

**PLANNING AND BOROUGH DEVELOPMENT**

DEPARTMENT OF BUILDING CONTROL, TOWN HALL, HORNTON STREET, LONDON W8 7NX

Executive Director Planning and Borough Development

Jonathan Bore

Building Control Manager John Allen



THE ROYAL BOROUGH OF  
**KENSINGTON  
AND CHELSEA**

Kensington & Chelsea Fire Safety Team  
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11 November 2014

Please ask for: John Hoban

My ref: FP/14/03563

Dear Sir(s)

**THE REGULATORY REFORM (FIRE SAFETY) ORDER 2005**  
**THE BUILDING REGULATIONS 2010 (as amended)**

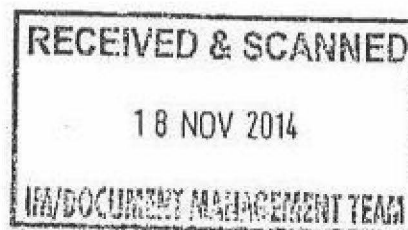
PREMISES: Grenfell Tower, Grenfell Road, LONDON, W11 1TH  
APP No: FP/14/03563

I attach a copy of the LDSA/LFEPA joint consultation form giving details of proposed work under the Building Regulations.

Please inform me whether the proposed work is acceptable to you or state the variations you consider necessary. I would be grateful if this could be done within two weeks from the date of this letter. However, if this is not possible then please inform my assistant John Hoban who can be contacted on [REDACTED]

Yours faithfully

John Allen  
Building Control Manager



4  
KLC

Encl.

- Drawing Nos: 1279(05)101 Rev00, 1279(05)102 Rev00, 1279(06)100 Rev00, 1279(08)101 issue 01, 1279(08)100 issue 01.
- B1 Means of Escape Observations
- Outline Fire Safety Strategy

LAS/19.

# MEMORANDUM

To: John Hoban  
cc:

From: Paul Hanson  
Dated: 10/11/2014

## B1 - MEANS OF ESCAPE OBSERVATIONS

PREMISES: Grenfell Tower, Grenfell Road  
APP No: Submission 1  
SUBMISSION No: S1  
DRAWING No: 1279(08) 101 01 BS, 100 01 BS.

Please also refer to marked up plans RBKC S1 where comments are added to the above plans.

I make the following comments using Approved Document B and, where appropriate, BS 9991.

### **Fire authority consultation**

*The scheme has been sent for consultation, any comments will be forwarded when received.*

### **Comments for fire authority**

- \* *The scheme involves an existing building comprising residential flats with a single stairway, protected by common lobbies with a powered ventilation system intended to protect the stairway. The powered vent system appears to be an early hybrid push pull system, which appears to have powered extract.*

? *At preliminary submission stage the mechanical engineers were seeking to confirm whether the inlet air component was powered or natural and also to determine what the extract rate is in m<sup>3</sup>/s and what the supply air volume / area of the existing system comprises. This submission S1 has not revealed any information in this respect.*

*The proposal involves the rerouting of the final exit from the single stairway and RBKC have negotiated with the design team to ensure the stairway remains with ventilated lobby protection upto the final exit.*

### **Additional residential use at lower levels**

*The refurbishment involves a floor at a lower level (Walkway +1) with a change of use to residential accommodation and one residential flat at the level below, this known as 'walkway level' although it is a normal enclosed floor).*



RBKC building control would be satisfied under the building regulations if either:-

- a. the level of extract provided by the existing powered ventilation system is maintained at the new residential levels at 'Walkway +1 level and 'the single flat at 'Walkway level'. (On the basis of no adverse affect). Or
- b. the ventilation extract is justified.

During preliminary discussions an extract rate of 10 air changes was put forward by the design team (not the fire consultant), the case put forward was that this value follows the guidance of Approved Document B. However RBKC felt this was not suitable on the basis that the 10 air change figure is a value used for car park fire fighting and is based on a different design criteria to residential lobby ventilation intended to protect stairways against the ingress of smoke for the purpose of means of escape.

