

Revised submissions on the London Building Acts (Amendment) Act 1939

on behalf of families

1. These submissions address the legal requirements for fire resistance to which work on Lakanal House was subject at various times under section 20 of the London Building Acts (Amendment) Act 1939.

2. Section 20 of the London Building Acts (Amendment) Act 1939 provided:

(1) Unless the Council otherwise consent—

(a) no building shall be erected with a storey or part of a storey at a greater height than—

(i) one hundred feet; or

(ii) eighty feet if the area of the building exceeds ten thousand square feet;

(b) no building of the warehouse class and no building or part of a building used for purposes of trade or manufacture shall be of a cubical extent exceeding two hundred and fifty thousand cubic feet unless it is divided by division walls in such manner that no division of the building or part of the building as the case may be is of a cubical extent exceeding two hundred and fifty thousand cubic feet:

Provided that the Council shall not withhold consent under paragraph (a) of this subsection if they are satisfied that having regard to the proposed use to which the building is to be put proper arrangements will be made and maintained for lessening so far as is reasonably practicable danger from fire in the building.

(2) In granting consent under this section the Council may without prejudice to any other power to attach terms and conditions to the consent give the consent subject to conditions restricting the user of the building or part of the building or relating to the provision and maintenance of proper arrangements for lessening so far as is reasonably practicable danger from fire in the building or part of the building.

3. Section 20 of the 1939 Act remained in force until 9 January 2013¹.
4. Lakanal House is 137'6" feet high, or just over 39.3 metres to the 14th storey²: it therefore required (and must presumably have been granted) consent under section 20 when constructed at the end of the 1950s.

Date of construction: 1952 By-laws

5. Details of the original section 20 consent can be clearly ascertained by reference to the documents from around the time Sceaux gardens estate was planned and constructed in the late 1950s [referred to as 'recent disclosure p xx' in these submissions].
6. Having regard to the wording of section 20 itself the consent must have been such that *'[the council] are satisfied that having regard to the proposed use to which the building is to be put proper arrangements will be made and maintained for lessening so far as is reasonably practicable danger from fire in the building'*. The consent may have had conditions attached to it *'relating to the provision and maintenance of proper arrangements for lessening so far as is reasonably practicable danger from fire in the building or part of the building'* (the District Surveyor of the London County Council and subsequently the Greater London Council was the post holder delegated to grant (or refuse) section 20 consent).

¹ Section 20 was amended by the Building (Inner London) Regulations 1985 (SI 1936/185), but by virtue of regulation 4 the 1985 amendments did not apply to any building, structure or work if before 6th January 1986 *inter alia* 'a contract was entered into for...execution of the work' or 'a building notice in respect of the...work was served on the district surveyor'; thus the unamended section 20 was in effect at the date of construction, the 1978/9 windows, and the initial installation of the false ceiling in the early 1980s; the amended section 20 may have been in force at the date of the installation of the replacement false ceilings in 1986. Sections 20 only repealed by SI 2012/3124

²137'6" from the Architects Journal; 39.3 metres is from LBS's survey dated 23.01.13

7. This consent under section 20 of the 1939 Act was made in reference to the London Building (Constructional) By-laws 1952, which set out detailed requirements³. This is demonstrated in the original planning application [recent disclosure p 12 at p 13], where it is written in manuscript 'The provisions of the London Building Acts 1930 – 1939 & the by-laws in force thereunder must be otherwise complied with to the satisfaction of the District Surveyor'.
8. The Borough of Camberwell applied for a number of waivers in relation to section 20 and the 1952 By-laws [recent disclosure p 15 - 16], in particular:

London Building By-Laws 1952

Par V Enclosures :- Blocks 1 to 9 and shops and out-buildings inclusive 46/0006 B

Approval for waivers relating to construction of external panel walls. Thicknesses and construction of walls.

5.26 ✓
5.27 (3) ✓

Openings in external walls.

Setting back of timber framed panels. Drawings 051 to 180 inclusive.

Part IX Blocks 1 to 9 inclusive, shops and out-buildings. Approval for waivers relating to fire resisting construction. Drawings 051 to 180 inclusive. 46/0006

Part XI Blocks 1 to 9 inclusive and shops and out-buildings. Approval for waivers under sections 11.02, and approval to mechanical extraction in W.C.s to bath-rooms and ventilated lobbies blocks 1, 2 and 7 and natural ventilation by means of a roof light in Blocks 8 and 9 under section 11.03. 46/0006

Calculations of all structural concrete work and load bearing cross walls will be submitted to the District Surveyor at an early date.

The London Fire Brigade have been consulted with regard to access etc. to the individual blocks and their requirements have been incorporated in our Drawing No.46/0006 B.

Three complete sets of drawings have been sent to you by hand under separate cover on the 28th March, 1957.

Yours faithfully,

³ The 1952 By-laws came into effect from 1st January 1953; the power to make such by-laws comes from section 9 of the London Building Act 1935.

9. In reference to Part V, waivers were sought for the enclosures, in particular relating to the construction of external panel walls and thickness and construction of walls, as well as other matters.

