CONSULTANT ADVICE NOTICE

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Name	Company	Email

Fire Statement

INTRODUCTON

This fire safety statement has been prepared for St. Pancras Campus and addresses 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 St. Pancras Campus development will consist of a new commercial office building and two residential blocks. A number of retail and light industrial units have also been included at ground floor within all three buildings. A common basement connects all three buildings on the site and will contain space for plant and other ancillary accommodation such as cycle stores and other general storage areas. Light industrial and retail units will also extend to basement level.

The commercial office will consist of basement, ground and five above ground storeys with a typical floor area of approximately 2,400 m^2. The residential buildings are divided into market and affordable blocks with the market apartment block situates over 1^{st} to 4^{th} floors and the affordable apartments situates over 1^{st} to 5^{th} floors. The building heights are as follows, measured from the access level to the finished floor level of the upper most occupied storey:

- Commercial office: 22.9m
- Market apartments block: 13.8m
- Affordable Apartments: 15.8m

The commercial building will be fitted throughout with a sprinkler system and L1 automatic fire detection and alarm systems.

The residential apartments will be provided with sprinkler systems complying with BS 9251-2014.

As the fire risk in the common corridors and stairs is low and all other ancillary accommodation i.e. bin stores, basement plant rooms and cycle stores are separated from the common escape routes by fire resisting lobbies; sprinkler installations will cover the apartments only and will not be provided within other areas of the apartment buildings.

All parts of the residential buildings that are immediately adjacent to the office building at basement level will be separated by 120 min fire resisting construction.

The site is bounded by roads on all sides with Georgiana Street to the north, St Pancras Way to the east, Pratt Street to the south and Royal College Street to the West. A new open courtyard area will be created between the three buildings and a

covered roadway is proposed which will run through the ground floor of the commercial building to provide servicing access to the light industrial units. Perimeter access will be available to 100% of the exterior of the buildings. The site plan is shown below.

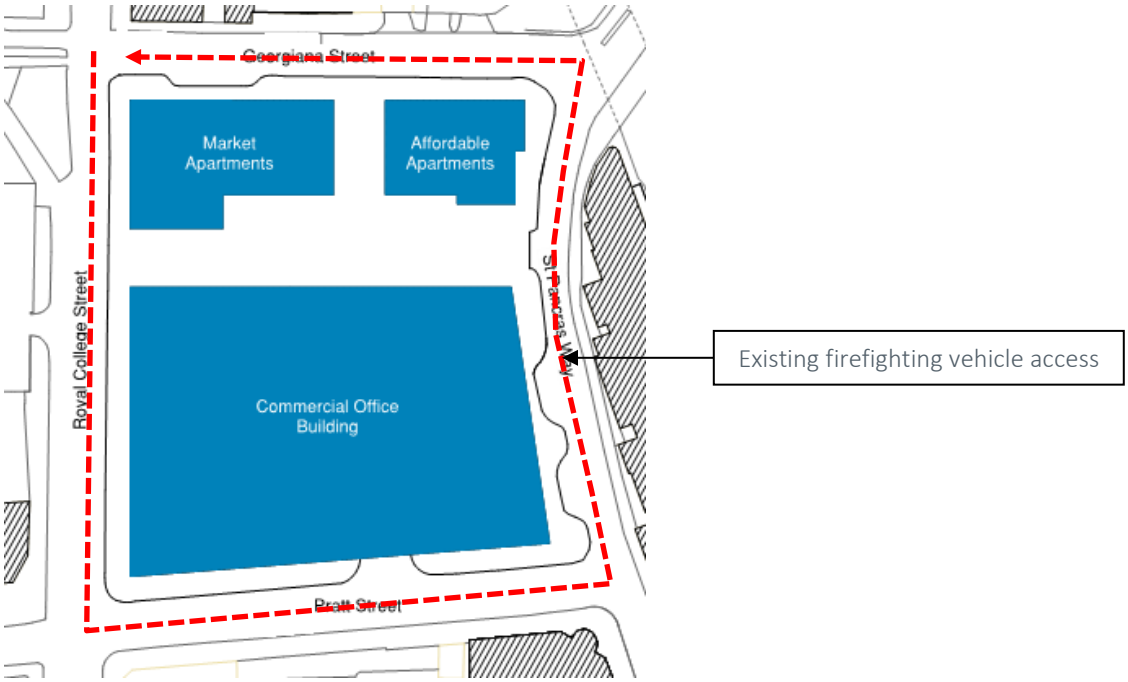

Figure 1: Site Plan for Firefighting Access

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 constructed 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.

