

tenos

▼Hillingdon Hospital Redevelopment
Uxbridge

**TS200656-R02-ISSUE 1
Fire Statement**

ASITE Reference: THHR_01-TEN-ZZ-ZZ-RP-FE-000002

for:

The Hillingdon Hospitals NHS Foundation Trust
Pield Heath Road
Uxbridge
UB8 3NN

Issue and amendment record

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1 Introduction

- 1.1 This report presents the Fire Statement, required by the London Plan 2021 ("London Plan") for all major developments, in partial fulfilment for the hybrid planning application for the Hillingdon Hospital Redevelopment (the "Hospital") and associated Multi-Storey Car Park (the "MSCP") in Uxbridge, a description of the scheme is provided below.
- 1.2 The Fire Statement documents why the buildings need to be safe from fire and how that safety will be achieved. It sets out the scope of the fire safety considerations and the design objectives, which in this instance are driven by a statutory obligation to protect people in and around the building.
- 1.3 It describes the measures necessary to meet with Policy D12 and, in respect of means of escape via evacuation lifts, Policy D5 of the London Plan.
- 1.4 This report has been developed on the basis of the drawings and other design information listed in Annex A1.

Author

- 1.5 The Fire Statement has been prepared on behalf of Tenos Limited.
- 1.6 It has been prepared and reviewed by a Chartered Engineer and Member of the Institution of Fire Engineers in accordance with paragraph 3.12.9 of the London Plan.

Brief description of the development

- 1.7 The development site relating to the hybrid planning application will be located at The Hillingdon Hospitals NHS Foundation Trust, Pield Heath Road, Uxbridge, UB8 3NN.

Full application

- 1.8 Seeking planning permission for demolition of existing buildings and redevelopment of the site to provide the new Hillingdon Hospital, multi-storey car park and mobility hub, vehicle access, highways works, associated plant, generators, substation, new internal roads, landscaping and public open space, utilities, servicing area, surface car park/expansion space, and other works incidental to the proposed development.

Outline planning application

- 1.9 For the demolition of buildings and structures on the remaining site (excluding the Grade II Furze and Tudor Centre) for a mixed-use development comprising residential (Class C3) and supporting Commercial, Business and Service uses (Class E), new pedestrian and vehicular access; public realm, amenity space, car and cycling parking
- 1.10 An indicative site plan is provided in Figure 1.1. The full site plan is provided as IBI drawing number THHR_01-IBI-XX-XX-DR-A-100003.

Use

- 1.11 The Hospital will be used as a general needs hospital providing care for a range of patients of a range of dependency, from independent to very high dependency.
- 1.12 The MSCP will provide parking for patients, staff and visitors, a mobility hub – including a cycle storage facility- and a café.

General layout

Hospital

- 1.13 The Hospital will consist of 8 no. above-ground levels (G+7) and 1 no. basement level with the highest floor being 35.25m above ground level. The basement will be 4.5m below adjacent ground.
- 1.14 The Hospital will have overall dimensions of approximately 105m by 155m with a GIA of 79,603.6m². The height of the building, measured to the roof parapet, will be approximately 41.3m.
- 1.15 At Level 00 (ground floor) the clinical accommodation will include the emergency department and main entrance. At the upper levels, the accommodation will be broadly split across a Hospital Street, which will run north to south, with wards to the west and other clinical accommodation (e.g. imaging, theatres, delivery) to the east.

MSCP

- 1.16 The MSCP will consist of 6 above-ground levels (G+5), with the highest floor (also the roof) being 18.3m above the external adjacent ground level at the south west elevation. The mobility hub and the café will be located on the north and north east elevation.
- 1.17 The building will have overall dimensions of approximately 63m by 77m with a GIA of 23,034m².
- 1.18 The car park provides total number of 781 parking spaces and will be served by three stairs located on the north, west and south elevations together with a ramp at south-west corner serving the car park entrance level. Passenger lifts will be provided in each staircase for access to the upper levels.

Construction

Hospital

- 1.19 The construction of the hospital will be of reinforced concrete construction.
- 1.20 The design will include several roof terrace areas, but no balconies are proposed.
- 1.21 The materials used in the construction of the external walls will be European Class A2-s1,d0 or better – classified in accordance with BS EN 13501- 1:2007+A1:2009 entitled "*Fire classification of construction products and building elements. Classification using test data from reaction to fire tests*" (ISBN 978 0 580 59861 6) published by the British Standards Institution on 30th March 2007 and amended in November 2009 – to accord with current Building Regulations requirements.

MSCP

- 1.22 The construction of the car park will be of steel frame and concrete slab floors.
- 1.23 The design will include a roof terrace area, and green roof but no balconies are proposed.

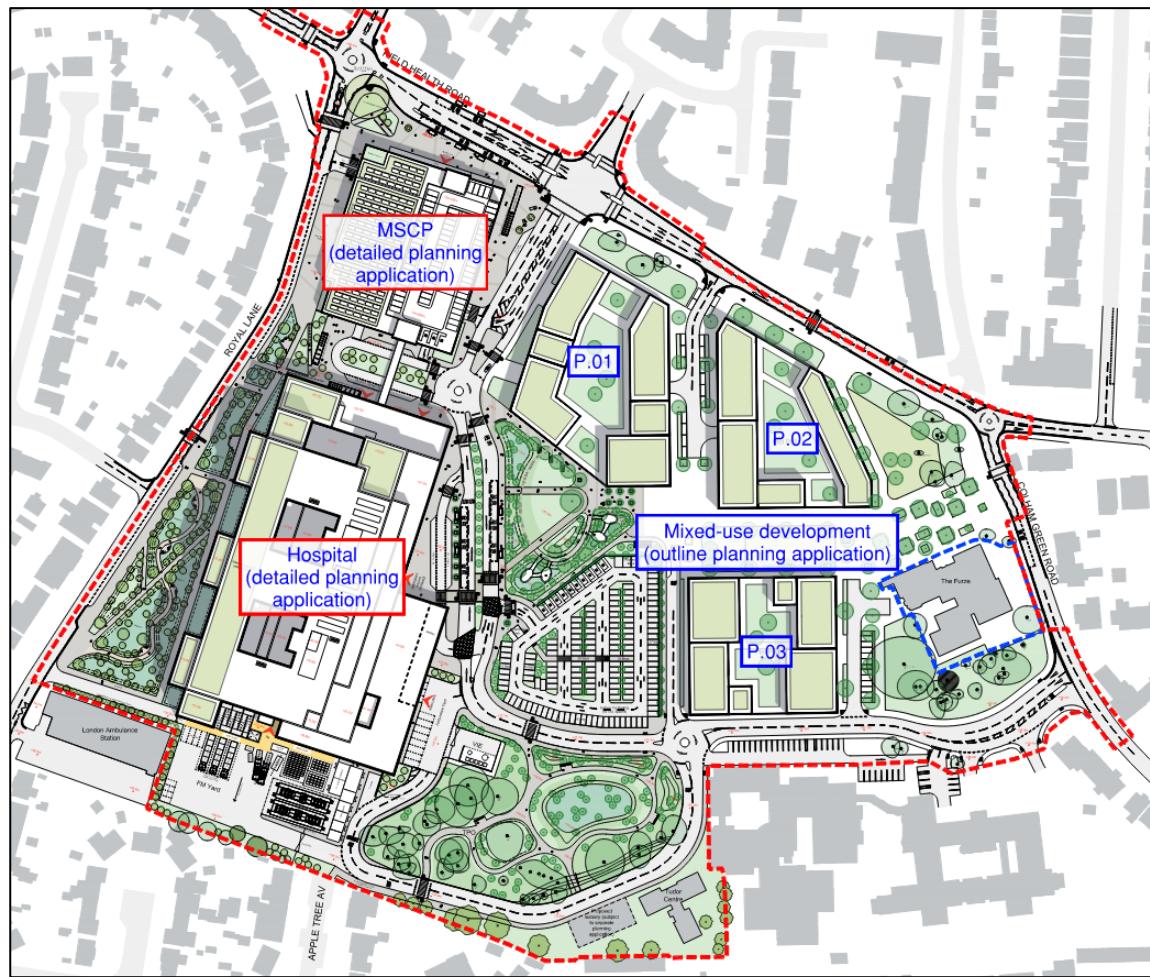


Figure 1.1: Indicative site plan

Consultation

Consultation with the Trust and design team

1.24 Consultation has been carried out with The Hillingdon Hospitals NHS Foundation Trust ("THH NHS FT") as part of the fire strategy development.

1.25 This has included meetings on the emergency evacuation of the new Hospital, 11th March 2021, emergency evacuation planning to consider the provision during the build and demolition of the existing buildings on the site, 14th April 2021, and the initial Qualitative Design Review (QDR) process, 29th June 2021 (this process is described in further detail in the following section).

1.26 As a result of these consultations, we have:

- ▶ established the range of patient dependencies for the Hospital;
- ▶ established the process of evacuation to be implemented by THH NHS FT;
- ▶ established relevant emergency assembly points for ambulant and non-ambulant persons;
- ▶ identified a number of further design considerations and aspirations to be achieved in the proposals for the scheme, including features relating to business resilience and enhancing the overall availability of the building post fire event.

Consultation with the fire and rescue service

1.27 Tenos has made the following consultations with the London Fire Brigade (LFB) in the preparation of the fire safety strategies for the Hospital and the MSCP to assess the implications of the design on access to the site for firefighting.

Water Team

1.28 Tenos has consulted with the London Fire Brigade Water Team on 4 March 2021 to determine the availability of water supplies for firefighting in the proposed development area. In particular, fire hydrants on Royal Lane, Pield Heath Road and the Hospital site road connecting Colham Green Road and Royal Lane.

Fire Safety Team (Hillingdon area)

1.29 Tenos made attempts to arrange a pre-planning consultation with the London Fire Brigade Fire Safety Team via the online contact form (<https://www.london-fire.gov.uk/contact-us/>) on a number of occasions and were unsuccessful.

