

**Report for An Bord Pleanala**

**on**

**Appeal against Condition 2 on Fire Safety Certificate FSC2200301KE**

**for**

**Ballykelly Maturation Site Warehouse 02 & 03**

**at**

**Ballykelly Maturation Site, Ballykelly, Monasterevin, Co. Kildare**

Client:	An Bord Pleanala
An Bord Pleanala Ref:	318191-23
Our Ref:	ABP_29_R01_Issue 1
Date:	5 <sup>th</sup> June 2024

## 1.0 Introduction

This report sets out my findings and recommendations on the appeal submitted by Maurice Johnson & Partners, acting on behalf of Smallwell Properties Ltd., against Condition 2 on Fire Safety Certificate FSC2200301KE by Kildare County Council in respect of an application for works related to proposed construction of Warehouse 02 & 03 at Ballykelly Maturation Site, Ballykelly, Monasterevin, Co. Kildare.

It is noted that having regard to the nature of the Conditions under appeal, it is considered that the appeal can be adjudicated upon without consideration of the entire of the application.

## 1.1 Subject of Appeal

Condition 2 of the granted Fire Safety Certificate (FSC2200301KE) is as follows: -

***Condition 2:***

*The building shall be provided with an Automatic Sprinkler System which is designed, installed, commissioned and maintained in accordance with the requirements of IS EN 12845: 2015 +A1: 2019. Any alterations to the design of the firewater retention system and it's capacity arising from the installation of the Automatic Sprinkler System shall be designed in accordance with the 'EPA Guidance on Retention Requirements for Firewater Run-off' which is published by the Environmental Protection Agency, Johnston Castle, Wexford, Ireland.*

***Reason:***

*To ensure compliance with the Building Regulations.*

## **2.0 Documentation Reviewed**

- 2.1 Fire Safety Certificate Application (compliance report and fire safety drawings) submitted by Maurice Johnson & Partners, acting on behalf of Smallwell Properties Ltd. dated 4<sup>th</sup> January 2022.
- 2.2 Request for Additional Information from Kildare County Council dated 23<sup>rd</sup> February 2022.
- 2.3 Additional Information from Maurice Johnson & Partners dated 11<sup>th</sup> November 2022.
- 2.4 Request for Additional Information from Kildare County Council dated 5<sup>th</sup> January 2023.
- 2.5 Additional Information from Maurice Johnson & Partners dated 11<sup>th</sup> July 2023.
- 2.6 Granted Fire Safety Certificate No. FSC2200301KE from Kildare County Council dated 8<sup>th</sup> September 2023.
- 2.7 Fire Officer's report on Fire Safety Certificate Appeal dated 6<sup>th</sup> November 2023 to An Bord Pleanála.
- 2.8 Maurice Johnson & Partners response to Fire Officer's report dated 27<sup>th</sup> November 2023 to An Bord Pleanála.

### 3.0 Building Control Authority's Case

#### Condition No 2.

With regards to the appeal of Condition No. 2 Kildare County Council note the following observations in relation to the condition and the content of the appeal submitted.

The above Condition has been attached to ensure that any breakout of fire within building remains localised and is prevented from spreading throughout the building or to adjoining buildings. The material to be stored in the proposed warehouse building is of a highly flammable nature, any fire involving such material in a building which has not been provided with an Automatic Sprinkler System is likely to spread rapidly throughout the building and pose a serious risk to responding Fire Service personnel.

The provision of an appropriate Automatic Sprinkler System would limit the spread of fire within the building and contain the size of the fire allowing responding personnel the opportunity to tackle the fire quickly and efficiently before the entire building and any adjoining buildings become involved in the fire.

Further to the above it is noted that:

- Appendix E, Section E3 (iii) of Technical Guidance Document B - Fire Safety, Building Regulations 2006 (amended 2020) classes the storage of 'Flammable liquids with a flash point below 65°C including whisky or other spiritous liquor' as hazardous materials.
- Taking into account the fact that 2,049,300 litres of spiritous liquor (a hazardous material) is to be stored in each warehouse, the total volume of spiritous liquor across three warehouses on site will be 6,147,900 litres which may result in the site being considered a Seveso site in accordance with Part 1 of the 1st Schedule of S.I209/ 2015 Chemicals Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations 2015.
- Given the large volume of spiritous liquor to be stored in each warehouse on site the occurrence of any significant fire within a warehouse building on the site may be prohibitive of offensive firefighting operations given the likely fire growth rate. For this reason, it is imperative that any outbreak of fire in the proposed building is limited in size by an Automatic Sprinkler System designed, installed, commissioned and maintained in accordance with IS EN 12845: 2015 +A1: 2019 to allow for potential offensive firefighting operations to extinguish the fire within the building.

