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Grenfell Tower - Fire Safety Strategy

1 Introduction

This Design Note provides an outline fire safety strategy for the proposed refurbishment of the building, with particular emphasis on means of escape and access and facilities for the fire service

2 Statutory controls

The building alterations will be subject to the requirements of The Building Regulations 2010 and will have to be carried out:

- In accordance with the requirements of Schedule 1 of the Building Regulations 2010; and
- Such that the existing arrangements are no worse than they were before the alterations were carried out.

The alterations must also make the building no worse in terms of compliance with the Regulatory Reform (Fire Safety) Order 2005 and Section 20 of the London Building Acts (Amendment) Act 1939.

3 Compliance with The Building Regulations 2010

3.1 Compliance with B1 (means of warning and escape)

3.1.1. MEANS OF WARNING

Self contained fire detectors will need to be provided within all new apartments to an "LD3" standard as specified in BS 5839-6⁽¹⁾.

The boxing club and office accommodation at Walkway Level and the nursery and reception/office suite at ground level will need to be provided with a fire detection and alarm system to an "L3" standard as defined in BS 5839-1⁽²⁾

Smoke detectors will need to be provided in the common parts to:

- activate the smoke extract system serving them;
- to activate any fire/smoke curtains provided to safeguard the means of escape; and
- to cause an alarm of fire to be given to those parts of the building which are not residential apartments (this appears to be a feature of the existing fire safety arrangements for the building).

3.1.2. MEANS OF ESCAPE

To provide a satisfactory standard of means of escape from both the existing (unaltered) parts and to the altered parts of the building the measures outlined below will be necessary.

EXISTING PARTS

The existing smoke extract system serving the common lobbies will need to be refurbished and/or modified to reflect statutory requirements and any recommendations made by the statutory authorities regarding this system will need to be considered.

Any changes/improvements recommended in the Fire Risk Assessment for the building will need to be implemented.

ALTERED PARTS

OFFICE LEVEL

COMMON AREA

The new entrance doorways to the apartments will need to be self closing "FD30S" doors.

The vent shafts for smoke extract will need to be modified as necessary to reflect the strategy for the existing parts (see above).

WITHIN APARTMENTS

Each entrance hall will need to be enclosed by construction having a 30 minute standard of fire resistance with the doorways therein fitted with "FD20" doors which need not be self closing (this will not apply to the doors to bathrooms and wcs which need not be fire doors provided these rooms are separated from adjoining habitable rooms by walls having a 30 minute standard of fire resistance)

There need only be one exit from each apartment provided that the travel distance from the apartment entrance door to the door to the furthest habitable room does not exceed 9m.

WALKWAY LEVEL

COMMON AREA

The boxing club and office suite will need to be separated from the common lobby by construction having at least a 30 minute standard of fire resistance and approached from the common lobby by protected lobbies (lobbies enclosed by construction having at least a 30 minute standard of fire resistance incorporating inner and outer self closing "FD30S" doors).

These lobbies will need to be ventilated directly to the exterior by openings not less than 0.4m² in area.

The common area will need to be "fire sterile".

ACCOMMODATION AT THIS LEVEL

To meet travel distance requirements, an alternative escape from the boxing club will be needed. This will have to be to the common area via a ventilated, protected lobby as described above.

As stairs serving residential accommodation should not also serve other accommodation, it may be necessary to provide sprinkler (or water mist) systems to the boxing club and office suite.

(NOTE: some modification of the above requirements may be possible subject to negotiations with the statutory authorities)

MEZZANINE LEVEL

COMMON AREA

The new entrance doorways to the apartments will need to be self closing "FD30S" doors.

The vent shafts for smoke extract will need to be extended to serve this level.

WITHIN APARTMENTS

Each entrance hall will need to be enclosed by construction having a 30 minute standard of fire resistance with the doorways therein fitted with "FD20" doors which need not be self closing (this will not apply to the

doors to bathrooms and wcs which need not be fire doors provided these rooms are separated from adjoining habitable rooms by walls having a 30 minute standard of fire resistance)

There need only be one exit from each apartment provided that the travel distance from the apartment entrance door to the door to the furthest habitable room does not exceed 9m. In this connection, the secondary exit from the southern end of each of the E and W apartments can be omitted

GROUND LEVEL

COMMON AREA

The nursery and reception/office suite will need to be separated from the common lobby by construction having at least a 30 minute standard of fire resistance. In the case of the nursery, this separation should be imperforate. In the case of the reception/office suite, this should be approached from the common area by a protected lobby (a lobby enclosed by construction having at least a 30 minute standard of fire resistance incorporating inner and outer self closing "FD30S" doors).

This lobby will need to be ventilated directly to the exterior by an opening not less than 0.4m² in area.

The common area will need to be "fire sterile".

ACCOMMODATION AT THIS LEVEL

As stairs serving residential accommodation should not also serve other accommodation, it may be necessary to provide sprinkler (or water mist) systems to the reception/office suite.

(NOTE: some modification of the above requirements may be possible subject to negotiations with the statutory authorities).

3.2 Compliance with B5 (access and facilities for the fire service)

DRY RISING MAIN

It will be necessary to re-site the existing inlet to the dry rising main (which, it is understood, is located internally within the common area) to a suitable location on the external face of the building within 18m of (and in sight of) where a pumping appliance would pull up.

4 Compliance with The Regulatory Reform (Fire Safety) Order 2005

4.1 First aid fire-fighting equipment

It will be necessary to provide first aid fire-fighting equipment (portable fire extinguishers) in the non residential areas of the building. These should be selected and located in accordance with the recommendations of BS 5506-8⁽³⁾.

4.2 Fire Risk Assessment

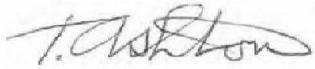
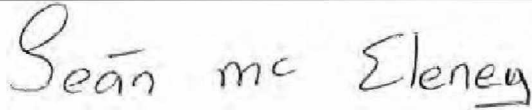
It will be necessary to update the Fire Risk Assessment in the light of the proposed changes to the building.

5 Compliance with Section 20

It might be necessary to provide openable windows for smoke ventilation to the new accommodation.

6 References

1. BS 5839-6: 1995. Fire detection and alarm systems for buildings – Part 6: Code of practice for the design and installation of fire detection and alarm systems in dwellings
2. BS 5839-1: 2002. Fire detection and alarm systems for buildings – Part 1: Code of practice for system design, installation, commissioning and maintenance
3. BS 5306-8: 2000. Fire extinguishing installations and equipment on premises – Part 8: Selection and installation of portable fire extinguishers – Code of practice

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