Circular Economy Statement

Prepared by Scotch Partners

Submitted on behalf of Lab Selkirk House Ltd

Selkirk House, 166 High Holborn and 1 Museum Street, 10-12 Museum Street, 35-41 New Oxford Street and 16A-18 West Central Street, London, WC1A 1JR

September 2022

Rev 01

ScotchPartners
Building Services Engineering | Sustainability | Acoustics

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Rev 05

11/10/2022

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Project Particulars

Client Name: Lab Selkirk House Ltd

Project Name: Selkirk House, 166 High Holborn and 1 Museum Street, 10-12 Museum Street, 35-41 New Oxford Street and 16A-18 West Central Street, London, WC1A 1JR,

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Revision History

Revision	Description	Date	Prepared By	Checked By
00	First draft	03/03/2021	Danielle Lowson	Seb Dimarco
01	Second Draft	12/03/2021	Danielle Lowson	Seb Dimarco
01.1	Final - Update including findings of Arup's Draft Pre-demolition audit and Site Waste Manage Plan	01/04/2021	Danielle Lowson	K Elder
02	Revision 2 Draft	20/06/2022	Riara Woodley	
02.1	Revision 2 Draft – Update including development description and municipal waste management	15/07/2022	Danielle Lowson	Seb Dimarco
02.2	Final – Update including WLCA results	29/07/2022	Jaime Oliver	Danielle Lowson
03	Rev03	22/09/22	Riara Woodley	K Elder
04	Minor Updates	07/10/2022	Rob Magee	Seb Dimarco
05	For Planning	11/10/2022	Rob Magee	Seb Dimarco

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1 Executive Summary

1.1 Overall Sustainability Objectives and Aspirations

Camden Council and the Mayor of London have declared a 'Climate Emergency' with Camden's declaration including an 'Ecological Emergency'. Both have an aspiration to achieve a Net Zero Carbon borough and city by 2030, 20 years ahead of the national target. In June 2020, Camden approved a 5-year 'Climate Action Plan' which creates a framework for action across all aspects of the borough with the aim of achieving zero carbon by 2030.

Health and wellness are critical social issues and the Camden Health and Wellbeing Strategy 2022-30 is one of the Council's initiatives to improve the health and wellbeing of Camden residents and reduce health inequalities across the borough.

The Applicant and the project team have fully embraced the sustainability and Net Zero Carbon objectives of Camden and the Mayor of London. They are keen for the proposed development to fully support these objectives and to go further by adopting both mandatory and voluntary standards (such as WELL, WiredScore and Net Zero Carbon) in order to maximise longevity, market relevance and social sustainability, and minimise environmental impact over the buildings' life cycle. The intention of the scheme is to act in support of Camden's sustainability aspirations & commitments for the coming years.

Targeting these accreditations ensures the scheme will provide a good balance of proposals, including a focus on both public and private outdoor amenity, a highly-tuned facade providing passive environmental shading and cooling measures, fossil-fuel free heating/cooling and significant contributions to local biodiversity.

The proposed approach to development combines substantive retention of the existing basement and substructure of Selkirk House and replacement new-build above ground. This approach offers the opportunity to achieve cutting-edge environmental performance for the office space that a refurbishment of the existing building cannot match. This in turn, improves performance of the proposed scheme on a life cycle basis.

The proposed development has been designed to also consider the key policies relating to sustainable design and construction, focusing primarily on the following documents:

- Camden Local Plan 2017
- Camden Planning Guidance (CPG) Energy efficiency and adaptation, January 2021
- CPG Planning for Health and Wellbeing, January 2021
- CPG Biodiversity, March 2018
- The London Plan 2021

This Statement forms part of a suite of sustainability documents that collectively demonstrate how the development proposals have responded to both Camden and the Applicant's sustainability objectives, and its performance against mandatory and voluntary sustainability targets. As such, this document should be read in parallel with the following reports submitted with the planning application:

- Sustainability Statement
- Energy Statement
- Whole Life Carbon Assessment & Report

1.2 Brief Description of the Development

This Circular Economy Statement (CES) has been prepared in support of the detailed planning application submitted by Lab Selkirk House Ltd ('the Applicant') to the London Borough of Camden ('the Council') for the redevelopment of the land at Selkirk House, 166 High Holborn and 1 Museum Street, 10-12 Museum Street, 35-41 New Oxford Street and 16A-18 West Central Street, London, WC1A 1JR ('the site').

1.3 Approach, Key Commitments and Targets

In line with the Waste Hierarchy, first the condition of the existing site must be considered for any opportunities for a refurbishment in order to prevent waste prior to a new building development. This approach was considered at the onset of the scheme with feasibility studies undertaken by the architectural and structural design teams.

Following detailed consideration, a refurbishment-led approach was deemed to provide unsatisfactory spatial qualities and building performance. A explanation of this is set out in the Design and Access Statement (June 2022).

The site will aim to consider the full life cycle of the building in its approach by following the 6 circular economy (CE) principles throughout the design process. The 6 fundamental principles outlined in the guidance document support and underpin the structure and content of this Circular Economy Statement. These principles are displayed in Table 1, and have been designed in to the development via the commitment to achieving the key targets outlined in Table 1. Routes to achieving these key targets have also been outlined within Table 1.