The current submission has not put forward any new proposals for the powered ventilation system.

The current proposal also omits the ventilated lobby to the single flat at 'Walkway level'. RBKC have suggested the common ventilated lobby arrangement used in the upper floors be extended down to this level and marked up the plans accordingly.

#### **New non residential access to residential stairway**

There is also a new Boxing club connecting to the single stairway at 'Walkway level' and small office accommodation at ground level. RBKC have agreed with the fire consultants to provide a 0.4m<sup>2</sup> natural ventilated lobby connections to the single stair and these uses (although this is currently omitted from the recent scheme in two locations).

Therefore RBKC are not in a position to approve the proposals at this stage due to the need for the design team to establish an acceptable extract rate for the powered lobby ventilation system and the provision of ventilated lobby protection to all stairway connections to residential and other uses.

The remainder of the comments to client are self explanatory.

#### **Regulatory Reform Fire safety order**

As you are aware, the building regulations deal with the building work proposed in an existing building and are limited to ensuring that no adverse affect takes place to any exiting situation (and that any new work complies with the regulations).

Therefore the regulations would not consider whether the existing building would comply with the Regulatory Reform (Fire Safety) Order (RRO).

During preliminary discussions the design team asked whether RBKC could assist in consulting the fire authority regarding their views under the RRO in respect of the existing lobby ventilation system for the building.

There is obviously an opportunity to make reasonable changes to the vent system to satisfy the RRO, whilst the refurbishment takes place.

*correspondence which we will pass on to yourselves when received. We have explained that you will probably need to know the existing extract rate of the lobby ventilation system or justification for any new extract rate proposed (Appendix A outlines our suggestions to the client for writing to yourselves).*



## Comments for Client

The following comments should be read in conjunction with the marked up plans noted as S1.

### 1. Revision to add residential accommodation at Walkway level

The revised residential use at walkway level opens directly into the stairway without a ventilated lobby – the plans have been marked up with a suggestion, to separate the stairway from the lobby.

We would agree with your fire consultants that the existing powered ventilation system should be brought down to this level to provide the ventilation to serve the common lobby which needs to be formed between the flat and the stairway. This is not currently proposed on the plans.

### 2. The revised access to the Boxing club at 'walkway level' and office use at Ground level

No objection is raised in principle to the lobby connection with the non-residential uses via a 0.4m<sup>2</sup> natural ventilated lobby, however these have been omitted from the current scheme.

The 0.4m<sup>2</sup> ventilated should be reintroduced for the revised access points to the residential stairway. See marked up plans.

In the case of the meeting room connecting with the horizontal escape from the residential units at Mezzanine level. It is recommended that consideration be given to the provision of an unvented lobby rather than ventilation of the room itself. The latter is unlikely to give protection equivalent to a lobby.

### 3. Upper storey powered ventilation system

The existing building appears to have an early push pull powered ventilation system providing powered extract and powered or natural inlet via enclosed riser shafts.

RBKC building control would be satisfied under the building regulations if either:-

- a. The performance of the existing system is maintained. Details of the performance of the existing and proposed systems are requested to be submitted to enable RBKC to be satisfied that the system would not be adversely affected by the intended works.

Or

- b. The ventilation extract rate is justified to be suitable for the propose.

*The Smoke Control association 'Guidance on smoke control in Apartment buildings' gives upto date guidance on powered residential extract systems.*

*Any new equipment for the system should comply with the recommendations of this guide.*

If data on the existing system is available, a way forward might be to measure the flow rates of the present situation and provide information about the proposed system.

