HOARE LEA

Former Saville Theatre. Camden, London.
YC Saville Theatre Ltd.

SUSTAINABILITY
CIRCULAR ECONOMY STATEMENT

REVISION P07 – 26 FEBRUARY 2025

Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
01	25/01/2024	Draft for comment	C. Dutton	E. Ray	G. Jones
02	31/01/2024	Draft incorporating comments from design team	C. Dutton	E. Ray	G. Jones
03	21/02/2024	Final issue incorporating waste input from design team	C. Dutton	B. Lambert	G. Jones
04	05/03/2024	Response to final comments	C. Dutton	B. Lambert	G. Jones
05	05/03/2024	Response to final comments	C. Dutton	B. Lambert	G. Jones
P06	29/01/2025	Updated in support of amended planning submission - Draft	C. Dutton	J. Young	E. Jolly
P07	26/02/2025	Updated in support of amended planning submission	C. Dutton	J. Millard	E. Jolly

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Contents.

Executive summary.

Scope.

Hoare Lea has been appointed by YC Saville Theatre Ltd (the Applicant) to prepare a Circular Economy Statement to support the planning application for the Saville Theatre, Shaftesbury Avenue development in Camden, London.

This report constitutes a Circular Economy Statement which sets out the strategic approach to Circular Economy implemented by the project. This Circular Economy Statement is focused on the work carried out to define a strategic approach to Circular Economy principles for the project and identify high level strategic opportunities early in the development process.

The Circular Economy Statement has been updated incorporating the proposed development changes as outlined in the revised planning application.

The overall approach to Circular Economy remains unchanged, with changes incorporated including:

- The Bill of Quantities submitted within the GLA Circular Economy reporting spreadsheet
- Waste quantities outlined in section 4.1 which will be calculated in accordance with the GLA Circular Economy reporting spreadsheet.

Development description.

"Part demolition, restoration and refurbishment of the existing Grade II listed building, roof extension, and excavation of basement space, to provide a theatre (Sui Generis) at lower levels; restaurant / bar and office space (Class E(b) / Class E(g) / Sui Generis) at ground floor level; and hotel (Class C1) at upper levels; provision of ancillary cycle parking, servicing and rooftop plant, and other associated works"

Summary of the approach to circular economy.

The construction and operation of the built environment consumes 60% of all materials in the UK. At the end of life, materials are often diverted from landfill, but in reality, downcycled, reducing their value.

There is growing industry consensus that the way we design, build, operate and dispose of our buildings and associated facilities needs a major overhaul to obviate waste and increase efficiency. There is an incredible breadth of opportunity that this shift in approach will create across the entire supply chain.

In contrast to a linear economy, a circular economy creates and maintains value of products, materials and buildings by using them for as long as possible and minimising both resource use and waste. The use of virgin materials is minimised whilst re-use, repurposing and recycling are maximised.

In a pure circular economy, resources are not lost from the system so nothing is landfilled.

Designing for longevity and adaptability and maximizing the use of recycled and renewable materials could reduce greenhouse gas emissions while increasing innovation opportunities and economic growth. Replacing finite and fossil-based materials with responsibly managed renewable materials can decrease carbon emissions whilst reducing dependency on finite resources.

Before considering future waste elimination and sustainable waste management practices though, opportunities for retaining and refurbishing /re-purposing existing buildings, materials and other resources on site have been assessed by the design team to maximise the residual value of existing structures and conserve resources by reducing the need for new materials.

The Proposed Development will follow best practice principles in design and construction with the overarching aims of reducing material usage, minimising waste, and embedding longevity, flexibility and adaptability.

An initial assessment of material efficiency has identified the following key aspects for consideration within the design. These will continue to be progressed and pursued where feasible at the next stages of design.

- Reusing as much of the existing façade as possible and working with the retained building elements for the most efficient design strategy
- Optimising the substructure to balance structural requirements with material efficiency.
- Façade embodied carbon considerations to minimise the carbon whilst finding a long lasting solution that also considers disassembly.

A project-specific Operational Waste and Recycling Memo has been developed for the Proposed Development making all necessary allowances to ensure that waste arisings can be accommodated under a full occupancy scenario. The strategy considers the flow of waste from waste generator through to storage and collection. The Strategy outlines how the Proposed Development has been designed to be sustainable and forward-thinking in its approach to waste and recycling, whilst remaining workable during operation.

