

Report to An Bord Pleanála

on

Appeal against Conditions No 1 and 2

Fire Safety Certificate (Reg Ref No. FA/17/1499)

by

Dublin City Council

for

Construction of Student Accommodation Block

at

58-64 Dominick Street Upper, Dublin 7

CLIENT	:	AN BORD PLEANALA
AN BORD PLEANALA REF NO	:	ABP-300857-18
BCA REG REF No.	:	FA/17/1499
OUR REF.	:	18121_ABP.300857.18_R01A
DATE	:	01.06.2018

1.0 Introduction

1.1 Subject Matter of Appeal

This report sets out my findings and recommendations on the appeal submitted by Jeremy Gardner Associates [hereafter referenced as JGA] on behalf of their Client, Ziggurat Dominick Street Ireland Limited – Ziggurat Student Fund IV, against Conditions No 1 and 2 attached to the Fire Safety Certificate (BCA Reg. Reference No. FA/17/1499) granted by Dublin County Council [hereafter referenced as DCC] in respect of a new Student Accommodation Block at 58-64 Dominick Street Upper, Dublin 7

The conditions under appeal state the following:

Condition 1

Vehicle access for high-reach vehicles is to be provided to 50% of the perimeter of the building and is to comply with Section 5.2.4 (Design of Access Routes and Hardstanding), Table 5.2 and Diagram 32 of Technical Guidance Document B

With the stated reason for the condition being:

Reason:

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

Condition 2

The firefighting shafts are to be designed and installed in accordance with Section 5.3.4 of Technical Guidance Document B not BS9991:2015 in respect of the following:

- *Planning within the firefighting shaft,*
- *Fire mains and landing valves located in the firefighting lobbies,*
- *Smoke control,*
- *Fire resistance,*
- *Fire doors,*
- *Glazed areas,*
- *Fire-fighting lift installation,*
- *Electricity supply,*
- *Fire brigade communications system.*

With the stated reason for the condition being:

Reason:

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

Having reviewed the documents on the appeal file I am satisfied that the determination by the Board of this application as if it had been made the Board in the first instance would not be warranted. Accordingly I consider that it would be appropriate to use the provisions on Article 40(2) of the Building Control Regulations 1997-2015 in this instance.

1.2 Documents Reviewed

- 1.2.1 Fire Safety Certificate Application and Supporting Documentation submitted by JGA on behalf of their Client
- 1.2.2 Appeal submission to An Bord Pleanala by JGA dated 01.02.2018 and 18.05.2018.
- 1.2.3 Appeal submission to An Bord Pleanala by DCC dated 06.03.2018.

2.0 Condition 1 and 2 – Consideration of Arguments by Appellant and BCA

2.1 Condition 1

Vehicle access for high-reach vehicles is to be provided to 50% of the perimeter of the building and is to comply with Section 5.2.4 (Design of Access Routes and Hardstanding), Table 5.2 and Diagram 32 of Technical Guidance Document B

Case made by DCC in respect of Condition 1

DCC refer to Section 5.2 of Technical Guidance Document B in support of the imposition of the condition under appeal.

They note that Technical Guidance Document B, in Table 5.1, prescribes that perimeter access should be provided taking account of the height and volume of the building in question.

In this instance the overall volume of the building is estimated to be circa 15,380m³ – and thus falls into the 7,000 - 28,000m³ band in Table 5.1 of TGD-B - and the height of the top floor of the building exceeds 10m.

On that basis DCC correctly identify that Table 5.1 of TGD-B prescribes that there be 50% perimeter access suitable for High Reach appliances.

DCC go onto assert that TGD-B does not set aside perimeter access requirements in circumstances where the building is fitted with internal fire-fighting facilities such as dry risers.

Case made by JGA in respect of Condition 1

For their part, JGA argue that high reach appliance access is not required on the basis that they are providing fire mains and fire-fighting shafts in accordance with BS9991:2015 and that the fire service will therefore undertake fire-fighting from inside the building and not from High reach appliances.

They go onto note that their proposals provide for pump appliance access within 18m of the dry riser inlet valves via Henrietta Lane and refer to Section 5.3.2 of TGD-B in support of this proposal.

