Outline Fire Safety Strategy Report
TRG-230083-RT-01-D01

Project
31 Southampton Row, London
Outline Fire Safety Strategy Report
Including addressing The London Plan

Client
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Date of Issue
01-May-24

TRIGON
FIRE SAFETY ENGINEERING

Contents

1. Introduction 3
2. Fire strategy approach 4
3. Building description 6
4. Fire safety measures 11
5. The London Plan 26
6. Conclusions 34
7. References 35
A.1. About Trigon Fire Safety 37
A.2. Architectural Drawings 38
A.3. Statutory controls 40
A.4. External Fire Spread Assessment 45

Amendments

Issue No.	Date	Author	Reviewer	Comment
Draft 01	1-May-24	D. Macias / D. Bostelmann	J. Lavender	Draft for design team comment.

Important Information

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1. Introduction

1.1. Overview

1.1.1. The outline fire safety strategy presented in this report has been prepared for the proposed redevelopment of the existing 31 Southampton Row mixed use building located in Holborn, London (project also known as 'Holborn Links – Project 7').

1.1.2. The outline fire safety strategy, presented in this report, generally follows the guidance of Approved Document B: Volume 2: 2019 (incorporating 2020 and 2022 amendments) [1] [**"ADB v2"**] in order to meet the functional requirements of the Building Regulations 2010 (including amendments up to December 2022) [2] [**"the Building Regulations"**]. However, where applicable reference has also been made to the guidance in Approved Document B: Volume 1: 2019 (incorporating 2020 and 2022 amendments) [3] [**"ABD v1"**].

1.1.3. Departures from the relevant fire safety guidance have been detailed within this report. Where not explicitly described within this report, the proposed works should comply with the relevant sections of ADB and relevant supporting British Standards referenced therein.

1.1.4. This outline fire safety strategy report has been developed to support the planning application, however it is not considered appropriate to support a Building Regulations submission. A detailed fire safety strategy, suitable for Building Regulations submission, should be developed at the next design stage.

1.1.5. Trigon attended a non-intrusive site visit on 28 March 2023 to gain familiarity with the layout and location of the site, and to review the existing condition of the building. Subsequently, Trigon produced a fire safety feasibility statement (ref: TRG-230083-RT-01-I01, dated 3 April 2023) which presents the findings of an initial fire safety feasibility review of the 31 Southampton Row building.

1.1.6. The review has been carried out against the drawings and information listed in Appendix A.2, provided by Hale Brown Architects.

2. Fire strategy approach

2.1. General

2.1.1. This report has been prepared to demonstrate how it is proposed to satisfy the functional requirements of Part B of Schedule 1 of the Building Regulations.

2.1.2. This outline fire safety strategy report has been developed to support the planning application, however it is not considered appropriate to support a Building Regulations submission. A detailed fire safety strategy, suitable for Building Regulations submission, should be developed at the next design stage.

2.1.3. The proposed approach to meeting the functional fire safety requirements of the Building Regulations has been set out below.

2.2. Statutory controls

2.2.1. Further details with regards to the statutory controls relevant to the building have been set out in Appendix A.3 of this report and summarised below.

2.2.2. The building works will be subject to the requirements of the Building Regulations. As the existing building will be refurbished, Regulation 4(3) of the Building Regulations requires that the works are carried out such that the building complies with the applicable requirement of Schedule 1 to the Building Regulations or, where it did not comply with any such requirement, is no more unsatisfactory in relation to that requirement than before the work was carried out.

2.2.3. Notwithstanding the above, it will be identified where there are opportunities to improve the existing fire safety provisions as a result of the works.

2.2.4. As the requirements are functional in nature, there is no obligation to follow the guidance of ADB is compliance can be demonstrated in some other way. Although this fire strategy has primarily been developed on the basis of the guidance presented in ADB, reference has been made to other British Standards; for example BS 9999:2017 [4] for the design of firefighting shafts.

2.2.5. Responsibility for compliance with the Regulatory Reform [Fire Safety] Order 2005 [5] ["**FSO**"] will rest with the "responsible person" and this outline fire safety strategy has been developed on the assumption that the building will be suitably managed.

2.2.6. As the development is located in London, the proposals need to address the implications of The London Plan, March 2021 [6], as part of the planning application process. Section 0 of this outline fire safety strategy considers the implications of The London Plan which should be discussed and agreed with the Local Authority responsible for planning.

2.3. Purpose group

2.3.1. Table 0.1 of ADB classifies different building uses to a Purpose Group, that represent the different levels of hazard. The building will be split into three separate occupancies.

2.3.2. The retail units at the basement and ground floors will be classified as Purpose Group 4 – Shop and commercial.

2.3.3. The offices on the first to fourth floors will be classified as Purpose Group 3 – Office. The plant areas and the end of trip facilities (i.e. the changing rooms and cycle storage) in the basement will be considered as ancillary areas to the office areas and therefore will not be assigned their own purpose groups.

2.3.4. The flats on the fifth floor would generally be classified as Purpose Group 1(a) – Residential (dwellings). However, the flats will be managed by the overall building management company and as such there is the ability to link the fire alarm systems between the different uses. Therefore, as explained in this report, the fire safety strategy for the fifth floor will be akin to a hotel as there is management control. Therefore the top floor has been based on Purpose Group 2(b) – Residential (other).

2.3.5. The outline fire safety strategy therefore generally follows the guidance presented in ADB v1 in order to meet the functional requirements of the Building Regulations.

2.4. Mixed use building

2.4.1. With regards to mixed use buildings, ADB v2 states that where a complex mix of uses exists, the effect that one use may have on another in terms of risk should be considered. It could be necessary to use guidance from both volumes (i.e. ADB v1 & ADB v2), apply other guidance and/or apply special measures to reduce the risk.

2.4.2. ADB v1 & v2recommends that "*in mixed use buildings, separate means of escape should be provided from any storeys or parts of storeys used for the 'residential' or 'assembly and recreation' purpose groups (purpose groups 1, 2 and 5), other than in the case of certain small buildings or buildings in which the residential accommodation is ancillary.*"

2.4.3. The proposal to share stairs between residential and commercial spaces does not meet this recommendation as the residential accommodation will not be ancillary to the commercial use. It is proposed to develop a robust justification at the next design stage to address the proposed layout. However, the existing situation will be improved and will therefore meet the requirements of the Building Regulations by virtue of Regulation 4(3). In addition, the arrangement is supported by the following measures:

- Comprehensive automatic fire detection and fire alarm system provided throughout the building with a simultaneous evacuation strategy proposed as set out within this report.
- Two protected means of stairs will be provided to all upper floor areas, this is in excess of the recommendations of standard guidance where a single stair can serve residential areas.
- Compartmentation will be provided to separate the office levels from the residential above.
- Smoke ventilation will be provided to the escape stairs as set out in this report.

3. Building description

3.1. Description of the existing site

3.1.1. The existing building consists of seven floors (basement, ground and first to fifth floors). The height to top storey of the existing building is approximately 16m from the lowest adjacent ground level. The ground floor of the existing building is shown in Figure 3.1 below.

3.1.2. There are two common stairs within the building, Stair 01 which serves ground to fifth floor and discharges directly onto Southampton Row, and Stair 02 which discharges via retail unit 14-20 onto Vernon Place and serves all floors in the existing building.

3.1.3. The building is mixed used and is also Grade II listed. The lower ground and ground floors consist of numerous retail units that span across both floors. Many of the retail units have independent internal stairs to access between the two floors, however, retail unit 33 and retail unit 14-20 have access to Stair 02. The first to fourth floors of the existing building have access to both stairs and are currently office use.

3.1.4. The existing building has four flats on the fifth floor, which are also served by Stairs 01 and 02. The existing fire detection and alarm system in these areas is a common system linked to the rest of the building.

Figure 3.1: Existing ground floor plan.

3.2. Proposed works

3.2.1. It is proposed to refurbish the entire building, reducing the number of retail units as part of the works, and introducing new end of trip facilities ("**EOT**") (i.e. new showers, changing rooms and cycle store) at the lower ground floor. The ground floor will have a new office reception introduced off Sicilian Avenue, a new residential lobby accessed via Vernon Place, and a new EOT facilities entrance accessed via Southampton Row. The upper floors will be retained as offices on the first to fourth floors and residential flats on the fifth floor.

3.2.2. The proposed works will retain Stair 01 and 02 whilst removing access to Stair 02 from the retail units, with Stair 01 being extended up to the roof level to Improve roof access. A new dry rising main will also be provided to Stair 01. A new means of escape stair, Stair 03 is proposed as part of the works which will serve the EOT facilities in the basement. The lift shafts will also be refurbished with one lift shaft being removed and a new evacuation lift installed as part of the works.

3.2.3. The height to top storey of the refurbished building will remain at approximately 16m from the lowest adjacent ground level. The proposed ground floor plan can be seen in Figure 3.2 below and a summary of the proposed works in relation to each floor can be found in Table 3.1 below. The proposed basement floor plan, the proposed first floor office, fifth floor plan and roof plan are shown in Figure 3.3 to Figure 3.6.

3.2.4. As the use of the upper floors is to be retained, and there will be no material change of use in accordance with the Building Regulations. The proposed building works should make the fire safety within the upper floors of the building no worse than existing in accordance with Regulation 4(3) of the Building Regulations (See further detail in Section 2.2).

Figure 3.2: Proposed ground floor plan.

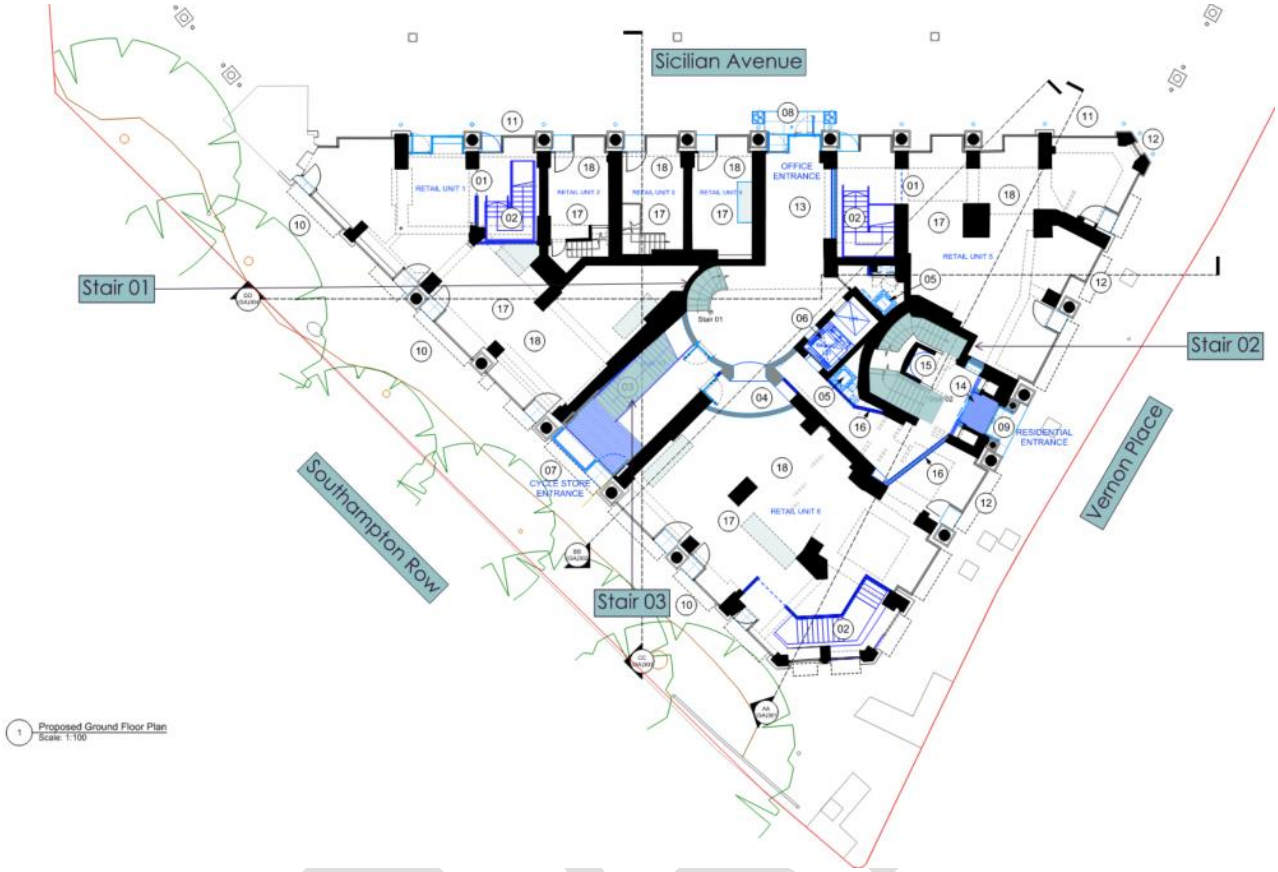


Table 3.1: Summary of the proposed works.

Floor	Proposed works
Lower ground	• Refurbishment of the retail units. • Refurbishment and change of retail units to ancillary accommodation for the office floors (cycle store and shower/changing facilities). • Repositioning of retail unit stairs. • Introduction of new kitchen extract ducts to retail units.
Ground	• Refurbishment of the floorplate of retail units. • Repositioning of retail unit stairs. • Three new building entrances (i.e. sperate entrances to the office, cycle store and residential areas with separate access to the stairs). • Repositioning of retail unit stairs.
First	• Refurbishment of the floorplate including altered core layout.
Second	• Refurbishment of the floorplate including altered core layout.
Third	• Refurbishment of the floorplate including altered core layout.
Fourth	• Refurbishment of the floorplate including altered core layout.
Fifth	• Extension of Stair 01 to provide improved roof access. • Reconfiguration of Flat 1 entrance. • Introduction of new risers. • Reconfiguration of Flat 4.

Figure 3.3: Proposed basement floor layout.

