APARTMENT DEVELOMENT, KINSALE ROAD, CORK.

FIRE STRATEGY REPORT.

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1. DESCRIPTION OF DEVELOPMENT:

The proposed development consists of a new 5 storey building that will contain Apartments at all levels.
The layout is such that a long corridor serves Apartments at each upper level.
The corridors provide access to 2 no. escape stairways that serve all upper floors.
The stairways are sited at the extremities of the corridors, so as to ensure there are good alternative escape routes available on exiting an Apartment.
Details of the layout of the development are set out on Deady Gahan Architects drawings.

Under the provisions of the Building Control Regulations 2006-2020, the building is subject to a Fire Safety Certificate.
The application for the Fire Safety Certificate will be submitted to the Local Authority Fire Department and will be accompanied by a fire safety compliance report and fire safety compliance drawing.
The report and drawing will demonstrate in detail how the building will be made to comply with Part B (Fire) of the Building Regulations 2006-2019.

This strategy report is to summarise the fire protection features that are being incorporated into the fire safety design of the development.

The following documents will be used to demonstrate this compliance;

i) BS 5588: Part 1: 1990: Fire Safety in the Design, Construction and Use of Residential Buildings – Code of Practice.

ii) Technical Guidance Document B – Fire (2006) (Reprint 2020) to the Irish Building Regulations 2006 - 2019.

iii) BRE Report 187 2014: External Fire Spread: Building Separation and Boundary Distances.

2. MEANS OF ESCAPE IN CASE OF FIRE:

2.1 Internal Layout of Apartments:

i) The internal layout of each Apartment will be such that all habitable rooms are entered directly from a protected entrance hall.
These entrance halls will be enclosed in half-hour fire rated construction and FD30 doorsets.

ii) No habitable rooms within the Apartments will form inner rooms.

iii) The maximum travel distance within an Apartment entrance hall will not exceed 9m.
This is measured from the door of the most remote room, within the Apartment, to the Apartment exit door.

iv) All cookers are to be located at least 1.8m from the exit door serving the kitchen/living room.

v) The exit door from each Apartment leads to a protected Common Corridor which in turn leads to Escape Stairways.

This layout ensures compliance with the principles set out under BS 5588: Part 1: 1990, as required.

2.2 Protection of Escape Stairways and Common Corridors:

i) The Common Corridors that access the Escape Stairways at each floor level are to be enclosed in one hour fire rated construction with access to Apartments from the Corridors to be by way of FD30S doors.

ii) All Corridors provide access to both Escape Stairways. The Stairways are sited at the extremities of the Corridors, so as to provide good alternative escape routes.

iii) The maximum travel distance in a Common Corridor will not exceed 30m.
This is measured from the entrance door of any Apartment to a storey exit door into an Escape Stairway.

iv) Each Corridor is to be provided with FD30S cross-corridor firedoors to ensure the following;

- There is no undivided length of corridor common to more than 1 storey exit.
- Dead-end corridors are fire separated from corridor areas that have escape in both directions.

Each cross-corridor firedoor is to be provided with a suitably sized fire rated glazed vision panel.

v) Dead-end areas of corridor are to be provided with a 1.5m^2 automatically opening smoke vent.
The smoke vent will either go direct to open air or a smoke vent that vents to open air at the roof of the building.

vi) Corridor areas with escape in both directions are to be provided with manually opening smoke vents for use by the fire service.
These manual vents are to have an area of at least 1m^2.

vii) The Escape Stairways are to be enclosed throughout their height in one hour fire rated construction with access at each level to be by way of FD30S doors.
The Stairways will discharge directly to open air at ground floor level.

viii) The Escape Stairways are each to be provided with a 1m^2 automatically opening smoke vent located at the head of the Stairway. The vent will be arranged to open on activation of the smoke detection within the stairs.
The vents will also have a manually opening mechanism.

These provisions ensure compliance with the principles set out under BS 5588: Part 1: 1990, as required.