Designing for adaptability and disassembly is another key principle of the circular economy, and the design includes but is not limited to the following measures to reduce waste arisings at replacement or end of life:

- Allowance for all major plant to be dismantled and removed.
- All services infrastructure through the building to be designed within designated risers. All risers to be accessible.
- High quality, robust materials palette proposed
- Bespoke fit out that considers potential future uses and adaptation required, for example, theatre designed seating tiers that will allow for a number of stage configurations.

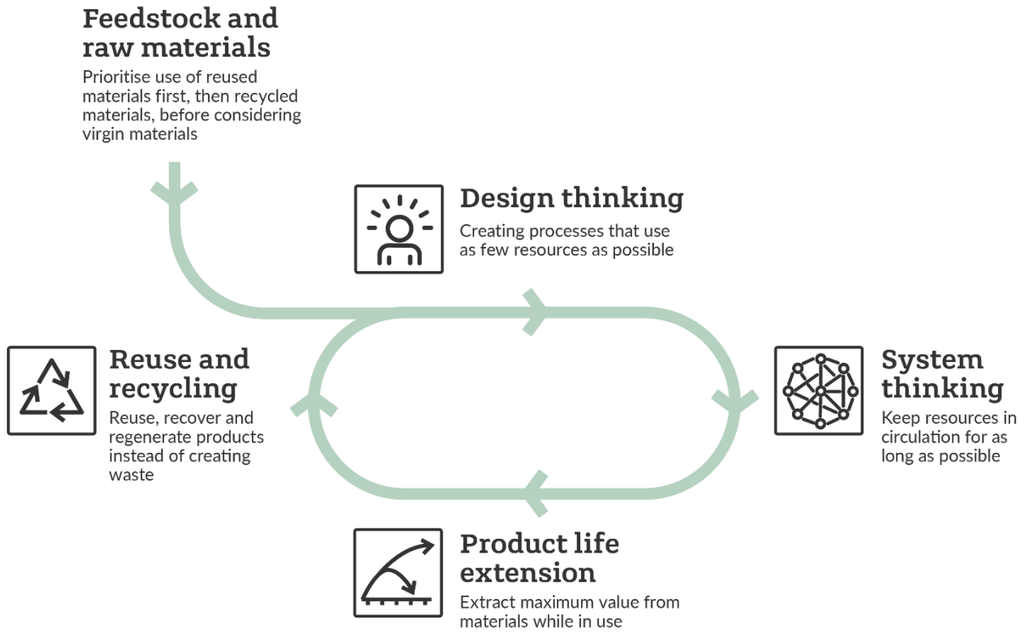


Figure 1: Circular Economy overarching principles.

1. Introduction.

1.1 Description of development.

1.1.1 The Application

This Circular Economy Statement has been prepared by Hoare Lea on behalf of YC Saville Theatre Ltd, (hereafter referred to as 'the applicant') in support of the planning application for the Saville Theatre development at 135-149 Shaftesbury Avenue (hereafter 'the Proposed Development').

The main function of the Proposed Development is a theatre and hotel.

1.1.2 The Proposed Development

"Part demolition, restoration and refurbishment of the existing Grade II listed building, roof extension, and excavation of basement space, to provide a theatre (Sui Generis) at lower levels; restaurant / bar and office space (Class E(b) / Class E(g) / Sui Generis) at ground floor level; and hotel (Class C1) at upper levels; provision of ancillary cycle parking, servicing and rooftop plant, and other associated works"

Table 1: Area schedule.

Land Use	Area (GIA)
Existing building (Use Class Sui Generis)	3,581m^2
Proposed areas	
Sui Generis - Theatre	3,688m^2
Use Class C1	6,097m^2
Ancillary/plant	1,291 m^2
Total	11,076m^2

1.1.3 Project team

Table 2: Key project team members.

Discipline	Organisation
Client	YC Saville Theatre Ltd
Project Manager	Opera PM
Architect	SPPARC
Building Services Consultant	Hoare Lea (MEP)
Sustainability/Energy Consultant	Hoare Lea (Sustainability)
Civils Consultant	PHTS
Ecologist	RPS
Acoustic Consultant	Hoare Lea (Acoustics)
Transport Consultant	Momentum
Drainage Consultant	HTS
WLC/Circular economy Consultant	Hoare Lea (Sustainability)

Figure 2: View from Shaftesbury Avenue of Proposed Development. (Source: SPPARC, Date received: 15th December 2025).

1.2 Policy.

The adopted London Plan includes the following policies in relation to the Circular Economy.

