REPORT

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OUTLINE FIRE STRATEGY REVIEW REPORT

LAMBETH COUNCIL
LAMBETH TOWN HALL – SW2

Prepared By

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AUTHORISATION

This report has been prepared by:

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and reviewed by:

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AMENDMENT RECORD

Amendment Nr	Amendment	By	Date
0	Initial issue	AL	24/10/2022
1	Reviewed	SK	26/10/2022

1.0 DESCRIPTION OF REVIEW

Rider Levett Bucknall has been instructed to undertake a competent review of the outline fire strategy (OFS) of Lambeth Town Hall for Lambeth Council (the client).

The review compares the OFS produced on 24th July 2015 to Approved Document B, Volume 2, 2019 edition incorporating 2020 amendments – for use in England (ADB). This report has assumed that Purpose Group 3 – Office, remains accurate.

The review does not evaluate the extent of conformance of the OFS, against the edition of Approved Document B that was relevant at the time of issue.

According to the OFS: Introduction:

The Town Hall refurbishment in Brixton is a Grade II listed building located with Brixton Hill to the east, Acre Lane to the north and Buckner Place to the west. The existing building consists of 4 storeys (noted as basement, ground and 2 levels above ground). The basement and upper levels are served by 3 protected stairs each, 2 of which serve both basement and upper levels. The refurbishment includes the change of use of different areas in the building (mainly storerooms at basement level converted to flexible meeting space) and the introduction of an atrium connecting all levels from basement to level 2.

RLB undertook their desktop review on 24th October 2022. The report was prepared by Arron Lock who has not visited the premises. However, the report was reviewed by Steve Kingston who visited the premises on 20th October 2022.

2.0 SCOPE OF REVIEW AND REVIEW LIMITATIONS

The review assumes that no 'building work' as defined in Regulation 3 of the Building Regulations has taken place since the completion of the OFS, dated 24th July 2015. Where the premises did not comply with Building Regulations: Schedule 1: Part B Fire Safety, at the time, it is no more unsatisfactory in relation to that requirement than before the work was carried out.

The review also assumes the OFS was undertaken in accordance with Approved Document B (fire safety) volume 2: buildings other than dwelling houses, 2006 edition incorporating 2010 and 2013 amendments.

The review is limited to the functional requirements of Building Regulations: Schedule 1: Part B Fire Safety as follows:

- B1: Provision of adequate means of warning and escape;
- B2: Control of internal fire spread; (internal);
- B3: Control of internal fire spread; (structure);
- B4: Control of external fire spread;
- B5: Provision of access and facilities for the fire service.

Approved Document B, Volume 2, 2019 edition incorporating 2020 amendments – for use in England (ADB) was considered practical guidance to meet the functional requirements of Part B fire safety to Schedule 1 of Building Regulation 2010. The review does not assume that the premises conforms with ADB.

The premises was classified as Purpose Group 3: Offices in accordance with ADB: Table 0.1.

Building Regulations do not impose any requirements on the management of a building, but ADB does assume that it will be properly managed. The Regulatory Reform Fire Safety Order is outside of the scope of the review.

Building Regulations are intended to ensure a reasonable standard of life safety in a fire. The protection of property, including the building itself, often requires additional measures.

The provisions in ADB are considered to be of a reasonable standard for most buildings. However, some people's specific needs might not be addressed. In some situations, additional measures may be needed to accommodate these needs. This should be done on a case-by-case basis.

An atrium that passes through compartment floors and may need special fire safety measures. Guidance is given in Annexes B and C of BS 9999.

Lambeth Town Hall is an existing building, potentially of special architectural or historic interest, guidance within ADB might prove too restrictive, some variation of the provisions in this document may be appropriate. In such cases, it is appropriate to assess the hazard and risk in the particular case and consider a range of fire safety features in that context.

3.0 FINDINGS

3.1 REQUIREMENT B1: MEANS OF WARNING AND ESCAPE

Fire Detection and Alarm Systems:

Ref: OFS 7.2:

'An automatic fire detection and alarm system shall be designed, installed and commissioned in accordance with BS5839: Part 1: 2013 L2 Classification.'

Ref: ADB 1.7:

'Every building design should be assessed individually. General guidance on the category of fire detection system that may need to be provided within a building can be found in Table A1 of BS 5839-1.'

Ref: BS5839-1: 2017 Table A.1:

Common places of work (such as offices) have a typical category of M or P2/M A or P1/M. *'Category M system normally satisfies the requirements of legislation.'*

Findings:

L2 category exceeds an M system. BS 5839-1: 2017 supersedes BS5839:2013, which is withdrawn. The principal changes can be found within BS 5839-1: 2017: Foreward: Information about this document.

