Dorrington Gardens Car Park,
Hornchurch, RM12 4HX

Planning Fire Safety Strategy

APEX STRATEGIES

Control Sheet

Client Name:	Mercury Land Holdings Limited
Project Title:	Dorrington Gardens Car Park, Hornchurch, RM12 4HX
Report Title:	Planning Fire Safety Strategy
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Prepared By:	Brett Littlewood MIHE
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Rev.	**Description**	**Prepared By**	**Date**
01	*Draft*	*B Littlewood*	*13/03/2024*
02	*Updated following client review*	*B Littlewood*	*19/04/2024*
03	*Layout amended*	*B Littlewood*	*26/08/2024*

Disclaimer

This document has been prepared for the purposes of Planning. It is not a specification, schedule of works or tender document. Unless a specification or manufacturers reference is given, the contractor is responsible for specifying all materials, fittings etc. within the context of the regulations and British Standards referred to herein. The contractor is also responsible for notifying the Planning Authority / Fire officer / Building Control when works are due to commence and the HSE where appropriate.

The works are to be carried out to the approval and satisfaction of the Building Control Officer, to accepted good building practice and with full compliance and in accordance with all relevant British Standards and Codes of Practice.

The Contractor must comply with relevant building control instructions and Directives.

Contents

1. Introduction

This Planning Fire Safety Strategy (PFSS) has been prepared by Apex Strategies Ltd. on behalf of Mercury Land Holdings Limited in relation to development proposals at Dorrington Gardens Car Park, Hornchurch, RM12 4HX comprising the redevelopment of the existing car park to create 8 Nº two-storey three-bed residential dwellings, 4 Nº three-storey four-bed dwellings and 2 Nº three-storey apartment blocks providing a total of 22 Nº self-contained flats (1 & 2 bed).

This PFSS has been prepared to address London Plan (2021) Policy D12(a) 'Fire Safety', which states;

"In the interests of fire safety and to ensure the safety of all building users, all development proposals must achieve the highest standards of fire safety and ensure that they:

1. *identify suitably positioned unobstructed outside space:*
    a. *for fire appliances to be positioned on*
    b. *appropriate for use as an evacuation assembly point*
2. *are designed to incorporate appropriate features which reduce the risk to life and the risk of serious injury in the event of a fire; including appropriate fire alarm systems and passive and active fire safety measures*
3. *are constructed in an appropriate way to minimise the risk of fire spread*
4. *provide suitable and convenient means of escape, and associated evacuation strategy for all building users*
5. *develop a robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence in*
6. *provide suitable access and equipment for firefighting which is appropriate for the size and use of the development."*

The Strategy is also written in cognisance of London Plan (2021) Policy D5(B5) 'Inclusive Design', which states;

"Development proposals should achieve the highest standards of accessible and inclusive design. They should be designed to incorporate safe and dignified emergency evacuation for all building users. In all developments where lifts are installed, as a minimum at least one lift per core (or more subject to capacity assessments) should be a suitably sized fire evacuation lift suitable to be used to evacuate people who require level access from the building."

London Plan paragraph 3.12.2 notes that;

"The matter of fire safety compliance is covered by Part B of the Building Regulations. However, to ensure that development proposals achieve the highest standards of fire safety, reducing risk to life, minimising the risk of fire spread, and providing suitable and convenient means of escape which all building users can have confidence in, applicants should consider issues of fire safety before building control application stage, taking into account the diversity of and likely behaviour of the population as a whole."

The aim of this document is therefore to demonstrate the relevant fire safety aspects of the proposed development design to date. This document does not constitute the detailed fire strategy under the Building Regulations which will be developed as the scheme progresses. However, this Strategy evidences the provisions made for the safety of occupants and protection of property as well as the provision of suitable access and provisions for firefighting in light of London Plan fire safety policy requirements and the rationale for these measures.

This Strategy is presented in a format which responds to the listed criteria of London Plan Policy D12(A).

The development provides residential accommodation, as such, the proposals have been considered against the requirements set out within The Building Regulations (2010) Approved Document B: Volume 1 - 2019 edition incorporating 2020 and 2022 amendments; hereafter referred to as **'ADB1'**.

This Strategy has been informed by the submitted layouts and elevations prepared by Gardner Stewart Architects (GSA).

This Planning Fire Safety Strategy has been prepared by Brett Littlewood, who is qualified with a HND in Construction and the Built Environment (Civil Engineering), a higher level apprenticeship in Construction Management, has 11+ years experience as a consulting Highways Engineer and is a Member of the Institute of Highways Engineers (MIHE). The author's qualifications and experience are considered to be commensurate with the size, scope and complexity of the development.