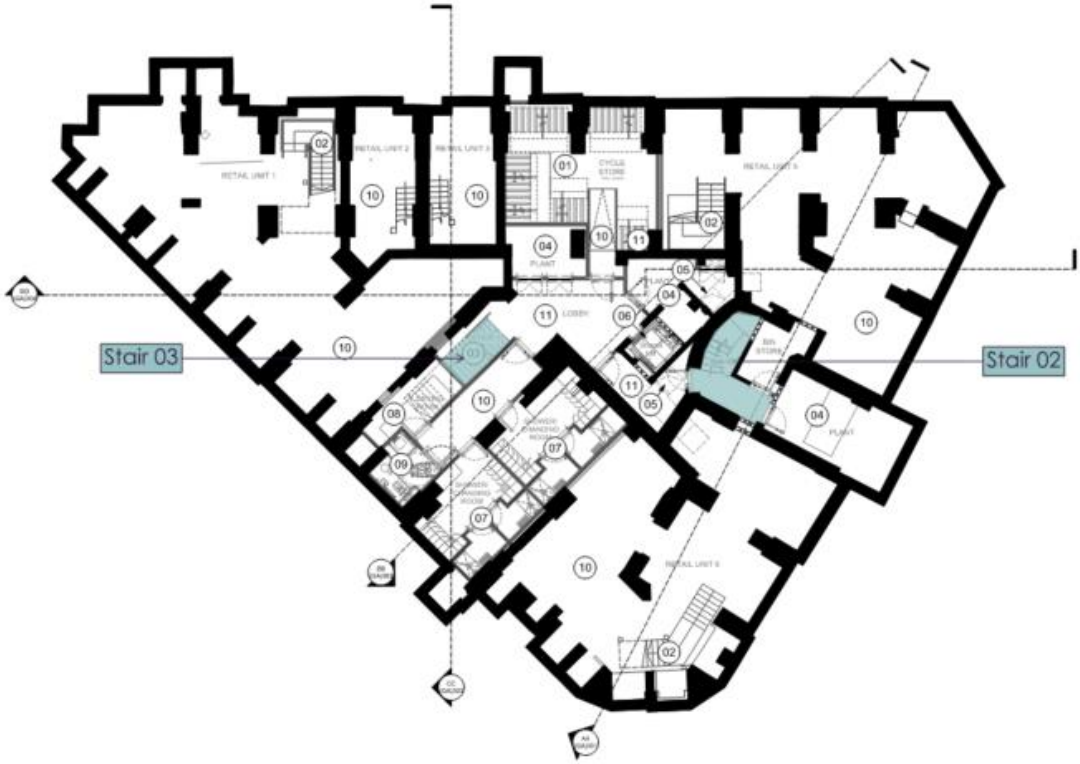


Figure 3.4: Proposed 1st floor layout. Similar to the other office floors (2nd to 4th floors).

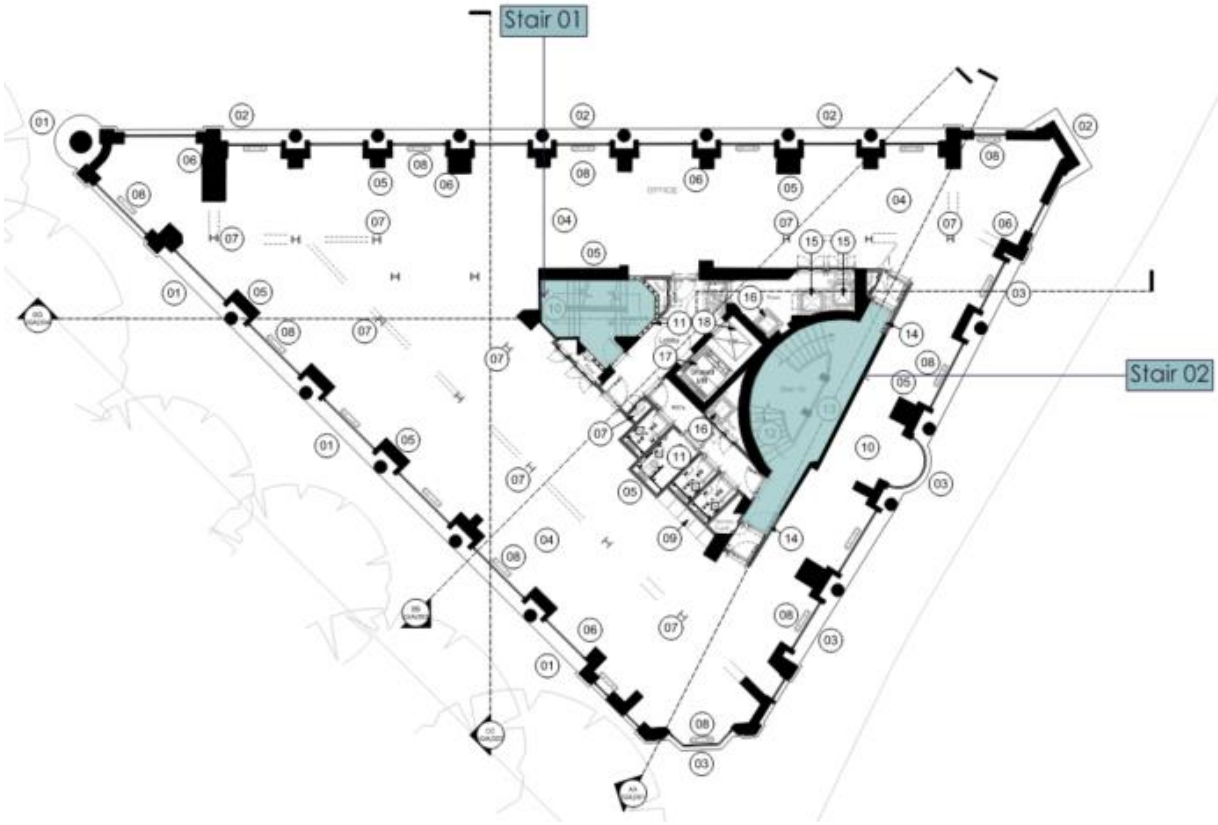


Figure 3.5: Proposed 5th floor layout.

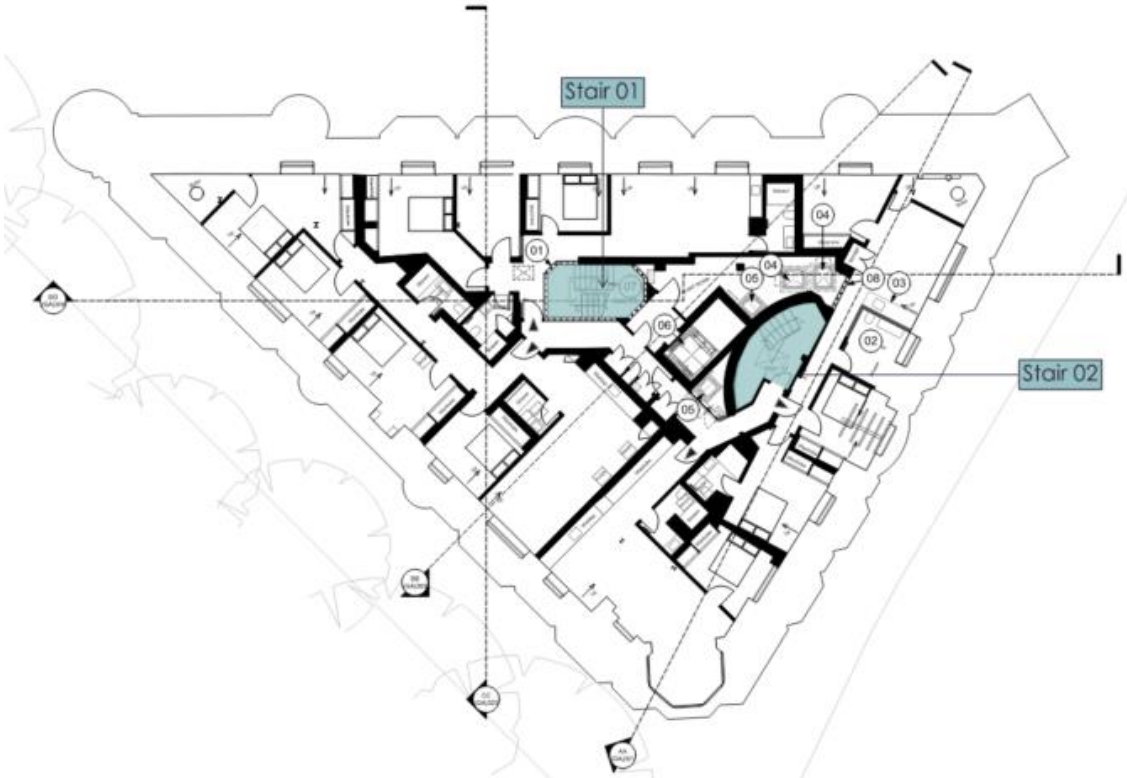
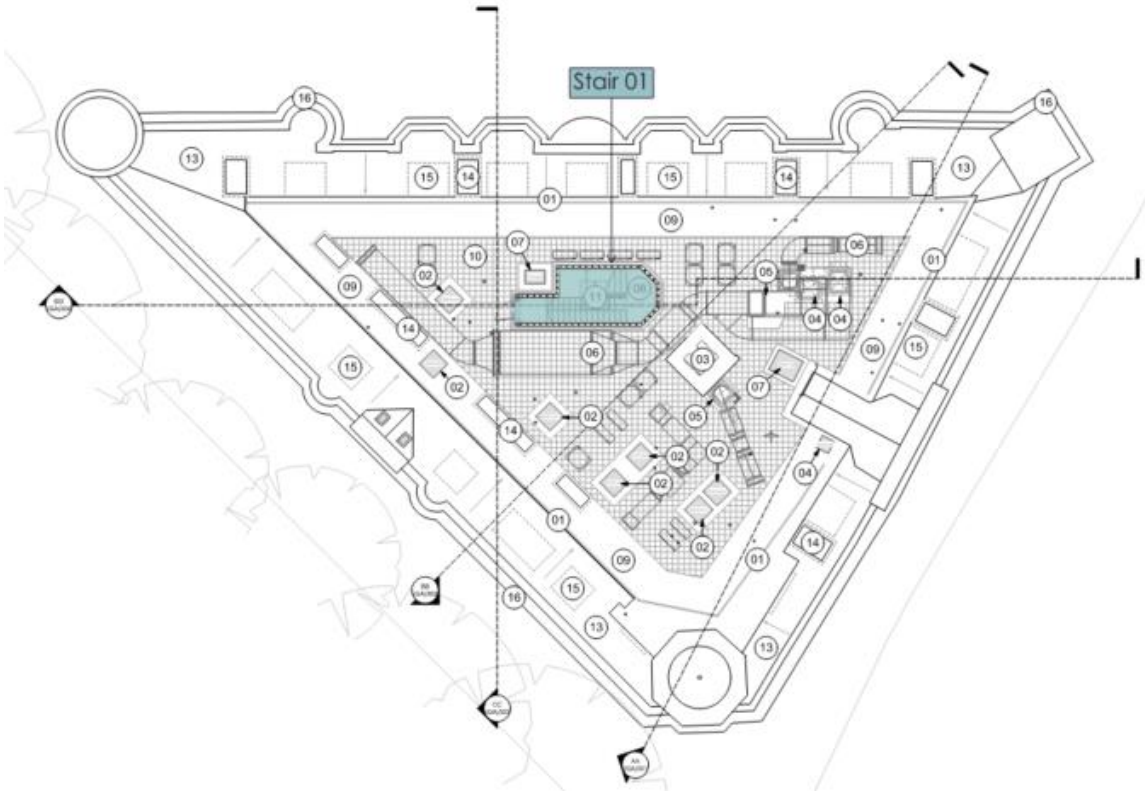


Figure 3.6: Proposed roof layout.



4. Fire safety measures

4.1.1. A summary of the fire safety strategy principles that are likely necessary to achieve compliance with the functional requirements of the building are outlined below. The level of detail provided is considered suitable to support the planning application.

4.1.2. It is proposed that during the next design stage (RIBA Stage 3 – Spatial Coordination), a detailed fire safety strategy will be produced that will be suitable to support the Building Regulations application. The report will detail the fire safety strategy and confirm the proposed design preference following discussions with the design team, client and Building Control body.

Table 4.1: Outline fire safety strategy for the 31 Southampton Row building.

Provision	Comment/recommendation
Purpose group	See section 2.3 above.
Mised use	See section 2.4 above.
B1: Means of warning and escape	
Evacuation strategy	Due to the mixed use nature of the building, a bespoke evacuation strategy is proposed whereby the evacuation of the office and the residential areas will be linked as set out below. <u>Retail areas</u> A simultaneous evacuation strategy should be implemented throughout the retail units, whereby, upon activation of a single device (detector or manual call point) within the retail unit, an alarm will sound throughout the entire retail unit and the occupants of the retail unit of fire origin (only) will evacuate. An alert signal will be provided to the reception of the office area. <u>Office and Residential areas</u> It is proposed that, in the event of the activation of a single detector within an office floor (including basement areas), an alert signal will be provided to the reception of the office area. Upon the activation of a detector within a flat, sounders will operate only within the flat of fire origin. All of the office and residential areas will evacuate simultaneously (alarm sounding throughout) in the event of: • The activation of a single device (detector or manual call point) within any common areas (stairs or lobby to stair). • Activation of a manual call point with an office areas. • Activation of second detector within an office area The above proposal is subject to development at the next design stage.
Fire detection and fire alarm system	It is recommended that a Category L1 automatic fire detection and fire alarm system is provided throughout the building in accordance with BS 5839-1:2017 [7]. The automatic fire detection and fire alarm systems within each purpose group should be linked. Therefore, In order to reduce the risk of false alarms reducing the overall readiness of the occupants to evacuate, the automatic fire detection and alarm system should be zoned, in accordance with the evacuation strategy.

<table>
<tr><th>Provision</th><th>Comment/recommendation</th></tr>
<tr><td></td><td>In line with the recommendations of ADB v2, a manual call point will be sufficient for the offices and ancillary spaces. However, automatic fire alarm and fire detection systems should be provided throughout the office and ancillary accommodation spaces in the on the ground and basement levels (i.e. refuse stores, plant room and cycle store etc), to give early warning to people nearby these areas.

Manual call points should be provided in the office, retail, residential common areas and the ancillary areas, adjacent to each storey and final exit, complying with BS 5839–2:1983 [8] or BS EN 54-11:2001 [9] Type A (direct operation) and these should be installed in accordance with BS 5839-1.

Automatic fire detection will be provided within the protected lobbies to Stair 01 and Stair 02 on each level of the office accommodation and within the residential common corridor that will be designed to activate the AOV at the head of each stair upon the detection of smoke. This will be developed at the next design stage.

