

The Arboury, Belgard Road, Tallaght

Outline Fire Strategy[©]

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For Landmarque Belgard Development Company
Ltd.

MMS

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/1 INTRODUCTION

1.1 PROJECT DESCRIPTION

This Report provides an outline fire safety strategy on the Landmarque Belgard Development Company Limited's residential development at The Arboury, Belgard Road, Tallaght.

The site of c.0.898 ha is located at the former ABB Site, Belgard Road, Tallaght, Dublin 24, D24 KD78. The site is bound by Belgard Road (R113) to the east, Belgard Square North to the North and Belgard Square East to the west and Clarity House to the south.

The proposed development will consist of:

1. Demolition of all existing structures on site (with a combined gross floor area of c. 3625 sqm)
2. The construction of a mixed-use residential development set out in 3 No. blocks including a podium over a basement, ranging in height from 2 to 13 storeys (with core access above to roof terrace), comprising:
3. 334 no. residential units of which 118 No. will be Build to Rent (BTR) residential units, with associated amenities and facilities across the development,
 - 4 No. retail/café/restaurant units and 3 no. commercial spaces associated with the 3 no. live-work units (723 sqm combined),
 - Childcare facility (144 sq.m.),
 - 670 No. bicycle parking spaces including 186 visitor spaces; 117 car parking spaces (including 6 disabled spaces) are provided at ground floor and basement level.
 - The overall development has a Gross Floor Area of 29,784 sq.m.
 - Two (2) podium residential courtyards and three (3) public accessible pocket parks, two (2) to the North & one (1) to the South.
 - Linear Park (as a provision of the Tallaght Town Centre LAP) providing safe public pedestrian and cycling access between Belgard Rd and Belgard Square East

Of the total 334 residential units proposed, unit types comprise:

Block A (Build-to-Rent)

- 91 no. 1 bed units
- 1 no. 2 bed 3 person units
- 26 no. 2 bed 4 person units
- 1 no. 2-bed 4 person live-work unit
- 11 no. 3-bed units

Blocks B & C

- 2 no. live-work studio units
- 102 no. 1-bed units
- 12 no. 2-bed 3 person units
- 88 no. 2-bed 4 person units including 5 no. duplex units

4. All associated works, plant, services, utilities, PV panels and site hoarding during construction

1.2 BASIS OF DESIGN

Compliance with the Functional Requirements of Part B of the Second Schedule to the Building Regulations is demonstrated by reference to the relevant recommendations of Technical Guidance Document B 2020 (TGDB) read in conjunction with the relevant sections of BS 9991: 2015: Fire Safety in the design, management and use of residential buildings – Code of practice (BS9991) and BS9999: 2017 Fire Safety in the Design, Management and Use of Buildings.

/2 SPRINKLER PROTECTION

2.1 GENERAL

As part of this development is in excess of 30m from fire service access level to topmost occupied floor and the development includes open plan apartments it is proposed that sprinkler protection will be provided within the development to comply with BS 9251 2014 Code of Practice for residential sprinkler systems.

2.2 EXTENT OF SPRINKLER COVERAGE

Residential sprinklers in accordance with BS 9251: 2014 will be provided in the residential areas of Blocks A, B & C. Note that for a residential sprinkler system coverage is normally provided within apartments only and coverage should not be required within corridors / stairs or residential amenity areas.

While Blocks A & B are less than 30m in height, as open plan apartments are proposed, these blocks will also require sprinkler protection. The requirement to also provide sprinkler protection in the Level 00 and Basement commercial and ancillary accommodation including the car park, will be subject to further assessment in due course at Fire Safety Certificate application stage in consultation with Dublin Fire Brigade.

/3 MEANS OF ESCAPE

3.1 APARTMENT LAYOUTS – OPEN PLAN APARTMENT DESIGN

The guidance most relevant to the design of open plan apartments can be found within Technical Guidance Document B 2020 read in conjunction with BS 9991 2015.

The following recommendations will be adhered to:

- A category 2 residential sprinkler system must be provided (as per BS 9251:2004)
- A Grade D, LD1 alarm and detection system must be provided (as per IS 3218:2013).
- The open plan apartment should be situated on a single level only
- The floor to ceiling height in the open plan apartment should be a minimum of 2.25m
- Cooking appliances should not be adjacent to the apartment entrance and should be 1.8m away from any escape routes.

3.2 DESIGN OF COMMON ESCAPE ROUTES

A multi stair approach is proposed in Blocks A, B and C. This approach is acceptable in apartment buildings provided that the travel distance limits are within 15m (in dead-end portions of the corridor) and 30m (in areas with two means of escape). The travel distances are based on the apartments being sprinkler protected.

The common corridor / lobbies referenced above should be ventilated by either:

- A 1.5m² automatically openable window (AOV) linked to the fire detection and alarm system; or
- A 1.5m² automatically openable vent (AOV) into a 1.5m² shaft linked to the fire detection and alarm system, or
- A mechanical venting solution with reduced shaft size, (e.g. Crossflow vent shaft system or similar).

A 1m² AOV linked to the fire detection and alarm system will be provided at the top of each stairs.

3.3 FIRE DETECTION AND ALARM SYSTEM

As discussed above each apartment will be provided with a self-contained fire detection and alarm system to achieve a Category LD2 Grade D System in accordance with IS 3218: 2013. Apartments are provided each duplex/open plan unit will be provided with a Category LD1 Grade D system.

All common escape routes will be provided with a Category L3 fire detection and alarm system in accordance with IS 3218: 2013, with heat detector/sounder coverage in each apartment sited in accordance with recommendations in TGD-B 2020.

/4 STRUCTURAL FIRE RESISTANCE AND COMPARTMENTATION

4.1 FIRE RESISTANCE RATINGS:

The structural fire resistance ratings for elements of structure should achieve 90/120 minutes structural fire resistance as determined by the height of the block.

4.2 COMPARTMENTATION

All floors will be designed as compartment floors having 90/120 min fire rating as appropriate to the height of the block. Apartments will be fully enclosed in compartment wall construction meeting the ratings specified in the guidance.

/5 EXTERNAL FIRE SPREAD

An initial assessment of the external fire spread for Residential Blocks indicates that there are no significant issues with External Fire Spread.

/6 ACCESS AND FACILITIES FOR THE FIRE SERVICE

6.1 FIRE BRIGADE ACCESS ROUTES

External access to each block is being provided such the fire tenders can access to within 18m of the entry point/dry riser inlet to each fire fighting shaft.

6.2 FIRE FIGHTING SHAFTS

Each of the Residential Blocks will have designated firefighting shafts as each building has a storey which is over 18m in height. Firefighting shafts to be constructed as shown below:

The firefighting shafts will be designed to include:

- Firefighting stairway,
- Fire Fighting Lifts with dual power supply to be designed in accordance with BS EN 81-72, and BS 8419,
- Ventilated lift lobbies.

17 SMOKE VENTILATION FACILITIES

Smoke venting is being incorporated in the design of each of the following areas:

- Common corridors in residential blocks
- Fire fighting shafts (lobbies and stairs)
- Protected ventilated lobbies at Level 00 and -01 (in specific risk areas as defined in Guidance)
- Level 00 and B1 car park areas