In summary, Condition 2 attached to the granted Fire Safety Certificate is deemed necessary by the Building Control Authority in order to achieve the minimum standard of safety with regard to preventing fire growth and minimising the spread of fire should there be an outbreak of fire within. Any references made by the Appellant to previous applications for Fire Safety Certificates for similar buildings or appeals to An Bord Pleanála are considered irrelevant as each application for a Fire Safety Certificate must be assessed on its own merits and attributes.

## 4.0 Appellant's Case

It is their contention the Kildare County Council sprinkler protection requirement for the building is in excess of the requirements of Part B of the Building Regulations.

The subject of a sprinkler protection within a distillation hall and maturation facility has been previously considered by the Board at the neighbouring Ballykelly Distillery Site (ref ABP-307147-20) to which the proposed Maturation Site plays a key operation role for.

In case "ABP-307147-20" the Board's Inspector "Jensen Hughes" reported as follows:

"The building complies with the guidance in TGD B for maximum recommended unsprinklered compartment sizes. It is also remote from the site boundary and as such sprinklers are not required for external fire spread purposes. "

Jenson Hughes recommended the appeal to be upheld whereby the condition was modified whereby the sprinkler coverage was removed stating "It is considered that the provision an automatic sprinkler system is not required to ensure compliance with Part B3 of the Second Schedule of the Building Regulations 1997-2020."

The National Fire Safety guidance (Technical Guidance Document Part B) is considered prima facie compliance with Part B of the Building Regulations is the basis of the submitted design. TGD B does not require the provision of sprinkler protection for the proposed design.

Equally it is noted in FSC Additional Information submission cover letters "21006 FSC2 L003" date 11<sup>th</sup> November 2022 & "21006 FSC2 L004" dated 11<sup>th</sup> July 2023 it sets out the proposed Warehouse 02 & 03 as being within the recommended area limits of Table 3.1 TGD B 2006.

Notwithstanding the above, the proposed design includes a series of measures which are considered to exceed minimum standards and provides a very robust fire strategy. Accordingly, it is submitted that the proposed exceeds the prescriptive requirements of the national deemed to satisfy the fire safety guidance which "prima facia indicate compliance with Part B of the Second Schedule of the Building Regulations.

The proposed development consists of a maturation facility split over 3 maturation warehouses, 1 vatting building, 1 administrative building and a maturation yard set to the rear of the site. The Maturation Site plays a key in the role of the operation of the neighbouring Distillery Site.

The existing on site cottages shall be renovated as part of the proposed works for the provision of artist in residency, short stay staff and stakeholder accommodation and whiskey experience tourist packages and associated outbuildings set to the front of the site.

The scope of FSC2200301KE (BCMS Ref. 3005663) pertains to the single storey Warehouse 02 & 03 only. The balance of the development; Warehouse 01 & Vatting Building, Administrative building and the 3 no. cottages are subject to separate FSC applications.

This design approach includes a series of measures which are considered to exceed minimum standards;

- > Dedicated water supply of 144m' for the Fire Service delivering water at 40l/sec to the hydrants in the maturation site.

- > On-site open water source is available independent of the dedicated water supply referred to

above.

- > Full perimeter access providing full tactical options
- > The absence of potential sources of ignition (Mechanical & Electrical equipment meeting ATEX requirements throughout) significantly reduce the risk of a fire starting.
- > The availability of fire hose reels.
- > The provision of a L1X Fire Detection and Alarm System.
- > External Fire Rated Façade as required to satisfy B4 External Fire Spread Requirements
- > Should the elements of structure supporting the external fire rated façade not achieve the fire rating inherently, they shall be provided with a proprietary system to achieve the performance as set out in Table A1 of TGD-B 2006 + A1 2020.

The reason proffered by Kildare County Council for imposing Condition 02 is "to ensure compliance with the Building Regulations."

Part B comprises of 5 Regulations B1-B5 ranging from means of escape, internal building linings, building compartmentation, external fire spread and fire brigade access and facilities.