It is understood that the existing fire detection and fire alarm system is a common system that is linked to the whole building. The category of the existing fire detection and alarm system is currently unknown. It is recommended that the existing fire detection and alarm system is reviewed, and if required upgraded in accordance with the recommendations above.</td></tr>
<tr><td>Design occupancy</td><td>The design occupancy of the building has been calculated on the basis of the floor space factor (FSF) given in Table D1 of ADB:

• Office areas – 6m²/person
• Retail areas – 2m²/person (based on shop sales area)
• Plant rooms – 30m²/person

An design occupancy based on 2 people per bedroom has been assigned to the residential areas as part of the means of escape calculations.
<table>
<tr><th>Level</th><th>Use</th><th>Approx. area (m²)</th><th>FSF (m²/person)</th><th>Design occupancy</th></tr>
<tr><td>Fifth</td><td>Plant</td><td>17</td><td>30</td><td>1</td></tr>
<tr><td></td><td>Residential</td><td>n/a</td><td>n/a</td><td>20</td></tr>
<tr><td>Fourth</td><td>Office</td><td>491</td><td>6</td><td>81(2)</td></tr>
<tr><td>Third</td><td>Office</td><td>488</td><td>6</td><td>81(2)</td></tr>
<tr><td>Second</td><td>Office</td><td>485</td><td>6</td><td>80(2)</td></tr>
<tr><td>First</td><td>Office</td><td>443</td><td>6</td><td>73(2)</td></tr>
<tr><td>Ground(1)</td><td>Retail (Unit 1)</td><td>99</td><td>2</td><td>49</td></tr>
<tr><td></td><td>Retail (Unit 2)</td><td>11.5</td><td>2</td><td>5</td></tr>
<tr><td></td><td>Retail (Unit 3)</td><td>11</td><td>2</td><td>5</td></tr>
<tr><td></td><td>Retail (Unit 4)</td><td>14.5</td><td>2</td><td>7</td></tr>
<tr><td></td><td>Retail (Unit 5)</td><td>85</td><td>2</td><td>42</td></tr>
<tr><td></td><td>Retail (Unit 6)</td><td>99</td><td>2</td><td>49</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Provision</th><th colspan="5">Comment/recommendation</th></tr>
<tr><td></td><td rowspan="7">Basement[1]</td><td>Retail (Unit 1)</td><td>123</td><td>2</td><td>61</td></tr>
<tr><td>Retail (Unit 2)</td><td>17</td><td>2</td><td>8</td></tr>
<tr><td>Retail (Unit 3)</td><td>16</td><td>2</td><td>8</td></tr>
<tr><td>Retail (Unit 5)</td><td>103</td><td>2</td><td>51</td></tr>
<tr><td>Retail (Unit 6)</td><td>94</td><td>2</td><td>47</td></tr>
<tr><td>Plant</td><td>40</td><td>30</td><td>2</td></tr>
<tr><td colspan="4">Total possible building occupancy (all levels including retail units):</td><td>670</td></tr>
<tr><td colspan="4">Total possible occupancy from upper levels using stairs (i.e. first floor to fifth floor):</td><td>336</td></tr>
<tr><td colspan="5"><u>Note 1:</u> The ancillary spaces at the lower ground and ground floors such as the cycle store, changing facilities and reception have not been included in the total anticipated occupancy, as these areas will only be occupied by occupants who would otherwise be accounted for in the office accommodation.
<u>Note 2:</u> The occupancy of each upper floor (first to fifth floors) will need to be limited to 60 people per floor as set out below.</td></tr>
<tr><td>Number of exits</td><td colspan="5">ADB recommends that for spaces with an occupancy of more than 60 people and less than 600 people, at least two storey exits should be provided.

<u>Office areas</u>
Each office floorplate are proposed to have access to at least two storey exits, thereby meeting this recommendation.

<u>Retail areas</u>
As the retail units will be single occupancy, comprise only of a basement and ground floor and have a floor area less than 280m², they will be classed as ‘small premises’ in accordance with the guidance of ADB, and will have access to at least one storey exit.</td></tr>
<tr><td>Width of exits (office areas)</td><td colspan="5">ADB recommends that where the maximum occupancy of any space is 60 people, the exit should have a minimum clear width of 750mm. ADB recommends that where the maximum occupancy is up to 110 people, the exit should have a minimum clear width of 850mm wide.

The indicated widths for exits on each floor of the office areas are presented below, based on the suggested occupancy of more than 60 persons per floor and given that two storey exits are available on each floor (as shown on the plans).
<table>
<tr><th>Level</th><th>Width of exits (mm)</th><th>Capacity</th><th>Design occupancy</th></tr>
<tr><td>First</td><td><s>1x 776</s> and 1x 776</td><td>60</td><td>73</td></tr>
<tr><td>Second</td><td><s>1x 776</s> and 1x 776</td><td>60</td><td>80</td></tr>
<tr><td>Third</td><td><s>1x 776</s> and 1x 776</td><td>60</td><td>81</td></tr>
<tr><td>Fourth</td><td><s>1x 776</s> and 1x 776</td><td>60</td><td>81</td></tr>
</table></td></tr>
</table>

Provision	Comment/recommendation
	The capacity of each upper floor (first to fourth floor) will need to be limited to 60 people per floor due to the existing exit widths. Therefore, the occupancy of the upper floors should be limited to reflect the available capacity (i.e. 60 persons per floor), alternatively, the exits should be widened to a minimum clear width of 850mm, or a fire engineered approach could be sought at the next design stage.
Width of exits (retail areas)	All of the exit widths of the ground floor retail units are greater than 750mm. Based on the suggested occupancy of less than 60 persons per floor, the exit widths are sufficient.
Travel distances	<u>Office areas</u> ADB recommends that for the office areas, the maximum travel distances should be limited to 18m in a single direction; and 45m where travel is possible in more than one direction. As the internal layout of partitions, fittings etc. is not known, two-thirds of the actual travel distance (direct travel distance) should be considered. Therefore, the travel distances should be within 12m in a single direction and 30m in more than one direction. The proposed plans appear to show that the travel distances are within the recommended limits of ADB. <u>Retail areas</u> ADB recommends that for retail areas in purpose group 4 the maximum travel distances should be limited to 18m in a single direction; and 45m where travel is possible in more than one direction. As the internal layout of partitions, fittings etc. is not known, two-thirds of the actual travel distance (direct travel distance) should be considered. Therefore, the travel distances should be within 12m in a single direction and 30m in more than one direction. The proposed plans appear to show that the travel distances within the retail units are within the recommended limits of ADB. <u>Residential areas</u> ADB recommends that the maximum travel distance within the common corridor should not exceed 7.5m in a single direction and 30m where travel is available in two directions. ADB recommends that the horizontal travel distance from the flat entrance door to the furthest habitable room within the flat at access level, should not exceed 9m. The existing arrangement of the flats on the fifth floor, do not meet with the guidance of ADB and have extended travel distances of approximately 12m within the flats. Nevertheless, the arrangement is being made no worse than existing, and therefore will meet the functional requirements of the Building Regulations by virtue of Regulation 4(3). <u>Basement plant rooms</u> Travel distance in plant rooms should be limited to 9m in a single direction (within the room) and 18m overall.

Provision	Comment/recommendation
	The proposed plans appear to show that the travel distances within the retail units are within the recommended limits of ADB.

Retail units	Retail units 2, 3 and 4 will be designed as 'small premises', in accordance with Section 4 of ADB v2, as they will be single occupancy, and will only compromise of ground floor and a basement. Each with a floor area of no more than 90m^2. As such the units should meet the following:
	• Any kitchens and cooking facilities should be remote from the exits.
	• For a small premises, the single direction travel distance at ground floor can be up to 27m.
	• An open-stair can be used for a means of escape stair in a small premises, provided the following is met:
	  • At ground floor, the base of the stair should be within 3m of the final exit.
	  • The premises should not be a bar or restaurant.
	  • An alternative escape route should be provided or the storey have a maximum area of 90m^2.
	
	Retail units 1, 5 and 6 will be provided with stairs which will be enclosed at ground floor level, this will include the provision of fire and smoke curtains that will descend on activation of a detector. These units should meet the following recommendations:
	• The occupancy of the basement level should be limited to 60 people as there will be a single exit.
	• Any kitchens and cooking facilities should be remote from the exits.
	• The single direction of travel should be limited to 18m.

Inner rooms	The internal layout of the office areas have not been provided, however, any access rooms to inner rooms should be fitted with a suitable automatic fire detection and alarm system to warn the occupants in the inner rooms of the outbreak of fire in the access room. The proposed automatic fire detection and fire alarm system would satisfy this criterion. The retail and residential areas do not show any inner rooms.
Width of stairs	The upper floors will have access to both Stairs 01 and 02, each with lobby protection with Stair 01 having a minimum clear width of 1,050mm and Stair 02 having a minimum clear width of 1,320mm. This will provide sufficient capacity for up to 770 persons, based on the recommendations of Table 3.2 of ADB. This is more than sufficient for the expected occupancy of the upper floors. It is noted that Stair 02 narrows on the third floor to a minimum width of approximately 930mm. This is less than the minimum width of 1,000mm as set out in ADB v2, however this existing arrangement is considered sufficient for the likely occupancy and meets with the Building Regulations virtue of Regulation 4(3). <u>Retail areas</u> The retail units on the basement and ground floor are served by separate means of escape stairs within the retail units, with each unit served by a single stair. Each of the stairs of the retail units have a minimum width of over 800mm, and therefore provided sufficient capacity for escape. <u>Basement</u>

Provision	Comment/recommendation
	The stair to the basement lobby (Stair 03) should have a minimum width of 800mm. As indicated on the plans the stair has a width of 1,500mm therefore is sufficient to meet with the recommendation of ADB.
Smoke ventilation	It is proposed that automatically opening vents (AOV) will be provided at the head of both Stair 01 and Stair 02 and will achieve a minimum of 1m² aerodynamic free area. Within the existing situation, there is no provision for smoke ventilation within the residential areas corridor. Therefore, as the arrangement is being made no worse than existing, it will meet with the Building Regulations by virtue of Regulation 4(3).
Protection of escape stairs	All escape stairs within the building (i.e. Stair 01, 02 and 03) should be approached via a protected lobby on each floor that they serve. The proposed arrangement meets with this recommendation.
Final exits from stairs	Final exits should facilitate the evacuation of persons out of and away from the building. Accordingly, they should be of sufficient width for the number of people using the exit. Each of the protected stairs within the building should lead to a final exit, either directly or via an internal passageway. Any protected exit corridor or stair should have the same standard of fire resistance and lobby protection as the stair it serves and not reduce in width at any point on the way to a final exit. The current design follows the recommendations of standard guidance and indicates that Stairs 01, 02 and 03, lead directly to the outside at ground floor.
Basement stairs	In accordance with standard guidance, where multiple escape stairs are provided serving the upper storeys, only one needs to terminate at ground floor and other stairs may connect with the basement storey, if there is a protected lobby or a protected corridor between the stairs and accommodation at each basement level. Both Stairs 01 and 02 within the building serve all upper floors, with Stair 01 terminating at the ground floor and Stair 02 serving the basement floor. Lobby protection is provided to Stair 02 at the basement level. Stair 03 within the building serves the basement floor only, and is also lobbied at the basement level. This arrangement is therefore considered to meet the intent of guidance.
Lifts	In accordance with standard guidance, any lift connecting different compartments should form a protected shaft. This should achieve a minimum of 60 minutes fire resisting construction (minimum REI 60). Any lifts serving the basement should be approached only via a protected lobby or protected corridor. The lift within Stair 01 are approached via a protected lobby. At ground floor level, the lift is dual entry and opens into both Stair 01 and 02. It is proposed to provide a lobby between the lift and Stair 02. It is considered acceptable for the lift to open into the Stair 01 at ground floor as lobby protection is provided at basement level as well as basement smoke ventilation, it is therefore considered to be limited risk of a fire affecting the floors above, in addition, all floors are provided with an alternative escape stair.

Provision	Comment/recommendation
Reception	A small reception area will be provided off Stair 01. A fire and smoke curtain will be provided between this area and the stair, and will descend in the event of a detector activating in the reception.
Refuge spaces	It is proposed that, in order to comply with the requirement B1 for "appropriate means of escape" in the Building Regulations, refuge spaces should be provided within each protected stair (or lobbies to stairs) serving each storey other than ground. Refuge spaces should: • be of the following dimensions: 900mm x 1,400mm; • not reduce the width of escape route; • include a blue mandatory sign worded "Refuge – keep clear"; and, • be provided with an emergency voice communication (EVC) system in accordance with BS 5839-9:2021 [10]. A refuge space sized at 900mm x 1,400mm will be located in the lobby to the stair adjacent to the lifts and will not reduce the width of the escape route. Management procedures should be developed to ensure all people requiring assistance can be safely evacuated. This usually includes the development of Personal Emergency Evacuation Plans (PEEPs) for building occupants who may need assistance. The requirements of Approved Document M (ADM) [11] are outside the scope of this report, however, BS 9999 recommends doors should not be less than 850 mm where unassisted wheelchair access is necessary. **Design team note: The current plans indicate that a disabled refuge is not provided at the basement level, it is recommended that a refuge space is provided at this level to provide an appropriate means of escape for people of reduced mobility.**
Evacuation lifts (and The London Plan)	To comply with Policy D5 B(5) of The London Plan (March 2021), it is recommended that evacuation lifts are provided to cores. It is proposed that a new lift will be provided in the building, which is proposed to be used as an evacuation lift. Due to the constraints of the existing building, it is only feasible to provide an evacuation lift to one of the protected stairs (Stair 01). The evacuation lift(s) should be designed in accordance with Annex G of BS 9999, including a back-up power supply and accessed via a protected lobby to provide occupants with a place of refuge. Due to the existing building constraints, the lift may not fully comply with the recommendations in standard guidance for an evacuation lift (such as the minimum dimensions). However, the lift will be provided with some of the facilities of an evacuation lift such as back-up power supplies and it will be investigated to see whether this can be used to support the evacuation of any disabled occupants that may be in the building. This will be reviewed further at the next design stage.
Doors	ADB recommends that doors providing escape from rooms occupied by more than 60 occupants and doors leading to the escape stair should swing in the direction of escape.

<table>
<tr><th>Provision</th><th>Comment/recommendation</th></tr>
<tr><td></td><td>The main exits from the ground floor currently open in the direction of escape, thereby meeting the recommendation above.