1.2.1 SI 7 Reducing waste and supporting the circular economy

"A. Resource conservation, waste reduction, increases in material re-use and recycling, and reductions 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 products 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
    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.

B. 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 much waste as possible on site
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.

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

1.2.2 D1 London's form and characteristics

The Circular Economy Design Principles are also referenced in the "Policy D1 London's form and characteristics".

This Circular Economy Statement is based on the GLA's draft guidance document "Circular Economy Statement Guidance Pre-Consultant Draft "which interprets the policies set out above and describes what Circular Economy Statements should include.

2. Method statement.

A holistic, interdisciplinary approach has been adopted to define and communicate the sustainability and Circular Economy strategy for the Saville Theatre, Shaftesbury Avenue.

The design of the development is based on sustainable design and construction principles as informed by planning requirements and industry best practice.

2.1 Circular economy aspirations.

Consumption of natural resources has historically followed a linear approach, heightened by the industrial revolution which, while lifting the living standards of millions, also dramatically increased pressure on environmental resources. Under the traditional 'take > make > use > dispose' model, raw materials are collected, then transformed into products that are used until they are finally discarded as waste. Apart from failing to capture value over the lifetime of products, this approach also produces a range of negative externalities that include resource scarcity, unsustainable levels of water extraction, rising carbon emissions, and widespread ecosystem pollution.

In a circular economy, built environment assets are designed so that whole buildings, and materials, components and parts can be continually and easily recycled.

The built environment sector is a major consumer of natural resources. There is growing industry consensus that the way we design, build, operate and dispose of our buildings and associated facilities needs a major overhaul to obviate waste and increase efficiency. There is an incredible breadth of opportunity that this shift in approach will create across the entire supply chain.

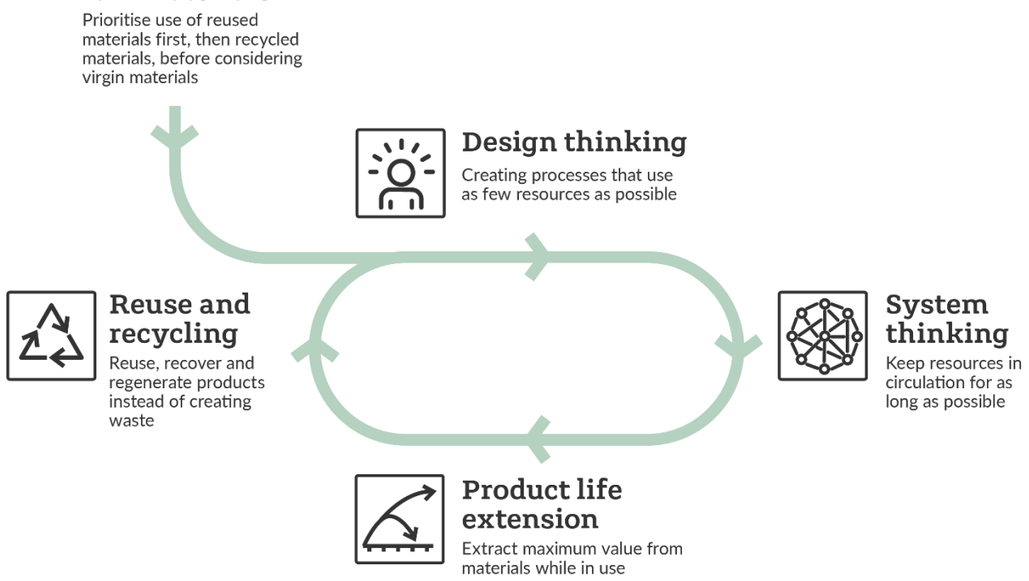


Figure 3: Circular economy approach

Circular Economy considerations have formed a key part of the project sustainability strategy, given the scale of the Proposed Development, and the client's wider sustainability aspirations. It is recognised that in order to implement Circular Economy principles most effectively, it is helpful to explore strategic opportunities as early in the Proposed Development process as possible.

Considerations around resource efficiency, material circularity and ethical sourcing have been considered within the overarching sustainability strategy from the early stages.

It is acknowledged that the approach to Circular Economy will evolve as the design evolves, or in response to wider considerations and feedback from key stakeholders, in addition to the local authority.

