



Omega Works

Planning Gateway 1

Fire Statement

17 June 2022

Majorlink Limited

13788BC

Revision History

Version	Date	Author	Comments
01	06/06/2022	John Otutu	Initial Issue
02	17/06/2022	John Otutu	Revised following receipt of more information from the client.

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1. Site Address

Table 1: Site Information

Site Address	
Site Address	167 Hermitage Road, London
Town	London
County	Greater London
Site Post Code	N4 1LZ

2. Description of Proposed Development

The project involves the Redevelopment of the site for a mixed use scheme comprising 1041m² of employment use (use Class E), 8 warehouse living units (sui-generis use class) and 76 residential units (use class C3). Together with associated landscaping, cycle storage, 3x accessible car parks, children's play space and waste and refuse areas.

These buildings are split into three blocks namely Block A, Block B and Block C, as shown in **Error! Reference source not found.**, Figure 2, and Figure 3. Block A is approximately 11.55m in height while Blocks B and C are of similar height i.e. 23.55m. The height used is the height of the top storey measured from the upper floor surface of the top floor to the ground level on the lowest side of the building.

Block A comprises of a Basement and Ground floor levels used for commercial activities including 3 upper floors used for live-in-work purposes, i.e. a combination of working and living spaces.

Block B and Block C comprises of a Ground floor level and 7no of upper floors all used for live-in-work purposes as described above.



Figure 1: Proposed North West Courtyard Elevation-Block A

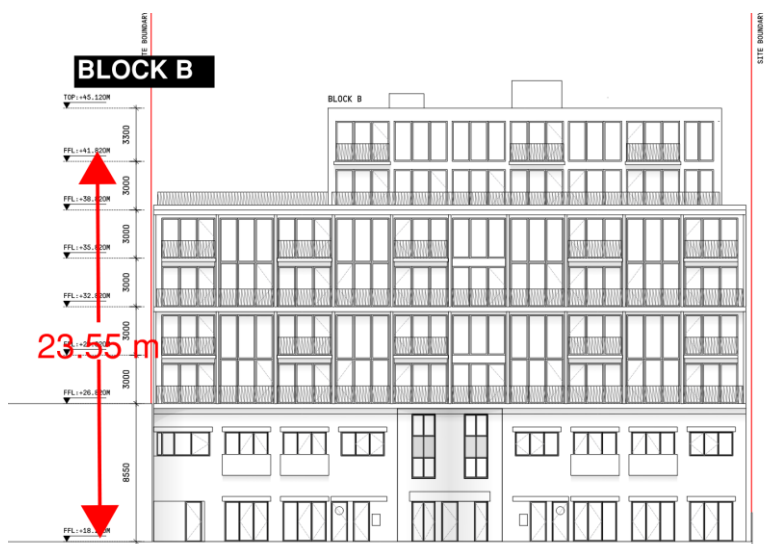


Figure 2: Proposed East Courtyard Elevation-Block B

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3. Qualifications & Experience of the Author and Reviewer

3.1 About the Author

Author	
Name	John Otutu
Academic Qualifications	BSc Chemical Engineering, MSc Fire & Explosion Engineering
Professional Qualifications	AlFireE
Position	Senior Engineer, BB7

Experience

John Otutu is a senior fire engineer at BB7 with 8 years' experience in the production of fire strategies for various types of buildings including numerous Residential Schemes, Schools, University Buildings, Warehouses, Hospitals etc. John has a Bachelor's of Engineering degree in Chemical Engineering and a Master of Science degree in Fire and Explosion Engineering from the University of Leeds and also an Associate member of the institution working towards chartership.

3.2 About the Reviewer

Reviewer	
Name	Hadrien Fruton
Academic Qualifications	MSc
Professional Qualifications	CEng, MIFireE
Position	Associate, BB7

Experience

Hadrien Fruton is a Chartered Fire Engineer with the Institution of Fire Engineers (IFE) with more than nine years of experience as a fire engineer.