Where a door on an escape route must be secured against entry when the building is occupied, it should be fitted with a device that is readily operated, without a key, from the side approached by persons making their escape.</td></tr>
<tr><td>Emergency escape lighting</td><td>All escape routes should have adequate artificial lighting (including external escape routes).

Escape lighting should be installed in accordance with BS 5266-1:2016 [12].</td></tr>
<tr><td>Emergency escape signage</td><td>All means of escape routes should be distinctively and conspicuously marked by emergency exit signs of adequate size complying with the Health and Safety (Safety signs and signals) Regulations [13] and the FSO.

The signs should be in accordance with the guidance in BS 5499-1:2013 [14] and BS ISO 3864-1:2011 [15].</td></tr>
<tr><td>Refuse chutes and stores</td><td>ADB recommends that refuse stores should be sited and constructed in accordance with BS 5906:2005 [16], should be separated from other parts of the building by 60 minutes fire resisting construction (REI 60), and should be approached either through a protected lobby with a minimum 0.2m² of permanent ventilation or directly from the open air. They should also not be sited next to escape routes or final exits.

It is understood that a refuse store is to be provided in the basement, with the current location being accessed off Stair 02. To meet these recommendations, a protected lobby should be provided with a minimum of 0.2m² permanent ventilation. The refuse store should not be accessed off the means of escape stair serving the upper floors. To further reduce the risk, it is recommended that consideration is given to relocating the refuse store, or removing the connection between the refuse store and the Stair 02 lobby and providing access to the bin store from outside only.</td></tr>
<tr><td colspan="2">B2: Internal fire spread (linings)</td></tr>
<tr><td>Wall and ceiling linings</td><td>Any new wall and ceiling linings should meet with the following recommendations.
<table>
<tr><th>Location</th><th>European Class</th></tr>
<tr><td>Small rooms of a maximum internal floor area of:
• 4m² in residential accommodation
• 30m² in non-residential accommodation</td><td>D-s3, d2</td></tr>
<tr><td>Other rooms
Circulation spaces within a dwelling</td><td>C-s3, d2</td></tr>
<tr><td>Circulation spaces (excluding large rooms such as open plan offices which need not to be regarded as circulation spaces even though there are circulation routes in them)</td><td>B-s3, d2</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Provision</th><th>Comment/recommendation</th></tr>
<tr><td colspan="2">B3: Internal fire spread (structure)</td></tr>
<tr><td>Sprinklers</td><td><u>Office areas</u>
As the height to top storey of the building is below 30m, standard guidance would <u>not</u> recommend sprinklers to be provided throughout the office areas of the building.

<u>Residential areas</u>
The current version of ADB recommends that all residential blocks of flats with a storey above 11m in height should be afforded sprinkler protection throughout in accordance with BS 9251 [17]. However, sprinklers are not needed to meet the guidance for buildings in Purpose Group 2(b) – Residential (other).

As existing, the 31 Southampton Row building is <u>not</u> provided with sprinklers and are not proposed to be provided. The proposals will generally improve on the fire safety provisions in the building and will therefore meet the Building Regulations by virtue of Regulation 4(3).

<u>Retail areas</u>
As the retail units are located in the basement and ground floor, and are below 30m from the lowest adjacent ground level, standard guidance would not recommend sprinklers for these areas.</td></tr>
<tr><td>Fire resistance</td><td>When referring to a period of fire resistance, there are three performance criteria which can be applied to each element being considered as set out in Appendix A of ADB. For information, the acronyms which denote these classifications, as defined in BS EN 13501-2:2016 [18], have been outlined below.
<table>
<tr><th>Designation</th><th>Description</th></tr>
<tr><td>R</td><td>Resistance to collapse (loadbearing capacity) which applies to loadbearing elements only</td></tr>
<tr><td>E</td><td>Resistance to fire penetration (integrity)</td></tr>
<tr><td>I</td><td>Resistance to the transfer of excessive heat (insulation)</td></tr>
</table></td></tr>
<tr><td>Load-bearing elements of structure</td><td><u>Retail and office areas</u>
Loadbearing elements of structure within the retail and office areas, should achieve a minimum loadbearing fire resistance period of 60 minutes (R 60).

<u>Residential areas</u>
For a ‘other residential’ building with a top storey below 18m, but above 11m, elements of structure should achieve a minimum loadbearing fire resistance period of 60 minutes (R 60) when tested on exposed faces.

<u>General</u>
Where the works alter the structural elements, it should be ensured that the structure meets the above recommendations. Where exiting structure is not being altered, the proposed works will make the building no worse than existing and will therefore meet the Building Regulations by virtue of Regulation 4(3).

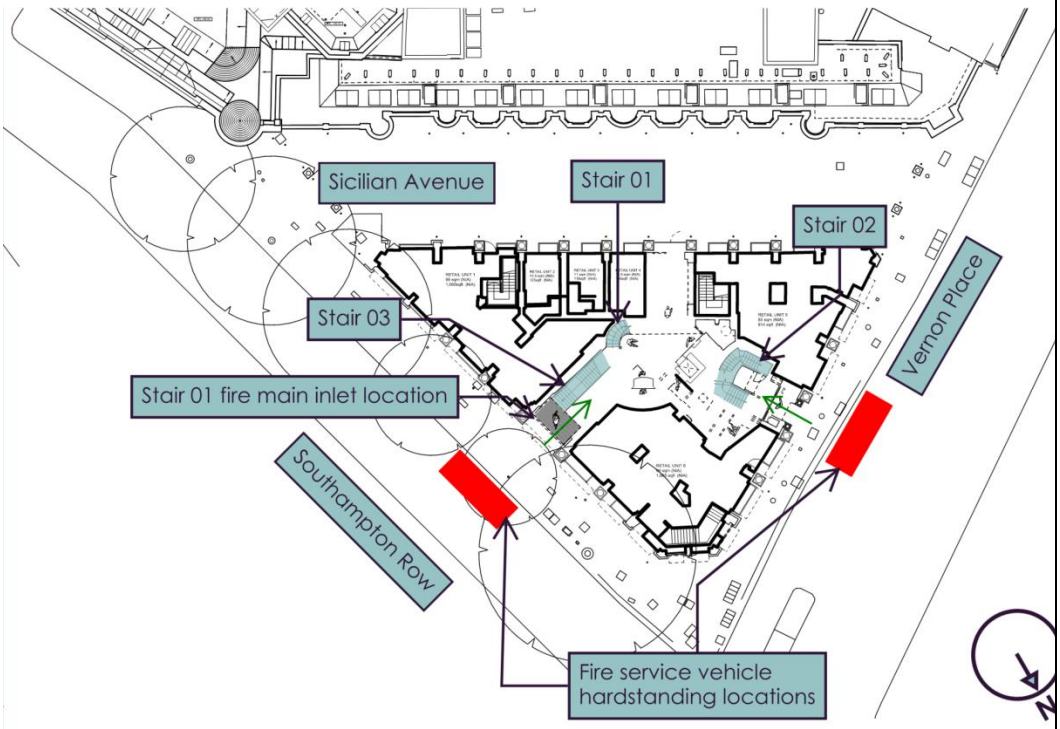
It is understood that the masonry loadbearing elements of structure of the walls have been deemed to achieve a minimum fire resistance period of 60 minutes (R 60), on the basis that the construction of the wall exceeds the guidance of BRE BR128:1988 [19] and BS EN 1996:2010 [20] to achieve a fire resistance period of 60 minutes. This assessment was based on the following:</td></tr>
</table>

Provision	Comment/recommendation
	• The wall is constructed from clay masonry units and general purpose mortars; • The walls are solid with no penetrations; and • Where penetrations a present they are suitably fire stopped.
Compartment floors	Floors separating different purpose groups, should be compartment floors achieving a minimum fire resistance period of 60 minutes (REI 60). Therefore, compartment floors achieving a minimum fire resistance period of 60 minutes (REI 60) should be provided between the retail and office areas and the office and residential areas. It should be confirmed that the existing arrangement achieves this, and if not, the arrangement should be upgraded.
Compartment walls	ADB v2 recommends that compartment walls are provided to separate different occupancies. Therefore, compartment walls achieving a minimum fire resistance period of 60 minutes (REI 60) should be provided between retail units, between residential flats and between different purpose groups. The fire resistance period of compartment walls should achieve a minimum period of 60 minutes fire resistance. It should be confirmed that the existing arrangement achieves this, and if not, the arrangement should be upgraded.
Residential flats	ADB recommends that where a protected entrance hall is provided, each residential flat should be constructed with fire resisting walls achieving a minimum fire resistance period of 30 minutes (REI 30). Doors between this protected entrance hall and other rooms of the flat should be fire doorsets achieving a minimum fire integrity of 20 minutes (E 20). Walls separating the residential flats from other parts of the building (including other flats) should achieve a minimum fire resistance period of 60 minutes (REI 60) with fire doorsets achieving a minimum fire integrity of 30 minutes with smoke seals (E 30 S_a). The existing arrangement does not currently meet the recommendations of ADB, nevertheless, as the proposed works do not make the existing arrangement worse than existing, it should meet the Building Regulations by virtue of Regulation 4(3).
Protected stairs	Stair 01, 02 and 03 are protected stairs which pass through compartment floors. The stairs should therefore be enclosed in walls achieving a minimum fire resistance period of 60 minutes (REI 60) exposed on both sides, and should be accessed by fire doorsets achieving a minimum fire integrity of 30 minutes with smoke seals (E 30 S_a).
Risers	Risers passing through compartment floors would be considered protected shafts, and should be enclosed in walls achieving a minimum fire resistance period of 60 minutes (REI 60) exposed on both sides. Risers should be accessed via fire doorsets achieving a minimum 30 minutes fire integrity (E 30) and if the risers are located along an escape route then these should also have smoke seals (E 30 S_a).
Fire stopping	Penetrations through protected enclosures, compartment walls and compartment floors should be suitably fire stopped.
Cavity barriers	Cavity barriers should be provided within concealed voids in accordance with Section 9 of ADB. Cavity barriers should be provided as follows:

Provision	Comment/recommendation
	• To subdivide any cavity such that the distance between cavities does not exceed 10m. This distance can be increased to 20m where the surface and product exposed in the cavity is Class C-s3, d2 or better. • To close the edges of cavities, including around openings. • At the junction between an external cavity wall and compartment walls and floors. • At the junction between an internal cavity wall and every compartment wall and floor, or other fire resisting barrier. Cavity barriers should provide at least 30 minutes fire resistance for integrity and 15 minutes fire resistance for insulation (E 30 and I 15) and penetrations through cavity barriers should be suitably fire stopped.
Kitchen ductwork	Extract ductwork serving kitchens should not be provided with fire or smoke dampers as the likely build-up of grease within the duct can adversely affect dampers. Therefore, kitchen extract ductwork should either be protected using fire resisting ductwork to outside or enclosed in fire resisting construction. Further information on fire resisting ductwork is given in the ASFP Blue Book [21]. Suitable access should be provided for ductwork cleaning.
Places of special fire hazard	Places of special fire hazard (i.e. boiler rooms, fuel storage, transformer and switchgear rooms for equipment above low voltage or rooms housing fixed internal combustion engine(s)) should be enclosed within 30 minutes fire resisting construction (REI 30) and should be accessed through fire doorsets achieving a minimum fire integrity of 30 minutes (E 30).
Cycle stores	It is recommended that the cycle store is enclosed in a minimum of 60 minutes fire resisting construction (REI 60). It is recommended that the refuse store should either be accessed directly from outside or accessed via a lobby with 0.2m^2 permanent ventilation. These proposals are above the minimum recommendations of guidance but are recommended to address the risk of electrical vehicles (such as scooters and bikes) being stored and charged in these stores. This will be reviewed further as the design progresses.
Refuse stores	Refuse storage rooms should be enclosed within 60 minutes fire resisting construction (REI 60) and accessed through fire doorsets achieving a minimum fire integrity of 60 minutes (E 60). As discussed above, the refuse store should either be accessed directly from outside or accessed via a lobby with 0.2m^2 permanent ventilation.
Rooms for secondary power supplies	Secondary power supplies should be provided for all life safety systems and be within rooms enclosed in 120 minutes fire resisting construction (REI 120) and with fire doorsets achieving a minimum fire integrity of 60 minutes with smoke seals (E 60 S_a).
Fire and smoke curtains	Fire and smoke curtains are proposed in four areas within the ground floor of the building: • To protect the means of escape stair and escape route from the basement floors of Retail Units 1, 5 and 6. • To separate the reception lobby concierge desk from the ground floor lobby of Stair 01. These fire and smoke curtains should achieve a minimum of 60 minutes (integrity and radiation) fire resistance and be provided with suitable smoke leakage performance as per BS EN 1634-3:2004 [22].

Provision	Comment/recommendation
	The fire and smoke curtain should be designed, installed and tested in accordance with BS 8524-1:2013 [23] and BS 8524-2:2013 [24]. The space underneath and between a fire and smoke curtain should remain free of any obstructions. This should be highlighted as part of the fire safety management plan to ensure that the fire and smoke curtain operate in accordance with the correct design intention.
B4: External fire spread	
Resisting fire spread over external walls	As the 31 Southampton Row building does not have a storey above 18m in height, it is not classed as a "Relevant Building" under the Building Regulations. The external walls of the building therefore do not need to comply with Regulation 7(2). Nevertheless, whilst it is above the recommendations of standard guidance, where any new materials which become part of the external wall or specified attachment of the building are provided, consideration should be given to providing materials of European Classification class A2-s1, d0 or better.
Resisting fire spread from one building to another	The proposed works do not result in a change in façade dimensions, therefore the total unprotected area of the existing building should remain the same. Appendix A.4 gives details of an initial space separation analysis for the building, based on the Enclosing Rectangle (ER) method described in BR 187:2014 [25]. The method calculates the amount of unprotected area allowed over different parts of the building's façade. The analysis details the amount of allowable unprotected area allowed for the façade. A further detailed review of the external envelope of the building should be undertaken in the next design stage. This review will likely assess the actual unprotected area on the existing façade against the calculated allowable unprotected area. If the actual unprotected area is greater than the allowable unprotected area calculated, this will need to be addressed. Works may need to be carried out to address this. The results of the initial external fire spread calculation can be seen in Table A.4.1.
B5: Access and Facilities for Fire Service	
Firefighting shaft	As the building does not have a storey more than 18m above the fire service vehicle access level, the building will not be provided with a firefighting shaft inline with the recommendations of ADB. It is proposed that the existing protected stairs Stair 01 and Stair 02 will be used by the fire and rescue service to access the upper floor levels. The new basement stair, Stair 03, will also be used by the fire and rescue service and will enable fire service access into the basement.
Dry risers	The guidance of ADB recommends that buildings without firefighting shafts, should be provided with fire mains where fire service vehicle access is not provided in accordance with Table 15.1. In these cases, outlets from fire mains should be located as described in paragraph 16.4 of ADB, with a maximum hose distance of 45m from the fire main outlet to the furthest point, measured on a route suitable for laying a hose. Stairs do not need to be designed as fire fighting shaft.