Travel Distances:

Ref: OFS 3.3:

OFFICE	
Maximum travel distance in one direction:	18m
Maximum travel distance in more than one direction:	45m
PLANT	
Maximum travel distance in one direction within plant room	9m
Maximum travel distance in more than one direction within a room	35m
Total maximum travel distance in one direction	18m
Total maximum travel distance in more than one direction	45m
ROOF PLANT	
Maximum travel distance in one direction:	60m
Maximum travel distance in more than one direction:	100m

Findings:

The evacuation strategy within the building if a fire was to occur would be simultaneous. Ref: OFS 3.3 is equal to ADB: Table 2.1 limits travel distances. The OFS goes on to identify excessive travel distances within the existing premises and provide mitigation measures.

Vertical Means of Escape:

Ref: OFS 3.4:

The basement is served by 3 protected escape stairs (Cores B, D and F). The width and maximum occupancy served by each stair and the total maximum occupancy for the basement in accordance with Approved Document B is defined in Table 2. Since the stairs are not provided with lobby protection it is assumed that the largest stair is discounted due to fire.

STAIR	CORE D	CORE F	CORE B
Location	Middle of east elevation	South-east corner	Middle of north elevation
Effective Clear Width	1950mm	1800mm	1300mm
Maximum Occupancy of Stair (mm)	390	360	260
Lobby Protection Provided	No	No	No
Discounted Due To Fire	Yes	No	No
Total Maximum Occupancy In Basement	620		

Table 2 Maximum occupancy in basement level

The upper levels 1 and 2 are served by 3 protected stairs (Cores B, D and E), 2 of which also serve the basement level. The width and maximum occupancy served by each stair and the total maximum occupancy for the upper levels in accordance with Approved Document B is defined in Table 3. Since the stairs are not provided with lobby protection it is assumed that the largest stair is discounted due to fire.

STAIR	CORE D	CORE E	CORE B
Location	Middle of east elevation	Adjacent to registry office at ground level	Middle of north elevation
Effective Clear Width	1100mm	1200mm	1280mm
Maximum Occupancy of Stair (mm)	260	285	305
Lobby Protection Provided	No	No	No
Discounted Due To Fire	No	No	Yes
Total Maximum Occupancy Above Ground	545		

Table 3 Maximum occupancy in upper levels

Ref: ADB: Table 3.2:

3 floors served (excluding basement & including ground) - 1300mm stair width - ≤360 number of people

3 floors served (excluding basement & including ground) - 1800mm stair width - ≤510 number of people

2 floors served (excluding ground) - 1100mm stair width - ≤260 number of people

2 floors served (excluding ground) - 1200mm stair width - ≤285 number of people

Ref: ADB 3.18:

P = 200 x 1.28 + 50 (1.28 – 0.3)(2 – 1)

P = 305

Findings:

OFS 3.4: Table 2 maximum stair occupancies are less than ADB. OFS 3.4: Table 3 maximum stair occupancies are equal to ADB.

The principal of discounting stairs is consistent with ADB: 3.14.

Registry Office Occupancy:

Ref: OFS Table 4:

ESCAPE ROUTE	USE	EXIT WIDTH	OCCUPANCY EXIT IS CAPABLE OF SERVING	MAXIMUM OCCUPANCY OF REGISTRY OFFICE
Exit direct to external on south side	Office	1610mm	322[1]	142[3]
Final exit shared with core discharge	Office	1610mm	142[2]	

Table 4 Maximum occupancy of registry office

Ref: ADB Table 2.3:

1610 / 5 = 322

Ref: ADB 2.23:

W = ((142 / 2.5) + (60 x 1.2)) / 80

W = 1.61m or 1610mm

Findings:

OFS Table 4 occupancy exit widths are equal to ADB. OFS: Table 4 maximum occupancy is consistent with ADB 2.21.

Corridor Sub-Division:

Ref: OFS 3.6:

'Every corridor more than 12m long is to be provided with self-closing fire doors'

'Table B1 of the approved document B requires the doors to be FD20S'

Findings:

The Ref: OFS 3.6 statements are consistent with ADB 2.26 and ADB: Table C1. Where cavities exist, they should be enclosed, in accordance with ADB 2.27.

Atrium / Voids:

Ref: OFS 3.7

'It should be noted that within approved Document b (section 8.8) that BS 5588 Part 7 code of practice for the incorporation of atria (void) in buildings is only applicable when the atrium breaches any compartmentation which is not the case in the Town Hall'

Ref: ADB: 0.16

'A building with an atrium that passes through compartment floors may need special fire safety measures. Guidance is given in Annexes B and C of BS 9999.'

Findings:

BS 5588 Part 7 was withdrawn and replaced by BS 9999: 2008. BS 9999: 2008 has since been succeeded by BS 9999: 2017.

