

# FIRE STATEMENT

**Project:** 105 Judd Street

**CAN No:** G-006[1.1]

**Date:** 3 March 2022

**Project No:** 14516 - 001

**Pages:** 6

## INTRODUCTION

This fire safety statement has been prepared to accompany the planning application for the 105 Judd Street development and address The London Plan (March 2021), Policy D5 (Inclusive Design) and D12 (Fire Safety).

The intention of this fire safety statement is to address the main fire safety principles and provide an overview of the requirements and recommendations that the scheme will meet.

## PROPOSED DEVELOPMENT

The 105 Judd Street development is an existing development including lower ground floor, ground floor to third floor office building. It is proposed to extend two storey as office to fourth floor and fifth floor. The new office floor, which would be lab enabled space and be suitable for knowledge quarter users, on fifth floor is approximate 708m<sup>2</sup> and the new office on fourth floor has 771 m<sup>2</sup> office area with 185 m<sup>2</sup> open terrace as shown below. Both new fourth floor and fifth floor are served by a single staircase as shown below.

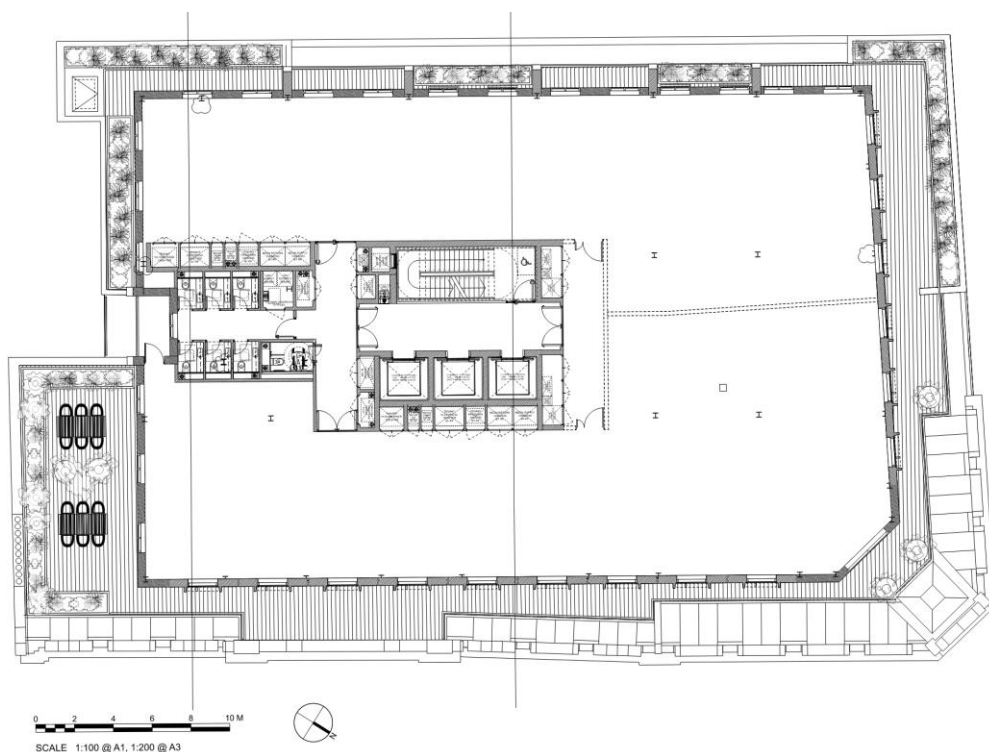


Figure 1: Proposed fourth floor plan

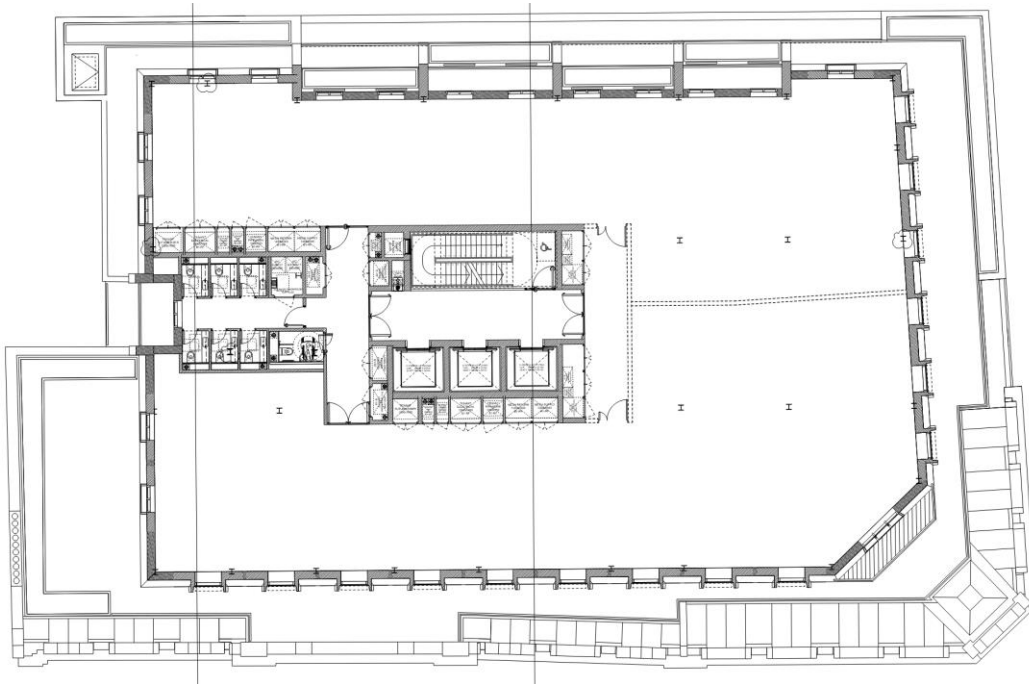


Figure 2: Proposed Fifth Floor Plan