JGA also reference other projects where this approach has been adopted and approved and also refer to the UK Approved Document B (England & Wales) and Northern Ireland Technical Booklet E in support of this approach.

JGA also correctly note that fire-fighting shafts would not be required if the design had been undertaken on the basis of TGD-B insofar as the height of the top floor is less than 20m being the threshold in TGD-B for fire-fighting shafts.

Consideration of the case made by both parties in respect of Condition 1

It is noted that the development has a top storey height of 19m above the lowest adjacent external ground level and a building volume of circa 15,380m³. Thus, by reference to Section 5 of TGD-B, the building would be required to have 50% perimeter access suitable for High Reach appliances and insofar as the height of the top storey does not exceed 20m the building would not require any internal fire-fighting facilities such as dry risers or fire-fighting lifts/shafts.

Accordingly the guidance in TGD-B envisages that firefighting in a building of this height/size will be undertaken from a combination of the normal means of escape stairs and the ability to work from ladders and appliances on the perimeter without any internal firefighting facilities such as dry risers, fire-fighting lifts or vented lobbies. It is also noted that the guidance in TGD-B does not discriminate between residential buildings, which are typically sub-divided into small fire compartments - i.e. individual apartments/clusters -, and commercial buildings such as offices which are typically characterised by undivided floor plates e.g. typical office buildings.

UK Guidance on the other hand, as set out in BS9991:2015 and the UK Approved Document B, adopt a different approach for residential buildings in that they do not prescribe any specific percentage of perimeter access to apartment blocks – including student housing – but rather seeks to restrict the distance which the fire service have to lay hoses to 45m. This is achieved by either laying hoses directly from the fire appliance parking position up the stairs and then to the most remote part of the floor plate or by provision of dry risers in which case the 45m is measured from the dry riser landing valves. BS9991:2015 and UKADB also prescribe that the dry riser inlets be located within 18m of the fire vehicle standing position.

It is considered that the strategy in BS9991 for apartment-type buildings, including student clusters, is more rational/logical than the “% perimeter access” approach in TGD-B having regard to the level of internal compartmentation in apartment buildings. It is anomalous for instance to provide 50% perimeter access to an apartment/student housing block which, while of value to those apartments/clusters which front onto the accessible perimeter, is of little/no value to apartments which do not front onto that section of building perimeter.

It is noted that the proposals for the subject development comprise High Reach appliance access to the entire Upper Dominick Street frontage - which equates to circa 39% of the building

perimeter - and Pump Appliance access to the courtyard at the rear via Henrietta Lane from which fire-fighting shafts equipped with dry rising mains and fire-fighting lifts can be accessed.

It is considered that the strategy proposed by JGA, which is based on the recommendations of BS9991:2015, is an appropriate approach for this type of student-cluster development and indeed exceeds the requirements of BS9991:2015 insofar as there is also High Reach appliance access available from Upper Dominick Street.

However, in adopting a compliance strategy based on BS9991:2015 it is considered essential that all relevant aspects of BS9991 are incorporated in those proposals including inter alia:

- Requirement that there be fire hydrants available in the vicinity of the entrance to the fire-fighting shafts and at a distance not exceeding 90m. In the JGA submission a hydrant is indicated at the eastern end of the adjacent Temple Cottages or in the ramp leading to the adjacent car park to the south of the subject site. In either case the hydrant appears to be in a location not accessible from the pump appliance hammerhead as indicated on FSC drawings A1/3524/2/2/A.
- The pump appliance hammerhead, as indicated on FSC drawings A1/3524/2/2/A and A1/3524/2/3/A, encroaches on landscaping features and on the proposed tennis court denoted "F". Also it is unclear as to the vehicle parameters used in the vehicle tracking as indicated on these drawings i.e. it is normal where vehicle tracking is being employed to indicate clearly on the drawings the vehicle parameters and the specific turning manoeuvres.
- The configuration of the fire service access to the fire-fighting shafts at LGFL should accord fully with BS9991:2015. The proposals as set out on the FSC drawings indicate access by sections of corridor which in turn have various rooms opening directly off them via protected lobbies which in turn are provided with 10 air change per hour mechanical extract systems. It is considered that these proposals do not conform to BS9991 and indeed it is unclear as to how the mechanical extract from the said lobbies can perform in the absence of any designed inlet to the lobbies.