Therefore in order to consider your proposal details should be submitted of the following:-

- Existing extract rate in m<sup>3</sup>/s
- Existing 'inlet air' Supply rate in m<sup>3</sup>/s
- Proposed extract rate in m<sup>3</sup>/s
- Proposed 'inlet air' Supply rate in m<sup>3</sup>/s
- Confirmation of design of existing system. Is it mechanical ventilation or natural or a combination
- Method of activation of natural/powered system and fire brigade controls
- Size of natural/powered vent shafts

#### **4. Service risers opening in to stairway**

Due to the reconfiguration of the stair and lobbies, some riser shafts open directly in to the stairway. This arrangement should be avoided. Is access to the risers necessary at this level (see marked up plans with symbol 'A' for these areas). Access to common lobbies is acceptable as identified by symbol 'B'.

#### **5. Refuse chutes**

Please clarify the existing level of protection to the refuse chutes and confirm whether they will serve the altered levels.

#### **6. Marked up plans**

For further comments see marked up plans.

#### **7. Fire strategy document by Exova Warrington ref MTY14652R**

**3.1.1.** The report mentions various ventilated lobby arrangements, which were complete in the preliminary submissions, but as mentioned above have been omitted from submission 1.

**3.1.1.** Regarding the proposed venting of the community room – it is recommended this separation in this area be completed without venting the room (see marked up plans RBKC S1).



## 8. Further details

Details in respect to the following should be submitted: -

- a. Please confirm the extent of the building work at roof level.
- b. Escape lighting showing compliance with BS 5266 Part 1.
- c. Fire alarm system showing compliance with BS 5839 Part 1 in respect to the common parts and BS 5839 Part 6 for the fire alarm system within the flats.
- d. Mechanical ventilation showing compliance with BS 5588-9 or BS 9999.
- e. Fire signage-showing compliance with BS5499 Part 1 (or BSEN 7010).
- f. Details of the powered smoke shafts equipment together with the necessary control mechanisms.
- g. Confirmation of arrangements for alternative power supplies to life safety systems.

## Appendix A

### Consultation with Fire Authority regarding the lobby ventilation system

You have requested RBKC consult the Fire authority for the purpose of assuring your client regarding responsibilities under the Regulatory Reform (Fire safety) Order. I note the information submitted by Max Fordham, including the email dated 8/11/13 further explaining the original strategy. However as outlined in the email of 11/11/13 from John Allen of this office, I would recommend the following approach.

The question that needs to be proposed to the fire authority is whether the replacement smoke extract system to the residential parts will be acceptable for the purpose of satisfying a risk assessment under the above-mentioned legislation.

A letter needs to be written that can be forwarded to the Fire Authority that presents information on the existing smoke extract system (Design and performance) and the proposed replacement system.

This should include the following:

- Confirmation of design of existing system. Is it mechanical ventilation or natural or a combination
- Method of activation of natural/powered system and fire brigade controls
- Size of natural/powered vent shafts
- Powered ventilation extract rate in m<sup>3</sup>/s
- Inlet air provision (Size if natural in m<sup>2</sup> or m<sup>3</sup>/s if powered)
- Confirmation of proposed system, same responses as above.
- Any differences to the existing system i.e. that it is being used for the normal ventilation system should be indicated.
- The case to justify the proposal.

Upon receipt I will pass your question and information to the Fire Authority.



18/20



LONDON FIRE & EMERGENCY PLANNING AUTHORITY

## PLANNING AND BOROUGH DEVELOPMENT

DEPARTMENT OF BUILDING CONTROL, TOWN HALL, HORNTON STREET, LONDON W8 7NX

Executive Director Planning and Borough Development

Jonathan Bore

Head of Building Control John Jackson



THE ROYAL BOROUGH OF  
KENSINGTON  
AND CHELSEA

### LDSA/ACAI/LFEPA JOINT CONSULTATION PROCEDURE (CONSULTATION ON MEANS OF ESCAPE APPLICATION) The Regulatory Reform (Fire safety) Order 2005 Article 45.