Provision	Comment/recommendation
	It is proposed that a dry rising fire main will be provided in Stair 01, with dry riser outlets provided at the first, second, third and fourth floors. This is to aid firefighting operations within the office floorplates. Outlets from fire mains should be provided with a maximum hose distance of 45m to the furthest point the building, measured on a route suitable for laying a hose. The dry riser outlet terminating at the fourth floor, is located within 45m of the furthest point of the flats of the fifth floor. As fire service access is not possible along Sicilian Avenue (where the lobby to Stair 01 is accessed), the dry riser inlet will be located on the face of the building adjacent to the cycle store entrance on Vernon Place. This will be within 18m of the fire service vehicles expected hard standing location and is within 90m of a hydrant. Furthermore, the travel distance to Stair 01 is within 18m of the fire service entry point. Based on the plans provided, the proposed layout will meet these recommendations.
Wayfinding signage	In accordance with the Fire Safety (England) Regulations 2022 [26], to assist the fire service to identify each floor in a block of flats, suitable wayfinding signage should be provided. These signs should be located in the firefighting lobby at an appropriate height, and should identify the floor, the flats located on the floor, and their direction from the lobby. The signage should meet the recommendations of clauses 15.14-15.16 of ADB.
Fire service vehicle access	Fire service vehicle access will be available via Vernon Place to the North West, and Southampton Row to the North East, with the fire service entry points being the residential entrance lobby on Southampton Row and the EOT facilities entrance lobby on Vernon Place. The fire service site access can be seen in Figure 4.1 below.

Provision	Comment/recommendation
	Figure 4.1: Fire service site access.  The following fire and rescue service vehicle access route specifications are applicable for pump appliances: • Minimum width of road between kerbs: 3.7m • Minimum width of gateways: 3.1m • Minimum turning circle between kerbs: 16.8m • Minimum turning circle between walls: 19.2m • Minimum clearance height: 3.7m • Minimum carrying capacity: 12.5 tonnes, however, LFB states that 16 tonnes is recommended as per GN29 [27] therefore this should be provided. The Southampton Row building will be provided with fire mains in the form of dry rising fire mains. Therefore the dry fire main inlets should be visible from the parking position of a pumping appliance and should not be more than 18m from this position. Ideally, the inlet should be adjacent to the entrance of the protected stair that it is associated with. The dry fire main inlet is provided adjacent to the fire service entry point on Vernon Place, which is within 18m of Stair 01, the protected stair with the dry riser outlets.
External hydrant	An external hydrant should be located within 100m of all the entry points to the building and within 90m of dry riser inlets. There are three external hydrants located within 100m of the building with one on the corner of Sicilian Avenue and Southampton Row, one located at the South East corner of Bloomsbury Square Garden and one further south on Southampton Row. Thereby meeting the recommendations of standard guidance.

Provision	Comment/recommendation
	Figure 4.2: The location of the nearest hydrants to 31 Southampton Row. 
Venting of heat and smoke from basements	The basement will be more than 3m below the adjacent ground level, therefore guidance recommends either: • natural smoke outlets equivalent to 2.5% of the floor area be provided at high level, evenly distributed around the perimeter of the building with at least half on opposing walls and remote from escape routes; or, • mechanical smoke ventilation providing 10 air changes per hour (ACH) supported by a sprinkler system designed in accordance with BS EN 12845. Smoke and heat from the basement will be vented via natural smoke outlets located at the street level. These smoke outlets are provided on Southampton Row and Vernon Place, and should be equivalent to 2.5% of the floor area.
Electric cycles/ scooters	it is recognised that the use of electric cycles/scooters is becoming increasingly common. There is a greater risk of fire when lithium-ion batteries are incorporated into cycles/scooters as extinguishing these can become challenging. The addition of charging points within the cycle store has yet to be confirmed nonetheless if proposed the following should be considered: • The cycle store should be enclosed in a minimum of 60 minutes fire resisting construction with E 60 Sa doors. This is greater than the 30-minute fire resistance prescribed in ADB, therefore, limiting the likelihood of the fire spreading beyond the cycle store before fire service intervention. • If charging points are confirmed, the cycle store should be provided with automatic cut-off of power to charging points in the event of fire detection. It is highlighted that an automatic cut-off of charging once a connected device is fully charged should also be provided.

5. The London Plan

5.1. General

5.1.1. Under the legislation establishing the Greater London Authority (GLA), the Mayor is required to publish a Spatial Development Strategy (SDS) and keep it under review. The SDS is known as The London Plan. As the overall strategic plan for London, it sets out an integrated economic, environmental, transport and social framework for the development of London.

5.1.2. The London Plan is an integrated policy framework and must be read as a whole. The placement of the topic chapters and the policies within the chapters is no reflection on their importance or weight – it does not represent a hierarchy.

5.2. Format of report to address The London Plan

5.2.1. The London Plan states that:

"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."

5.2.2. The Town and Country Planning (Development Management Procedure) (England) Order 2015 [28] provides a definition of major developments. Generally, major developments are:

"Development of dwellings where 10 or more dwellings are to be provided, or the site area is 0.5 hectares or more;

Development of other uses, where the floor space is 1,000 square metres or more, or the site area is 1 hectare or more."

5.2.3. Trigon therefore considers that, for major developments, the relevant information should be provided in a report, and it is not considered important whether this report is called a "Fire Statement" or a "fire safety strategy report".

5.3. Competency

5.3.1. Regarding competency The London Plan states that:

"Fire statements should be submitted with all major development proposals. These should be produced by a third-party independent, suitably qualified assessor. This should be a qualified engineer with relevant experience in fire safety, such as a chartered engineer registered with the Engineering Council by the Institution of Fire Engineers, or suitably qualified and competent professional with the demonstrable experience to address the complexity of the design being proposed. This should be evidenced in the fire statement. Planning departments could work with and be assisted by suitably qualified and experienced officers within borough building control departments and/or the London Fire Brigade, in the evaluation of these statements."

5.3.2. Further information about the competencies of the author of this report are set out in Appendix A.1 to this report.

5.4. Fire safety policies

5.4.1. As stated in The London Plan (March 2021):

"All Development Plan Documents and Neighbourhood Plans have to be 'in general conformity' with the London Plan."

5.4.2. To be 'in general conformity' the fire safety strategy (or fire statement) should be developed to consider the following fire safety Policies of The London Plan:

- Policy D5 B(5): Inclusive Design
- Policy D12 Fire Safety – Policy D12A
- Policy D12 Fire Safety – Policy D12B

5.4.3. The table below considers each the fire safety policies of The London Plan in turn.

Table 5.1 – Fire Safety Policies within the London Plan

No.	The London Plan – Item	Proposed fire safety provision
1	**Policy D5 B(5): Inclusive Design**	
1.1	*"The development should be designed to incorporate safe and dignified emergency evacuation for all building users. In all developments where lifts are installed, as a minimum at least one lift per core (or more subject to capacity assessments) should be a suitably sized fire evacuation lift suitable to be used to evacuate people who require level access from the building."*	Safe and dignified emergency evacuation for all building users will be considered throughout the design. It is proposed that a dedicated evacuation lift will be provided within the building which will serve all floor levels. At the basement the evacuation lift will be accessed from a protected lobby. On the first to fourth floors, the lobby to Stair 01 will provide access to the evacuation lift. At the fifth floor, the evacuation lift will be located in a protected lobby which is accessed off the common corridor. An evacuation lift will not be provided in Stair 02. It is considered that this would provide a suitable level of safety, given that the single evacuation lift is still accessible from Stair 02 via a protected corridor leading to the lobby to Stair 01. The evacuation lift will be suitable to be used to evacuate people who require level access from the building. The evacuation lifts will open into a protected lobby on each floor. The design and installation of the evacuation lifts should be in accordance with the relevant provisions of Annex G of BS 9999, BS EN 81-20 and BS EN 81-70:2003 [29]. The management of the lifts will be subject to development at the next design stage. Due to the existing building constraints, the lift may not fully comply with the recommendations in standard guidance for an evacuation lift (such as the minimum dimensions). However, the lift will be provided with some of the facilities of an evacuation lift such as back-up power supplies and it will be investigated to see whether this can be used to support the evacuation of disabled occupants that may be in the building. This will be reviewed further at the next design stage. The evacuation strategy for the building, including the use of the evacuation lifts, should be included in the Building Management plan. The management of the lift will be subject to development at the next design stage. Suitable management procedures will be developed to ensure that all building users will be able to safely evacuate the building.

No.	The London Plan – Item	Proposed fire safety provision
2	**Policy D12A: Fire Safety** *"In the interests of fire safety and to ensure the safety of all building users, all development proposals must achieve the highest standards of fire safety and ensure that they:"*	
2.1	*"1)a) identify suitably positioned unobstructed outside space for fire appliances to be positioned on."*	The outline fire safety strategy set out in this report identifies that there will be suitable fire service vehicle access provided via Southampton Row and Vernon Place for access to the building. The associated inlet to the dry fire mains is located adjacent to the cycle store entrance lobby accessed off Southampton Row. This is indicated in Figure 5.1 of this report.
2.2	*"1)b) identify suitably positioned unobstructed outside space appropriate for use as an evacuation assembly point."*	An evacuation assembly point will be provided to support the evacuation and management of the building. The location of the evacuation assembly point is proposed to be Bloomsbury Square Garden. This location is provisional and is subject to review at a later design stage. This is shown in Figure 5.2.
2.3	*"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."*	This report outlines the appropriate fire safety features to minimise the risk to life and serious injury in the event of a fire. The report highlights key fire safety measures for the office and residential parts, such as: • A comprehensive automatic fire alarm and detection system to Category L1 system in accordance with BS 5839-1 in the retail, office and residential areas. • The automatic fire alarm and detection system of the retail, residential and retail areas will be linked to a main fire detection and alarm system for the whole building. • Compartment floors separating the retail, office and residential areas. • Two means of escape stairs (Stair 01 and 02) serve the upper floors, with protected lobbies on the on the office floors and smoke ventilation provided by an AOV at the head of each stair. • A third means of escape stair (Stair 03) with a protected lobby, also serving the basement in addition to Stair 02.
2.4	*"3) are constructed in an appropriate way to minimise the risk of fire spread."*	The risk of fire spread is proposed to be minimised as the internal wall and ceiling linings are proposed to meet with the recommendations of ADB. All floors between different purpose groups will be compartment floors and the walls separating the different retail units and residential flats, will be compartment walls. Thereby preventing fire spread between the different uses.

No.	The London Plan – Item	Proposed fire safety provision
2.5	*"4) provide suitable and convenient means of escape, and associated evacuation strategy for all building users."*	Suitable means of escape will be provided throughout the building, with each of the upper storeys served by two protected stairs accessed via a lobby. All exits and stairs will be suitably sized for the proposed building occupancy. Due to the mixed use nature of the building, a bespoke evacuation strategy is proposed whereby the evacuation of the office and the residential areas will be linked as set out below. <u>Retail areas</u> A simultaneous evacuation strategy should be implemented throughout the retail units, whereby, upon activation of a single device (detector or manual call point) within the retail unit, an alarm will sound throughout the entire retail unit and the occupants of the retail unit of fire origin (only) will evacuate. An alert signal will be provided to the reception of the office area. <u>Office and Residential areas</u> It is proposed that, in the event of the activation of a single detector within an office floor (including basement areas), an alert signal will be provided to the reception of the office area. Upon the activation of a detector within a flat, sounders will operate only within the flat of fire origin. All of the office and residential areas will evacuate simultaneously (alarm sounding throughout) in the event of: • The activation of a single device (detector or manual call point) within any common areas (stairs or lobby to stair). • Activation of a manual call point with an office areas. • Activation of second detector within an office area The above proposal is subject to development at the next design stage.
2.6	*"5) develop a robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence in."*	The fire safety strategy report will be developed as the design progresses and will assist building users with maintaining the evacuation strategy and fire safety provisions. The fire safety strategy report will be developed such that it can be adapted to meet future alterations.
2.7	*"6) provide suitable access and equipment for firefighting which is appropriate for the size and use of the development."*	Consideration has been made to ensure suitable access and equipment for firefighting: • Parking for the fire service vehicle will be available as shown in Figure 5.1. • A dry riser will be provided within Stair 02 with outlets on the first to fifth floors.

No.	The London Plan – Item	Proposed fire safety provision
3	**Policy D12B: Fire Safety**	
3.1	*"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 preparation of the fire safety strategy for the proposed development was led and reviewed by Chartered Engineers registered with the Institution of Fire Engineers. As set out in BS 7974, this provides a good indication of competency in that a process of education, training and experience is required to achieve this. Further information about the competency of the author of this report are set out in Appendix A.1 to this report.
3.2	*"The statement should detail how the development proposal will function in terms of:"*	
3.3	*"1) the building's construction: methods, products and materials used, including manufacturers' details."*	The building construction materials will be in accordance with the outline fire safety strategy as described in the internal wall and ceiling linings, compartmentation and the external wall construction sections of this report. This report provides general performance specifications for items and considering this is for a planning submission the level of detail is considered appropriate and 'in general conformity' with the intent of The London Plan. The project architect and design team will provide a detailed list of the proposed construction methods and materials as the design develops.
3.4	*"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 associated evacuation strategy approach."*	The means of escape for all building users is described in the outline fire safety strategy above, including the provisions for users who require level access which is supported by the provision of refuges on the basement and upper floors, as well as an evacuation lift.
3.5	*"3) features which reduce the risk to life: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans."*	The life safety features proposed includes but is not limited to, the following: • A comprehensive automatic fire alarm and detection system to Category L1 system in accordance with BS 5839-1 throughout the building. • The protected means of escape stairs serving the upper floors (Stair 01 and 02) will be provided with an Automatic Opening Vent (AOV) which will be provided at the head of the stair, achieving an aerodynamic free area of 1m². These will all reduce the risk to life. For further detail, see the outline fire safety strategy report set out in this report. Management and maintenance plans will be developed as part of the Requirements of Regulation 38.