1.30 As part of the consultation with the THH NHS FT's Fire Safety Manager / Advisor, Tenos was directed to the London Fire Brigade Fire Safety Healthcare Coordinator and we have requested via emails between 26 July 2021 and 9 November 2021.

Vehicles and Equipment Team

1.31 The relevant vehicles which will attend the site are pump appliances and high reach appliances. Upon request for information of the LFB's taller vehicles (to assess the potential impact of the low bridge connecting the Hospital to the MSCP) we were provided with the following:

- ▶ Aerial appliance type A: Driving Height 4m with a turntable ladder of 64m
- ▶ Aerial appliance type B: Driving Height 3.5m with a turntable ladder of 32m
- ▶ Command unit (mobile office): 3.1m

2 ▲ Fire safety design principles

2.1 The fire safety principles to be adopted in the design of the Hospital have been developed following a meeting with IBI Group to discuss the scheme on 19th November 2020.

Statutory fire safety requirements

2.2 The main statutory requirements covering fire safety to be met in the design and construction of the hospital derive from:

- ▶ The Building Regulations 2010
- ▶ The Regulatory Reform (Fire Safety) Order 2005 (the "FSO")
- ▶ Care Quality Commission (Registration) Regulations 2009.

Building regulations

2.3 The Building Regulations 2010 are the primary basis for statutory control of building design in England and Wales. For fire safety, the hospital will need to comply with the functional requirements set out in Schedule 1, Part B of the Building Regulations.

2.4 In addition to this, the Building (Amendment) Regulations 2018 mean that the hospital (an institution, as defined in the Building Regulations) will be classed as a 'relevant building' under Regulation 7(4) as it will have a storey at least 18m above ground level. Accordingly, Regulation 7(2) essentially bans the use of combustible materials (except for certain very limited exceptions) in the construction of the external walls and any 'specified attachments' (i.e. balconies and/or solar shading/solar panels).

Design guidance

2.5 General guidance regarding compliance with the Building Regulations is given in Approved Document B (ADB) Volume 2 and this guidance will be adopted for the design of the MSCP, but the special requirements of hospitals, particularly the need to facilitate Progressive Horizontal Evacuation, are not specifically covered. ADB recommends the Firecode suite of documents, published by the Department of Health, as appropriate guidance on the design of fire precautions in hospitals.

2.6 For in-patient areas, the fire strategy will be developed following the recommendations of Health Technical Memorandum HTM 05-02: Firecode and other documents in the NHS Firecode series of documents. In areas to which in-patients do not normally have access (staff and outpatient areas) the guidance in ADB will be utilised in conjunction with NHS Firecode, based on the assessment of the type of patient care, where applicable.

2.7 The need for a flexible approach is recognised in HTM 05-02 which states that:

"This document describes a way of achieving an acceptable standard of fire safety within new and modified healthcare buildings, but it is recognised that there may be other ways of satisfying the functional requirements by adopting a fire safety engineering approach. A fire safety engineering approach that takes into account the total fire safety package can provide an alternative approach to fire safety. If such an approach is used, the responsibility is placed upon those promoting the alternative approach to demonstrate that the alternative satisfies the functional requirements and fire safety objectives of this document."

2.8 Where the prescriptive guidance given in Firecode is unsuitable or unduly restrictive for the particular circumstances of this project, a variations schedule will be developed to maintain a record of the agreed alternative approaches.

2.9 It should be noted that this approach does not apply to the requirements of Regulation 7 concerning the construction of the external walls and any 'specified attachments', i.e. the provisions in respect of this requirement will be applied in full.

Regulatory Reform (Fire Safety) Order

2.10 Responsibility for compliance with the FSO will rest with the "responsible person". In a hospital this will usually be the Trust, together with persons who may have control over parts of the premises (e.g. FM provider).

2.11 To satisfy the requirements of the Regulatory Reform (Fire Safety) Order comprehensive fire safety management procedures will need to be developed, documented and implemented by the Trust (and others) and be supported by suitable and sufficient fire risk assessments.

Care Quality Commission

2.12 Outcome 10 of the Care Quality Commission's (CQC) Guidance about compliance focuses on the safety and suitability of healthcare premises. In terms of fire safety this guidance requires that, amongst other things, the premises meet the FSO. Essentially, that the provisions meet statutory requirements, the fire safety systems are maintained, and appropriate fire safety training and management procedures are implemented.

2.13 HTM guidance is specifically referenced in the CQC's schedule of applicable publications as a means of compliance with Outcome 10.

2.14 Therefore, a building designed in accordance with the provisions of the Building Regulations, FSO and HTM guidance, including any suitably justified alternative approaches, would be expected to comply with CQC requirements (subject to suitable fire safety management procedures being developed and implemented by the Trust).

Other (non-statutory) requirements

2.15 Legislation is concerned only with protecting the health and safety of people in and around a building and is not specifically intended to provide protection against damage or consequent financial and environmental losses.

2.16 No specific client, insurer, or funder requirements over and above meeting with statutory requirements have been reported to us as being relevant to this project. Whilst measures for life safety will often provide an element of property protection, this was reviewed with the client and other stakeholders on 29th June 2021 during the development of the fire strategy, as part of the Qualitative Design Review (see 2.17) and consideration will be given to enhancing the overall fire safety design where practicable.

The fire strategy

2.17 The fire safety design will be documented in a fire strategy report. The fire strategy report will be a statement of the requirement for fire safety in the hospital and how that safety will be achieved. It will set out the scope of the fire safety aims and the design objectives, which in this instance – as described above – are currently understood to be based upon the statutory obligation to protect people in and around the building from the effects of fire.

2.18 The fire safety design has been validated during RIBA Stage 2 by undertaking a Qualitative Design Review (QDR). The QDR is a structured technique, which is carried out in accordance with BS 7974 PD 0, that allows the design team to think of possible ways in which a fire hazard might arise and establish a range of strategies to maintain the risk at an acceptable level. The QDR process is provided in outline form overleaf for information. This report sets out in broad terms the functional objectives of the fire safety design.

2.19 The QDR was completed during RIBA Work Stage 2, held 29th June 2021, and was undertaken in two stages as part of the regular fire strategy workshops completed during design development.

2.20 The QDR team comprised the following members;

- ▶ Michael Bell – Senior Fire Engineer (Tenos)

- ▶ Alastair Burleigh – Authorising Engineer, Fire (Alfor)
- ▶ Mark Williams – Head of Estates (The Trust)
- ▶ Sue Bolt – Facilities Manager (The Trust)
- ▶ Harry Egan – Mechanical Engineer (Aecom)
- ▶ Paul Wilkinson – Principal Designer (Ridge)
- ▶ Tony Burley – Architect (IBI Group)
- ▶ Simon Windsor – Project Manager (Aecom)
- ▶ Selina Jordan – Project Manager (Aecom)
- ▶ Charles Uezell – Associate Project Manager (Aecom)

2.21 The QDR was completed using the structured format below;

- ▶ Review of building design and occupant characteristics;
- ▶ Establish fire safety objectives;
- ▶ Establish trial fire safety designs;
- ▶ Complete a “what-if” analysis
- ▶ Establish work requiring quantitative analysis

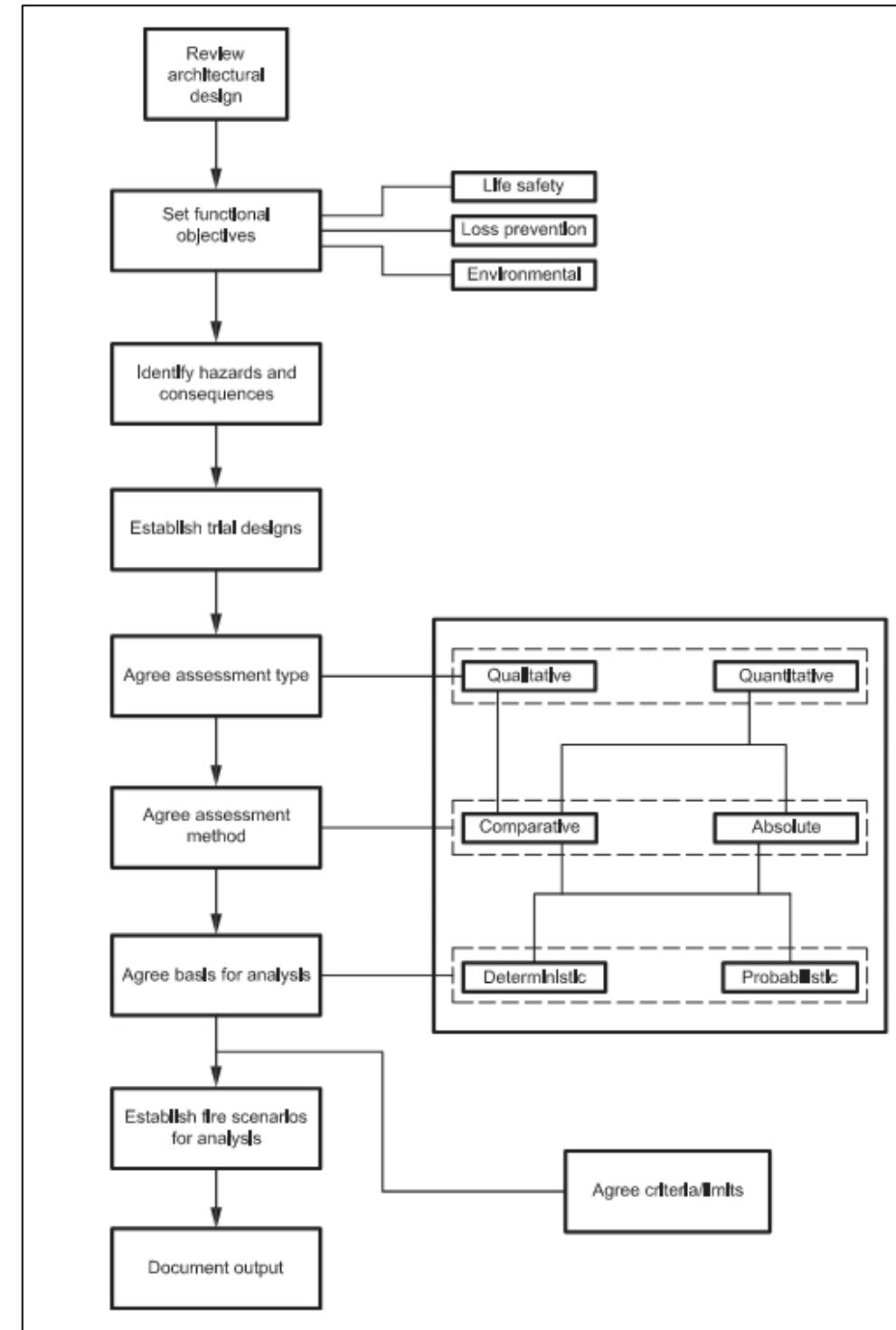


Figure 2.1: QDR process flowchart (Figure 6 of BS 7974 PD 0: 2019)

3 Policy D5 Inclusive Design

3.1 As required by Policy D5 B(5), the scheme will be designed to incorporate safe and dignified emergency evacuation for all building users.