As a site-wide strategy, the project has formulated commitments around the promotion of sustainable use of materials including priority given to recycled construction materials such as steel and the existing materials on site, diversion of construction waste from landfill, maximising the use of recycled or secondary aggregates giving preference to solutions available closer to the site, construction resource efficiency and an overarching ambition to reduce the project's supply chain carbon intensity from materials and manufacturing relative to standard industry performance to be achieved through measures including:

- "Smart" material choices (prioritisation of durable, biodegradable, recycled / recyclable materials and materials that can be reused or re-purposed, where possible)
- Incorporation of modular elements for higher levels of design flexibility and adaptability to be explored
- Product life extension through improved maintenance, remanufacturing, repairing and upgrading / upcycling

An effective incorporation of circular economy principles represents an opportunity for the site and the UK as a whole. With its system-wide perspective, the circular economy has the potential to help us make better decisions about resource use, design out waste, provide added value for business and society, and proceed along a secure route to society-wide prosperity and environmental sustainability for future generations.

While specific values and levels of ambition / benchmarks have been defined for some of the metrics, it is recognised that these are preliminary targets and commitments which will be reviewed and may be adjusted as appropriate during the detailed design to respond to the specific requirements of each element and ensure that current best practice is being followed and opportunities to innovate are maximised.

2.1.1 Circular Economy Strategy Process

The following process has been followed in developing this strategy:

- Working with all key stakeholders, an overall sustainability vision for the development has been defined and agreed.
- A series of sustainability workshops have been held during the concept design stages, in collaboration with the client and project team to help define the sustainability strategy.
- The sustainability strategy, based on the five capitals framework, defines the project vision, themes and intended outcomes. Circular economy aspects are captured within both natural and physical capital.
- Circular economy principles have been reviewed by the project team as part of this process, specifically in relation to the physical capital.
- Sustainability certification is also being pursued, in the form of BREEAM assessment of the site. A BREEAM pre-assessment exercise has been undertaken via workshops in conjunction with the project team. This exercise has assisted in more detailed consideration of specific targets for these elements of the scheme.
- As the proposals move toward the construction stage, early engagement will be sought with contractors to assist in refining strategies for delivery. Initial documentation that has been prepared to aid this is:
  - A Pre-Demolition Audit will be undertaken for the development to gauge which elements of the existing structures and hardstanding on site can be retained, reused, reclaimed or recycled.
- Robust data collection plans will be implemented through design and construction to facilitate ongoing monitoring against intended outcomes.
- Given the scale of the development and the likely nature of the construction programme over several years, it is expected that the strategies and approach will evolve over time.

