FEBRUARY 2024

Circular Economy Statement

3 The Square, Stockley Park, Hayes, Uxbridge, UB11 1ET

Iceni Projects Limited on behalf of F&C Commercial Property Holdings c/o Columbia Threadneedle Real Estate Partners

February 2024

ICENI PROJECTS LIMITED ON BEHALF OF F&C COMMERCIAL PROPERTY HOLDINGS C/O COLUMBIA THREADNEEDLE REAL ESTATE PARTNERS

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1. EXECUTIVE SUMMARY

1.1 Iceni Projects Ltd was commissioned by F&C Commercial Property Holdings c/o Columbia Threadneedle Real Estate Partners to produce a Circular Economy Statement for the proposed redevelopment of 3 The Square, Stockley Park, Hayes, Uxbridge, UB11 1ET.

1.2 This document outlines the circular economy strategic approach to be adopted by the proposed development and gives an overview of the interventions that will be applied to ensure circular economy principles are embedded within the design of the scheme over its lifetime.

1.3 This application proposes the redevelopment of the site to provide a post-operative care facility, alongside high-quality landscaping.

1.4 The Circular Economy Statement for the proposed development has been prepared using the Greater London Authority's (GLA) London Plan Guidance: Circular Economy Statements, published in March 2022. This approach is consistent with that required by the London Plan Policy SI7, and therefore represents best practice in meeting the required standards of resource efficiency and implementation of circular economy principles.

1.5 The proposed circular economy strategic approach is based upon the principles of a circular economy as defined within London Plan Policy SI7, on the basis that it is preferable to retain materials at their highest value for as long as possible, before they are reused or recycled, and therefore leaving a minimum of residual waste.

1.6 In preparing this Circular Economy Statement, a strategic circular economy approach has been taken, considering the following:

- Building in layers
- Designing out waste
- Designing for longevity
- Designing for adaptability or flexibility
- Designing for disassembly
- Using systems, elements or materials that can be reused and recycled.

1.7 To ensure the above principles will be implemented across the entire life cycle of the proposed development, and that the value of all materials employed within all spaces is maximised for as long as possible, a ‘building in layers’ approach has been utilised, with the following layers considered:

- Site
- Skin / Shell
- Structure / Frame
- Services (building)
- Space Plan / Interior
- Stuff / Contents

1.8 Across each of these layers, the following nine circular economy principles have been embedded within the design of the proposed development:

- Minimising the quantities of materials used
- Minimising the quantities of other resources used
- Specifying and sourcing materials responsibly and sustainably
- Design for longevity, adaptability or flexibility and reusability or recovery
- Design out construction, demolition, excavation and municipal waste arising
- Manage demolition waste
- Manage excavation waste
- Manage construction waste
- Manage municipal waste

1.9 A summary of the proposed circular economy strategic approach is provided below.

Table 1.1 Circular Economy Strategic Approach

Aspect	Phase / Building / Area	Steering approach	Proposed Intervention	Target	Supporting analysis
Circular economy approach for the new development	All areas	Retain, repurpose, reuse and recycle where possible to reduce material use Follow lean design principles Maximise material efficiency Apply a 'building in layers' approach Design for longevity, resilience, future adaptability and flexibility of use Prioritise the sustainable procurement of materials	Maximise the reuse of non-hazardous demolition and excavation materials Consideration of each building layer both separately and in combination, with the entire life cycle of each layer accounted for when specifying materials and construction techniques, such as off-site pre-manufacture and modern methods of construction (MMC) Adaptable design to allow for changes in technology, as well as a change of use to other residential use classes if future demand exists Design to ensure building services can be easily accessed to facilitate repair during operation, and re-use or recovery at end-of-life	95% diversion of materials from landfill at the end of life Volume of waste generated during construction to be no greater than 13.0 tonnes per 100m^2 of Gross Internal Floor Area (GIFA)	Supported by Design & Access Statement, submitted plans and elevations, Whole Life Carbon Assessment, outline Operational Waste Management Strategy and outline Site Waste Management Plan.

		Minimise the consumption of energy and water during construction and operation	Specification of durable materials and incorporation of resilient design Use of materials, where feasible and appropriate, with a high recycled content Prioritisation of the sourcing of certified materials, such as FSC and PEFC certified timber Investigation of low embodied carbon construction techniques Minimisation of energy demand through application of a fabric-first approach and employment of renewable technologies Minimisation of water consumption through the employment of water-efficient fittings and systems		
Circular economy approach for	Site	Manage demolition waste	Where possible, on-site use of non-hazardous demolition material	Minimum 95% diversion from landfill through	

the existing site				the reuse and recycling of materials arising during the excavation, demolition and construction phases	
Circular economy approach for municipal waste during operation	All areas	Efficient management of operational waste	Appropriate refuse storage to enable recycling and practice good waste management	65% recycling of packaging waste and targeting 20% high temperature incineration (HTI), 20% alternative treatment and 60% offensive waste, in line with NHS targets for clinical waste, subject to confirmation.	

1.10 The key commitments to be made as part of the proposed development are as follows:

- Minimising the quantities of materials used through the implementation of lean design principles.
- Minimising the quantities of other resources used through the employment of energy efficiency measures and water efficient fittings.
- Specifying and sourcing materials responsibly, for example through the implementation of the principles of the BRE Green Guide to Specification.
- Designing for longevity and recovery through the use of durable materials that may be recovered, reused and recycled at the end of the development's lifetime.
- Minimising the generation of waste where possible, and maximising the recovery, reuse and recycling of waste materials arising.

1.11 This Circular Economy Statement therefore demonstrates that the principles of a circular economy have been embedded within the design of the proposed development from the outset. By considering each layer of the proposed development, the generation of waste will be minimised during the construction, operation and disassembly of the proposed development. The scheme will be flexible, ensuring adaptability to changes in demand and technology, whilst also employing durable materials to ensure a long service life. Through the specification of materials and systems that are easily reused and recycled, it will be ensured that the materials employed within the proposed development will be maintained at their highest possible value for as long as possible, aiding in reducing the need for new materials and therefore reducing both the waste generated by and the embodied carbon emissions associated with the scheme.

2. INTRODUCTION

2.1 Iceni Projects Ltd was commissioned by F&C Commercial Property Holdings c/o Columbia Threadneedle Real Estate Partners to produce a Circular Economy Statement for the proposed redevelopment of 3 The Square, Stockley Park, Hayes, Uxbridge, UB11 1ET.

Report Objective

2.2 This document details the circular economy strategic approach adopted by the proposed development and gives an overview of the interventions that will be applied to ensure circular economy principles are embedded within the design of the scheme over its lifetime. The Circular Economy Statement report headlines will provide a framework for the project team to operate consistently within circular economy guidelines set out by the Greater London Authority and the London Borough of Hillingdon.

2.3 The report is structured to meet these guidelines as follows:

- Section 3 discusses the planning context and policies which are relevant to circular economy principles;
- Section 4 presents the method statement, outlining the circular economy approach and interventions proposed;
- Section 5 presents the proposed circular economy goals and strategic approach;
- Section 6 presents the proposed circular economy commitments; and
- Section 7 summarises the development's design response.

Site and Surroundings

2.4 The application site (Appendix A1) is located within the London Borough of Hillingdon, to the north of London Heathrow Airport. The site, which is situated within the Stockley Park business estate, is bounded by The Square to the south, an office building at 2 The Square to the west, and an office building at 4 The Square to the east, which is currently in use by Hikvision UK, as well as Hasbro UK and Hasbro European Services. The northern boundary of the site is formed by the Stockley Park Golf Course.

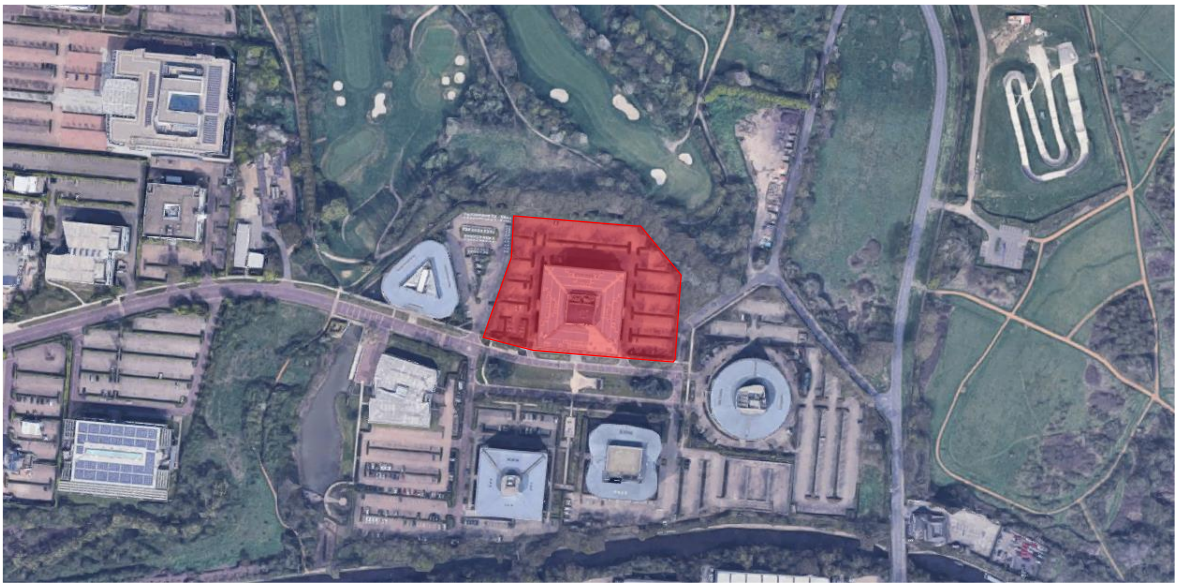
2.5 The application site itself currently comprises a vacant office building, with associated car parking and hard surfaces, that was previously used as the European headquarters for the Japanese electronics manufacturer, Canon. The surrounding area is characterised by business and office uses,

with the Grade II listed Registered Park and Garden, Stockley Park, located to the northwest of the site, the Stockley Park Golf Club to the north, and the Lake Farm Country Park to the east.