Table 1 – Key Project Targets in line with GLA Circular Economy Principles (London Plan Guidance, Circular Economy Statements, GLA, March 2022)

Principle	Develop Commitments to…	Key Targets	Route to achieve Key Targets
Building in layers	• Ensuring different parts of the development are accessible and can be maintained and replaced where necessary	• Maximise material recovery from the existing site in line with the waste hierarchy. Goal to recycle 95% of the material.	• As the Site Waste Management Plan and Operational Waste Management Plan are developed, clear routes to achieving this target will be given.
Designing out waste	• Ensuring waste reduction is planned in from project inception to completion • Consideration of standardised components, modular build, and reuse of secondary products and materials	• Achieving at least 95% reuse/recycling/recovery of construction and demolition waste • All non-residential buildings to not exceed target ≤7.5 m^3 or ≤6.5 tonnes per 100 m^2 Gross internal floor area. Residential buildings have targets for non-hazardous construction waste not to exceed to 26.52m^3 or 16.90 tonnes per £100K of project value. • Continue to divert 95% of construction waste from landfill.	• As the Site Waste Management Plan and Operational Waste Management Plan are developed, clear routes to achieving these key targets will be given.

Principle	Develop Commitments to…	Key Targets	Route to achieve Key Targets
Designing for longevity	• Designing to avoid a premature end of life for all components through considering maintenance and durability	• Durability of materials used to be considered at outline specification stage and built into the design.	• Long-term needs of the development will be considered at all stages of design. This includes ensuring durability and resilience of the development, making sure it can be adaptable to future changes and technologies.
Designing for adaptability or flexibility	• Consider how the development might be easily altered structurally to prolong its life • Consider how the development might allow easy rearrangements of its internal fit-out and to suit the changing needs of occupants.	• Utilise pre-fabrication or standardised components where possible	• Achieve maximum BREEAM Wst05 Adaptation to Climate Change and Wst06 Design for Disassembly and Adaptability credits. • Present and future needs will be considered, and the development will be able to be altered for future periodic remodelling. • The development design will consider future changes and reconfigurations.

Principle	Develop Commitments to…	Key Targets	Route to achieve Key Targets
Designing for disassembly	• Consider how the development can be deconstructed and reconstructed to allow components and materials to be salvaged for reuse or recycling, whilst maintaining their economic and environmental value.	• Outline a number of tenancy split scenarios showing how each floor plate can be split in order to suit tenant demands. • Soft spots to be permissible to allow tenants to knock through floor plates for internal circulation, if desired	• Achieve maximum Wst06 Design for Disassembly and Adaptability credits. • The development design will consider future changes and reconfigurations. Such reconfigurations are likely to be pre-agreed and will not involve any waste.
Using systems, elements or materials that can be reused and recycled	• Identifying opportunities for the use of reused or recycled materials	• Aim for 20% recycled content by value, for the whole building	• Achieve 20% recycled content in the development of the materials schedules and WLCA.

The aim is for the following to be achieved by the Site:

- The development will apply the 6 CE principles, including designing for disassembly and adaptability.
- The design will aim to minimise materials used on site, through designing out waste and reuse where possible. Material reuse on site and/or recycling will be maximised.
- The development will aim to reduce and minimise the use of energy and natural resources where possible.
- Procurement of materials and other resources will be done responsibly and sustainably, with local products prioritised where possible to reduce transport to and from site.
- The development will be designed to maximise its life cycle where possible. The development will also be designed to be as adaptable or flexible as possible and optimise the chances of reusability and recoverability.
- The Site will aim to minimise all construction, demolition, excavation, and municipal waste throughout the development.

2 Introduction

2.1 Overall Sustainability Objectives and Aspirations

Camden Council and the Mayor of London have declared a 'Climate Emergency' with Camden's declaration including an 'Ecological Emergency'. Both have an aspiration to achieve a Net Zero Carbon borough and city by 2030, 20 years ahead of the national target. In June 2020, Camden approved a 5-year 'Climate Action Plan' which creates a framework for action across all aspects of the borough with the aim of achieving zero carbon by 2030.

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Targeting these accreditations ensures the scheme will provide a good balance of proposals, including a focus on both public and private outdoor amenity, a highly-tuned facade providing passive environmental shading and cooling measures, fossil-fuel free heating/cooling and significant contributions to local biodiversity.

The proposed approach to development combines substantive retention of the existing basement and substructure of Selkirk House and replacement new-build above ground. This approach offers the opportunity to achieve cutting-edge environmental performance for the office space that a refurbishment of the existing building cannot match. This in turn, improves performance of the proposed scheme on a life cycle basis.

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2.2 This Statement

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This report outlines the Circular Economy strategy for the Site at RIBA Stage 2, as agreed with the design team and the Applicant. The purpose of this Circular Economy statement is to address relevant planning policy regarding the transition away from the traditional single use, or "take-make-dispose" economic model to a circular model aimed at reducing waste and keeping elements in the cycle. The end goal is to retain the value of materials and resources indefinitely, with no residual waste at all. For this to happen, there needs to be transformational change in the way the industry operates. This includes changing the way we think about designing, building, operating, and deconstructing buildings.

