

BB7

Fire Strategy

Oak Park Care Home and Extra Care Block

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EXECUTIVE SUMMARY

Means of Escape

The Care Home will operate a progressive horizontal evacuation strategy, where occupants will evacuate horizontally into an adjacent compartment rather than leave the building.

In the Extra Care block a ‘stay-put’ evacuation strategy will be adopted. The principle of such a strategy is that only the occupants of the flat containing the fire (the ‘flat of origin’) are expected to make an escape.

A bed evacuation lift has been provided in the Care Home, in the centre of the West elevation, which is separated from all adjacent compartments, to ensure that the lift is going to be available in almost all situations.

Disabled refugees are not considered necessary as occupants within the Care Home can travel into the adjacent compartment, or even utilise the evacuation lift to escape. It is assumed that all occupants would require assistance to escape.

Disabled occupants in the Extra Care block will be safe once outside of their flat and can even use the lifts to escape the building.

Compartmentation

The Care Home only has a single upper floor, which is less than 5m above ground floor level, and is provided with a life safety sprinkler system, in accordance with BS 9251, Category 3, only 30 minutes fire resistance is required to the elements of structure. However, this is increased to 60 minutes where there is a separating wall into another building or use.

The Extra Care block is below 18m in height. Elements of structure should therefore need to achieve 60 minutes fire resistance.

The hub will have a fire time of 60 minutes due to the commercial nature of its use.

Sprinklers

A sprinkler system is required throughout both buildings, but they are not required in the common areas such as staircases, sterile corridors and landings. The guidance in BS 9991 suggests that sprinklers should be designed in accordance with BS 9251:2014 category 3, in this situation the residential building standard should be utilised.

Fire Service Access

Access for the fire appliance will be within 18m of the dry riser inlets to each block. The appliance will not need to reverse more than 20m to reach this point, as adequate turning facilities are provided.

The dry rising mains should be clearly visible from the appliance parking space outside each core of each block.

The longest distance from the dry riser outlets to the furthest part of the furthest flat/room is within 60m of one dry riser outlet in the Care Home. All other distances, in both the Care Home and Extra Carew facility are comfortably within 45m of the dry riser outlets.

1 INTRODUCTION

1.1 Project Description

The Oak Park development consists of the construction of two supported living blocks, an extra care block and a Care home.

This fire strategy focuses solely on the Care Home and the Extra Care facility. They are both linked on the ground floor to the ‘hub’, where various commercial uses will be available for the on-site residents.

The Care home consists of just ground and a single upper floor. The building is a square with access all of the way around, promoting a progressive horizontal evacuation strategy.

The Extra Care facility consists of ground plus two floors. The building is effectively ‘T-shaped’ with stairs located on all three ends of the building.

The hub is located on the south east corner of the Care home and the north side of the extra care facility. It consists of multiple small commercial units as well as a full commercial kitchen facility and all of the ancillary space required for the Care home, such as the laundry, offices, and staff areas.

This strategy provides guidance for the Care Home and Extra Care Block.

1.2 Instructions

BB7 has been commissioned by Ashley House plc to provide fire safety engineering advice for Oak Park, part of the Havant Health and Wellbeing Campus.

1.3 Drawings

This report is based on the following drawings, issued by Penoyre & Prasad:

Table 1: Drawings

Drawing Number	Revision	Date	Title
598-G-200	D	05.11.2014	Care Home & Supported – Ground Floor
598-G-201	D	16.10.2014	Care Home & Supported – First Floor
598-G-202	C	16.10.2014	Care Home & Supported – Second Floor
598-G-203	B	11.12.2014	Extra care & Supported Living – Ground Floor
598-G-204	B	11.12.2014	Extra care & Supported Living – First Floor
598-G-205	B	11.12.2014	Extra care & Supported Living – Second Floor

1.4 Limitations

This strategy puts forward proposals for the design of Oak Park and for the fire safety systems to be incorporated in the building. It is intended that these will satisfy the requirements of the

relevant legislation. The final decision as to whether the proposals satisfy the requirements rests with the approving authorities.

This document contains some in-principle agreements already reached with the approving authorities. However, any agreements reached prior to a formal application under the Building Regulations or other relevant legislation must be considered as risk items until formally approved. Whilst these would have been negotiated and agreed in good faith, the approving authorities are not bound by them and they may therefore be subject to change.

Unless otherwise stated, the proposals in this document are intended to satisfy life safety requirements only. They are not directed towards property protection. Whether increased levels of protection are considered necessary to meet property protection requirements should be discussed by the client with those responsible for insuring the building. The strategy should be seen as a live document that may evolve during further discussions within the design team and with the approving authorities.

1.5 Fire Safety Design Philosophy

The fire safety design philosophy adopted is:

- To ensure as far as is reasonable the safety of people in and around the Building.
- To enable the fire brigade to have reasonable access to the Building for the purpose of carrying out rescues.
- To protect the property by limiting the opportunities for fires starting and spreading.
- To reduce the impact of a fire in the development of the surrounding area and reduce the chance of conflagration.
- To integrate the physical measures incorporated within the development as far as is reasonable with a management system that will maintain their effectiveness throughout the life of the development.