No.	The London Plan – Item	Proposed fire safety provision
3.6	*"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."*	The fire service entry points will be located on Southampton Row and Vernon Place, within 18m of the proposed fire service vehicle parked position on the corresponding roads. As the building is below 18m, firefighting shafts will not be provided. However, three protected stairs (Stair 01, 02 and 03) are provided which will be used for firefighting. The Southampton Row entrance will have a dry rising fire main inlet on the face of the wall, from which access to Stair 01 will be within 18m. There are three external hydrants located within 100m of the building, the location of which is illustrated in Figure 4.2 above. This should supply a sufficient amount of water for firefighting.
3.7	*"5) how provision will be made within the curtilage of the site to enable fire appliances to gain access to the building."*	It is proposed that the fire service will gain access to the building, accessed via Southampton Row to the North East and Vernon Place to the North West. This has been indicated in Figure 5.1.
3.8	*"6) ensuring that any potential future modifications to the building will take into account and not compromise the base build fire safety/protection measures."*	This fire safety strategy has been written for the proposed use of the building. The management of the building should be aware that any future modification to the building will not compromise the fire strategy currently proposed. If it does compromise the fire strategy, a fire engineer should be consulted, and a new strategy should be developed.

Figure 5.1: Illustration of Fire service vehicle access to the building.

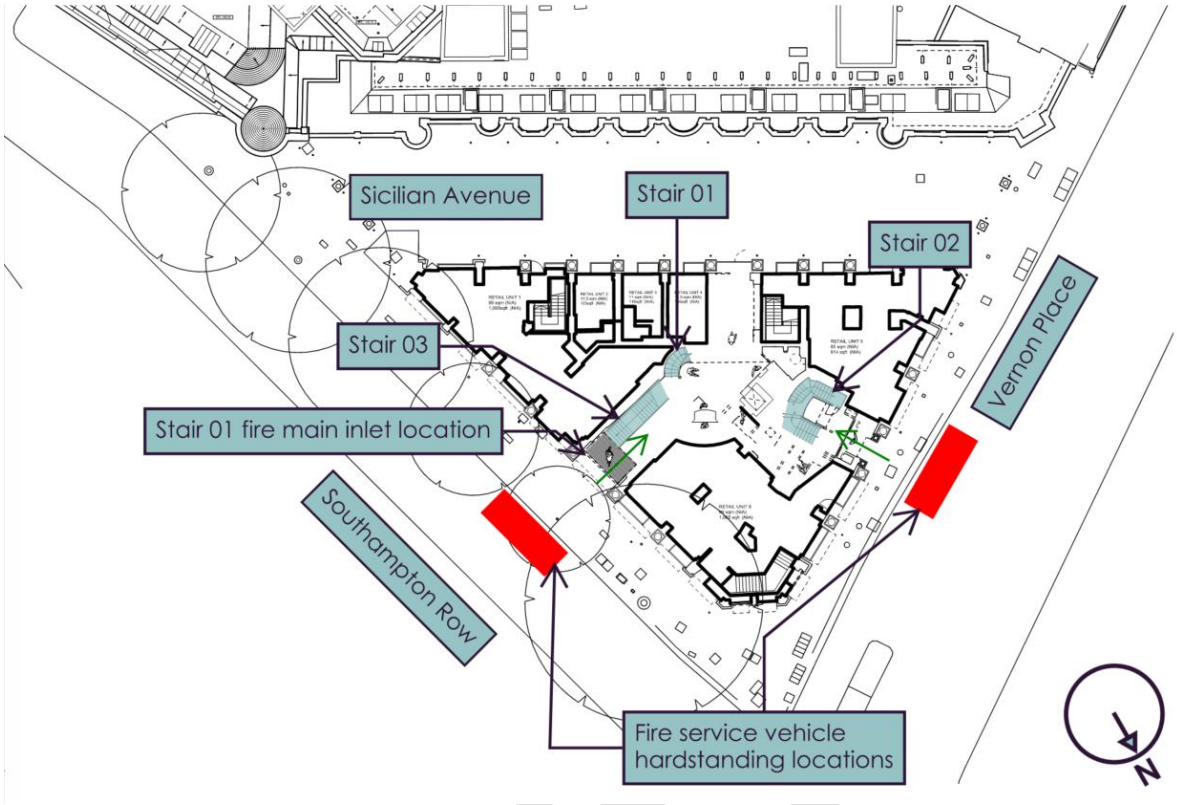


Figure 5.2: Indicative proposed assembly point, image extracted from Google Maps in April 2024.

6. Conclusions

6.1.1. This report outlines the fire safety strategy principles for the proposed redevelopment of the 31 Southampton Row building, located in Holborn, London.

6.1.2. The recommended guidance in ADB is proposed as a basis for developing the fire safety strategy for the building. Unless otherwise stated in this report, detailed aspects of the design and construction should be in accordance with the recommendations of ADB, relevant British Standards, and codes of practice.

6.1.3. This report outlines strategic principles to support a planning application, it is not considered appropriate to support Building Regulations approval.

6.1.4. The report is an outline fire safety strategy report to illustrate how the proposed scheme complies with the functional requirements of the Building Regulations 2010 (as amended), areas where a fire engineered approach will be adopted, and areas that will require further development in the next design stage to address the Building Regulations approval submission.

6.1.5. The current proposals include variations from the recommendations of standard guidance and remain an approval risk until agreed with the Approval Authorities. It is proposed to develop engineering justifications to support these proposals at the next stage. The proposed fire safety arrangements therefore require further development at the next design stages and are subject to Statutory Consultation and subsequent approval.

6.1.6. This outline fire safety strategy report also addresses how the proposed works at the 31 Southampton Row building will meet the intent of policies D5 B(5), D12A, and D12B of The London Plan (March 2021).

7. References

The following documents have been referred to in this report.

[1] HM Government, *Approved Document B - Volume 2: Buildings other than dwellings*, 2019, incorporating 2020 and 2022 amendments ed. RIBA Books, 2022.
[2] HM Government, *Building and Buildings, England - The Building etc. (Amendment) (England) Regulations 2022*. Her Majesty's Stationery Office (HMSO), 2022.
[3] HM Government, *Amendments to the Approved Document B: Fire Safety - Volume 1: Dwellings and Volume 2: Buildings other than dwellings (2019 edition incorporating the 2020 amendments)*. RIBA Books, 2022.
[4] The British Standards Institution (BSI), *BS 9999: Fire safety in the design, management and use of buildings - Code of practice*. BSI Standards Limited, 2017.
[5] HM Government, *Regulatory Reform (Fire Safety) Order 2005*. The Stationery Office Limited, 2005.
[6] Mayor of London, *The London Plan: The spatial development strategy for Greater London*. Greater London Authority (GLA), 2021.
[7] The British Standards Institution (BSI), *BS 5839-1: Fire detection and fire alarm systems for buildings - Code of practice for design, installation, commissioning and maintenance of systems in non-domestic premises*. BSI Standards Limited, 2017.
[8] The British Standards Institution (BSI), *BS 5839-2: Fire detection and alarm systems for buildings - Specification for manual call points*. BSI Standards Limited, 1983.
[9] The British Standards Institution (BSI), *BS EN 54-11: Fire detection and fire alarm systems - Manual call points*. BSI Standards Limited, 2001.
[10] The British Standards Institution (BSI), *BS 5839-9: Fire detection and fire alarm systems for buildings - Code of practice for the design, installation, commissioning and maintenance of emergency voice communication systems*. BSI Standards Limited, 2021.
[11] HM Government, *Approved Document M - Volume 2: Buildings other than dwellings*, 2015, incorporating 2020 amendments ed. RIBA Books, 2020.
[12] The British Standards Institution (BSI), *BS 5266-1: Emergency lighting - Code of practice for the emergency lighting of premises*. BSI Standards Limited, 2016.
[13] HM Government, *The Health and Safety (Safety Signs and Signals) Regulations 1996*. Her Majesty's Stationery Office (HMSO), 1996.
[14] The British Standards Institution (BSI), *BS 5499-1: Graphical symbols and signs, Safety signs including fire safety signs. Specification for geometric shapes, colours and layout*. BSI Standards Limited, 2013.
[15] The British Standards Institution (BSI), *BS ISO 3864-1: Graphical symbols. Safety colours and safety signs - Design principles for safety signs and safety markings*. BSI Standards Limited, 2011.
[16] The British Standards Institution (BSI), *BS 5906: Waste management in buildings – Code of practice*. BSI Standards Limited, 2005.
[17] The British Standards Institution (BSI), *BS 9251: Fire sprinkler systems for domestic and residential occupancies. Code of practice*. BSI Standards Limited, 2021.
[18] The British Standards Institution (BSI), *BS EN 13501-2: Fire classification of construction products and building elements - Classification using data from fire resistance tests, excluding ventilation services*. BSI Standards Limited, 2016.
[19] W. A. Morris, R. E. H. Read, and G. M. E. Cooke, *BR 128: Guidelines for the construction of fire-resisting structural elements*. Building Research Establishment (BRE), 1988.
[20] The British Standards Institution (BSI), *BS EN 1996-1-2: Eurocode 6: Design of masonry structures Part 1-2: General rules - Structural fire design*, 2005, Incorporating corrigendum October 2010 ed. BSI Standards Limited, 2010.
[21] Association of Specialist Fire Protection, 'ASFP Blue Book - Fire resisting ductwork tested to BS 476 - 24 (3rd Edition)'. Oct. 2016.
[22] The British Standards Institution (BSI), *BS EN 1634-3: Fire resistance and smoke control tests for door and shutter assemblies, openable windows, and elements of building hardware. Smoke control test for door and shutter assemblies.* BSI Standards Limited, 2004.

[23] The British Standards Institution (BSI), *BS 8524-1: Active fire curtain barrier assemblies - Specification*. BSI Standards Limited, 2013.
[24] The British Standards Institution (BSI), *BS 8524-2: Active fire curtain barrier assemblies - Code of practice for application, installation and maintenance*. BSI Standards Limited, 2013.
[25] Building Research Establishment (BRE), *BR 187: External fire spread: building separation and boundary distances*, Second Edition. 2014.
[26] HM Government, *The Fire Safety (England) Regulations 2022*. 2022.
[27] London Fire Brigade (LFB), *GN29: Access for Fire Appliances*, 15 ed. 2023.
[28] HM Government, *The Town and Country Planning (Development Management Procedure and Section 62A Applications) (England) (Amendment) Order*. 2021.
[29] The British Standards Institution (BSI), *BS EN 81-70: Safety rules for the construction and installation of lifts - Particular applications for passenger and goods passenger lifts. Accessibility to lifts for persons including persons with disability*. BSI Standards Limited, 2003.
[30] The British Standards Institution (BSI), *BS EN 13501-1: Fire classification of construction products and building elements - Classification using data from reaction to fire tests*. BSI Standards Limited, 2018.
[31] HM Government, *Fire safety risk assessment: offices and shops*. TSO (The Stationery Office), 2006.

A.1. About Trigon Fire Safety

A.1.1. Our Team

A.1.2. Trigon is a wholly independent fire engineering consultancy founded in 2019. Our three Directors are Chartered Engineers, registered with the Institution of Fire Engineers, with over 50 years of combined experience. We specialise in solving unique fire safety challenges for all building types and uses.

A.1.3. All projects are led by a Chartered Engineer registered with the Institution of Fire Engineers. As per BS 7974, this would provide a good indication of competency in that a process of education, training and experience is required in order to achieve this.

A.1.4. The preparation of the fire safety strategy for proposed refurbishment of the 31 Southampton Row building was led by David Bostelmann. David was supported by a team of fire engineers including two other Chartered Engineers, Karl Wallasch and James Lavender. David has extensive experience working on the design of residential, commercial and mixed-use developments of all size and complexity.

A.1.5. Management Systems

A.1.6. Trigon's Management Systems have achieved certification by a UKAS accredited body to the following standards:

- ISO 9001 - Quality Management Systems
- ISO 14001 - Environmental management systems
- ISO 45001 - Occupational health and safety management systems

A.1.7. This demonstrates Trigon's commitment to providing our clients with consistently high-quality fire safety advice. Trigon is also committed to minimising our impact on the environment and ensuring an adequate control of health and safety risks.

A.1.8. Trigon is Safety Schemes in Procurement (SSIP) accredited. This valued and recognised accreditation demonstrates Trigon's compliance with legislation and our ability to effectively manage risk. SSIP is approved by the Health and Safety Executive (HSE) and aims to promote a single standard for health and safety.

A.2. Architectural Drawings

A.2.1. The following drawings produced by Hale Brown Architects, received on 04 April 2024, have been used to produce this outline fire safety strategy report for RIBA Stage 2. The figures included in this report are indicative and reference should be made to the architect's drawings.

Table A.2.1: Drawings by Hale Brown Architects.