2.6 The approximate location and site boundary of the site are shown in Figure 2.1 below.

Figure 2.1 The site

Approximate Site Boundary



The Proposed Development

2.7 The description of development is as follows:

> *"Full planning permission for the change of use of existing office building (Use Class E, formerly Use Class B1) to a post-operative care facility (Use Class C2) and the provision of landscaping and associated works."*

2.8 The images below show selected elevations and plans of the scheme, based on the information provided by Hale Architecture Ltd.

Figure 2.2 South elevation

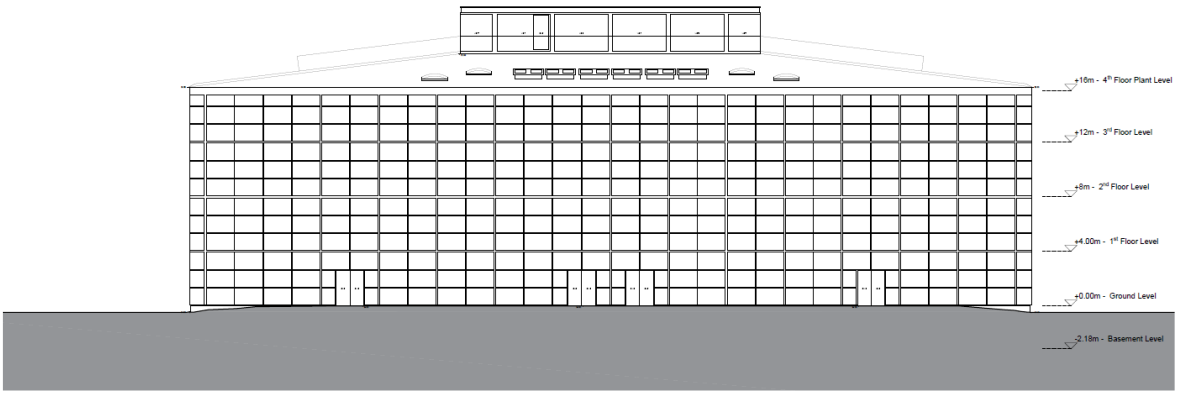


Figure 2.3 North elevation

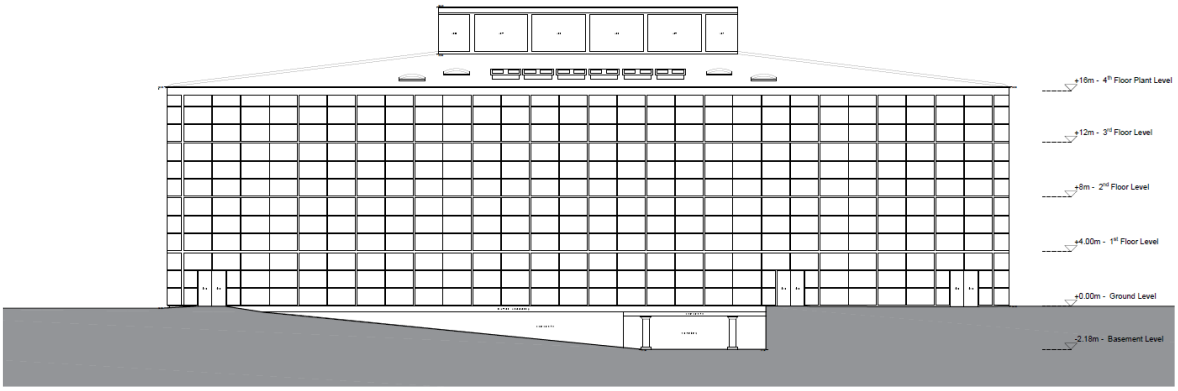


Figure 2.4 West elevation

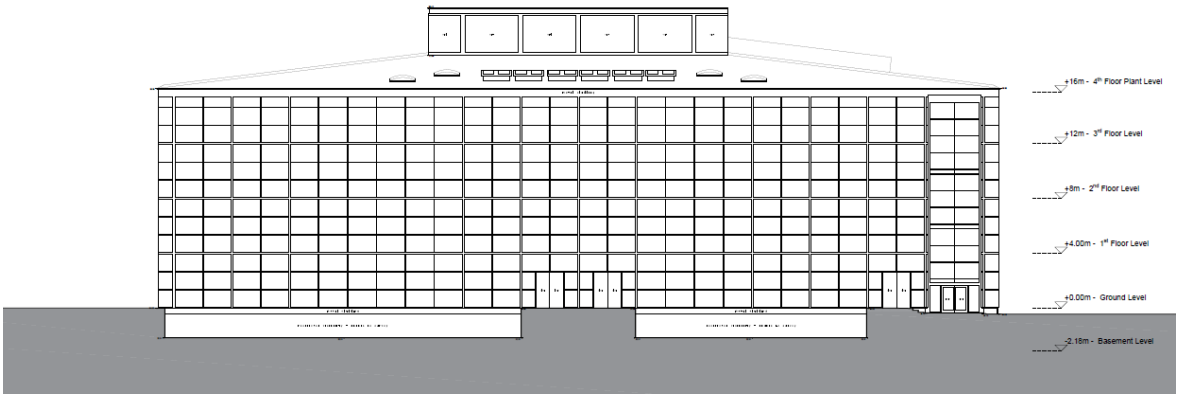


Figure 2.5 East elevation

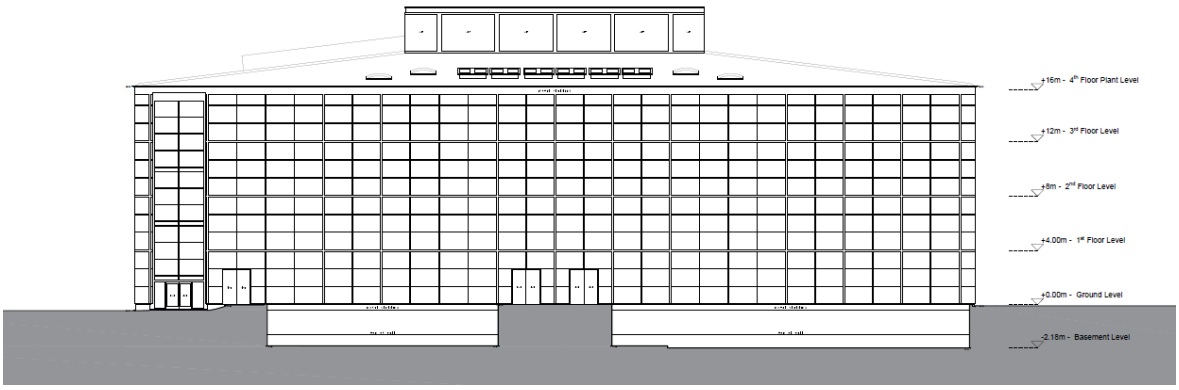


Figure 2.6 Basement floor

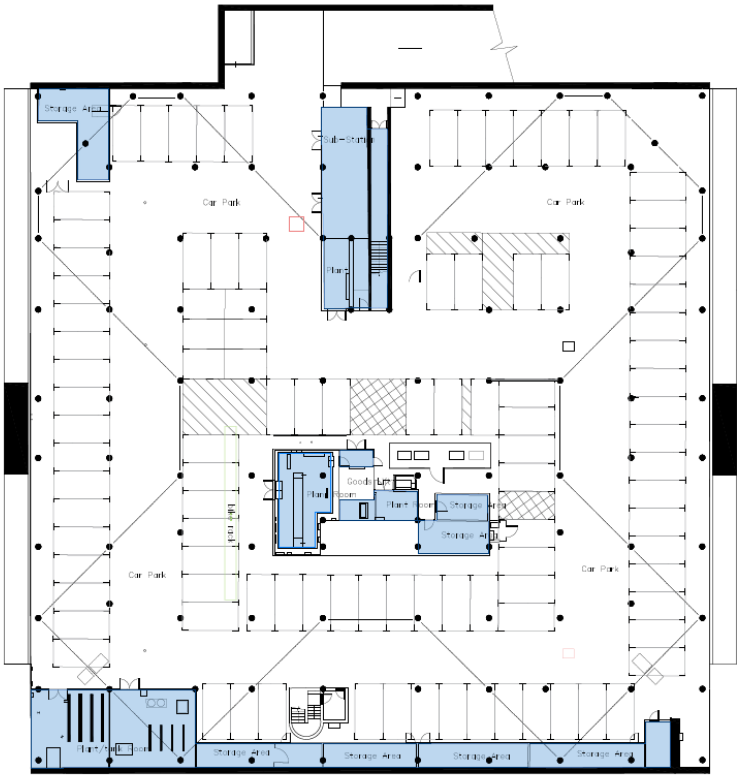


Figure 2.7 Ground floor

Figure 2.8 First floor

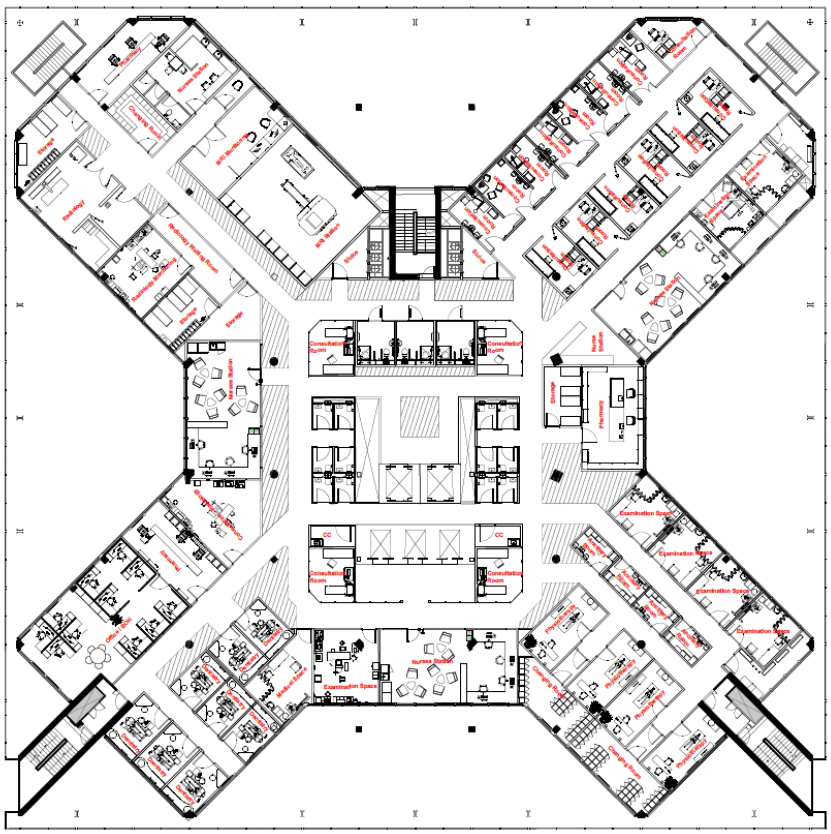


Figure 2.9 Second floor

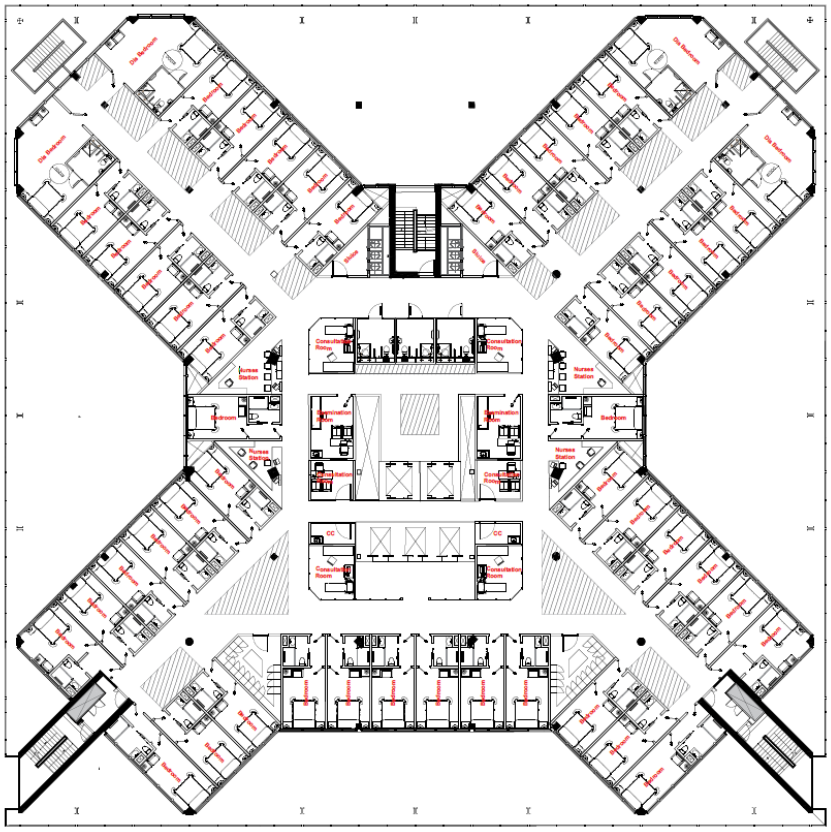


Figure 2.10 Third floor

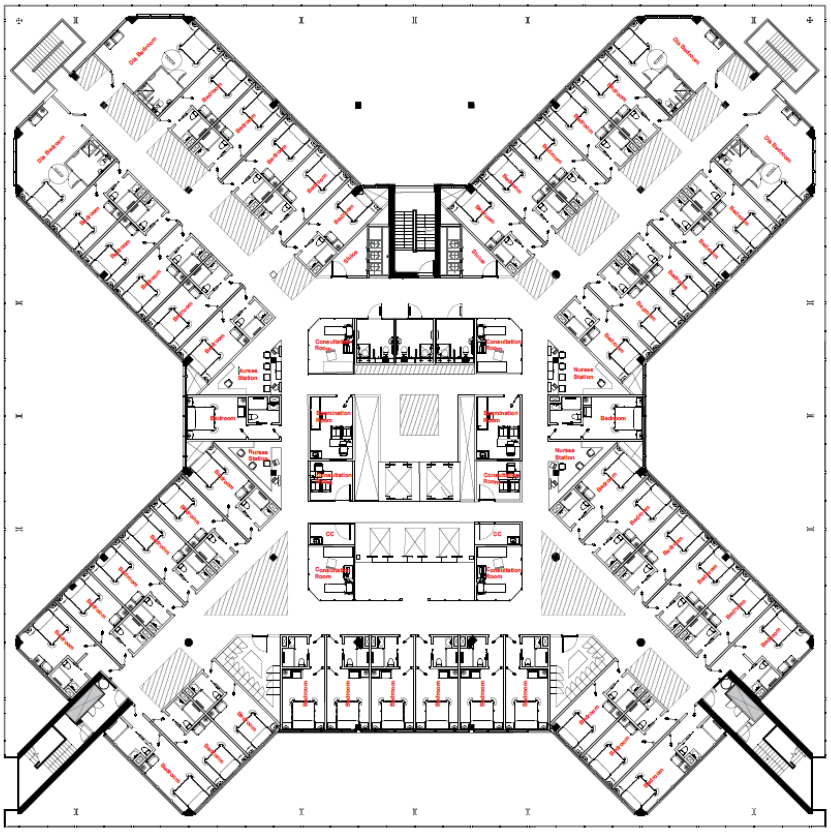
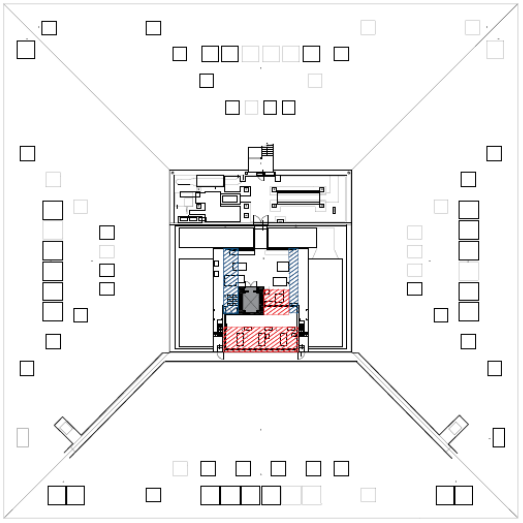


Figure 2.11 Fourth floor

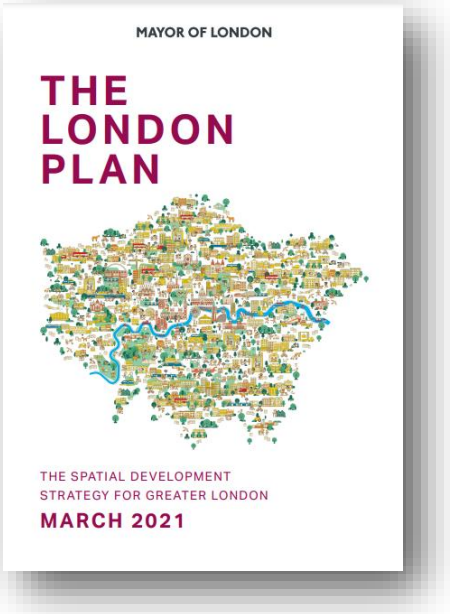


3. PLANNING AND REGULATORY CONTEXT

Regional Policy

3.1 The London Plan provides the following policy and guidance related to the circular economy.

The London Plan (March 2021)



3.2 The London Plan is the overall strategic plan for London and includes policies for sustainable development and circular economy within Chapter 9 (London's response to climate change). Key policies of relevance to this scheme are as follows:

- **Policy SI7 Reducing waste and supporting the circular economy.** This states that **r**esource conservation, waste reduction, increase in material re-use and recycling, and reduction in waste going for disposal will be achieved by the Mayor, waste planning authorities and industry working in collaboration to:

    1. Promote a more circular economy that improves resource efficiency and innovation to keep produces and materials at their highest use for as long as possible.

    2. Encourage waste minimisation and waste prevention through the reuse of materials and using fewer resources in the production and distribution of products.

    3. Ensure that there is zero biodegradable or recyclable waste to landfill by 2026.

    4. Meet or exceed the municipal waste recycling target of 65 per cent by 2030.

    5. Meet or exceed the targets for each of the following waste and material streams:

        a) Construction and demolition – 95 per cent reuse/recycling/recovery

        b) Excavation – 95 per cent beneficial use

