



Vertical connection - Typical level

5.0 The Proposal  
5.5 Accessibility  
Staff and Public circulation



The hospital is designed around zones to ensure integration and the effective management of patient pathways. Transformation is playing a key role in identifying pathway and flow redesign, learning from patient and staff engagement wherever possible.

Standardised processes will support best practice pathways, including one stop multi-disciplinary clinics to reduce the number of visits a patient makes to hospital, a new emphasis on how design and technology will be used to enable a smart solution for the building.

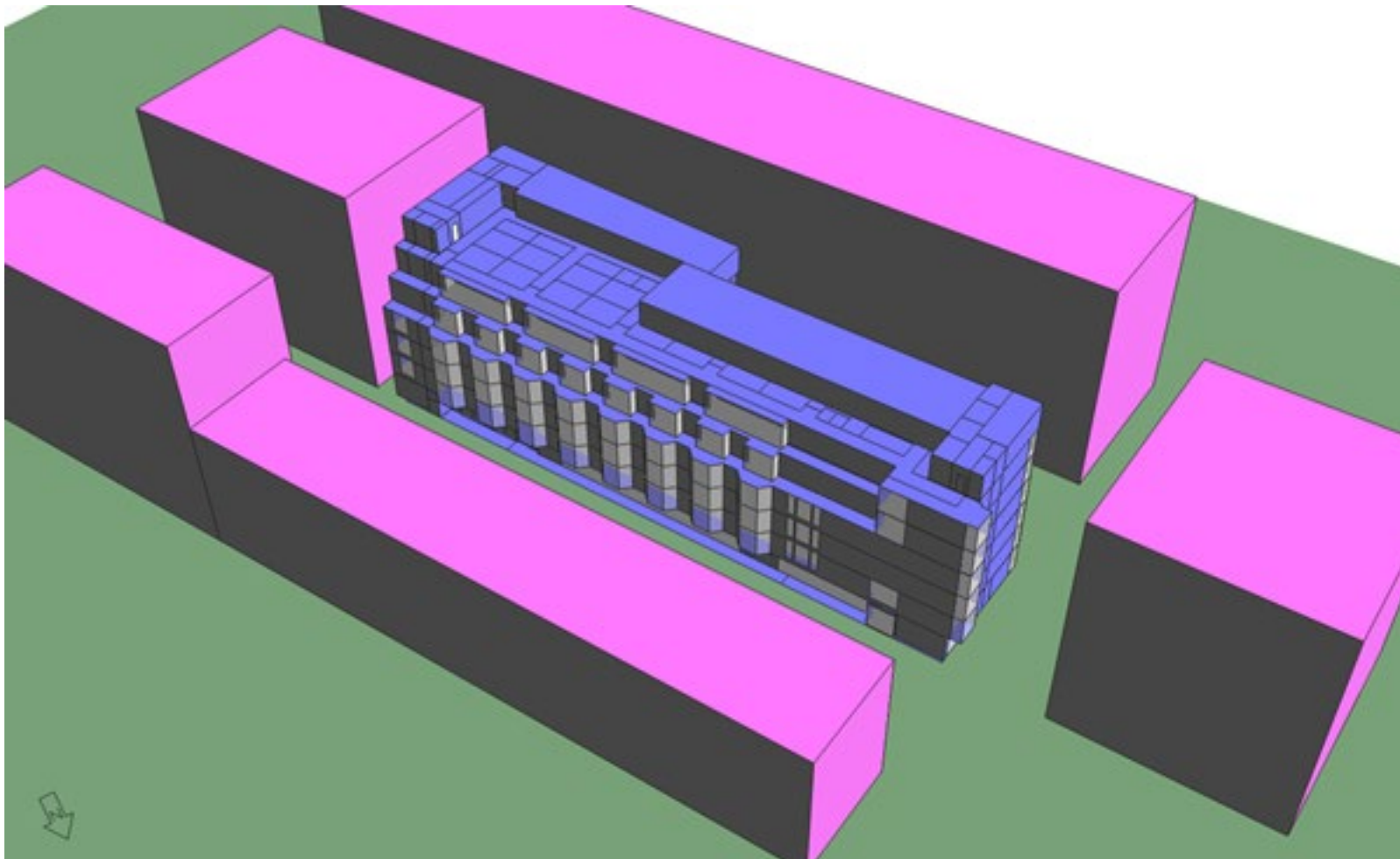
**Staff circulation zone**

The primary circulation route for the staff is located along the external façade to the west elevation along Shropshire Place. This corridor allows natural light and external views of the surrounding context to permeate into the building. This promotes a better experience for all users. This key circulation route is also visible externally to all pedestrians and users entering the building from the secondary entrance on Shrophsire Place via Capper Street or Queen’s Yard to provide an animated staff façade to the Phase 5 building.

The primary staff and public corridors have all been maintained as linear corridors for ease of way finding internally and to maintain key circulation sightlines along the building. Sharp returns and corridor junctions to key circulation routes have been eliminated for ease of circulation.