2. Planning Fire Safety Strategy

Criteria 1a - Identify suitably positioned unobstructed outside space for fire appliances to be positioned on

Requirements / Guidance:

For **dwellinghouses**:

Access for a pumping appliance should be provided to within 45m of all points inside the dwellinghouse. Every elevation to which vehicle access is provided should have a suitable door(s), not less than 750mm wide, giving access to the interior of the building. (ADB1 - 13.1)

For **flats**, either of the following provisions should be made:

A. *Provide access for a pumping appliance to within 45m of all points inside each flat of a block, measured along the route of the hose. Every elevation to which vehicle access is provided should have a suitable door(s), not less than 750mm wide, giving access to the interior of the building. Door(s) should be provided such that there is no more than 60m between each door and/or the end of that elevation (e.g. a 150m elevation would need at least two doors).*
B. *Provide fire mains (ADB1 - 13.2)*

The Association of Chief Fire Officers provided the following comments in Manual for Streets in relation to access for fire service vehicles:

"A 3.7m carriageway (kerb to kerb) is required for operating space at the scene of a fire. Simply to reach a fire, the access route could be reduced to 2.75m over short distances…"

Criteria 1a Design Comments:

The development features an access road of varying width due to on-street parking facilities; however, the minimum clear width is 5.4m which is sufficient to accommodate fire vehicle access.

The access road is within 45m of all points of the proposed dwellinghouses.

The distance (measured along the route of the hose) between the access road and the furthest point within each block of flats is within 45m, therefore, Dry Mains facilities are not required.

The access road provides suitable unobstructed space for the stationing of a fire appliance thereby satisfying Criteria 1a.

Criteria 1b - Identify suitably positioned unobstructed outside space appropriate for use as an evacuation assembly point

Requirements / Guidance:

There is no legal obligation to formally designate an evacuation assembly point in residential buildings that are designed to facilitate a 'Stay Put' evacuation strategy.

Nevertheless, the Regulatory Reform (Fire Safety) Order 2005 (RRO), which is applicable to the common areas of the residential apartment blocks, states that *"emergency routes and exits must lead as directly as possible to a place of safety", which in turn is defined as a "safe area beyond the premises".*

In principle, assembly points should be located sufficiently far from the premises to minimise interference with the fire and rescue service or danger from falling debris, but should be accessible and not so far away as to discourage people from assembling. Ideally the Fire Assembly Point should be located so as not to require the crossing of a road or movement through trafficked areas.

Criteria 1b Design Comments:

The footways and landscaping provided throughout the development provide suitable space for evacuation which would allow people to escape the effects of a fire and minimise interference with the fire rescue service.

Suitable unobstructed space for evacuation is available from all areas of the development thereby satisfying Criteria 1b.

Criteria 2 - Designed to incorporate appropriate features which reduce the risk to life and the risk of serious injury in the event of a fire; including appropriate fire alarm systems and passive and active fire safety measures

Fire Detection and Alarm:

An automatic detection and alarm system in a building provides an effective means to identify a fire scenario in the early stages of fire growth and to notify building occupants automatically of the fire scenario with a clear message or sound.

All dwellings should have a fire detection and alarm system in accordance with the relevant recommendations of BS 5839-6. *(ADB1 - 1.1)*

Flats and Dwellinghouses (<3 storey):

- **LD2 (Additional Protection):** A system incorporating detectors in all circulation areas that form part of the escape routes from the premises, and in all specified rooms or areas that present a high fire risk to occupants, including a heat alarm in any kitchen and a smoke alarm in principle habitable room(s).

- **Grade D2:** A system of one or more mains-powered detectors, each with an integral standby supply consisting of a user replaceable battery or batteries.

If properties are to be rented, then the grade of alarm should be upgraded to Grade D1.

- **Grade D1:** A system of one or more mains powered detectors, each with a tamper proof standby supply consisting of a battery or batteries.

Passive fire safety:

Passive fire safety measures are built-in structural and design features that aim to contain fires and slow their spread without human intervention or mechanical systems. These measures include fire-resistant walls, floors, and doors, which compartmentalise buildings to prevent the spread of fire and smoke between different areas. See **'Criteria 3 - Internal Fire Spread'** for further details.

