

Report to An Bord Pleanála

on

Appeal against Refusal of Fire Safety Certificate (Decision Order No. FSC/3390/17)

by

Fingal County Council

with respect to

Proposed material alterations at the First Floor Function Room, Carnegie Court Hotel, North Street, Swords, Co Dublin

CLIENT	:	AN BORD PLEANALA
AN BORD PLEANALA REF NO	:	06F.FS0564
BCA Decision Order No.	:	FSC/330/17
OUR REF.	:	17001_06F.FS0564_R01A
DATE	:	15 September 2017

1.0 Introduction

1.1 Subject Matter of Appeal

This report sets out my findings and recommendations on the appeal submitted by Colm Traynor & Associates Ltd [hereafter referenced as CTAL] on behalf of their Client, David & Mary Grant, against the decision by Fingal County Council to Refuse Fire Safety Certificate with respect to proposed material alterations at the First Floor Function Room, Carnegie Court Hotel, North Street, Swords, Co Dublin

The application relates to the proposed removal of Escape Stairs No 8 - which currently serves the first floor function room - and to infill the resultant section of floor thus providing increased floor area in the first floor function room of circa 25m².

It is not clear from the application as to whether the space occupied by Stairs 8 at ground floor level is to be absorbed into the ground floor dining room or whether that space will be mothballed or used for some other purpose.

The application was refused by Fingal County Council [hereafter referenced as FCC] with the stated reason for the Refusal being as follows:

Reasons for Refusal

The design of the building or works does not satisfy the requirements of Article 9(1)(a) of the Building Regulations, 1997 to 2017 in that it does not comply with Part B of the Second Schedule thereto in particular Section B1 – Means of Escape

1.2 Documents Reviewed

1.2.1 Fire Safety Certificate Application and Supporting Documentation lodged on 11.01.2017 and supplementary submissions dated 28.03.2017 and 10.05.2017 lodged by CTAL on behalf of their Client

1.2.2 Appeal submission to An Bord Pleanala by CTAL dated 19.06.2017 and 12.09.2017.

1.2.3 Appeal submission to An Bord Pleanala by FCC dated 04.07.2017.

1.2.4 Documentation furnished by FCC by cover of their letter dated 31.08.2017 in relation to previous FSC approval (Ref No FSC 01/4311) for the premises as submitted by Fire Cert Consultants Limited [hereafter referenced as FCCL] on behalf of Greenburr Properties

Limited including drawings, compliance report, supplementary submission and grant of certificate.

2.0 Appeal arguments made by CTAL

In their FSC application and subsequent appeal submissions, CTAL contend that Stairs 8 is surplus to requirement having regard to the actual use of the first floor function room which they say is “*primarily as a wedding venue or other dining activity, accommodating a maximum of 300 person*”.

CTAL acknowledge that the figure which was used by FCCL in the original FSC application (Ref 01/4311) was considerably higher at 640 persons i.e. 320m² at an occupant density of 0.5m²/person per Table 1.1 of Technical Guidance Document D. However CTAL argue that the original figure is not realised in practice and that 300 persons is an appropriate figure having regard to the actual use.

CTAL calculate the available capacity of exits from the first function room, excluding Stairs 8, to be 598 persons (i.e. capacity of Stairs 7 + Stairs 9 or 10, thus allowing for discounting of one of the wider stairs) plus a further allowance of 50 persons for the discounted stairs, thereby yielding an overall exit capacity of 648 persons. The latter allowance of 50 persons for a discounted stairs is not offered in the codes e.g. in Technical Guidance Document B. Thus, in accordance with the guidance in TGDB, the available exit capacity is 598 persons.

It is noted that the CTAL analysis of the capacity of Stairs 7, 9 and 10 makes no allowance for any occupant demand emanating from the basement nightclub even though the original FSC drawings in respect of FSC 01/4311 identifies Stairs 10 to be a night club exit.

In their supplementary submission dated 28.03.2017 CTAL contend that the available exit capacity per BS9999 could be further increased to 729 persons based on an egress flow rate of 4.1mm/persons compared to 5mm/person in TGDB. In that regard, CTAL refer to Table 13 of BS9999:2008 in support of this analysis. It is noted that Table 13 relates to horizontal egress through doors and not to egress along staircases which is dealt with in Table 15 of BS9999:2008 (now renumbered as Table 13 in BS9999:2017) which prescribes a flow rate of 4.8mm/person for this category of usage i.e. B2 Risk. It is noted that this figure is substantially in line with the 5mm/person figure on which the egress capacity tables in TGDB are based.