#### SECTION 1. GENERAL INFORMATION

Premises	Grenfell Tower, Grenfell Road, LONDON, W11 1TH
BCB Ref	FP/14/03563
Date received	05/08/2014 16:21:48
Statutory deadline	09/09/2014
BCB Case Officer	John Hoban
Direct Line: [REDACTED]	Mobile: [REDACTED]

<b>Proposed work</b>	New floor areas, new overcladding & windows, new heating system, reconfigured podium and entrance.
<b>Use of premises</b>	Residential
<b>Status of building</b>	Existing building

#### Agent Details

Studio E Architects Ltd  
310 Linton House  
Union Street  
London  
SE1 0LH

#### Applicant details

Claire Williams  
KCTMO, Network Hub  
First Floor, Kensal Road  
London  
W10 5BE

## SECTION 2. MEANS OF ESCAPE IN CASE OF FIRE

### IS THE PROPOSED WORK:

**SIMPLE** ☐

(Drawings not enclosed)

**STANDARD** ☒

(Drawings enclosed)

**COMPLEX** ☐

(Tripartite meeting requested)

**ADB/BS 5588 APPLIED?** YES

**FIRE ENGINEERED SOLUTION?**

YES

**DOES THE APPLICATION COMPLY?**

NO

IF NO, WHY NOT

See attached schedule / Marked up plans

**DOCUMENTS USED IN ASSESSMENT**

Approved Document B

**Other Documents used:**

**IS A RELAXATION BEING CONSIDERED?**

No

**OR**

**DOES OTHER LEGISLATION APPLY?**

☐

BUILDING ACT 1984: SECTION 24/SECTION 72 (OUTER LONDON)

☐

LONDON BUILDING ACTS (AMEND) ACT 1939: SECTION 20 (INNER LONDON)

☐

LONDON BUILDING ACTS (AMEND) ACT 1939: SECTION 35 (INNER LONDON)

☐

PLANNING (LISTED BUILDINGS & CONSERVATION AREAS) ACT 1990

☐

**PROPOSED DECISION UNDER B1 OR OTHER LEGISLATION**

APPROVAL ☐

CONDITIONAL APPROVAL ☒

REFUSAL ☐

**FURTHER DETAILS APPENDED?** YES (~~Not required in case of simple works?~~)

## SECTION 3. ACTIVE FIRE FIGHTING MEASURES PROPOSED

SPRINKLER INSTALLATION

NO

SMOKE CONTROL SYSTEM

YES

AUTOMATIC FIRE DETECTION

YES

OTHER ACTIVE MEASURES

Specify:

**ANY OF THE ABOVE ITEMS "TRADE OFF" MEASURES?** ~~YES~~/NO



#### SECTION 4. OTHER LEGISLATION APPLICABLE

(BCB surveyors to liaise with appropriate section dealing with these matters)

##### ENTERTAINMENT LICENSING

INDOOR SPORTS

☐

MUSIC/DANCING

☐

THEATRES ACT

☐

CINEMAS

☐

##### SAFETY AT SPORT GROUNDS

DESIGNATED GROUNDS

☐

REGULATED STANDS

☐

##### UNDERGROUND RAILWAYS

SECTION 12 REGS

☐

PLANNING (LISTED BUILDINGS & CONSERVATION AREAS) ACT 1990 ☐

##### LOCAL FIRE SAFETY REQUIREMENTS

Seperate consultation to follow

SIGNED (Section 1-5) Mr John Hoban

For BC Surveyor

11

November

2014

SIGNED (Section 1-5) Mr Paul Hanson

For MOE Surveyor

11

November

2014

BRIGADE REF. NO  
OFFICER'S NAME  
TEL. NO

	SATISFACTORY	UNSATISFACTORY
MEANS OF ESCAPE		
FIRE FIGHTING ACCESS		

Blank lined paper for writing.