**Key user and patient circulation routes and wayfinding**

The Phase 5 brief demanded a significant quantum of consulting rooms within the overall brief for the project. Given the constraints of the site and the footprint It would have been a challenge to locate all consulting rooms on the external façade and by doing so it would have relegated all patient waiting zones internally within the floor plate. This was not desirable and would not have a created a positive users or patient experience. The design team sought to place the consulting rooms internally within the clinical heart of the floor plate to create external circulation zones for waiting and staff circulation spaces.



Building compliance model in situ

5.0 The Proposal

5.6 Sustainability

Sustainability now regularly features in planning policy meaning that sustainable design is now not just a laudable ambition but a necessity. The current carbon and energy targets that we need to achieve for UCLH 5 are listed below:

- Compliance with Part L 2013 at As Designed Stage
- Target compliance with Part-L 2013 at Post Construction Stage
- BREEAM 2014 New Construction ‘Excellent’ – 5 credits under ENE01 and 1 credit under ENE02 (The building needs to have an Energy Performance Ratio for new construction (EPRNC) of equal or lower than 0.375)
- London Plan – 35% improvement over Part-L 2013 target

The aim is to minimise the carbon footprint of the Phase 5 by reducing energy demand and using low carbon supply systems. The following ideas will be further explored throughout the project.

Reducing energy use	Low carbon supply
Improving the building envelope to minimise energy usage	Connection to local district heating system
Maximise the use of low energy ventilation to reduce cooling loads and fan power	Installing new CHP to provide base hot water load and to generate electricity
Introducing solar shading to lower internal temperatures and reduce cooling loads	Consider process heat recovery from IT loads
High efficiency heat recovery on ventilation systems	Installing photo voltaic panels to supplement the electrical supply from grid and CHP
Maximising day light to improve the internal environment whilst reducing electrical loads and also low energy lighting	
Water conservation measures	

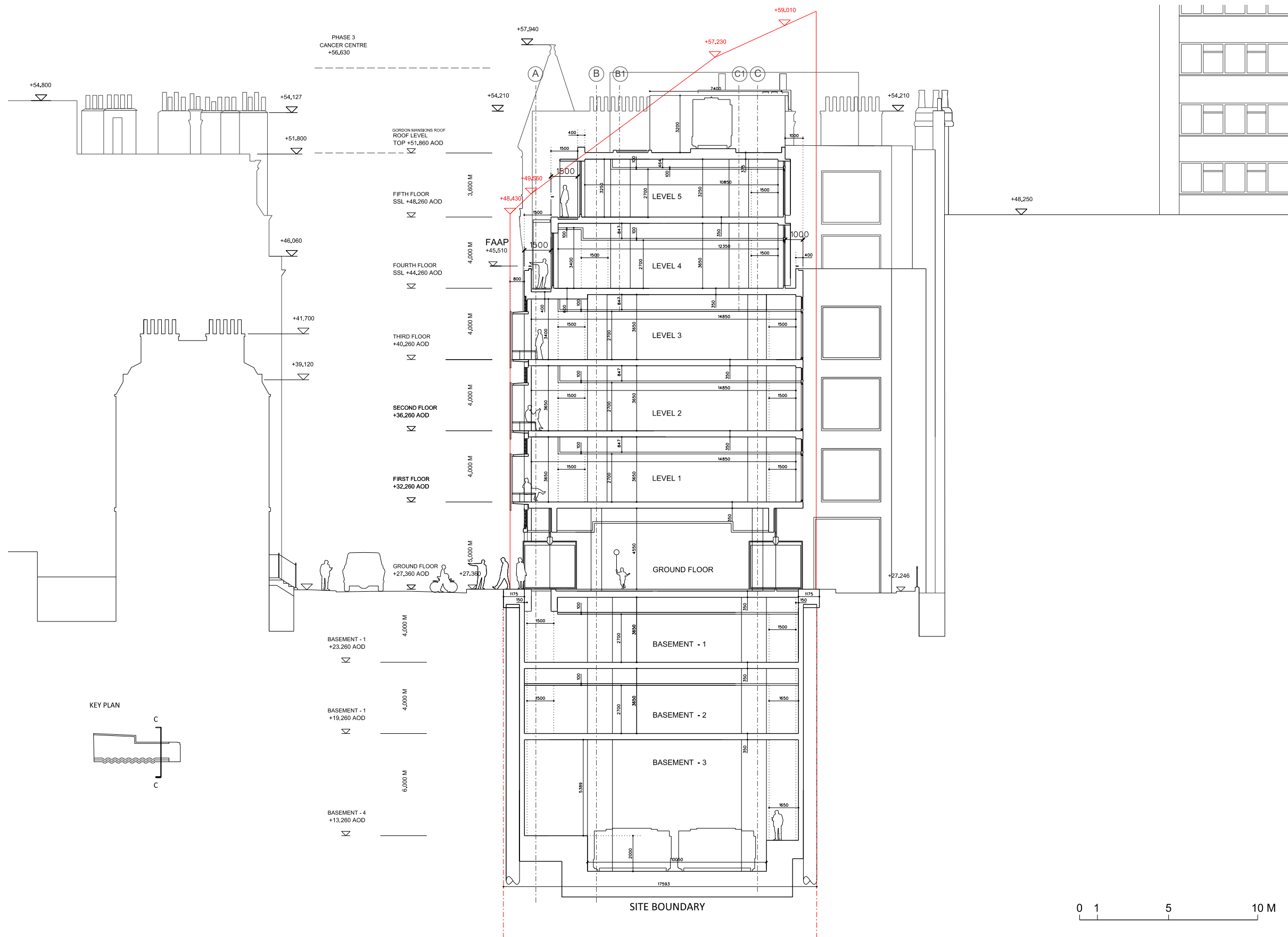
The energy strategy for the project was considered by ARUP both in terms of regulatory requirements and client/design team aspirations. Sustainable development is critical to the future.

