

FIRE STATEMENT

PROJECT	19 MALLORD STREET, LONDON
TITLE	FIRE STATEMENT
REVISION	A

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1.0 Executive Summary

This Fire Statement has been prepared for the 19 Mallord Street project in London, as required by D12 Fire Safety Policy in the Draft London Plan.

The statement documents the key fire safety measures proposed for the building and provides an outline of the fire safety principles being adopted. The design is still in the early stages and the fire strategy is to be further developed during the detailed design stages and will form part of the subsequent building warrant submission.

The design is to comply with the functional requirements of Part B – Fire Safety of the Building Regulations 2010 (as amended), by application of BS 9999 “Fire safety in the design, management and use of buildings”, supplemented with a performance based design approach for areas where the guidance cannot be followed due to the existing building constraints.

The following summarises the key features of the fire strategy design at this stage:

- The risk profile is to be B2.
- The building has a topmost storey height greater than 11m and less than 18m.
- Building structure is to be 60min fire rated in the main building.
- All risk areas are to be within fire compartments including kitchen, and special risk, engineering services, stores and service risers.
- A minimum of ‘Level 2’ fire safety management is to be adopted for this building.
- Evacuation strategy will be simultaneous.
- The building is served by two existing escape stairs, provided with protected lobbies.
 - The front stair has a clear exit width of 1,100mm and will contain fire-fighting facilities
 - The rear stair has a clear exit width of 900mm.
- The fire alarm is to be Category L1 detection and warning to BS 5839-1

2.0 Building description

The proposals involve the change of use of basement, ground and three upper storeys from a former telephone exchange (Sui Generis) to a new health and fitness club. The works also include creation of a small single storey rear extension at basement level; excavation for a swimming pool at basement level; minor alterations to the existing entrances and external paving; and other minor works and improvements to the building.



FIGURE 2-13D IMAGE OF EXISTING BUILDING

TABLE 2-1: FLOOR AREAS

LEVEL	FLOOR AREA
Basement	627m ²
Ground Floor	461m ²
First Floor	549m ²
Second Floor	550m ²
Third Floor	495m ²
Total	2,682

3.0 Building construction

3.1 Elements of structure/compartimentation

The building will be designed and constructed in such a way that in the event of an outbreak of fire within the building, the load-bearing capacity of the building will continue to function until all occupants have escaped, or been assisted to escape, from the building and ant fire containment measures have been initiated.

The elements of structure in this building should be 60 min FR.

The maximum compartmentation area permitted for B2 is 8,000m², as the topmost storey of the building is less than 18m. The total building area sits comfortably within this limitation, as the total building area is less than 3,000m².

Compartmentation within the building will be driven by the proximity of the building to neighbouring buildings and extent of unprotected area on the elevations.

3.2 Ancillary accommodation

BS 9999 recommends that high fire risk areas within a building should be enclosed so that they do not affect the means of escape.

Therefore, the intent of protecting higher risk areas is to prevent fire spread from the risk room rather than protect the risk room from a fire in the neighbouring area.

The fire protection requirements of the ancillary areas is detailed in Table 3-1 and the design will incorporate these requirements.

TABLE 3-1: FIRE PROTECTION OF RISK ROOMS

ROOM	FIRE RATING	CONSTRUCTION
Storage rooms less than 450m ²	30min FR	Robust construction
Kitchens	30min FR	Robust construction
Plant rooms	60min FR	Robust solid and non-combustible construction
Service risers	60min FR	Robust solid and non-combustible construction
LV electrical rooms	30min FR	Robust construction
HV electrical rooms	60min FR	Robust solid and non-combustible construction
High fire risk rooms	60min FR	Robust solid and non-combustible construction
Changing/dressing rooms	30min FR	Robust construction

3.3 Materials and finishes

The surface linings of walls and ceilings should meet the classifications in Table 3-2.

TABLE 3-2: CLASSIFICATION OF LININGS

LOCATION	EUROPEAN CLASS
Small rooms of area not more than 30 m ²	D-s3, d2
Other rooms	C-s3, d2
Other circulation spaces,	B-s3, d2

3.4 External surface of walls

As the height of the building is less than 18m, the reaction to fire performance of external surface of walls will achieve class C-s3, d2(3) or better

4.0 Means of escape

4.1 Evacuation Strategy

The building will adopt a simultaneous evacuation strategy.