The expected occupancy load factor is 6 m<sup>2</sup>/person in open plan office as per BS 9999:2017. The expected occupancy load in the new office is 118 persons per fifth floor and 129 persons for the fourth floor. The Building Regulation requires that the building over 11m and occupancy load over 60 persons should have at least two independent exits. It is proposed to use performance-based fire engineering to justification the deviation of the single stair subject to the approval from the Building Control and Fire Authority. The solution has yet to be determined but may include:

- Compartment floors;
- Lobby protection to stair;
- L1 fire and smoke detection system;
- Mechanical extraction to the lobby with automatic suppression system or staircase pressurization

We have discussed the above with our Building Control Body who are supportive of the above.

The existing Lower Ground Floor to third floor will remain its occupancy as office use with two staircases available.

There is one firefighting shaft in the central core of the building serving fourth and fifth floor and; there are two firefighting shafts serving the existing part of the building (1/F to 3/F).

The existing structure for 60 minutes fire protection will be upgraded to 90 minutes element of structure for building over 18m height.

The site is bounded by roads on three sides with Judd Street, Hasting Street and Thanet Street as shown in Figure 3. The firefighting access point to the firefighting shaft at the central core. The firefighting access point to the dry riser main will be less than 18m and the dry riser inlet will be visible from the firefighting.