Automatic Water Fire Suppression Systems (Sprinklers):

Blocks of flats with a top storey more than 11m above ground level should be fitted with a sprinkler system throughout the building in accordance with BS 9251. *(ADB1 - 7.4)*

There are occasions when a sprinkler system can be proposed as part of a fire strategy to compensate for, or overcome, circumstances where a building is unable to follow guidance issued in support of building regulations. *(BS 9251 - Note 4)*

Criteria 2 Design Comments:

Fire detection and alarm systems designed, installed & commissioned in accordance with BS 5839-6:2019 shall be provided within each flat/dwelling.

All dwellinghouses and apartment blocks shall be constructed to achieve adequate fire resistance and compartmentation in accordance with the requirements of ADB Tables B3, B4 and C1. See **'Criteria 3 - Internal Fire Spread'** for further details.

The height of the top floor above ground level in all apartment blocks is below the trigger height of 11m for the mandatory implementation of sprinkler systems, and the design of both dwellinghouses and flats otherwise meets the Building Regulations requirements for means of escape (see **'Criteria 4 - Means of Escape'** for further details). As such, active fire safety systems such as sprinkler systems are not required.

Criteria 2 is thereby satisfied.

Criteria 3 - Constructed in an appropriate way to minimise the risk of fire spread

Internal Fire Spread

ADB1 Table B4 sets out minimum periods of fire resistance for a range of development types. For dwellinghouses (up to three-storey) a minimum of 30 minutes fire resistance is required, increased to 60 minutes minimum for compartment walls separating buildings. For flats (without sprinklers) with a top floor height between 5m and 11m a minimum of 60 minutes fire resistance is required.

With reference to ADB1 Tables B3, B4 and C1, the following tables provide a summary as to where this applies in the proposed development:

Dwellinghouses:				
Part of building	**Minimum provisions when tested to relevant part of BS 476 (minutes)**			**Type of exposure**
	Loadbearing capacity (R)	**Integrity (E)**	**Insulation (I)**	
Structural frame	30 mins	n/a	n/a	Exposed faces
Loadbearing wall	30 mins	n/a	n/a	Each side separately
Floors (in upper storey of two storey dwellinghouse)	30 mins	15 mins	15 mins	From underside
External walls (below 1000mm from relevant boundary)	30 mins	30 mins	30 mins	Each side separately
(above 1000mm from relevant boundary)	30 mins	30 mins	15 mins	From inside the building
Compartment walls (separating occupancies)	60 mins	60 mins	60 mins	Each side separately
Cavity barrier	n/a	30 mins	15 mins	Each side separately

Flats:				
Part of building	**Minimum provisions when tested to relevant part of BS 476 (minutes)**			**Type of exposure**
	Loadbearing capacity (R)	**Integrity (E)**	**Insulation (I)**	
Structural frame	60 mins	n/a	n/a	Exposed faces
Loadbearing wall	60 mins	n/a	n/a	Each side separately
Floors (compartment floors)	60 mins	60 mins	60 mins	From underside
Roofs (any roof that performs the function of a floor)	60 mins	60 mins	60 mins	From underside
External walls (below 1000mm from relevant boundary)	60 mins	60 mins	60 mins	Each side separately
(above 1000mm from relevant boundary)	60 mins	60 mins	15 mins	From inside the building
(beside an external escape route)	30 mins	30 mins	No provision	From inside the building
Compartment walls (separating the flat from any other part of the building, including other occupancies)	60 mins	60 mins	60 mins	Each side separately

Enclosures (not part of a compartment wall / protected shaft) Protected stairway, lift shaft, protected lobby, protected corridor and protected entrance hall in a flat	30 mins	30 mins	30 mins	Each side separately
Fire doorsets				
Separating a flat from a space in common use	FD30(S)			
Enclosing a protected stairway	FD30(S)			
Enclosing a lift shaft	FD30			
Giving access to external escape route	FD30			
Part of enclosure to protected entrance hall in a flat	FD20			

Compartmentation is the process of dividing a structure into 'compartments' for effective risk management. The main objective of compartmentation is to contain a fire within a specific section of a building, limiting the passage of flames and smoke. This then allows more time for occupants to safely evacuate a building and for fire services to extinguish the flames.

Dwellinghouses that are semi-detached should be considered as separate buildings. Every wall separating the dwellinghouses should be constructed as a compartment wall. *(ADB1 - 5.5)*

In flats, all of the following should be provided as compartment walls and compartment floors:

A. Any floor (unless it is within a flat, i.e. between one storey and another within one individual dwelling).
B. Any wall separating a flat from another part of the building.
C. Any wall enclosing a refuse storage chamber.
D. Any wall common to two or more buildings.