3.2 In respect of the fire strategy development, as the Hospital and MSCP will be provided with lifts, as a minimum at least one lift per core will be a suitably sized 'fire evacuation lift' capable of evacuating people who require level access from the building.

Hospital

3.3 The Hospital will be provided with a Hospital Street and, therefore, separate stair and lift cores.

3.4 There will be 4 stair cores and 4 associated fire evacuation lifts as illustrated in Figure 3.1.

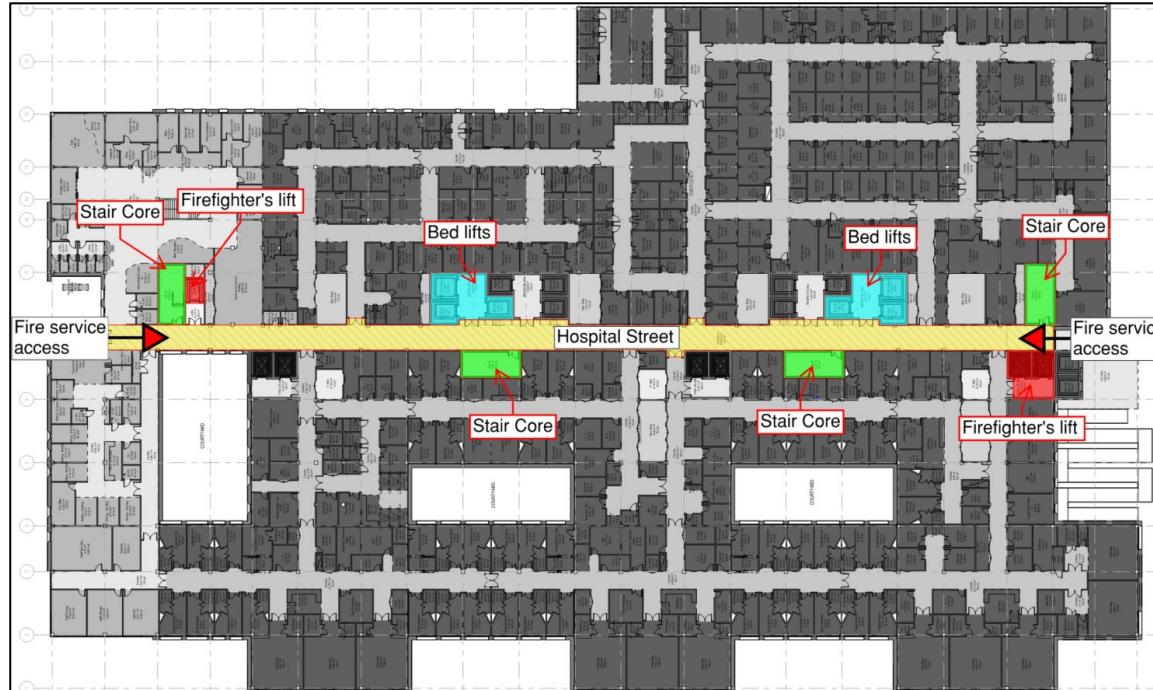


Figure 3.1: Schematic ground floor plan showing fire service entry points, stair cores and fire evacuation lifts

3.5 The lift cores will be well separated (by fire resisting construction and by distance), such that they will always be available in the event of a fire. The Hospital will be provided with 2 escape bed lifts which, in accordance with Health Technical Memorandum 05-02: Firecode (HTM 05-02), will be sufficiently remote from each other to ensure that at least one is always available in the event of a fire for bed patient evacuation.

3.6 Notwithstanding 3.5.10 of the London Plan 2021, due to the nature of healthcare buildings and the number and dependency of the building's occupants, HTM 05-02 states:

"It is unrealistic to believe that the total evacuation of occupants from upper floors of multi-storey [healthcare] buildings can be achieved solely by the use of lifts. Therefore, escape stairways will always be required."

3.7 The provision of a high degree of fire compartmentation and the adoption of Progressive Horizontal Evacuation will mean that superior refuge provision (i.e. capacity for evacuation) will be provided in the Hospital for persons requiring level access than in other buildings. HTM 05-02 states:

"Adopting this approach [progressive horizontal evacuation] ensures that the concept of "inclusive design" has been applied."

3.8 Storeys consisting exclusively of plant rooms will not have access to the escape bed lifts and the roof which will be accessed only for maintenance will not have access to an evacuation lift.

Multi-storey car park

3.9 The MSCP will be provided with an evacuation lift within each stair core as illustrated in Figure 3.2.

3.10 Disabled parking bays are proposed at each level, with a maximum of 10 on a storey, albeit the car park is unlikely to be fully occupied at any one time. The refuges in the protected stair lobbies, even when discounting a storey exit due to fire, will together have capacity for at least 18 wheelchair users per storey (assuming a required space of 900mm x 1400mm in accordance with statutory guidance in ADB). In respect of capacity this is expected to be more than sufficient for the number of people in the building in the event of a fire.

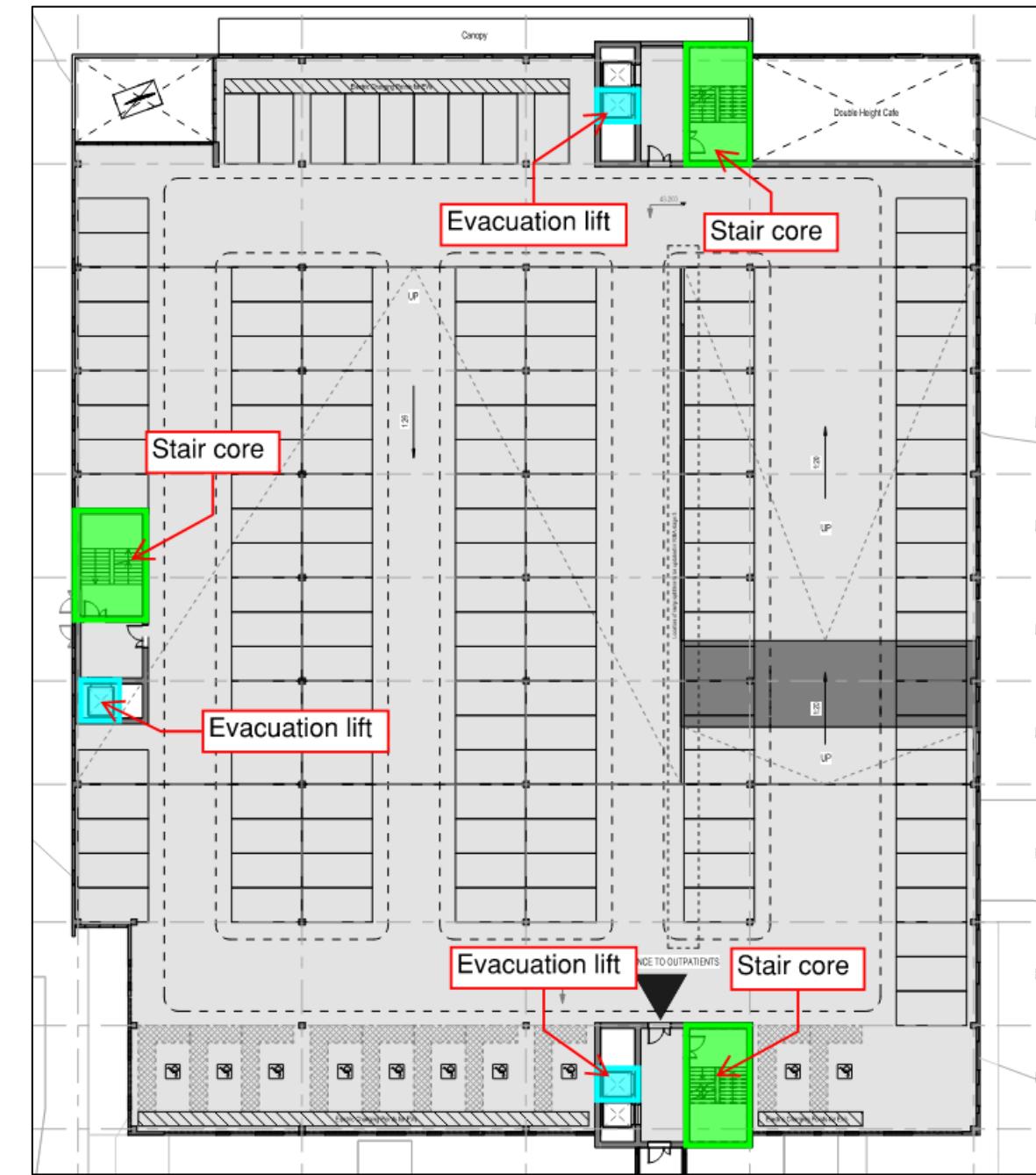


Figure 3.2: Schematic first floor plan showing stair cores and fire evacuation lifts

Standard of fire evacuation lift

3.11 The London Plan itself does not describe an appropriate standard for fire evacuation lifts.

3.12 The relevant recommendations of the fire strategy for the scheme are summarised as:

- ▶ Hospital
 - Escape bed lifts will be designed to comply with HTM 05-03 Part E – ‘Escape lifts’, BS 5588-8 - ‘Fire precautions in the design, construction and use of buildings: Code of practice for means of escape for disabled people’ (BS 5588 series is still referenced by HTM 05-02: Firecode (see section 2)) and HTM 08-02 – ‘Lifts’. The lifts will conform with BS EN 81-76.
 - Lifts for use by firefighters will be designed to comply with the guidance for firefighters lifts in BS 5588-5 and BS EN 81-72.
- ▶ MSCP
 - Evacuation lifts will be provided in accordance with BS 9999 Annex G. The lifts will conform with BS EN 81-76.