2.2 Condition 2

The firefighting shafts are to be designed and installed in accordance with Section 5.3.4 of Technical Guidance Document B not BS9991:2015 in respect of the following:

- *Planning within the firefighting shaft,*
- *Fire mains and landing valves located in the firefighting lobbies,*
- *Smoke control,*
- *Fire resistance,*
- *Fire doors,*
- *Glazed areas,*
- *Fire-fighting lift installation,*
- *Electricity supply,*
- *Fire brigade communications system*

Case made by DCC in respect of Condition 2

DCC contend that the specific recommendations of BS9991:2015 for fire-fighting shafts in residential buildings constitute a lesser standard than the provisions of BS5588 Part 5 and that the fire-fighting shafts ought therefore be amended to conform with BS5588 Part 5 being the standard referenced in Section 5.3.4 of TGD-B 2006.

They take issue in particular with the proposal by JGA that the dry riser landing valves be located in the stairs – as compared to the lobbies in BS5588 Part 5 - and that the fire rating of the common corridors be 60 minutes as compared to 120 minutes in BS5588 Part 5.

Case made by JGA in respect of Condition 2

For their part, JGA argue that BS5588 Part 5 is an obsolete standard and has been superseded by BS9999. They go onto note that BS9999 refers in turn to BS9991 as the standard to use in the specific case of certain residential buildings including “*residential accommodation blocks (e.g. for students or hospital staff), with individual bedrooms and the provision of kitchen/sanitary facilities constructed within a fire compartment*” i.e. student cluster blocks.

JGA argue that BSI have recognised that residential blocks configured in the way of separate small fire compartments for each unit are different to all other types of building which typically will have much larger fire compartments and contend that it is for this reason that the

provisions for fire-fighting shafts in BS9991 have been modified compared to BS9999 or BS5588 Part 5.

JGA argue that compliance with BS9991 in regard to the fire-fighting shafts satisfies the requirements of B5 of the Building Regulations.

Consideration of the case made by both parties in respect of Condition 2

Having reviewed the case made by both parties I concur with the JGA position that the provisions in BS9991 are appropriate in relation to the design of fire-fighting shafts for this type of development insofar as the BS9991 code reflects most recent guidance for buildings of this type – i.e. comprising apartment type clusters – and noting that BS5588 Part 5 is now a superseded standard.

However, in designing in accordance with BS9991 I consider that adjustments are required at LGFL to achieve compliance with the code in relation to the discharge arrangements from both staircases i.e. insofar as the proposal by JGA to employ 10 ACH extract from the various LGFL lobbies does not accord with BS9991 and in the absence of makeup air it is difficult to see how such a provision can operate effectively.

It appears for instance that an imperforate route from the stairs to open air could be provided by means of some adjustment to the plans e.g. omitting the door from Core B to the corridor opposite the lobby leading to the music room and through reconfiguration of the circulation routes to bin store and plantrooms at gridline 12-14.

3.0 Recommendations

Having considered the submissions made by the Appellant and BCA I consider that the BCA should be directed to amend Conditions 1 and 2 to read as follows:

Condition 1

The pump appliance access and turning area from Henrietta Lane shall conform to Table 5.2 of Technical Guidance Document B 2006 for Pump Appliances without encroaching on landscaping features of the courtyard and shall be demonstrated as such by means of a vehicle swept track analysis.

A fire hydrant shall be provided in the courtyard in a position accessible to the fire service.

Revised particulars demonstrating compliance with the foregoing shall be submitted to and agreed in writing with the Building Control Authority.

Reason:

To comply with Requirement B5 of the Second Schedule to the Building Regulations 1997-2017.

Condition 2

The route from staircases A and B to open air at Lower Ground Floor Level shall be modified to conform fully to BS9991.

Revised particulars demonstrating compliance with the foregoing shall be submitted to and agreed in writing with the Building Control Authority.

With the stated reason for the condition being:

Reason:

To comply with Requirement B5 of the Second Schedule to the Building Regulations 1997-2017.

MAURICE JOHNSON

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

Date : _____