It should be noted that an external fire rated façade has been accommodated in the design where needed to satisfy the requirements of B4 of TGD Part B. The building is also afforded 100% perimeter access for fire brigade access which is in excess of the 15% perimeter access required as set out in B5 of TGD Part B. As such, in the absence of a detailed specific reasons being provided, we have presumed based on the proposed design that the reason relates to B3 of the Building Regulations and more specifically in relation to perceived building compartment area

Condition 02 does not align with the provisions of the deemed to satisfy National Fire Safety guidance publication TGD Part B 2006 + A1 2020. TGD Part B prescribes recommendations for "high hazard" accommodation which are met through compartment size limitations and ratings. TGD B does not stipulate any requirements for water supply which are nonetheless acceded to by the client.

Compartment size limitations are the primary factor in need to provide a sprinkler system when designing a building to comply with Irish Building Regulations. Table 3.1 of TGD B 2006 + A1 2020 provides maximum floor areas and compartment sizes for un-sprinklered areas which are in excess of the proposals in this instance.

Therefore, it is submitted that there is no requirement to provide sprinklers. It is our opinion, that in addition to satisfying prescriptive requirements, that the proposed design approach substantially exceeds the functional requirement of B1-B5 of the Building Regulations.

It has been demonstrated that the Warehouse 02 & 03 satisfies the recommendations of B1-B5 of the Building Regulations and by reference to the relevant prescriptive standards, sprinklers are not required and as such that the proposed firewater retention system is suitable having regards to the same.

The additional measures set out above offers a very robust strategy which includes significant enhancements over and above the requirements of Part B of the Building Regulations.

These enhancements should mitigate any residual concerns which the Fire Authority may have. It is submitted that there is no justification for Condition 2 and ask An Bord Pleanála to overturn the same.

## **Appellants response to Fire Officers report: -**

Kildare County Council consider sprinklers necessary "to ensure that any outbreak of fire within the building is contained within the building, remains localised and is prevented from spreading throughout the building or to adjoining buildings".

Internal Fire Spread is considered in Section B3 and External Fire Spread is considered in Section B4 of Technical Guidance Document Part B. The proposed design exceeds the prescriptive requirements of the national deemed to satisfy the fire safety guidance which "will prima facia indicate compliance with Part B of the Second Schedule of the Building Regulations" .

The provision of adequate compartmentation between the warehouse areas and the provision of proprietary fire rated façade to satisfy external fire spread requirements with neighbouring buildings on the same site significantly reduce the risk of a fire spreading out of the compartment of ignition and reduces the risk of any adjoining compartments and opposing buildings becoming involved in the fire.

Compartment size limitations is the primary factor in determining the need to provide a sprinkler system when designing a warehouse building to comply with Irish Building Regulations. Table 3.1 of TGD B 2006 allows for a single storey high hazard storage building to have a maximum un-sprinklered floor area per compartment of not more than 1000m.

Appendix E of the deemed to satisfy National standard TGD B lists what are considered hazardous materials and defines what is intended by "high risk" . The guidance document makes design recommendations based on the hazard profile. Table 3.1 of the National standard recommends the maximum permissible area and volume for high hazard, which the proposal does not exceed. Accordingly, it is submitted that the presence of whiskey alone does not necessitate sprinklers as suggested.

The warehouse areas are not open to members of the public and staff levels will be low at all times. Each compartment shall be provided with alternative escape routes, and the entire building is to be fitted with a LIX Fire Detection and Alarm System allowing for the swift evacuation of all persons in the area in the early stages of the fire. As such it is highly unlikely that the rescue of any persons from the fire will be required by fire service responding to a fire in the warehouses. Accordingly, all Fire Service resources can be concentrated in extinguishing the fire. All operations by the responding Authorities will be risk based. The provision of on-site firefighting water of 40 litres per second for a period of 1 hour and the availability of a dedicated on-site open water source provide the Fire Service with significant on-site provisions for extinguishing a potential fire, while the fire compartmentation, external fire rated façade and limited compartment sizes will prevent the fire from growing to an area of any greater than 1000m<sup>2</sup> for at least 1 hour.

Proactive measures in fire prevention have been applied in the design of the building to remove potential ignition sources in the warehouses as all Mechanical & Electrical equipment will be specified installed to meet ATEX requirements.