    6. Design developments with adequate, flexible, and easily accessible storage space and collection systems that support, as a minimum, the separate collection of dry recyclables (at least card, paper, mixed plastics, metals, glass) and food.

    Referable applications should promote circular economy outcomes and aim to be net zero-waste. A Circular Economy Statement should be submitted, to demonstrate:

1. How all materials arising from demolition and remediation works will be re-used and/or recycled.

2. How the proposal's design and construction will reduce material demands and enable building materials, components and products to be disassembled and re-used at the end of their useful life.

3. Opportunities for managing as mush waste as possible onsite.

4. Adequate and easily accessible storage space and collection systems to support recycling and re-use.

5. How much waste the proposal is expected to generate, and how and where the waste will be managed in accordance with the waste hierarchy.

6. How performance will be monitored and reported.

Development Plans that apply circular economy principles and set local lower thresholds for the application of Circular Economy Statements for development proposals are supported.

- **Policy D3 Optimising site capacity through the design-led approach.** This policy states that:

The design-led approach

A. All development must make the best use of land by following a design-led approach that optimises the capacity of sites, including site allocations. Optimising site capacity means ensuring that development is of the most appropriate form and land use for the site. The design-led approach requires consideration of design options to determine the most appropriate form of development that responds to a site's context and capacity for growth, and existing and planned supporting infrastructure capacity (as set out in Policy D2 Infrastructure requirements for sustainable densities), and that best delivers the requirements set out in Part D.

B. Higher density developments should generally be promoted in locations that are well connected to jobs, services, infrastructure and amenities by public transport, walking and cycling, in accordance with Policy D2 Infrastructure requirements for sustainable densities. Where these locations have existing areas of high density buildings, expansion of the areas should be positively considered by Boroughs where appropriate. This could also include expanding Opportunity Area boundaries where appropriate.

C. In other areas, incremental densification should be actively encouraged by Boroughs to achieve a change in densities in the most appropriate way. This should be interpreted in the context of Policy H2 Small sites.

