growth rate is the rate per unit time at which a fire is estimated to develop and is denoted as per BS 9999, as follows:

1: Slow

2: Medium

3: Fast

4: Ultra-fast

- 4.1.4. A summary of the risk profiles assigned to this development is given in Table 3.

Area	Risk Profile
Private Residential	Ci1 - BS 9991 applicable ¹
Townhouses	BS 9991
Cycle Stores	A2 ¹
Ancillary Areas (Refuse Stores, Plant Rooms)	A2 ¹
Commercial	B2 ¹
Workspaces	A2 ¹

Table 3: Summary of Risk Profiles

Table Note:

-
1. The fire growth rate has been reduced by a factor of '1' on the basis that sprinkler coverage is provided in accordance with BS EN 12845.

4.2. Automatic Fire Detection & Alarm System (London Plan Part D12 B3)

- 4.2.1. A 'stay-put' evacuation strategy is proposed for all private residential areas, supported by automatic fire detection and alarm and fire compartmentation, whereby only those occupants within the flat of fire origin will be notified of a fire alarm.
- 4.2.2. Each residential unit should be provided with a Grade D1 Category LD1 fire detection and alarm system as per BS 5839-6 [13].
- 4.2.3. An evacuation alert system in accordance with BS 8629 [14] should be provided, to enable the fire authority to instigate a wider evacuation of the building. This is an explicit recommendation for Buildings over 18 m, but will be considered throughout.
- 4.2.4. A Grade L5 fire detection system as per BS 5839-1 [15] should also be provided in the internal residential corridors and staircases. This should assist to the activation of any proposed stair AOVs and to recall lifts to ground floor. These areas require smoke detectors only, with no alarm beacons or sounders.
- 4.2.5. A Category L1 (full coverage) fire detection and alarm system as per BS 5839-1 should be installed throughout any ancillary areas, and at the non-residential Workspace. (Plot J).
- 4.2.6. Plot H, townhouse dwellings will be provided with a separate BS 5839-6 domestic fire alarm and detection system.
- 4.2.7. Any terraces or roofs, irrespective of these being occupied for maintenance only or normally during day-to-day conditions, should be provided with appropriate audible and visual warning devices as per BS 5839-1 for early alarm notification:
 - It is recommended that a Category M (Manual) fire detection and alarm system is provided on the landscaped podium and the amenity rooftop terraces, with sounders provided by means of weatherproof flashing beacons with a sounder base.
 - At any rooftop areas accessible for maintenance purposes, it should be ensured that the fire alarm can be heard, and maintenance workers are notified of a potential fire: flashing beacons and sounders linked to the fire detection and alarm system should be provided.
- 4.2.8. Fire alarm interfaces should be provided within all areas of the building to ensure the necessary events, as per the building's Cause and Effect strategy, automatically occur in the event of fire detection.

4.3. Automatic Fire Suppression

- 4.3.1. Sprinkler protection is proposed for the entire scheme.
- 4.3.2. The residential buildings will be provided with a residential sprinkler infrastructure in accordance with BS 9251 [16].
- 4.3.3. Plots F&G contain commercial space at ground floor with an area < 100sqm, as such these blocks may be served with a BS 9251 Category 4 system.
- 4.3.4. Single family houses in Plot H will be served by a mains pressure domestic system sprinkler system in accordance with BS 9251
- 4.3.5. A commercial sprinkler system designed to BS EN 12845 [17] is proposed for the workspace (Plot J) units.
- 4.3.6. A summary of sprinkler provision is provided in Table 4 with minimum classifications set down.

Building	Sprinkler Standard	Classification
A	BS 9251	Category 2
B	B1	Category 4
	B2	
	B3	
C	BS 9251	Category 4
D	D1	Category 2
	D2	
	D3	
E	BS 9251	Category 2
F	BS 9251	Category 4
G	BS 9251	Category 4
H1 / H2 / H3 (Townhouses)	BS 9251	Category 1
J (Workspace Only)	EN 12845	OH3

Table 4: Summary of Sprinkler Provision

- 4.3.7. As per BS 9991 clause 17, where sprinklers are fitted, these should be provided throughout the building, including the areas typically assumed to be fire-sterile (e.g., common areas such as corridors and lobbies). Accordingly, sprinklers are proposed in the common corridors and lift lobbies. Notwithstanding this, sprinklers are not proposed to be provided in the stairs, on the basis that stairs will be fire sterile and suitably managed by the responsible person to ensure occupants do not store anything in these areas or obstruct fire doors at any time. Furthermore, the smoke ventilation systems being provided to the common corridors and lift lobbies will be designed to operate without reliance on any additional suppression.