This statement has followed the structure outlined in London Plan Guidance, Circular Economy Statements, GLA, March 2022. The statement will be reviewed and updated in future design stages. The aim of this statement is to demonstrate how the development is planning on incorporating Circular Economy measures into all aspects of the design, construction, and operation of the buildings. The main three aims of this statement are;

1) To consider strategies to facilitate the transition towards a circular built environment,
2) Report against numerical targets that will facilitate monitoring of waste and recycling.
3) Recognise opportunities to benefit from greater efficiencies that can help to save resources, materials and money.

2.3 Development Description

2.3.1 Site Location

The proposed development comprises of the following components:

- Museum Street - a single new building rising to 19 storeys, providing office (Class E(g)(i)) accommodation on upper levels and a range of flexible town centre uses (Class E) at ground level.
- High Holborn - a single new building rising to 6 storeys, providing residential (Class C3) accommodation on upper levels and a flexible town centre use (Class E) at ground level.
- Vine Lane - a single new building rising to 5 storeys, providing market residential units with a flexible town centre use (Class E) at ground level.

- West Central Street - a series of new and refurbished buildings rising to 6 storeys, providing residential accommodation (market, LCR and Intermediate) on upper levels (Class C3) and flexible town centre uses (Class E) at ground level.

2.3.2 Proposed Development

The proposed development is seeking detailed planning permission for:

- 22,650 sqm (GIA) of office floorspace falling within Class E(g)(i). This will be provided within the Museum Street building.
- 1,547 sqm (GIA) of flexible town centre floorspace at ground floor level falling within Class E. This will be provided within the Museum Street, Vine Lane, High Holborn, and West Central Street buildings. The planning application specifies the range of uses within Class E that each of these units is seeking permission for.
- 4,502 sqm (GIA) of residential floorspace will be provided. This represents an uplift of 2,588 sqm (GIA) of residential floorspace falling within Class C3. This will be provided within the West Central Street, Vine Lane and High Holborn buildings.
- All of the affordable housing component (1,822 sqm GIA) is provided with the West Central Street buildings along with 675 sqm (GIA) of market housing.
- 1,579 sqm (GIA) of market housing is provided within the Vine Lane block with a further 426 sqm (GIA) of market housing being provided within the High Holborn block.
- Two basements which will be used for cycle parking, servicing areas, plant, storage, and other ancillary uses.
- A high proportion of open space across the site totalling 2,197 sqm provided as public realm, pocket parks, communal areas, play space and private amenity for residents and office occupants.
- The creation of new public pedestrian route through the site known as 'Vine Lane', which will link High Holborn with West Central Street.
- 500 cycle parking spaces allocated as follows:
    - 345 long stay cycle parking spaces allocated to the office component.
    - 9 long stay cycle parking spaces allocated to the flexible town centre uses floorspace component.
    - 84 long stay cycle parking spaces allocated to the residential component.
    - 62 cycle parking spaces allocated to visitors to the site and located within the public realm areas.
- 0 vehicle parking spaces.
- Extensive provision of open space across the site (2197 sqm) including:
    - 1083 sqm provided as public realm within the Applicant's ownership across the site.
    - 509 sqm provided as communal offices terraces within Museum Street building.
    - 151 sqm provided as play space within the West Central Street courtyard, which also provides communal open space for residents of those buildings.
    - 195 sqm of communal open space within the Vine Lane block - 74 sqm within the courtyard and 121 sqm at level 4.
    - 129 sqm for WCS and 130 sqm for VL of private amenity space.
- In addition to the open space provision within the Applicant's ownership, 729 sqm of public realm and streetscape improvements outside of the Applicant's ownership is proposed.

2.4 Method Statement

Throughout the design process, cross-disciplinary meetings have been held, with Circular Economy measures integrated into the design of the scheme. Attendees at these meetings included representation from the following teams: developer (Lab Selkirk House Ltd), concept architects (DSDHA), executive architects (Veretec), structural engineers (Meinhardt), M&E consultants (Scotch Partners) and sustainability (Scotch Partners).

The project is currently at RIBA Stage 2, and although no dedicated Circular Economy workshop has taken place, there have been strategic briefing discussions at team meetings. A dedicated Circular Economy workshop is intended to take place during this stage.

It has been agreed that any further workshops and design team meetings throughout the design process will continue to discuss and consider Circular Economy principles to be embedded into the design.

The core principles outlined in the guidance document, support and underpin the structure and content of this Circular Economy Statement. These core principles are displayed in Table 2.

Table 2 - Circular Economy Principles (London Plan Guidance, Circular Economy Statements, GLA, March 2022)

Principle	Develop Commitments to…	Key Targets
Building in layers	• Ensuring different parts of the development are accessible and can be maintained and replaced where necessary	• Maximise material recovery from the existing site in line with the waste hierarchy. Goal to recycle 95% of the material.
Designing out waste	• Ensuring waste reduction is planned in from project inception to completion • Consideration of standardised components, modular build, and reuse of secondary products and materials	• 95% reuse/recycling/recovery of construction and demolition waste • All non-residential buildings to not exceed target ≤7.5 m^3 or ≤6.5 tonnes per 100 m^2 Gross internal floor area. Residential buildings have targets for non-hazardous construction waste not to exceed to 26.52m^3 or 16.90 tonnes per £100K of project value. • Continue to divert 95% of construction waste from landfill.

