

Fire Statement

The Garden House, 114 High Street, Manchester, M4 1HQ

Riverside Group

23 October 2023



0.0 Document Verification

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1.0 Introduction

This fire statement has been prepared by ORSA Fire Limited, on behalf of The Riverside Group.

The site address for the development is:

- 101-604 The Garden House, 114 High Street, Manchester, M4 1HQ

2.0 Proposed Development Description

This section sets out a description of the proposed development including any change of use. The proposal for the development relates only to the external wall remediation.

The Garden House is a 7-storey high rise multi-tenanted residential building with a retail unit at ground floor. The property is situated on High Street, Manchester, bounded by similar residential and commercial buildings. The building comprises 47 apartments.

The external walls currently contain material of worse than Euroclass A2-s1, d0; the proposed remediation replaces the majority of these materials to ones which achieve Euroclass A2-s1, d0 or better.

This revised statement highlights the current risk, and the proposed design has been referenced against PAS 9980 to allow all parties to reach the design criteria.

It should be noted that the consideration within this Fire Statement is provided for the remediation works only. It is considered that by providing remediation to these external walls, the fire safety of the development is not being made any worse than existing condition – and is in fact being made significantly better.

3.0 Fire Statement Author

This document has been produced by our fire engineer Phil Barry B.Sc. M.I.Fire E.

Phil served for 30 years in the fire service and specialised in fire safety working in London, South Wales and Avon.

As part of his fire service career, he spent over 10 years at The Fire Service College in Gloucestershire as a senior instructor in the fire engineering school.

He has a degree in Building Fire Safety Studies and is a Member of The Institute of Fire Engineers (IFE).

He is on the IFE approved register of fire risk assessors and is an expert advisor to Fire Safe Europe.

Phil has worked as a fire safety consultant since 2006 and has provided fire safety consultancy services to a diverse range of clients across the UK, Europe and The Middle East.

Phil continues to lecture on all aspects of fire safety, fire engineering, fire safety law, housing law and Building Regulations as an associate tutor for The Fire Service College, The Fire Protection Association, and The Chartered Institute of Environmental Health.

The experience and expertise of our consultant gives him the status of "Competent Person" as described in The Management Regulations, and in The Regulatory Reform (Fire Safety) Order 2005, which supersedes all previous fire safety legislation.

4.0 Consultation on Fire Safety Issues

This section states what, if any, consultation has been undertaken on issues relating to the fire safety of the development; and what account has been taken of this.

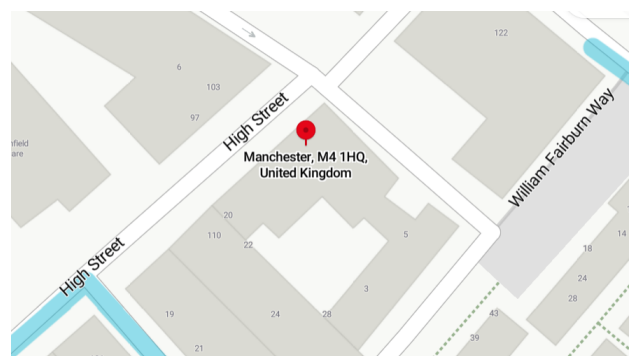
Orsa have carried out a Fire Risk Appraisal of External Walls in August 2022.

The external walls currently contain material of worse than Euroclass A2-s1, d0; the proposed remediation replaces the majority of these materials to ones which achieve Euroclass A2-s1, d0 or better.

With regard to the external wall and specified attachments, Orsa have been appointed to provide consultation on the external wall systems.

It is unknown what consultation was undertaken during the original building design and construction; however, it is considered reasonable to assume that the development received Building Regulations approval.

5.0 Site Layout



Site Location.



6.0 Building Schedule

The following table provides the site information for the development.