The initial Energy Assessment undertaken demonstrates that whilst the facility can achieve UK Building Regulation Part-L 2013 compliance and obtain the minimum requirements to reach BREEAM 2014 New Construction ‘Excellent’ rating, achieving the full 35% improvement factor over Part-L 2013 prove to be challenging despite incorporating the following key technologies in order to minimum carbon dioxide emissions:

- **Passive measures** – High performance building fabric, low emissivity glazing etc
- **Low energy design** – Low energy lighting, low fan & pumping powers, low energy ventilation, high efficiency heat recovery on ventilation systems
- **Low carbon design** – Combined heat & power system, connection to a local district heating system
- **Renewables** – Photovoltaic panels

The Energy Strategy Plan has concluded that alternative technologies such as wind power, biomass or ground source heat pumps are not the best solutions for this project and have been ruled out.

For a project such as the UCLH 5 the challenge is to develop a fully sustainable building that in no way hinders the healthcare endeavours within.



Daylight and sunlight envelope



**5.0 The Proposal**  
**5.7 Daylight and Sunlight**

This is a summary of the Point 2 Surveyors report, which has considered the potential daylight/ sunlight effects to the surrounding residential properties as a result of the implementation of the proposed scheme.

Where necessary, detailed assessments have been undertaken to the surrounding buildings which have habitable room windows overlooking the site. This has been undertaken in accordance with the BRE report entitled ‘Site layout planning for daylight and sunlight: A guide to good practice’, more commonly known as ‘The BRE guidelines’.

The proposed development includes the demolition of two existing buildings and comprehensive redevelopment of the site to create new medical research and treatment facilities.

A number of detailed technical assessments and studies have been undertaken to establish the daylight and sunlight position for the Huntley Street proposal including a review of the proposed scheme against the existing buildings located on the development site today and separately one which compares the scheme against the FAAP massing which is locally accepted as a reasonable baseline for the site.

The daylight and sunlight results show that all of the surrounding residential properties will experience a change to their daylight and sunlight with the proposed development in place, although it is recognised that these alterations observed when comparing the scheme against the FAAP massing will trigger results which are well within the intention and application of the BRE guidelines.

Overall the daylight and sunlight effects as a result of the proposed development are considered in accordance with planning policy.

Please refer to the Daylight and Sunlight report for more information.



Fire compartmentation plan - Typical level

The fire strategy has been developed in consultation with the Trust fire officer, BuroHappold Engineering, Head Projects.

A fire strategy in accordance with Approved Document B, HTM 05-02: Firecode guidance, and end user requirements will demonstrate compliance with part B of the Schedule 1 of the Building Regulations. All necessary measures will be taken to provide a safe patient / staff environment in the event of a fire.

The following is considered as part of the fire strategy:

- Means of escape
- Structure and compartment fire resistance
- External fire spread
- Active fire safety systems
- Fire brigade access and facilities

Means of escape

The hospital will accommodate independent patients and patient who may require some assistance to escape in event of fire; and as result, the means of escape will follow a horizontal evacuation strategy between fire compartments before evacuating out via designated fire escape stairs / firefighting lifts when appropriate.

- Horizontal evacuation
- Escape stairs
- Fire-fighting lifts

Compartmentation

Compartmentation will be provided so that unless dependent patients are within the fire compartment they can remain where they are.

If it becomes necessary to evacuate this will be horizontally in the first instance to adjoining compartments where possible before evacuating vertically via the stairs/lifts.

- Ground level and Basements 1, 2 and 3 will be divided into a minimum of two compartments.
- Above Ground level will be divided in three compartments.

Firefighting shafts will be enclosed in 120 minute resisting compartmentation.

Some areas of the building will also require higher ratings – these will be identified ie. High risk areas

Structure

Given the height of the top floor above ground is greater than 18m but less than 30m elements forming part of the structural frame will have 90 minutes fire resistance.

Firefighting facilities

2 firefighting shafts will be provided. Those include:

- Mechanically smoke vented lobbies
- Dry risers
- Firefighting lifts
- Firefighting stairs

Active Fire Safety Systems

- L1 Detection system provided throughout
- Water Mist System to be provided throughout as per client requirements
- Given the provision of water mist, mechanical ventilation (10 Air change per hour) will be provided to basement levels.
- Backup power supply, emergency lighting and signage will be provided as necessary.