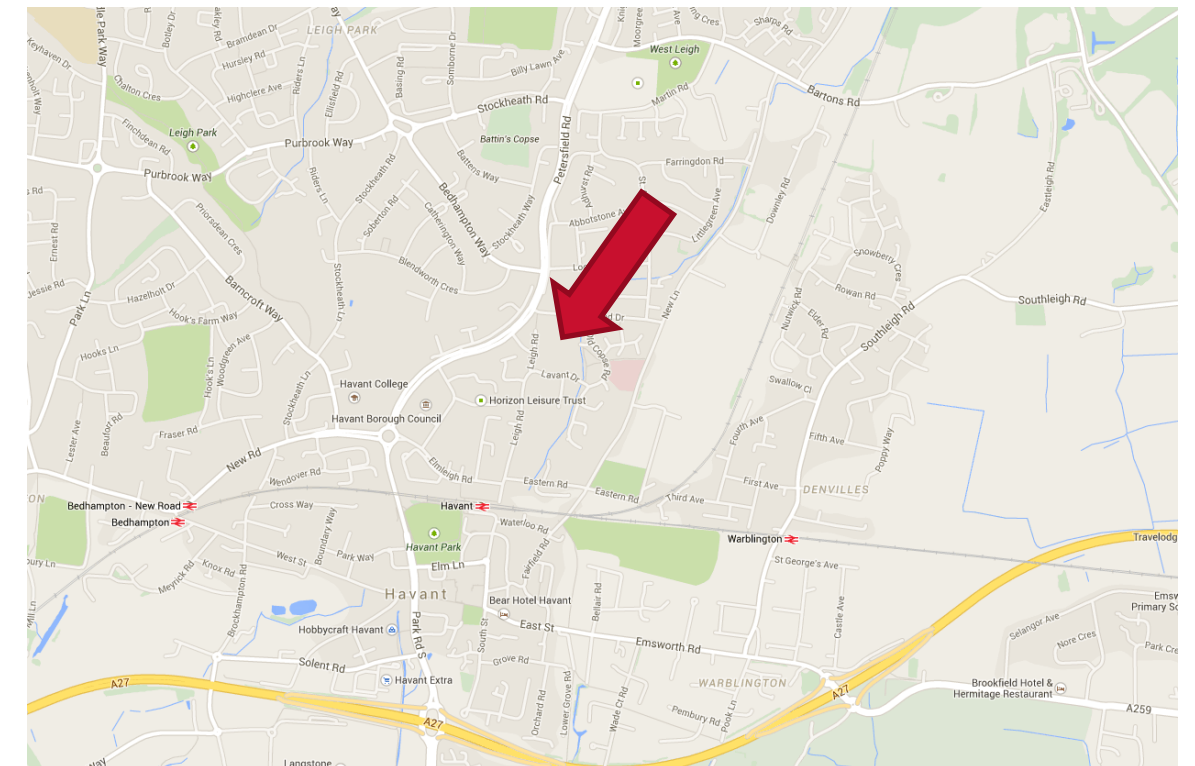
The main physical measures that are incorporated in the development together with the management approach work in combination to achieve the overall objectives and should not be considered in isolation.

2 PROJECT INFORMATION

2.1 Location

The site is located on a currently unoccupied section of land just off of the B2149, Petersfield Road. The site, for this part of the overall project, has an area of approximately 15,000m².

Figure 1: Site Location



Source: Google Maps

2.2 General Description

Oak Park will be part of the larger Havant Health and Wellbeing Centre, offering care for the elderly members of the surrounding communities.

The Extra Care block, Care Home and Hub will be fitted with a sprinkler system to offer an increased level of protection to the occupants.

3 MEANS OF ESCAPE

3.1 Evacuation Strategy

The Care Home will operate a progressive horizontal evacuation strategy, where occupants will evacuate horizontally into an adjacent compartment rather than leave the building.

In the Extra Care block a ‘stay-put’ evacuation strategy will be adopted. The principle of such a strategy is that only the occupants of the flat containing the fire (the ‘flat of origin’) are expected to make an escape. This approach is supported by national guidance for the Building Regulations and is based on the following assumptions:

- A fire will generally only occur in a flat;
- There is no reliance on external rescue;
- There is a high degree of compartmentation and therefore a low probability exists that there will be fire spread beyond the flat of origin;
- If a fire does occur within the common parts, the materials and construction used in these areas should limit the development and spread of fire.

The evacuation strategy within the Hub will be simultaneous, where all occupants are expected to evacuate upon the activation of a warning system.