Block no. [as per site layout plan above]	Block height [m]	No. of storeys excluding those below ground level	No. of storeys including those below ground level	Proposed use [one per line]	Location of use within block by storey
The Garden House	21.65m	7	7	Residential flats, maisonettes, studios.	Floors 1 to 6
				Shops	G

The following table provides the building information and resident safety information for the development.

Block no. [as per site layout plan above]	Standards relating to fire safety/approach applied	Balconies	External wall systems	Approach to evacuation	Automatic suppression	Accessible housing provided
The Garden House	Approved Document B vol 1	Balconies and Juliette balconies	Worse than class A2-s1, d0	Simultaneous (Originally defend in place)	None	Yes
	Approved Document B vol 2	None	Worse than class A2-s1, d0	Simultaneous	None	None



7.0 Specific Technical Complexities

This section sets out any specific technical complexities in terms of fire safety [for example green walls] and/or departures from information in the building schedule above.

The external walls currently contain material of worse than Euroclass A2-s1,d0 including combustible insulation; the proposed remediation replaces the majority of these materials to ones which achieve Euroclass A2-s1,d0 or better. These wall types pre remediation are -

Brick cavity wall: Brick / Cavity [no insulation] / SFS / Black Board with fibrous core [formed of pressed flammable material] / SFS / Vapour control layer / Internal plasterboard lining

Remedial works: Replace all combustible materials in this system with A2 classification or better. Include cavity barriers.

Cladding spandrel panels: Coated aluminium sheet face / Polystyrene foam insulation / Plywood strips

Remedial works: Replace the insulated cladding with A2 classification or better. Include cavity barriers.

Curtain wall ACM panel: Coated aluminium sheet face / Polystyrene foam insulation / Spuralux boards / Black board [unconfirmed – testing required] / Cementitious boarding / Plywood / Timber frame substructure / Tyvek SD2 [internal] used externally/klober permo membrane

Remedial works: Replace all combustible materials in this system with A2 classification or better.

Rainscreen: Rainscreen panel PPC / Membrane – Tyvek firecrumb housewrap / Existing cementitious particle board / SFS with insulation / Internal plasterboard lining

Remedial works: None

The remediation design has been developed for works to accommodate replacement of the combustible elements with materials of no less than class A2-s1,d0 as necessary.

In the existing brick cavity walls, potentially combustible black board was used, and is sandwiched behind the brickwork. The black board is identified as not of limited combustibility and is unlikely to achieve Euroclass A2 classification or higher. Combustible insulation [Kingspan] was used and is located between the solid layers of brick and blockwork. The Kingspan is identified as not of limited combustibility due to the lack of cavity barriers and closers and achieves a Euroclass fire rating of Class C/D. In addition, there are ill fitted cavity barriers; gaps between the barriers and floors were frequently observed. If cavity barriers were correctly installed the insulation is considered acceptable. This is because the risk posed by the combustible insulation is reduced as both brick and blockwork that is sandwiched between the Kingspan achieves a Class A1 rating. As such, it is required for cavity barriers to be placed in critical locations, including between external walls and compartment floor, external walls and compartment walls and edges of cavities [including around openings]. Closers would also need to be installed around openings e.g. windows. As a precaution for keeping the combustible insulation, a simultaneous strategy is retained.

The cladding spandrel panels include insulated coated aluminium panel, with a 25mm extruded polystyrene foam [Styrofoam] adhered to the internal surface. Both the aluminium panels and the stacked spandrel panels were identified as not of limited combustibility, due to the presence of both polystyrene [EPS] insulation and polyfoam plus floorboard [PIR]. The polystyrene insulation is classified as Class E which is considered the most combustible of common insulation. As such, it is required that both materials are replaced with Euroclass A2 or higher fire rated materials. It was also found that there were no cavity barriers identified along compartment floors or walls, and so it is also required that after these high-risk materials are replaced, that appropriate cavity barriers are then put in place.