He has a Bachelor's degree in Health, Safety and Environment, followed by a Master of Science degree in Fire Safety Engineering from the University of Ulster, and a Master of Science degree in Construction Project Management from Heriot-Watt University.

He has a wide range of experience in residential buildings in and outside of London. He worked on buildings with various height (from small dwelling houses to 100m tall towers), offering private and/or affordable accommodation, mixed-use residential buildings, live/work units, single stair residential buildings, open-plan apartment layouts, various smoke ventilation strategy for common corridors, sprinklered and unsprinklered buildings, and various types of façade design.

4. Consultation (if any) on issues relating to the fire safety

No formal consultation on fire safety matters as they relate to land use planning has been undertaken with the Approving Authorities.

However, BB7 has received some initial layouts, which has been reviewed and comments provided with regards to the following items:

- B1 Means of Escape
- B1 Smoke Ventilation
- B3 Internal Fire Spread (Structure)
 - Sprinkler Suppression
 - Compartmentation
- B5 Fire Service Access & Provisions
 - Fire Appliance Access
 - Fire Mains
 - Residential Firefighting Cores
 - Dry risers

The plan is to consult with the Approving Authorities to discuss the strategy as the design progresses.

**5. The Site Plan with Block Naming as per building schedule in
Section 6.**



Figure 5: The site Plan showing all blocks and site boundary

6. Building Schedule – The principles, concepts and approach relating to fire safety that have been applied to the development

Table 2: Fire Safety schedule

Site Information				Building Information			Resident Safety Information		
a) Block no. as per site layout plan above	b) - Block height (m) - number of storeys excluding those below ground level - number of storeys including those below ground level	c) Proposed use (one per line)	d) Location of use within block by storey	e) Standards relating to Fire safety/ approach applied	f) Balconies	g) External Wall Systems	h) Evacuation Strategy	i) Automatic Suppression	j) Accessible housing provided
Block A	Basement, Ground and 3no. upper floors	Shop & Car parking	Basement and Ground Floor – Shop use and car park	Approved Document B Vol 2 2019 with 2020 Amendments	Class B-s3, d2(2) or better	Class B-s3, d2(2) or better	Simultaneous evacuation	yes-commercial sprinklers, full	M4(3)

Site Information				Building Information			Resident Safety Information		
a) Block no. as per site layout plan above	b) - Block height (m) - number of storeys excluding those below ground level - number of storeys including those below ground level	c) Proposed use (one per line)	d) Location of use within block by storey	e) Standards relating to Fire safety/ approach applied	f) Balconies	g) External Wall Systems	h) Evacuation Strategy	i) Automatic Suppression	j) Accessible housing provided
	11.55m when measured from the ground level on the lowest side of the building to the upper floor surface of the top floor	Residential flats, maisonettes, studios Other Residential Accommodation for Live-Work units	First floor to 3 rd floor level – Residential Apartments	BS 9991:2015 (Residential)			Stay put evacuation strategy. For flats that occupy whole floor (e.g. first floor WH06 & WH 05), the evacuation strategy will be simultaneous evacuation of the floor which the apartment span.	yes-residential sprinklers, full	

Site Information				Building Information			Resident Safety Information		
a) Block no. as per site layout plan above	b) - Block height (m) - number of storeys excluding those below ground level - number of storeys including those below ground level	c) Proposed use (one per line)	d) Location of use within block by storey	e) Standards relating to Fire safety/ approach applied	f) Balconies	g) External Wall Systems	h) Evacuation Strategy	i) Automatic Suppression	j) Accessible housing provided
Block B	Ground and 7no. upper floors 23.55m when measured from the ground level on the lowest side of the building to the upper floor surface of the top floor	Residential flats, maisonettes, studios Other Residential Accommodation for Live-Work units	Ground Floor – 7 th Floor for Residential use	BS 9991:2015 (Residential)	class A2-s1, d0 or class A1	class A2-s1, d0 or class A1,	Stay put evacuation strategy. For flats that occupy multiple floors (e.g. WH07 & WH08), the evacuation strategy will be simultaneous evacuation of the floors which the apartment spans.	yes-residential sprinklers, full	M4(2)