3.2 Horizontal Escape

Travel distances have been assessed against the recommendations of Table 2 in Approved Document B, Volume 2. The recommended travel distance limits are given below:

Table 2: Travel Distances

Purpose Group	Use	Travel possible in one direction (m)	Travel possible in more than one direction (m)
1(a)	Protected internal hallway	9	-
	Communal corridor	7.5	30
2(a)	Institutional	9	18
2(b)	Other residential:		
	a. in bedrooms	9	18
	b. in bedroom corridors	9	35
	c. elsewhere	18	35
3	Office	18	45
4	Shop & Commercial	18	45
5	Assembly and Recreation:		
	a. buildings primarily for disabled people	9	18
	b. areas with seating in rows	15	32
	c. elsewhere	18	45

Purpose Group	Use	Travel possible in one direction (m)	Travel possible in more than one direction (m)
6	Industrial:		
	a. Normal Hazard	25	45
	b. Higher Hazard	12	25
7	Storage and other non-residential:		
	a. Normal Hazard	25	45
	b. Higher Hazard	12	12
2-7	Place of special fire hazard	9	18
2-7	Plant room or rooftop plant:		
	a. distance within the room	9	35
	b. escape route not in open air (overall travel distance)	18	45
	c. escape route in open air (overall travel distance)	60	100

The accommodation within the care home would come under purpose group 2, with the Extra Care block being group 1.

The maximum travel distances within all buildings are within those recommended within the guidance.

Due to the rectangular layout of the Care Home, travel distances are easily met, as each floor has been divided into four separate compartments.

As the Care Home is a managed evacuation and may require the moving of beds, it is advised that the doors are hinged to be able to open in either direction.

The direction of door openings is not an issue in the Extra Care block as a stay out evacuation strategy is in place. However, if there are more than 60 people likely to be located in the hub at any one time, doors should open in the direction of escape from this area.

Also the Extra Care is provided with multiple stairs that always mean two directions of escape are available in most areas, apart from the two flats at the southernmost end of the building, where there are two short dead end travel conditions to an adjacent stair.

The ancillary uses of both blocks, including the laundry and buggy stores, have been separated from the accommodation and all located together. This prevents them from affecting more than one of the means of escape from the accommodation.

Door Fastenings

Door fastenings from the hub and Extra Care block should be traditional push bar style escape doors. However, the Care Home is much more complex, due to patient wellbeing, and should be carefully considered for both escape and security purposes.

3.3 Vertical Escape

There are a total of 5 stairs within the Care Home, one in each of the four corners and a fifth in centre of the East elevation, which is the just inside the main entrance. All but the stair adjacent to the main entrance are protected stairs, separated from all adjacent spaces. As the building is

sprinklered and the only fire loading within the stair is the reception area, which will be controlled, this is considered acceptable as a means of escape for mobile patients and/or visitors. All other stairs discharge directly to fresh air on the ground floor, and are 1300mm wide with landings sized in accordance with Table 3 in HTM 05-02; so are able to be utilised as evacuation stairs for mattress evacuation.

A bed evacuation lift has been provided in the Care Home, in the centre of the West elevation, which is separated from all adjacent compartments, to ensure that the lift is going to be available in almost all situations.

Four stairs serve the Extra Care block, one at each of the three extremities of the block, and one in the centre of the long, north to south, section of the block; which is the stair adjacent to the main entrance of the block. The two southern stairs discharge directly to fresh air on the ground floor, but the northernmost stair and the stair adjacent to the main entrance, discharge into a corridor and reception area respectively. Again the fire load within the reception area will be controlled. All stairs will be at least 1100mm wide.

3.4 Building Occupancy Capacity

As the Care Home will be utilising a progressive horizontal evacuation strategy, the number of beds is restricted to 10 per compartment, in accordance with the guidance in Approved Document B. This is to limit the number of beds that may need moving in the initial stage of evacuation, exits and stairs are not sized to allow for a full simultaneous evacuation as this would not occur.

The Extra Care block utilises a 'stay-put' evacuation strategy, so only the occupants of the flat of fire origin would be expected to be making an escape. So, again, the exits and stairs are not required to be sized for simultaneous evacuation.

3.5 Persons of limited mobility

Disabled refugees are not considered necessary as occupants within the Care Home can travel into the adjacent compartment, or even utilise the evacuation lift to escape. It is assumed that all occupants would require assistance to escape.

Disabled occupants in the Extra Care block will be safe once outside of their flat and can even use the lifts to escape the building.

4 FIRE DETECTION AND ALARM SYSTEMS

4.1 Category of Fire Alarm System

Automatic fire detection and alarm system should be provided throughout the Care Home to meet the recommendations of BS 5839-1 Category L1. This will consist of detection throughout the premises, with call points appropriately located. This should be linked to a staff alert system.

The Extra Care block should be provided with two types of automatic fire detection. The flats themselves should be provided with an LD2 system in accordance with the recommendations of BS 5839-6. This will consist of smoke detectors within the protected internal hallways and a heat detector in the kitchen of each flat.

The hub should be provided with an automatic fire detection and alarm system to meet the recommendations of BS 5839-1 Category L1, with detection and call points located throughout all spaces in this area.

Automatic fire detection systems will be required in the common corridors of the Extra Care facility, but only to operate any automatic smoke ventilation systems.

5 INTERNAL FIRE SPREAD AND FIRE RESISTANCE

5.1 Test Standards

Fire resisting elements selected should meet the performance standards recommended by the relevant part of BS 476, BS EN 1363, BS EN 1365 or BS EN 1366.

