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Report 3508

**An Bord Pleanála Appeal regarding the attachment of Condition No. 1
by Dublin City Council to grant of Fire Safety Certificate for
construction of a new hotel building and commercial unit
at Riverhouse, Chancery Street, Dublin 7.**

Client: An Bord Pleanála,
64 Marlborough Street,
Dublin 1

FAO: The Secretary

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BUILDING CONTROL ACT, 1990 – APPEAL

**FIRE SAFETY CERTIFICATE APPLICATION FOR
CONSTRUCTION OF A NEW HOTEL, RESTAURANT, BAR and COMMERCIAL UNIT
AT RIVERHOUSE, CHANCERY STREET, DUBLIN 7.**

**APPEAL AGAINST THE ATTACHMENT OF CONDITION NO. 1
TO FIRE SAFETY CERTIFICATE (REF. FSC 1793/18) ON 22nd MARCH 2018**

AN BORD PLEANÁLA APPEAL REFERENCE 301506-18

Local Authority: Dublin City Council

Appellant: Melon Mount Limited c/o Michael Slattery Associates

RECOMMENDATION

In my opinion, the Board should not rely on Article 40(2) of the Building Control Regulations to consider the subject appeal on the basis of Conditions only. It is recommended that the application needs further and wider consideration in the context of the demonstration of compliance with Part B to the Building Regulations. Whilst the specific issue of the appeal is upheld and the subject Condition is recommended to be replaced, there is additionally a need for a new and further condition relating to a technical issue that was not of itself subject of the appeal.

The subject Condition No. 1 attached to the Fire Safety Certificate as granted by Dublin City Council (under Reference FSC 1793/18) on 22nd March 2018 should be removed and replaced by an alternative Condition as follows:-

Condition No. 1

The proposed basement shall be sub-divided by 90 minutes fire-resisting compartmentation to ensure a single maximum compartment size of not more than 200 m².

Reason:

To comply with the provisions of Part B5 of the Second Schedule to the Building Regulations, 1997 to 2017.

Furthermore, a new Condition should be attached as Condition No. 4 to the effect:-

Condition No. 4

The proposed mechanical smoke ventilation system for the 2 no. fire-fighting shall be designed to Clause 27.1.3 of BS 9999:2017 with validation of the design by full comparative analysis to the

satisfaction of the Approving Authority and specifically re-designing the proposed inlet air paths so as not to compromise the fire-resisting enclosures to the fire-fighting stairways.

Reason:

To comply with the provisions of Part B5 of the Second Schedule to the Building Regulations, 1997 to 2017.

The remaining 2 no. Conditions (Conditions No.'s 2 and 3) attached to the granted Fire Safety Certificate are not subject of this appeal and should remain. The granted Fire Safety Certificate should therefore remain subject of 4 no. Conditions.

Dr. Raymond J Connolly

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1. RELEVANT INFORMATION

- i. Application for Fire Safety Certificate by Virtus Project Management to Dublin City Council dated 21st March 2018. *It is noted that this application form could not be the original.*
- ii. Compliance Report 17167R002 (dated 30th August 2017) by Michael Slattery Associates as subsequently updated to Revision 2 on 7th March 2018 – each with associated drawings.
- iii. Fire Safety Certificate (FSC 1793/18) granted by Dublin City Council dated 23rd March 2018 (subject of 3 no. Conditions).
- iv. Letter of appeal from Michael Slattery Associates on behalf of Melon Mount Limited to An Bord Pleanála dated 17th April 2018. *It is noted that Melon Mount was not the original applicant.*
- v. Letter from Dublin City Council to An Bord Pleanála dated 23rd May 2018 including observations of Fire Authority.
- vi. Letter from Michael Slattery Associates to An Bord Pleanála dated 2nd July 2018 responding to Fire Authority comments.

2. BACKGROUND

Michael Slattery Associates acting as agent for Virtus Project Management made an application to Dublin City Council for a Fire Safety Certificate for a proposed eight storey hotel with basement level. A restaurant and bar area will be provided at ground floor level. An independent commercial unit will be located at ground floor level. The unit will also include a mezzanine level which will be accessed via an open stair. The building is at Riverhouse, Chancery Street, Dublin 7. The Fire Safety Certificate was granted by Dublin City Council (under Reference FSC 1793/18) on 23rd March 2018 subject to 3 no. Conditions including *inter-alia*:-

Condition No. 1

Smoke ventilation shall be provided to the basement area in accordance with Section 5.4.3.1 of Technical Guidance Document B, 2006. Smoke vents shall be sited at high level and should be distributed around the building perimeter to maximise the effectiveness of cross-ventilation. The clear cross-sectional area of all vents, allowing for frames and louvres, shall not be less than 2.5% of the basement storey served. Smoke vents from basements shall be permanently open and unobstructed. As an alternative to outlet vents as described above, a system of mechanical extraction may be provided, the ventilation system shall meet the criteria set out in Section 3.5.2.5 of Technical Guidance Document B, 2006.

