Great Ormond Street Hospital for Children
NHS Foundation Trust

UCL INSTITUTE OF CHILD HEALTH

Great Ormond Street Hospital Charity

Welcome

Welcome to this public exhibition on plans to create the Centre for Research into Rare Disease in Children.

The Centre is a partnership between Great Ormond Street Hospital for Children NHS Foundation Trust (GOSH), University College, London (UCL) and Great Ormond Street Hospital Children's Charity. It will allow our scientists and clinicians to more accurately diagnose, treat and cure children and young people with rare conditions.

The exhibition is a follow-up to the public consultation held earlier this year, which offered our stakeholders an opportunity to view our building plans at an early stage and influence them as they developed.

This second exhibition provides information on the feedback we received during our consultation and an update on our design progress since the first exhibitions. The building designs have now been submitted to the local authority as an application for planning permission.

We are keen to stay in touch with anyone who is interested in the building. Please see details of how you can keep up to date with our plans at the end of the exhibition and fill in the sign-in sheet before you leave.

As you browse the exhibition content please ask our event staff if you have any questions. They are here to help and will be delighted to talk to you.

Why?

The Centre for Research into Rare Disease in Children will be a brand new building in which scientists and doctors can work side-by-side, learn more about rare diseases and discover new ways to diagnose, treat and potentially cure even more children.

Great Ormond Street Hospital NHS Foundation Trust (GOSH) and UCL's Institute of Child Health (ICH) and Institute of Cardiovascular Science (ICS) undertake research and develop new diagnostics, treatments and devices that can improve the lives of patients treated at our hospital and children elsewhere in the UK and abroad.

Rare diseases are complex and not well understood in comparison to other illnesses. This means that sufferers often experience a delay in getting diagnosed and have limited options for treatment.

But recent advances in science and technology offer new hope. Genomics (the science of genetic mapping and DNA sequencing) is helping scientists to identify the genetic basis of rare diseases. And new treatments such as stem cell therapies allow us to offer patients the chance of a longer and fuller life.

Bringing knowledge, technology and patients together in one place would speed up the 'bench to bedside' process of developing new treatments.

The building would give our medical and scientific experts the facilities and access to patients they need to:

- understand and read genetic codes more quickly
- develop gene and cell therapies to treat genetic conditions
- use stem cells to regenerate organs or tissues
- manufacture new medical devices

Most importantly, it will bring breakthroughs and cures for rare diseases closer with every passing day.

About rare disease in children

Rare diseases represent a considerable health burden, a fact that is attracting increasing concern both nationally and internationally. This is because, taken together, they are in fact relatively common. Much more needs to be done to help those whose lives are affected by rare disease, including much greater emphasis on medical research.

Rare diseases in children include childhood cancers, cystic fibrosis and muscular dystrophy. There are over 6,000[1] conditions in total.

Individually, each disease affects less than one in 2,000 people. But as a group, they will affect one in 17 of us at some point in our lives[2].

Seventy-five per cent of rare diseases affect children, and nearly one-third will die before their fifth birthday.

Most rare diseases are caused by a genetic defect, which means that children are born with the condition and will not get better by themselves. The symptoms of rare diseases can often be very serious, making patients very sick or causing disabilities that impact on their how long they will live and their quality of life.

But scientific breakthroughs and new technologies open up possibilities for treatment that were unimaginable even just a few years ago. The new building will help us to harness this potential and help more children not just at Great Ormond Street Hospital but nationally and internationally.

Case study

Nina Warnell suffers from SCID (Severe Combined Immunodeficiency), a condition that means that she was born without an immune system due to a genetic defect. This condition is sometimes referred to as 'bubble baby' disease, because patients need to live in a sterile environment. As Nina's future looked uncertain, her family made the decision that she would take part in a ground-breaking gene therapy trial at Great Ormond Street Hospital. Gene therapy involves replacing faulty genes with working versions of the same gene. The aim is to integrate healthy genes into patients' DNA so that cells now have the correct information to function normally in the body.

One year on, Nina is a happy little girl with a functioning immune system. She has effectively been 'cured' from a disease that would otherwise have severely limited her ability to live a normal life.