As mentioned above, Appendix E of the deemed to satisfy National standard TGD B lists what are considered hazardous materials and defines what is intended by "high risk" . The guidance document makes design recommendations based on the hazard profile. Table 3.1 of the National standard recommends the maximum permissible area and volume for high hazard, which our proposal does not exceed. Accordingly, it is submitted that the presence of whiskey alone does not necessitate sprinklers as suggested.

The Seveso matter is being raised for the first time. Notwithstanding the provisions of Article 27 (3) of the Building Control Regulations vis a vis consideration of new material.

Notwithstanding the above, having regards to the proposed level of compartmentation & the extent of external fire rated facades proposed, it is not considered appropriate to consider a simultaneous fire in each of the warehouses as inferred above by reference to the absolute total quantity of whisky proposed to be stored on site.

The Chemicals Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations 2015 define a major incident as "an occurrence such as a major emission, fire, or explosion resulting from uncontrolled developments in the course of the operation of any establishment covered by these regulations, and leading to serious danger to human health or the environment, immediate or delayed, inside or outside the establishment, and involving one or more dangerous substances".

With regard to "human health", and as noted above, the warehouse areas are not open to members of the public and staff levels will be low at all times. Each compartment shall be provided with alternative escape routes, and the entire building is to be fitted with a L1X Fire Detection and Alarm System allowing for the swift evacuation of all persons in the area in the early stages of the fire. Areas of the premises with higher potential occupancy numbers are linked to the fire detection and alarm system also covering the warehouse areas. As such early warning shall be given to an incident in the warehouse areas and all persons will have sufficient time to evacuate safely.

With regard to "the environment", in the event of a warehouse fire any potential ethanol product spilling from the warehouse area will be directed to the remote storage pond. As such no runoff product or firefighting water will contaminate the surrounding lands as a result of a warehouse fire.

Ethanol combustion primarily produces CO<sub>2</sub> and H<sub>2</sub>O, neither of which are toxic to the environment. Incomplete combustion is possible in the event of a fire with an abundance of ethanol in the area, and incomplete combustion may produce carbon monoxide, formaldehyde, ammonia, benzene, and other toxic chemicals. However, the restricted compartment sizes in place will restrict the amounts of ethanol available to a potential fire and in turn will limit the potential production of toxic chemicals.

The Department of Housing, Local Government and Heritage updated the National Fire Safety Guidance in 2020 after the last publication of The Chemicals Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations in 2015 cited above. It is submitted that Table 3.1 of TGD B 2020 would have been updated if considered necessary.

Appendix E of the deemed to satisfy National standard TGD B lists what are considered hazardous materials and defines what is intended by "high risk". The guidance document proceeds to make design recommendations based on the hazard profile. Particularly where in Table 3.1 of the National standard recommends a maximum compartment size limitation of 1000m<sup>2</sup> for an un-sprinklered single storey high hazard storage building. Our design does not exceed this limitation. The quantity of storage within the building is considered to be addressed by the limits set out on area in Table 3.1. The inclusion of sprinkler systems in similar premises facilitates a larger compartment floor area rather than an increased storage capacity for the warehouse.

The warehouses are not open to members of the public and staff levels will be low at all times. Alternative escape routes are provided and the entire building is to be fitted with a L1X Fire Detection and Alarm System allowing for the swift evacuation of all persons in the area in the early stages of the fire. As such it is highly unlikely that the rescue of any persons from the fire will be required by fire service responding to a fire in the warehouses. Accordingly, all Fire Service resources can be



concentrated in extinguishing the fire. The provision of on-site firefighting water at 40 litres per second for a period of 1 hour and the availability of a dedicated on-site open water source provide the fire service with significant on-site provisions for extinguishing a potential fire, while the fire compartmentation, external fire rated facade and limited compartment sizes will prevent the fire from growing to an area of any greater than 1000m<sup>2</sup> for at least 1 hour.

Proactive measures in fire prevention have been applied in the design of the building to remove potential ignition sources in the warehouses as all Mechanical & Electrical equipment will be specified installed to meet ATEX requirements.

The provision of adequate compartmentation between the warehouse areas and the provision of proprietary fire rated façade to satisfy external fire spread requirements with neighbouring buildings on the same site significantly reduce the risk of a fire spreading out of the compartment of ignition and reduces the risk of any adjoining compartments and opposing buildings becoming involved in the fire.