External Fire Spread:

To resist the spread of fire over external walls, the external surfaces should comply with the provisions in ADB Table 10.1. In residential buildings below 11m in height (applicable to the proposed development), where elevations are sited greater than 1000mm of the relevant boundary, no provisions are required. This is applicable to all proposed elevations.

To resist the spread of fire from one building to another, consideration should be given to the fire resistance of the wall, its proximity to the relevant boundary, and the extent of any unprotected areas (i.e. providing less fire resistance than required by ADB Tables B3 and B4).

External walls within 1000mm of the relevant boundary should limit unprotected areas in accordance with ADB1 Diagram 11.5 as shown overleaf.

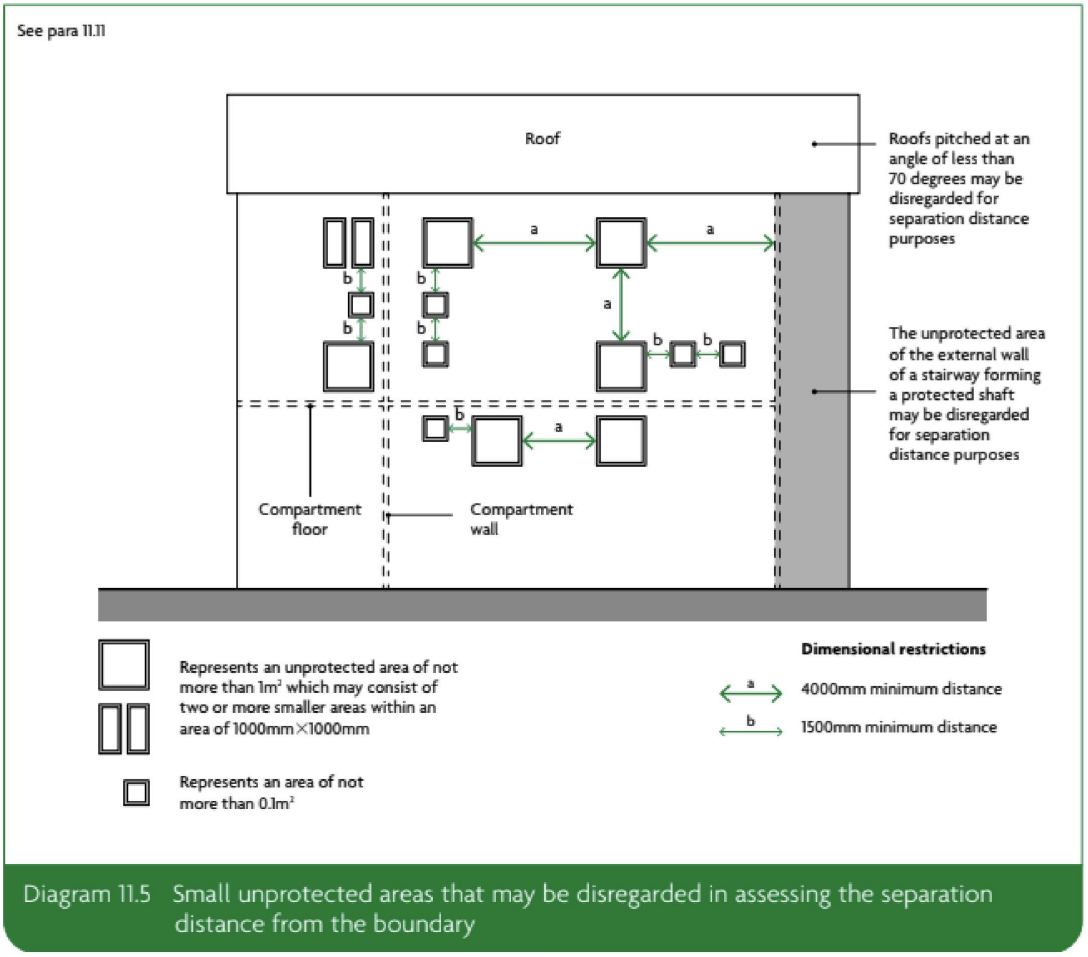

Diagram 11.5 Small unprotected areas that may be disregarded in assessing the separation distance from the boundary

This is applicable to only the facing elevations of the two-storey dwellinghouses along the southern site boundary. No unprotected areas are proposed to these elevations therefore the design is considered acceptable in this respect.

External walls 1000mm or more from the relevant boundary, should limit unprotected areas in accordance with either the methods set out in ADB, or, where more precise calculations are required, the methods set out in BRE report BR187 (2nd Edition) 'External fire spread - Building separation and boundary distances'.