(For which the Brigade has either a consultative or enforcement interest)

GAMING ACTS 1968	YES/NO
PETROLEUM (CONSOLIDATION) ACT 1928	YES/NO
LICENSING ACT 1964	YES/NO
PLANNING (LISTED BUILDINGS & CONSERVATION AREAS) ACT 1990	YES/NO
OTHER (specify)	YES/NO

**SIGNED** \_\_\_\_\_ (For LFEPA) Date \_\_\_\_\_

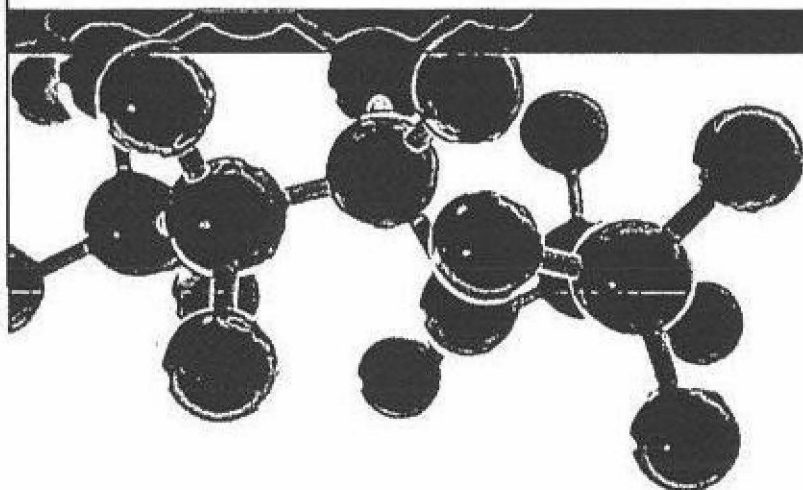


645/21.  
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# Grenfell Tower Outline Fire Safety Strategy



A Report to: Studio E LLP

Project No: 301922

Document Reference: MT14652R

Date: 07/11/13

Issue No: 03

**Testing  
Advising  
Assuring**

Registered Office: Exova (UK) Ltd, Lochend Industrial Estate, Newbridge, Midlothian EH26 8PL United Kingdom. Reg No.SC 70429

E-E-GU-FT-CS-WR-F-1007 [Iss 04]

This report is issued in accordance with our terms and conditions, a copy of which is available on request.

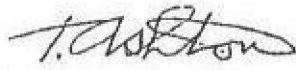

**LFB00032942/13**  
LFB00032942\_0013

## Revision History

Issue No : 01	Issue Date : 31/10/12
Reason for Revision: First issue	

Issue No : 02	Issue Date : 24/10/13
Reason for Revision: Second issue	

Issue No : 03	Issue Date : 07/11/13
Reason for Revision: Third issue – revised to take into account comments from the design team	

Prepared by:	 Terry Ashton Associate (For and on behalf of Exova Warringtonfire)
Reviewed by:	 Sean McEleney Senior Consultant (For and on behalf of Exova Warringtonfire)

## Validity

This report is formulated on the basis of the information and experience available at the time of preparation. It is applicable to the above-mentioned project only in accordance with the client's instructions. It is only valid provided no other modifications are made other than those for which a formal opinion has been sought and given by Exova Warringtonfire.

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Project No: 301922  
Client: Studio E LLP

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Issue Date: 07/11/13  
Issue No.: 03

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## 1 Introduction

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The proposed development is the refurbishment of Grenfell Tower, a 24 storey residential block and the incorporation of a nursery, office accommodation, new apartments, a community meeting room and a boxing club.

The refurbishment comprises:

- ground storey level - the creation of a new reception area, a nursery, office accommodation and new stairs providing access to the boxing club and the upper levels of office accommodation;
- mezzanine level - the creation of new residential apartments, office accommodation and a community meeting room;
- walkway level - the creation of a boxing club and office accommodation;
- walkway + 1 level - the creation of four new residential apartments; and
- generally - improvements to the building services.