4.2 Travel distances

It is proposed to provide an automatic fire detection system in the building. BS 9999 acknowledges that the provision of automatic fire detection system can be of significant benefit in terms of providing early warning for the occupants by reducing the time to detection and reducing the delay in evacuation. Due to automatic detection, the limitations on travel distances have been increased by 15 %

TABLE 3-10 LIMITATIONS ON TRAVEL DISTANCE WHEN ADDITIONAL FIRE PROTECTION MEASURES ARE PROVIDED

RISK PROFILE	ONE DIRECTION ONLY	MORE THAN ONE DIRECTION
B2	23	50

The travel distances are to be within the limitations for the risk profile in this building.

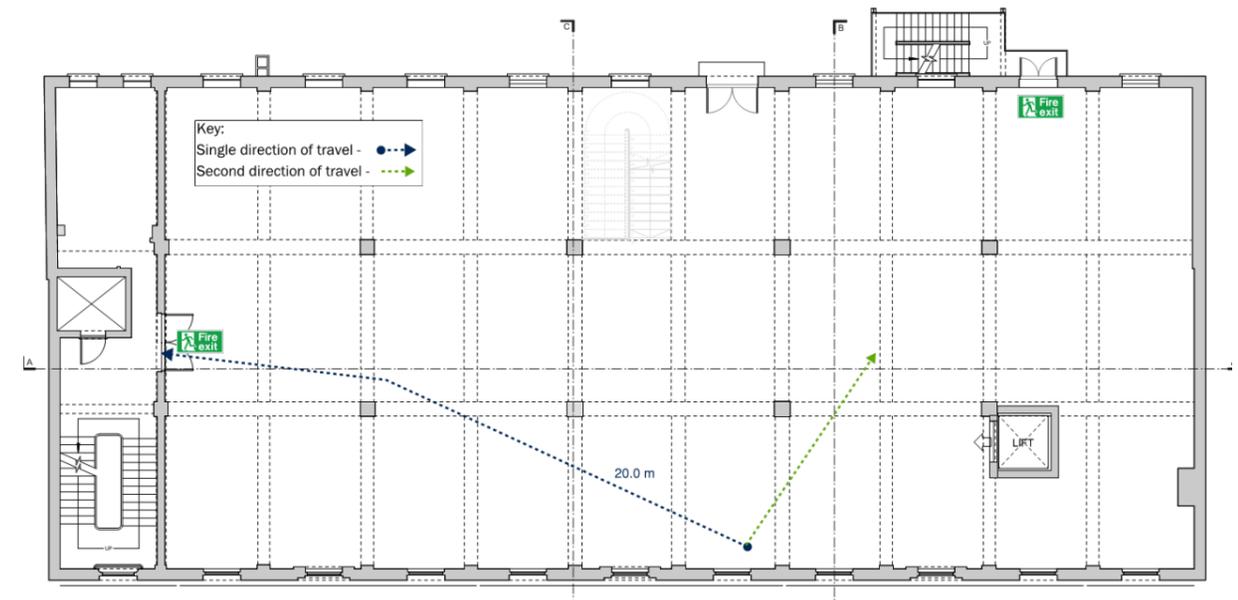


FIGURE 4-1: EXAMPLE OF SHORT TRAVEL DISTANCES FROM THE FLOORPLATE

4.4 Horizontal exit widths

Room exits

The following exit width factors are to be adopted for the storey exits

USE	RISK PROFILE	EXIT WIDTH FACTOR (mm/person)
Health Club	B2	3.485 [1]

Note [1]: Allows for 15% reduction due to automatic detection system. Further reduction may be applied when ceiling heights are confirmed.

All doors serving rooms and storeys with an occupancy greater than 60 are to be designed to open in direction of escape.

4.5 Vertical means of escape

The building is served by two escape stairs, which serve all upper and lower levels of the building.

The front stair discharges directly onto Mallord street and the rear stair discharges onto Mallord Street via an existing pend.

The existing stair widths are as follows:

- Front Stair = 1,100mm
- Rear stair = 900mm

Both escape stairs are to be provided with protected lobbies on all levels served.

It is anticipated that an alternative solution will be developed to demonstrate that the existing stair widths are sufficient to accommodate the proposed occupancy.

4.6 Means of escape for disabled occupants

The methods of evacuation disabled occupants in the building are listed below;

4.6.1 Evacuation by stairs

The stairs provided in the building can be used for assisting disabled occupants up and down in the event of an evacuation. The management plan for the building should specify procedure be used for assisting disabled people up and down stairs where this is necessary. Staff should be identified and trained to assist disabled people up and/or down the evacuation stair.