Evacuation lift management plan

3.13 Each lift will be associated with a refuge which will be provided with an emergency voice communication system (Type B outstations in accordance with BS 5839: Part 9).

3.14 This will enable two-way communication with a staffed location (fire control centre or alternative, see 3.24) and the people in each refuge will be assured that their presence there is known to the building management and will be kept informed of the situation and told about the actions that building management are taking in order to effect their safe evacuation.

3.15 The evacuation procedure for people requiring assistance should begin at the first warning of fire.

Hospital

3.16 As described in HTM 05-03 Part E, the Trust will need to determine the minimum number of staff (“lift wardens”) required to manage the use of the evacuation lifts and continuously monitor this through training and drills.

3.17 The evacuation procedure will include contingency plans for the failure of a lift or group of lifts under evacuation service, i.e. staff will be trained to evacuate patients via the stairs if necessary (including upwards from basement level) and appropriate evacuation equipment will be provided.

3.18 Each lift will be provided with a switch marked “Escape lift” at Level 00. On the operation of the “Escape lift” switch, or on a signal from a fire detection system:

1. The evacuation lift will isolate all car and landing call controls and return to the final exit level (Level 00) and park with its doors open.
2. The car controls will be enabled; the evacuation lift will then operate only in response to the car controls and the communication system provided will be in operation.
3. The lift car will be taken only to those levels where a person is in need of assistance.

3.19 Where the lift is also designated as a lift for use by firefighters, additional controls in accordance with BS 5588-5 will be provided that are only operable by fire authority personnel.

Lift wardens

3.20 The following designated roles will be considered for the use of the evacuation lifts:

- ▶ **lift wardens (floor)** – within each dependent patient department, their duties are to organise the horizontal evacuation of occupants and to assess the need for vertical evacuation. Their duties will also include making sure that the lift warden at the evacuation control point of the appropriate lift(s) knows that the evacuation service will be required (by using the communication systems);
- ▶ **lift wardens (control)** – their duties are to manage the evacuation control point of each escape lift, or bank of lifts, to operate the evacuation control switch, and to organise orderly vertical evacuation via that lift, or bank of lifts, using the communication system;
- ▶ **lift wardens (car)** – where deemed necessary, their duties are to manage each escape lift car and to control the lift car from the car control station in response to instructions from the lift warden at the evacuation control point.

MSCP

3.21 The organisation responsible for managing the MSCP, and therefore responding to fire evacuation lift calls, has not yet been decided and may change in future.

3.22 Either, the communication systems will be configured to connect to the Hospital’s emergency control room or if a third party is responsible it may be necessary to provide remotely operated evacuation lifts. This will be reviewed as the design progresses.

3.23 Where the MSCP is managed by the Trust, each lift will be provided with a switch marked “Evacuation Lift” at Level 00. On the operation of the “Evacuation Lift” switch, or on a signal from a fire detection system:

1. The evacuation lift will isolate all car and landing call controls and return to the final exit level (Level 00) and park with its doors open.
2. The car controls will be enabled; the evacuation lift will then operate only in response to the car controls and the communication system provided will be in operation.
3. The lift car will be taken only to those levels where a person is in need of assistance.

3.24 If a third party manages the MSCP a remote assisted evacuation lift will be required which can deliver the above management plan from offsite. At the time of writing this Fire Statement, remote assisted evacuation technology is in its infancy, with no recognised standard, and detailed consideration of the design and implementation of such systems will be necessary.

4 Policy D12 Fire Safety Strategy – Hospital

4.1 The fire strategy will be developed in accordance with the principles set out in Section 2 for the scheme and will meet with the requirements of the London Plan Policy D12.

4.2 This section provides Tenos' assessment of the proposals and commentary against the design features for the Hospital in order to comply with the London Plan Policy D12A requirements.

Construction

4.3 There is no appointed contractor at this stage and, with respect to fire safety, there is limited detail as to the methods of construction, and what measures will be required to be taken to limit impact on surrounding area as a result.

4.4 However, we understand that the aspiration is to utilise a modular concrete construction method with much of the construction process taking place off-site with onsite assembly.

Structural frame

4.5 The main structural frame will be of precast reinforced concrete columns with perimeter downstand reinforced concrete beams and solid reinforced concrete core walls. The floor construction will be solid reinforced concrete floor slabs.

External walls

4.6 The following materials are proposed to be used in the construction of the external walls:

- ▶ Brick
- ▶ Architectural concrete
- ▶ Glazing (including curtain wall)
- ▶ Metal
- ▶ Terracotta
- ▶ Timber effect panels

4.7 In accordance with the statutory requirements under Regulations 7(2) and 7(3) of the Building Regulations, the materials used in the external wall will be Class A2-s1,d0 in accordance with European Classification A2-s1, d0 or Class A1, classified in accordance with BS EN 13501-1:2007+A1:2009.

Means of escape

4.8 Fire safety design principles, relevant statutory requirements and codes of practice are identified in Section 2.

4.9 As described in 3.3 et seq., all stairs will be designed as escape stairways (i.e. will be suitably protected from the effects of fire and smoke) and suitable fire evacuation lifts will be provided to ensure safe means of escape for building users who are disabled or require level access.

4.10 The means of escape from patient access areas in the building will be designed on the basis of Progressive Horizontal Evacuation ("PHE"), with only those people directly at risk from the effects of fire being moved through a fire-resisting barrier to an adjoining area on the same level designed to protect the occupants from the immediate dangers of fire and smoke (a refuge).

4.11 This procedure should give sufficient time for non-ambulant and partially ambulant patients to be evacuated vertically to a place of safety, should it become necessary to evacuate an entire storey.

4.12 Areas to which patients have access will not be located on storeys where evacuation in a fire emergency would necessitate travelling up a stairway to a final exit.

4.13 In non-patient access areas, evacuation from that area will be by means of final exits at ground level or via escape stairways/lifts as described above accessed from circulation routes within the building which will have appropriately protected access to a final exit from the building (i.e. via the Hospital Street).

4.14 The number of stairs proposed serving patient access storeys exceeds the minimum requirement in HTM 05-02.

4.15 The means of escape travel distances will generally conform with the prescriptive recommendations of HTM 05-02. However, a number of variations have been identified in the design which will either be resolved during RIBA Stage 3 spatial coordination or potential alternative fire protection strategies have been proposed which will provide a level of safety consistent with Firecode.

Assembly points

4.16 Fire assembly points will be provided at the following locations:

- ▶ On the green space to the south of the site (primarily for patients in beds requiring evacuation to another healthcare site).
- ▶ On the landscaped area adjacent to the boulevard and MSCP (primarily for staff and any ambulant patients requiring taxis to another healthcare site).

4.17 The assembly points will:

- ▶ not obstruct emergency service activities;
- ▶ accessible by ambulances;
- ▶ have adequate artificial lighting;
- ▶ be accessible using footpaths with dropped kerbs;
- ▶ be at least 10m from the exterior of the building.

Features which reduce the risk to life

4.18 The fire safety design for the Hospital will be based on a layered approach to fire safety comprising both active and passive fire precautions specifically designed to meet both the operational and fire safety requirements for the building. Table 4.1 describes how this will be achieved.

Table 4.1: Features which reduce the risk to life - Hospital

Fire safety objective/provision	Relevant standards and comments
Fire and smoke containment	
Fire resistance (elements of structure, compartment and sub-compartment walls, protected shafts, cavity barriers, fire doors, fire and smoke dampers)	<p>To comply with HTM 05-02, either:</p> <ul style="list-style-type: none"> ▶ tested to BS 476-20 for general principles, BS 476-21 for loadbearing elements, BS 476-22 for non-loadbearing elements, BS 476-23 for fire-protecting suspended ceilings and BS 476-24 for ventilation ducts; or ▶ classified in accordance with BS EN 13501-2 Classification using data from fire resistance tests, excluding ventilation services. BS EN 13501-3 Classification using data from fire resistance tests on products and elements used in building service installations: fire resisting ducts and fire dampers.