Sources:

1. Orphanet
2. Official Journal of European Commission

How the new building would support our work

Working together, Great Ormond Street Hospital (GOSH) and University College London (UCL) operate the largest centre for paediatric research in Europe and one of the largest worldwide. This is one of the only centres in the world with the specialist expertise and diverse patient population needed to discover cures for rare diseases.

Discovering cures for rare diseases in children is challenging for many reasons, for example:

- Each condition affects comparatively small numbers of patients, so it's difficult for researchers to obtain enough patients to study each disease thoroughly.
- It can be difficult to gather enough patients to take part in experimental treatments or clinical trials.
- Many patients have serious and life threatening conditions, so the back up of a large, specialist children's hospital nearby is essential for their safety.

In recent years, GOSH and UCL have overcome these challenges and achieved some amazing breakthroughs. But we urgently need better facilities and more space to allow us to help more patients, develop new treatments and share our discoveries with others.

The building will support scientists, clinicians, engineers and other experts to pool their knowledge and improve our expertise in the diagnosis, understanding, management and care of rare diseases.

Professor Bobby Gaspar, Paediatric Consultant Immunologist at Great Ormond Street Hospital and Director-Designate for the Centre for Research into Rare Disease in Children

"The Centre will be the first of its kind to bring clinicians, patients and scientists together to translate pioneering research techniques into hope for children across the world who have rare diseases.

"I have led a number of successful trials that saw gene therapy transform the outcomes of children with SCID – a rare immune disorder. My hope is that this new centre will allow us to go even further and develop gene therapy as well as cell and stem cell therapies as a standard treatment for many more conditions where children are born with rare diseases."

Construction timetable

Our application for planning permission has now been submitted to the London Borough of Camden and can be accessed on their website at: www.camden.gov.uk/planning

CONSTRUCTION

If planning permission is granted, our construction timetable will be as follows:

March – May 2015

Demolition of the existing building.

September 2015 – October 2017

Construction of the new building.

Early 2018

The building opens.

The prospect of living or working close to a construction site will naturally cause some concern to local people, but it should be of some reassurance that GOSH has considerable experience of managing major construction projects.

We fully recognise the importance of minimising the impact on our neighbours, and will use this expertise in managing the Guilford Street site. Throughout demolition and construction noise, dust and vibration levels will be monitored and managed and working hours will be limited to comply with Camden Council and Considerate Constructor guidance.

GOSH only appoints contractors with Considerate Constructor and sustainability credentials. We will work with them to ensure that disruption is kept to a minimum, that safety procedures are in place and that local people receive advance warning of any work that could impact on them.

You can sign up to receive updates on our construction activity or join our Redevelopment Residents' Liaison Group by emailing redevelopment.feedback@gosh.nhs.uk.

Please speak to our event staff or get in touch with us after the exhibition if you have any questions or concerns about the construction process.

What you said about… Our construction plans

"Concerned about weekend working and getting children off to sleep in the evenings."

"Previous projects associated with you (Botnar, Mittal in particular) have been run smoothly. I hope that you apply the same management protocols for this research centre."

Our consultation

Our consultation was designed with advice from the local authority during pre-application discussions and our key stakeholders and professional advisors. It was managed by the Redevelopment Directorate at GOSH and involved meetings and briefings, a public exhibition and awareness-raising activity.

The feedback we received indicated that the majority of stakeholders were supportive of the proposals. Many respondents expressed support for the proposed use of the building and associated benefits to child health, enthusiasm for its design features and recognition of its potential to improve and revitalise the area.

However, there were naturally some concerns expressed by local people about a major construction project and the increased movement of vehicles and people accessing the new building. Some respondents also raised their concerns about the height of the building and potential impacts to the levels of daylight and sunlight received to their properties. Others indicated that they would like some more information and images of the proposed building to better understand what it would look like.

This exhibition provides an update on our progress with the building design and information in response to this feedback.

More detailed information on what consultation respondents said is available in our Statement of Community Involvement, one of the documents that form our planning application. The application also includes more detailed information, diagrams and data and will shortly be available on the London Borough of Camden's website.

Building exterior

The building façades and architectural details have been designed to create a high quality, compelling building which is sensitive to the context of the site.