Site Information				Building Information			Resident Safety Information		
a) Block no. as per site layout plan above	b) - Block height (m) - number of storeys excluding those below ground level - number of storeys including those below ground level	c) Proposed use (one per line)	d) Location of use within block by storey	e) Standards relating to Fire safety/ approach applied	f) Balconies	g) External Wall Systems	h) Evacuation Strategy	i) Automatic Suppression	j) Accessible housing provided
Block C	Ground and 7no. upper floors 23.55m when measured from the ground level on the lowest side of the building to the upper floor surface of the top floor	Residential flats, maisonettes, studios Other Residential Accommodation for Live-Work units	Ground Floor – 7 th Floor for Residential use	BS 9991:2015 (Residential)	class A2-s1, d0 or class A1	class A2-s1, d0 or class A1,	Stay put evacuation strategy. For flats that occupy multiple floors, the evacuation strategy will be simultaneous evacuation of the floors which the apartment spans.	yes-residential sprinklers, full	M4(2)

7. Specific technical complexities

7.1 Inter-connected Floors

As this is a residential development, the floors are required to be compartment floors since there is a sleeping risk present. The layouts currently show multiple openings in floors across the buildings which could promote fire and/or smoke spread from one floor to another.

Where these openings are present, it is recommended the compartmentation is continued vertically and the enclosure around the opening should be protected to a level matching that of the floors, depending on which block it is located. This could be achieved by the walls or using fire curtains and the preferred option will be detailed during the next design stage.

8. Issues which might affect the fire safety of the development

8.1 Escape past the void

A floor opening is present in Block A such that occupants escaping from WH 05 and WH 04 will be forced to escape within 4.5m of the opening. This is not in line with the guidance and hence the following measures are recommended to ensure occupants are able to escape safely from the highlighted apartments.

- Keep the ground floor area below the opening fire sterile i.e. main entrance area including areas shown as bike storage, thereby, eliminating any possibility of people getting trapped in their apartments as a result of a fire on the ground floor level below the opening.
- Maintain standard conditions on the ground floor open area, but provide escape windows in line with Section 5.1 of BS 9991: 2015 from apartments WH05 and WH 04 as shown below.

The best solution will be developed with the design team during the next design stage.