CTAL acknowledge that tables at weddings are normally cleared back after the meal to make space available for dancing and contend in their earlier submission that an occupant density of $0.75\text{m}^2/\text{person}$ is appropriate for that condition. CTAL do not elaborate on the method by which they arrived at the figure of 0.75.

In response to queries raised by the Fire Officers, CTAL in their supplementary submission dated 10.05.2017 considered the combined demand on the staircase system from the entire of the first floor i.e. the function room, bar/restaurant/lounge and kitchen. This is in my view an entirely appropriate query for the Fire Officers to have raised as the strategy in public buildings of this type is to simultaneously evacuate all areas in the event of fire occurrence.

In their revised Compliance report CTA1650 Issue A dated May 2017, as subsequently slightly modified in their submission to ABP dated 12.09.2017, CTAL calculate the available exit capacity for the entire of the first floor, excluding Stairs 8, to be 898 persons i.e. allowing for the capacity of Stairs 7+9+10+11 but discounting the widest stairs (Stairs 10). They further allow for 50 persons in respect of the discounted stairs which it is noted is not in accordance with the approach recommended in TGDB i.e. whereby the discounted stairs is assigned zero capacity. CTAL go on to say that this figure can be further increased to 936 persons utilising Table 15 in BS9999 for buildings in this category of use. They then add a further 50 persons for the discounted stairs to yield an overall egress capacity of 996 persons. Again it is noted that BS9999 does not attribute any occupant flow to the discounted stairs and therefore the CTAL proposition that 50 persons be allowed for the discounted stairs does not accord with the guidance in BS9999 or TGDB. Furthermore the concept of dipping into another code in respect of a specific issue (in this case using flowrate from a table in BS9999) when the building has been designed in accordance with another code (in this case TGDB) is deprecated in the codes i.e. the codes advise that they comprise an integrated package of measures and therefore should be used in their totality.

CTAL contend that the egress capacity will far exceed the occupant demand from first floor which they say in section 1.4.7 of their compliance report CTA1650 Issue A will be 525 persons. This figure in turn has been arrived at by CTAL by assigning an occupant level of 300 persons to the first floor function room and 225 persons for the first floor bar/lounge/restaurant area. The latter figure appears to have been based on an occupant density of circa $1\text{m}^2/\text{person}$, as CTAL state the area of the bar/restaurant/lounge to be circa 225m^2 . However CTAL offer little breakdown/justification for this figure and indeed an approximate take-off of the floor area on

the drawings (which it is noted do not contain figured dimensions or floor areas) would indicate the floor area of the first bar/restaurant/lounge to be substantially greater than 225m² i.e. an approximate area take-off indicates a floor area of circa 350m² excluding the bar counter area. It is noted that the occupant figure ascribed to the bar/lounge/restaurant by FCCL in their application 01/4311 was 600 persons i.e. 300m² at 0.5m² per person. FCC correctly note in their submission to ABP dated 04.07.2017 that the drawings indicate that there have been no changes in the usage/layouts/extent of the first floor bar/restaurant/lounge in the current application compared to the original FSC01/4311.

CTAL in their subsequent submission to ABP dated 12.09.2017 state the floor area of the bar/lounge/dining room to be 235sqm and calculate that the available escape capacity, at 986 persons, equates to an average occupant density of 0.63 sqm/person overall. In this calculation they indicate the function room to be 390 sqm in plan area whereas this had been previously identified to be 345sqm.

CTAL conclude that Stairs 8 is surplus to requirement both in terms of egress capacity of the function room and overall egress capacity for the first floor.

3.0 Appeal arguments made by FCC

For their part FCC dispute the occupant figures being advanced by CTAL and contend that the appropriate basis for calculating occupant levels for a multi-purpose function room is to use an occupant density of $0.5\text{m}^2/\text{person}$ which yields in their view an occupant level of 690 persons for the function room i.e. taking account of the additional floor area resulting from the infill of Stairs 8. They also contend that an occupant density of $0.5\text{m}^2/\text{person}$, which they note was used in the original FSC Ref. 01/4311, is appropriate for the bar/lounge/dining room and they furthermore note that the floor area of same, as expressed in FSC 01/4311, is 300m^2 and not 225m^2 as indicated in the CTAL submissions. Applying this approach, FCC calculate the occupant level of the first floor to be 1297 persons and on that basis the available exit capacity, in the absence of Stairs 8, is insufficient i.e. the combined capacity of stairs 7+9+10+11 (but discounting the largest stairs) is 898 persons according to FCC.

FCC therefore conclude that there is a shortfall of approximately 400 persons if Stairs 8 is removed and taking account of the increase in floor area resulting from the infill of the stairs zone.