D. Development proposals should:

Form and layout

1. enhance local context by delivering buildings and spaces that positively respond to local distinctiveness through their layout, orientation, scale, appearance and shape, with due regard to existing and emerging street hierarchy, building types, forms and proportions

2. encourage and facilitate active travel with convenient and inclusive pedestrian and cycling routes, crossing points, cycle parking, and legible entrances to buildings, that are aligned with peoples' movement patterns and desire lines in the area

3. be street-based with clearly defined public and private environments

4. facilitate efficient servicing and maintenance of buildings and the public realm, as well as deliveries, that minimise negative impacts on the environment, public realm and vulnerable road users

Experience

5. achieve safe, secure and inclusive environments

6. provide active frontages and positive reciprocal relationships between what happens inside the buildings and outside in the public realm to generate liveliness and interest

7. deliver appropriate outlook, privacy and amenity

8. provide conveniently located green and open spaces for social interaction, play, relaxation and physical activity

9. help prevent or mitigate the impacts of noise and poor air quality

10. achieve indoor and outdoor environments that are comfortable and inviting for people to use

Quality and character

11. respond to the existing character of a place by identifying the special and valued features and characteristics that are unique to the locality and respect, enhance and utilise the heritage assets and architectural features that contribute towards the local character

12. be of high quality, with architecture that pays attention to detail, and gives thorough consideration to the practicality of use, flexibility, safety and building lifespan through appropriate construction methods and the use of attractive, robust materials which weather and mature well

13. aim for high sustainability standards (with reference to the policies within London Plan Chapters 8 and 9) and take into account the principles of the circular economy

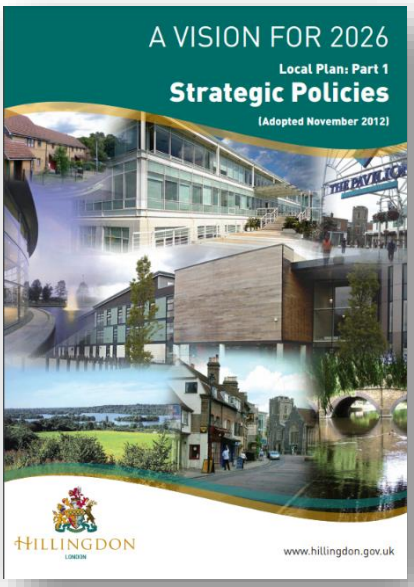
14. provide spaces and buildings that maximise opportunities for urban greening to create attractive resilient places that can also help the management of surface water.

E. Where development parameters for allocated sites have been set out in a Development Plan, development proposals that do not accord with the site capacity in a site allocation can be refused for this reason.

Local Policy

3.3 In determining the local context, the London Borough of Hillingdon policy is set out in the Local Plan Part 1 Strategic Policies (November 2012) and the Local Plan Part 2: Development Management Policies (January 2020).

London Borough of Hillingdon Local Plan Part 1: Strategic Policies (November 2012)



3.4 The Local Plan: Part 1 sets out the planning vision and strategy for London Borough of Hillingdon. It identifies how the borough will guide future development in terms of the effective choice of housing, jobs and supporting infrastructure such as schools, health, leisure and community facilities, as well as ensuring places in the borough become vibrant, safe and welcoming. Policies and objectives of relevance to this project in the context of sustainability and circular economy are as follows:

- **Strategic Objective 13:** Support the objectives of sustainable waste management.

- **Policy EM11: Sustainable Waste Management.** The Council will aim to reduce the amount of waste produced in the Borough and work in conjunction with its partners in West London, to identify and allocate suitable new sites for waste management facilities within the West London Waste Plan to provide sufficient capacity to meet the apportionment requirements of the London Plan which is 382 thousand tonnes per annum for Hillingdon by 2026.

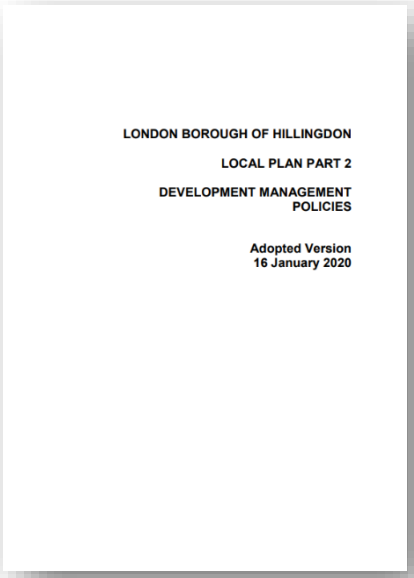
  The Council will require all new development to address waste management at all stages of a development's life from design and construction through to the end use and activity on site, ensuring that all waste is managed towards the upper end of the waste hierarchy.

  The Council will follow the waste hierarchy by promoting the reduction of waste generation through measures such as bioremediation of soils and best practice in building construction. The Council will promote using waste as a resource and encouraging the re-use of materials and recycling. The Council will also support opportunities for energy recovery from waste and

composting where appropriate. The Council will safeguard existing waste sites unless compensatory provision can be made.

The Council will seek to maximise the use of existing waste management sites through intensification or co-location of facilities.

London Borough of Hillingdon Local Plan Part 2: Development Management Policies (January 2020)



3.5 The purpose of the Local Plan Part 2: Development Management Policies is to provide policies that will form the basis of the decision making on individual planning applications. The document contains policies relating to new development and environmental protection and enhancement. Policies of relevance are as follows:

- **Policy DMHB 11: Design of New Development.** Development proposals should make sufficient provision for well designed internal and external storage space for general, recycling and organic waste, with suitable access for collection. External bins should be located and screened to avoid nuisance and adverse visual impacts to occupiers and neighbours.

- **Policy DMIN 4: Re-use and Recycling of Aggregates.** The Council will promote the recycling of construction, demolition and excavation waste.

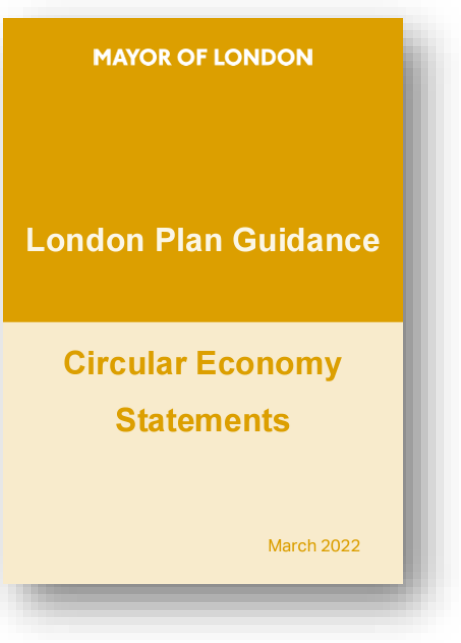
  All developments will be encouraged to:

  - recycle and re-use construction, demolition and excavation waste as aggregates;
  - process and re-use the recyclable material on-site, and where this is not possible, the material should be re-used at another site or for land restoration; and
  - use substitute or recycled materials in new development in place of primary minerals.

  Planning permission for aggregates recycling on active minerals extraction and landfill sites will be supported, subject to local amenity and other policies within the Local Plan. Applications for aggregates recycling sites in other areas such as Strategic Industrial Locations will be required to satisfy other relevant policies in the Local Plan including the West London Waste Plan

Other Considerations

Circular Economy Statement Guidance (March 2022)



3.6 The Circular Economy Statement Guidance provides further detail on addressing the requirements related to Circular Economy, as per Policy SI7 of the London Plan through the provision of a Circular Economy Statement to accompany planning applications. The document explains how to prepare a Circular Economy Statement and the information that needs to be submitted to comply with the policy.

3.7 The Guidance defines a circular economy (CE) as '…one where materials are retained in use at their highest value for as long as possible and are then reused or recycled, leaving a minimum of residual waste'.

3.8 The Circular Economy Statement Guidance states that planning applicants for proposals referred to the Mayor are required to submit a Circular Economy (CE) statement at the following stages:

- pre-application (where relevant)
- planning application submission (both outline and detailed)
- post-construction (i.e. upon commencement of RIBA Stage 6 and prior to the building being handed over, if applicable. Generally, it would be expected that the assessment would be received no more than three months post-construction).

3.9 It is stated that the CE statement must include two parts: a written report and the CE template spreadsheet.

4. METHOD STATEMENT

4.1 A holistic, interdisciplinary approach has been adopted to define and communicate the sustainability and circular economy principles effectively. In order to ensure relevant opportunities and integrated within the design, high level strategic opportunities have been investigated during pre-planning design workshops.

4.2 The design of the development is based on sustainable design and construction principles, as informed by planning requirements and industry best practice. The circular economy approach for the proposed development to date has taken a whole building life cycle approach to develop a more circular design, construction and operation for the buildings. Early discussion and adoption of the principles has been a key element of the approach; recognising that this is essential to identify and agree opportunities, outline commitments and targets, and increase project team buy-in. Further workshops will be held at the detailed design stage to ensure circular economy proposals are investigated and implemented, as necessary.

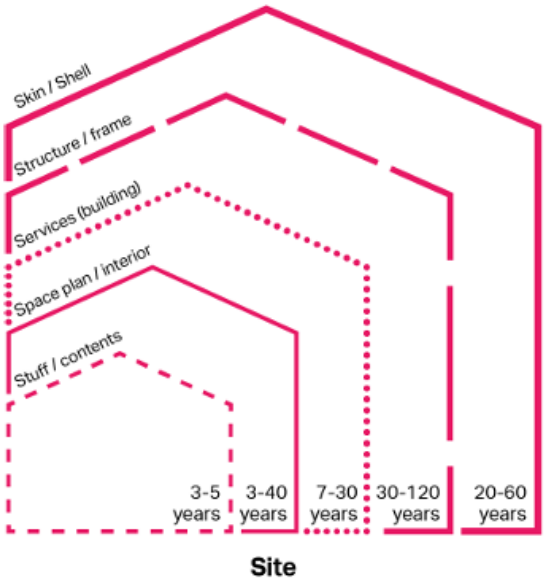
4.3 Circular Economy principles have been embedded within the design of the proposed development through the employment of the 'Shearing Layers' concept. This concept splits a building into 'layers' that have their own life-cycles, with each of these layers requiring different circular economy approaches to be adopted due to their differing uses and exposures. Further details of these layers are provided in Table 4.1 below, with a visual representation, taken from the GLA's Circular Economy Statement Guidance document, provided in Figure 4.1.