The following table provides a summary of the unprotected area requirements and provisions for each proposed elevation. The assessment assumes that a fire does not spread from one compartment to another.

Dwellinghouses				
Elevation	**Method**	**Minimum Distance**	**Unprotected Area Limit**	**Proposed Unprotected Areas**
Southern Dwellinghouses (East End elevation)	ADB Method 1	>4m, <5m (to property boundary)	24m²	None

Southern Dwellinghouses (West End elevation)	ADB Method 1	>1m, <2m (to property boundary)	5.6m²	None
Southern Dwellinghouses (Rear elevations)	ADB Method 1	>6m (to property boundary)	No limit	N/A
Southern Dwellinghouses (Front elevations)	ADB Method 1	>6m (to centre of carriageway)	No limit	N/A
Northern Dwellinghouses (Front elevations)	ADB Method 1	>6m (to centre of carriageway)	No limit	N/A
Northern Dwellinghouses (Side facing elevations)	ADB Method 1	>5m (to notional centreline between dwellings)	30m²	~4m²
Northern Dwellinghouses (Rear elevations)	ADB Method 1	>6m (to property boundary)	No limit	N/A
Northern Dwellinghouses (East end elevation)	ADB Method 1	>1m (to site boundary)	5.6m²	None
Northern Dwellinghouses (West end elevation)	ADB Method 1	>2m, <3m (to site boundary)	12m²	None

From the above, all proposed dwellinghouse elevations are considered to be acceptable in terms of unprotected areas in relation to boundary distance.

With regards to the proposed apartment blocks A & B, **all elevations exceed 6m separation** from their relevant boundaries and are therefore considered acceptable in terms of unprotected areas.

Criteria 3 Design Comments:

All dwellinghouses and apartment blocks shall be constructed to achieve adequate fire resistance and compartmentation in accordance with the requirements of ADB Tables B3, B4 and C1.

As the buildings are still being developed, the recommendations regarding fire stopping and protection of openings and concealed spaces will be discussed once the building design has progressed through RIBA Stage 3.

All elevations provide adequate separation from their relevant boundaries in relation to the amount of unprotected areas proposed.

At this early stage of the planning process, no contractor has been appointed for the construction of the proposed development and a detailed Construction Method Statement (CMS) has not yet been prepared. A detailed CMS may be secured through a suitably worded planning condition.

Notwithstanding the above, it is recommended that any future CMS includes a commitment to ensure that the Site Management and all operatives must;

- Develop a Fire Risk Assessment and update throughout the construction period;
- Consider how to detect fires and how to warn people quickly if they start (e.g. installing smoke alarms and fire alarms or bells), and have the correct fire-fighting equipment for putting a fire out quickly;
- Ensure good housekeeping at all times (e.g. avoid build-up of rubbish that could burn);
- Identify sources of fuel, sources of ignition and sources of oxygen and keep sources of ignition and flammable substances apart;
- Ensure workers receive appropriate training on procedures they need to follow, including fire drills;
- The latest Fire Plan showing the emergency exit routes and fire points should be displayed and updated regularly as the site progresses. Keep fire exits and escape routes clearly marked and unobstructed at all times;
- If any visitors are on site it is the responsibility of those who they are visiting to ensure that they are evacuated from the site. A roll call will then be taken to ensure all persons are accounted for.

Based on the above, it is considered that Criteria 3 is satisfied.

Criteria 4 - Provide suitable and convenient means of escape, and associated evacuation strategy for all building users

Means of Escape from dwellinghouses:

ADB1 sets out the following requirements for means of escape from dwellinghouses.

Ground Floor:

All habitable rooms (excluding kitchens) should have either of the following.

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

Upper Floors (up to 4.5m above ground level):

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

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

Upper Floors (over above ground level) *[applicable to northern dwellinghouses only]**:***

The dwellinghouse should have either of the following.

A. *Protected stairway*
B. *Alternative escape route*

Design Comments:

All proposed dwellings have a common internal layout which feature an entrance hall serving all habitable rooms at ground floor level. The upper floors of each dwelling also feature a stair from which all habitable rooms take direct access.

In the two-storey dwellings, suitable means of escape can be achieved either via the first floor bedroom windows, or via the stair (subject to the provision of FD20 fire doors to all habitable rooms). In the three-storey dwellings, escape will be facilitated by a protected stairway with FD20 fire doors to all habitable rooms.

It is considered that satisfactory means of escape are provided from the proposed dwellinghouses.