4.4. Firefighting Shafts (London Plan Part D12 B3 & B4)

- 4.4.1. One firefighting shaft per building is proposed in plots over 18 m in height, comprising firefighting stair, firefighting lobby, a combined firefighters'/passenger/evacuation lift, and a fire main. This is consistent with the proposed upper floor GIAs of not more than 900m².

4.5. Evacuation Lifts (London Plan Part D5 and D12 B2)

- 4.5.1. Evacuation lifts should be provided with a primary source of supply from a dedicated sub-main circuit. The guidance under BS 8519 notes that other lifts may be fed from the same primary supply, provided it is rated accordingly and a fault on another lift cannot affect the operation of the evacuation lift.
- 4.5.2. Evacuation lifts should maintain their operation during a fire condition and be usable for the evacuation of people who require assistance.
- 4.5.3. The primary and secondary fire-resistant (Category 2) supply cables should be diversely routed through areas of low fire risk; and be physically protected against damage.
- 4.5.4. Evacuation lift cars should be 1100 x 1400mm. Evacuation lifts should be designed in accordance with BS EN 81-76 [18].

4.6. Firefighting and Evacuation Lift Summary

- 4.6.1. Table 5 below summarise the firefighters and evacuation lift provision for each plot.

Building	Firefighters Lift	Evacuation Lift
A	-	1no Passenger / Evacuation Lift
B	1no Firefighters / Passenger / Evacuation lift	1no Passenger / Evacuation Lift
B1		
B2		
B3		
C	-	1no Passenger / Evacuation Lift
D	-	2no Passenger / Evacuation Lift
D1		
D2		
D3		
E	-	2no Passenger / Evacuation Lift
F	1no Firefighters / Passenger / Evacuation lift	1no Passenger / Evacuation Lift
G	1no Firefighters / Passenger / Evacuation lift	1no Passenger / Evacuation Lift
H1 / H2 / H3 (Townhouses)	-	-
J (Workspace Only)	-	2no Passenger / Evacuation Lift

Table 5: Firefighters and Evacuation Lift Provision

4.7. Smoke Control Systems (London Plan Part D12 B3 & B4)

- 4.7.1. Following BS 9991:2024, smoke ventilation systems are proposed to protect the means of egress of the private residential buildings, namely, firefighting shafts, escape stairs, evacuation lift lobbies and flat access corridors. These provisions are summarised in Table 6 for each plot.

Building	Escape / Firefighting Core Provision		Ventilation Strategy
A		Evacuation Core 1x Escape Stair 1x Evacuation Lift	AOV at head of stair – 0.7 m ² aerodynamic free area 1.5 m ² natural shaft serving common corridor + AOV onto corridor / facade
B	B1	Evacuation Core 1x Evacuation Stair 1x Evacuation Lift	Mechanical extract to common corridors
	B2	Firefighting Core 1x Firefighters / Evac Stair 1x Firefighters / Evac Lift	Supply air via natural ventilation shaft serving lift lobbies
	B3		AOV at head of stairs - 0.7 m ² aerodynamic free area
C		Evacuation Core 1x Escape Stair 1x Evacuation Lift	AOV at head of stair – 0.7 m ² aerodynamic free area 2 x 1.5 m ² natural shafts serving common corridor
D	D1	Evacuation Core 1x Escape Stair 1x Evacuation Lift	AOV at head of stair – 0.7 m ² aerodynamic free area
	D2		1.5 m ² natural shaft serving common corridors
	D3		1.5 m ² natural shaft serving Lift / stair lobby
E		Evacuation Core 1x Escape Stair 1x Evacuation Lift	AOV at head of stair – 0.7 m ² aerodynamic free area 1.5 m ² natural shaft serving common corridors 1.5 m ² natural shaft serving Lift / stair lobby
F		Evacuation Core 1x Evacuation Stair 1x Evacuation Lift Firefighting Core 1x Firefighters / Evac Stair 1x Firefighters / Evac Lift	Mechanical extract to common corridors Supply air via natural ventilation shaft serving lift lobbies AOV at head of stairs - 0.7 m ² aerodynamic free area
G		Evacuation Core 1x Evacuation Stair 1x Evacuation Lift Firefighting Core 1x Firefighters / Evac Stair 1x Firefighters / Evac Lift	Mechanical extract to common corridors Supply air via natural ventilation shaft serving lift lobbies AOV at head of stairs - 0.7 m ² aerodynamic free area
H1 / H2 / H3 (Townhouses)	Private Stair		None