5.2 Elements of Structure

The Care Home only has a single upper floor, which is less than 5m above ground floor level, and is provided with a life safety sprinkler system, in accordance with BS EN 12845, only 30 minutes fire resistance is required to the elements of structure. However, this is increased to 60 minutes where there is a separating wall into another building or use.

The Extra Care block is below 18m in height, and are considered to be residential. Elements of structure should therefore need to achieve 60 minutes fire resistance.

The hub will have a fire time of 60 minutes due to the commercial nature of its use.

All floors should form compartment floors achieving the same period of fire resistance as the elements of structure.

Any elements of structure which only support themselves or a roof do not require any specific fire resistance.

5.3 Compartmentation

Care Home

All floors should be provided with 30 minutes fire resistance.

Any compartment walls or divides in corridors should be provided with 30 minutes fire resistance.

Each bedroom should be enclosed in 30 minutes fire resisting construction with FD30S fire doors.

All corridors should be constructed as protected corridors, with 30 minutes fire resistance.

Any high hazard rooms, including communal kitchens/tea points, should be contained within 60 minutes fire resisting construction.

Any compartment walls between the Care Home and the Hub should be provided with 60 minutes fire resistance.

Service risers will conform to the fire rating of the building, 30 minutes with FD30 doors. This can be achieved by containing the shaft as a whole or at each floor level.

External facades will not require any fire resistance as it has been determined that fire spread via these elevations is unlikely. More information is provided section 7.

Any refuse store areas should be separated from all adjacent accommodation by 60 minutes fire resistance and fitted with FD30S fire doors. External doors require no fire rating.

The electrical intake rooms should be separated from the rest of the building by 60 minutes fire resistance with FD30 doors. (Substations may be required to be up to 4 hours fire resistance under the requirements of UKPN).

Any stores and any ancillary accommodation should be enclosed in 30 minutes fire resistance with FD30S doors. These are not allowed to be provided within the communal areas.

Extra Care

All floors should be provided with 60 minutes fire resistance.

Any compartment walls or divides in corridors should be provided with 60 minutes fire resistance.

Each flat should be enclosed in 60 minutes fire resisting construction with FD30S fire doors.

Internal protected halls in apartments, where required, should be provided with 30 minutes fire resistance and FD20 fire doors, at a minimum. This includes doors to cupboards accessed off the common corridor.

All corridors should be constructed as protected corridors, with 60 minutes fire resistance.

Any high hazard rooms should be contained within 60 minutes fire resisting construction.

Any compartment walls between the Extra Care block and the Hub should be provided with 60 minutes fire resistance.

Service risers will conform to the fire rating of the building, 60 minutes with FD30 doors. This can be achieved by containing the shaft as a whole or at each floor level.

External facades will not require any fire resistance as it has been determined that fire spread via these elevations is unlikely. More information is provided section 7.

Any refuse store areas should be separated from all adjacent accommodation by 60 minutes fire resistance and fitted with FD30S fire doors. External doors require no fire rating.

The electrical intake rooms should be separated from the rest of the building by 60 minutes fire resistance with FD30 doors. (Substations may be required to be up to 4 hours fire resistance under the requirements of UKPN).

Any stores and any ancillary accommodation should be enclosed in 30 minutes fire resistance with FD30S doors. These are not allowed to be provided within the communal areas.

The Hub

All floors should be provided with 60 minutes fire resistance.

Any compartment walls or divides in corridors should be provided with 60 minutes fire resistance.

Each unit should be enclosed in 60 minutes fire resisting construction with FD30S fire doors.

All corridors should be constructed as protected corridors, with 60 minutes fire resistance.

Any high hazard rooms should be contained within 60 minutes fire resisting construction.

Any compartment walls between the hub and the Care Home or Extra Care block should be provided with 60 minutes fire resistance.

Service risers will conform to the fire rating of the building, 60 minutes with FD30 doors. This can be achieved by containing the shaft as a whole or at each floor level.

External facades will not require any fire resistance as it has been determined that fire spread via these elevations is unlikely. More information is provided section 7.

Any refuse store areas should be separated from all adjacent accommodation by 60 minutes fire resistance and fitted with FD30S fire doors. External doors require no fire rating.

The electrical intake rooms should be separated from the rest of the building by 60 minutes fire resistance with FD30 doors. (Substations may be required to be up to 4 hours fire resistance under the requirements of UKPN).

Any stores and any ancillary accommodation should be enclosed in 30 minutes fire resistance with FD30S doors.

5.4 Fire Doors

All fire doors should, as a minimum, be provided with protection in accordance with the below table:

Table 3: Fire Doors

Locations	Required Doors
Stair doors	FD30S
Lift shafts	FD30
Service Risers	FD30
Doors to protected internal Halls to flats	FD30 (FD20's no longer available)
Front doors of flats	FD30S
Doors to ancillary accommodation	FD30S

Any doors in communal areas should be provided with self-closers, except riser and small cupboard doors which should be kept locked shut and signed as such.

It is acceptable to provide doors on hold open devices which release on detection. The detectors should be located within 1.5m of the doors. It is proposed that these aren't provided on stair doors.

Doors are not required to open in the direction of travel as it is unlikely more than 60 people will be using a single door to escape.