This report details the applicable statutory controls in respect of fire safety and contains an outline fire safety strategy for compliance with these statutory controls.

The report is based upon discussions held with the design team, the Royal Borough of Kensington & Chelsea and on fire access and fire strategy drawings produced by Studio E LLP.

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## 2 Statutory Considerations

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### 2.1 The Building Regulations 2010

The building work will have to be carried out in conformity with the requirements of Schedule 1 of the Regulations. To satisfy Regulation 4, it will be necessary to ensure that, where a building is altered, it is no more unsatisfactory in relation to the requirements of Schedule 1 than it was before the works were carried out.

The requirements of Schedule 1 relating to fire safety are:

- a) B1 (means of warning and escape);
- b) B2 (internal fire spread (linings));
- c) B3 (internal fire spread (structure));
- d) B4 (external fire spread); and
- e) B5 (access and facilities for the fire service).

Compliance with these requirements is normally achieved by meeting the standards contained in Approved Document B (ADB)<sup>(1)</sup> and/or BS 9991<sup>(2)</sup>.

### 2.2 The Regulatory Reform (Fire Safety) Order 2005

The Regulatory Reform (Fire Safety) Order came into effect on 1 October 2006. One effect of this Order is that the owner (or the "responsible person" as defined in the Order) will have to carry out a fire risk assessment (or have a fire risk assessment carried out on his/her behalf). Compliance with the Regulatory Reform Order is normally achieved by following the guidance given in the DCLG Guide<sup>(3)</sup>.

### 2.3 London Building Acts (Amendment) Act 1939

The building was subject to the requirements of Section 20 of the London Building Acts (Amendment) Act 1939. However, Section 20 was repealed on 9 January 2013.

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### **3 Proposed Outline Fire Safety Strategy**

#### **3.1 Compliance with The Building Regulations 2010**

##### **3.1.1 Compliance with B1 (means of warning and escape)**

###### **FIRE DETECTION/ALARM SYSTEM**

The nursery and the office accommodation will each be provided with at least a Type "M" system as defined in BS 5839-1<sup>(4)</sup>. Each system in these elements will be "stand alone".

New apartments will be provided with "LD3" systems of detection and sounders as defined in BS 5839-6<sup>(5)</sup> except as defined below.

###### **MEANS OF ESCAPE**

###### **GENERAL**

While the sharing means of escape between residential and non-residential accommodation is not endorsed by current statutory guidance, it is considered that the fire loads in the offices, boxing club and community meeting room would be no greater than those in a typical apartment, and the non-residential accommodation will be separated from the stairs by ventilated lobbies (see below). Therefore, the risks to the occupants of an apartment from a fire in a non-residential demise are not considered to be significantly greater than those from a fire in another apartment.

###### **GROUND STOREY NURSERY**

The nursery will have at least two exits direct to the exterior.

###### **MEZZANINE STOREY APARTMENTS**

The new apartments in the mezzanine storey will have an exit to the stair serving the boxing club.

###### **MEZZANINE STOREY COMMUNITY MEETING ROOM**

The community meeting room will have two exits each of which leads to the stair serving the boxing club.

###### **MEZZANINE STOREY OFFICES**

The offices will have exits to the ground storey via a stair to the main entrance lobby and via the stair serving the boxing club.

###### **WALKWAY LEVEL BOXING CLUB**

The boxing club will have two exits: one to the stair serving the office accommodation and one via the stair from walkway level to ground storey level.

###### **WALKWAY + 1 APARTMENTS**

The new apartments at walkway + 1 level will have access via a new doorway to the existing escape stair serving the residential tower.

###### **NEW STAIR**

The new stair serving the office accommodation will be separated as follows:

- from the lift lobbies at walkway and mezzanine levels and from the main entrance lobby at ground storey level by a standard of fire resistance to meet the requirements of B5. That is, construction having a 120 minute standard of fire resistance with the openings therein fitted with self-closing "FD60S" doors or proprietary fire/smoke curtains having the same standard of fire resistance; and
- from all other areas by construction having a 30 minute standard of fire resistance.