FCC contend that the approach adopted by CBAL in calculating the occupant levels is un-conservative and will rely upon managing the occupant numbers which FCC say is not practicable in a multipurpose function room facility of this type i.e. where there isn't, for instance, ticket based entry.

4.0 Considerations and Conclusions

The key consideration in this application is clearly the method by which occupant numbers are calculated for the first floor function room and bar/lounge/dining rooms respectively.

It is informative therefore to consider the figures quoted in various references which are summarised as follows:

Design Reference	Usage	Occupant density (m ² /person)	Comments
Technical Guidance Document B - Table 1.1	Bar/lounge	0.5	TGDB allows the occupant numbers to be based on actual occupant levels where these are known
	Restaurant, dining room	1.0	
	Standing areas	0.3	
DOEHLG Publication Code of Practice for the Management of Fire Safety in Places of Assembly – Appendix A Table	Standing areas	0.3	
	Bar	0.3-0.5	
	Lounge	1.0-1.5	
	Assembly area, dance area	0.55	
BS5588 Part 6 Code of Practice for Places of Assembly	Dance area	0.5	
	Restaurants and similar table and chair arrangements	1.0	
	Bars without seating and similar refreshment areas	0.3	
BS9999 2017 Table 9	Bar	0.5	
UK Approved Document B Table C1	Bars (within 2m of serving point)	0.3	UKADB acknowledges that actual data can be used reflecting average occupant densities at peak trading times
	General purpose place of assembly	0.5	
	Dining Room	1.0	

It is clear from the foregoing that there can be significant variance in occupant levels in public assembly spaces of the type under consideration depending on the extent of seating/dining versus standing areas. If, for instance, an area contained 33% seating (at 1m²/person), 33% dancing (at 0.5m²/person) and 33% standing at counters/servery/bars (at 0.3m²/person) the overall average occupant density equates to 0.48m²/person.

In this particular appeal/application CTAL contend that a figure of 1.0m²/person is appropriate for the bar/lounge/dining room without giving any detail of the means by which they have

calculated this figure i.e. they do not break down the area into zones which might be deemed to fall into one of the categories set out in the table above.

Furthermore they appear to have significantly under-calculated the floor area of the bar/lounge/dining room.

In the case of the function room, CTAL quote a figure of 300 persons based on the seating capacity at a wedding reception. However it is known that post the actual reception it is common practice for other guests to be invited to the “afters” and for tables to be removed to make additional space available for those “after” guests. Accordingly it is not safe in my view to base the occupant level on the seating capacity during reception as that figure could increase significantly after the reception proper. FCC also point out, correctly in my view, that this room can be used for Christmas/Birthday parties or other functions where the room has capacity for well in excess of 300 persons.

CTAL do not offer any actual occupant data in support of their proposals - as could be determined by undertaking a survey of actual occupant levels in the premises at peak times over a period of time - which could serve to support the case for the much reduced occupant levels which they propose compared to the figures in FSC Ref 01/4311.

It is noted that a reverse analysis of the occupant density which can be accommodated on the entire of the first floor in the absence of Stairs 8 yields the following:

- Staircase capacity per TGDB excluding Stairs 8 and discounting one of the remaining stairs (and assigning zero capacity to the discounted stairs) = 898 persons.
- Floor area of function room + bar/lounge/dining room = 345+300 = 645m².
- Average tolerable occupant level = 645/898 = 0.72m²/person.

Note: If the figure of 390sqm for the function room in the FCAL submission to ABP dated 12.09.2017 were used the average tolerable occupant level would increase to 0.76sqm/person and if the area of the bar/lounge/dining were taken to be 350sqm - as appears to be the case from an approximate area take-off of the FSC drawings - the figure will increase further to 0.82sqm/person.

It is noted that this occupant density is considerably lower than the suggested default occupant density for general purpose assembly areas of 0.5m²/person in the table above and is

considerably lower than the average occupant density of 0.5m²/person on which the original FSC 01/4311 was granted.

In conclusion I consider that the Applicant/Appellant has not furnished sufficient justification for the proposed removal of the escape stairs No 8 and its replacement with additional usable floor space having regard to the nature of the uses in this instance.

In addition CTAL have not addressed any potential additional demand which may be placed on the stairs serving the first floor from the basement nightclub nor have they dealt with the increased floor area at ground floor level – and therefore potential increased occupant level - resulting from the removal of Stairs 8.

In the circumstances I consider that the decision of the BCA to Refuse the application is justified and should be upheld.

4.0 Recommendations

Having considered the submissions made by the Appellant and the BCA I recommend that the decision of the BCA to Refuse the application should be upheld.



MAURICE JOHNSON

Managing Director | Chartered Engineer | BE(Hons), CEng., MStructE, MIEI, MSFPE

Date : 15/09/2017