Reason:

To comply with the provisions of Part B of the Second Schedule to the Building Regulations, 1997 to 2017.

On 17th April 2018, Michael Slattery Associates appealed to An Bord Pleanála against the attachment of this Condition (Condition No. 1) to the Fire Safety Certificate. The residual Conditions (Conditions No.'s 2 and 3) are not subject of the current appeal.

3. REPRISE OF APPEAL (AS PRESENTED)

The subject works comprise a proposed eight storey hotel over basement level. A restaurant, bar area and independent commercial unit are proposed to be provided at ground floor level.

The appellant contends that the subject basement includes adequate provisions for the Fire Service in the protection of life and property as might be “reasonably required” as per Part B5 to the Building Regulations. The recommendations of Clause 5.4.3.1 of Technical Guidance Document B go beyond what the appellant views as a “reasonable requirement” for the subject building and are “unduly onerous and exceed the requirements of B5 of the Second Schedule of the Building Regulations in this instance”. The appellant draws comparison with the equivalent design guidance for Scotland under which regime smoke ventilation would not be required on the basis that the depth of the basement does not exceed 4.5 metres.

The appellant suggests that the subject basement contains limited fire load and is sub-divided into single small fire compartments to further mitigate the risk, specifically that the largest fire compartment being meeting rooms (110 m²).

The Fire Authority confirms its view that the proposed ventilation proposals (or rather absence of ventilation proposals) is inadequate and not meeting the standard of Part B5 to the Building Regulations. Specifically, the area of the basement (estimated by the Fire Authority to be 547 m²) exceeds 200 m² and therefore attracts the guidance contained in Clause 5.4.3.1 of Technical Guidance Document B.

The Fire Authority also emphasised the difficulties in fighting basement fires and their expectation that “all such routes that may be used by the Fire Service to reach an incident in the basement be kept as clear from smoke as possible”. The Authority gives no regard to practice in Scotland.

The appellant highlights that compliance with Technical Guidance Document B is not the sole means of demonstrating compliance with Regulation B5.

4. CONSIDERATION

The appeal may not be considered as presented and a new issue arises that demands *de novo* consideration. This issue relates to the ventilation of the proposed 2 no. fire-fighting lobbies at each storey level of the building.

The area (c.487 m²) and depth (3.6 metres) of the basement exceeds the limits set in Clause 5.4.3.1 of Technical Guidance Document B. The attachment by Dublin City Council of the subject Condition seeking provision of smoke ventilation facilities to a basement having such characteristics is entirely normal practice and within the scope of Technical Guidance Document B Guidance.

It is noted that the applicant's Fire Safety Certificate Application Compliance Reports (Clause 5.1) declare that the chosen basis for demonstrating compliance with Regulation B5 is by adoption of guidance contained in Technical Guidance Document B (2006). However, the applicant seeks to justify a relaxation of the guidance requiring smoke ventilation on the basis of his provision of:-

- (i) Mechanically ventilated lobbies between the basement accommodation and the stairways serving the basement.
- (ii) Sub-division of the basement into fire compartments less than 200 m² each with 60 minutes fire-resisting construction
- (iii) The basement is not more than 3 metres below the adjacent ground level.

It is clear from the case file that the basement is in fact 3.6 metres below ground, so point (iii) above is to be set aside.

It is also recognised that the height of the building (> 20 metres) demands that compartment walls within the building be rated at 90 minutes fire resistance and not 60 minutes as proposed by the applicant.

The proposed provision of mechanical smoke ventilation to the basement lobbies gives rise to a separate issue relating to the wider design of the fire-fighting shafts and this issue will be addressed further. In the specific context of basement level smoke ventilation, it is noted that the proposed mechanical ventilation of the stair lobbies relies upon make-up air from the stairway

automatic opening vents (AOVs). This approach is problematic because it presupposes an open connection between the stairway and the lobby (to allow for flow of make-up air) despite the fact that the stair enclosure is designed to be a minimum 60 minutes fire-resisting, i.e. the stair enclosure is to be a protected space without openings connected to the adjacent accommodation. Furthermore, the necessary breaking of the stairway between basement and ground floor inhibits make-up air flow from the roof level AOV to the basement lobby.