## EXISTING STAIRS

The existing stair (and the lobbies thereto at each level) which serves the residential apartments forms part of the fire-fighting shaft serving the building. Therefore, the stair and lobbies will be enclosed by construction having a standard of fire resistance to satisfy B5. That is, construction around the perimeter of the shaft having a 120 minute standard of fire resistance with the openings therein (including doorways to new apartments) fitted with self-closing "FD60S" doors and intermediate construction (construction separating the stairs and lifts from the lift lobby having a 60 minute standard of fire resistance with the openings therein fitted with self-closing "FD30S" doors ("FD30" doors in the case of the lifts)).

The stair serving the boxing club will be separated from the remainder of the building at each level by construction having a standard of fire resistance to meet the requirements of B5. That is, construction having a 60 minute standard of fire resistance with the openings therein fitted with self-closing "FD30S" doors.

Access to the stair serving the boxing club from the community meeting room will be via a lobby constructed to have a 120 minute standard of fire resistance. The door between the lobby and the community meeting room will be a self-closing "FD60S" door and the door between the lobby and the stair will be a self-closing "FD30S" door.

## SMOKE VENTILATION OF LOBBIES

### WALKWAY + 1 LEVEL

The lift lobby serving the residential apartments at walkway + 1 level will be ventilated by the existing supply and extract ventilation system which serves the upper levels which this will be extended down to this level.

(NOTE: this supply and extract system will be overhauled as part of the improvement to the building services. This is covered in a separate report by Max Fordham).

### WALKWAY, MEZZANINE AND GROUND STOREY LEVELS

The stair serving the office accommodation effectively forms lobbies between this accommodation and the lift lobbies referred to above. Automatic opening vents (AOVs) 0.4m<sup>2</sup> in area will be provided at the head of the stair and to the corridor of the ground floor office accommodation. These AOVs will provide a means for venting smoke from all the office accommodation.

The lobby between the boxing club and the new stair at walkway level will also be ventilated direct to atmosphere via an AOV 0.4m<sup>2</sup> in area.

## SMOKE VENTILATION OF OTHER AREAS

The community room on the mezzanine above ground storey level will be vented direct to the exterior by an AOV 0.4m<sup>2</sup> in area.

## OPERATION OF AOVs

All the above-mentioned AOVs will open on activation of smoke detectors sited within each of the areas.

## ESCAPE ROUTES WITHIN APARTMENTS

The new apartments will have protected entrance halls (i.e. entrance halls enclosed by construction having a 30 minute standard of fire resistance with the doorways therein fitted with "FD20" doors). Bathrooms and WCs will not be enclosed by fire resisting construction but, where they abut other rooms, they will be separated from the latter by walls having a 30 minute standard of fire resistance.

The travel distance from the apartment entrance door to the door to the furthest habitable room will not generally exceed 9m. Where it does, an "LD1" fire alarm and detection system will be provided.

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## EMERGENCY LIGHTING

Where necessary, emergency lighting will be provided in the escape routes from the building designed in accordance with the recommendations of BS 5266<sup>(6)</sup>.

### 3.1.2 Compliance with B2 (internal fire spread (linings))

All new wall and ceiling linings will be the equivalent of the following:

- a) in circulation spaces and escape routes other than circulation spaces within the apartments – Class 0 (using the UK testing methods) or Class B-s3, d2 (using the European testing methods); and
- b) elsewhere – Class 1 (using the UK testing methods) or Class C-s3, d2 (using the European testing methods), although a Class 3 standard or Class D-s3, d2 could be used within rooms not exceeding 30m<sup>2</sup> in non residential accommodation or 4m<sup>2</sup> in area within the apartments.