10. Part V of the 1952 By-laws concerns 'Walls and Piers'; it provides

PART V—Walls and Piers.	
Buildings to be enclosed with walls	5.01 Every building shall be enclosed with walls. For the purpose of this by-law the expression ' walls ' shall be deemed to include piers.
Construction and bonding of walls	5.02 Subject to the provisions of by-law 5.16 (cavity walls), by-laws 5.23 and 5.24 (panel walling) (so far as relates to cavity panel walls) and by-law 5.30 (hollow bricks and blocks), every wall and pier of a building shall be constructed of <ol style="list-style-type: none">(a) solid bricks or blocks properly bonded and solidly put together with mortar ; or(b) concrete not inferior to that designated Grade V in by-law 3.07 ; or(c) reinforced concrete ; or(d) any of the foregoing materials in combination with a framework of metal or reinforced concrete : provided that no party wall shall be constructed of the materials or in the manner specified in sub-paragraphs (c) and (d) of this by-law, or, except as provided for in by-law 5.16, as a cavity wall.
Application of bye-laws 1.05 to 5.23	5.03 The provisions of by-laws 5.05 to 5.23 apply only to walls and piers built of bricks, or blocks, or concrete, which are not in combination with a framework of metal or reinforced concrete.
Compliance with by-law 1.04	5.04 (1) The thickness of any wall or pier when not determined in accordance with the provisions of by-laws 5.17 to 5.23, and the thickness of any party wall, shall be the thickness determined in accordance with the provisions of by-laws 5.05 to 5.16. (2) A wall or pier shall not be deemed to comply with the provisions of by-law 1.04 unless that wall or pier complies either with the provisions of by-law 5.05 to 5.16 or with the provisions of by-law 5.17 to 5.23.

11. Note part 5.02 cross refers to By-laws 5.23 and 5.24 'panel walling'. The general provision was that walls must be at least 8 ½ inches thick under table X in part V (only the top of the table is reproduced below; it goes on to give greater thicknesses):

TABLE X—Thickness of external and party walls of buildings other than public buildings or buildings of the warehouse class

Height of Wall		Length of Wall		Thickness of Wall
Exceeding	Not Exceeding	Exceeding	Not Exceeding	
feet —	feet 12	feet —	feet —	8½ in. throughout.
12	30	— 30	30 —	8½ in. throughout. 13 in. throughout the lowermost storey ; 8½ in. throughout the rest of the wall.
30	40	— 30	30 —	13 in. throughout the lowermost storey ; 8½ in. throughout the rest of the wall. 13 in. throughout the lowermost two storeys ; 8½ in. throughout the rest of the wall.

12. By-law 5.24 provides:

WALLS BUILT OF MATERIALS USED IN COMBINATION WITH A FRAMEWORK OF METAL OR REINFORCED CONCRETE

Panel walling in framed buildings

5.24 (1) If an external wall is constructed of materials used in combination with a framework of metal or reinforced concrete, any part of that wall which does not sustain and transmit any load other than that due to its own weight and to wind pressure on its own surface may be deemed to be a separate panel wall and thereupon shall

(a) comply with the provisions of paragraphs (2), (3), (4) or (5) (as the case may be) of this by-law ; and

(b) be provided with such support and restraint as shall, to the satisfaction of the district surveyor, give that part of the wall an adequate degree of stability.

(2) In every panel wall constructed (otherwise than as a cavity wall) of bricks or blocks,

(a) the thickness shall be not less than 8½ inches throughout ;

(b) the height shall not exceed 25 feet ;

(c) either the height or the length (whichever is the less) shall not exceed 18 times the thickness ;

(d) the base shall not overhang the beam upon which it is supported, to a greater extent than one-third of the thickness of the panel.

(3) In every panel wall constructed as a cavity wall

(a) The provisions of by-law 5.16 shall be complied with except that the inner leaf may be constructed of solid or hollow bricks or blocks not less than 3 inches thick ;

- (b) the height shall not exceed 25 feet ;
 - (c) either the height or length (whichever is the less) shall not exceed 13 feet ;
 - (d) The area shall not exceed 200 square feet ; and
 - (e) the base shall not overhang the beam upon which it is supported, to a greater extent than one-third of the thickness of the overhanging leaf :
- provided that, if the bottom courses are built solid for the full thickness of the panel wall to a height above its base at least equal to that full thickness, the base may overhang the beam to an extent not exceeding one-third of that full thickness.
- (4) Every panel wall constructed of reinforced concrete shall be not less than 4 inches thick in every part.
 - (5) Every panel wall constructed of concrete shall be not less than 4 inches thick in every part and shall be provided with shrinkage reinforcement in accordance with by-law 5.21 (3).
 - (6) For the purpose of this by-law, the expression 'beam' includes the solid concrete casing of any beam, where that casing is reinforced to the satisfaction of the district surveyor.

13. The Town Planning Committee recommended that modification of by-law 5.24(2)(a) be made '*so as to permit the external panel walls to be constructed as shown on the plans submitted in lieu of the requirements of such by-law*' [recent disclosure p 17; note this document also refers to '*Blocks 1 & 2 (15 storeys)*', which makes clear these block numbers must be the blocks later named Lakanal and Marie Curie]. The only recommended waiver is to the *width* of the panel walls under 5.24(2)(a), and that they be constructed in accordance with submitted plans. The plan numbers appear at the top of the same document [p 17] and include 46/165. Plan 46/165 gives panel wall details and consists of ¼" wired glass, ½" plasterboard with foil backing, 4" thermalite or [?] insulating breeze block, ½" plasterboard (plus in places sections of skirting and a window cill). Thus the total wall width was to be a minimum of 5 ¼" hence the need to apply for the waiver of by-law 5.24. The recommendation for consent [p 18] specifically record these modifications as per plan 46/165. Further recommendation for planning consent was also made [p 19-26].

14. Consent was granted by the Borough Architect dated 14th August 1957 [recent disclosure p 27-36], which provided for certain conditions of approval and waivers. But note paragraph 14 [p 31]: '*the blocks shall be otherwise erected and retained without any addition thereto and in exact accordance with the application and the said plan and*

particulars submitted in connection with such application' [p 35 again stresses compliance with section 20 and the 1952 By-laws].