Lighting of Escape Routes:

Ref: OFS 7.1

'The installation will comply with the Code of Practice for Emergency Lighting BS 5266: Part 1: 2011.'

Findings:

BS 5266-1: 2016 supersedes BS5839:2011, which is withdrawn. The principal changes can be found within BS 5266-1: 2016: Foreward: Information about this document.

3.2 REQUIREMENT B2: INTERNAL FIRE SPREAD (LININGS)

Wall and Ceiling Linings:

Ref: OFS 4:

The surface linings of partitions, walls, ceilings and internal structures will have a Class O resistance to fire spread when tested to BS 476: Parts 6 and 7). In all circumstances, walls and lining will comply with Table 5.

LOCATION	BRITISH STANDARD PERFORMANCE CLASS (1)	EURO PERFORMANCE CLASS (2)
Enclosures having an area less than 30m²	3	D-s3, d2
All other enclosures	1	C-s3, d2
Circulation spaces, including streets, corridors and stairwells	0	B-s3 d2

Table 5 Control of wall and ceiling linings

Notes:

1. Relates to performance measures in BS 476: Parts 6 and 7 criteria as prescribed in Appendix A of Approved Document B;
2. Relates to performance determined in accordance with BS EN 13501-1:2002.

Findings:

Ref: OFS 4: Table 5 'Euro Performance Class' column is consistent with ADB: Table 6.1. Whereas Ref: OFS 4: Table 5 'British Standard Performance Class' column is removed from ADB: Table 6.1.

BS EN 13501-1: 2002 was withdrawn and replaced by BS EN 13501-1: 2007+A1: 2009. BS EN 13501-1: 2007+A1: 2009 has since been succeeded by BS EN 13501-1: 2018.

3.3 REQUIREMENT B3: INTERNAL FIRE SPREAD (STRUCTURE)

Fire Resistance Standard:

Ref: OFS 4.1:

'In accordance with Approved Document B Table A2, for an office use building with a top floor no greater than 30m above ground, the elements of the structure throughout the building should be 60 minutes.'

Findings:

Ref: OFS 4.1 a minimum period of 60-minute fire resistance is consistent with ADB: Table B4 for an office, without a sprinkler system and a top floor up to 18m. The OFS goes on to recognise that the building is existing, the use will not change, no additional floors will be added, nor will the risk increase and therefore, the existing structure does not need to be altered.

Compartmentation:

Ref: OFS 4.1.1:

altered. The following areas are to be provided with fire resistance as part of the refurbishment works:

- Cross-corridor doors – the partition is to achieve no less than 30 minutes fire resistance and the doors are to be FD20S;
- Doors to cores D and B to be FD30S at basement level to protect disabled refuge areas. It has been agreed with the approved inspector (Head Projects) that all other doors to means of escape stairs are only required to be made good (not required to be replaced);
- Oil tank room at basement level to be provided with 120 minute fire rated construction and FD120S doors;
- The means of escape corridors from the Core B to external at ground floor are to be provided with 30 minute fire rated construction and FD30S doors;
- A 60 minute fire rated motorized louvre is to be provided in the lightwell in the basement plant room (B33). 60 minute fire rated motorised smoke dampers are to be provided within the ductwork transferring from the plant room to above to maintain separation;
- 30 minute fire rated separation is to be provided to the proposed ground floor master comms room (042) with a FD30S door;

Ref: ADB: Table B3

Fire resisting sub-division – ≥REI 30 when tested to the relevant European standard

Fire resisting construction – construction that encloses places of special fire hazard – as above

Enclosure – protected corridor – as above

Ref: ADB: Table C1

Sub-dividing corridors connecting alternative exits – FD20 S

Forming part of the enclosure – a protected stairway – FD30 S

Any door forming part of the enclosure – to a place of special fire hazard – FD30

Forming part of the enclosure – any other protected corridor (away from stairway to final exit) – FD20 S

Ref: ADB: Appendix A

'Place of special fire hazard A room such as any of the following.

- *Oil-filled transformer room.*
- *Switch gear room.*
- *Boiler room.*
- ***Storage space for fuel** or other highly flammable substance(s).*
- *Room that houses **a fixed internal combustion engine**'*

Ref: OFS 4.2:

> In accordance with Section 8 of Approved Document B there is no requirement for compartmentation as the building has no storey greater than 30m above ground/access level. Since the building contains a basement level compartmentation is to be maintained between the basement level and the levels above ground. It is therefore considered acceptable to only provide a fire rated enclosure to shafts (i.e. risers and lift shafts) at basement level as agreed with the approved inspector (Head Projects).