4.6.2 Refuge area

Refuge areas are to be provided within the protected lobby of each stair core. The refuge areas provide a place of relative safety for disabled occupants to await assistance, if necessary, to complete the remainder of their evacuation. The refuge will be 900 mm x 1400 mm to accommodate a wheelchair and user to manoeuvre. To facilitate the effective evacuation of people from refuges, an emergency voice communication system will also be provided.

4.6.3 Evacuation using lifts

Policy D5 Inclusive design requires development to incorporate safe and dignified emergency evacuation for all building users, by as independent means as possible. In all developments where lifts are installed, Policy D5 Inclusive design requires as a minimum at least one lift per core (or more, subject to capacity assessments) to be a suitably sized fire evacuation lift suitable to be used to evacuate people who require level access from the building

The proposals involve the construction of a new lift on the floorplate that serves all levels. The requirements of Policy D5 would result in the lift being located within a protected lobby, be provided with a secondary power supply and allow a protected route of escape to a place of safety at ground floor level. Whilst the current proposals do not include a protected lobby or a protected escape route from the passenger lift, the potential to make the lift an evacuation lift will be explored during the next stage of design.

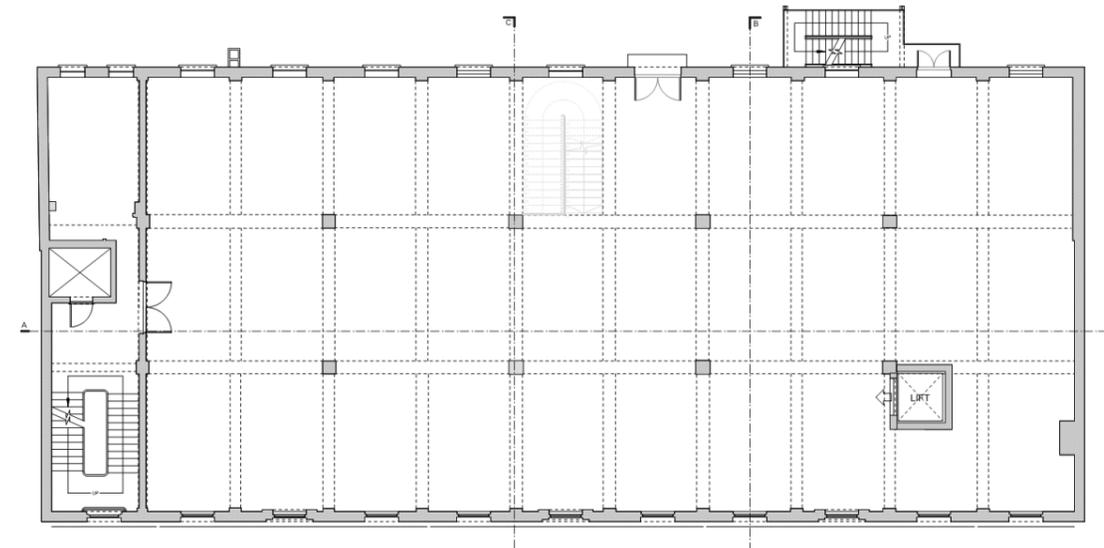


FIGURE 4-2: LOCATION OF NEW LIFT ON FLOORPLATE

5.0 Fire safety systems

5.1 Automatic detection system

The minimum level of detection system required for an B2 building is a manual detection. However, it is proposed to provide an enhanced system in the building to allow an increase in the required travel distances and a reduction in escape widths.

The automatic fire detection and alarm system to be installed is a L1 detection system designed and installed in accordance with BS 5839-1. This is considered to be a significant enhancement.

5.2 Emergency lighting

Emergency lighting is to be provided in accordance with BS 5266 Part 1:2016.

5.3 Escape signage

Escape signage is to be provided in accordance with BS 5499 Part 1:2002

5.4 Maintenance and testing

An accurate record of fire precautions, and procedures for operating and maintaining any fire protection measures within the building, will be provided to enable the owner or end user to plan, document and implement control processes for maintenance and testing of fire safety systems to ensure that they operate effectively in the event of a fire. The maintenance programme will be in accordance with the British Standard for that particular system.

6.0 Fire-service

6.1 Fire-fighting provision

The building has a risk profile B2, a topmost storey height less than 18m and no storey with a floor area greater than 900m².