Notwithstanding the detailing of the smoke ventilation to the basement lobbies, the principle of such ventilation remains desirable for the design and offers a means of addressing the Fire Authority's concerns regarding protection of their emergency access routes into the basement against smoke ingress.

The fundamental argument made by the appellant is that the modest size of the basement together with its sub-division by fire-resisting construction makes disproportionate the requirements for smoke ventilation, which would also more than likely give rise to an associated need for installation of an automatic sprinkler system as part of the design of any mechanical smoke ventilation system. This argument has merit in the context that the fundamental requirement of Regulation B5 is qualified to the extent that provisions for the Fire Service be reasonable. The guidance in Technical Guidance Document B could be inferred to predetermine what is reasonable, i.e. to make smoke ventilation a requirement for basements that exceed 200 m² in floor area, without further qualification. However, there remains a valid issue of proportionality given the specific case to hand. Furthermore, contrary to the inference given by the Fire Authority in its submission, there is no assurance that provision, for example, of 10 air changes per hour mechanical smoke ventilation will result in any particular set of conditions within the basement, i.e. in terms of reaching any specific tenability criteria for Fire Service safety in access and fire-fighting operations. It is certainly reasonable to infer that a basement space sub-divided into modestly sized rooms by fire-resisting construction represents a safer prospect in fire-fighting terms than an open plan space of equal cumulative floor area regardless of smoke ventilation provisions. This is notwithstanding the beneficial effects of any sprinkler system that is indirectly a result of requiring mechanical smoke ventilation provisions.

The appellant has not been consistent in detailing the fire-resisting sub-division of the basement, i.e. the appellant has not installed 90 minutes fire-resisting compartment walls for the specific purpose of maintaining a maximum 200 m² in any single compartment. Rather the appellant appears to have relied upon fire-resisting construction of different ratings to sub-divide the basement space in a more arbitrary manner. It is not possible to trace 2 no. continuous 90 minutes fire-resisting compartment lines (with FD90 fire-resisting doorsets as appropriate) as would be

necessary to sub-divide the basement into 3 no. compartments – each being less than 200 m² in area. It is suggested that improvement of the compartmentation design together with the already proposed smoke ventilation to the fire-fighting access stairs and their basement level lobbies would in combination offer sufficient facilities for the Fire Service given the size of the subject basement.

Additional issue requiring consideration

The proposed building includes 2 no. fire-fighting shafts each containing fire-fighting stairs, fire-fighting lifts and ventilated fire-fighting lobbies. Historically, BS 5588:Part 5 would require fire-fighting lobbies to be afforded natural smoke ventilation (either into a smoke shaft or directly to fresh air) or a positive pressure differential mechanical system. This design approach was also reflected in BS 9999:2008. In the 2017 version of BS 9999, a new option of providing negative pressure (smoke extraction) mechanical systems was offered to designers. It would appear that this type of mechanical smoke extraction system is being proposed by the appellant in this instance.

In the first instance, the level of detail is significantly lacking compared to what is required by BS 9999 to validate the design. There is a distinct lack of engagement with the Fire Authority on this matter in the case files. Of more concern is the appellant's proposed reliance on make-up air from the fire-fighting stairwell, either by means of the opening of the fire door between the lobby and the stairway or by provision of smoke form of air transfer grille.

The levels of occupancy for hotel bedroom levels is such that opening the stair door against the direction of escape is not permissible. The inclusion of a transfer grille from the stair to the lobby would breach the fire-resisting enclosure of the stair. The provision of a fire damper to such a grille would conflict with the purpose of the grille in the first instance and given the occupancy would also rely on automatic smoke detection for activation – again conflicting with the smoke ventilation strategy.

The relevant guidance in BS 9999 states:-

“Where mechanical systems are used, replacement air should be provided to prevent damage to the system and to ensure that excessive depressurization of the ventilated area does not occur. The design of the system should ensure that the source of inlet air does not compromise normal passive fire separation. Any such inlets should be automatic in operation and should not be temperature controlled.”

5. CONCLUSION

In my opinion, the Board should not rely on Article 40(2) of the Building Control Regulations to consider the subject appeal on the basis of Conditions only. It is recommended that the application needs further and wider consideration in the context of the demonstration of compliance with Part B to the Building Regulations. Whilst the specific issue of the appeal is upheld and the subject Condition is recommended to be replaced, there is additionally a need for a new and further condition relating to a technical issue that was not of itself subject of the appeal.

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