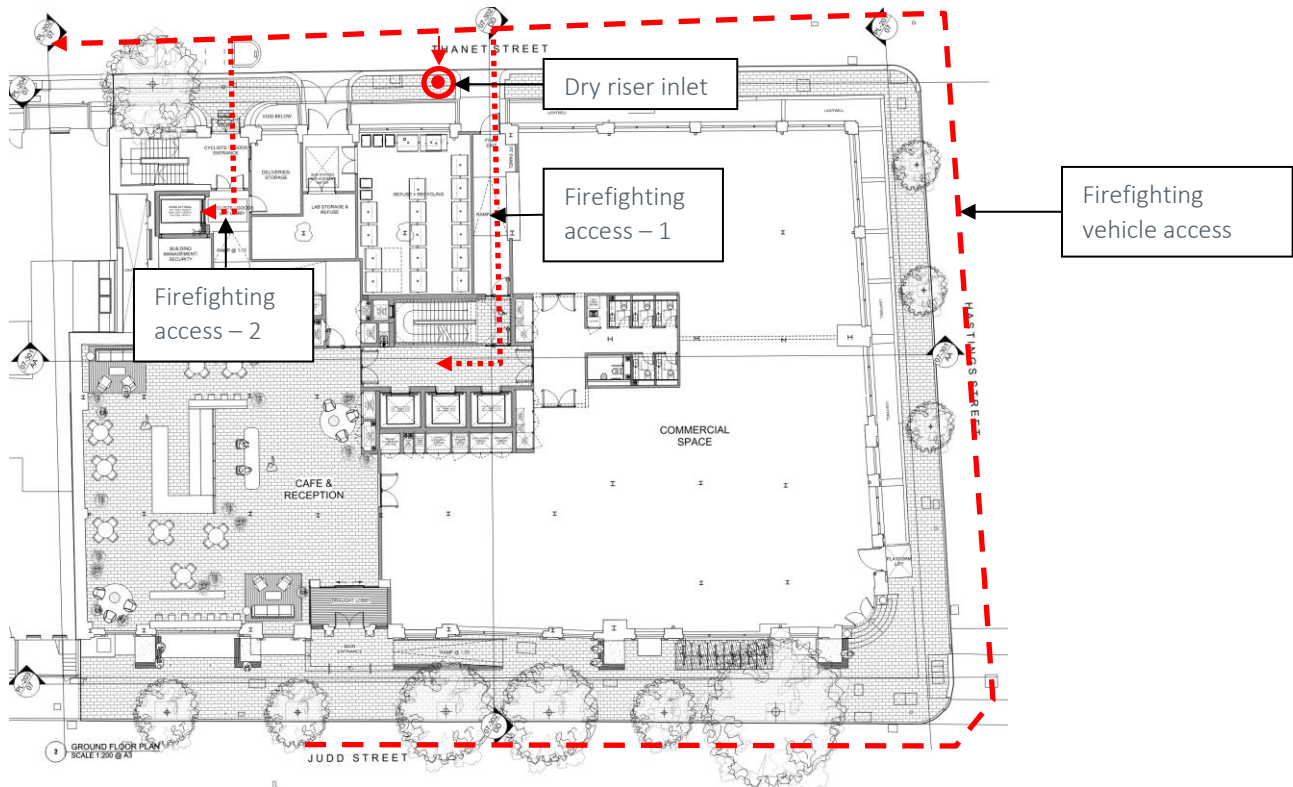


Figure 3: Site Plan (with firefighting access routes)

### **LONDON PLAN POLICY D12 (FIRE SAFETY)**

The London Plan Policy D12 states that in the interests of fire safety and to ensure the safety of all building users, development proposals must achieve the highest standards of fire safety and ensure that they:

1. Identify suitably positioned unobstructed outside space:
  - a. For fire appliances to be positioned on
  - b. Appropriate for use as an evacuation assembly point
2. Are designed to incorporate appropriate features which reduce the risk to life and the risk of serious injury in the event of a fire; including appropriate fire alarm systems and passive and active fire safety measures;
3. Are obstructed in an appropriate way to minimize the risk of fire spread;
4. Provide suitable and convenient means of escape, and associated evacuation strategy for all building users;
5. Develop a robust strategy for evacuation which can be periodically updated and published, which all building users can have confidence in; and
6. Provide suitable access and equipment for firefighting which is appropriate for the size and use of the development

All major development proposals should be submitted with a Fire Statement, which is an independent fire strategy, produced by a third party suitably qualified assessor. The statement should detail how the development proposal will function in terms of:

1. The building's construction: methods, products and material used, including manufacturers details;
2. The means of escape for all building users: suitably designed stair cores, escape for building users who are disabled or require level access, and the associated evacuation strategy approach;
3. Features which reduce the risk to fire: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans;



4. Access for Fire Service personnel and equipment: how this will be achieved in an evacuation situation, water supplies, provision and positioning of equipment, firefighting lifts, stairs and lobbies, any fire suppression and smoke ventilation systems proposed, and the ongoing maintenance and monitoring of these;
5. How provision will be made within the site to enable fire appliances to gain access to the building; and
6. Ensuring that any potential future modifications to the building will take into account and not compromise the base build fire safety / protection measures

These items will be addressed in the following sections for the proposed development.

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#### **LONDON PLAN POLICY D5 (INCLUSIVE DESIGN)**

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The London Planning Policy D5 states that in the interests of inclusive design that boroughs, in preparing their Development Plans, should support the creation of inclusive neighbourhoods by embedding inclusive design, and collaborating with local communities in the development of planning policies that affect them.

The development proposal should achieve the highest standards of accessible and inclusive design. They should:

1. Be designed taking into account London's diverse population
2. Provide high quality people focused spaces that are designed to facilitate social interaction and inclusion
3. Be convenient and welcoming with no disabling barriers, providing independent access without additional undue effort, separation or special treatment
4. Be able to be entered, used and exited safely, easily and with dignity for all
5. Be designed to incorporate safe and dignified emergency evacuation for all building users.

Design and Access Statements, submitted as part of development proposals, should include an inclusive design statement.

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#### **COMPETENCY STATEMENT**

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This Fire Statement is produced and review by a competent professional MIFE (MIFE Membership: 0073328), Ray Ho Kin Wai with 12 years experience in performance-based fire engineering design. Miller Hannah, BEng (Hons), CEng, MIFireE is the reviewer of this fire statement.