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Using systems, elements or materials that can be reused and recycled	• Identifying opportunities for the use of reused or recycled materials	• Aim for 20% recycled of recycled content by value, for the whole building

2.5 Circular Economy aspirations

Currently, the construction industry largely follows a single use “take-make-dispose” model. In order to reduce the negative impact, the industry is having on the environment, and participate in the wider move to long-term sustainable buildings, it is vital the construction industry moves across to a more circular model, in which the value in materials and buildings are both realised and kept in the model for as long as possible.

Figure 1 Circular Economy

Taking this into account, this Circular Economy Statement outlines the details in which the development can design and plan Circular Economy principles for the Site. In order to do this the Site will aim to consider the full life cycle of the building and its components. The Site will do this by following the core principles throughout the design process. The aim is for the following to be achieved by the Site.

- The design will aim to minimise materials used on site, through designing out waste and reuse where possible.
- The development will aim to reduce and minimise the use of energy and natural resources where possible.
- Procurement of materials and other resources will be done responsibly and sustainably, with local products prioritised where possible to reduce transport to and from site.
- The development will be designed to maximise its life cycle where possible. The development will also design to be as adaptable or flexible as possible and optimise the chances of reusability and recoverability.
- The Site will aim to minimise all construction, demolition, excavation, and municipal waste throughout the development.

The DEFRA 2011 Waste Hierarchy (Figure 2) will be considered at each RIBA Stage to ensure that reuse, recycling and recovery opportunities are optimised. This will mean that waste is minimised as far as possible when working on the existing site, the new development, the new development in operation and the end of life of the development.

The Waste Hierarchy is as follows from most optimal to least optimal:

- Prevention: Reducing use of materials in design and manufacturing, keeping products for longer and reducing use of hazardous materials.
- Preparing for re-use: This includes checking, cleaning, refurbishing and repairing items or parts of items.
- Recycling: Creating new substances or products out of waste, this includes composting if it meets quality protocol.
- Other recovery: Including anaerobic digestion, incineration with energy recovery, gasification and pyrolysis which produce energy (fuels, heat and power) and materials from waste.
- Disposal: Landfill and incineration without energy recovery.

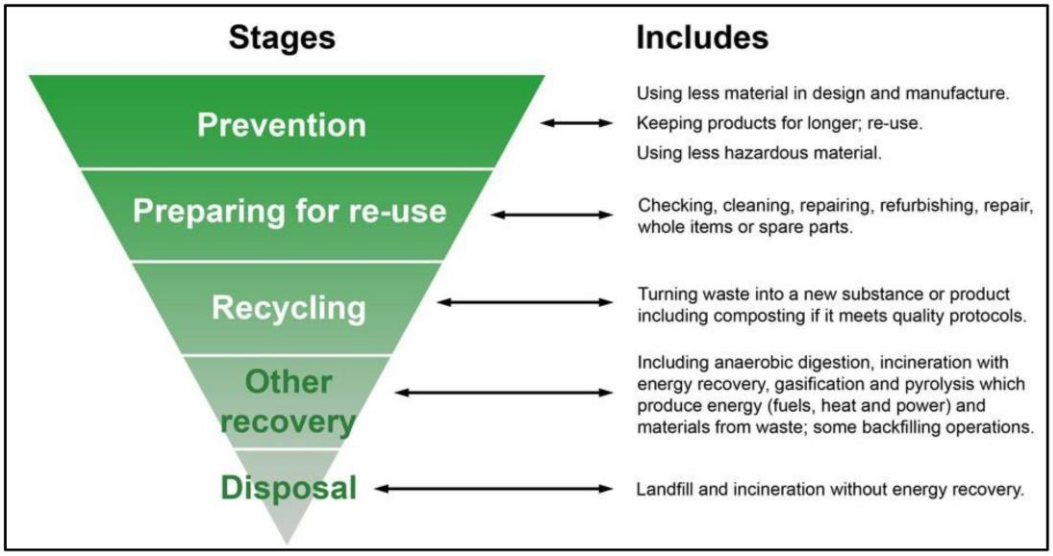

Figure 2 The Waste Hierarchy

3 Circular Economy Goals and Strategic Approach

3.1 Strategic Approaches

At RIBA Stage 2, high level strategic opportunities have been identified by the design team and the Client to maximise the Circular Economy approach for the development.

The proposed development's strategic approaches have been provided in the attached GLA Circular Economy Statement Template. These have been compiled following high-level discussions at project meetings. The template will be updated based on design development and discussions at the next stage of design.