Fire safety objective/provision	Relevant standards and comments	Fire safety objective/provision	Relevant standards and comments
	<p>Compartments will be limited to no more than 2,000m² and will have 60 minutes fire resistance. Most compartments will be well below 2,000m²</p> <p>Note: HTM 05-02 permits 30-minute fire resisting compartments on storeys less than 12m above ground, however the fire strategy will adopt a consistent approach of 60-minute fire resisting compartment walls throughout which exceeds the minimum code guidance.</p> <p>Sub-compartment walls will have 30 minutes fire resistance.</p> <p>Fire hazard rooms will be enclosed in walls (and ceilings, where relevant) which will have 30 minutes fire resistance.</p> <p>The structural frame, floors and protected shafts will provide 90 minutes fire resistance in accordance with Table 5 of HTM 05-02. This will also be supplemented by sprinklers (see below).</p> <p>Penetrations through fire resisting construction will be sealed with fire resisting materials (fire stopping, automatic fire and smoke dampers, fire doors, etc.) of equivalent fire performance and will also be smoke resisting where required to protect means of escape.</p> <p>Fire dampers will be provided in accordance with Table 7 and Figure 16 of HTM 05-02 and the ventilation system designed in accordance with HTM 03-01 and BS 5588 Part 9.</p>	Sub-compartments	The fire compartments where large (more than 750m ²) or containing a significant number of patients (more than 30) will, in accordance with HTM 05-02 be further divided into fire resisting sub-compartments (see <i>Fire and smoke containment</i> above).
Smoke ventilation	<p>To comply with HTM 05-02, tested to BS EN 13501-4 Classification using data from fire resistance tests on components of smoke control systems.</p> <p>The atrium and main entrance department has been identified to be a risk of smoke spread to adjacent clinical areas and the hospital street and, therefore, smoke control will be provided to this department in the form of ventilated protected lobbies and/or a mechanical smoke ventilation system.</p>	Electronic access control	<p>To conform with BS 7273: Part 4.</p> <p>Provision will also be made to override locks on doors to initiate a "lock down" in the hospital, whereby departments within or the entire building is secured against entry/exit. This will be controlled and monitored by THH NHS FT as part of their emergency plan.</p>
Sprinklers	<p>Provided throughout the building in accordance with BS EN 12845. Where a water-based fire suppression system is not appropriate (e.g. to protect high voltage electrical equipment), or is not desirable (e.g. for reasons of property protection or critical equipment protection), an alternative fire suppression system will be provided.</p>	Escape lifts	See section 3.
	<p>Provisions to assist means of warning and escape</p> <p>Fire alarm</p>	Refuges	In out-patient and staff only departments where PHE is not available people will be directed to protected refuges adjacent to the evacuation lifts which will be provided with an emergency voice communication system (Type B outstations in accordance with BS 5839: Part 9).
		Emergency lighting	To be provided in accordance with BS 5266-1.
		Exit signage	In accordance with BS 5499-1 and the Health and Safety (Safety Signs and Signals) Regulations 1996.
		Wall linings	<p>Small rooms (not more than 4m²) European class C when classified in accordance with BS EN 13501-1 (or national class 1 when tested in accordance with BS 476-7).</p> <p>All other rooms and circulation spaces European class B when classified in accordance with BS EN 13501-1 (or national class 0 when tested in accordance with BS 476).</p>
			Appendix B (Table B1) of ADB still acknowledges the national surface spread of flame classification system set out in previous editions, which can still be used as transposed opposite (and national classifications are still referenced by HTM 05-02). However, in our opinion, the European classification system provides a better indication of the combustibility and fire performance of a material.
		Insulating core panels	Insulating core panels will be subject to the provisions of Appendix F of HTM 05-02.
		Portable fire firefighting equipment	Although not a requirement of the Building Regulations, suitable portable fire extinguishers will be provided throughout the building in accordance with the recommendations of BS 5306: Part 8.

Fire safety objective/provision	Relevant standards and comments
External fire spread	
Combustibility of external walls	<p>Notwithstanding the provisions of HTM 05-02 the building will be classed as a 'relevant building' under Regulation 7(4) of the Building Regulations as it will have a storey (not including plant areas) at least 18m above ground level and will contain 'institutional' accommodation.</p> <p>Therefore, the statutory requirements under Regulations 7(2) and 7(3) of the Building Regulations will apply. The prescriptive Requirements under Regulation 7, as well as the additional considerations recommended by the latest edition of Approved Document B.</p>
Fire resistance	<p>With the exception of allowable unprotected areas the external walls will provide a fire resistance of 60 minutes integrity and 15 minutes insulation (60 minutes insulation when located within 1m of the boundary).</p> <p>The allowable extent of unprotected areas for the external walls has been calculated in accordance with the guidance in BR 187.</p>
Proposed facilities for the fire service	
Fire hydrants	Fire hydrants clearly indicated by a conspicuous plate in accordance with BS 3251, see <i>Fire appliance access to the site</i> .
Rising mains	Rising mains will be provided in accordance with BS 9990. The nature of hospital design means that horizontal sections of rising main (e.g. in the Hospital Street) will exceed 18m in length. However, the system efficacy will be demonstrated by hydraulic calculation by the MEP engineers.
Basement smoke clearance	<p>The basement areas will be provided with sprinkler protection and a mechanical air extraction system to provide 10 air changes per hour.</p> <p>The system will be capable of handling smoke temperatures of 300°C for at least 1 hour and be activated by operation of the basement sprinkler system.</p>
Emergency power supplies	
Emergency electrical power supply	Secondary power supply will be provided emergency from generators.

Access for fire service personnel and equipment

Within the building

4.19 Facilities for the fire and rescue service will generally be provided in accordance with the guidance in HTM 05-02. This will comprise access to the building at the extremities of the Hospital Street.

4.20 Each entrance will be in proximity to a stair and lift which will each be appropriately designed for firefighting. That is the stair will be sized for the evacuation of patients and ambulant passing and the lift will be provided with the features of a firefighter's lift.

4.21 Access to hospital departments will be from the hospital street at each storey and dry riser outlets will be provided at the department entrances. The hose laying distances within the departments will exceed the 45m limit recommended in HTM 05-02 when measured from a Hospital Street. However, this limit also applies to a building without fire suppression. The proposals are considered to provide a higher standard of safety for firefighters given that:

- ▶ automatic fire suppression will be provided throughout the building,
- ▶ the maximum size of compartments will be much less than 2,000m² (the maximum compartment size in a building without sprinkler protection), and
- ▶ the total travel within the building made by firefighters will not exceed that of an unsprinklered building.

4.22 The hose lay distance within a department will be extended to 60m which is the limit for a sprinkler protected building provided with firefighting shafts.

4.23 Due to the size of the building at ground and first floor, the 60m hose lay distance will be exceeded when measured from an outlet in the Hospital Street.

4.24 In this case, it is proposed to supplement the internal firefighting provision with perimeter access. The areas which are beyond the reach of a 60m hose lay distance are on the east elevation at the perimeter walls and sufficient perimeter access will be provided to this elevation, both by way of entrance doors at ground floor and the adjacent roadways.

Fire appliance access to the site

4.25 Fire service vehicle access will be via the roadways around the site.

4.26 Water supplies are provided in the vicinity of the Hospital. London Fire Brigade's Water Team (LFBWT) provided hydrant locations via email on 5 March 2021. These comprise both public and private water mains. It is envisaged that the public main on Royal Lane (LFBWT reference 63765) and the site's private main (LFBWT reference P127213) – which may need to be relocated as part of the works – will provide a suitable water supply to the fire service entry points. However, this will need to be confirmed on site. The fire suppression system will be provided with dedicated stored water supplies in accordance with BS EN 12845 and the guidance in Approved Document B Appendix E.

4.27 Access will be provided suitable for fire appliances in accordance with the guidance in HTM 05-02.

4.28 The access points to the building are shown as marked-up on IBI's site plan THHR_01-IBI-XX-XX-DR-A-100003 included within this Fire Statement and are located at each end of the Hospital Street.

Future modifications / 'Golden Thread'

4.29 A fire strategy is being developed for the building, subject to consultation with stakeholders as described in Section 2, on the assumption that the building will be properly managed. Where project-specific management procedures are identified, the specific fire safety procedures that will need to be included within the fire safety management plan will be detailed within the fire strategy.

4.30 Regulation 38 of the Building Regulations 2010 requires that fire safety information be given to the person responsible for the occupied building. Therefore, copies of the finalised fire strategy report and other relevant fire safety information should be issued to the responsible person.

4.31 Once the building is in use the management regime should be established and maintained and any variation in that regime should be subject to a suitable fire risk assessment.

4.32 The fire strategy will provide sufficient information for procedures for the management of fire safety to be developed and documented in a fire safety manual, e.g. in accordance with HTM 05-03 Part A.

4.33 The fire strategy, together with the relevant fire drawings (as described in Appendix G of HTM 05-02) will be sufficient to inform the fire risk assessment and provide a suitable record for the implementation of effective fire safety management and change control processes.

4.34 Elements of the building that, if modified, may adversely affect the original fire safety strategy have been considered. This was covered in detail in the QDR and additional engineering controls have been included in the fire safety design to remove the potential for/mitigate the failure of fire safety systems. Additional considerations are listed as follows:

- ▶ **Hospital Street** – The hospital street is a very important compartment in relation to the fire safety design. It provides two important functions, (i) a circulation route between departments and (ii) provides the fire and rescue service with a firefighting bridgehead. Therefore, if seriously compromised, it could provide a route for fire and smoke spread to multiple levels and thereby undermine the Progressive Horizontal Evacuation strategy which is advocated for the safety of patients.
- ▶ **Perimeter access for the fire and rescue service** – The fire safety design relies on perimeter access for the fire service to the east elevation at Level 00 and Level 01. New construction should either be avoided in this area or access for the fire and rescue service will need to be specifically considered at the design stage, i.e. provision of firefighting stairs to supplement access which would also need to be designed to accommodate patient evacuation to conform with HTM 05-02 at the time of writing this report.
- ▶ **Basement compartmentation** – The design of the smoke clearance system, which adopts an exhaust rate based on compartment volume, will need to be modified if compartment areas are significantly changed (up or down).
- ▶ **Alterations to the use of the atrium (including commercial enterprise)** – the atrium design is based on ensuring that the fire hazard posed by commercial enterprises does not require the premature evacuation of a very high dependency patient department. This has required careful planning of the position and distribution of the commercial enterprise within the space.
- ▶ **Room usage** – the usage of rooms should be subject to effective change control processes which ensure that additional hazards are not introduced into patient access areas which could undermine the Progressive Horizontal Evacuation strategy which is advocated for the safety of patients.
- ▶ **Departmental adjacencies** – The separation of high life risk from high fire risk departments is fundamental to the Progressive Horizontal Evacuation strategy and minimising the risk of needing to evacuate vulnerable patients.

5 Policy D12 Fire Safety – MSCP

5.1 The fire strategy will be developed in accordance with the principles set out in Section 2 for the scheme and will meet with the London Plan Policy D12.

5.2 This section provides Tenos' assessment of the proposals and commentary against the design features for the Hospital in order to comply with the London Plan Policy D12A requirements.

Construction

5.3 There is no appointed contractor at this stage and, with respect to fire safety, there is limited detail as to the methods of construction, and what measures will be required to be taken to limit impact on surrounding area as a result.