Table 4.1 Building layers

Layer	Description	RICS Categories
Site	The geographical setting, urban location and external works	External works
Substructure	Excavations, foundations, basements and ground floors	Substructure
Superstructure	Load-bearing elements above plinth including roof supporting structure	Frame; Upper floors inc. balconies; Stairs and ramps
Shell/Skin	The layer keeping out water, wind, heat, cold, direct sunlight and noise	Roof; External walls; Windows and external doors

Layer	Description	RICS Categories
Services	Installations to ensure comfort, practicality, accessibility and safety	Building Services
Space	The layouts of internal walls, ceilings, floors, finishes, doors, fitted furniture	Internal walls and partitions; Internal doors; Wall, floor and ceiling finishes
Stuff	Anything that could fall if the building was turned upside down	Fitting, furnishings and equipment
Construction Stuff	Any temporary installations/works/materials, packaging and equipment	Facilitating works

Figure 4.1 Shearing layers concept



4.4 The overarching circular economy objectives are summarised in Table 4.2, below.

Table 4.2 Circular economy objectives

Principle	Commitments
Conserve resources, increase efficiency and source sustainably	• Minimise the quantities of materials used • Minimise the quantities of other resources used • Specify and source materials and other resources sustainably

Principle	Commitments
Design to eliminate waste	• Design for longevity, adaptability or flexibility and reusability or recoverability • Design out construction, demolition, excavation and municipal waste arising
Manage waste sustainably and at the highest value	• Manage demolition waste • Manage construction waste • Manage excavation waste • Manage municipal waste

5. CIRCULAR ECONOMY GOALS AND STRATEGIC APPROACH

5.1 Circular economy considerations have formed a key part of the project sustainability strategy, and it is recognised that to most effectively implement the principles of a circular economy, high level strategic opportunities should be set out as early in the design process as possible.

5.2 A series of sustainability-focused workshops were held with the project team, to help establish a circular economy approach for the development. The development of the overarching sustainability strategy for the development has included considerations around resource efficiency, material circularity and sustainable sourcing of materials.

5.3 The key strategic implementations for the scheme considered as part of this Circular Economy Statement are set out in Table 5.1, below. This table sets out the approach taken for each building area under a given aspect of the circular economy approach, the related target, and any additional supporting analysis submitted as part of the planning application for the proposed development. Further commentary is provided below.

Table 5.1 Circular Economy Strategic Approach

Aspect	Phase / Building / Area	Steering approach	Proposed Intervention	Target	Supporting analysis
Circular economy approach for the new development	All areas	Retain, repurpose, reuse and recycle where possible to reduce material use Follow lean design principles Maximise material efficiency Apply a 'building in layers' approach Design for longevity, resilience, future adaptability and flexibility of use Prioritise the sustainable procurement of materials	Maximise the reuse of non-hazardous demolition and excavation materials Consideration of each building layer both separately and in combination, with the entire life cycle of each layer accounted for when specifying materials and construction techniques, such as off-site pre-manufacture and modern methods of construction (MMC) Adaptable design to allow for changes in technology, as well as a change of use to other residential use classes if future demand exists Design to ensure building services can be easily accessed to facilitate repair during operation, and re-use or recovery at end-of-life	95% diversion of materials from landfill at the end of life Volume of waste generated during construction to be no greater than 13.0 tonnes per 100m^2 of Gross Internal Floor Area (GIFA)	Supported by Design & Access Statement, submitted plans and elevations, Whole Life Carbon Assessment, and outline Operational Waste Management Strategy

		Minimise the consumption of energy and water during construction and operation	Specification of durable materials and incorporation of resilient design Use of materials, where feasible and appropriate, with a high recycled content Prioritisation of the sourcing of certified materials, such as FSC and PEFC certified timber Investigation of low embodied carbon construction techniques Minimisation of energy demand through application of a fabric-first approach and employment of renewable technologies Minimisation of water consumption through the employment of water-efficient fittings and systems		
Circular economy approach for	Site	Manage demolition waste	Where possible, on-site use of non-hazardous demolition material	Minimum 95% diversion from landfill through	

the existing site				the reuse and recycling of materials arising during the excavation, demolition and construction phases	
Circular economy approach for municipal waste during operation	All areas	Efficient management of operational waste	Appropriate refuse storage to enable recycling and practice good waste management	65% recycling of packaging waste and targeting 20% high temperature incineration (HTI), 20% alternative treatment and 60% offensive waste, in line with NHS targets for clinical waste, subject to confirmation.	

Circular economy approach for the new development

5.4 The building developed on the site will follow best practice principles in terms of their design and construction, aiming to minimise material usage and waste, whilst also seeking to maximise longevity and adaptability.

5.5 The following focus areas have been considered in order to maximise opportunities to embed circular economy principles within the design of the proposed development:

- Lean design principles
- Material efficiency
- Adaptability and flexibility
- Low carbon construction
- Offsite and modular construction
- Design for Manufacture and Assembly (DfMA)
- Minimisation of excavation waste
- Material circularity
- Material procurement via leasing frameworks
- Responsible procurement
- Sustainable sourcing
- Local sourcing
- Supply chain engagement
- Life-cycle assessments
- Disassembly and demount-ability

5.6 It is expected that the proposed development will have a long life, and will be retained as a post-operative care facility throughout. Furthermore, advances in innovation and best practice over time, combined with effective feedback loop mechanisms, are expected to lead to continuous improvement as the proposed development enters the detailed design stages and beyond.

Circular economy approach for the existing site

5.7 The site is currently occupied by a vacant office building. It is intended that the existing building be retained and refurbished as part of the proposed development to deliver a post-operative care facility. The proposed development will therefore reuse the existing building, reducing the amount of waste that would arise were the building to be demolished and replace. Where parts of the existing building are to be replaced, which will enable the reconfiguration of the internal spaces of the building to facilitate the provision of wards and clinical spaces, it is intended that the materials and waste arising from these works will be treated in line with sustainable waste management principles, with further details provided in the next section.

Circular economy approach for waste during operation

5.8 Waste storage design has accounted for the management of operational waste in line with the principles of the circular economy. As part of the design of the proposals, measures to reduce waste, storage and removals have been considered, with further details provided within the outline Operational Waste Management Strategy. The design has been based upon relevant guidance provided as part of the London Plan and the London Borough of Hillingdon's Local Plan.

6. CIRCULAR ECONOMY COMMITMENTS

6.1 This section details the circular economy opportunities identified for the proposed development, in relation to nine circular economy principles:

Minimising the quantities of materials used.

6.2 The proposed development seeks to retain the existing vacant office building on the site. The glazed façade and key building elements will be retained in their entirety, where feasible. Improvements are to be made to the existing glazed façade to facilitate the natural ventilation of the internal spaces. Similarly, the proposed refurbishment of the building will include the provision of additional ventilation and measures to improve the air tightness of the building, which will aid in improving operational energy efficiency.

6.3 It is intended that repetition will be incorporated within the design of the internal spaces, with the general layouts of these spaces to be replicated across each floor where appropriate. The applicability and feasibility of opportunities to deliver elements of the proposed refurbishment through modular construction methods, or to implement Design for off-site Manufacturing and Assembly (DfMA), will be explored as the designs continue to be developed, and will be discussed with the principal contractor prior to the construction of the scheme, should this be viable.

6.4 It is also intended that the internal layouts of the proposed development will be simplified as far as possible, which will aid in minimising the quantities of materials required. Lean design principles have also been embedded within the design of the elements of the buildings that are to undergo refurbishment, which will similarly aid in minimising the quantities of materials required.

Minimising the quantities of other resources used.

6.5 In addition to minimising use of land resources, the scheme will be designed to address efficient use of energy and water. Operational energy will be minimised in line with the London Plan requirements, and internal water consumption will be minimised. As detailed within the Sustainability and Energy Statement, prepared by Iceni Projects, the proposed development will be zero carbon in operation. Through the implementation of a ‘fabric first’ approach, the proposals will achieve a 1% reduction in carbon dioxide emissions over the existing building baseline. Through the employment of air source heat pump (ASHP) systems or a multi-function heat recovery (hybrid) chiller system to serve both the space and water heating, and space cooling, demand of the scheme, a further 71% reduction in emissions will be achieved, totalling a 72% reduction in carbon dioxide emissions over the existing building baseline on-site. It is intended that the remaining 28% of carbon dioxide emissions from the existing baseline will be offset via the Greater London Authority’s (GLA’s) carbon offset payment. This will ensure that the proposed development is net zero carbon in operation. To minimise internal

water consumption, water efficient fittings will be employed throughout, and the employment of leak detection systems and water metering will be considered as the designs continue to progress in order to minimise internal water consumption. The potential for rainwater harvesting will also be considered as the design of the proposed development continues to progress, which may aid in reducing the volumes of potable water required for external landscape irrigation.

Specifying and sourcing materials responsibly and sustainably.

6.6 The scheme will aim to prioritise the local sourcing of materials, and will seek to implement the principles of the BRE Green Guide to Specification during further detailed design and the procurement stage. Best practice techniques and methods, particularly with respect to the use of bricks and associated materials, will be considered and implemented where appropriate. It is intended that timber to be utilised within the proposed development will be procured in consideration of FSC certification.

6.7 A Whole Lifecycle Carbon Assessment has been undertaken, and will be used to inform the design and selection of materials in order to minimise the embodied carbon associated with the development as far as possible. In addition to this, it is intended that circular economy and sustainability principles will be carried through the demolition and construction phases of the proposed development. It should be noted that the details of how this will be implemented will be provided following further detailed design in liaison with the principal contractor, and it is possible that this may be achieved through the wording of sub-contracts or requirements to demonstrate such practices during tender processes. In addition, an updated Whole Life Carbon Assessment will be undertaken and submitted to the GLA by the future contractor following the construction of the proposed development.

6.8 Subject to confirmation, as the designs continue to progress and during the procurement of materials, local materials will be utilised where appropriate. Where possible, opportunities to reuse materials previously used within the local area will be explored, subject to quality and availability. Subject to applicability, confirmation and the continued development of the design, the procurement of materials with a 20% recyclable content may be applied as an aspirational target.

6.9 Whilst the potential to source and procure materials through leasing frameworks has been considered, due to the nature of the proposed development, this is unlikely to be applicable.