Means of Escape from Flats (Internal):

ADB1 sets out the following requirements for means of escape from flats.

Ground Floor: *(ADB1 - 3.15)*

All habitable rooms (excluding kitchens) should have either of the following.

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

Flats with storeys over 4.5m above ground level: *(ADB1 - 3.18)*

One of the following approaches should be adopted:

A. *Provide a protected entrance hall (minimum REI 30) serving all habitable rooms*

B. *Plan the flat so that both of the following apply.*

    i. *The travel distance from the flat entrance door to any point in any habitable room is a maximum of 9m.*
    ii. *Cooking facilities are remote from the main entrance door and do not impede the escape route from anywhere in the flat.*

C. *Provide an alternative exit from the flat.*

Design Comments:

All flats on all levels throughout Blocks A and B have been designed to feature a protected entrance hall serving all habitable rooms. Travel distances within the entrance halls are within the permitted limits (up to 9m).

Inner rooms are limited to en-suite bathrooms which is permitted by ADB 3.7(d).

Means of Escape from Flats (Common Areas):

ADB1 states that:

From the flat entrance door, a single escape route is acceptable in either of the following cases.

A. *The flat is on a storey served by a single common stair and both of the following apply.*

   i. *Every flat is separated from the common stair by a protected lobby or common protected corridor.*

   ii. *The maximum travel distance for escape in one direction only* (7.5m)*, is not exceeded.*

B. *The flat is in a dead end of a common corridor served by two (or more) common stairs and the maximum travel distance for escape in one direction only, is not exceeded.* *(ADB1 - 3.27)*

ADB goes on to state that paragraph 3.27 may be modified using the guidance in clause 7.3 of BS 9991.

In general there is little risk of a balcony or deck becoming smoke-logged and there is thus no need to impose a limitation on the travel distance from the dwelling entrance to the stairway, although account should be taken of the needs of the fire and rescue service, such as the distance between the nearest connection to a fire main and the flat or maisonette. *(BS9991 - Clause 7.3)*

Design Comments:

Blocks A and B are each provided with a single stair serving all floors. The stairs are separated from the flat entrances by a protected lobby which also contains a passenger lift. The proposed travel distances within each of the protected lobby areas are within the permitted maximum of 7.5m.

Ancillary Accommodation:

Ancillary accommodation (including storage areas) *should not be located in, or entered from, a protected lobby or protected corridor forming the only common escape route on that storey.* *(ADB1 - 3.37)*

However, in 'small buildings' (no greater than three storeys) with a single stair, BS9991 states the following recommendations should be met:

The stair should not serve ancillary accommodation unless the ancillary accommodation is separated from the stair by a protected lobby or corridor that is provided with permanent ventilation of not less than 0.4m² for the control of smoke or protected by a mechanical smoke ventilation system. *(BS9991 - 7.5 (C))*

ADB states that ancillary accommodation should be enclosed by fire resisting construction *(ADB2 - 2.44)*. The fire rating shall depend upon the intended usage of the accommodation. *(BS9991 - Table 15)*

Design Comments:

The proposed layouts include ancillary accommodation (function to be determined) within each of the protected lobby areas.

Each provision must be enclosed in fire resisting construction and with adequate means of ventilation provided within the respective lobbies. This should be provided in accordance with ADB paragraphs 3.50 to 3.53 for natural means of ventilation, or BS EN 12101-6 for mechanical ventilation.

Stairs:

A stair of acceptable width for everyday use will be sufficient for escape purposes. If it is also a firefighting stair, it should be at least 1100mm wide. The width is the clear width between the walls or balustrades. Any handrails and strings intruding into that width by a maximum of 100mm on each side may be ignored. (ADB1 - 3.60)

Design Comments:

Each of the proposed stairs has a width of 1100mm which is considered acceptable.

All stairs shall be enclosed in fire resisting construction, including fire doors (FD30S) on all levels.

Lifts:

The London Plan – Policy D5 (Inclusive Design) requests the highest level of accessibility and recommends that at least one lift (excluding the dedicated firefighting lift) should be a suitably sized fire evacuation lift. The purpose of this enhanced provision which is over & above the minimum recommendation within the British Standards is to evacuate people who require level access from the building.

In non-emergency situations, evacuation lifts operate as normal passenger lifts allowing everyday use, but they have additional functions and capabilities which allow them to shift into an emergency state, if required.

Key features of an evacuation lift include:

- Cause and effect interface between the lift control system, fire detection and alarm system to support the evacuation strategy.
- Emergency intercom/ communication system and lift operation.
- Provision of a management plan to determine operational procedures for trained staff designated to manage and use the lift in an emergency situation.