J (Workspace Only)	East Core 1 x Evacuation Stair 1 x Evacuation Lift 1 x Fire Resisting Lobby	None
	West Core 1 x Evacuation Stair 1 x Evacuation Lift 1 x Fire Resisting Lobby	

Table 6: Smoke Ventilation Strategy Summary

Table Notes:

1. All mechanical smoke extract shafts (inlet or extract) are expected to be in the region of 0.6m² to 0.8m² in cross section, subject to confirmation of performance via Computer Fluid Dynamics (CFD) analysis at a later stage of the design, using an absolute approach (as recommended by BS 9991). The CFD analysis might result in the prescription of additional inlet provision, e.g. by automatic opening of the exit doors at ground floor (to be confirmed at a later design stage).
- 4.7.2. Any rooms containing refuse chutes or for the storage of refuse should be provided with dedicated protected lobbies with permanent ventilation at least 0.2m² in geometric area, or a suitable mechanical equivalent.
- 4.7.3. Any circulation corridors serving the cycle stores and connected to the evacuation lift lobbies or firefighting lobbies should be served by the smoke control shafts serving the flat access corridors on the typical floors (operating under the same principles) or, where this is not viable, provided with at least 0.4m² permanent ventilation, or a suitable mechanical equivalent.
- 4.8. **Emergency Lighting and Signage (London Plan Part D12 B3)**
- 4.8.1. Emergency lighting will be provided in all escape routes as per the guidance given in BS 5266-1 [19]. Emergency signage will be provided as per BS ISO 3864-1 [20] and BS 5499-4 [21].
- 4.9. **First Aid Firefighting (London Plan Part D12 B3)**
- 4.9.1. First-aid fire-fighting provisions will be assessed and provided as part of the fire risk assessment for the scheme.
- 4.10. **Emergency Power Supplies (London Plan Part D12 B3)**
- 4.10.1. Alternative supplies to critical life safety plant will be provided from a separate life safety supply. The services connected to the life safety system will include any, sprinkler pumps, emergency lighting and firefighting lifts.

4.11. Compartmentation (London Plan Part D12 B3)

- 4.11.1. Table 7 sets down typical compartmentation provisions for the scheme, which will be designed and constructed accordingly.

Element of Construction	Fire Resistance Period (Minutes)		
	Integrity (E)	Insulation (I)	Stability (R)
Loadbearing Elements of Structure ¹	–	–	As per Table 2
Compartment Floors	As per Table 2	As per Table 2	As per Table 2
Compartment Walls Between Residential and Non-Residential Areas ²	As per Table 2	As per Table 2	As per Table 2
Compartment Walls Between Individual Apartments	60	60	60
Firefighting Cores – Fire Resistance from Outside to Inside	120	120	120
Firefighting Cores – Fire Resistance from Inside to Outside	60	60	60
Escape Cores	As per Table 2	As per Table 2	As per Table 2
Residential Common Corridors	60	60	60
Refuse Stores, Cycle Stores	60	60	60
Other Ancillary Areas	120 ³	120 ³	120 ³
Service Risers	As per Table 2	As per Table 2	As per Table 2
Substations ⁴	240	240	240

Table 7: Fire Resistance Ratings

Table Notes:

1. Loadbearing elements of structure which support the roof only do not require fire resistance unless their collapse would cause other fire rated elements of construction to fail or if the roof is used as a permanently occupied space.
2. "Non-Residential Areas" refers to both the car park and any commercial units.
3. The fire resistance of construction enclosing an ancillary area depends on its use and contents:
 - i. High-Risk (e.g., ELV / LV / HV switchrooms, transformer rooms) and Life-safety plant rooms – 120-minutes fire resistance.
 - ii. Medium-Risk (e.g., heating plant rooms) – 60-minutes fire resistance.
 - iii. Low-Risk (i.e., communications room, cleaner's room) – 30-minutes fire resistance.
4. The minimum requirement for the enclosure of the substation in accordance with the Building Regulations is 120-minutes. However, equipment and power suppliers typically request 240-minutes fire resistance.

4.12. Doors (London Plan Part D12 B3)

- 4.12.1. Locked security doors in the building will failsafe unlock upon fire alarm activation and will be provided with a relevant override switch (i.e., emergency green break-glass), designed in accordance with BS 7273-4 [22]. Hold-open devices that automatically release will also align with BS 7273-4. This will ensure fire exit doors are readily available at all times and avoids conflict between the security and life safety systems upon fire alarm activation.
- 4.12.2. Table 8 sets down the standard of fire rated doors to be provided throughout the scheme, which will be designed and constructed accordingly.