5.4 However, we understand that the aspiration is to utilise a modular construction method with much of the construction process taking place off-site with onsite assembly which will reduce construction activity at the site.

Structural frame

5.5 The main structural frame will be of steel construction with concrete floors.

External walls

5.6 The following materials are proposed to be used in the construction of the external walls:

- ▶ Brick
- ▶ Metal mesh
- ▶ Terracotta baguettes
- ▶ Glass (including curtain wall) on the café elevations

5.7 Although not a relevant building, notwithstanding the current guidance in ADB and because of the current concerns and changing requirements for external wall systems, it is strongly recommended that all materials used in the construction of an external wall be independently certified as being European class A2-s3, d2 (or better) to BS EN 13501-1 (excluding gaskets, sealants and similar).

Means of escape

5.8 Fire safety design principles, relevant statutory requirements and codes of practice are identified in Section 2.

5.9 The MSCP is being designed to follow a simultaneous evacuation strategy whereby activation of a fire detection device (detector, manual call point, etc.) the fire alarm will sound throughout the building.

5.10 A total of three stairs will be provided serving the upper levels. These will be provided with protected lobbies and, therefore, a stair has not been discounted in the means of escape calculations. The stairs will each be 1.8m wide and will all serve Levels 1-4. The north and south stairs will also serve Level 5.

5.11 The stairs will, therefore, have capacity for the simultaneous evacuation of 1,905 people at the upper levels which is more than sufficient for the calculated occupancy of 1,594 people (based on the conservative assumption of 2 people per car).

5.12 The café will be provided with 2 exits at least 1050mm wide which will provide capacity for up to 220 people which will be more than sufficient for the calculated occupancy of 110 people (based on a floor space factor of 1m² per person).

5.13 Travel distances will generally be in accordance with ADB, albeit on the east ramp the travel distance from the furthest car parking bay will exceed the maximum travel distance limit when measured to the stair door (storey exit) in accordance with ADB guidance.

5.14 However, the protected lobbies will be used as refuge space for the evacuation lift and the travel distance to the protected lobby will be within the prescribed limits.

Assembly point

5.15 A fire assembly point will be provided at the landscaped area to the east of the MSCP.

5.16 The assembly points will:

- ▶ not obstruct emergency service activities;
- ▶ have adequate artificial lighting;
- ▶ be accessible using footpaths with dropped kerbs;
- ▶ be at least 10m from the exterior of the building.

Features which reduce the risk to life

5.17 The fire safety design for the MSCP will be based on a layered approach to fire safety comprising both active and passive fire precautions specifically designed to meet both the operational and fire safety requirements for the building. Table 5.1 describes how this will be achieved.

Table 5.1: Features which reduce the risk to life - MSCP

Fire safety objective/provision	Relevant standards and comments
Fire and smoke containment	
Fire resistance (elements of structure, compartment and sub-compartment walls, protected shafts, cavity barriers, fire doors, fire and smoke dampers)	<p>To comply with ADB, either:</p> <ul style="list-style-type: none"> ▶ tested to BS 476-20 for general principles, BS 476-21 for loadbearing elements, BS 476-22 for non-loadbearing elements, BS 476-23 for fire-protecting suspended ceilings and BS 476-24 for ventilation ducts; or ▶ classified in accordance with BS EN 13501-2 Classification using data from fire resistance tests, excluding ventilation services. BS EN 13501-3 Classification using data from fire resistance tests on products and elements used in building service installations: fire resisting ducts and fire dampers.
	The café will be separated from the MSCP by compartment walls and floors having at least 90 minutes fire resistance
	Places of special fire risk will be enclosed in walls (and ceilings, where relevant) which will have a minimum of 30 minutes fire resistance.
	Penetrations through fire resisting construction will be sealed with fire resisting materials (fire stopping, automatic fire and smoke dampers, fire doors, etc.) of equivalent fire performance and will also be smoke resisting where required to protect means of escape

Fire safety objective/provision	Relevant standards and comments
	<p>The structural frame, floors and protected shafts will provide 90 minutes fire resistance in accordance with ADB.</p> <p>Fire dampers will be provided in accordance with Approved Document B and the ventilation systems designed in accordance with BS 9999.</p>
Smoke ventilation	<p>Ventilation will be provided as a minimum of 1/40th of the floor area, at least half (1/80th) provided equally by two opposite walls (1/160th). However, note that additional provisions will be necessary to comply with Part F of the Building Regulations and therefore the minimum fire safety requirements will be exceeded.</p> <p>The south ambulance bay will be provided with a smoke clearance system designed in accordance with BS 7346-7.</p>
Means of warning and escape	
Fire detection and alarm	Provided throughout the building in accordance with BS 5839: Part 1.
Electronic access control	To conform with BS 7273: Part 4.
Escape lifts	See section 3.
Refuges	Provided adjacent to the evacuation lifts which will be provided with an emergency voice communication system (Type B outstations in accordance with BS 5839: Part 9).
Emergency lighting	To be provided in accordance with BS 5266-1
Exit signage	To be provided in accordance with BS 5499-1 and the Health and Safety (Safety Signs and Signals) Regulations 1996.
Facilities for the fire service	
Fire hydrants	Fire hydrants clearly indicated by a conspicuous plate in accordance with BS 3251, see <i>Fire appliance access to the site</i> .

Access for fire service personnel and equipment

Within the building

5.18 Facilities for the fire and rescue service will be provided in accordance with the guidance in ADB. This will comprise access to the perimeter of the building for a high reach appliance and will be supported within the building by the measures provided for means of escape from the building.

Fire appliance access to the site

5.19 Fire service vehicle access will be via the roadways around the site.

5.20 100% of the building's perimeter will be accessible for the fire service vehicle. The height of the top floor above fire service access level does not exceed 18m and firefighting shafts and firefighting lifts are not proposed.

5.21 The height of the bridge above the road will be 4.2m which will provide sufficient clearance for LFB's tallest aerial appliance (see summary of consultation in section 1).

5.22 Water supplies are provided in the vicinity of the MSCP. London Fire Brigade's Water Team (LFBWT) provided hydrant locations via email on 5 March 2021. These comprise both public and private water mains. It is envisaged that the public main on Royal Lane (LFBWT reference 63765) and the public main on Pield Heath Road (LFBWT reference 57682) – which may need to be relocated as part of the works – will provide a suitable water supply to the fire service entry points.

5.23 Access will be provided suitable for fire appliances in accordance with the guidance in ADB. The access points to the building are shown on IBI's site plan THHR_01-IBI-XX-XX-DR-A-100003 and in Annex A3 of this Fire Statement. The Santander docks and Sheffield bicycle hoops are currently in the perimeter access route. This is not likely to materially affect fire service access for the reasons described below.

Potential modification to fire service access

5.24 The height of the building (approximately 18m) is relatively low when compared to the reach of LFB's aerial appliances (over 30m).

5.25 Further, the likelihood of fire appliances being parked within the 10m hardstanding zone provided around the building in the event of a fully developed fire in the car park (i.e. 4,000m²) is low as the heat from a fire is likely to cause significant damage to the equipment.

5.26 On the above basis it is our view that, subject to consultation as part of the Building Regulations application, perimeter access could be provided from the roadways around the site without impacting upon the firefighting capabilities and operational planning of the LFB and this would comply with the functional fire safety requirements.

5.27 This would enable soft landscaping to be instated around the building but is subject to consultation with the LFB Fire Safety Team as described above.

Future modifications / 'Golden Thread'

5.28 A fire strategy is being developed for the building, subject to consultation with stakeholders as described in Section 2, on the assumption that the building will be properly managed. Where project-specific management procedures are identified, the specific fire safety procedures that will need to be included within the fire safety management plan will be detailed within the fire strategy.

5.29 Regulation 38 of the Building Regulations 2010 requires that fire safety information be given to the person responsible for the occupied building. Therefore, copies of the finalised fire strategy report and other relevant fire safety information should be issued to the responsible person.

5.30 Once the building is in use the management regime should be established and maintained and any variation in that regime should be subject to a suitable fire risk assessment.

5.31 The fire strategy will provide sufficient information for procedures for the management of fire safety to be developed and documented in a fire safety manual, e.g. in accordance with the guidance in BS 9999 and HTM 05-03 Part A (as relevant to car parks connecting to the Hospital).

5.32 The fire strategy, together with the relevant fire drawings will be sufficient to inform the fire risk assessment and provide a suitable record for the implementation of effective fire safety management and change control processes.

5.33 Elements of the building that, if modified, may adversely affect the original fire safety strategy have been considered and are listed as follows:

- Assessing the impact of increasing electric vehicle charging which is not currently explicitly addressed in fire safety guidance.
- Changing parking layouts which could impact means of escape, e.g. extend travel distances.

- Introducing alternative uses which would require a review of the shared means of escape.

6 Conclusions

- 6.1 This report presents the Fire Statement prepared by Tenos Ltd. in partial fulfilment for the hybrid planning application for the Hillingdon Hospital Redevelopment in Uxbridge to demonstrate that matters relating to fire safety, as they relate to land use planning matters, have been considered at an early stage of the project and that the requirements of the London Plan 2021 have been met.
- 6.2 The fire strategy will generally follow the recommendations of HTM 05-02 for inpatient areas, however, reference will be made to Approved Document B where this is more relevant to staff and outpatient areas and the multi-storey car park.
- 6.3 It describes the measures necessary to meet with Policy D12 and, in respect of means of escape via evacuation lifts, Policy D5 of the London Plan.
- 6.4 The Fire Statement documents why the buildings need to be safe from fire and how that safety will be achieved. It sets out the scope of the fire safety considerations and the design objectives, which in this instance are driven by a statutory obligation to protect people in and around the building in so far as these can reasonably be established at the project planning stage.
- 6.5 It is considered, however, that the currently established design proposals are a suitable basis from which to develop the fire strategy to ultimately demonstrate that the functional requirements of Part B (Fire Safety) of the Building Regulations can be met.
- 6.6 A number of variations to standard guidance have been identified and potential alternative fire protection strategies have been proposed. These are not detailed in this statement as they do not impact the land use planning matters and will be addressed through development of the fire strategy.