Similarly, to the cladding spandrel panel wall type, the aluminium panels and EPS within the panel were identified as not of limited combustibility and would need to be replaced with Class A2 materials or better. Furthermore, the timber decking of the balconies from the curtain wall ACM panels are not of limited combustibility and thus needs to be replaced with materials which achieve Euroclass A2-s1,d0 or better.

ORSA can confirm that the findings of the report show that the combustible materials and lack of cavity barriers pose a substantial risk – the building is rated as B2 until remedial action is conducted. ORSA have evaluated the external wall build ups where this scenario is applied and deem it noncompliant against BR 135 and 8414 – 2 testing. As a result, they would receive high-risk ratings according to the overall PAS 9980 Assessment.

For example – Table K.1 of PAS cavities indicates that the lack of cavity barriers through poor installation would have a Class C classification or lower. This was especially noticeable within the brick cavity wall, where when cavity barriers were installed, they were installed in a piecemeal fashion. This brings high-risk and does not provide adequate fire resistance, and so is none compliant to BR 135 and 8414.

It is therefore considered not acceptable to retain the incorrectly installed cavity barriers as part of the external wall construction.

Table K.1 – Fire performance risk factors continued

Positive	Neutral	Negative
K.5 Cavities		
Facings into the cavity at least Class A2	Facings into the cavity combustible, but at least Class B	Facings into the cavity combustible, but Class C or lower
Cavities closed by barriers/fire stopping located in line with all of the following: <ul style="list-style-type: none"> • compartment floors; • compartment walls; • around openings, e.g. windows, doors; and • ventilation ducts, grilles and other openings for services NOTE Suitable protection for ventilation ducts, grilles or other openings for services could take other forms, e.g. intumescent collars where passing through the walls, steel sleeves around the ducts and duct extensions to the cladding panels.	Cavity barriers present with no more than minor workmanship defects	Cavities closed at least at compartment floors and walls but not: <ul style="list-style-type: none"> • around windows and other openings*; or • at ventilation ducts, grilles or other openings for services* No cavity barriers present, or cavity barriers ineffective through poor installation/maintenance
NOTE The minimum fire resistance for a cavity barrier/stop is 30 min integrity/15 min insulation. Proprietary products are made for this purpose, but suitable protection will be provided if the following are present: <ul style="list-style-type: none"> • steel at least 0.5 mm thick; • timber at least 38 mm thick; • polythene-sleeved mineral wool, or mineral wool slab, installed under compression in the cavity; or • calcium silicate, cement-based or gypsum-based boards at least 12 mm thick. Fire stopping that is present to close gaps in compartmentation provides a higher standard of fire resistance than a cavity barrier/stop.		

The risk considerations have been applied as per PAS to influence design and develop the appropriate mitigations.



This is considered to not be acceptable for the following reasons;

1. Gaps between the cavity barriers and compartment floors could lead to potential paths for the unseen spread of fire and smoke.
2. If missing cavity barriers are not installed, Kingspan and other combustible materials have a high likelihood of fire reaching the fire barrier system.

There is enough information about the external walling system to provide a robust design for planning and mitigation purposes. There is no reason to deviate from the current planning proposal as what has been proposed to replace materials in the high-risk areas will remain the case moving forward.

ORSA have carried out a review of the buildings using PAS 9980:2022, the code of practice which sets out a method for competent professionals to conduct Fire Risk Appraisals of External Wall construction (FRAEW) for existing multi-storey, multi-occupied residential buildings.

The review was carried out by a suitably competent fire engineer as set out in PAS 9980:2022 – fire risk appraisal of external wall construction and cladding of existing blocks of flats. This document provides guidance of the competency requirements to carry out the assessment.

The PAS produced encompasses the holistic risk of the External wall plus the internal compartmentations.

The review determines that all areas where there are missing cavity barriers to be checked and installed where necessary. The combustible insulation and cladding would also need to be replaced, namely such that achieves a fire rating of at least Euroclass A2-s1,d0.