On this basis, the building will be provided with the following fire-fighting facilities in the stair core accessed from Mallord St.

- An escape stair
- A fire-fighting lobby
- A dry riser main

6.2 Fire service access

The existing building is bound on three sides and fire service vehicle access is provided to the north elevation of the building (Mallord Street).

The existing vehicle access provision is to be retained to the north elevation. Access for fire appliances is to be provided within 18 m of the dry riser inlet point, which is to be located adjacent to the entrance to the fire-fighting stair (Mallord Street elevation).

Access to the fire-fighting stair will be directly from Mallord Street, as shown in Figure 6-1.

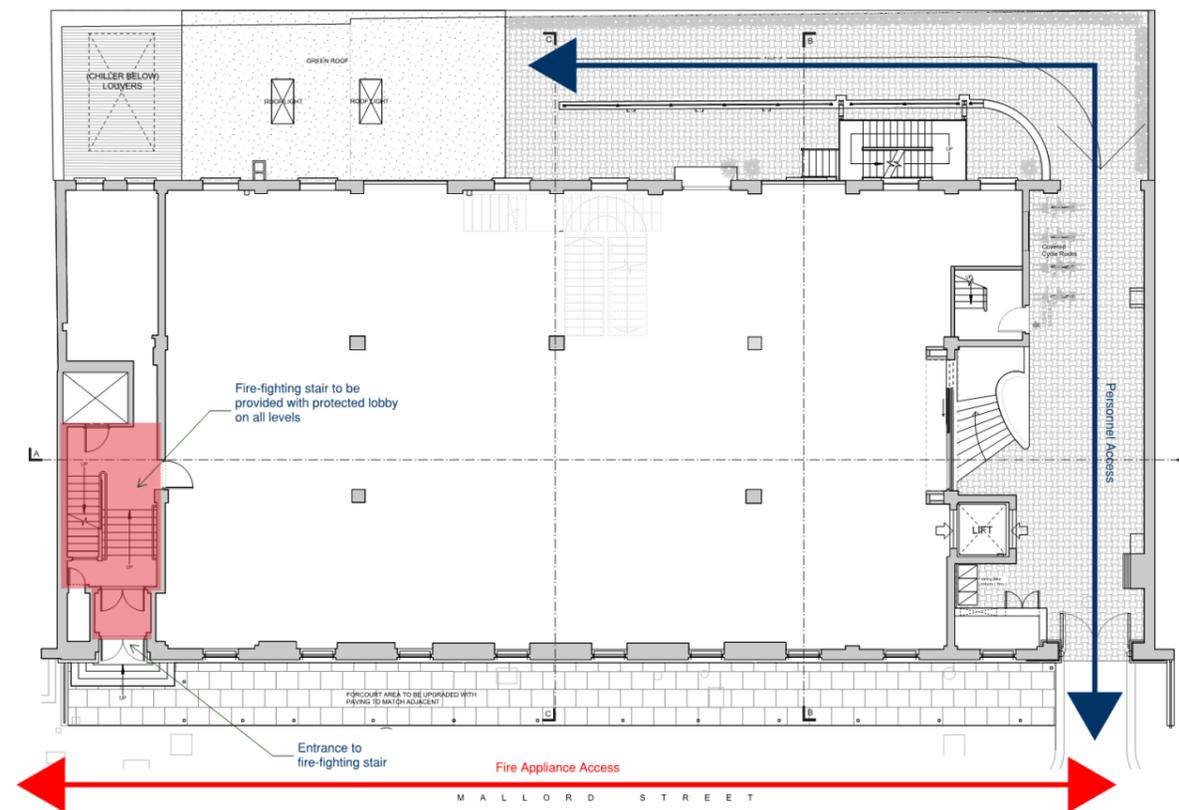


FIGURE 6-1: FIRE SERVICE ACCESS STRATEGY

7.0 Fire safety management

The management level in the building is to be Level 2, which includes the following

- Management system type – Adequate
- Robustness – Good practice
- Minimum assurance – Adequate level of assurance
- Conformity – Conformity with requirements of legislation

The key factors of any fire risk management strategy are listed below, and further information can be found in BS 9999;

1. Fire risk assessment 8.3.2
2. Resources and authority 8.3.3
3. Fire safety training 8.3.4
4. Control of work onsite 8.3.5
5. Maintenance and testing 8.3.6
6. Communications 8.3.7
7. Emergency planning 8.3.8