LONDON PLAN POLICY D5 (INCLUSIVE DESIGN)

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.

COMPETENCY STATEMENT

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.

BUILDING'S CONSTRUCTION, METHODS, PRODUCTS AND MATERIALS USED

- In general, the building is proposed to be built using traditional construction methods.
- The St Pancras campus consists of three buildings sitting above a single basement construction. The largest of the three contains office and light industrial spaces, the other two are residential buildings, one block is for market sale and contains retail uses at ground floor, the other is for affordable housing and has light industrial spaces at ground and basement. The demise of each use and block is sperate, and access between them is not possible through the shared basement. At ground level between the buildings is a public space which contains planting, seating and playing spaces as well as a vehicular access road.
- The single storey basement is formed by a perimeter of concrete piles, this is then lined on the walls and floor with a waterproofing membrane and waterproof concrete forming a watertight tray. The basement is closed by an insitu concrete slab. The ground floor is separated by the access road which runs through the building north to south and provides access to the light industrial units. Above ground level the office building will be constructed using a steel frame utilising a 12x12m grid with a 6m perimeter grid at the façade. The floor slabs are constructed from precast concrete planks resting on the steel beams with an insitu topping. The floor plates are deep and as a result there is a generous floor to floor height of 4m to allow light into the plan. In the centre of the plan is a reinforced concrete core which acts to stiffen the steel frame and provides all the vertical circulation and services. The massing of the building diminishes toward the top with setbacks on the east and west elevation on the 4th floor and north and south elevations on the 5th floor. On the 6th and 7th floors the building sets back further on all sides. Here there is a shared terrace and spaces for plant equipment. The building envelope is formed from unitised panels which contain the glazing, insulation and waterproofing and acts as a frame to hold the rainscreen cladding. The external cladding is formed from red sandstone panels, white precast concrete piers and brown powder coated aluminium sections. On the 6th and 7th floors there is an aluminium screen. The façade has horizontal and vertical cavity barriers at every floor and vertical bay to allow subdivision of the floor plate.
- The two residential buildings are constructed with an insitu concrete frame. The market sale block is 5 storeys including plant and the affordable is 6 storeys including plant. The apartments have inset loggias which have metal and glass balustrades and are clad in an assemblage of red sandstone and white precast concrete. As with the office building a core is formed in concrete to stiffen the frame. Internal partitions are formed in plasterboard and metal studs, the external face uses a steel framing system which spans floor to floor with infill insulation, on the outside of this is a further layer of insulation and waterproofing, before a rainscreen of klinker bricks and glazed brick slips. The façade of the building has cavity closers around windows and cavity barriers horizontally at every floor and vertically to separate compartments (units).
- To limit the spread of fire within the building, all wall and ceiling linings will satisfy the appropriate classification stated within BS 9999.
- In accordance with BS 9999 for buildings of greater than 18 m but less than 30 m in height the recommended minimum period of fire resistance to be applied to the building structure for an A1 risk profile is 60 mins, where sprinklers are provided. The office building will therefore be constructed to achieve a minimum structural fire performance of 60 mins. The residential buildings are both lower than 18 m and will therefore be constructed to achieve a minimum structural fire performance of 60 mins.
- A space separation analysis has been undertaken. The space separation analysis has established areas of the facades which can be fully unprotected. Therefore, 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 comply with BS 9999 and Regulation 7(2) for the combustibility and fire spread.

CONSTRUCTION, DESIGN AND MANAGEMENT REGULATIONS

- 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.

MEANS OF ESCAPE PROVISION FOR RESIDENTIAL BUILDINGS

The residential buildings will operate a defend in place strategy where only the apartment on fire would initially be expected to evacuate. Other apartments are considered to be a place of relative safety and further evacuation would be completed under the advice from the attending fire and rescue services. The residential buildings are designed so that each apartment is fire separated from all adjacent accommodation and smoke control systems are provided within common corridors to maintain suitable conditions for escape during a fire event.

- Each apartment will be fitted a category LD1 fire detection system in accordance with BS 5839 Part 6.
- One means of escape stair for each residential block will be provided for all levels in order to meet the desired occupant numbers.
- The layouts have been designed to meet the maximum permissible travel distances permitted within BS 9991 based on the use of the space.
- New protected lobby will be provided in the basement of residential blocks to facilitate the use of disabled evacuation lift. Disabled lift evacuation will be provided for the two residential blocks as discussed in the following section.