Door Location	Door Rating (minutes)
Protected Shafts	Half the fire resistance period of the wall in which is fitted, but no less than 30 minutes, with smoke seals for stairs
Firefighting Stairs / Shafts	FD60S
Apartment Door	FD30S
Plant Rooms	As per the wall in which is fitted
Bin Stores	As per the wall in which is fitted
Storage Rooms	As per the wall in which is fitted

Table 8: Door Fire Resistance

4.13. Green Roofs and Accessible Roof Terraces

- 4.13.1. The Green Roofs and accessible roof terraces will be designed following the fire safety guidance produced by the Green Roof Organisation [23]. Therefore, fire breaks will be included around all perimeters to a minimum of 300mm wide, which should be increased to 500mm if there are openings to the buildings present (i.e., doors or windows). It will be ensured that paving of at least 1000mm in width will be provided to act as fire breaks such that there is no more than 40m of continuous greenery across the roof.

5. Principles of Means of Escape (London Plan Part D12 B2)

5.1. Escape Strategy

Area	Evacuation Strategy
Residential – Apartment Blocks	Stay Put
Townhouses	Independent Simultaneous
Ancillary Areas	Simultaneous for non-residential alarm

Table 6: Evacuation Strategy

Private Residential Areas (Apartment Blocks)

- 5.1.1. A 'stay-put' evacuation strategy is proposed for all private residential areas, supported by automatic fire detection and alarm and fire compartmentation, whereby only those occupants within the flat of fire origin will be notified of a fire alarm.
- 5.1.2. Nevertheless, if occupants elsewhere in the building decide to evacuate, or if a wider evacuation is prompted by the emergency services, the common corridors, stair lobbies, protected stairs, etc. will be reasonably protected, allowing them to do so. An evacuation alert system in accordance with BS 8629 [14] will be provided, to enable the fire authority to instigate a wider evacuation of the building if required.

Townhouses

- 5.1.3. Townhouses in Plot H will evacuate independently of one another. The Townhouse design will follow the recommendations of BS 9991 Clause 6.2 and Figure 3 therein (copied in XX below).

Figure 3 — Means of escape from houses

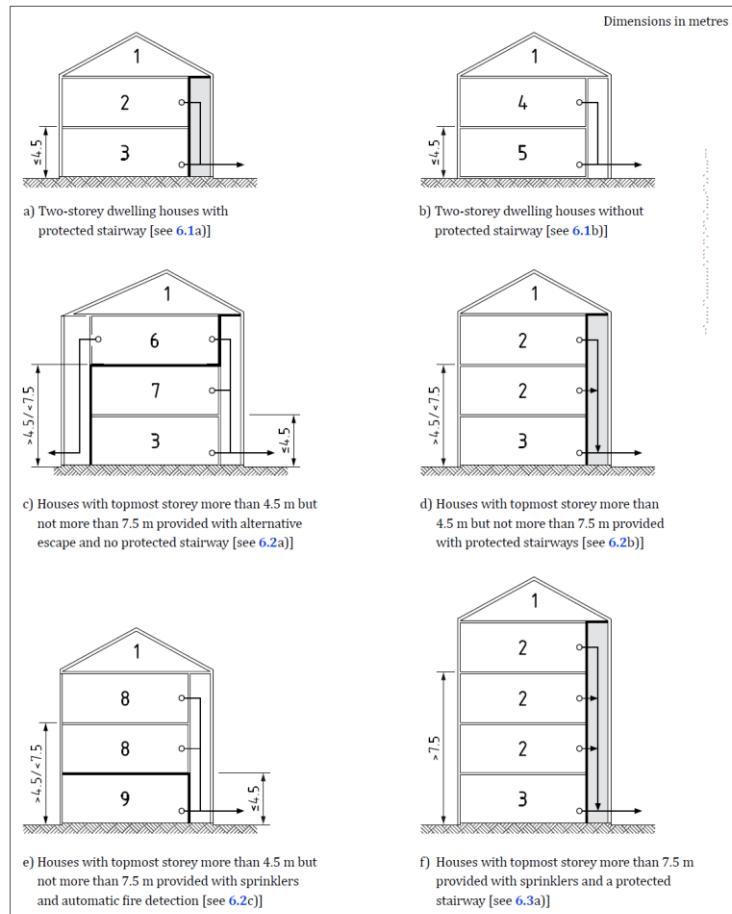


Figure 2: Means of Escape from Townhouses

Cycle Stores, Ancillary, Workspaces.