The following steering options were at the forefront of considerations regarding strategic approaches for the proposed development:

- **Demolish and recycle:** Demolished elements should be converted into new materials or objects to be used on the site or at another site. Storage space and collection systems should be provided to support recycling and reuse.
- **Longevity:** Long-term needs of the development must be considered at all stages of design. This includes ensuring durability and resilience of the development, making sure it can be adaptable to future changes and technologies.
- **Adaptability:** Present and future needs must be considered, and the development must be able to be altered for future periodic remodelling. Such remodelling is likely to involve planning, building control and wet trades.
- **Flexibility:** The development design must consider future changes and reconfigurations. Such reconfigurations are likely to be pre-agreed and will not involve wet trades or any waste.
- **End-of-life reuse:** Building materials, components and products should be chosen to enable disassembly and re-used at the end of their useful life

The strategic approaches and related targets have been created for this Circular Economy Statement, and due to the stage of the project will be revisited and updated at the appropriate stage, including the setting of specific targets.

3.2 Circular Economy Approach for the Existing Site

3.2.1 Pre-demolition Audit

A draft Pre-demolition audit has been undertaken by Arup in line with the GLA Circular Economy Statement guidance requirements. Arup are a third-party independent specialist with expertise in reclamation of components and materials and experience in preparing pre-demolition reports. Through the next iteration of pre-demolition audit process, a review will be undertaken to identify potential fixtures, fittings, and equipment with enough value for reuse. This may include items or materials with basic reuse value or architectural value.

Arup's draft pre-demolition audit was based on the RIBA Stage 2 design; please see Appendix A Table 3 Draft Pre-demolition Audit - Proposed Demolition Waste Strategy. It will be updated in future iterations to reflect increased design detail and include any

additional demolition works that may be identified at later stages of the design and planning of the site. The forecast demolition volumes will be included in Table 4 in Appendix B.

The outcome of the audits would be a Bill of Quantities that would categorise and quantify the potential materials that are available for reuse. The Bill of Quantities will be shared with the design team to enable them to identify opportunities for onsite recovery, in line with the waste hierarchy.

This audit is proposed to be undertaken by the demolition contractor to maximise the recovery of materials from demolition for subsequent high-grade applications.

3.2.2 Diversion of Demolition Waste from Landfill

Non-hazardous demolition waste to be diverted from landfill through reuse, recycling, and recovery will be targeted. Actions to avoid waste being disposed of in landfill include:

- Reusing the material on site (in situ or for new applications)
- Reusing the material on other sites
- Community reuse and recycling
- Salvaging or reclaiming the material for reuse
- Returning material to the supplier via a 'take-back' schemes
- Direct recycling of materials via a specialist material reprocessor or recycler
- Recovery of the material from site by an approved waste management contractor and recycled or sent for energy recovery
- Utilising waste in exempt or permitted applications (not landfill).

3.2.3 Uses and Volumes of Retained Demolition Materials

A proportion of the crushed material may be retained on site and reused to make up the difference in levels between the current B3 basement level and proposed B3 basement level. The volumes of materials retained on site will be provided detailed design.

3.3 Circular Economy Approach for the New Development

3.3.1 Minimise Material Waste

Material waste is to be minimised on the site through efficient design and minimising construction waste in line with the BREEAM credit Wst01 – Construction Resource Efficiency and Mat06 – Material Efficiency.

3.3.2 Material Efficiency

In line with the BREEAM credit Mat 06 - Material Efficiency, at the end of each RIBA stage the project team must convene to examine opportunities to implement appropriate measures to ensure that the amount of materials used in the construction of the development are optimised and therefore reduce the amount of construction waste arising from site.

The development philosophy is to work with as much of the existing structure as possible to minimise the amount of demolition and new structure required. As such, the existing structure and façade of 35, 37, 39 and 41 New Oxford Street shall be retained as far as practically possible.

In line with the BS 8895 Designing for material efficiency in building projects, the project team will identify opportunities to improve materials efficiency by:

- Reducing the quantity of materials used, where this does not adversely impact on other aspects of resource efficiency, such as improving energy efficiency.
- Reducing the quantity of materials wasted during the construction process by designing out waste and planning for effective project waste management wherever possible.
- Designing for effective project waste management, which includes reducing, reusing, recycling and recovering waste material as appropriate; and
- Using more recycled materials and mainstream products containing higher levels of recycled material including material not necessarily sourced from construction and demolition waste, for example, mineral extraction or post-consumer waste.

3.3.3 Minimise Construction Waste

All non-residential buildings to not exceed target ≤7.5 m^3 or ≤6.5 tonnes per 100 m^2 Gross internal floor area. Residential buildings have targets for non-hazardous construction waste not to exceed to 26.52m^3 or 16.90 tonnes per £100K of project value.

The Principal Contractor will be required to ensure construction waste is minimised as far as possible. Some measures which could be adopted to reduce construction waste generated on site include:

- Setting and reporting against waste reduction targets in Site Waste Management Plan.
- Include waste minimisation initiatives and targets in tenders or contracts, and engagement with the supply chain.
- Just in time delivery of materials to prevent spoilage.
- Recording material delivered onsite and dispatched.

3.3.4 Design for Adaptability and Disassembly

A Design for Disassembly and Functional Adaptability study has been undertaken for the site to identify opportunities for accommodating future changes of use to the building over its lifespan, and how they could be incorporated into the Stage 2 design proposals.

The aim of the Design for Disassembly and Functional Adaptability study is to identify ways to reduce waste and cost associated with future refurbishment or fit-out works and ultimately in demolition, to improve the lifetime value of the materials and reduce costs and disruption associated with the need for future adaptation, demolition and strip-out, thereby reducing the associated waste and costs. The study has been designed to comply with BREEAM credit issue Wst 06.