6.10 It is considered that engagement with the supply chain to maximise the sustainability and circularity of the materials procured for the proposed development will likely be implemented by the principal contractor once works commence onsite. As above, the details of how this engagement may take place will be determined following further detailed design and in liaison with the principal contractor, and it is possible that this may be achieved by writing these practices into sub-contracts, or for commitments to these practices being demonstrated during tender processes.

Design for longevity, adaptability or flexibility and reusability or recovery.

6.11 Whilst it is unlikely that there will be scope to implement modular construction at a large scale due to the proposed design and nature of the scheme, it is possible that volumetric modular principles may be applicable for some of the internal structures. This is to be explored through further detailed design, and considered during the procurement stage.

6.12 Where applicable, it is intended that materials will be selected with their durability taken into account. For example, where new lift shafts or stair cases are required to facilitate the proposed development, it is intended that durable materials, such as concrete, may be employed. Whilst the initial manufacture of these materials is fairly carbon intensive, their durability will minimise the need for their replacement over the lifetime of the scheme, therefore reducing the associated waste and embodied carbon emissions.

6.13 The ease with which materials may be reused or recycled at the end of the scheme's lifetime will also be taken into account during material specification. For example, the new mechanical plant will be installed to be easily demountable, which will enable the systems to be reused or easily recycled at the end of the life of the scheme.

6.14 As detailed above, the proposals seek to change the use of an existing office building to deliver a post-operative care facility. In this way, the building is inherently adaptable and the proposed internal floor layouts will be designed to enable the repurposing of the building to other residential institution uses, or alternative commercial uses, in the future, should there be a demand for this.

6.15 Finally, design for disassembly principles have been considered as part of the proposed development. It is intended that the implementation of construction techniques that will facilitate the disassembly of the buildings using low-energy techniques that maximise the reuse and recycling potential of the materials will be explored.

Design out construction, demolition, excavation and municipal waste arising.

6.16 As detailed above, there is potential for pre-fabrication, modular or off-site manufacturing methods to be used for some elements of the proposed development, though this is to be explored during further detailed design and at the procurement stage. The employment of these techniques may facilitate a reduction in construction waste through the employment of 'factory conditions' when assembling elements, aiding in reducing waste arising as a result of, human error.

6.17 The use of standardisation and repetition as part of the design of the internal floor layouts will aid in reducing waste associated with the construction of bespoke and complex elements. Lean design principles have been implemented, minimising the amount of detailing to be incorporated within the

internal layouts, which will also aid in reducing the amount and range of materials required, and therefore minimising the potential for waste to arise.

6.18 As detailed above, the existing façade and main structural elements of the building are to be retained as part of the proposed development, with improvements to be made to allow for natural ventilation and to improve the operational energy efficiency of the building. Waste arising during the refurbishment may potentially be reduced through the use of existing materials on-site where possible, with materials likely to arise from the existing building and the introduction of new areas of landscaping. However, it is noted that the scope to reuse materials on the site is limited due to the age of the existing building, which may limit the quantum of materials of good enough quality for reuse. The potential to reuse materials arising during the refurbishment of the building will be explored further at a more detailed design stage, and subject to the volumes and quantities of available materials, which would require further investigation.

Manage demolition waste.

6.19 Should any demolition works be required on-site, waste arisings will be managed through the implementation of good site management practices, as will be set out by the principal contractor during the demolition phase. Demolition waste arising may be reduced through the maximisation of the reuse of materials arising from demolition works, either on the site itself, or in the surrounding area.

6.20 Where materials cannot be reused or repurposed at their current value, it is intended that remaining demolition waste will be recycled where possible, with a view to divert at least 95% of demolition waste arising from landfill. It should be noted that targets relating to the diversion of waste from landfill are subject to confirmation.

Manage excavation waste.

6.21 Where excavation is required for the proposed development, it is intended that any non-hazardous material excavated will be re-used on the site where possible. As detailed above with regard to the management of demolition waste, the implementation of good site management practices, as set out by the principal contractor during any excavation works, will also aid in the appropriate management of waste arising. Furthermore, as above, it is intended that any excavation waste that cannot be reused or recycled on the site will be managed by a recycled where possible, with a view to divert at least 95% of this waste from landfill, subject to confirmation. It should be noted that, as for demolition waste above, targets relating to the diversion of waste from landfill are subject to confirmation.

Manage construction waste.

6.22 As with excavation and demolition waste, construction waste will be managed through the implementation of good site practices, as set out by the principal contractor. This will include the preparation and implementation of a site waste management plan to ensure construction waste is handled in a responsible manner. It is intended that the GLA target of 95% of non-hazardous waste being diverted from landfill will be achieved. It is intended that, prior to commencement on site, a Site Waste Management Plan (SWMP) will be prepared by the designated contractor. This will detail the predicted waste arisings and streams, as well as the intended relevant methods of disposal and targets for the diversion of waste from landfill.

Manage municipal waste.

6.23 The operational waste will be reduced in line with London Environment Strategy. It is intended that estimated operational waste generation from the proposed development will be quantified based on waste generation metrics and collection frequencies. For the purposes of this Circular Economy Statement, an estimate of the operational waste arisings has been made and detailed below in Table 6.3, based on the outline Operational Waste Management Strategy prepared by Iceni Projects.

6.24 In line with the requirements of the London Borough of Hillingdon, it is intended that operational waste will be managed according to the waste hierarchy, seeking to preferentially prevent the generation of waste, before it is prepared for reuse or recycling, with the disposal of waste considered only where materials cannot be reused, recycled or recovered. In addition, it is intended that information will be provided to staff and future site users with respect to the recycling of materials, with the aim of encouraging a greater rate of waste diversion from landfill during the operation of the scheme.

6.25 Waste storage rooms are to be located on each floor of the proposed building, and these rooms will have sufficient space to store all the bins required to service the proposed development. The location and design of the waste stores will be compliant with relevant London Borough of Hillingdon policy, and will ensure that these spaces are flexible and easily accessible for both future site users and waste collection operatives. On collection days, the bins will be presented within the servicing area at the ground floor level by the staff of the development. Waste management operatives will have access to the presented bins at the ground floor level. The distance over which waste receptacles will need to be transferred by waste operatives from the refuse staging area to the refuse vehicle will therefore be in compliance with industry standards.

6.26 The location of the proposed waste storage area is displayed on the layout plans prepared by Hale Architects Ltd, and displayed in Figures 2.6 to 2.11 above.

6.27 In order to facilitate increased recycling rates during operation, separate bins will be provided for the separate collection and storage of, at a minimum, refuse and dry recyclable streams. It is noted that separate waste receptacles will also be provided for the collection of medical waste, in line with the relevant standards and regulations. The flexible design of the waste storage areas will allow for the storage of separate waste streams beyond general refuse and co-mingled dry recyclables, should there be a demand for this in the future. Further details on the provision of separate waste collection facilities will be provided following further detailed design.

6.28 In addition to the above, subject to confirmation during further detailed design, the following measures will be considered for inclusion within the scheme to minimise operational waste:

- Consolidated waste management, whereby the collection of waste from the proposed development is undertaken in line with other developments in the surrounding area to minimise the movement of refuse collection vehicles and to make collections more efficient. However, at this stage in the design of the proposed development, it is considered that a communal waste management strategy is unlikely to be feasible due to the scale of the proposed development, and the lack of clear masterplan for the wider area. This limits the opportunity to manage waste at a wider scale.

- The use of smart logistics, such as the use of “smart bins” which measure the volume of waste within the bins to inform collection rates and routes, thereby minimising unnecessary refuse collection vehicle trips.

Key Commitments

6.29 The proposed interventions and key commitments detailed above are summarised in Table 6.1 below.

Table 6.1 Key commitments

Building 'Layer' (as per GLA Guidance)	Site	Substructure	Superstructure	Shell / Skin	Services	Space	Stuff	Construction stuff	Summary	Challenges	Counter-actions + Who + When	Plan to prove and quality
Section A: Conserve Resources												
Minimising the quantities of materials used	Existing building to be retained and refurbished, with very little demolition anticipated Where demolition is required, reuse of materials from existing structures where possible	No major works to the existing substructure of the building are expected	Lean design principles adopted Material efficiency review to be undertaken at detailed design	No major works to the existing shell or skin of the building are expected, with improvements to the existing façade to be made without the need to large areas of material to be removed or added	Consideration of off-site prefabrication of some internal structures	Aim to rationalise floor finishes to reduce building weight Aim to reduce the use of plasterboard where possible		To be reviewed with contractor during pre-construction supply chain engagement	Design optimisation to reduce the buildings' weight	The proposed development will retain an existing building, limiting the options to minimise material consumption beyond the retaining of the major building elements	Ensure structural design is optimised Pre-construction supply chain engagement	Material efficiency review exercise to be undertaken at more detailed design stage
Minimising the quantities of other resources used (energy, water, land)	Use of SuDS to discharge to existing Thames Water infrastructure	Consideration of DfMA and modular design opportunities in order to reduce the construction programme and, therefore, the associated resources, including energy and water			Use of highly efficient air source heat pump (ASHP) systems or a multi-function heat recovery (hybrid) chiller system to reduce grid electricity consumption				Consideration of DfMA and offsite fabrication where possible	Maturity of the market and design solutions Specific site constraints driving bespoke solutions	Ensure structural design is optimised Pre-construction supply chain engagement	Review exercise to be undertaken at a more detailed design stage
Specifying and sourcing materials responsibly and sustainably	Prioritisation of locally sourced materials where possible	Investigation of recycled aggregates and cement replacements	Investigation of substitute materials for concrete						All materials to be responsibly sourced, and locally where possible	Potential cost premium Higher recycled	Ensure structural design is optimised	Review exercise to be undertaken at a more