- 5.1.4. Occupants outside private residential areas should follow a simultaneous evacuation strategy, where they are expected to evacuate immediately on activation of the fire alarm. This applies to the car park, cycle store areas, ancillary areas such as plant rooms and refuse stores, amenity areas, and to the Workspace units (Plot J).

5.2. Travel Distances

5.2.1. Travel distance recommendations for the scheme are set down in Table 9.

Area	Guidance Reference	Risk Profile	One Direction (m)	Alternative Directions (m)
Open Plan Apartments	BS 9991	Ci1	- ¹	-
Residential Common Corridors ²	BS 9991	Ci1	15-30	60
Townhouses	BS 9991	-	-	-
Terraces	BS 9991	B1	18	45
Ancillary areas (cycle store, plant rooms, refuse stores, etc.)	BS 9991	A2	9 ³	18 ⁴
Workspaces	BS 9999	A2	22 (15) ⁵	55 (37) ⁵
Commercial	BS 9999	B2	20 (13) ⁵	50 (33) ⁵
Rooftops (maintenance only)	BS 9999	n/a	60	200

Table 9: Summary of Maximum Allowable Travel Distances

Table Notes:

1. The recommendations for the size and layout of open plan apartments are provided in section 5.3.
2. Travel distances on the basis of sprinklers provided in accordance with BS 9251.
3. This value where travel is only available in a single direction increases to 18m once the initial room is exited if it is an inner room.
4. This value where travel is available in alternative directions increases to 45m once the initial room is exited if it is an inner room.
5. Distances between brackets refer to direct travel distances, with diagonal routes where room layouts are unknown.

5.3. Open Plan Apartment Design

5.3.1. The guidance in BS 9991:2024 allows open plan apartments when a residential sprinkler system and a Category LD1 detection system is provided. The benefit is that bedrooms can be inner rooms, and any internal fire compartmentation can be removed. However, the guidance is caveated, specifying the following design criteria for such apartments:

- The size of the open plan flat should not exceed 16m x 12m;
- Open plan flats should be situated on a single level only;
- The ceilings within the open plan flat should have a minimum height of 2.25m;
- Open plan kitchens should be designed as per Clause 5.6 in BS 9991.

5.3.2. It is envisaged that the open plan apartments proposed in the development will align with guidance and comply with the recommendations above.

5.4. Final Discharge Routes from Residential Accommodation

5.4.1. It is currently proposed that all residential cores discharge at Ground Floor via sterile routes leading directly outside the building.

5.5. External Assembly Point

- 5.5.1. The following sets down guidelines on safe assembly following an evacuation. On completion of evacuation, all occupants will be instructed to proceed to a pre-defined evacuation zone which will be located sufficiently far away from the premises to avoid interference with the Fire Service or danger from falling debris, fire and smoke.
- 5.5.2. Notwithstanding the above, the assembly point(s) will adhere to the following guidelines:
- Escape routes will allow for possible egress in cold weather as well as day and night-time conditions. I.e., emergency lighting on escape routes.
 - Final exits do not present an obstacle to wheelchair users and other people with disabilities. Where a final exit is accessed without the need to first traverse steps, then a level threshold and, where necessary, a ramp will be provided.
 - Final exits will be apparent to persons who may need to use them. This is particularly important where the exit opens off a stair that may continue down, or up, beyond the level of the final exit.
 - A back up assembly point will be established for use in the event that the primary location cannot be used, if necessary.
 - The assembly zones will be designed to accommodate a maximum occupant density of 0.3m²/person.

6. Fire Service Access and Provisions (London Plan Part D12 B5)

6.1. Site Access for Fire Tenders

- 6.1.1. Fire access roads will allow a fire appliance to reach a location within sight of and within 18m of a suitable entrance giving access to the fire mains provided, and within sight of and within 18m of any dry rising main façade inlets.
- 6.1.2. Figure 3 illustrates tender vehicle access to the site alongside existing and proposed hydrant locations (Red H = Existing, Blue H = Proposed).



Figure 3: Fire Service Access Points and Hydrant Provision

- 6.1.3. The fire service access roads, should have the following (Figure 4) clear dimensions and carrying capacities in accordance with GN29 [24], a guidance note published by the London Fire Brigade.