3.3.5 Sustainable Procurement of Materials

A sustainable procurement plan has been developed which sets out a clear framework for the responsible sourcing of construction products to guide procurement throughout the project and by all involved in the specification and procurement of construction products.

The main contractor will be encouraged to prioritise the use of suppliers with a current accredited environmental management system (EMS) in place over those suppliers that do not.

Timber is to be responsibility sourced in accordance with the UK Government's Timber Procurement Policy. i.e. FSC or PEFC only. Timber, which is locally reclaimed, including during construction should be used.

Products with an Environmental Product Declaration (EPD) should be specified where possible. EPDs provide information about products from cradle to grave (or cradle) such that designers, specifiers, buyers, code officials and the general public can better understand a product's specific, as well as overall, environmental impact. EPDs make the environmental benefits of energy efficiency and other important aspects of a given product clearer. This should be reviewed during the detailed design.

3.4 Circular Economy Approach for Municipal Waste During Operation

Facilities management operatives will transfer waste to dedicated collection points agreed with London Borough of Camden on a daily basis. Please refer to the Design and Access statement for more information.

Achieving the London Plan target of 65% of municipal waste to be reused, recycled or composted by 2030 will be promoted by the provision of a suitably sized, dedicated, and labelled space for storing/segregating recyclable waste within the scheme. These will be provided centrally and locally and will be in accordance with the London Plan and Local Authority requirements.

To consolidate waste collections into as few vehicles as possible, commercial tenants will be required to use waste contractors appointed by the site FM team for the collection of refuse, recycling and food waste streams.

4 Reporting

4.1 Reporting Forms - Bill of Materials

A Bill of Materials has been provided within the GLA Circular Economy Statement Template issued with this report. The Bill of Materials is based on estimated figures to demonstrate how the development's material demands have been minimised and on-site reuse and recycling maximised. This will be updated with each iteration of the Circular Economy Statement and will include the major building layers and elements.

The aim for at least 20 per cent recycled or reused content, by value, has been targeted for the whole building. This must be complied with when building materials are procured, in line with GLA requirements.

4.2 End-of-life Strategy

This statement sets out the measures intended to extend the lifetime of the proposed development wherever possible through design and specification. By following the aspirations, commitments and targets outlined in this statement, the development is embracing a more circular view to the way the building is designed and the value of the materials used.

In order to enable future building owners to prolong the life of the building, and maintain the value of the materials used, thorough records will be kept detailing the design and construction stages of the development. These documents can act at a guide for the future owners for the repurposing or disassembly and recovery of the different layers of the development.

Specific end-of-life strategies for key materials used on the development will be followed in line with the LETI Design Guide Materials Guide (LETI Climate Emergency Design Guide, Appendix 2, pg.132). The general approach is to:

- Utilise standard spans and floor heights that lend themselves to compatible uses
- Design in future provision for services openings
- Design elements to be one way spanning
- Use precast elements where possible, with clear joints that can be opened

The following will be considered for the concrete used on the project:

- Slimming off excess where structurally viable to save in material usage.
- Considering a structural grid and superstructure design to enable different use types and deconstruction for use elsewhere when the building has got to the end of its life.
- Standardising detailing to enable repetition of reinforcement and also to enable formwork to be re-used multiple times.

For all materials used in the project, consideration of using local, reclaimed materials will be made to help reduce delivery distance and packaging. The recyclability of the material at the end of the building's useful life should also be considered. Materials and products will be procured with appropriate durability and enhanced recycled content, e.g., through the use of Environmental Product Declarations (EPDs).

Products will be considered that might be suitable for standardization e.g., doors and windows, this will enable easier maintenance, replacement and end-of-life re-use. Additionally, aspects such as service life requirements, maintenance strategy and transportation needs of construction products will be considered. Materials have been carefully selected considering reuse and recovery options at end of life. For example, steel can be selected as follows:

- Steel elements not in contact with the concrete will be re-useable.
- Steel that cannot be re-used can always be recycled

Timber can be selected/considered as follows:

- Consider treatment of timber as this can affect end-of-life re-usability.
- Avoid engineered timbers that use glues/adhesive lamination where possible as this may be more difficult to re-use.
- Explore use of local materials to reduce carbon emissions from transportation

Concrete can be reused as follows:

- Precast concrete products can be disassembled for reuse.
- Concrete frames can be reused in-situ.
- Surplus wet concrete can be returned to the batching plant for reuse.
- It may be possible to reuse concrete blocks depending on their condition and the mortar bonds.

Concrete can also be recycled and recovered, as follows:

- Concrete can be crushed and recycled into graded aggregates for use as hardcore, sub-bases, fill, etc.
- Concrete can be crushed and recycled as part of new concrete.
- The Quality protocol for aggregates from inert waste can be used to define when it ceases to be a waste.

This section will be updated at a later stage when more information is available.