Guilford Street perspective looking east

The building has two different façade treatments. Towards Coram's Fields and Guilford Place the building has a 'civic' presence appropriate to a building of public significance and in response to the other large buildings that frame Coram's Fields. The building has vertical terracotta blades, creating a layered façade in front of glazed openings.

The upper two floors of the building contain the Good Manufacturing Practice (GMP) facility for the manufacture of specialist products for novel therapies (clinical trials and patient treatments). These will be set back from the Guilford Street elevation and have been designed as a lightweight reflective façade to minimise their visual impact.

Guilford Street perspective looking west

Building exterior

On the east and south, the building responds to the more residential nature of Millman Street and Millman Mews

Millman Street looking north

Proposed view from Millman Street of Millman Mews looking west

Proposed view from Millman Mews looking north towards the new building

On these elevations a brick façade with more traditional window proportions has been designed to alleviate any issues of overlooking, direct sunlight and risk of solar gains.

Building materials

We have carefully selected building materials to create a high quality finish that complements the surrounding area.

The following materials will age well and make a positive contribution to the townscape. They will also deliver subtle variations in colour, texture, tone and relief - balancing the building's solidity and permanence with areas of refined detail and articulation.

Brickwork

Brick is a traditional material within the historic vernacular of the Bloomsbury area. It has been chosen as the primary material for the elevations in the more residential context of Millman Street and Millman Mews.

Terracotta

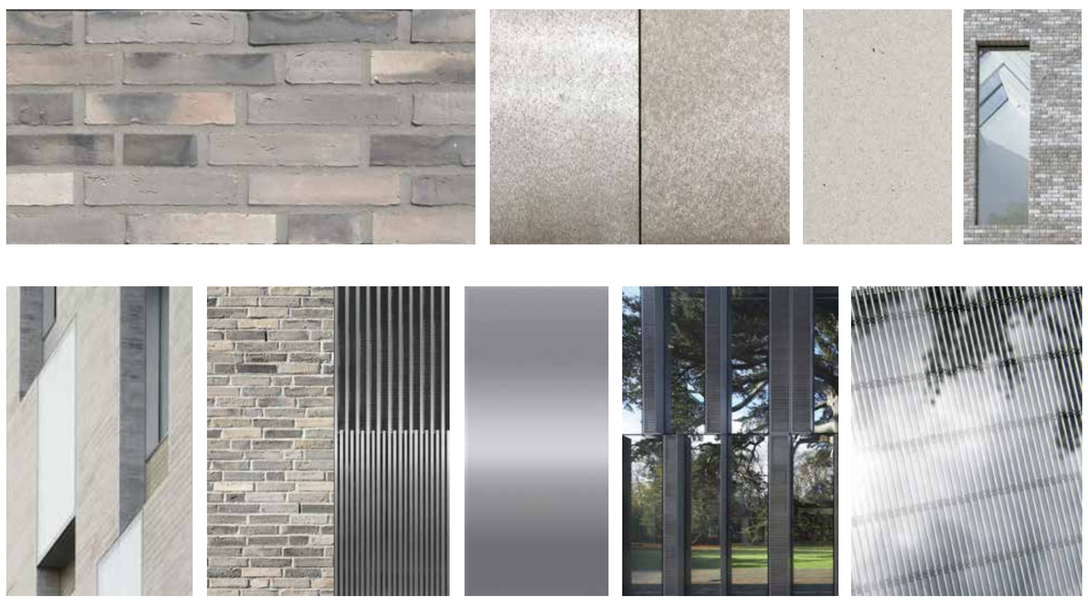
Terracotta has similar characteristics to brickwork and is widely used in civic buildings across Bloomsbury. It has been chosen for the single and double height fins on the 'civic' elevations on Guilford Street and Guilford Place.

Full height glass and metalwork

High quality full height flush and recessed double glazing is proposed. In some areas metalwork will be used to provide additional detail and articulation

Metal cladding, doors and louvres

Powder coated metal panels, doors and louvres will form a horizontal band at ground floor level on the Millman Street and Millman Mews elevations where secondary entrances are located.



North elevation material study

South elevation material study

Public spaces around the building

The development presents a valuable opportunity to revitalise the local area and improve the streetscape.