	*Pump (P)	32m Turntable Ladder (TL)	64m Turntable Ladder (TL)	Fire Rescue Unit (FRU)	Special
Min width between kerbs (m)	3.7				
Min Width of gateway (m)	3.2				
Max. width considering equipment trays, any extending legs (m)	4.18	5.6 without spreader plates	6.4 with spreader plates	5.34	4.4
Min clearance height (m)	3.505	3.45	4.15	3.3	4.25
Appliance length(m)	8.13	10.3	12	9.2	9.9
Min sweep circle (turning circle between walls) (m)	17	19.5	23.5	18.6	24.5
Min turning circle between kerbs (m)	16	17.5	21.5	17	22
Gross Vehicle Weight (GVW) (KG)	16000	20500	32000	14500	26000
Capacity, Gross Laden Weight (GLW) (KG)	14838	17284	30173	12900	24600

* NB: Pump (P) appliance includes new Zero Emissions Pumping Appliance (ZEPA) requirements

Figure 4: Typical Vehicle Access Route Specification (Taken from GN29, Rev 15)

6.2. Firefighting Shafts

- 6.2.1. Each building over 18 m will be provided with a firefighting shaft serving all floors.
- 6.2.2. Any firefighting shafts proposed will be comprised of:
- Firefighting stair with a 0.7 m² aerodynamic free area AOV at the head of the stairs.
 - Ventilated firefighting lobby.
 - A combined passenger/firefighters'/evacuation lift in accordance with BS EN 81-72 [25].
 - A fire main with outlets accessible from the firefighting stairs.

6.3. Fire Mains

- 6.3.1. Dry fire mains are proposed to each plot. Residential plots over 18 m tall will have their fire main accessed from within the firefighting stair. Residential plots less than 18 m tall will have their fire main accessed from within the escape stair. Dry mains will be provided within each stair core for Plot J.

6.4. Fire Hydrants

- 6.4.1. Water supplies for firefighting operations will be via the site infrastructure, which will include external fire hydrants.
- 6.4.2. Fire hydrants should be designed and installed in accordance with BS 9990 [26], ideally forming part of a ring system.
- 6.4.3. Fire hydrants should be located within 90 m of an entry point to the building and to the car park, and not more than 90 m apart.
- 6.4.4. Figure 3 illustrates existing and proposed hydrants for the scheme.

6.4.5. At the time of writing, no specific testing has been carried out to confirm whether the existing fire hydrants are usable/operable. Testing of hydrants will need to be carried out at later design stages.

6.5. Wayfinding for the Fire Service

6.5.1. Statutory guidance was amended in May 2020, incorporating changes to the recommendations of signage within residential buildings greater than 11m.

6.5.2. To assist the Fire Service to identify each floor in a block of flats with a top storey more than 11m above ground level, floor identification signs and flat indicator signs will be provided.

6.5.3. The floor identification signs will meet all of the following conditions.

- The signs should be located on every landing of a protected stairway and every protected corridor / lobby (or open access balcony) into which a firefighting lift opens.
- The text should be in sans serif typeface with a letter height of at least 50mm. The height of the numeral that designates the floor number should be at least 75mm.
- The signs should be visible from the top step of a firefighting stair and, where possible, from inside a firefighting lift when the lift car doors open.
- The signs should be mounted between 1.7m and 2m above floor level and, as far as practicable, all the signs should be mounted at the same height.
- The text should be on a contrasting background, easily legible and readable in low level lighting conditions or when illuminated with a torch.

6.5.4. All floor identification signs should be supplemented by flat indicator signs, which provide information relating to the flats accessed on each storey. The flat indicator signs should meet all of the following conditions:

- The signs should be sited immediately below the floor identification signs, such that the top edge of the sign is no more than 50mm below the bottom edge of the floor identification sign.
- The wording should take the form Flats X-Y, with the lowest flat number first.
- The text should be in sans serif typeface with a letter height of at least half that of the floor indicator sign.