15. Consent for waiver of by-law 5.24(2)(a) appears to have been initially omitted by accident but was granted on 13th September 1957 [p 37]. It permitted waiver of 5.24(2)(a) *'to be constructed as shown in the plans submitted in lieu of the requirements of such By-law'*; this can only refer to plan 46/165. This waiver stressed that the requirements of the 1930-39 Acts and By-laws in force must be otherwise complied with to the satisfaction of the District Surveyor. Thus the only waiver of by-law 5.24(2)(a) for the bedroom panels was to provide for plasterboard, glass, and thermalite or breezeblock walls a total of 5 ½" thick under the bedroom windows.

16. Approval was also subject to *'attached standard condition (Form C.3) be complied with:*
- *Item (1)(a) – Standard of fire resistance'* etc [p 27; this echoes the initial recommendation p 19]. Form C.3 does not appear to be with the recently disclosed documents and it is not known what these conditions might have been. It is inconceivable that such conditions would be less than those required by part XI of By-laws (which would in any event have required an express waiver).

17. Part XI of the 1952 By-laws concerns Fire Resisting Construction and provides:

PART IX—Fire-resisting Construction

9.01 Without prejudice to the generality of by-law 9.03, this Part of these by-laws shall apply to those buildings or parts or divisions of buildings and to those purposes which are specified in by-law 9.02.

9.02 (1) Each element of construction of a building, or of a part or of a division of a building, shall be capable of resisting the action of fire for a period of not less than that specified in the following Classification for the use, and the cubical extent or floor area on any one floor (as the case may be), of the building or part or division of the building.

Classification

Class No.	Use	Cubical extent or floor area on any one floor (as the case may be)	Fire resistance period
1	A building or division of a building used for bulk storage or warehouse purposes.	(a) Exceeding 25,000 cu. ft., but not exceeding 50,000 cu. ft. in cubical extent	½ hour
		(b) Exceeding 50,000 cu. ft., but not exceeding 125,000 cu. ft. in cubical extent	1 hour
		(c) Exceeding 125,000 cu. ft., but not exceeding 250,000 cu. ft. in cubical extent	2 hours
2	A building or division of a building used for the purpose of trade or manufacture.	(a) Exceeding 50,000 cu. ft., but not exceeding 125,000 cu. ft. in cubical extent	½ hour
		(b) Exceeding 125,000 cu. ft., but not exceeding 250,000 cu. ft. in cubical extent and (i) not exceeding 7,500 sq. ft. in floor area on any one floor	1 hour
		(ii) exceeding 7,500 sq. ft. in floor area on any one floor	2 hours
3	A building used for office or dwelling purposes.	(a) (i) Exceeding 50,000 cu. ft., but not exceeding 125,000 cu. ft. in cubical extent	½ hour
		(ii) Exceeding 1,000 sq. ft., but not exceeding 2,500 sq. ft. in floor area on any one floor	
		(b) (i) Exceeding 125,000 cu. ft. in cubical extent, or (ii) Exceeding 2,500 sq. ft. in floor area on any one floor	1 hour
4	In a building used partly for office purposes and partly for the purposes of trade or manufacture, any part used for the purposes of trade or manufacture.	(a) (i) Not exceeding 64,000 cu. ft. in cubical extent	½ hour
		(ii) Exceeding 64,000 cu. ft., but not exceeding 125,000 cu. ft. in cubical extent	1 hour
		(iii) Exceeding 125,000 cu. ft., but not exceeding 250,000 cu. ft. in cubical extent	2 hours
		(b) (i) Not exceeding 2,500 sq. ft. in floor area on any one floor	½ hour
		(ii) Exceeding 2,500 sq. ft., but not exceeding 5,000 sq. ft. in floor area on any one floor	1 hour
		(iii) Exceeding 5,000 sq. ft. in floor area on any one floor	2 hours
5	In a building used partly for dwelling purposes and partly for the purposes of trade or manufacture, any part used for the purposes of trade or manufacture.	(a) (i) Not exceeding 32,000 cu. ft. in cubical extent	½ hour
		(ii) Exceeding 32,000 cu. ft., but not exceeding 64,000 cu. ft. in cubical extent	1 hour
		(iii) Exceeding 64,000 cu. ft., but not exceeding 250,000 cu. ft. in cubical extent	2 hours
		(b) (i) Not exceeding 1,000 sq. ft. in floor area on any one floor	½ hour
		(ii) Exceeding 1,000 sq. ft., but not exceeding 2,500 sq. ft. in floor area on any one floor	1 hour
		(iii) Exceeding 2,500 sq. ft. in floor area on any one floor	2 hours
6	In a building used for any of the above-mentioned purposes any part used for (a) A transformer chamber or for any purpose involving a similar fire risk .. (b) Garage purposes	(i) Not exceeding 500 sq. ft. in floor area	½ hour
		(ii) Exceeding 500 sq. ft., but not exceeding 1,000 sq. ft. in floor area	1 hour
		(iii) Exceeding 1,000 sq. ft. in floor area	2 hours
		(b) (i) Not exceeding 500 sq. ft. in floor area	½ hour

For the purposes of this Classification 'floor area' shall not include the area of any underground cellar outside the external walls of the building above, when that cellar is entirely separated from the main building or is connected therewith only by an opening not exceeding 5 ft. in width.

18. The drawings from the Architect's Journal give a width of 41'1" and length of 187'6" for each floor, giving a total area of about 7,707 square feet⁴ per floor.