A1 ▾ Annex A1 - Drawings and information

A.1.1 The following information has been used in the preparation of this report:

Drawings

Table A1.1 - Drawings used in preparing this report

Reference	Title/ description	Rev.	Author
Hospital			
THHR_01-IBI-WB-04-DR-A-100009	Basement 1:500 plan	P17	IBI Group
THHR_01-IBI-WB-04-DR-A-100000	Level 00 1:500 plan	P18	IBI Group
THHR_01-IBI-WB-04-DR-A-100001	Level 01 1:500 plan	P18	IBI Group
THHR_01-IBI-WB-04-DR-A-100002	Level 02 1:500 plan	P18	IBI Group
THHR_01-IBI-WB-04-DR-A-100003	Level 03 1:500 plan	P18	IBI Group
THHR_01-IBI-WB-04-DR-A-100004	Level 04 1:500 plan	P18	IBI Group
THHR_01-IBI-WB-05-DR-A-100005	Level 05 1:500 plan	P18	IBI Group
THHR_01-IBI-WB-06-DR-A-100006	Level 06 1:500 plan	P18	IBI Group
THHR_01-IBI-WB-07-DR-A-100007	Level 07 1:500 plan	P13	IBI Group
THHR_01-IBI-WB-09-DR-A-100010	Roof 1:500 plan	P02	IBI Group
THHR_01-IBI-XX-XX-DR-A-100003	Site 1:1000 plan	P05	IBI Group
THHR_01-IBI-WB-00-DR-A-251009	Basement 1:200 plan	P05	IBI Group
THHR_01-IBI-WB-00-DR-A-251000	Level 00 1:200 plan	P07	IBI Group
THHR_01-IBI-WB-00-DR-A-251001	Level 01 1:200 plan	P06	IBI Group
THHR_01-IBI-WB-00-DR-A-251002	Level 02 1:200 plan	P05	IBI Group

Reference	Title/ description	Rev.	Author
THHR_01-IBI-WB-00-DR-A-251003	Level 03 1:200 plan	P06	IBI Group
THHR_01-IBI-WB-00-DR-A-251004	Level 04 1:200 plan	P05	IBI Group
THHR_01-IBI-WB-00-DR-A-251005	Level 05 1:200 plan	P05	IBI Group
THHR_01-IBI-WB-00-DR-A-251006	Level 06 1:200 plan	P05	IBI Group
THHR_01-IBI-WB-00-DR-A-251007	Level 07 1:200 plan	P06	IBI Group
Car park			
THHR_02-IBI-WB-00-DR-A-20000	Level 00 1:200 plan	P05	IBI Group
THHR_02-IBI-WB-01-DR-A-200001	Level 01 1:200 plan	P04	IBI Group
THHR_02-IBI-WB-02-DR-A-200002	Level 02 1:200 plan	P04	IBI Group
THHR_02-IBI-WB-03-DR-A-200003	Level 03 1:200 plan	P04	IBI Group
THHR_02-IBI-WB-04-DR-A-200004	Level 04 1:200 plan	P04	IBI Group
THHR_02-IBI-WB-05-DR-A-200005	Level 05 1:200 plan	P03	IBI Group
THHR_02-IBI-XX-ZZ-DR-A-251001	East West Elevation	P02	IBI Group
THHR_02-IBI-XX-ZZ-DR-A-251002	North South Elevation	P02	IBI Group
THHR_02-IBI-XX-ZZ-DR-A-251200	Section	P02	IBI Group
THHR_02-IBI-XX-ZZ-DR-A-251201	Section	P02	IBI Group
Site plan			
THHR_01-IBI-XX-XX-DR-A-100003	Site plan	P08	IBI Group
Vehicle tracking			
THHR_01-MMD-XX-XX-DR-U-2104	Phase 2 Tracking 5	P03	Mott Macdonald

A2 ▾ Annex A2 - Fire Statement Form

A.2.1 The following form is presented in the format provided by the secretary of state:

Application information	
1. Site address line 1 Site address line 2 Site address line 3 Town County Site postcode (optional)	The Hillingdon Hospitals NHS Foundation Trust Pield Heath Road Uxbridge UB8 3NN
2. Description of proposed development including any change of use (as stated on the application form):	Demolition of existing buildings and redevelopment of the site to provide the new Hillingdon Hospital, multi-storey car park and mobility hub, vehicle access, highways works, associated plant, generators, substation, new internal roads, landscaping and public open space, utilities, servicing area, surface car park/expansion space, and other works incidental to the proposed development.
3. Name of person completing the fire statement (as section 15.), relevant qualifications and experience. Guide: no more than 200 words	<p>Author Michael Bell BEng (Hons) MSc CEng MIFireE Chartered Engineer 9 years' experience in fire engineering consultancy.</p> <p>Reviewer Adrian Hay PhD, BEng, CEng, MIFireE, MChemE 33 years' experience in fire engineering consultancy.</p>
4. State what, if any, consultation has been undertaken on issues relating to the fire safety of the development; and what account has been taken of this. Guide: no more than 200 words	<p>Consultation has been carried out with The Hillingdon Hospitals NHS Foundation Trust ("THH NHS FT") as part of the fire strategy development. This has included meetings on the emergency evacuation of the new Hospital, 11th March 2021, emergency evacuation planning to consider the provision during the build and demolition of the existing buildings on the site, 14th April 2021, and the initial Qualitative Design Review (QDR) process, 29th June 2021 (this process is described in further detail the following section). As a result of these consultations, we have:</p> <ul style="list-style-type: none"> • established the range of patient dependencies which will use the Hospital; • established the process of evacuation to be implemented by THH NHS FT; • established relevant emergency assembly points for ambulant and non-ambulant persons; • identified a number of further design considerations and aspirations to be achieved in the proposals for the scheme, including features relating to business resilience and enhancing the overall availability of the building post fire event. <p>Tenos has made the following consultations with the London Fire Brigade (LFB) in the preparation of the fire safety strategies for the Hospital and the MSCP to assess the implications of the design on access to the site for firefighting.</p> <p>Tenos has consulted with the London Fire Brigade Water Team on 4 March 2021 to determine the availability of water supplies for firefighting in the proposed development area. In particular, fire hydrants on Royal Lane, Pield Heath Road and the Hospital site road connecting Colham Green Road and Royal Lane.</p> <p>Tenos made attempts to arrange a pre-planning consultation with the London Fire Brigade Fire Safety Team via the online contact form (https://www.london-fire.gov.uk/contact-us/) on a number of occasions and were unsuccessful. As part of the consultation with the THH NHS FT's Fire Safety Manager / Advisor, Tenos was directed to the London Fire Brigade Fire Safety Healthcare Coordinator and we have requested via emails between 26 July 2021 and 9 November 2021.</p> <p>The relevant vehicles which will attend the site are pump appliances high reach appliances. Upon request for information of the LFB's taller vehicles (to assess the potential impact of the low bridge connecting the Hospital to the MSCP) we were provided with the following:</p> <ul style="list-style-type: none"> • Aerial appliance type A: Driving Height 4m with a turntable ladder of 64m • Aerial appliance type B: Driving Height 3.5m with a turntable ladder of 32m • Command unit (mobile office): 3.1m

5. Site layout plan with block numbering as per building schedule referred to in 6. (consistent with other plans drawings and information submitted in connection with the application)									
Site layout plan is: provided as a separate plan									
The principles, concepts and approach relating to fire safety that have been applied to the development									
6. Building schedule									
Site information			Building information			Resident safety information			
a) block no. as per site layout plan above	b) • block height (m) • number of storeys excluding those below ground level • number of storeys including those below ground level	c) proposed use (one per line)	d) location of use within block by storey	e) standards relating to fire safety/ approach applied	f) balconies	g) external wall systems	h) approach to evacuation	i) automatic suppression	j) accessible housing provided
	41.3m 8 storeys above ground 9 storeys total	hospital	-	HTM0502 fire engineered approach	no balconies	class A2-s1, d0 or better	progressive horizontal	yes- commercial sprinklers, full	none
	18.3m 6 storeys above ground 6 storeys total	car parking	-	Approved document B vol 2 fire engineered approach	no balconies	class A2-s1, d0 or better	simultaneous	none	none
	0m 1 storey above ground 1 storey total	restaurant, cafe, hot food take-away, drinking establishment	-	Approved document B vol 2 fire engineered approach	no balconies	class A2-s1, d0 or better	simultaneous	none	none

7. Specific technical complexities

Explain any specific technical complexities in terms of fire safety (for example green walls) and/or departures from information in building schedule above
Guide: no more than 500 words

Means of escape: Due to the design of the wards at the upper levels, there will be extended dead ends which have been addressed utilising sprinkler protection and designing sub-compartmentation to provide short overall travel distances. The Hospital Street stair sub-compartments will connect to service risers, but this is supported by additional compartmentation and use of the risers will be limited to cable transit. Some aspects of means of escape will be addressed in RIBA Stage 3; such as, sub-compartment size, lift lobby protection, check in points within the Hospital Street,

Internal fire spread: Planning of departments within the hospital is such that adjacencies will require additional compartmentation to ensure that high fire risk and high life risk departments are well separated.

External fire spread: None.

Access and facilities for the fire service: The overall size of the Hospital is such that firefighting access within the building will not be in accordance with prescriptive guidance and an alternative approach is necessary which requires supplementary provision from the perimeter of the building. Lifts for firefighters are proposed which will require access directly to the Hospital Street. Additionally, sprinklers are proposed to assist firefighting.

8. Issues which might affect the fire safety of the development

Explain how any issues which might affect the fire safety of the development have been addressed.
Guide: no more than 500 words

We are not aware of any part of the proposals which will affect the fire safety of the development as these relate to land use planning.