7. Fire Safety Management Procedures (London Plan Part D12 B3)

7.1. Background

- 7.1.1. Management procedures have a pivotal role to play in fire prevention, control and evacuation of occupants, should a fire incident occur. Within domestic dwellings, this management is the responsibility of tenants, supported by the building fire safety design, and handover of fire safety information. In all other areas, the RRO places legal obligations on management.
- 7.1.2. Inherent in both, BS 9991 and the approach adopted for this scheme, is the assumption that there will be appropriate fire safety management of the premises when in use (communal / landlord areas).
- 7.1.3. This section is intended to introduce the RRO, its obligations and provide initial guidance in fulfilling these duties. It is the responsibility of the landlords / building management to ensure that all fire safety systems within the common areas are tested and maintained to ensure their continuous effectiveness. The landlord / building management needs to be aware of all fire safety features provided and their purpose.
- 7.1.4. Responsibility for complying with the RRO rests with the "responsible person" as defined by Article 3, reproduced as follows:
- in relation to a workplace, the employer, if the workplace is to any extent under his control;
 - in relation to any premises not falling within paragraph (a)—
 - the person who has control of the premises (as occupier or otherwise) in connection with the carrying on by him of a trade, business or other undertaking (for profit or not); or
 - the owner, where the person in control of the premises does not have control in connection with the carrying on by that person of a trade, business or other undertaking.
- 7.1.5. If there is more than one responsible person in any type of premises, all must take reasonable steps to work with each other.
- 7.1.6. Under the RRO, the Responsible Person must carry out an assessment of the risks stemming from the possibility of fire in the premises and must implement fire precautions where necessary and to the extent that is reasonable and practicable to control those risks.
- 7.1.7. On occupation of the building, or part thereof, the 'responsible person' as defined in the RRO is required by law to undertake a 'suitable and sufficient' fire risk assessment. This fire safety strategy will not satisfy this obligation; instead, it should be used as a basis for understanding the fire safety provisions provided in the building in order to undertake the risk assessment. The fire risk assessment will help identify risks that can be removed or reduced and to decide the nature and extent of the general fire precautions that need to be taken to protect people against the fire risks that remain. It should pay particular attention to those at special risk, such as the disabled and those with special needs, and must include consideration of any dangerous substance likely to be on the premises.
- 7.1.8. It is important that management are aware of their responsibilities detailed in this document and agree that they are sufficiently capable of adequately performing them. Effective arrangements will be put in place with the appointed Managing Agent to manage all aspects of fire safety in the premises and the details of those arrangements need to be recorded, e.g., within a fire safety management plan.

- 7.19. Any deviation from the principles or ethos of the fire safety strategy could have major impacts on the effectiveness of its implementation post construction and should be factored into an updated document accordingly. The fire strategy may contain bespoke solutions independent from prescriptive guidance and should therefore be shared with building management and fire risk assessors, or any other relevant person.

7.2. **Evacuation of Disabled Occupants or Occupants that Require Assistance to Escape**

- 7.2.1. Fire safety managements will consider the full range of people who might use the premises, paying particular attention to the needs of mobility impaired people.
- 7.2.2. Temporary waiting spaces will be provided in the protected lobbies/evacuation lift lobbies, at each level, as previously identified.
- 7.2.3. An evacuation plan should not rely on the assistance of the Fire and Rescue Service. This is an important factor that will be considered in the building design.

Evacuation Lifts

- 7.2.4. Typically, the use of evacuation lifts requires the manual intervention of suitably trained, competent persons. It is recognised that such persons may be absent within this scheme. In this scenario the requirements of D5(B5) still apply and it is the duty of the building designer to explore suitable design options to meet the policy requirements.
- 7.2.5. The current design should progress on the basis of ensuring adequate resources are provided to facilitate self-evacuation. This will be a subject for discussion and detailed review as the design progresses and a specialist lift designer / contractor is appointed.
- 7.2.6. A building-specific disabled evacuation strategy should be developed as part of the building fire safety management plan, as well personal emergency evacuation plans (PEEPs). The inclusive design approach should take into account the requirements of a range of people, as discussed in Clause 4.6 in BS 9991, and should allow for self-evacuation, given the use and nature of the building.
- 7.2.7. As each core has at least one lift, this offers a level of redundancy, whereby the firefighting lift may be used by building management or the fire brigade upon arrival, to assist occupants that require level access in the event that the evacuation lift is inoperable.

7.3. **Residents**

- 7.3.1. The responsible person should advise residents formally of the fire safety arrangements for the building, what to do to prevent fires occurring, and what to do in the event of a fire. This information will be contained within a handbook which should also address the potential for particular problems arising where residents employ sub-contractors, e.g., for fit-out work.

7.4. **Caretakers**

- 7.4.1. Where a caretaker or other person is employed to maintain common areas within a building, the responsible person should advise such persons formally of the fire safety arrangements for the building.