Our proposals to improve the public spaces around the building are an essential feature of its design and the following ideas will be explored with the local authority:

- Increasing the width of the pavements along Guilford Street, Guilford Place and Millman Street by paving over the existing lightwells in a suitable high quality material. [1]
- Installing two banks of bicycle stands for public use on Guilford Street. [2]
- Improving the junction of Millman Street and Millman Mews to enhance pedestrian safety and allow vehicles to manoeuvre more easily. [3]
- Creating a raised 'shared space' road surface throughout Millman Mews to achieve the traditional Mews appearance and improve the streetscape. [4]
- Maintaining healthy trees, installing green roofs and planting shrubs on terraced areas. [5]
- Introducing a 'raised table' across Guildford Place to improve the pedestrian connection between the Centre for Research into Rare Disease in Children and the main GOSH campus of buildings. [6]

Possible materials for public realm areas

Public realm plan

Building interior

The building accommodation is divided into six principal departments:

Entrance zone – shared main entrance and common facilities such as seminar and meeting rooms, hot desk and back-of-house areas.

Outpatients Department – a new outpatient facility, suitable for children and young people with a wide range of rare and complex conditions.

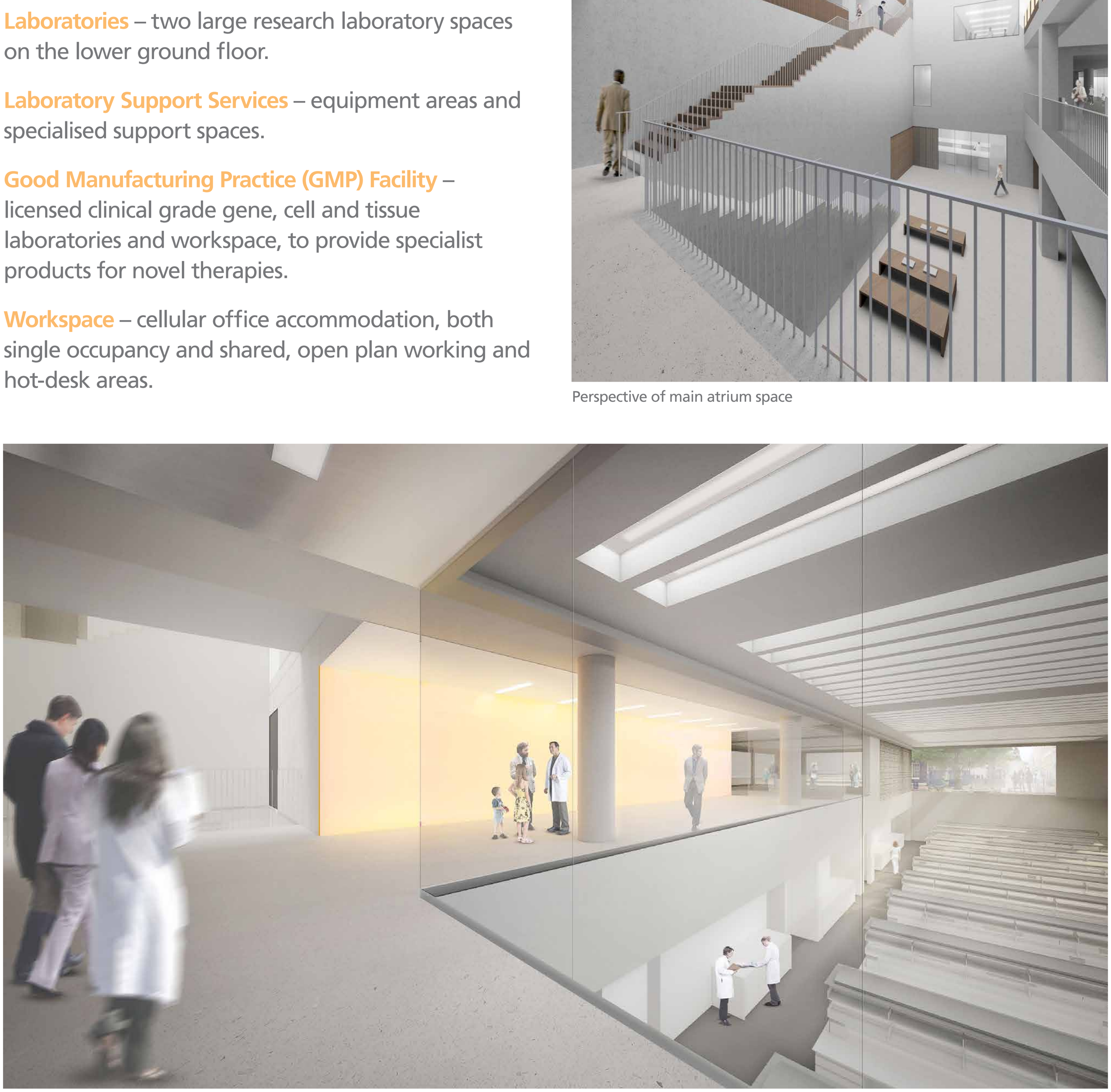
Laboratories – two large research laboratory spaces on the lower ground floor.