19. 'Elements of construction' is defined in section 1.03, which provides:

"element of construction" subject to the provisions of by-law 9.01 means:

- (i) any floor, beam or column, and
- (ii) any partition or wall which separates parts or divisions of a building used for different purposes or tenanted by different persons;

20. Thus elements of construction of Lakanal House must as a minimum have been for a Class 3(b) building from the above table because any floor needs exceed only 2,500 square feet to fall under Class 3(b) in the table above. This would require one hour fire resistance. It is submitted that it is likely that the standard conditions for fire resistance required under form C.3 would have *at least* been equivalent to this *for the whole exterior of the building*, i.e. the exterior walls were required to be one hour fire resistant.

21. Section 9.02 of the 1952 By-laws continues:

⁴ Extrapolating from advocates' bundle p 14 gives a figure closer to 10,000 square feet but in either case the figure is well in excess of the 2,500 square feet required.

(2) Where walls are used to divide parts of buildings used for the same purpose, those walls shall be capable of resisting the action of fire for a period of not less than 2 hours.

(3) Where an element of construction is required to be capable of resisting the action of fire for a period of not less than 1 hour, that element of construction shall be constructed of incombustible materials.

(4) The floor area on any one floor of a building of class No. 1 (c) shall not, without the approval of the Council, exceed 7,500 square feet.

(5) Where, in any building, the level of the surface of any floor is more than 42 ft. above the level of the footway immediately in front of the centre of the face of the building, or if there is no footway, above the level of the ground before excavation, the elements of construction of that building shall be capable of resisting the action of fire for a period of not less than one hour.

(6) Where in a building of class No. 3 (a) (ii), the floors are constructed of incombustible materials, the limitations specified with respect to floor area shall not apply.

(7) In a building of class Nos. 4 or 5, the elements of construction of the part used for office purposes, or for dwelling purposes (as the case may be), shall be capable of resisting the action of fire for the same period as that required if the whole building were used for office or dwelling purposes.

(8) Where, in the same building or part or division of a building, a different period of resistance to the action of fire is required by this by-law according to whether regard is had to the cubical extent, or to the floor area on any one floor, or to the level of the surface of any floor of the building or part or division of the building, the longer period shall be taken.

(9) Where a single-storey building or a division of a single-storey building does not exceed 250,000 cubic feet in cubical extent or 25 feet in height, the steelwork in that building or division may, subject to the provisions of by-law 6.02, be unprotected.

(10) Each element of construction of a basement storey (whether for the purpose of this paragraph of this by-law shall be deemed to include the floor over the basement storey and any separations between the basement storey and any underground cellar outside the external walls of the building above) shall be capable of resisting the action of fire for a period of not less than twice that required for the elements of construction of the building or part or division of the building in which that basement storey is situated:

provided that in no case need that period exceed two hours.

(11) All joints of and in elements of construction, separations and enclosures shall be tight and proof against the passage of smoke or flame and shall be constructed to the satisfaction of the district surveyor.

22. It further continues:

Separations
and
enclosures—

9.04 (1) In every building or part or division of a building which is constructed or adapted either to be tenanted by different persons or to be used for different purposes, separations shall be made between the parts so tenanted or used, and enclosures shall be formed to all lobbies, corridors, passages, landings and stairs used in common by the tenants.

(2) (a) (i) If the parts tenanted by different persons are to be used for similar purposes, each element of construction of such separations, and all such enclosures shall be capable of resisting the action of fire for a period of not less than that required for the elements of construction of the building as a whole. ^{between different tenancies ;}

23. The composite panels in the kitchen (but not underneath the bedroom windows) are part of the enclosures under 9.04(1): they lead onto passages used in common by the tenants (i.e. the escape balconies); likewise the separations between the flats and the communal corridors on the odd numbered floors would fall under 9.04(1): ‘separations’ is clearly a deliberately wide term and would include not just the walls themselves, but the panels above the front doors and the fire stopping on the internal stairs (it may be argued the panels above the front doors were part of the doors in which case they would require the same 30 minute fire resistance as the doors, see below); for the avoidance of doubt the composite panels in the kitchens are not enclosures because they enclose the escape balconies, but because they are part of the enclosure of the maisonette itself.
24. The tenanted parts of Lakanal House were all used for the same purpose, so 9.04(2)(a)(i) applies: thus the composite panels in the kitchens and the separations from the flats to the internal corridors would have been required to be capable of resisting fire for the same period of time as the elements of construction in the building as a whole, i.e. one hour. There is nothing to suggest these conditions were varied.
25. Part IX of the 1952 By-laws goes on to address the doors which are permitted in these enclosures:

9.07 (1) Notwithstanding, the provisions of by-laws 9.02 (2), 9.04 and 9.05 but ^{Openings and doors} subject to the provisions of by-law 5.11, openings may be made in the separations between parts of buildings (other than those separations between parts of buildings in different tenancies) and in the enclosures and firechecks required by this Part of these by-laws.

(2) Those openings shall be fitted with self-closing doors in frames, the whole so constructed as to be capable of resisting the action of fire for half the period required for those separations, enclosures or fire-checks :

provided that every such door shall be capable of resisting the action of fire for a period of not less than half-an-hour.

26. Thus doors to the kitchen/lounge, and the front door would need to be 30 minutes fire resistant at the date Lakanal House was constructed.