Building 'Layer' (as per GLA Guidance)	Site	Substructure	Superstructure	Shell / Skin	Services	Space	Stuff	Construction stuff	Summary	Challenges	Counter-actions + Who + When	Plan to prove and quality
			Use of FSC and PEFC timber where possible						Investigation of recycled content of materials and use of FSC and PEFC timber	content target may limit supply chain	Pre-construction supply chain engagement	detailed design stage
Section B: Design to eliminate waste and for ease of maintenance												
Designing for reusability / recoverability / longevity / adaptability / flexibility			Modular construction, off-site fabrication, prefabrication and the use of standardised components will be considered		Flexibility and adaptability, and the use of standardised components will be considered				Design spaces for flexibility whilst enabling access to all elements that could be re-used or replaced	Has been designed for current use May be difficult to repurpose some of the proposed spaces for other uses	Pre-construction supply chain engagement	Review exercise to be undertaken at a more detailed design stage
Designing out construction, demolition, excavation, industrial and municipal waste arising	The reuse of materials associated with the existing structures on-site will be maximised as far as possible, with materials that cannot be reused to be recycled		Modular construction, DfMA approaches and the employment of supplier take-back schemes will be considered	Modular construction, DfMA approaches, the employment of supplier take-back schemes and the implementation of "just-in-time" delivery will be considered		The employment of supplier take-back schemes, the implementation of "just-in-time" delivery and the minimisation of packaging will be considered			Designing out waste through modular and off-site construction techniques	Relative cost, availability and access for installing off-site or modular components to be considered	Pre-construction supply chain engagement	Review exercise to be undertaken at a more detailed design stage
Section C: Manage waste												
Demolition waste (how waste from demolition of the	The reuse of materials associated with the existing structures on-site will be maximised as far as possible, with materials that cannot be reused to be recycled								Maximisation of the reuse and repurposing of materials arising from	Possibility of asbestos contamination	Pre-demolition surveys to	

Building 'Layer' (as per GLA Guidance)	Site	Substructure	Superstructure	Shell / Skin	Services	Space	Stuff	Construction stuff	Summary	Challenges	Counter-actions + Who + When	Plan to prove and quality
layers will be managed)	Good practice site waste management								the demolition of existing structures on-site		be undertaken	
Excavation waste (how waste from excavation will be managed)	The reuse of materials associated excavated on-site will be maximised as far as possible, with materials that cannot be reused to be recycled Good practice site waste management								Maximisation of the reuse and repurposing of materials arising from excavation on-site	Possibility of ground contamination	Pre-excavation surveys to be undertaken	
Construction waste (how waste arising from construction of the layers will be reused or recycled)	Off-site construction and the use of DfMA approaches where possible Good practice site waste management							Consider construction incentives to reduce waste	Maximisation of the reuse, repurposing and recycling of waste arising during the construction phase		Supply chain engagement	
Municipal and industrial waste (how the design will support operational waste management)	Refuse storage planned in conjunction with wider waste transport assessment	Suitable refuse storage provided to enable segregation and storage of residential waste							Appropriate refuse storage to enable recycling and best practice waste management			

Table 6.2 Bill of Materials

Layer	Element	Material quantity (kg)	Material intensity (kg/m^2 gross internal area)	Recycled content (% by value)	Reused content (% by value)	Estimated reusable materials (kg/m^2)	Estimated recyclable materials (kg/m^2)	Source of information
Structure	Substructure (Basement floor slab, walls and insulation)	828,842	87	At the planning stage, the Applicant is committed to achieving a 20% recycled content, which will be confirmed through further detailed design.				Based on output of eTool LCD – included in Whole Life Carbon Assessment reporting spreadsheet which has been submitted alongside this Circular Economy Statement.
	Frame	772,630	81					
	Upper Floors (including balconies)	6,297,560	658					
	Roof	42,020	4					
	Stairs	489,896	51					

Layer	Element	Material quantity (kg)	Material intensity (kg/m² gross internal area)	Recycled content (% by value)	Reused content (% by value)	Estimated reusable materials (kg/m²)	Estimated recyclable materials (kg/m²)	Source of information
Shell / Skin	External Walls and Façade	813,563	85					
	Windows and External Doors	85,632	9					
Space	Partitions and Ceilings	755,108	79					
	Floors	243,718	25					

Table 6.3 Recycling and Waste Reporting

Category	Total estimate		Of which…				Source of information
	Total tonnage	t/m² Gross Internal Area (GIA)	% reused or recycled onsite	% reused or recycled offsite	% not reused or recycled (max 5%)		
					% to landfill	% to other management (e.g. incineration)	
Excavation waste	0*	0*	0%	95%	5%	0%	In-line with commitments above. To be reviewed following further detailed design.
Demolition waste	0**	0**	0%	95%	5%	0%	
Construction waste	1,347***	0.1***	0%	95%	5%	0%	
	t/annum		% reused or recycled onsite	% recycled or composted offsite	% not reused or recycled (max 35%)		
					% to landfill	% to other management (e.g. incineration)	
Municipal waste	164****		0%	65% - relates to packaging, in line with National Health Service (NHS) targets.	35% - relates to packaging, in line with National Health Service (NHS) targets. Targeting 20% high temperature incineration (HTI), 20% alternative treatment and 60% offensive waste, in line with NHS targets.		In-line with commitments above. Waste arisings calculated based on waste generation estimates.

*No excavation is anticipated to be undertaken to facilitate the proposed development.

**A negligible amount of demolition is anticipated to be undertaken to facilitate the proposed development. A Pre-Refurbishment Audit will be undertaken, and the conclusions used to inform the calculation of anticipated waste arising.

***Construction waste based on achievement of one credit for Construction Resource Efficiency under the BREEAM Wst 01 Construction waste management unit, which requires a construction waste intensity no greater than 13.0 tonnes of construction waste generated per 100m^2 (GIFA).

****Estimated based on an indicative number of 100 beds to be provided, and an average generation of 4.5kg of waste per bed per day reported by the NHS in March 2023.

Plans for Implementation

6.30 The plans to implement the aims and achieve the targets set out within this Circular Economy are set out below:

Table 6.4 Plans for Implementation

	Target / Commitment	Who	What	When	How
Short-term	Minimising the quantities of materials used	Design Team / Structural Engineer / Contractor / Supply Chain	Design optimisation to reduce the buildings' weight	Detailed design stage Procurement stage Pre-construction stage	Material review exercise Comparative studies to assess solutions to minimise building weight Workshop with the wider team to review strategies and opportunities Pre-construction engagement with supply chain
	Minimising the quantities of other resources used (energy, water, land)	Design Team / Contractor / Supply Chain	Consideration of DfMA and offsite fabrication where possible	Detailed design stage Procurement stage Pre-construction stage	Comparative studies to assess solutions to build methods Workshop with the wider team to review strategies and opportunities Pre-construction engagement with supply chain
	Specifying and sourcing materials responsibly and sustainably	Design Team / Contractor / Supply Chain	All materials to be responsibly sourced, and locally where possible Investigation of recycled content of materials and use of FSC and PEFC timber	Detailed design stage Procurement stage Pre-construction stage	Comparative studies to assess material options and procurement methods Workshop with the wider team to review strategies and opportunities Pre-construction engagement with supply chain

	Target / Commitment	Who	What	When	How
					Inclusion of policy to procure responsibly sourced materials only and locally sourced materials where possible
	Designing for reusability / recoverability / longevity / adaptability / flexibility	Design Team	Design spaces for flexibility whilst enabling access to all elements that could be re-used or replaced	Detailed design stage	Comparative studies to assess potential alternative uses for spaces and to ensure access to all reusable and replaceable building elements Workshop to review strategies and opportunities and to develop measures to protect the building against damage Workshop with the wider design team to devise a disassembly strategy
	Designing out construction, demolition, excavation, industrial and municipal waste arising	Design Team / Contractor / Supply Chain	Designing out waste through modular and off-site construction techniques	Detailed design stage Procurement stage Pre-construction stage	Comparative studies to assess solutions to build methods Workshop with the wider team to review strategies and opportunities Pre-construction engagement with supply chain
Medium-term	Demolition waste – divert 95% from landfill	Contractor / Supply Chain	Maximisation of the reuse and repurposing of materials arising from the demolition of existing structures on-site	Pre-construction stage Demolition stage	Preparation and implementation of Site Waste Management Plan
	Excavation waste – divert 95% from landfill	Contractor / Supply Chain	Maximisation of the reuse and repurposing of materials arising from excavation on-site	Pre-construction stage Excavation stage	Preparation and implementation of Site Waste Management Plan
	Construction waste – divert 95% from landfill	Contractor / Supply Chain	Maximisation of the reuse, repurposing and recycling of waste arising during the construction phase	Pre-construction stage Construction stage	Preparation and implementation of Site Waste Management Plan to ensure waste arising is recorded

	Target / Commitment	Who	What	When	How
					Implementation of the Waste Hierarchy: Prevention, Reuse, Recycling, Disposal Maximise the reuse and recycling of waste materials on-site where possible
Long-term	Municipal and industrial waste – divert 65% from landfill	Building Management	Appropriate refuse storage to enable recycling and best practice waste management	Detailed design stage Operational stage	Provision of appropriate refuse storage within the proposed development
	End-of-life materials – divert 95% from landfill	Contractor / Supply Chain	Maximisation of the reuse, repurposing and recycling of waste arising at the end of the building's life	Detailed design stage End of life	Implementation of Disassembly Strategy Preparation and implementation of Site Waste Management Plan Implementation of the Waste Hierarchy: Prevention, Reuse, Recycling, Disposal

6.31 The actual performance of the development against the targets and commitments set out above will be reposed within a Post-Completion Report. This will be carried out at the practical completion stage of the development, and will be submitted to the GLA, where required.

End-of-Life Strategy

6.32 In line with the Circular Economy principles, the main priority of this strategy is to extend the lifetime of the proposed development through careful design and specification, whilst also ensuring that if the buildings are to be disassembled, there is a clear process to follow. As detailed above, the durability of the materials employed within the proposed development will be considered to ensure that the lifetime of the buildings may be maximised. Furthermore, the inclusion of modular elements within the design will aid in reducing the complexity of some portions of the proposed development.

6.33 The proposed development has been designed to enable building materials, components and products to be disassembled and reused at the end of their useful life as follows:

- Disassembly measures, such as the use of non-load bearing internal partitioning systems, implemented within the design, will enable elements of the proposed development to be easily removed and directly re-used off-site or recycled at the end of their useful life.
- Concrete and bricks which do not have the potential to be reused will be crushed to produce Recycled Aggregate or Recycled Concrete Aggregate that may be used either on-site or within the local area.
- Steel and glass elements will be disassembled and reused, where possible, or recycled.
- Products and services, such as the air source heat pumps, will be reclaimed or recycled where possible. As the services have been designed for easy access for maintenance during the proposed development's operation, this will facilitate their easy removal from the building at the end of its life, and will therefore enable the reuse, refurbishment or recycling of these products and services.
- It is intended that arrangements be made to remove fixtures, fittings and furniture from the proposed development for their refurbishment, reuse, recycling, or sale within a local second-hand market.