Doors to bathrooms are not required to be fire resisting, provided the 30 minute fire resistant separation is maintained between the bathroom and adjacent rooms.

5.5 Concealed Spaces

Cavity barriers, providing the following periods of fire resistance, should be provided, in accordance with the recommendations of Table 34 BS9999:2008, within the non-residential areas in order to prevent fire spread around a fire-separating element or within extensive cavities:

Table 4: Cavity Barriers

Fire Resistance (mins)		
Loadbearing Capacity	Integrity	Insulation
No requirement	30	15

The specification of cavity barriers should not be confused with the specification of fire-stopping between fire resisting elements, e.g. walls and floors, which should afford the same level of fire resistance as the fire resisting elements themselves.

5.6 Fire Stopping

Ductwork passing through compartment/fire resistance walls should be either contained within fire resisting construction or provided with fire dampers.

Where duct work serves both escape routes and accommodation or passes through walls separating zones it should be provided with fire and smoke dampers activated on detection (unless it is contained within fire resisting construction through its route to fresh air). All smoke dampers should close on detection of a fire and plant equipment close down.

In internal protected halls it is acceptable to provide steel ducting or fire collars. Ducts should not serve apartments and adjacent rooms.

Pipes should be suitably protected where they break through a compartment walls or floors. In some instances where they are of limited internal diameter and suitable material, no other measures will be required.

5.7 Internal Surface Finishes & Linings

The choice of materials for walls and ceilings within the building appear to have been chosen with consideration to their potential contribution that the building fabric could potentially make to fire severity and more importantly the rate at which flames propagate over their surfaces.

The European classification for products for reaction to fire is defined in BS EN 13501-1 and the following table recommends the classification for the appropriate location.

Table 5: Surface Linings

Location	National Class	European Class
Small rooms of area not more than: a. 4m2 in residential accommodation b. 30m2 in non-residential accommodation	3	D-s3, d2
Other rooms	1	C-s3, d2
Other circulation spaces	0	B-s3, d2

6 EXTERNAL FIRE SPREAD

6.1 Space Separation

External fire spread calculations have been checked against the guidance given in BR187. Due to the floors and walls between apartments being compartment walls and floors the enclosing rectangle is only small. The maximum required boundary distance, taken from BR187, would be 2m, based on the walls providing fire resistance but the window openings not, and it can be seen from the site plan that the majority of adjacent buildings are much further away.

6.2 Construction of External Walls

In order to prevent fire spread on the external wall of the building, the following surface finishes should be used:

Table 6: External Walls

Use	Distance from Boundary (m)	Building Height (m)	National Class	European Class
Assembly or Recreation	≥1	≤10*	BS 476-6 Index not more than 20	C-s3, d2
		>10	No provision	
Any other building	<1	Any	Class 0	B-s3, d2
	≥1	<18	No provision	
		≥18†	Class 0	B-s3, d2

*Timber cladding at least 9mm thick is acceptable.
†Can be reduced to a BS 476-6 index of not more than 20, or class C-s3, d2 for elements not more than 18m above ground

Materials within external walls of Buildings with a floor of over 18 m in height should be of limited combustibility. See section 12.7 of ADB Vol.2 for more details.

7 SMOKE MANAGEMENT

7.1 Automatic openable vents

A 1.0m² AOV will be provided at the head of all stair cores.

1.5m² AOV's will be provided in the Extra Care block, on the external walls of all areas highlighted in blue below.

Figure 2: Ventilated Corridors



8 EMERGENCY LIGHTING AND SIGNAGE

8.1 Escape Lighting

Emergency lighting should be installed in accordance with the recommendations of BS 5266 Parts 1 and 7, and provided in the below areas. This level of system should be maintained.

Table 7: Emergency Lighting

Purpose group or use	Areas requiring escape lighting
Office, storage	a. Underground or windowless accommodation b. Stairways serving a central core or serving storey(s) more than 18m above ground level c. Internal corridors more than 30m long d. Open-plan areas of more than 60m2
Residential	All common escape routes (including external escape routes), except in 2-storey flats
Any purpose group	a. All toilet accommodation with a floor area over 8m2 b. Electricity and generator rooms c. Switch room/battery room for emergency lighting system d. Emergency control room

8.2 Escape Signage

All signage should meet the recommendations of BS 5499-1.

8.3 Other Signage

Fire resisting doors should be provided with signage meeting the recommendations of BS 5499-5 depending on their method of closure, namely:

Table 8: Door Signage

Method of Closure	Signage	Sign Diameter	Letter Height
Self-closing device		60mm	5mm
Kept locked shut			

Fire exit doors and escape routes in and around the building should be provided with signage complying with the recommendations of BS 5499-5:

Table 9: Exit Signage

Signage	Sign Diameter	Letter Height
	240mm	20mm
		

9 SPRINKLERS

A sprinkler system is required throughout both buildings, but they are not required in the common areas such as staircases, sterile corridors and landings. The guidance in BS 9991 suggests that sprinklers should be designed in accordance with BS 9251:2014 category 3, in this situation the residential building standard should be utilised.