By-laws in force for 1978/9 window unit replacements and installation of false ceiling in 1980s

27. The 1952 By-laws were eventually revoked by The London Building (Constructional) By-laws 1972⁵.

28. The 1972 By-laws were made by the Greater London Council ('the GLC') '*with respect to the construction and conversion of buildings and structures and other cognate matters made in pursuance of the London Building Acts, 1930-1939*' (page 2 of the 1972 By-laws). The 1972 By-laws would have applied to the work performed when the windows and panels were replaced in 1978/9. The District Surveyor would need to grant building control approval for material works as he did in 1957 and seems to have done so (the evidence for this is discussed in the conclusions below); the District Surveyor was the representative of the 'council' under s. 20 of the 1939 Act.

⁵ The 1952 By-laws had previously been amended by the London Building (Constructional) Amending By-laws 1964 (nos. 1 and 2), the London Building (Constructional) Amending By-laws 1966 and the London Building (Constructional) Amending By-laws 1970; the 1952 By-laws were in force un-amended at the date of construction of Lakanal House. The 1952 By-laws and amendments were all revoked by the 1972 By-laws. The 1972 By-laws were themselves amended by the London Building (Constructional) Amending By-laws 1974, and by the same of 1979 with effect from 8th July 1980; it is not clear precisely when the windows were fitted but the material parts of the 1972, 1974 and 1979 By-laws as amended are identical.

29. The 1972 By-laws generally applied to alterations to buildings as well as new builds: this can be seen from the narrow exceptions contained e.g. in by-law 11.12 which disappplies certain by-laws to ‘*alterations, extensions, or conversions of existing buildings*’. By implication other By-laws *do* apply to alterations, especially works of such scale as replacing windows and panels, and installing false ceilings, which are hardly minor alterations.

30. Section 1.03 of the 1972 By-laws contains certain definitions⁶:

Element of Construction, which is subject to the provisions of by-law 11.05 means—

i any floor, beam, column or hanger; and any load bearing wall or other load bearing member,

ii any partition or wall which separates parts of a building used for different purposes or tenanted by different persons, other than any partition or wall separating any part of a building used for office purposes from any other part of that building used for office purposes on the same floor; and

iii any staircase including the landings and supports other than a secondary staircase between not more than two adjacent storeys.

31. Part VI of the 1972 By-laws provides:

⁶ A staircase is dealt with slightly differently in the 1979 amended definitions but this not relevant at Lakanal House; note this definition is different from both the 2000 Approved Document B and the 1952 By-laws.

Part VI

Roofs and roof coverings, external enclosures and cladding, and projections from buildings

The purpose of this part of these by-laws is to ensure that roofs are suitably constructed having regard to their slope and to the use of the building, to minimise the risk of the spread of fire through the roof into the building by suitable and durable coverings; also to ensure that buildings are otherwise so enclosed and projections therefrom are so constructed as to minimise the danger of the spread of fire between buildings and parts of buildings and that such enclosures and projections are of adequate strength, stiffness, stability and durability; and also to ensure that external claddings are of suitable materials, securely fixed.

32. The 1972 By-laws uses the term ‘enclosures’ throughout part VI; it does not appear in the definitions section of the By-laws, and seems to be defined only by the introduction set out above; however, clearly an ‘enclosure’ need not be an ‘element of construction’ as defined in the 1972 By-laws (it seems to apply a similar use of the word enclose as the 1952 By-laws). The 1972 By-Laws part VI provides:

6.07 Designation of enclosures

For the purpose of by-laws **6.08** to **6.16**—

External enclosures of a building shall be designated as follows—

Class IA An enclosure of load-bearing walls complying with the provisions of **Part VII** or **Part IX** of these by-laws.

Class IB An enclosure of non-load-bearing walls of bricks, blocks, concrete or reinforced concrete complying with the provisions of by-law **6.08**.

Class IIA A non-load-bearing enclosure complying with the provisions of by-law **6.09**.

Class IIB A non-load-bearing enclosure including an independent backing of non-combustible construction complying with the provisions of by-law **6.10**.

Class IIC A non-load bearing enclosure with timber in its construction including an independent backing of non-combustible construction or an internal lining of fire-retardant material complying with the provisions of by-law **6.11**.

Provided that

Class IIA, IIB and IIC enclosures may be load-bearing where enclosing single storey buildings, single storey additions to buildings and single storey erections above the general roof level of a building.

33. Class IA applies to load bearing walls, and Class IB to non load bearing walls of brick, block or concrete construction. On the assumption that the bedroom thermalite blocks of the late 1950s were removed in 1978/9, the window units installed in Lakanal in c. 1979 must have been either Class IIA, IIB or IIC. The window units appear to have been designated a Class IIC enclosure for the reasons given below.

34. The requirements of Classes IIA, IIB, or IIC are defined further at 6.09 to 6.11:

6.09 Class IIA enclosures

A Class IIA enclosure shall—

- a** be constructed entirely of non-combustible materials including the frames and sills of windows and doors ;
- b** be of such strength, stiffness, stability and durability as the District Surveyor may approve ;
- c** have its weight transmitted to the main structure of the building by supports at intervals not exceeding 6 m apart vertically, or where permitted by the proviso to by-law **6.07** to be load-bearing, be constructed to the satisfaction of the District Surveyor and be provided with such support and restraint as shall, to his satisfaction, give the enclosure and the roof supported thereby an adequate degree of stability ;
- d** have its external face constructed of—
 - i* glass ; or
 - ii* copper or aluminium alloy sheeting ; or
 - iii* sheet iron or steel protected by vitreous enamel ; or
 - iv* such other materials as the District Surveyor may approve as being durable and suitable for the purpose which, notwithstanding the provisions of paragraph (**a**) of this by-law may include a combustible material not exceeding 1 mm in thickness applied to a non-combustible backing which when tested in conjunction with its backing is graded not less than Class 1 for surface spread of flame as prescribed by BS 476 : Part 7 : 1971, Surface spread of flame tests for materials ;
- e** either abut solidly against the end of any wall or partition required under these by-laws to separate parts of a building in different tenancies or uses or to enclose stairs or other vertical shafts and against any floor or have any voids in these positions filled with non-combustible material to the satisfaction of the District Surveyor.