2.3 Active Fire Protection Systems Serving the Buildings:

The building is to be provided with a number of active fire protection systems as part of the fire safety design strategy.
Full details of these will be set out in the compliance report submitted with the application for the Fire Safety Certificate.
The following is a summary of the systems;

i) The building will be provided with a comprehensive, common automatic fire detection and alarm system.
The system will be designed, installed and commissioned in accordance with IS 3218: 2013 +A1: 2019.
The system will provide Type L2/L3x automatic detection coverage.

vi) In addition to the provision of a common fire alarm system, each Apartment is to be provided with a domestic fire alarm system that is compliant with BS 5839: Part 6: 2019.
The domestic systems will be Grade D type systems providing Type LD2 detection/alarm coverage.

vii) The building is to be provided with an emergency lighting system that provides coverage to all common circulation areas (Stairways and Corridors) and the areas outside final exits.
The system will be designed, installed and commissioned in accordance with IS 3217: 2013 + A1: 2017.

viii) Maintained illuminated Exit signs will be provided at all storey and the final exits serving the Building.
These will be supplemented by additional directional Exit signage so as to ensure that all escape routes are readily apparent to the building occupants.
All signs will be of a type complying with BS 5499: Part 5: 2002.

ix) All routes of escape will comply with the general fire protection features set out in Section 1.4 of Technical Guidance Document B.
Such general fire protection features include suitable specifications for the following;

- Door ironmongery.
- Door widths and swings.
- Floors of escape routes.
- Height of escape routes.
- Final exits.
- Refuse stores.
- First-aid fire-fighting equipment.
- Egress provisions for disabled persons.

3. INTERNAL FIRE SPREAD AND STRUCTURAL FIRE PROTECTION

The provisions for ensuring that Parts B2 and B3 of the Building Regulations are being complied with for the Apartment building are set out in the following paragraphs and are based on demonstrating compliance with Section B2 and Section B3 of Technical Guidance Document B;

i) All internal wall and ceiling linings throughout the development will consist of plasterboard/fireline board and plastered masonry.
These will achieve a Class B flame spread rating to EN 13501 which ensures compliance with Regulation B2 of the Building Regulations.

ii) All elements of structure (other than those which solely support the roof covering) will be fire rated to 60 minutes.

iii) Each individual Apartment is to form its own separate fire compartment. The walls and floors forming this fire compartmentation are to form compartment walls and floors.

iv) The Bike Store and Refuse Store are each to be enclosed in 60 minute fire rated construction and accessed from outside the building.

v) Each Stairway enclosure is to form a protected shaft.

vi) Cavity barriers are to be provided within the external wall cavities, as necessary, to ensure there will be no excessive paths for the spread of fire and smoke within the cavities.

vii) All services that penetrate the designated fire barriers within the building will be fully firestopped in accordance with the specific criteria set out in Section 3.4 of Technical Guidance Document B.

4. EXTERNAL FIRE SPREAD:

Regulation B4 of the Building Regulations is concerned with ensuring that external fire spread will not occur from these buildings to each other or beyond the site boundaries.
The numbers and areas of windows and doors on the external walls of the building have been assessed to ensure they do not cause a risk of external fire spread beyond the site boundaries.
The assessment has been carried out using the "Enclosing Rectangles" method set out in BRE Report 187: External Fire Spread: Building Separation and Boundary Distances.
Account has been taken of the extent of compartmentation proposed for the development and also the fireload associated with Residential usage.

The type of roof covering associated with the buildings will be chosen as necessary, to ensure it achieves at least an AC classification.
Rooflights will be of glazed construction.

5. ACCESS AND FACILITIES FOR THE FIRE SERVICE:

Regulation B5 of the Building Regulations is concerned with ensuring that the development is provided with adequate access and facilities for the Fire Service in order to deal with a fire incident.
The following is being provided for in order to ensure compliance with Regulation B5 is being achieved;

5.1 External Fire Hydrants:

The building is to have a total ground floor area less than 1000m^2.
Therefore under the provisions of Section 5.1.7 of Technical Guidance Document B, the site is not required to be served by external fire hydrants.
Notwithstanding this however, external fire hydrants exist along Kinsale Road which can adequately serve the development in a fire situation.
These are Local Authority fire hydrants and are fed directly from the Local Authority watermain.

5.2 Access for Fire Appliances:

The building has a total volume between 7000m^3 and 28000m^3 and a top storey height in excess of 10m.
Technical Guidance Document B would state that the building should be provided with fire appliance access along 50% of the perimeter length.
The specifications of the vehicle access route should be such that the appliance can drive to within 2m of the elevation.
Due to the restricted size and shape of the site, it is not feasible to comply with this criteria in this instance.

In view of this, it proposed to install dry risers in each stairway and provide high reach type fire appliance access along the front elevation.

5.3 Personnel Access for Firefighting Purposes:

Personnel access to the building for the Fire Service will be adequately provided for by a combination of the normal means of escape from the building and the provisions for fire appliance access.
Details of these provisions are set out above.

5.4 Smoke Ventilation of Stairways:

Each escape stairway is to be provided with a 1m^2 automatically opening smoke vent located at the head of the stairs.