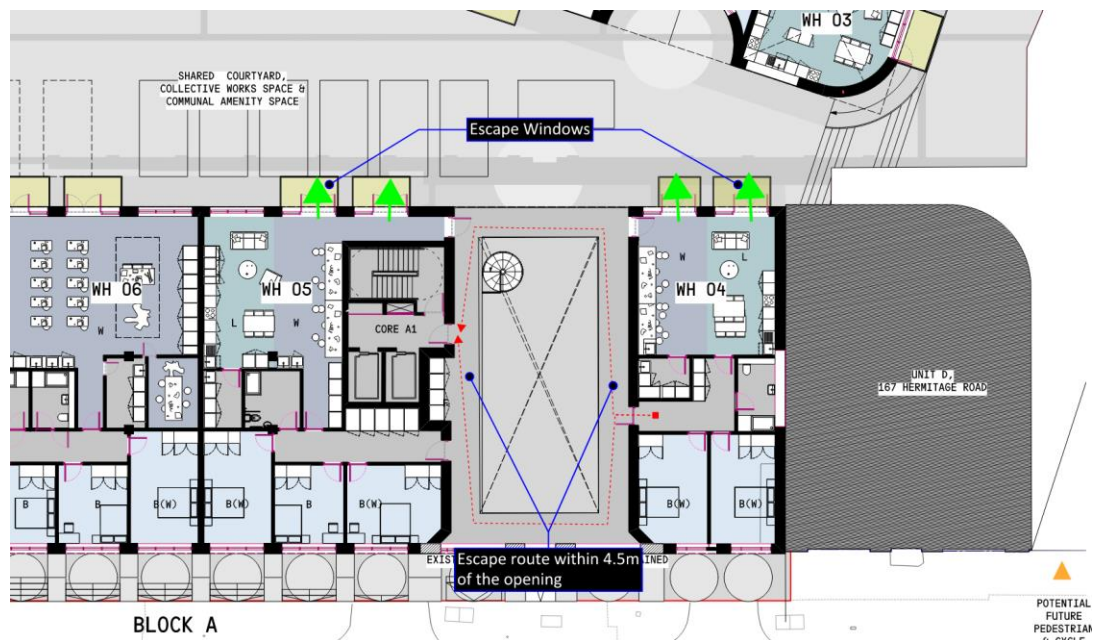


Figure 6: Block A first floor opening

8.2 Single lift for Fire fighting and Evacuation

To meet the recommendations of the D5(B5) policy, two separate lifts are required for firefighting and evacuation purposes per core for buildings above 18m in height. However, following further research and discussions between the client and the approval authorities, it was agreed that only one lift will be provided per core to cater for both firefighting and evacuation purposes in cores serving levels above 18m.

For other areas of the building below 18m in height, the lifts provided should be capable of being used as an evacuation lift.

It should be noted that this is a risk item and allowance should be allowed for an additional lift to be provided if this becomes necessary in the future.

8.3 Block A Basement Smoke Ventilation

A system of mechanical smoke and heat ventilation shall be provided in the basement level of Block A to remove smoke and heat from basement. It is not clear yet how this is achieved, and the proposed solution will be developed with the design team during the next design stage. The basement storey shall be fitted with a sprinkler system in accordance with BS EN 12845.

Powered extract systems should:

- a) provide ten air changes per hour;
- b) be capable of handling gas temperatures of 300 °C for a continuous period of not less than 60 min;
- c) operate automatically either on activation of the sprinkler system or by a fire detection and fire alarm system in accordance with BS 5839-1:2013 at a minimum standard of L3.

In addition:

- 1) replacement air should be provided and the vent should open automatically, using the same activation method as that selected in operate automatically either on activation of the sprinkler system or by a fire detection and fire alarm system in accordance with BS 5839-1:2013 at a minimum standard of L3);
- 2) the system should have an independent power supply that operates in the event of failure of the main power supply;
- 3) the ductwork and fixings should be constructed of materials capable of withstanding temperatures of at least 600 °C for a period no less than 60 min, or the equivalent to the fire-resistance rating of any compartment boundary through which it passes, whichever is the greater;
- 4) all wiring associated with the fans should be in accordance with BS 8519:2010

9. Local development document policies relating to fire safety

As the development is located within Greater London, the London Plan Policies apply. A fire statement to demonstrate compliance with London Plan Policy D12(A), D12(B) and D5(B5) has been provided separately.

10. Emergency Road Vehicle Access & Water Supplies for Firefighting Purposes

10.1 Fire Service Site Plan

10.1.1 Emergency Access Roads

Refer to Figure 9 for the indicative emergency access routes and siting of fire appliances.

The proposed fire service access arrangement is to be consulted with the local Fire Authority. The access to the site for firefighting provisions is to be in accordance with guidance in BS 9991:2015 (Residential) and ADB Vol 2 2019 including 2020 amendments (non-residential areas).

It appears that the Hermitage Road is wide enough to accommodate a pump appliance, but the transport consultant should confirm this as well as the suitability of the private road at the back of Block C through Crusader Industrial Estate at the next design stage. The fire tender swept path analysis provided by the architect is attached below. As shown, this only covers the access into the courtyard. A similar exercise should be undertaken for the road going through the industrial estate behind Block C.