6.10 Class IIB enclosures

A class IIB enclosure shall comply with the provisions of by-law **6.09** and, in addition, shall include a backing wall, or other form of independent non-combustible construction positioned not more than 100 mm from its inner face and capable of resisting the action of fire for a period of not less than one hour under **Table A** of **Schedule II** of these by-laws :

Provided that

- a** *in single storey buildings,*
- b** *in single storey additions at or about ground level to buildings, and*
- c** *in single storey erections, other than erections used for trade, manufacture or storage, above the general roof level of a building and set back at least 1 m from the face of the building below,*
the independent non-combustible construction may be omitted if the enclosure is lined on the side next the interior of the building with a Class B fire-retardant material.

6.11 Class IIC enclosures

A Class IIC enclosure shall :

a comply with the provisions of paragraphs **(b)**, **(c)** and **(e)** of by-law **6.09** and with paragraph **(d)** thereof except that timber in its construction may include timber on the external face if that timber is not less than 16 mm in finished thickness;

b have as a backing a wall or other form of independent non-combustible construction positioned and constructed as described in by-law **6.10** or it shall be lined on its side next the interior of the building with a Class B fire-retardant material ; and

c not have timber built into or carried through or over any party wall or any other wall or separation required by these by-laws between the buildings or parts of buildings in different uses or tenancies.

35. The general rule provided by by-law 6.12 is that *‘every building shall be enclosed by Class IA or IB enclosures’*, subject only to the provisions of by-laws 6.13 and 6.14. The window units (including composite panels) at Lakanal House can therefore only have been authorised under the provisions of by-laws 6.13 and 6.14 in 1978/9 once the thermalite blocks were removed.

36. By-law 6.14 is an exception relating to certain openings in enclosures and is not relevant:

6.14 Openings in enclosures

- 1 Notwithstanding the provisions of by-law **6.12** openings may be made in the external enclosures of buildings, subject to compliance with the following provisions of this by-law.
- Position of openings**
- 2 No opening in an external enclosure of a building above the ground floor storey shall—
- a** be within 900 mm from the top of an opening in the storey next below, unless the opening adjoins a flat roof, gangway, balcony or other projection which for a distance of not less than 600 mm in any direction from such an opening is constructed of bricks, blocks, concrete or stone not less than 90 mm thick and which is imperforate;
 - b** extend above the storey in which the opening is formed; and
 - c** be within a distance of 900 mm from the centre of any party wall or of a vertical line drawn from any point on the boundary between the site on which the building is situated and an adjoining site, unless that opening is in an enclosure substantially at right angles to such a boundary where, except in
- the case of a building or part of a building used for trade or warehouse purposes, the distance may be not less than 400 mm :
- Provided that**
the requirements of (a) and (b) above shall not apply to openings for windows and doors to staircases and openings for loading doors.
- Maximum area of openings**
- 3 The total area of openings in an external enclosure of a building shall not exceed one-half of the total area of that enclosure.
- 4 For the purposes of this by-law—
- a** the total area of an enclosure shall be the aggregate of the exposed faces of a building on any one elevation above the level of the soffit of the first floor up to the level of the roof or eaves gutter;
 - b** the total area of openings in an enclosure shall be the aggregate area of all openings above the level of the soffit of the first floor and shall include the area of all openings for doors, windows and vents;
 - c** any glazing or glass in the thickness of a wall shall be deemed to be an opening.
- Unrestricted openings in certain cases**
- 5 The provisions of paragraphs (2) and (3) of this by-law shall not apply to the position or extent of any openings in an external enclosure of a building or part of a building when that enclosure is or could be a Class IIA enclosure under the provisions of by-law **6.13(1)**

32

37. (For completeness note a waiver of the predecessor to part 6.14(3) above was granted in 1957: see recent disclosure p 31, para (IV)(a)). Since authorisation was not given under 6.14 it must therefore have been given under 6.13, which provides:

6.13 Enclosures other than walls — Use of Class II enclosures

Notwithstanding the provisions of by-law **6.12**, Class IIA, B or C enclosures may be used to enclose those buildings or parts of buildings referred to in this by-law, as follows:

1 Class IIA enclosures—

a Class IIA enclosures may enclose wholly or in part

i any building used wholly for office or dwelling purposes and not exceeding two storeys in height or not exceeding three storeys in height if its floors are of non-combustible construction;

ii a single storey garage having a floor area not exceeding 40 m²;

iii a single storey erection above the general roof level of the building used for housing water tanks, lift motors and other mechanical plant but excluding oil fired boiler installations, high voltage switchgear or other uses which would in the opinion of the District Surveyor create an unacceptable fire risk.

b Class IIA enclosures may also, subject to the proviso hereunder, enclose wholly or in part—

i a building used wholly for office or dwelling purposes exceeding three storeys in height if the floors, other than within two storey maisonettes, are of non-combustible construction; or

ii a building or part of a building used for the purpose of trade or manufacture, excepting any part used for storage, not exceeding two storeys in height above ground level with floors of non-combustible construction.

