

Manor Road. Fire Safety Statement.

1. Introduction.

This fire safety statement has been prepared in support of the full planning application for the Manor Road scheme in response to emerging Policy D11 of the draft London Plan.

This outline fire statement addresses the main fire safety items and principles and provides an overview of the requirements and recommendations the scheme will need to meet based on the illustrative scheme.

The scheme involves the development of the Manor Road site in Richmond, London, with the aspiration of providing a mixed-use scheme consisting of residential units, commercial spaces and community use spaces.

The development is shown in Figure 1. The scheme will encompass four residential blocks, with each block comprising of a range from one to four building cores of differing heights and hence differing number of storeys. The proposed building heights across the development range from 11.1m to 27.6m, measured from the fire vehicle access level at external ground to the top most habitable storey. This has resulted in building core heights of between four and nine storeys proposed within the illustrative scheme.

The fire safety strategy for the Manor Road development will be based on the guidance of:

- Approved Document B Fire Safety Volume 2 Buildings other than Dwellinghouses 2006 Edition (incorporating 2007, 2010 and 2013 Amendments);
- BS 9991:2015 "Fire safety in the design, management and use of residential buildings – Code of practice"; and
- BS 9999:2017 "Fire safety in the design, management and use of buildings – Code of practice".

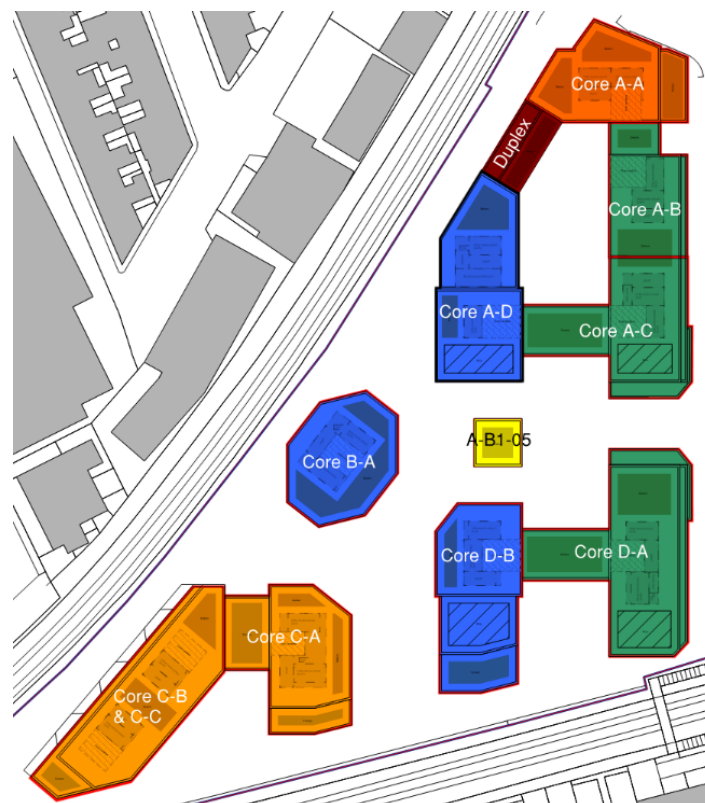


Figure 1: Site plan of Manor Road.

2. Fire safety overview.

2.1 Residential accommodation

The fire safety provisions and strategy for the residential buildings will be based on the guidance of BS 9991. The residential accommodation consists of single stair buildings. All the residential towers, despite a height of less than 30m above the fire and rescue service access level at Ground, are provided with a residential sprinkler protection system within all the apartments.

The residential buildings will operate a “stay-put” evacuation strategy. That is, upon activation of the fire alarm and detection system, only the occupants in the apartment of fire origin will evacuate. The occupants of other apartments will remain in place, unless otherwise instructed by the fire and rescue service, protected by a high level of compartmentation.

Following an initial review of the illustrative scheme, the residential common corridor travel distances will be designed to meet the maximum permissible distances permitted by supplementary design guidance and supported by a fire engineering justification.

2.2 Retail units

Commercial units will be provided at the ground floor of Core A-C and Core D-A. The use of the commercial premises is likely to be flexible retail/community/office uses. The flexible retail/community/office units will be use classes A1, A2, A3, D2, B1. The fire safety provisions and strategy for the flexible retail/community/office units will be based on the guidance of BS 9999.

Given the small floor area of each flexible retail/community/office units, it is not considered necessary to provide commercial sprinkler protection to the units.

2.3 Community space

A community space will be provided at the centre of the development. The fire safety provisions and strategy for the community space will be based on the guidance of BS 9999.

2.4 Internal fire spread (structure)

The loadbearing elements of structure for the blocks in the Manor Road scheme, other than the community space unit will have a minimum period of 60 minutes fire resistance, in accordance with appropriate guidance documents. This is due to the building height range below 30m and above 5m with provision of residential sprinklers in the apartments,

Community space unit A-B1-05 has a height below 5m, so the elements of structure for this unit should be minimum period of 30 minutes fire resistance.