3. Circular economy – Strategic approach.

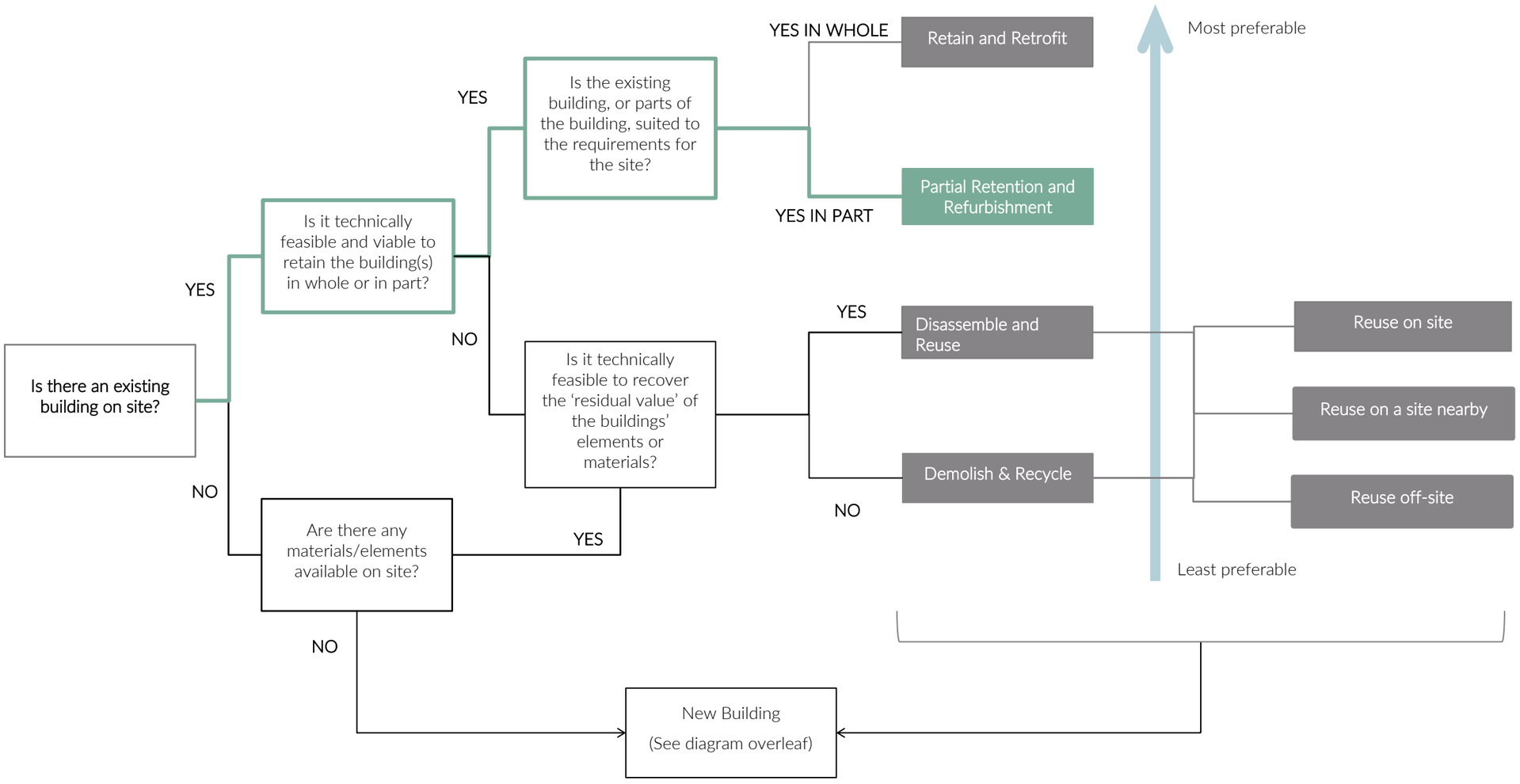
Circular Economy considerations have formed a key part of the project sustainability strategy. It is recognised that in order to implement Circular Economy principles most effectively, it is helpful to explore high level strategic opportunities as early in the development process as possible.

As discussed earlier, a series of sustainability-focused workshops were held in collaboration with the client and project team to help craft a holistic and consistent sustainability approach for the development. Considerations around resource efficiency, material circularity and ethical sourcing have been a critical element of the overarching sustainability strategy.

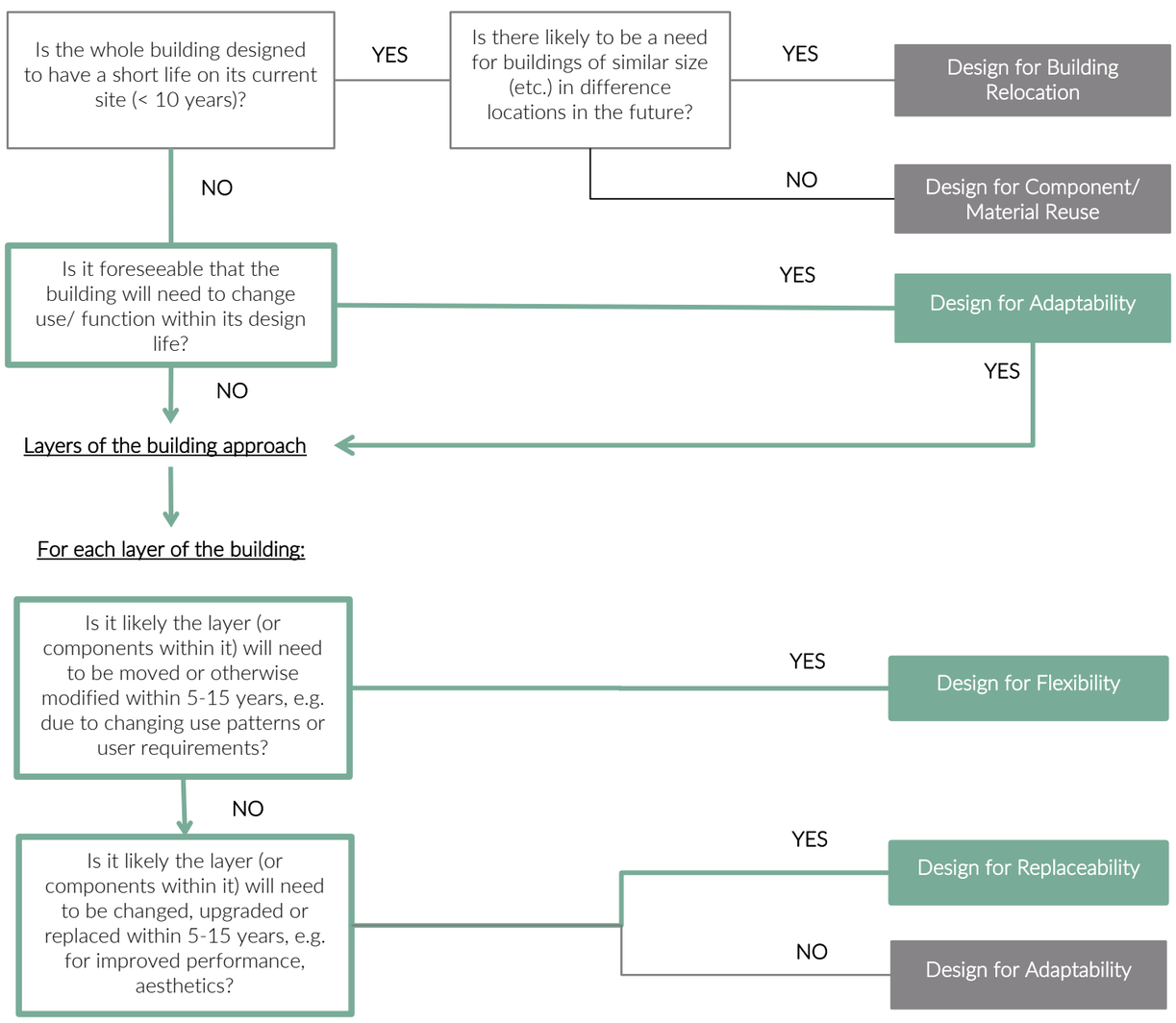
It is acknowledged that the approach to circular economy will evolve as the design evolves, or in response to wider considerations and feedback from the GLA or other stakeholders.