It is therefore considered, under the scope of this Fire Statement [i.e., no comment on the development design, with the exception to the external wall construction] there are no specific technical complexities.

8.0 Issues Affecting Fire Safety

This section explains how any issues which might affect the fire safety of the development have been addressed.

This Fire Statement relates only to the external wall remediation at the development. The external walls currently contain material of worse than Euroclass A2-s1,d0 ; the proposed remediation replaces the majority of these material to ones which achieves Euroclass A2-s1,d0 or better.

It is therefore considered, under the scope of this Fire Statement [i.e., no comment on the development design, with exception to the external wall construction] there is no specific technical complexities.

It should be noted that the consideration within this Fire Statement is provided for the aforementioned remediation only. It is considered that by providing remediation to these external walls, the fire safety of the development is not being made any worse than existing condition – and is in fact being made significantly better.

9.0 Local Development Document Policies Relating to Fire Safety

This section explains how any policies relating to fire safety in relevant local development documents have been taken into account.

Updated guidance 'Advice for Building Owners of Multi-Storey, Multi-Occupied Residential Buildings' was issued by the Ministry of Housing, Communities and Local Government [MHCLG] on 20th January 2020. The MHCLG Consolidated Advice Note confirms that the need to assess and manage risk of external fire spread applies to buildings of any height. This document advises that consideration should be given to whether the provision of any combustible material within the external wall construction presents a risk to health and safety and satisfies the functional requirement B4 of Schedule 1 to the Building Regulations. The document also advises that the risk of external fire spread should be considered as part of the fire risk assessment for residential buildings. The fire risk assessment should take in to account a number of factors other than height and material type, including the vulnerability of residents, location of escape routes, and the complexity of the building.

The consolidated advice note has been adhered to by ORSA when advising on remediation proposals, however, this has recently [12/01/22] been withdrawn, and replaced with PAS 9980 which takes a holistic view of fire safety considering all fire safety provisions including occupancy profiles.

10.0 Fire Service Site Plan

This section explains the fire service site plan[s] provided in section 14, including the guidance documents, and the proposed arrangements for fire service access and facilities.

This Fire Statement relates only to the external wall remediation. The external walls currently contain material of worse than Euroclass A2-s1,d0; the proposed remediation replaces the majority of these material to ones which achieves Euroclass A2-s1,d0 or better.

It should be noted that the consideration within this Fire Statement is provided for the remediation works only. It is considered that by providing remediation to these external walls, the Fire service access to the development is not being made any worse than existing condition.

11.0 Emergency Road Vehicle Access

This section specifies the emergency road vehicle access to the site entrances indicated on the site plan.

No Fire Strategy has been provided to ORSA however, the below guidance has been extracted and provided for reference from ADB which should be confirmed on-site as being achieved whilst any temporary works are ongoing.

Pump appliance access route specification:

Minimum width between kerbs: 3.7m

Minimum width between gateways: 3.1m



Minimum turning circle between kerbs: 16.8m

Minimum turning circle between walls: 19.2m

Minimum clearance height: 3.7m

Minimum carrying capacity: 12.5 tonnes

Access to the building is available for fire appliances in High Street.

Road access is available to a parking position directly outside the building in close proximity to the entrance door and the inlet of the fire main.

The emergency vehicle tracking routes to the siting points for appliances are clear and unobstructed.

12.0 Siting of Fire Appliances

The building is fitted with a dry rising main. Access is available from the public road to within 18 m of the fire main inlet connection point which is located adjacent to the entrance door on the face of the building.

The inlet is visible from the parking position of the fire appliance.

13.0 Water Supply Suitability

This section describes the suitability of water supply for the scale of development proposed.

A fire hydrant is located approximately 25m from the entrance of the building in High Street as shown on the fire service site plan. The nature of the water supply is hydrant - public. The proposed development relies on existing hydrants that are currently usable/operable.

14.0 Fire Service Site Plan



Fire service site plan



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