#### NOTES:

- (i) the European testing methods referred to above are the new methods developed as part of a harmonisation program for fire testing within Europe as detailed in BS EN 13501-1: 2002<sup>(7)</sup>. Materials achieving the classifications to either the new European test method or the UK test methods are considered to be acceptable; and
- (ii) the plywood linings in the main entrance lobby will have a Class 0 standard by virtue of a process of impregnation during manufacture.

### 3.1.3 Compliance with B3 (internal fire spread (structure))

#### FIRE RESISTANCE OF ELEMENTS OF STRUCTURE

All new elements of structure will be constructed to have the same standard of fire resistance as that of the existing elements. This is assumed to be 120 minutes for the structural frame and 60 minutes for floors. An exception to this will be the structural steelwork supporting the galleries connecting to the boxing club stair. This will be constructed or protected to have a 30 minute standard of fire resistance. The basis for this is that there will be a very low fire load in this area and collapse of these structural supports would not have an adverse effect on the structural stability of the building as a whole.

#### COMPARTMENTATION

Compartment walls and/or floors will be provided:

- a) Between apartments and other apartments;
- b) Between apartments and common areas;
- c) Between the nursery and the remainder of the building;
- d) Between the boxing club and the remainder of the building; and
- e) Between the offices and the remainder of the building.

Compartment walls and floors will have a 60 minute standard of fire resistance unless they form part of the structural frame of the building (where they will have a 120 minute standard of fire resistance). Doorways within compartment walls will be fitted with self closing doors having a 60 minute standard of fire resistance, except where a different standard will be necessary to satisfy B5.



### 3.1.4 Compliance with B4 (external fire spread)

It is considered that the proposed changes will have no adverse effect on the building in relation to external fire spread but this will be confirmed by an analysis in a future issue of this report.

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

A new inlet to the existing dry rising main will be provided in a location where it will be within 18m (and in sight of) where a pumping appliance could pull up.

Access to the building for fire service personnel will be at ground storey level. If access is obtained at ground storey level, fire service personnel will have to proceed up the internal stair to either the mezzanine above the ground storey or to walkway level. Outlets from the dry rising main will be provided in the common lobbies at both these levels and in the mezzanine over walkway level.

Notwithstanding the above, access to the fire-fighting lift will be available at ground storey level

The fire resistance of the enclosures to the fire-fighting shaft are covered in 3.1.1 above.

As stated above, these lobbies will be ventilated.

A concierge office will be incorporated within the main entrance to the building. This is considered to be acceptable as all the occupants of the other areas of the building will be able to escape independently of this area.

## 3.2 **Compliance with the Regulatory Reform (Fire Safety) Order 2005**

It is considered that the fire safety measures described above will satisfy the requirements of the Regulatory Reform (Fire Safety) Order.

Portable fire-fighting equipment (fire extinguishers) will be provided in the nursery, boxing club and office accommodation in accordance with the recommendations of BS 5306-8<sup>(8)</sup>.

## 4 References

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1. Approved Document B. Fire safety. Volume 2 – Buildings other than Dwellinghouses. Department for Communities and Local Government - TSO 2006
2. BS 9991: 2011. Fire safety in the design, management and use of residential buildings
3. Fire Safety Risk Assessment – sleeping accommodation. Department for Communities and Local Government 2006
4. BS 5839-1: 2002. Fire detection and alarm systems for buildings: Part 1: Code of practice for system design, installation, commissioning and servicing
5. BS 5839-6: 2004. Fire detection and alarm systems for buildings - Part 6: Code of practice for the design, installation and maintenance of fire detection and fire alarm systems in dwellings
6. BS 5266: Part 1: 1999 Emergency lighting. Code of practice for emergency lighting of premises other than cinemas and certain other specified premises used for entertainment
7. BS EN 13501-1: 2002. Fire classification of construction products and building elements. Classification using data from reaction to fire tests
8. BS 5306-8: 2000. Fire extinguishing installations and equipment on premises. Part 8: Selection, and installation of portable fire extinguishers – Code of practice