Provided that

any Class IIA enclosure to a building or part of a building referred to in (b) (i) and (b) (ii) above shall be—

a *not less than 12 m from the opposite side of any street;*

b *not less than—*

i *12 m from any Class IIA, B or C enclosure; and*

ii *6 m from any Class IA or B enclosure*

to any building on the same site when measured at right angles from its face, other than an enclosure to a single storey building not exceeding 5 m in height; and

c *not less than 6 m from any boundary between sites.*

Non-combustible construction with backing wall

2 Class IIB enclosures—

Those buildings or parts of buildings referred to in paragraph (1) of this by-law, excluding reference to the proviso to that paragraph.

Containing timber

3 Class IIC enclosures—

a A single storey conservatory attached to a single family dwelling house.

b A building used wholly for office or dwelling purposes not exceeding two storeys in height or three storeys if the floors are of non-combustible

construction where the enclosure is not less than 3 m from any boundary of the site, including a boundary next a street, and from any other building on the same site or 1.500 m from such a boundary or building where the external covering of the enclosure is non-combustible:

Provided that

where the enclosure is substantially at right angles to such a boundary, the timber therein may be within 3 m from the boundary if it is screened therefrom by a screen wall or party wall extending not less than 225 mm outwards beyond the face of that enclosure for its full height, or the projection of such a wall may be not less than 25 mm if any cavities within the enclosure for a distance of 300 mm from the wall are filled with a non-combustible material.

c Any part used for dwelling purposes of a building exceeding three storeys in height if the floors, other than within two storey maisonettes, are of non-combustible construction, where—

i the enclosure is not less than 6 m from any boundary of the site, including a boundary next a street, and from any building on the same site or 3 m from such a boundary or other building where the external covering of the enclosure is non-combustible:

Provided that

where the enclosure is substantially at right angles to such a boundary the timber therein may be less than 3 m from that boundary if it is screened therefrom by a screen wall or party wall extending not less than 600 mm outwards beyond its face and vertically for the full height of the storey or storeys in which it occurs; and

ii a horizontal projection complying with the provisions of paragraph (d) of this by-law is provided immediately below any part of such an enclosure containing timber at the level of every floor, or, in the case of maisonettes at the level of every floor separating tenancies, extending outwards not less than 600 mm beyond its face and horizontally along its length and extending—

(a) beyond each end for a distance of not less than 300 mm; or

(b) up to a screen wall or party wall having the projection and height specified in the proviso to paragraph (c) of this by-law;

d Any horizontal projection or screen wall provided beneath, between or at the ends of any Class IIC enclosure to comply with the foregoing provisions of this by-law, shall be of bricks, blocks, concrete or stone not less than 90 mm thick and shall be imperforate.

- 4** For the purpose of this by-law the expression 'a building used wholly for office or dwelling purposes' includes a building used partly for each of those purposes and for no other purpose, except that the ground and basement storeys or any part thereof may be used for shop purposes.

38. Thus a Class IIA enclosure may only enclose a building used for dwelling purposes which is more than three stories under 6.13(1)(b), and only then provided that any class IIA enclosure is not less than 12 m from the opposite side of any street and any class IIA, B, or C enclosure, and not less than 6 m from any Class IA or B enclosure or the boundary between sites. It is possible that the Dalewood Street side of Lakanal House is less than 12 m from the opposite side of Dalewood Street but this would need to be measured.

39. More significantly, further guidance as to when Class IIA, IIB or IIC enclosures are to be used was given in the London Building Acts (Amendment) Act 1939 Section 20 Code of Practice. This was published by the GLC in 1972/3.
40. This Code of Practice was '*applicable only to buildings erected, altered and/or extended within the inner London area, i.e. the former administrative County of London*'⁷ (front cover of the Code). It was '*prepared in order to assist applicants in detailing proposals for the Council's consideration under Section 20, and it contains general information as to the conditions which may be imposed by the Council when approving any such proposals*' (page 2 of the Code).
41. Part VI of the Code relates to '*Building of Excess Height and/or Additional Cubic Extent*' under s. 20 of the 1939 Act. It provides at 4.02:

⁷ This included the current area of the London Borough of Southwark

4.02 Construction Generally

- 1 The building should be constructed in conformity with the provisions of the current Building By-laws as applicable to the class of building, except where a higher standard of construction is required by this Code.
- 2 NIL.
- 3
 - a Where, under the provisions of Part VI of the London Building (Constructional) By-laws 1972 the external enclosures of the building may be Class II A, B or C, and it is proposed to enclose any part of the building with that class of enclosure, **full details of the enclosures must be submitted to the Council and its approval obtained thereto**, as the Council may require the provision of a more substantial form of enclosure having a prescribed standard of fire-resistance with limited openings therein. This would particularly apply to a high building, in view of the risk of the external spread of fire from storey to storey above the height which is accessible to external fire brigade equipment and to any adjoining buildings within 40 feet (12 m). In this connection a Class II A enclosure would only be permitted in exceptional circumstances; generally a Class II B standard of enclosure having back up walls would be required.
 - b A Class II C enclosure (i.e., with timber incorporated in its construction) to a high building intended for use only as **flats and/or maisonettes** would be

acceptable having regard to the Building By-law requirement for horizontal projections at each floor level.

c A Class II A enclosure may be used as a cladding where it is additional to a Class I A or I B enclosure.

d Aluminium may be used in Class II enclosures and in window frames unless they are required to have a standard of fire-resistance to satisfy the requirements of this Code.

e All Class II enclosures should comply with the following requirements:—

i the enclosure should be tied into the main structure and its weight transmitted thereto at each floor level or at vertical intervals not exceeding 20 feet (6 m) apart whichever is the lesser distance;

ii any glass in the enclosure should be securely held in position by two methods of fixing, e.g. by metal clips and, in addition, by metal cover fillets;

iii the whole of the work and any additional work required by the District Surveyor should be carried out to his satisfaction.