Laboratory Support Services – equipment areas and specialised support spaces.

Good Manufacturing Practice (GMP) Facility – licensed clinical grade gene, cell and tissue laboratories and workspace, to provide specialist products for novel therapies.

Workspace – cellular office accommodation, both single occupancy and shared, open plan working and hot-desk areas.

Perspective of main atrium space



Entrance bridge over laboratory

Servicing the building

A number of alternative servicing options have been considered and discussed with the London Borough of Camden to understand how they fit with local requirements.

This involved a detailed analysis of the current movement of vehicles and pedestrians and the changes that will be required when the building is operational. We also discussed servicing with residents during the public consultation and several stressed the importance of minimising traffic in Millman Mews.

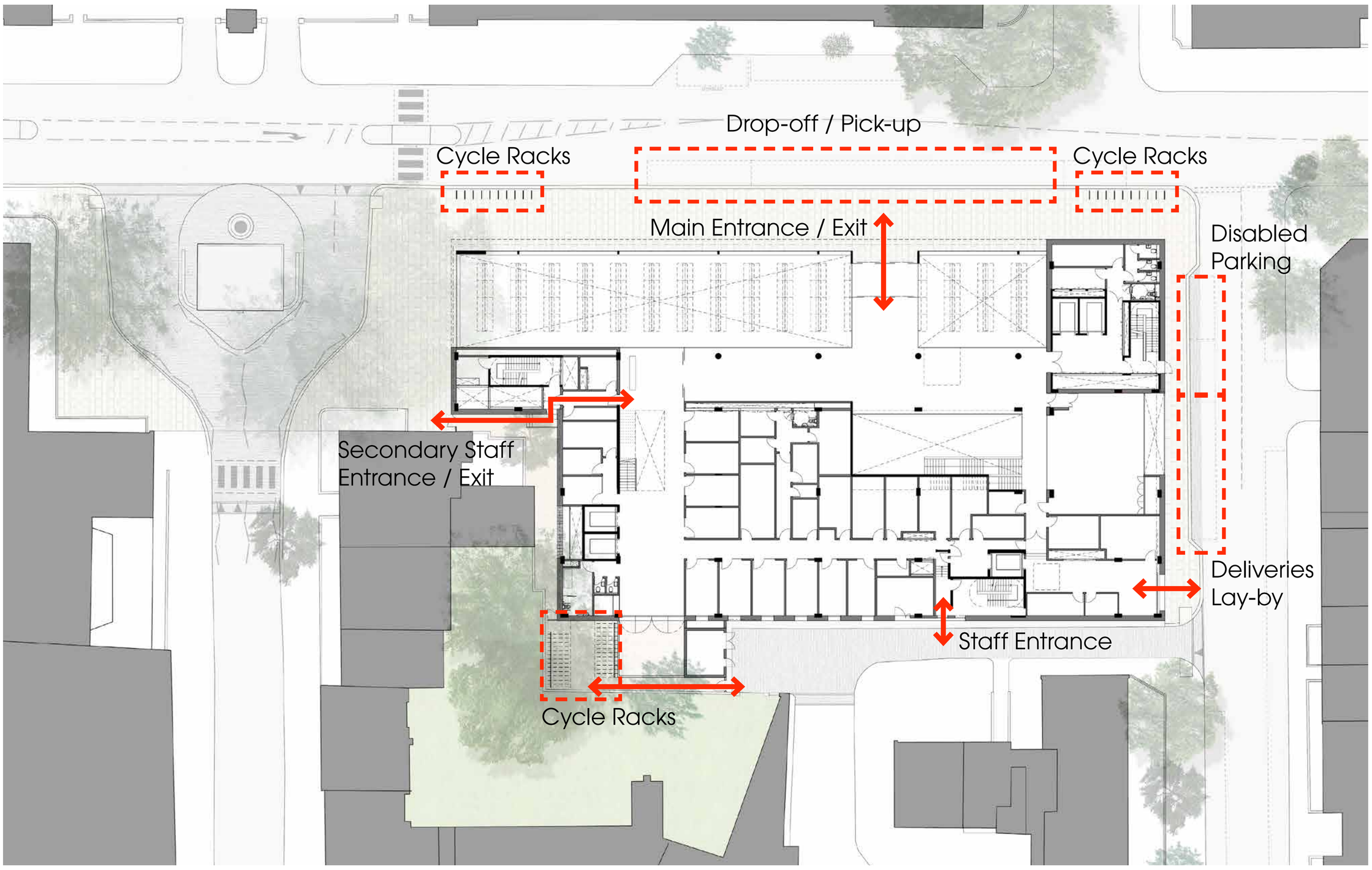
A delivery lay-by adjacent to the building on the west side of Millman Street is the best option for on-street servicing because it minimises changes to the current pattern of traffic and the impact on pedestrians.