Ref: OFS 7.3:

> As the building has no storey greater than 30m above the brigade access level and the maximum dimensions of compartmentation for assembly comply with Approved Document B, there is no requirement for an automatic sprinkler system.

Findings:

Ref: OFS 4.1.1 does not refer to Approved Document B and might have been considered improvements to the existing premises, at the time of the refurbishment. However, Ref: ADB: Tables: B3 & C1 indicate that the refurbishment exceeded ADB, at times.

Ref: OFS 4.2 no requirement for compartmentation is consistent with ADB: Table 8.1 for an office.

Ref: OFS 7.3 no requirement for an automatic sprinkler system is also consistent with ADB: Table 8.1 for an office.

3.4 REQUIREMENT B4: EXTERNAL FIRE SPREAD

Ref: OFS 5:

> The construction of external elevations shall sufficiently reduce the risk of fire spread to adjacent properties. This is achieved by providing an acceptable distance between the elevation of the building and relevant boundaries based upon the unprotected area of the façade.
>
> None of the alterations to the design of the Town Hall will have any impact with regards to external fire spread. The existing elevations have been reviewed with regards to external fire spread, in the existing fire safety strategy. Therefore no further analysis will be undertaken.

Findings:

Ref: OFS 5 does not refer to Approved Document B and seems to have considered a 'risk based' approach to external fire spread. The OFS goes on to recognise that none of the alterations, to the

design, will have any impact on external fire spread. The 'existing fire safety strategy' was not provided for review.

3.5 REQUIREMENT B5: ACCESS AND FACILITIES FOR THE FIRE SERVICE

Buildings Fitted with Fire Mains:

Ref: OFS 6.3:

> An existing dry rising fire main is provided to the stairs in the middle of the north and east elevations complete with landing valve assembly to each level as illustrated in the fire strategy drawings in Appendix A. The existing dry riser mains are to be tested and commissioned to BS9990:2006 Code of Practice for non-automatic fire fighting systems in buildings.
>
> The existing dry riser inlets are provided on the external facia within 18m of a fire tender.

Findings:

BS 9990: 2015 supersedes BS9990: 2006, which is withdrawn. The principal changes can be found within BS 9990: 2015: Foreward: Information about this document.

Ref: OFS 6.3: 18m existing dry riser inlet distance is consistent with ADB: 15.5.

Hydrants:

Ref: OFS 6.1:

> Provision in the existing roadway and infrastructure will be checked so that the hydrants are provided to ensure no entrance point to the building will be further than 90m from a fire hydrant, in accordance with BS 9990:2006.

Findings:

Ref: OFS 6.1: 90m fire hydrant distance is consistent with ADB: 16.9 (assuming additional hydrants are required).

Provision of Firefighting Shafts:

Ref: OFS 6.2:

> In accordance with Section 17 of Approved Document B since the building has no storey more than 18m above or 10m below ground level there is no requirement for firefighting shafts to be provided.

Findings:

Ref: OFS 6.2: trigger heights are consistent with ADB: 17.2-3.

Smoke Control:

Ref: OFS 6.4:

Approved Document B (Section 8.8) defines that BS 5588 Part 7 code of practice for the incorporation of atria (void) in buildings is only applicable where the atrium breaches any compartment requirement which we don't believe to be the case in the Town Hall. There is no requirement for smoke control to be provided. However it is envisaged that the environmental ventilation provisions of 4.8m² will be used for additional smoke relief.

Ref: ADB 18.2:

'Each basement space should have one or more smoke outlets.'

Findings:

Ref: OFS 6.4 is inconsistent with Ref: ADB 18.2.

4.0 SUMMARY

The OFS is an outline and therefore, it would be unreasonable to review the extent of its conformance against the edition of Approved Document B that was relevant, at the time of issue.

As the OFS was undertaken in July 2015 and refers to Approved Document B (see OFS 2.2), it's reasonable to assume that the current version, at the time, would have been adopted - Approved Document B (fire safety) volume 2: buildings other than dwelling houses, 2006 edition incorporating 2010 and 2013 amendments.

Since the 2006 edition (incorporating 2010 and 2013 amendments), additional amendments were made, to Volume 2, between 2018 and April 2019. A new edition, of Volume 2, was published in 2019, with amendments made in May 2020 and June 2022.

2018 & 2019 amendments were, primarily, in relation to external fire spread requirements.

The 2019 edition was *'redrafted to clarify its language and content in line with the Department's style guide for approved documents'* and there was *'no changes from the previous edition to the technical guidance within Approved Document B'*.

The 2020 amendments were, primarily, in relation to resisting fire spread between buildings and the replacement of Table B4.

The most recent amendments were in June 2022 and can be found: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1080214/ADB_amendment_booklet_June_2022.pdf