4.3 Reporting Forms- Recycling and Waste Reporting Form

The Recycling and Waste Reporting Table within the attached GLA Circular Economy Statement template will set out the estimated waste and targeted reuse and recycling rates for the development. Product and construction stage demolition and excavation waste targets have been provided. These have been given in alignment with the achievement of

2 credits under BREEAM Wst01 Construction Resource Efficiency. These will be updated and the remaining outstanding information will be provided at the appropriate stage/ once this data is available in the GLA Circular Economy Statement Template.

4.4 Plans for Implementation

The targets set out in this Circular Economy Statement will be the responsibility of the design team during the design stages. During the procurement and construction stage, the responsibility to carry on the principles set out in this statement will be with the principal contractor.

The principal contractor will appoint a responsible individual to monitor the principles, targets and commitments set out in this statement. This will include completing/updating the Bill of Materials form and recycling and waste reporting form within the GLA Circular Economy Statement Template.

The key commitments will be achieved as follows:

1. Short-Term: Produce a Site Waste Management Plan, which identifies waste minimisation opportunities as well as implementing the following:
2. Medium-Term: Conserve resources by minimising the quantities of materials used, minimising the quantities of other resources used (energy, water, land), and specifying and sourcing materials responsibly and sustainably.
3. Short-Medium-Term: Design to eliminate waste (and for ease of maintenance) by designing for reusability/ recoverability/ longevity/ adaptability/ flexibility, and designing out construction, demolition, excavation, industrial and municipal waste.
4. Medium-Term: Manage waste from demolition of the layers, excavation waste, waste arisings from construction of the layers (and reuse or recycling of this waste), and support operational waste.

4.5 Reporting Outcomes – Post Completion Report

This section will report to the success/failure of the targets and commitments set out in this document, as well as provide evidence and supporting evidence. This will be completed as part of the post-planning/completion updates.

4.6 Lessons Learned

This will be completed as part of the post-planning/completion updates. This will review

- actual performance against quantitative and qualitative targets/commitments
- determine reasons for any differences
- share key learnings that could inform best practice in the future. Lessons learned should include what went well or better than expected, what went wrong, and what could be done differently in the future.

5 Conclusion

This Circular Economy Statement has been produced to demonstrate how the proposed development has considered the circular economy principles and incorporated them into the development design.

The statement takes into consideration the following, with reference to the London Plan Policy SI7 and the development's Circular Economy Aspirations, to reduce material quantities in the first instance, and reduce waste associated with the development, both in its construction, and at its end of life:

- How demand for materials will be minimised.
- How secondary and recycled materials can be used.
- How new materials are being specified to enable their reuse.
- How construction waste will be minimised and managed in accordance with the waste hierarchy.
- How the proposal's design and construction will enable building materials, components, and products to be disassembled and re-used at the end of their useful life.
- Opportunities for managing as much waste as possible on site.
- Adequate and easily accessible storage space to support recycling and re-use.

Following a meeting with the design team and completion of the GLA Circular Economy Statement Template, the key commitments will be kept and reviewed throughout the design development, and construction of the project:

- Broad objectives for circular economy aspirations have been set. Moving forward, workshops will be held to develop and investigate circular economy objectives with specific metrics (design team, contractor, suppliers, and facility managers).
- Circular economy opportunities will be monitored throughout the design and construction process.
- On completion, success against objectives will be reviewed and an analysis will be undertaken on lessons learnt (whole design team, contractor, and relevant supply chains).

6 APPENDICES

6.1 APPENDIX A – Table 3 Draft Pre-demolition Audit

Proposed Demolition Waste Strategy

Material	Opportunity for reuse	Opportunity for Recycling	Opportunity for Repurposing
Inert materials (excluding soil)	Face brick work to be cleaned for reuse to assist in refurbishment of existing façade (retained) and or where exposed brick work is noted to provide continuity. Face Brick Work may also be cleaned for resale. Coping stones; ridge and other roofing materials may be considered for reuse where refurbishment is considered; Roofing materials may be recovered for resale Paving slabs, kerbs, cills will be protected in deconstruction of the buildings and considered for reuse in maintaining the materials within the new design especially in refurbishment of existing facades and roadways etc	Glass / glazing solutions will be recycled	Concrete products and masonry (various) will be crushed (potentially on site) where not reusable and used on site where applicable as fill for basement areas no longer required or; Suitably crushed to enable use as piling mat or 6F2 for sale for subbase roadways etc Roofing materials where unusable will be crushed as with the concrete and masonry above
New and used metal materials	Metal architectural details (e.g. handles, banisters rail, etc will be demounted and sold as are for reuse	Copper cables: metallic components and rebar etc. will be recycled off site for reforming and reuse by others	Copper cables: metallic components and rebar etc. will be recycled off site for reforming and reuse by others