By relocating residents' parking bays to the opposite side of Millman Street and pay and display bays to Lamb's Conduit Street, we can add an additional disabled parking space and avoid any impact on residential or business parking in the area.

The delivery lay-by and parking bays will be delineated by a paved finish so that their use is clear to both drivers and pedestrians. We anticipate an average of 15 vehicles would use the delivery bay each day – the majority of which will be motorbikes and small vans.

The majority of building users will use the main entrance on Guilford Street. Two secondary entrances for staff use only are planned from Guilford Place and Millman Mews. The building design incorporates all relevant legislation and best practice on creating accessible buildings.

Full details can be found in the Design and Access statement, one of the documents that form our planning application.



Proposed building entrances and vehicle servicing

Sustainability and the environment

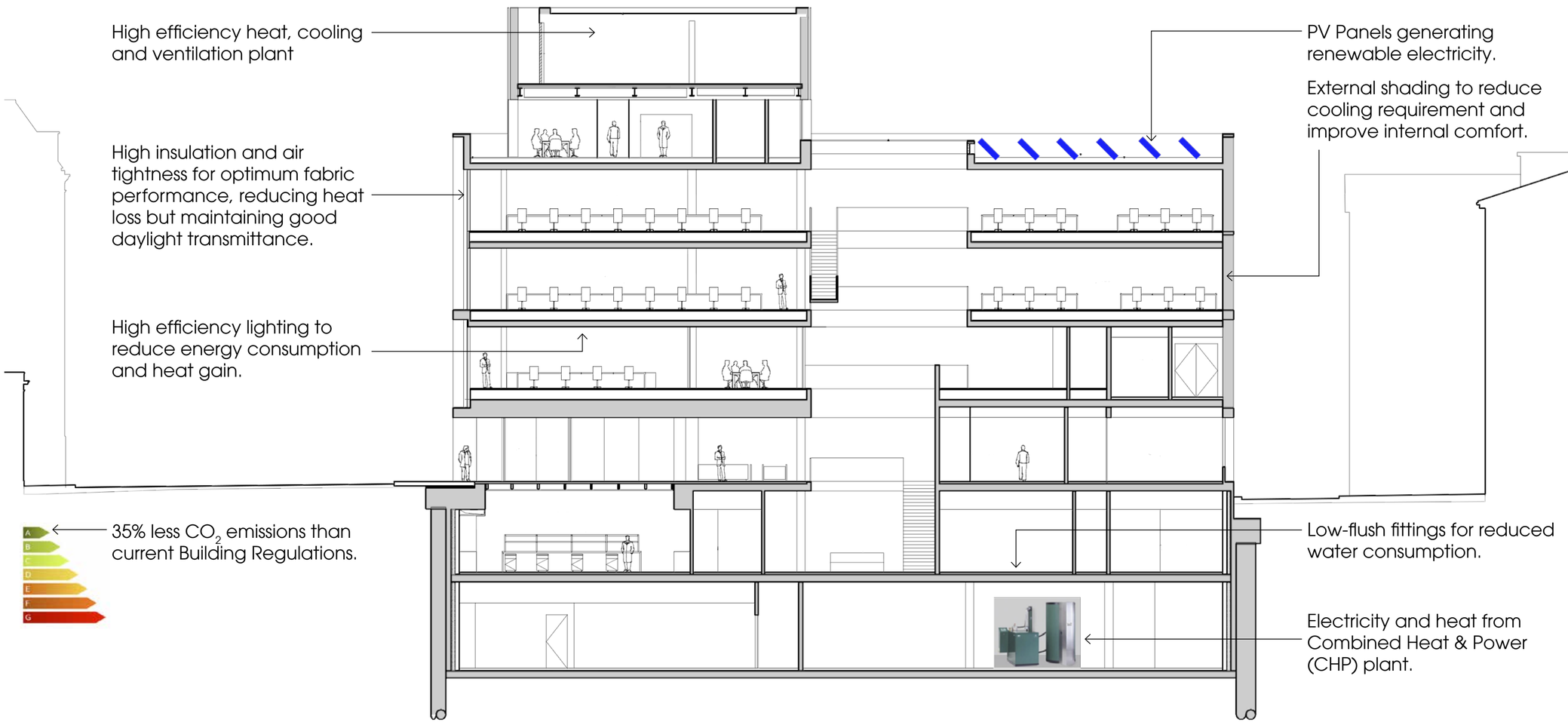
The building has been designed to be as sustainable and efficient as possible.

Climate change is a significant threat to child health and Great Ormond Street Hospital is serious about creating sustainable buildings.

The building will achieve a BREEAM 'excellent' rating – placing it within the top 10 per cent of new-build non-domestic properties in the UK.

We propose the following sustainability and biodiversity measures:

- A high performance building 'envelope', which preserves heat and excludes damp.
- Low energy and motion-responsive lighting.
- Water conservation systems and rain water recycling.
- Responsibly sourced, sustainable and recycled construction materials.
- Combined heat and power (CHP), generating electricity while also using the waste heat from hot water and space heating purposes.
- Solar panels at roof level below the proposed parapet to supplement electrical energy requirements.