Figure 7: Fire Tender Swept Path Analysis

10.1.2 Main fire personnel access points to the building

The main fire personnel access point will be via the protected route into the firefighting stair or protected stair core from the courtyard and perimeter access to lower levels are through Hermitage Road and what appears to be a private road round the back of Block C through Crusaders Industrial Estate as shown in Figure 9. The suitability of the private road through Crusaders Industrial Estate to accommodate a Fire Service vehicle should be investigated, a fire tender swept path analysis similar to that in Figure 7 for emergency services should also be planned ahead.

10.1.3 Firefighting shaft & Dry Fire Main

Block B and Block C shall be provided with a residential firefighting shaft (including a firefighting lift) as the top storeys are more than 18m above Fire Service access level: No firefighting shaft will be required in Block A as the height is less than 18m.

The stair cores highlighted in Figure 8 will be designed as a firefighting shaft and shall be provided with a dry riser. Other escape stairs in all in Block A and Block C will be provided with dry risers.

The dry riser inlet connection point should be provided within 18m and visible from the fire appliance parking position. Indicative positions have been highlighted in Figure 10, these positions are flexible and can be moved around as long as the 18m distance from the dry riser inlet to the appliance parking position is respected and the dry riser inlet visible from the fire appliance parking position.

The horizontal run of the dry riser pipework, from inlet to the point where the dry riser pipework becomes vertical, should not exceed 18m.

The most remote part of the building should be within 60m from the dry riser in the firefighting shaft and 45m from a dry riser if located in a protected stair.

The dry riser outlet is to be located in the full landing of the firefighting stairs or escape stairs.



Figure 8: Firefighting shafts and Evacuation lifts

10.1.4 Fire Hydrants

Hydrants are to be located in positions that are near to building entry points (including entry points containing fire mains) and fire appliance parking positions.

Hydrants are to be provided within 90 m of an entry point to the building and not more than 90 m apart.

Hydrants are also to be provided within 90 m of dry fire main inlets.

There appears to be a Hydrant on Hermitage Road near to the Omega Works building as seen on google maps; however, the working order of any existing hydrants should be confirmed by the design team.

10.1.5 Suitability of water supply for the scale of development proposed

Nature of water supply is hydrant- public located on Hermitage Road as shown in Figure 10.

Functionality of the existing hydrant to be confirmed by the relevant member of the design team.

10.1.6 Emergency road vehicle access

Refer to Figure 9 and Figure 10 for the fire service site plan.

Fire appliance emergency access roads for pump appliances in the development is Hermitage Road and back road through Crusader Industrial Estate.

The tracking route for emergency vehicles (fire appliance for pump appliances) is to be provided by a vehicle tracking specialist. The routes required have been highlighted indicatively in Figure 9.

The fire service vehicle access route should comply with Table 20 of AD-B (reproduced below).

Table 3: Fire and Rescue Service Vehicle Access Route Specification

Appliance type	Minimum width of road between kerbs (m)	Minimum width of gateways (m)	Minimum turning circle between kerbs (m)	Minimum turning circle between walls (m)	Minimum clearance height (m)	minimum carrying capacity (tonnes)
Pump	3.7	3.1	16.8	19.2	3.7	12.5

10.1.7 Siting of fire appliances

Fire appliance should be able to park within 18m of the dry riser inlet connection point as shown in Figure 10. The dry riser inlet locations shown in Figure 9 are only indicative locations, the positions can be moved around as long as the 18m rule from firefighting vehicle mentioned above is respected.

Fire appliance should also be able to either gain access to 15% of the of the perimeter or within 45m of every point of the footprint of the ground floor commercial/non-residential areas. Both recommendations above are achieved in this scheme

10.1.8 Fire Service Site Plan

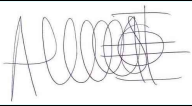


Figure 9: Site Plan showing Fire Service Access

Omega Works, 167 Hermitage Rd - Gateway One Fire Statement

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Fire Statement Completed by: John Otutu	
Signature	
Date	06/06/2022

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