MEANS OF ESCAPE PROVISION FOR COMMERCIAL OFFICE BUILDING

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.
- Two means of escape stairs in firefighting shaft will be provided for all levels in order to meet the desired occupant numbers.
- The layouts have been designed to meet the maximum permissible travel distances permitted within BS 9999 based on the use of the space.
- Refuge for people who require assistance to evacuate will be provided at each storey exit. Emergency voice communication systems (EVC) will be provided at each refuge area.

MEANS OF ESCAPE PROVISION FOR RETAIL AND LIGHT INDUSTRIAL UNITS

Retail and light industry units are proposed to be treated as separate evacuation zones with links back to the main building fire alarm system such that in the event of a fire within a retail or light industrial unit only that unit would initially evacuate, and an alert signal would be sent to the main building fire alarm panel. Further building evacuation would be triggered where smoke detectors within common parts are activated or manually under the advisement of the attending fire and rescue services.

- Three means of escape stairs are available in the basement. Direct egress will be adopted for the ground floor retail and light industrial units.
- The layouts have been designed to meet the maximum permissible travel distances permitted within BS 9999 based on the use of the space.
- Disabled refuge area will be provided in the basement level of each storey exit.

MEANS OF ESCAPE FOR PEOPLE WHO ARE DISABLED OR REQUIRE LEVEL ACCESS TOGETHER

- A disabled evacuation lift will be provided for each of the two residential buildings within a protected lobby on each floor including basement. The lifts will discharge on the ground floor level for level evacuation. For the commercial office building, there are two firefighting lifts and disabled refuge areas in the protected lobby. The disabled refuge area will have emergency voice communication system to notice the building management for further rescue. One of the passenger lifts will be upgraded to a disabled evacuation lift in the commercial office lift core. The disabled evacuation lift will comply with London Plan Policy 2021 for Building Regulation D5(B5) and prEN 81-76. Level access and evacuation will be provided on the Ground Floor.

FEATURES INCORPORATED TO REDUCE THE RISK TO LIFE

- The Office building will be fitted throughout with an automatic sprinkler installation that has been designed and installed in accordance with BS EN 12845.
- The residential apartments will be provided with sprinkler systems complying with BS 9251:2014.
- Secondary power supplies will be provided for life safety systems.
- The basements for the residential buildings and the office building will be separated by 120 min fire resisting construction and treated as separate buildings for the purposes of defining their respective smoke venting strategies.

FIRE-FIGHTING ACCESS WITHIN THE BUILDING

- For the commercial office building, access for the Fire Service will be provided at Ground directly into the firefighting shafts.
- Two firefighting shafts will be provided for the commercial 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 60m hose laying distance limit to any point on the floor plate.
- The basement smoke ventilation strategy for office building will use mechanical smoke exhaust with sprinkler provision.
- Smoke venting from the residential basements is proposed to be achieved via break out panels built into the adjacent hard landscaping between the buildings to achieve the code required 2.5% natural ventilation.

FIRE-FIGHTING ACCESS TO THE BUILDING

- The primary access route for the Fire Brigade to the firefighting shafts will be via the Georgiana Street and St. Pancras Way.
- Separate inlets on the face of the building, within 18m of a tender access route, will be provided for each dry riser main.
- The existing hydrants will be within 100m of the fire main inlet points serving the site.

MEASURES TO PROTECT THE BASE BUILD FIRE SAFETY STRATEGY

- 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.

INFO REGARDING ONGOING MAINTENANCE AND MONITORING

- Maintenance and monitoring on the fire services provisions will be provided as per the requirements in BS 9999:2017. A competent person will be appointed as fire safety manager. This person will be given sufficient stated authority, powers of sanction and resources to take responsibility for the regular safety management of the building and to ensure that essential repairs or maintenance are carried out. Annual inspection will be carried out by competent person to ensure the fire safety services can work properly.
- If there is any significant change in terms of the functional use or the floor area, review on the fire strategy will be carried out by competent fire engineer for the ongoing monitoring of the suitability of the fire strategy.

CONCLUSION & DECLARATION OF COMPLIANCE

The fire safety statement has been prepared to outline the approach and provisions relating to fire safety for St. Pancras Campus 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.

NORMAN DISNEY & YOUNG

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