- Separate power supply to the lift to enable the lift to remain in use throughout the evacuation process.

The draft guidance associated with London Plan Policy D5(B5) identifies the relevant British Standards as "BS EN 81-76".

ADB states that lift wells should comply with one of the following conditions.

A. *Be sited within the enclosures of a protected stairway.*
B. *Be enclosed with fire resisting construction (minimum REI 30) when in a position that might prejudice the means of escape.*(ADB1 - 3.99)

Design Comments:

The proposed lift shafts deliver into the protected lobby areas which has the potential to prejudice means of escape. Therefore, the lift shafts shall be enclosed in fire resisting construction (minimum REI 30).

The specification of the proposed lifts should be reviewed and provided in accordance with the adopted standard.

Evacuation Strategy

The 'stay put' evacuation regime is the standard approach to residential developments in the UK . This means that only the dwelling/flat of fire origin is expected to evacuate in the event of a fire and other occupancies will not be automatically notified.

The 'stay put' strategy is facilitated through the provisions made throughout the development to ensure that a fire is contained within the flat / area of origin and that common escape routes, safe areas and stairways remain relatively free from smoke and heat in the event of a fire.

Simultaneous evacuation of the apartment blocks is unlikely to be necessary. Further evacuation of apartments will not take place automatically but will be reliant upon the Fire Service, building management or the independent action of individual occupants.

Criteria 4 Design Comments:

Satisfactory means of escape are provided from both the proposed dwellinghouses and flats, in accordance with the relevant requirements set out in ADB, and where applicable, BS9991. Details of the proposed 'Stay Put' evacuation strategy have also been provided.

Criteria 4 is thereby satisfied.

Criteria 5 - Develop a robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence in

Evacuation Strategy

As discussed under Criteria 4, the development shall adopt a standard 'Stay Put' evacuation strategy where only the dwelling/flat of fire origin shall be expected to evacuate in the event of a fire.

The development of a detailed evacuation strategy for the individual residential dwellings is not warranted. However, a template Residential Evacuation Strategy for the apartment blocks is included at **Appendix A**. This template should be periodically updated as the design progresses and following a detailed Fire Risk Assessment post-construction.

An Evacuation Strategy has been provided therefore Criteria 5 is considered satisfied.

Criteria 6 - Provide suitable access and equipment for firefighting which is appropriate for the size and use of the development

Access

As noted under **Criteria 1**, the access road through the development provides sufficient width to allow access for a pumping appliance.

The proposed cul-de-sac layout does not provide a through-route to Bruce Avenue, therefore it is necessary for the fire vehicle to turn around. ADB states that turning facilities should be provided to any dead-end access routes longer than 20m.

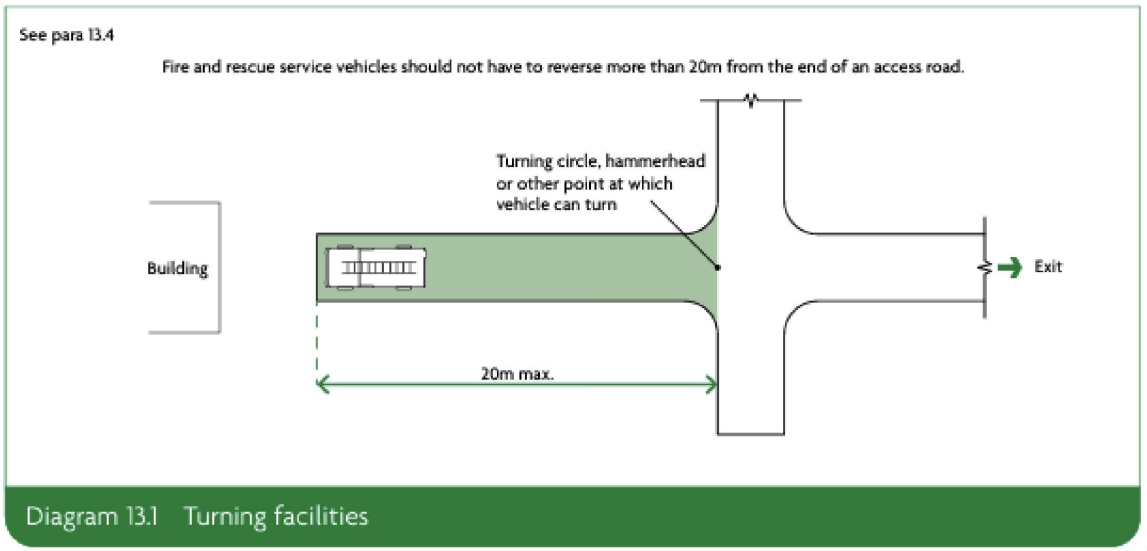

Diagram 13.1 Turning facilities

A turning head facility is provided to the south of Block B, providing sufficient room for a Pumping Appliance to turn within this area, allowing the vehicle to enter and exit the site in forward gear.