Title	Drawing Number	Revision	Date
Existing Basement Plan	386(EX)099	P3	19-Apr-24
Existing Ground Floor Plan	386(EX)100	P3	19-Apr-24
Existing First Floor Plan	386(EX)101	P3	19-Apr-24
Existing Second Floor Plan	386(EX)102	P3	19-Apr-24
Existing Third Floor Plan	386(EX)103	P3	19-Apr-24
Existing Fourth Floor Plan	386(EX)104	P3	19-Apr-24
Existing Fifth Floor Plan	386(EX)105	P3	19-Apr-24
Existing Roof Plan	386(EX)106	P3	19-Apr-24
Existing North East Elevation	386(EX)201	P3	19-Apr-24
Existing South Elevation	386(EX)202	P3	19-Apr-24
Existing North West Elevation	386(EX)203	P3	19-Apr-24
Existing Section AA	386(EX)301	P3	19-Apr-24
Existing Section BB	386(EX)302	P3	19-Apr-24
Existing Section CC	386(EX)303	P3	19-Apr-24
Existing Section DD	386(EX)304	P3	19-Apr-24
Proposed Basement Plan	386(GA)099	P3	19-Apr-24
Proposed Ground Floor Plan	386(GA)100	P3	19-Apr-24
Proposed First Floor Plan	386(GA)101	P3	19-Apr-24
Proposed Second Floor Plan	386(GA)102	P3	19-Apr-24
Proposed Third Floor Plan	386(GA)103	P3	19-Apr-24
Proposed Fourth Floor Plan	386(GA)104	P3	19-Apr-24
Proposed Fifth Floor Plan	386(GA)105	P3	19-Apr-24
Proposed Fifth Floor Plan	386(GA)106	P3	19-Apr-24
Proposed Roof Plan	386(GA)099	P3	19-Apr-24
Proposed North East Elevation	386(GA)201	P3	19-Apr-24
Proposed South Elevation	386(GA)202	P3	19-Apr-24
Proposed North West Elevation	386(GA)203	P3	19-Apr-24
Proposed Section AA	386(GA)301	P3	19-Apr-24

Title	Drawing Number	Revision	Date
Proposed Section BB	386(GA)302	P3	19-Apr-24
Proposed Section CC	386(GA)303	P3	19-Apr-24
Proposed Section DD	386(GA)304	P3	19-Apr-24

A.3. Statutory controls

A.3.1. The Building Regulations 2010

A.3.2. The building works are subject to the requirements of the Building Regulations 2010. For fire safety, the functional requirements of Part B of Schedule 1 to the Building Regulations 2010 are set out under the following headings:

- Requirement B1 – Means of warning and escape.
- Requirement B2 – Internal fire spread (linings).
- Requirement B3 – Internal fire spread (structure).
- Requirement B4 – External fire spread.
- Requirement B5 – Access and facilities for the fire service.

A.3.3. The existing building will be refurbished. Regulation 4(3) (see also Section A.3.14) of the Building Regulations require that the works are carried out such that the building complies with the applicable requirements of Schedule 1 to the Building Regulations or, where it did not comply with any such requirement, is no more unsatisfactory in relation to that requirement than before the work was carried out.

A.3.4. This report presents an outline fire safety strategy suitable for supporting a planning application and discussions with the design team, client and other stakeholders. It is not considered suitable to support Building Regulations approval.

A.3.5. As the requirements are functional in nature, there is no obligation to follow the guidance of ADB if compliance can be demonstrated in some other way. Although this fire strategy has primarily been developed on the basis of the guidance present in ADB, reference has been made to other British Standards for example BS 9999 for the design of firefighting shafts.

A.3.6. As of 29th March 2024, amendments ADB (Volumes 1 and 2, 2019 edition incorporating 2020 and 2022 amendments) were published by HM Government. The amendments primarily focus on the following fire safety provisions:

- A new recommendation for more than one common stair to be provided in blocks of flats with a storey 18m or more in height; and
- Building design provisions to support the use of evacuation lifts in blocks flats.

A.3.7. The changes highlighted within the latest amendment will take effect on 30 September 2026 for use in England, and as a result, the 2019 edition incorporating the 2020 and 2022 amendments of ADB Volume 2 remain applicable.

A.3.8. Departures or deviations from the relevant fire safety guidance documents are detailed within this report. Where not explicitly described within this report, in all other respects, the building should be designed to comply with the relevant sections of ADB or the relevant supporting British Standards referenced therein.

A.3.9. Building etc. (Amendment) (England) Regulations 2022

A.3.10. On 1 June 2022 the government announced the Regulations 2022, which came into effect on 1 December 2022.

A.3.11. The key changes to the Regulations are summarised as (note that not all of these will be relevant for this development):

- The Regulations 2022 inserts a new definition of reaction to fire classification which updates the classification to the most recent version published in 2019 by the British Standards Institution.
- Buildings works within the scope of the current restrictions on combustible materials will have to meet this updated reaction to fire classification (i.e. BS EN 13501-1[30]).
- There is a new definition of relevant metal composite material.
- The Regulation introduces a ban on relevant metal composite material becoming part of the external wall or specified attachment when undertaking building work to any building.
- The Regulations add to the list of exemptions from the requirement of materials to meet the reaction to fire classification standard.
- The Regulation defines solar shading devices and includes them in the definition of 'specified attachment'.

A.3.12. The changes will not apply where a building notice or an initial notice has been given to, or full plans deposited with, a local authority before 1 December 2022 and either the building work to which it relates will be started before that day or is started within the period of six months beginning on that day.

A.3.13. As the submission was not made prior to 1 December 2022, the amended Regulations 2022 will be applicable for this project and has been considered in this outline fire safety strategy report.

A.3.14. Regulation 4(3)

A.3.15. As per Regulation 4(3) of the Building Regulations, all building work should be carried out so that, after it has been completed:

- Any building which is extended or to which a material alteration is made; or
- Any building in, or connection with, which a controlled service or fitting is provided, extended, or materially altered; or
- Any controlled service or fitting, complies with the applicable requirements of

A.3.16. Schedule 1 or, where it did not comply with any such requirement, is no more unsatisfactory in relation to that requirement than before the work was carried out.

A.3.17. This report identifies how any future works may be able to comply with Regulation 4(3) by ensuring that the fire safety measures are no worse than they were before the works being undertaken. Notwithstanding the above, this report will also advise on how the project will provide a level of safety adequate to comply with the FSO and any potential upgrades to fire safety measures (as far as is reasonably practical).

A.3.18. Regulation 7

A.3.19. As per Regulation 7(1) of the Building Regulations 2010 (as amended), all building work should be carried out with adequate and proper materials which are:

- appropriate for the circumstances in which they are used,
- adequately mixed or prepared, and
- applied, used or fixed so as adequately to perform the functions for which they are designed; and in a workmanlike manner.

A.3.20. Regulation 7(2) of the Building Regulations 2010, as amended by the Building (Amendment) Regulations 2018, restrict the use of combustible materials in the external walls of 'relevant buildings' over 18m in height.

A.3.21. A 'relevant building' is defined as a building with a storey at least 18m above ground and which contains one or more dwellings; an institution; or a room for residential purpose contains a room for residential purposes.

A.3.22. The building will have a top storey height less than 18m above ground and it will not be deemed as a 'relevant building', therefore the additional requirements of Regulation 7(2) will not apply.

A.3.23. Regulation 38

A.3.24. Regulation 38 of the Building Regulations requires fire safety information for new or altered buildings to be passed to the responsible person at completion of the project or on occupation, whichever comes sooner.

A.3.25. The aim of this requirement is to provide the responsible person with appropriate information to assist to operate and maintain the building in reasonable safety. This information can therefore assist the responsible person in undertaking a Fire Risk Assessment to meet the requirements of the FSO.

A.3.26. The Regulatory Reform (Fire Safety) Order 2005

A.3.27. Responsibility for compliance with the FSO will rest with the "responsible person". In a workplace this will usually be the employer together with persons who may have control of other parts of the premises. In other cases, the person(s) who has control of the premises will be the "responsible person".

A.3.28. Where building work and fire protection measures comply with Part B of the current Building Regulations, additional physical measures should not normally be required under the FSO unless high-hazard materials or processes are introduced into the building.

A.3.29. The FSO places on the "responsible person" specific duties such as carrying out a fire risk assessment. More detailed guidance is available in a series of Fire Safety Risk Assessment Guides published for HM Government [31].

A.3.30. This outline fire safety strategy has been developed on the assumption that the building will be suitably managed. This includes documenting the basis on which the fire safety design was planned, the type of management organisation envisaged for running the building, and the consequential management responsibilities. Guidance on fire safety management is provided in BS 9999.

A.3.31. Building Safety Act 2022

A.3.32. The Building Safety Act 2022 (The Act) [29] (BSA) gained Royal Assent on 28th April 2022. The Act has been set out with the objective of delivering the biggest changes to building safety for nearly 40 years. The reformed building safety system will cover the performance of all buildings as well as the management of fire and structural safety risks in new and existing buildings 'in scope'.

A.3.33. The proposed legislation requires 'higher-risk buildings' to go through several 'gateway points' as part of the design and construction process. A new Building Safety Regulators

(BSR), part of the Health and Safety Executive (HSE), will oversee the process and ensure appropriate measured are being implemented to manage risk.

A.3.34. The regime will also introduce accountability and statutory responsibilities to 'dutyholders'. As such, it is recommended that building information should be created, stored, and updated throughout the design and construction process and a detailed record of the as-built information should be collated.

A.3.35. For 'higher-risk buildings' buildings a safety case report will need to be developed.

A.3.36. The building will not be greater than 18m in height. Therefore, the building will not be classified as a 'higher-risk building'. Nonetheless, Trigon recommended that all fire safety information should be clearly recorded and assembled throughout the project for the building refurbishment and extension.

A.3.37. The London Plan

A.3.38. Developments located within London need to address the implications of The London Plan, March 2021 [6] as part of the planning application process. As stated in The London Plan 2021: "*All Development Plan Documents and Neighbourhood Plans have to be 'in general conformity' with the London Plan*" and should consider the fire safety policies of The London Plan D5(B5), D12A and D12B. The London Plan also states that:

"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."

A.3.39. The Town and Country Planning Order 2015 provides a definition of major developments. Generally, major developments are:

- Development of dwellings where 10 or more dwellings are to be provided, or the site area is 0.5 hectares or more;
- Development of other uses, where the floor space is 1,000 square metres or more, or the site area is 1 hectare or more.

A.3.40. Trigon therefore considers that, for major developments, the relevant information should be provided in a report and it is not considered important whether this report is called a "Fire Statement" or a "fire safety strategy report".

A.3.41. Accordingly, Section 4 of this outline fire safety strategy report sets out the proposals to meet the intent of The London Plan.

A.3.42. Property protection

A.3.43. Property protection is not a requirement of the Building Regulations and therefore is not explicitly considered in this report. However, it should be noted that many of the fire safety provisions will afford some degree of property protection to the building.

A.3.44. Construction Design and Management (CDM)

A.3.45. The Construction Design and Management (CDM) Regulations 2015 must be followed during the design and construction works.

A.3.46. Under the CDM Regulations a client must make suitable arrangements for managing a project, including the allocation of sufficient time and resources to ensure that the construction work is carried out so far as is reasonably practicable. The client is also responsible to provide all pre-construction information as soon as is practicable to every designer and contractor appointed. Furthermore, it is the client's responsibility to ensure that a construction phase plan is drawn up before construction begins.

A.3.47. Where there is more than one contractor, the client must appoint a principal designer and a principal contractor to ensure the information is coordinated by responsible person(s). All designers or contractors should be ensured that they have the skills knowledge and experience, and if they are an organisation, the organisational capability, necessary to fulfil the role they are appointed to undertake.

A.4. External Fire Spread Assessment

A.4.1 Space Separation Analysis – Introduction

A.4.2 The risk of external fire spread has been assessed using the BRE "Enclosing Rectangle" (ER) method outlined in BRE report BR 187:2014 [25]. The assessment has been carried out on the following basis:

- The radiation intensity as per the guidance of ADB and BR 187 at each unprotected area used for the assessment has been taken as follows:
  - 84 kW/m² for the office areas (purpose group 3);
  - 84 kW/m² for the residential areas (purpose group 2); and
  - 168kW/m² for the retail areas (purpose group 4).
- A compartment floor should be provided between the retail areas and the office areas above, and between the office areas and the residential areas above.
- As the office storeys are below 30m in height, guidance would not recommend that they are provided with compartment floors.
- Sprinklers will not be provided.
- For the purpose of this high-level assessment, the ground floor retail units, the office floors (i.e. first to fourth floors), and the residential flats on the fifth floor have each been considered as one enclosing rectangle. Therefore each façade has three enclosing rectangles.
- All areas that are not deemed an "acceptable unprotected area" should achieve a minimum fire resistance classification of RE 60 and I 15.

A.4.3 Within this fire safety strategy each compartment separated by a minimum of 60 minutes fire resisting construction (REI 60), will be assessed based on its use and geometry for the allowable unprotected area.

A.4.4 The relevant boundary should be taken as the site boundary, unless a façade faces onto a space that is unlikely to be developed, such as a road, canal, or river. In this case, the boundary distance has been taken as the distance to the midpoint of Southampton Row on the North East elevation, the distance to the midpoint of the Sicilian Avenue on the South elevation, and the distance to the midpoint of Vernon Place on the North West elevation.

A.4.5 This assessment represents a high level indicative assessment, the results are shown in Table A.4.1 below. A more detailed assessment will be conducted in the next design stage. The location of each elevation and the relevant boundary distances have been shown in Figure A.4.1. Note that as a full size site plan has not been provided, the boundary distances are indicative and represent a worse-case scenario. The elevations assessed are shown in Figure A.4.2 to Figure A.4.4, with the compartment width and height marked up.

Figure A.4.1: Ground floor layout with boundary distances labelled.