The flexible retail/community/office units will be separated from the residential with 120 minutes fire resistance construction given that the flexible retail/community/office areas will not be sprinkler protected.

2.5 External fire spread

Spread of fire between buildings.

The RIBA Stage 2 fire safety strategy includes a preliminary space separation analysis to establish the necessary boundary distance around each building. At this stage, there is not considered to be significant risk of spread of fire between buildings due to the provision of sprinkler protection for the residential premises, a high level of compartmentation, indicative distances between buildings and protection to building façades.

Insulation materials/products

In accordance with Regulation 7(2), as the building will have a storey height in excess of 18m above the lowest adjacent external ground level, the external wall construction, including balcony, solar shading or solar panels, should achieve European Classification A2-s1, d0 or Class A1. This does not apply to the following:

- cavity trays when used between two leaves of masonry;
- any part of a roof (other than any part of a roof which falls within paragraph (iv) of regulation 2(6)) if that part is connected to an external wall;

- door frames and doors;
- electrical installations;
- insulation and water proofing materials used below ground level;
- intumescent and fire stopping materials where the inclusion of the materials is necessary to meet the requirements of Part B of Schedule 1;
- membranes;
- seals, gaskets, fixings, sealants and backer rods;
- thermal break materials where the inclusion of the materials is necessary to meet the thermal bridging requirements of Part L of Schedule 1; or
- window frames and glass.

Additional guidance on the application of this Regulation is provided in Approved Document B (Amendments, dated November 2018) section 12.14, including guidance on membranes, window spandrel/infill panels, thermal breaks and shop signage.

In addition, the external wall surface should achieve Class 0 (National Classification) or Class B-s3, d2 or better (European Classification) surface spread of flame classification, and cavity barriers in any external wall cavity are required in accordance with Section 9 of the Approved Document.

2.6 Access and facilities for the fire and rescue service

The buildings within the Manor Road development will be provided with dry risers, since the height of each building is less than 50m.

Fire and rescue service vehicle access should be provided to within 18m of each dry riser inlet connection point, typically on the face of the building. The fire main inlet should be visible from the fire and rescue service vehicle. A preliminary review of the site plan shows good fire and rescue service vehicle access – shown by the green lines in Figure 2.



Figure 2: Preliminary assessment if the fire and rescue service.

Firefighting shafts will be provided as per the guidance of BS 9991 to buildings with a height above 18m to assist the operations of the fire and rescue service. Firefighting shafts as standard comprise:

- A fire-fighting stair (1100mm minimum clear width);
- A fire-fighting lift;
- A fire main with an outlet at every floor level;
- Smoke ventilation to the firefighting stair;
- Smoke ventilation to the common corridor, adjacent to the firefighting stair.

Firefighting shafts will be enclosed in construction with a minimum period of 120 minutes fire resistance, while elements of the firefighting shaft will be separated by construction with a minimum period of 60 minutes fire resistance.

The buildings with a height of below 18m and to meet a hose criterion of 60m will be provided with a fire main in the protected stair.

2.7 Construction, design and management regulations

Design projects undertaken in the UK are subject to the requirements of the Construction (Design and Management) Regulations 2015 (CDM 2015), the objective of which is to ensure that health and safety issues are properly considered during a project's design and development so that the risk of harm to those who have to construct, use and maintain the building is reduced.

As a designer, in accordance with Regulation 9 of the CDM regulations, Hoare Lea Fire will take into account the general principles of prevention in the preparation of this report and where reasonably practicable, eliminate, minimise and/or control foreseeable hazards associated with the design. Where elimination is not reasonably practicable, Hoare Lea Fire will be required to provide 'pre-construction' information in respect of any significant and/or unusual project-specific hazards that remain.

2.8 Materials and Workmanship

Regulation 7 of the Building Regulations requires that all building work should be carried out in a workmanlike manner, with adequate and proper materials that are appropriate for the circumstances in which they are used, are adequately mixed and prepared, and are applied, used or fixed so as to perform the functions for which they are designed.

Further guidance is provided in the Approved Document supporting Regulation 7.

Independent certification schemes exist to provide additional confidence that products are manufactured and installed to an appropriate and consistent standard. Such schemes can assist in ensuring that the Material and Workmanship requirements of Regulation 7 are satisfied. It is therefore suggested that, where appropriate, manufacturers and installers that are subject to independent certification schemes are specified on this scheme.

Recent changes to Regulation 7 prohibit the use of combustible materials within the external wall construction and specified attachments including balconies, solar shading or solar panels, within residential buildings which have a storey more than 18m above the lowest adjacent external Ground level.

3. Conclusion.

This fire safety statement has been prepared to outline the main items relating to fire safety for the Manor Road development following a preliminary review of the illustrative scheme plans. This statement demonstrates that the proposals have considered fire safety at the earliest stage. The outlined items have been further developed as part of the RIBA Stage 2 fire safety strategy, which will demonstrate how the proposed Manor Road scheme will meet the functional requirements of Part B of Schedule 1 of the Building Regulations 2010.