10 ACCESS AND FACILITIES FOR THE FIRE SERVICE

10.1 Access for Fire Appliances

Access for the fire appliance will be within 18 m of the dry riser inlets to each block. The appliance will not need to reverse more than 20 m to reach this point, as adequate turning facilities are provided.

The dry rising mains should be clearly visible from the appliance parking space outside each core of each block.

See Figure 9, showing the site access points for fire service vehicles, in red, with the stairs fitted with dry rising mains highlighted in blue:

10.2 Fire-fighting Access within the Building

As parts of either building have a floor level above 18m, no firefighting shafts are required. The fire service will use any of the stairs highlighted in blue to access the upper floors, or any of the ground floor entrance doors to access flats/rooms located on the ground floor.

The hub is easily accessible via the main entrance to this area. All points will be within 45m of the fire appliance.

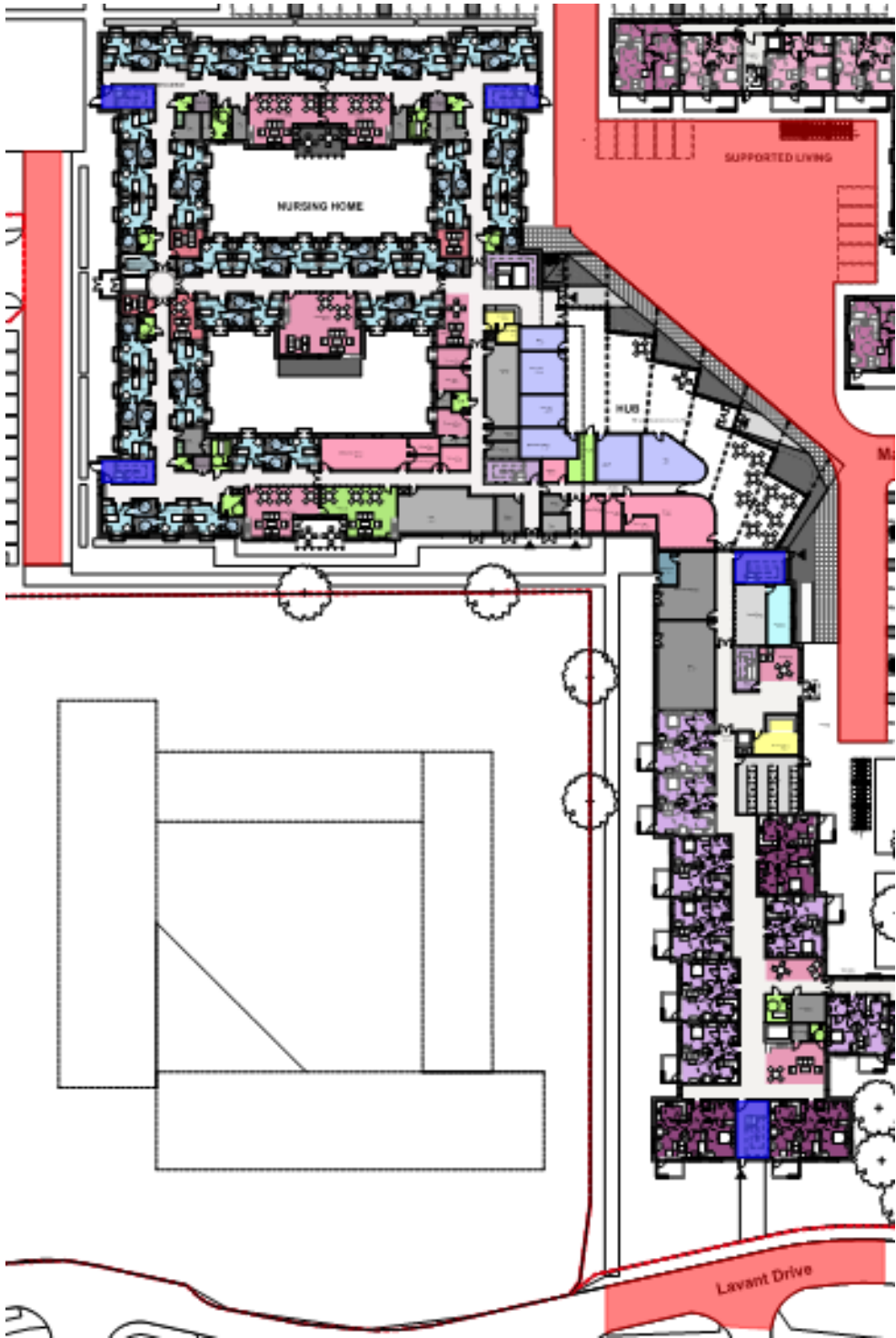
10.3 Rising Mains

The longest distance from the dry riser outlets to the furthest part of the furthest flat/room is within 60m of one dry riser outlet in the Care Home. All other distances, in both the Care Home and Extra Carew facility are comfortably within 45m of the dry riser outlets.

10.4 Water Supplies

A combination of existing and new fire hydrants have been provided. Meaning a fire hydrant is never more than 90m of any core of any block.