Material	Opportunity for reuse	Opportunity for Recycling	Opportunity for Repurposing
Composite materials (materials which include more than one material type often bonded together)	Bonded materials will be reviewed in nature and where reusable safely without modification will be sold for reuse	Bonded materials that cannot be reused will be taken from site to specialist recycling plants for separation and those materials suitable for reuse will be put back in to manufacturing; materials that cannot be recycled easily will be repurposed	All materials for repurposing will be considered on environmental grounds to best "use", and where no other use can be found, the materials will be considered for waste to heat, or waste to power schemes such as with North London Heat & Power based in Enfield North London
New and used plasterboard (offcuts/unused/undamaged boards)	Reuse as suitable on site or resale for external usage		
Furniture	Furniture products will carefully be removed from site and either offered to local charities, or community groups or sold on directly to third parties	Where furniture is unable to be sold on it will be broken down into its material parts and recycled through manufacturer closed loop recycling schemes where appropriate or via registered recycling contractors	
Timber products (All sawn soft/hard wood only – no board products e.g. MDF/chipboard etc.)	Where timber can be reclaimed reasonably it will be considered for reuse on site, but it is generally considered that this will be cleaned and sold for offsite reuse Off-site reuse via another project, National/local community wood reuse scheme	Where timber can be reclaimed but not reused the timber will be recycled into timber products such as board at offsite facility	Where timber is beyond recycling efficiently the timber will be repurposed, by sending it to register waste to heat / power plants
New and used mineral fibre ceiling panels and tiles	Where fibre ceilings can be reclaimed reasonably it will be considered for reuse on site, but it is generally considered that this will be cleaned and sold for offsite reuse	Where fibre ceilings can be reclaimed but not reused, they will be recycled through manufacturer closed loop recycling schemes	Where fibre ceiling panels are not able to be recycled, they will be where possible repurposed, by sending it to register waste to heat / power plants

Material	Opportunity for reuse	Opportunity for Recycling	Opportunity for Repurposing
Vinyl floor coverings (uplifted vinyl flooring and post-installation offcuts)	It is not envisaged that vinyl flooring will be reused on site	Off-site direct recycling via manufacturer for closed loop recycling	Where floor coverings are not able to be recycled, they will be where possible repurposed, by sending it to register waste to heat / power plants
Used carpet tiles (good reusable condition)	On-site reuse of carpet tiles in their original form Off-site direct reuse on other construction/refurbishment projects, local community schemes, charities	Direct recycling via a manufacturer for closed loop recycling	Where floor coverings are not able to be recycled, they will be where possible repurposed, by sending it to register waste to heat / power plants
Packaging materials (all timber, cardboard & plastic)	Repatriation of wooden pallets from product suppliers for direct reuse	Cardboard will be recycled through registered recycling plants	
New and unused insulation board (foam board only e.g. EPS, XPS, ISO, COMP. not mineral fibre)	Off-site reuse of new and unused insulation board on other construction/refurbishment projects, local community schemes, charities Resale of insulation board via surplus construction material trading companies	Collection by manufacturer for closed loop recycling	
Fixtures and fittings	Fixtures and fittings, especially bracketry will be considered for reuse within the existing site; Where the fixtures and fittings can be reused, those not used on site will be sold for use elsewhere such as in the community (door closers; doors; trunking; kitchen units etc for community projects or refurbishment of community facilities)	Where fixtures and fittings are unsuitable for reuse, they will be considered for repurposing or recycling; Where recycling is considered the best option, the materials will be separated off site into their constituent materials and recycled accordingly	

6.2 APPENDIX B – Table 4 Forecast Demolition Quantities

The following table has been provided by the ARUP Site Waste Management Plan Demolition Phase Rev 02 – Table 8 Forecast demolition quantities

Existing Building	Structure Type	European Waste Code (EWC)	Material type	Quantity (tonnes)	Destination (% by weight)			
					Reuse	Recycling	Repurpose	Disposal
Selkirk House	Reinforced concrete construction throughout utilising flat slabs with RC columns in the tower area and column & beam arrangements in the low-rise block. The Envelope is a modern façade.	*TBC in future iterations*	*TBC in future iterations*	*Pending Survey*	*TBC in future iterations*	*TBC in future iterations*	*TBC in future iterations*	*TBC in future iterations*
16a and 16b West Central Street	Single storey building with a traditional façade with internal modified structure to relatively large span steel structure with cellular beams which support precast planks	*TBC in future iterations*	*TBC in future iterations*	*Pending Survey*	*TBC in future iterations*	*TBC in future iterations*	*TBC in future iterations*	*TBC in future iterations*
18 West Central Street	Two and three storey building, generally comprising loadbearing brickwork which support timber joist.	*TBC in future iterations*	*TBC in future iterations*	*Pending Survey*	*TBC in future iterations*	*TBC in future iterations*	*TBC in future iterations*	*TBC in future iterations*
10 Museum Street	Number 10 Museum Street is a three-storey construction of loadbearing brickwork supporting timber floors	*TBC in future iterations*	*TBC in future iterations*	*Pending Survey*	*TBC in future iterations*	*TBC in future iterations*	*TBC in future iterations*	*TBC in future iterations*
11 and 12 Museum Street	Number 11 and 12 appears to be constructed of loadbearing masonry with steel beams spanning between party walls.	*TBC in future iterations*	*TBC in future iterations*	*Pending Survey*	*TBC in future iterations*	*TBC in future iterations*	*TBC in future iterations*	*TBC in future iterations*
35, 37, 39 and 41 New Oxford Street	Reinforced concrete frame construction, with traditional facades	*TBC in future iterations*	*TBC in future iterations*	*Pending Survey*	*TBC in future iterations*	*TBC in future iterations*	*TBC in future iterations*	*TBC in future iterations*

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