9. Local development document policies relating to fire safety

Explain how any policies relating to fire safety in relevant local development documents have been taken into account.
Guide: no more than 500 words

Emergency road vehicle access and water supplies for firefighting purposes**10. Fire service site plan**

Explanation of fire service site plan(s) provided in 14. including what guidance documents have informed the proposed arrangements for fire service access and facilities?
Guide: no more than 200 words

Facilities for the fire and rescue service will generally be provided to the hospital in accordance with the guidance in HTM 05-02. This will comprise access to the building at the extremities of the Hospital Street and internal firefighting using fire mains. However, the hose lay distances will be extended to 60m (from 45m) as is provided for in the guidance document for firefighting shafts. Perimeter access will be provided to the east elevation where internal hose lay distances are extended.

Access to the multi-storey car park will be to 100% of the perimeter of the building generally in accordance with Approved Document B. Sheffield bike hoops and Santander docks are currently proposed within the perimeter access area.

11. Emergency road vehicle access

Specify emergency road vehicle access to the site entrances indicated on the site plan
Guide: no more than 200 words

Access is available to the site from Pield Heath Road and Colham Green Road. The suitability of the access routes and points are subject to consultation and agreement with the LFB.

Is the emergency vehicle tracking route within the site to the siting points for appliances clear and unobstructed?

yes

12. Siting of fire appliances

Guide: no more than 200 words

Access will be provided to within 18m of the Hospital Street for a fire service pumping appliance. Perimeter access will be provided to the east elevation of the hospital.
Perimeter access will be provided to the MSCP. Access points will be provided on all elevations at ground level.

13. Suitability of water supply for the scale of development proposed

Guide: no more than 200 words

Via consultation with the LFB's Water Team, hydrants have been identified and approximate locations are identified on the site plan.

Nature of water supply:

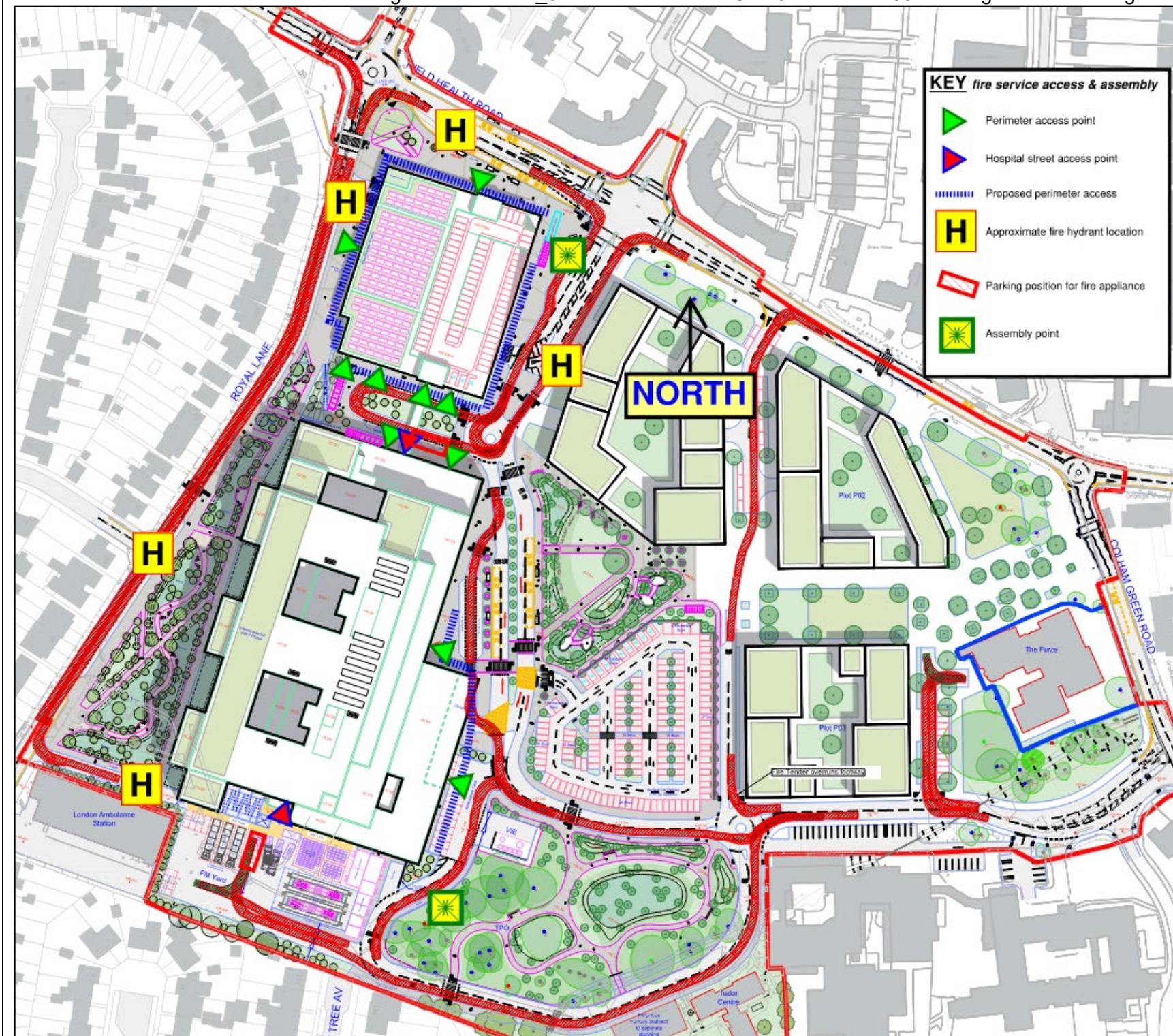
hydrant- public & hydrant -private

Does the proposed development rely on existing hydrants and if so are they currently usable / operable?

yes The LFB's Water Team has indicated hydrants which are not usable within their information (by a red 'x').

14. Fire service site plan

Fire service site plan is:
inserted in the form MottMacdonald drawing number THHR_01-MMD-XX-XX-DR-U-2104 revision P03 showing vehicle tracking.



Fire statement completed by

15. Signature Michael Bell

16. Date 27/04/2022

A3 ▾ Annex A3 – Site plan

A.3.1 The marked-up site plan is provided as an image below and can be accessed using the following link

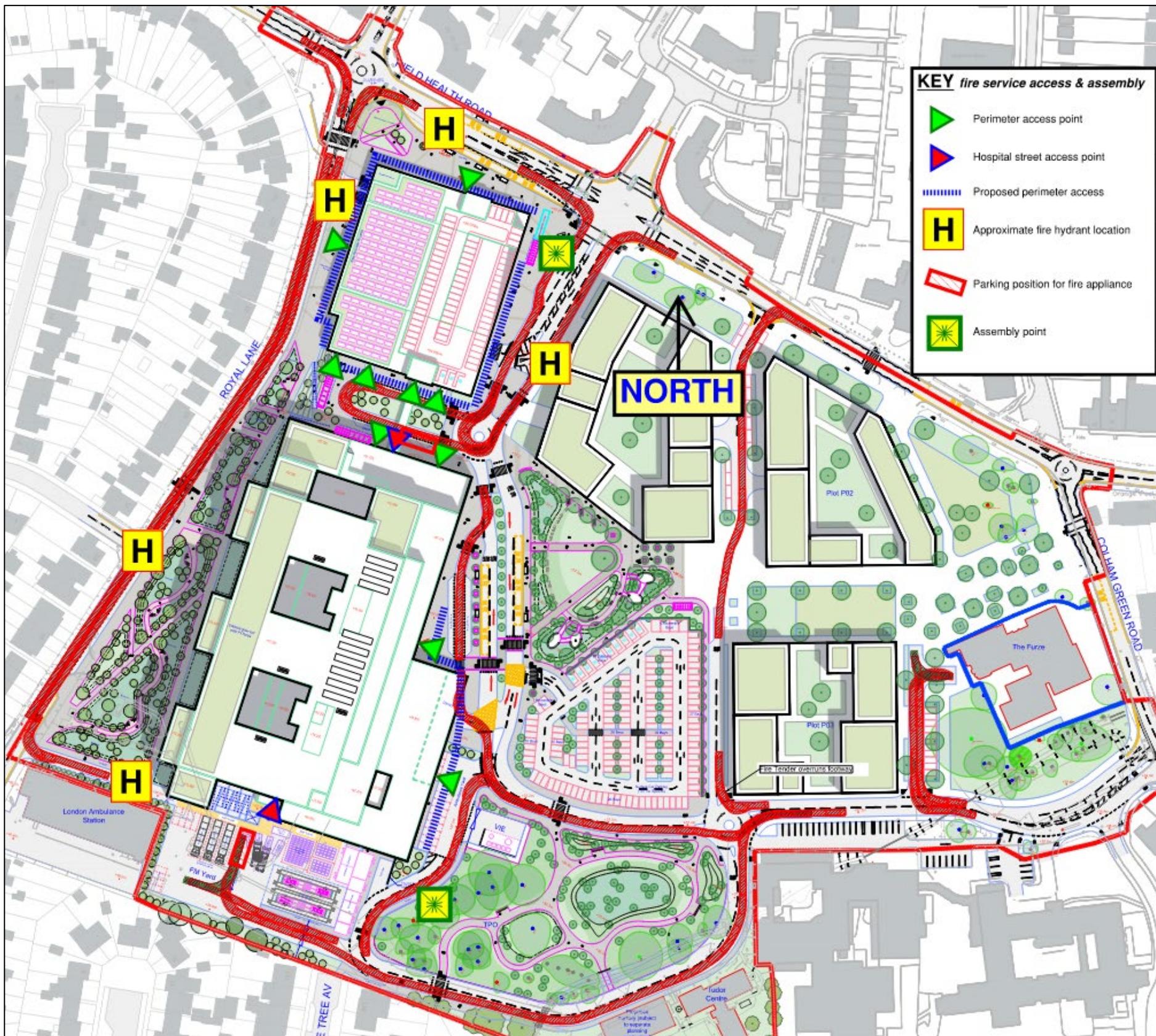


Figure A3.1: Schematic plan showing the key site facilities/arrangements for fire service access and the assembly points

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