Reference was made to previous cases considered by An Board Pleanála in respect to subject matter of this appeal during the assessment of the FSC application (see letter "21006 FSC 2 L003" dated 11/11/2022 & letter "21006 FSC 2 L004" dated 11/07/2023). Accordingly the above statement is submissible whereby Article 27 (3) of the Building Control Regulations advises "Without prejudice to article 31, an appellant shall not be entitled to elaborate upon, or make further submissions in relation to, the grounds of appeal stated in the appeal or to submit further grounds of appeal and any such elaboration, submissions or further grounds of appeal that is or are received by the Board shall not be considered by it".

## 6.0 Consideration and Conclusions

On page 3 of Technical Guidance Document B 2006 AMD 2020 it states the following: -

The materials, methods of construction, standards and other specifications (including technical specifications) which are referred to in this document are those which are likely to be suitable for the purposes of the Regulations. Where works are carried out in accordance with the guidance in this document, this will, prima facie, indicate compliance with Part B of the Second Schedule of the Building Regulations. However, the adoption of an approach other than that outlined in the guidance is not precluded provided that the relevant requirements of the Regulations are complied with. Those involved in the design and construction of a building may be required by the relevant building control authority to provide such evidence as is necessary to establish that the requirements of the Building Regulations have been complied with. In the case of an application for a fire safety certificate under the Building Control Regulations, it is necessary to demonstrate compliance with Part B of the Second Schedule to the Building Regulations.

Therefore, if the proposals in the Fire Safety Certificate are in accordance with the recommendations of Technical Guidance Document B 2006 AMD 2020; they are then prima facie in compliance with Part B of the Second Schedule of the Building Regulations.

As pointed out by the Appellant Table 3.1 of Technical Guidance Document B 2006 AMD 2020 gives recommendations on the maximum area and cubic capacity of a building or compartment and it states the following: -

Use	Purpose Group	Building form	Maximum floor area <sup>(1)</sup> of any one storey in the building or compartment (m <sup>2</sup> )	Maximum cubic capacity <sup>(1)</sup> of building or compartment (m <sup>3</sup> )
Residential (Dwellings)	1(a) 1(b) 1(c)	any	no limit	no limit
Residential (Institutional)	2(a)	single storey more than one storey	3000 <sup>(3)</sup> 1500 <sup>(3)</sup>	no limit <sup>(3)</sup> no limit <sup>(3)</sup>
Other Residential	2(b)	more than one storey	2000 <sup>(3)</sup>	no limit <sup>(3)</sup>
Office	3	more than one storey	4600	28000
Shop	4(a)	single storey more than one storey	4000 2800	20000 7100
Shopping Centre	4(b)	any	see 3.5.3	see 3.5.3
Assembly and Recreation, Other Non-Residential	5, 8	more than one storey	1900	21000
Industrial <sup>(2)</sup>	6	single storey (a) normal hazard (b) high hazard	93000 33000	no limit no limit
		more than one storey (a) normal hazard (b) high hazard	7500 2800	no limit 17000
Storage <sup>(2)</sup>	7(a)	single storey (a) normal hazard (b) high hazard	14000 1000	no limit no limit
		more than one storey (a) normal hazard (b) high hazard	2800 500	21000 4200
	7(b)	car park	no limit	no limit

Therefore, in accordance with Table 3.1 of Technical Guidance Document B 2006 AMD 2020 a single storey high hazard storage compartment can have an area of up to 1000m<sup>2</sup> (with no limit on cubic capacity).

The two proposed compartments in the proposed design are less than this recommended maximum area.

It is noted that there is no recommendation for a such a compartment to have sprinkler protection. Indeed, the only allowance / mention of sprinkler protection would be in Note 1 to this table where it states that when sprinkler protection is provided then the area can be increased to 2000m<sup>2</sup> for a high hazard single storey compartment.

Therefore, given the above consideration it is concluded that a high hazard storage compartment as proposed in the Fire Safety Certificate application is in accordance with the recommendations of Technical Guidance Document B 2006 AMD 2020, and therefore, prima facie in compliance with Part B of the Second Schedule of the Building Regulations.

## **7.0 Recommendation**

On the basis of my findings and conclusions I recommend that An Bord Pleanála grant the appeal and instruct that Condition 2 is removed from the Fire Safety Certificate.

**Signed by:**

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**Des Fortune**

MSc(Fire Eng), BSc(Eng), CEng MIEI, MIFireE

**Date:**

**5<sup>th</sup> June 2024**