6.34 The End-of-Life strategy for the proposed development will be developed further at a more detailed design stage, and as detailed in Tables 6.1 and 6.4 above, it is intended that a Disassembly Strategy will be prepared by the Design Team. This strategy will set out the following:

- The building elements that have been designed for reuse or disassembly;
- How elements of the building that have been designed for repair, reuse of disassembly may be accessed;
- The materiality of the building elements, to inform potential reuse and recycling; and

- Targets for the reuse and recycling of materials, and the targeted diversion from landfill rate (at this stage it is expected that a 95% diversion rate would be targeted, however this is subject to confirmation).

6.35 It is expected that the End-of-Life Strategy will be prepared in a similar format to this Circular Economy Statement, and made accessible to the body operating the proposed development, and the contractors responsible for the disassembly of the building at the end of its life.

7. SUMMARY AND CONCLUSIONS

7.1 This Circular Economy Statement outlines the circular economy strategic approach to be adopted by the proposed development at 13 – 15 The Green and gives an overview of the interventions that will be applied to ensure circular economy principles are embedded within the design of the scheme over its lifetime.

7.2 A summary of the proposed circular economy strategic approach is provided below.

Table 7.1 Circular Economy Strategic Approach

Aspect	Phase / Building / Area	Steering approach	Proposed Intervention	Target	Supporting analysis
Circular economy approach for the new development	All areas	Retain, repurpose, reuse and recycle where possible to reduce material use Follow lean design principles Maximise material efficiency Apply a 'building in layers' approach Design for longevity, resilience, future adaptability and flexibility of use Prioritise the sustainable procurement of materials	Maximise the reuse of non-hazardous demolition and excavation materials Consideration of each building layer both separately and in combination, with the entire life cycle of each layer accounted for when specifying materials and construction techniques, such as off-site pre-manufacture and modern methods of construction (MMC) Adaptable design to allow for changes in technology, as well as a change of use to other residential use classes if future demand exists Design to ensure building services can be easily accessed to facilitate repair during operation, and re-use or recovery at end-of-life	95% diversion of materials from landfill at the end of life Volume of waste generated during construction to be no greater than 13.0 tonnes per 100m^2 of Gross Internal Floor Area (GIFA)	Supported by Design & Access Statement, submitted plans and elevations, Whole Life Carbon Assessment, and outline Operational Waste Management Strategy

		Minimise the consumption of energy and water during construction and operation	Specification of durable materials and incorporation of resilient design Use of materials, where feasible and appropriate, with a high recycled content Prioritisation of the sourcing of certified materials, such as FSC and PEFC certified timber Investigation of low embodied carbon construction techniques Minimisation of energy demand through application of a fabric-first approach and employment of renewable technologies Minimisation of water consumption through the employment of water-efficient fittings and systems		
Circular economy approach for	Site	Manage demolition waste	Where possible, on-site use of non-hazardous demolition material	Minimum 95% diversion from landfill through	

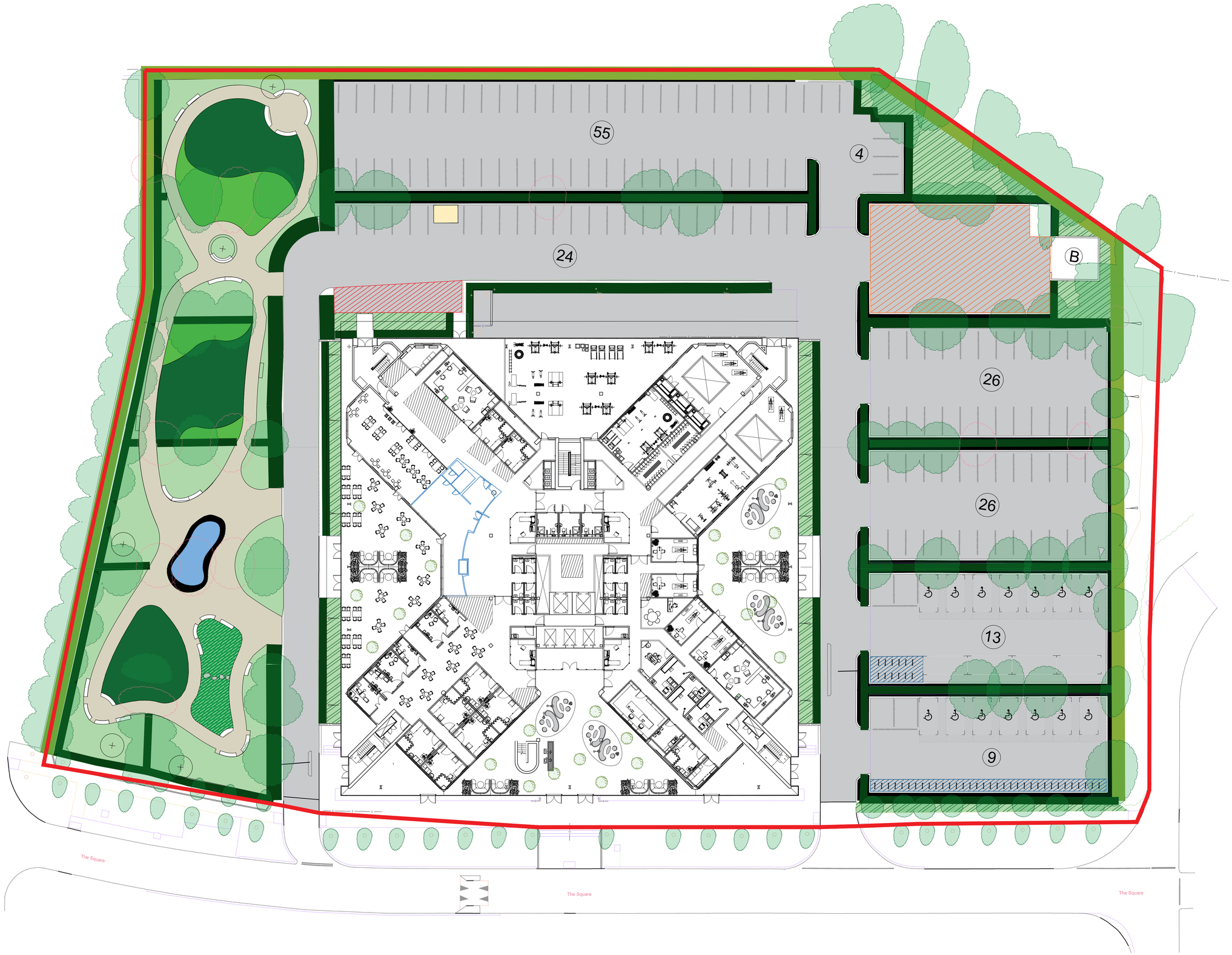
the existing site				the reuse and recycling of materials arising during the excavation, demolition and construction phases	
Circular economy approach for municipal waste during operation	All areas	Efficient management of operational waste	Appropriate refuse storage to enable recycling and practice good waste management	65% recycling of packaging waste and targeting 20% high temperature incineration (HTI), 20% alternative treatment and 60% offensive waste, in line with NHS targets for clinical waste, subject to confirmation.	

7.3 The key commitments to be made as part of the proposed development are as follows:

- Minimising the quantities of materials used through the implementation of lean design principles.
- Minimising the quantities of other resources used through the employment of energy efficiency measures and water efficient fittings.
- Specifying and sourcing materials responsibly, for example through the implementation of the principles of the BRE Green Guide to Specification.
- Designing for longevity and recovery through the use of durable materials that may be recovered, reused and recycled at the end of the development's lifetime.
- Minimising the generation of waste where possible, and maximising the recovery, reuse and recycling of waste materials arising.

7.4 This Circular Economy Statement therefore demonstrates that the principles of a circular economy have been embedded within the design of the proposed development from the outset. By considering each layer of the proposed development, the generation of waste will be minimised during the construction, operation and disassembly of the proposed development. The scheme will be flexible, ensuring adaptability to changes in demand and technology, whilst also employing durable materials to ensure a long service life. Through the specification of materials and systems that are easily reused and recycled, it will be ensured that the materials employed within the proposed development will be maintained at their highest possible value for as long as possible, aiding in reducing the need for new materials and therefore reducing both the waste generated by and the embodied carbon emissions associated with the scheme.

A1. SITE PLAN



01 Existing Site Plan
1:250 @ A1

Disclaimer:

© All information shown is subject to survey, drawings and information within is for diagramatic visualization and should not be used for construction purposes. Measure all dimensions on site for verification of data

Notes:

- Site Boundary Line (13,700sqm/3.38 acres)
- Proposed External works to form Restorative garden
- Proposed External works to form Pedestrian Pavillion
- Proposed Ambulance Bay
- Proposed Cycle Parking - 46 Sheffield Stands
- Proposed Vehicle Delivery Set down + Refuse Delivery set down
- B - Proposed Vehicle Delivery Set down + Refuse Delivery set down
- Total Parking = 157
  Net loss of Parking = 124

Rev:	Notes:	Date:	Dwn:	Iss:
02	Issued for draft DAS	25.01.2024	RS	HA
01	First Issue	06.06.2023	JA	HA

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Client:

COLUMBIA THREADNEEDLE INVESTMENTS

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Project:
3 The Square, Stockley Park

Drawing Title:
Proposed General Arrangement Site Plan

Project No:	Scale @ A1/A3:	Revision:
21087	1:250/1:500	02

Drawing No:
21087-HALE-XX-00-DR-A-1002

A2. GENERAL NOTES

A2.1 The report is based on information available at the time of the writing and discussions with the client during any project meetings. Where any data supplied by the client or from other sources have been used it has been assumed that the information is correct. No responsibility can be accepted by Iceni Projects Ltd for inaccuracies in the data supplied by any other party.

A2.2 The review of planning policy and other requirements does not constitute a detailed review. Its purpose is as a guide to provide the context for the development and to determine the likely requirements of the Local Authority.

A2.3 No site visits have been carried out, unless otherwise specified.

A2.4 This report is prepared and written in the context of an agreed scope of work and should not be used in a different context. Furthermore, new information, improved practices and changes in guidance may necessitate a re-interpretation of the report in whole or in part after its original submission.

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