For information, the nearest Fire Station is located along North Street ~500m (2 minutes drive) to the north of the site, as illustrated below.

Facilities:

As noted under **Criteria 1**, the distance (measured along the route of the hose) between the access road and the furthest point within each block of flats is within the recommended maximum distance of 45m, therefore, no Dry Mains are required to support firefighting operations.

With regards to hydrants, the nearest existing hydrant is located along Dorrington Gardens at the junction with Victor Gardens, within 100m of the proposed apartment blocks.

As well as supporting the building occupant life safety objectives, the provision of both passive and active fire safety systems also provides substantial benefits to firefighter operations.

Firefighting is facilitated through protected stairways and ventilated lobbies which provide a suitable environment in which firefighters can set up their firefighting equipment, plan their operations and provide areas of refuge to which they can retreat to if necessary. This enables firefighters to reach a fire scenario anywhere in the development safely.

Adequate access and facilities to support fire fighting operations are proposed and therefore Criteria 6 is satisfied.

Appendices

Appendix A: Residential Evacuation Template

Fire Evacuation Strategy

Evacuation Strategy for :	Residential
Premises address and contact number	Dorrington Gardens Car Park, Hornchurch, RM12 4HX Tel: TBC
Plan date	TBC – Document prepared for planning
Review date	Annually

Overview

'Stay in Place' - Provisions are made throughout the development to ensure that a fire is contained within the flat/dwelling of origin and that the provided escape routes remain relatively free from smoke and heat in the event of a fire.

Stay in Place Evacuation Strategy

- If a fire occurs within a flat, the occupants should immediately alert others in the flat, make their way out of the building and summon the fire and rescue service;
- If a fire starts in the common part of the development, anyone in these areas should make their way out of the building and summons the fire and rescue service;
- All other residents not directly affected by the fire would be expected to 'stay in place' and remain in their flat unless directed to leave by the fire and rescue service.

Escape routes

The escape route from each flat is via the main stair through the protected lobby areas.

General Evacuation Guidance

Anyone evacuating the building should follow the following guidelines:

- **Stay Calm:** Keep calm to think clearly and make rational decisions.
- **Alert Others:** As you evacuate, alert others if possible without delaying your own exit.
- **Check Doors:** Before opening any doors, use the back of your hand to check if they are hot. A hot door indicates fire on the other side, and you should find another route.
- **Stay Low:** If there is smoke, stay low where the air is clearer and cooler. Crawl if necessary.
- **Close Doors Behind You:** As you exit rooms, close doors behind you to help contain the fire and slow its spread.
- **Evacuate the Building:** Leave the building as quickly as possible and move away from the structure.
- **Choose a Safe Assembly Point:** Once outside, move to an open area away from the building. Keep clear of routes between the building and where the fire vehicle is located in order to minimise interference with the fire rescue service.
- **Do Not Re-enter:** Do not re-enter the building under any circumstances until it has been declared safe by fire or emergency officials.
- **Report to Emergency Responders:** Inform emergency responders of anyone who may be missing and their possible location inside the building.
- **Communicate and Stay Informed:** Call or text family or roommates to let them know where you are, and stay updated on the situation through official channels or instructions from emergency personnel.

Fighting fires – Extinguisher use

Fire extinguishers will only be used where:

- Residents have received training and feel confident in their use
- Where it is deemed safe to do so i.e. there is a clear means of escape, fire is small

Personal safety always takes priority and, if in any doubt, residents should not attempt to extinguish a fire

Location of key safety hazards or other fire related equipment
• Gas supply shut off: TBC • Mains fuse box: TBC • Mains water inlet: TBC • Gas/oxygen cylinders: TBC • Location of fire alarm panel: TBC

Responsibilities	
For ensuring plan is up to date	TBC - Usually the premises manager
For ensuring adequate staff are on duty to carry out the evacuation plan	As above
For training staff on the evacuation plan and in their roles and responsibilities	As above

Attach any Personal Emergency Evacuation and General Emergency Evacuation Plans to this document

APEX STRATEGIES

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