- The Design team will be working with an ecologist to ensure that the building enhances the ecological value of the site, including local plant, insect and animal life.
- A green roof is also proposed to enhance ecological value and biodiversity.



What happens next?

Our application for planning permission has now been submitted to the London Borough of Camden and can be accessed on their website at: **www.camden.gov.uk/planning** It is anticipated that the Council will determine the planning application by the end of the year.

Our consultation was a valuable and informative exercise which helped shape our planning application. But our communication with stakeholders doesn't stop here. The success of the project – and our wider redevelopment programme – depends on harmonious co-existence with our neighbours and designing buildings that meet the needs of our staff and patients.

Going forward, we have identified a number of ways to keep our stakeholders up to date, for example:

- The GOSH Redevelopment Residents Liaison Group is open to anyone who lives or works locally – please email **redevelopment.feedback@gosh.nhs.uk** or call the Redevelopment team on 020 7405 9200 for details of our next meeting.
- Foundation Trust membership is free and open to anyone aged 10 and over who lives in England or Wales. As a member you will receive regular updates on hospital developments and can have a say on how the hospital is run. You can apply online at **www.gosh.nhs.uk/FTmembership**, email **foundation@gosh.nhs.uk** or call 020 7239 3131.
- Engagement with staff user groups, which is ongoing and managed by our clinical planning team.
- You can also register to receive news and updates on the redevelopment programme by emailing **redevelopment.feedback@gosh.nhs.uk** and see the latest on our website at: **gosh.nhs.uk/CRRDC-consultation.**