7.5. Maintenance of Fire Protection Measures

- 7.5.1. It is essential that the fire protection measures integrated in a building function in a fire. The fire protection measures will be inspected on a regular schedule by the appointed Managing Agents to ensure that they are always available and functional. Inspections will include, but not necessarily be limited to, compliance with the following recommendations:
- Escape routes should be always kept clear. Storage of goods and equipment could block exits and provide an unwanted fire load and potential source of ignition.
 - Door locks, panic bars and automatic door release mechanisms should be maintained so that they are easily openable in an emergency.
 - Whenever additional or replacement services breach compartment walls or floors, the integrity of fire separation should be maintained using appropriate fire-resisting materials in spaces where breaches of compartmentation have occurred.
 - Fire safety equipment such as fire extinguishers and fire main inlet and outlet valves should not be obstructed by stored goods, machinery, or parked vehicles.
 - All fire safety equipment, e.g., fire alarms, emergency escape lighting, automatic fire suppression systems, smoke control systems and fire extinguishers, should be maintained and tested in accordance with the relevant standard by competent persons.
 - Fire doors should be maintained.
 - Evacuation lifts should be suitably maintained and have periodic tests to ensure their operation in the event of a building evacuation.
- 7.5.2. Where it is probable that significant quantities of combustible material (such as junk mail and pushchairs) will be present in the common areas, means will be taken to prevent the development and spread of any fire that might start there.

7.6. Maintenance of Building Plant and Equipment

- 7.6.1. Fire can start in machinery and equipment which is not adequately maintained or cleaned. The responsible person will be instructed to check that the equipment and plant is regularly maintained.

7.7. Ensuring that Systems Respond Properly in an Emergency

- 7.7.1. It is essential that, in the event of a fire, all fire safety provisions function as intended and all fire emergency procedures are implemented in order to facilitate appropriate action. As it can never be foreseen when a fire might occur, it will be part of the role of the responsible person to ensure that all of the built-in passive and active safety systems operate (or are effective) on demand.

7.8. Escape Routes

- 7.8.1. The following recommendations will be met to ensure that escape routes are available for use at all times when the building is occupied.
- All escape routes should be kept free from obstruction.
 - Goods, materials, unwanted furniture, etc. should not be stored within escape routes. Any obstruction should be removed immediately.
 - All escape routes will be inspected frequently. A log detailing the frequency and results of inspection should be included in the fire safety manual and corrective measures should be taken where necessary.

- Fire doors that are intended to be kept closed will remain closed and unobstructed.
- Fire doors on hold-open devices should be operable and should be unobstructed.
- The exterior of the building should be inspected to ensure that final exits and routes to assembly points are not blocked, and no combustible items are stored.
- Entrance halls, lobbies or corridors should not contain furniture or fittings that would reduce, at any point, the required exit width.
- Fire safety signs and notices, fire extinguishers, emergency escape lighting, fire doors and shutters should not be obscured.
- Seating areas should not be provided within escape corridors.
- Maintenance and redecoration of surface finishes and floor coverings should not use materials that might propagate surface spread of flame and/or fire, or adversely affect the means of preventing such propagation.
- The floor surfaces (including stairs, stair nosings and ramps) within escape routes should be maintainable, even and non-slip. Resilient floor surfaces should be maintained in accordance with BS 6263-2 [27]. Only emulsion polish (not wax polish) should be used on such floor surfaces.

7.9. Firefighting Access and Equipment

- 7.9.1. Where firefighting shafts are provided, the designated firefighters lift will be made available for the exclusive use of firefighters in an emergency, when a switch at Fire and Rescue Service access level (usually the entrance level) marked "Firefighting lift" is operated. Any lift that is designated as a firefighting lift will receive early attention when it breaks down. Regular inspections of the fire-fighting lift switch should be made to check for any unauthorised use. Operational tests, routine inspections and maintenance of firefighting lifts will be carried out in accordance with BS EN 81-72 and the lift owner's manual.
- 7.9.2. Fire mains and the accompanying inlet and/or outlet boxes will be regularly inspected for damage and repaired where necessary. Where provided, outlet straps to fire mains should be checked to see that they are in place and secure.
- 7.9.3. Fire and Rescue Service access roads and gates leading to the building can become seriously obstructed by parking of cars and other vehicles using the site. Management procedures will be introduced by the Managing Agents, as part of the Estate Parking Regime, to exercise control over the parking of vehicles on private access roadways also used for fire and rescue service access, so that fire appliances are not obstructed in an emergency and are able to proceed to within the required distance of the fire main inlets. In the interests of security, unauthorised entry along such roadways will be restricted, in agreement with the Fire and Rescue Service, if deemed necessary.

7.10. Contingency Planning

- 7.10.1. It might be necessary to implement contingency arrangements in the event of safety systems being unavailable, e.g. due to maintenance or repair. The fire risk assessment will be used to identify critical systems and inform contingency planning in terms of additional management actions and timescales.

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