Figure 3: Fire Service Access



11 MANAGEMENT

11.1 General

Given the use and likely occupancy of the building, management procedures will assist in the prevention and control of fires and the evacuation of occupants.

Good housekeeping standards will be enforced to ensure that the effectiveness of the fire safety provisions are not affected.

Maintenance procedures will be developed to ensure that all equipment and services within the building are able to operate effectively.

A full Fire Risk Assessment should be carried out by the employers within the building (coordinated by the landlord where multiple tenants are present). The assessment should be maintained and act as a record of the provision and measures, passive and active, used to minimise fire risk within and around the building.

11.2 Fire Safety Management Strategy

Managing fire safety throughout the life cycle of a building is an essential element of an effective fire safety strategy. Fire safety management covers a number of different aspects, each of which can make a significant contribution to fire safety within the building.

The following items are matters which should be considered by those responsible for developing a fire safety management strategy for the building. It should be noted that this is not an exhaustive list and there may be other matters that need consideration.

A competent person should be appointed as Fire Safety Manager. This person should be given sufficient stated authority, powers of sanction and resources to take responsibility for day to day safety management of the building and to ensure that essential repairs or maintenance are carried out.

Defined lines of communication are essential so that the person in charge at any one time is aware that they have that potentially critical role.

Defined lines of responsibility will include responsibility for resetting the fire alarm system or systems.

The contents of the building will be controlled to ensure that when new furnishings, decorative finishes, equipment and processes are introduced into the building, they are not in conflict with the standards set out in this report or the requirements of the appropriate fire safety legislation

A competent person will properly maintain fire alarm systems, emergency lighting installations, and other firefighting equipment.

Fire prevention management relies on keeping combustible material separate from possible ignition sources including electrical equipment overload, heat production appliances and hot works being carried out on site

Sources of fuel and high fire risk items such as flammable liquids, paints, polishes will be properly stored and controlled within the premises. Monitoring of waste control within the general areas of circulation and even when properly contained in general accommodation are potential fuel

sources and will be removed on a regular basis and be properly stored prior to collection. Regular programmes for checking cavities and plant rooms will be implemented and measures taken to remove dirt and rubbish.

Contractors and sub-contractors can present an additional fire risk as they are likely to be unfamiliar with the premises and with the associated fire risks and fire precautions. The risk is increased when contractors and sub-contractors are carrying out hazardous activities such as hot works (e.g. cutting or welding) or when they are using substances that give off flammable vapours (e.g. some adhesives).

To minimise this risk, all activities of outside contractors should be strictly supervised and controlled. The supervision should include checks of any area where hot works is to be undertaken or where contractors have been engaged. The fire safety manager or delegated representative should ensure that all necessary precautions against fire are taken, and should instruct contractors in fire safety procedures. Arrangements should also be made for the safety of the contractors themselves.

Written management procedures and responsibilities will be developed and be available for the use of all staff and management within the building.

Any management system will be flexible enough to accommodate a constantly changing situation.

Induction training for new staff should be given on the first day of their appointment and should include instruction on what to do if a fire is discovered and what to do on hearing the fire alarm. All staff as soon as practicable after appointment should receive comprehensive instruction in general fire routine, basic fire prevention.

Should students etc under the age of 18 years, before their appointment they should be made aware of any significant findings of the risk assessment.

Managing fire safety throughout the life cycle of a building is an essential element of an effectively engineered fire safety system. This bespoke building fire strategy should evolve into an 'As built building fire strategy' and become a useful reference document for the fire safety manager responsible. However fire risk management documentation is likely to exist at two levels:

- Fire risk management at an organisational level
- Fire risk management at a premises level.

Whilst this bespoke building fire strategy sets out fire risk management considerations at a premises level, it is acknowledged that fire risk management strategy at an organisational level will define the organisations fire risk management system, and method of implementing policy.

11.3 Fire risk management at an organisational level

In accordance with the Regulatory Reform (Fire Safety) Order 2005 and equivalent legislation in Scotland and Northern Ireland the responsible person must make and give effect to such arrangements as are appropriate to the size of his undertaking and the nature of its activities, for the effective planning, organisation, control, monitoring and review of the preventative and protective measures.

Successful governance of organisational fire risk begins with policy which is usually an overarching statement of intent that clearly establishes the direction and intentions of the organisation with respect to fire risk, as formally expressed by its top management. A documented fire risk management system provides a means of demonstrating that fire safety

policy is translated into action to ensure that the fire risk to people and the business is reduced as far as reasonably practicable while ensuring legislative requirements are met.

The organisation would be well advised to consider the desirability of third party certification of conformity with PAS 7: 2013 – Fire Risk Management Systems Specification (A British Standards Institution publication). Appropriate conformity attestation requirements are described in BS EN ISO/IEC 17021. This standard was drafted in accordance with International Standards Organisation (ISO) guidance and therefore can be applied across national and geographic boundaries.