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## BUILDING CONSTRUCTION

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- In general, the building is proposed to be built using traditional construction methods. In case of the use of Cross Laminated Timber (CLT) for the single staircase extension, it should be fully encapsulated.
- To limit the spread of fire within the building, all wall and ceiling linings will satisfy the appropriate classification stated within BS 9999:2017.
- In accordance with BS 9999:2017 for buildings of more than 18 m and less than 30m building height for an A2 risk profile is 90 mins fire rating. Existing structure will be upgraded if it is not 90 minutes fire rating.
- A space separation analysis will be undertaken. The space separation analysis will be established areas of the facades with percentage of unprotected opening. The design will be provided with an adequate degree of fire resisting construction in the external wall as per the external fire spread analysis.
- The external wall will be complied with BS 9999 for the combustibility and external fire spread.

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## CONSTRUCTION, DESIGN AND MANAGEMENT REGULATIONS

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- Design projects undertaken in the UK are subject to the requirements of the Construction (Design and Management) Regulation 2015, the objective of which is to ensure that health and safety issues are properly considered during a project's design and development so that the risk of harm to those who have to construct, use and maintain the building is reduced.
- As a designer, in accordance with Regulation 9 of the CDM regulations, NDY will take into account the general principles of prevention in the preparation of this report and where reasonably practicable, eliminate, minimize and/or control foreseeable hazards associated with the design. Where elimination is not reasonably practicable, NDY will be required to provide 'pre-construction' information in respect of any significant and / or unusual project-specific hazards that remain.

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## MEANS OF ESCAPE PROVISION

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The evacuation strategy for the office building is based on a simultaneous evacuation philosophy. Thus, the fire alarm system will be configured such that all occupants in the building are evacuated at the same time in the event of a fire emergency.

- A Category L1 automatic fire detection and alarm system will be provided in the building through all areas as additional enhancement.
- Two escape stairs will be provided from Lower Ground Floor to Third Floor. Only single stair is proposed to provide for the extension with engineering justification and enhancements.
- Mechanical ventilation will be provided in the protected lobby in the extension of single stair with sprinkler system or pressurized staircase subject to further review and approval from the authorities.
- The layouts have been designed to meet the maximum permissible travel distances permitted within BS 9999:2017 based on the use of the space.
- Refuge for people who require assistance to evacuate will be provided at each stair exit. Emergency voice communication systems (EVC) will be provided at each refuge area. A disabled evacuation lift may be required for the disabled evacuation under the London Plan Policy 2021.

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## FEATURES INCORPORATED TO REDUCE THE RISK TO LIFE

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- Compartment floors will be provided for the new extension as the additional enhancement.
- At least two independent storey exits will be provided for the extension to the single stair to prevent the single stair to be blocked by a fire.
- Sprinklers with mechanical smoke extraction system in protected lobby or pressurization of staircase will be provided to justify the single stair to 4<sup>th</sup> and 5<sup>th</sup> level.



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#### FIRE-FIGHTING ACCESS WITHIN THE BUILDING

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- For the office building, access for the Fire Service will be provided at Ground directly into the firefighting shafts.
- One firefighting shafts will be provided for the office building, each comprising of a firefighting stair, a firefighting lift, a smoke ventilated firefighting lobby, an AOV at the head of the stair and a dry fire main.
- The fire mains will be located so as to meet the 45m hose laying distance limit to any point on the floor plate.
- The basement smoke ventilation strategy for office building will remain as its existing condition.
- Additional door will be provided on the G/F to disconnect the single stair between the upper floors and the basement.

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#### FIRE-FIGHTING ACCESS TO THE BUILDING

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- The primary access route for the Fire Brigade to the firefighting shafts will be via the Thanet Street.
- Dry riser inlets on the face of the building, within 18m of a tender access route, will be provided for each dry riser main.
- Existing hydrant will cover 100m or new hydrants will be provided within 90m of the fire main inlet points serving the site.

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#### MEASURES TO PROTECT THE BASE BUILD FIRE SAFETY STRATEGY

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- Any future modifications to the scheme will be subject to Building Regulations approval and should consider the base build fire strategy, such that fire safety measures are not compromised within the development.

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#### CONCLUSION & DECLARATION OF COMPLIANCE

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The fire safety statement has been prepared to outline the approach and provisions relating to fire safety for 105 Judd Street development for compliance with London Plan Policy D5 and D12. The fire safety of the proposed development and the fire safety information satisfy the requirements of Policies D12(A) and D5(B5).

This statement demonstrates that the proposals have considered fire safety at the earliest stage, and the further development of the fire strategy will be based on these principles. The fire strategy will be further developed for submission to the Approving Authority at the appropriate time and will meet the functional requirements of the Building Regulations 2010, taking BS 9999:2017 for the office building.

NORMAN DISNEY & YOUNG

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