4 Special consideration will be necessary in respect of any proposal to erect a building with storeys above a height of 100 feet (30.480 m) to be used for trade purposes. In no case should storeys above the height of 80 feet (24.384 m) be used for the bulk storage of combustible goods. (See item **5.03 5**)

5 To resist the spread of fire externally between storeys where trade use is permitted above a height of 100 feet (30.480 m) the windows to all storeys used for these purposes above the 80 feet (24.384 m) level should be glazed with fire-resisting glazing with any opening portions adequately protected or arranged to close automatically in the event of fire. Details of the arrangement for the automatic closing of portions of windows should be submitted for approval.

In cases of high fire risk external drenchers may be required to be provided to all openings in the external enclosures of the storeys above the 80 feet (24.384 m) level in addition to fire-resisting glazing.

42. Lakanal would *prima facie* be covered by 4.02(3)(a) or (b). There is nothing to suggest there were ‘exceptional circumstances’ that meant a Class IIA enclosure would be permitted, therefore either a Class IIB or IIC enclosure would have been used in the 1978/9 window replacement. The fairly limited evidence available (see below) all points to a Class IIC enclosure being approved under section 20 of the 1939 Act. Class IIC is also perhaps the type of enclosure which most readily describes a window unit of the type which may have been fitted in 1978/9 (i.e. with reference to timber in its construction).

43. The evidence strongly suggests Class IIC: on a letter of 24th April 1978 from LBS housing department to the GLC [page 16 of the chronological bundle] somebody has written in manuscript ‘*class IIC? enclosures*’. This is supported by the words ‘*to be class*

2C enclosures in maisonettes' on the Progress Sheet, an apparently official document [chronological bundle p 22, half way down left hand box]. Consent under section 20 of the 1939 Act was granted that insulation panels would be constructed '*as proposed*' [chronological bundle p 24]. This proposal must have been for Class IIC enclosures as nothing else is referred to in the limited documents except occasional references to '*class B fire retardant*' [p 16, 28], which is a separate issue (akin to class 0 etc used in later years).

44. Considerable further support for this can also be obtained by looking at what was being replaced: thermalite or breeze blocks with plaster and glass backing from the initial construction. It is most unlikely that the District Surveyor would have given permission for walls of much lower fire resistance than those being replaced.
45. In respect of the false ceilings, section 4.19 of the Code provides that *inter alia* false ceilings must comply with appendix C. Appendix C provides:

C1.05 False ceilings

Where false ceilings are suspended from the main structural floor the supports should be constructed of non-combustible material.

The false ceilings should be constructed of non-combustible material. Any decorative finish should be on the exposed face constructed only with material as described in **C1.01 5a** foregoing. No paper backing or other combustible material should be provided on the internal side.

Large voids should be divided into areas not exceeding 5,000 square feet each (500 m²), by suitable fire-resisting construction.

Note

i Where the void space above a false ceiling is used for conveying air in connection with any ventilation arrangements, combustible materials should not be used or located therein other than electric wiring protected by screwed metal conduit or metal trunking, or consisting of mineral-insulated metal-sheathed cable.

ii Removable false ceilings (e.g. metal trays, plaster slabs, etc.) will not be accepted as giving fire-resistance to structural steelwork or to floors above. An imperforate false ceiling of the appropriate standard of fire-resistance will be permitted as protection to structural steelwork beams (but not to structural columns) provided that the void is completely sealed and used for no purpose other than for electrical wiring in steel conduit and metal pipes other than gas pipes.

iii Special arrangements may be necessary where false and/or illuminated ceilings are provided (where permitted) in areas which are required to be protected by a sprinkler installation and in this connection the Council's officers should be consulted at an early stage (see also item **6.02 6** of the Principal Code).

46. This is likely to have applied to the false ceilings installed in c 1986.

Conclusions

47. When Lakanal House was initially constructed consent was granted under section 20 of the 1939 Act and waivers under the 1952 By-laws as set out above. This consent largely remained in force until 2013. It was varied in the 1978/9 installation of the window units so that composite panels were Class IIC. Class IIC enclosures required 1 hour fire resistance

48. When initially constructed the kitchen composite panels (or larder panels) used in Lakanal House would have required one hour fire resistance under the 1952 By-laws; the District Surveyor would only have granted permission to build Lakanal House under section 20 of the 1939 Act in compliance with the 1952 By-laws. The original consent either did not change or was made Class IIC in 1978/9, which would also have given identical one fire hour resistance. Fire resistance from the flats into the communal corridors must also have been one hour (except the front doors themselves which were 30 minutes).
49. There is no evidence that the section 20 consent granted in 1979 ever changed: the only evidence from LBS is that formal building control approval was *not* sought for the 2006/7 refurbishments. Thus the windows and composite panels must always have been class IIC and required one hour fire resistance under section 20 of the 1939 Act, even in 2006/7: the most recent.
50. Further, the requirements imposed under section 20 as set out above are also consistent with subsequent legislation, in particular the Building Regulations 2000 (see schedule B4 which provides: *'the external walls of the building shall adequately resist the spread of fire over the walls and from one building to another, having regard to the height, use and position of the building'*), though whether Approved Document B does justice to this requirement is another issue.

14th March 2013

JOHN HENDY QC

CHRISTOPHER EDWARDS