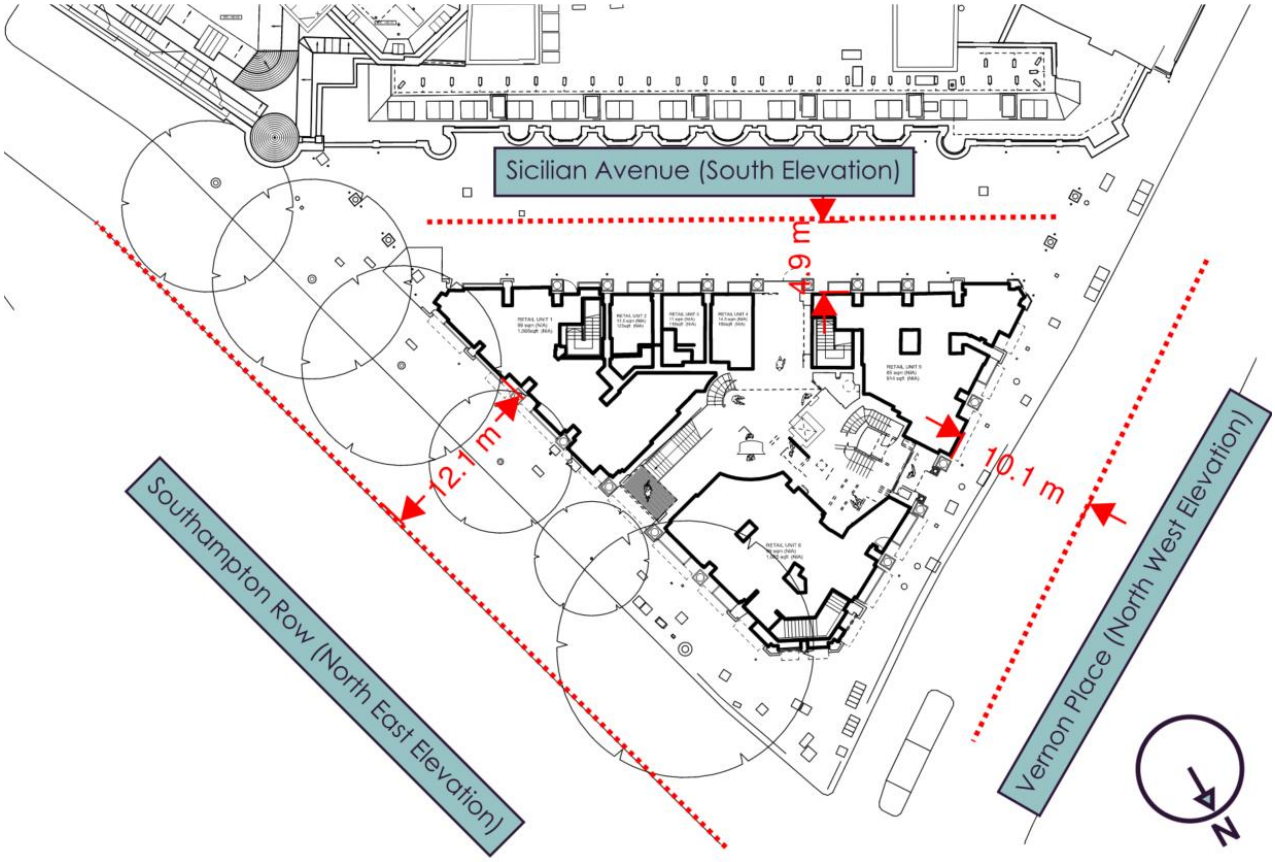


Figure A.4.2: North East Elevation showing the compartment widths and height.

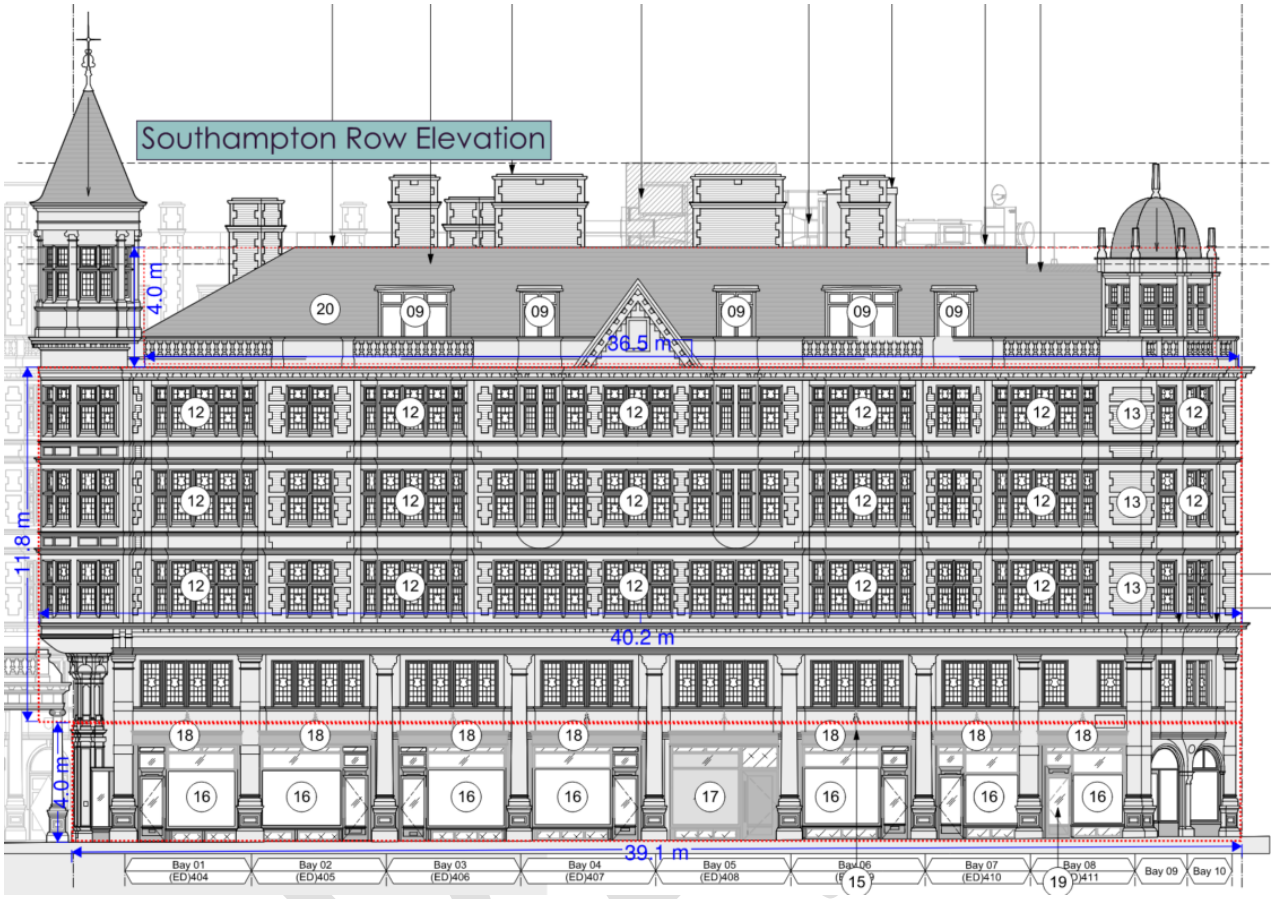


Figure A.4.3: South elevation showing the compartment widths and height.

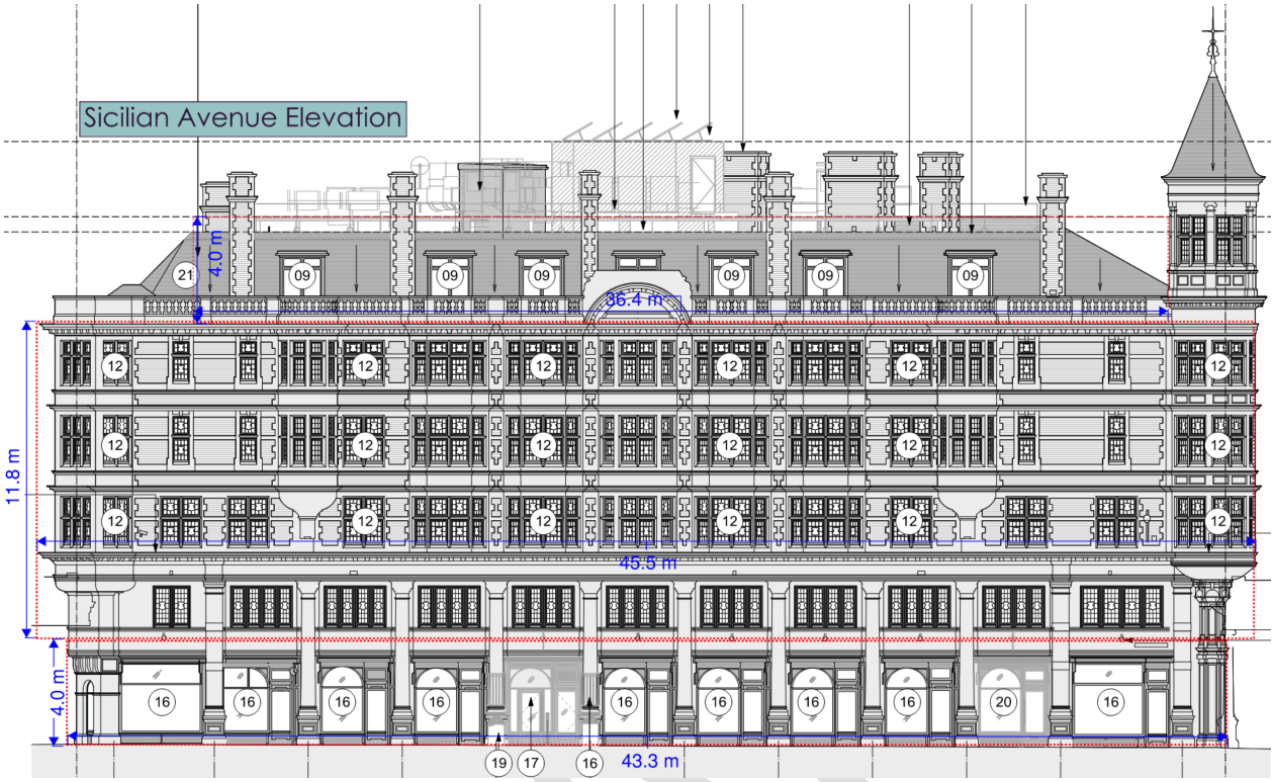
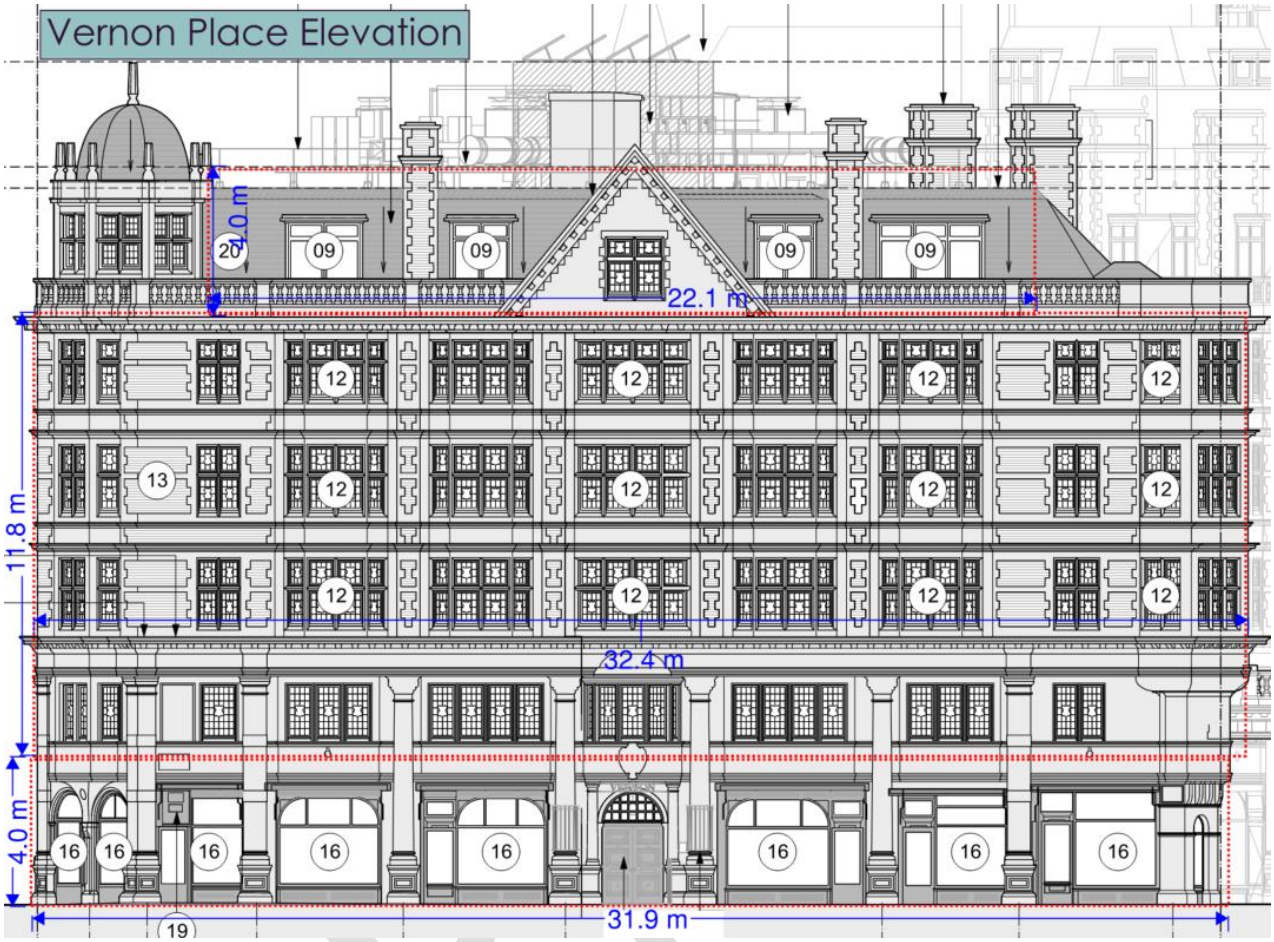


Figure A.4.4: The North West elevation showing the compartment widths and height.



A.4.6 High-level assessment of external fire spread

A.4.7 Based on the above, the external fire spread calculations are given in Table A.4.1 below.

A.4.8 The last column presents the area of the relevant façade which is acceptable to be unprotected (i.e. does not need fire resisting construction).

Table A.4.1: Space separation analysis for 31 Southampton Row.

Elevation	Floor	Façade height x length (m)	BRE ER height x length (m x m)	Available boundary distance (m)	Area of ER acceptable as unprotected (%)	Area of façade acceptable as unprotected (m^2)
Southampton Row (North East Elevation)	Ground	4.0 x 39.1	6.0 x 40.0	12.1(1)	81.0	156.4
	First to Fourth	11.8 x 40.2	12.0 x 50.0	12.1(1)	76.0	456.0
	Fifth	4.0 x 36.5	6.0 x 40.0	12.1(1)	100.0	146.0
Sicilian Avenue (South Elevation)	Ground	4.0 x 43.3	6.0 x 50.0	4.9(1)	27.0	81.0
	First to Fourth	11.8 x 45.5	12.0 x 50.0	4.9(1)	29.6	177.6
	Fifth	4.0 x 36.4	6.0 x 40.0	4.9(1)	54.0	129.6
Vernon Place (North West Elevation)	Ground	4.0 x 31.9	6.0 x 40.0	10.1(1)	61.0	127.6
	First to Fourth	11.8 x 32.4	12.0 x 40.0	10.1(1)	66.0	316.8
	Fifth	4.0 x 22.1	6.0 x 24.0	10.1(1)	100.0	88.4

Notes

(1) As a full site plan has not been provided at this stage, an indicative boundary distance has been taken from the key plan included in the elevation drawings.