11.4 Fire risk management strategy

The organisation should define and document its fire risk management strategy. The fire risk management strategy shall address the following seven factors of strategic fire risk management:

- Fire risk assessment
- Resources and authority
- Fire safety training
- Control of work onsite
- Maintenance and testing
- Communication
- Emergency planning

11.5 Fire risk management at premises level

The interaction between the building, the people and processes will be clearly evident and effective management is imperative. The fire safety manager should be aware of all of the fire safety features provided and their purpose. Specifically, with respect to life safety there are two key aspects that are imperative to the running of this building:

- To ensure that the fire safety measures that have been provided are kept in good working order;
- To initiate actions on the occurrence of a fire which will provide all the help and assistance that occupants need to reach a place of safety.

BB7 will be on hand to discuss any questions and queries the fire safety manager or any other duty holder may have. The fire safety manager will take overall responsibility for implementing the fire risk management system as it applies to the premises. Should third party certification of the fire risk management system be considered desirable then the scope of the certification could be limited to this single premises.

11.6 Fire risk assessment

The Regulatory Reform (Fire Safety) Order 2005 places a legal obligation upon the responsible person to undertake a suitable and sufficient fire risk assessment. This is indeed the cornerstone of this legislation.

BB7 were the first company in the United Kingdom to obtain Quality Assurance Certification of Companies Offering Life Safety Fire Risk Assessment Services. BB7 has demonstrated to Warrington Certification, technical and management competencies to undertake life safety fire

risk assessments as required by, The Regulatory Reform (Fire Safety) Order 2005, The Fire Safety (Scotland) Regulations 2006 and The Fire Safety Regulations (Northern Ireland) 2010 and is now listed as a certified company. Having developed a bespoke building fire strategy for the premises we would be well placed to undertake this assessment. In any event we would recommend that only Certificated Fire Risk Assessors are used and full details of their UKAS accredited third party certification are sought to undertake this assessment.

12 LEGISLATION

12.1 Relevant Legislation

The building will be subject to control under the following pieces of legislation:

- Building Regulations 2010
- Regulatory Reform (Fire Safety) Order 2005

12.2 Building Regulations 2010

The Building Regulations, produced under the Building Act 1984, is the primary legislation controlling building work and applies to the majority of new or materially altered buildings.

The fire safety requirements are given in Part B of Schedule 1 to the Regulations and make requirements for specific areas:

- B1 Means of warning and escape
- B2 Internal fire spread (linings)
- B3 Internal fire spread (structure)
- B4 External fire spread
- B5 Access and facilities for the fire service

Responsibility for deciding if the requirements of the Regulations have been met rests with the building control body (a Local Authority Building Control Officer or an Approved Inspector).

12.3 Regulatory Reform (Fire Safety) Order 2005

The Fire Safety Order is the primary piece of legislation relating to fire safety in existing, non-domestic premises, and is usually enforced by the local fire authority.

The duty of ensuring that the requirements of the Order are met rests with the Responsible Person, who must undertake a risk assessment for the purpose of identifying the fire precautions he needs to take.

12.4 Statutory Consultation

During the Building Regulations application process, the building control body is required to formally consult with the local fire authority. The purpose of this consultation is to give to fire authority the opportunity to make observations with respect to the Building Regulations and to

provide an opportunity to make the applicant aware of action that may have to be taken to meet the requirements of the Fire Safety Order.

The consultation should allow both parties to reach mutually compatible views on whether the building meets the requirements of both pieces of legislation. In the exceptional event that the fire authority propose to require physical changes to the building to meet the requirements of the Fire Safety Order, the building control body should make the applicant aware.

12.5 Fire Risk Assessment

There is now a requirement for a fire risk assessment to be undertaken for virtually all non-domestic premises including the common areas of blocks of flats. In many instances the significant findings of this assessment to be recorded. Furthermore, the onus on proving what reasonable fire safety measures should be provided lies with the person responsible for the building, not the enforcing authority.

According to PAS 79 - Fire Risk Assessment – Guidance and a recommended methodology – the risk assessment can only validly be carried-out when a building is in normal use. However, it should be noted that there is no grace period between occupation and completion of the risk assessment, and thus failure to undertake a risk assessment prior to occupation could constitute a breach of legislation. BB7 Fire Engineering is therefore of the opinion that a pre-occupation risk assessment is essential to assist the responsible person in fulfilling their legal obligations.

As a leader in fire safety consultancy, BB7 Fire Engineering is able to undertake a full range of risk assessment services, providing the assistance the responsible person needs.

The Building Regulations does not specifically require a risk assessment to be undertaken. However, the development of a fire strategy has risk assessment at its core, thereby ensuring that the measures provided in the building reflect the risk presented by that building's intended use.

12.6 Regulation 38

Regulation 38 of the Building Regulations requires fire safety information for a new or altered building to be passed to the responsible person at the completion of the project or on occupation, whichever comes sooner.

The aim of this requirement is to provide the responsible person with appropriate information to assist him to operate and maintain the building in reasonable safety. This information can therefore assist the responsible person in undertaking a risk assessment to meet the requirements of the Fire Safety Order.

As the developer of the fire strategy, BB7 Fire Engineering is well-placed to produce the information to meet these requirements. This will ensure a smooth transition between the design stage and the safe occupation of the completed building.



BB7 is a specialist consulting firm.
We imagine new ways to mitigate
risk within the built environment.

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