The edited decision trees on the following two pages show the recommended design strategy and elaboration on the proposed design approaches.

Decision tree for design approaches for existing structures/ buildings



Decision tree for design approaches for new buildings, infrastructure and layers over the lifetime of development



All developments should apply the following circular economy design principles:

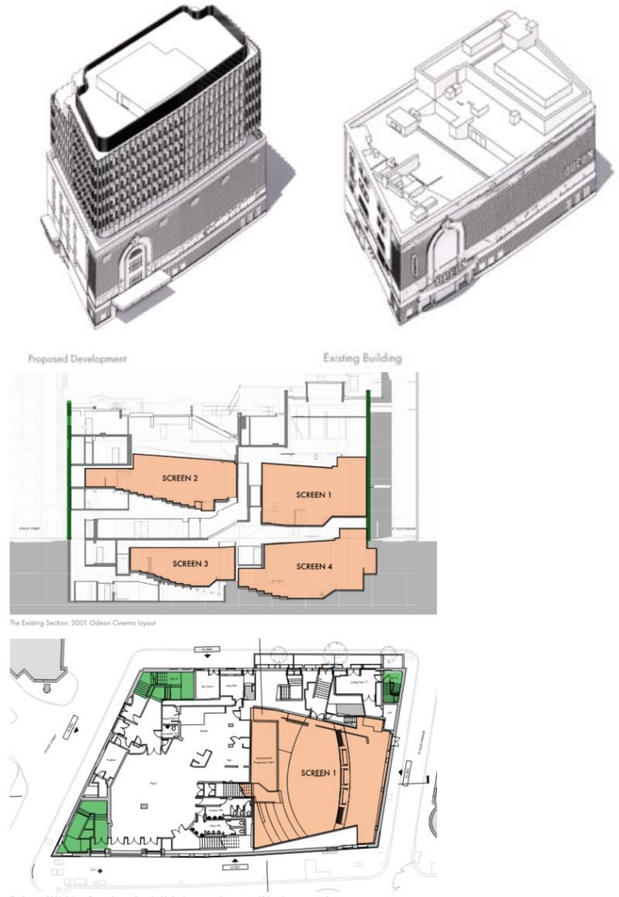
1. Design out waste
2. Design for flexibility
3. Design for adaptability
4. Design for disassembly
5. Design for material reuse/ recycling
6. Design for longevity

3.1 Proposed strategy for existing structures/ buildings.

The preferred strategy for the existing structures/buildings is partial retention and refurbishment. The design response to circular economy design approaches is further detailed in the following sections.

Refurbish

The existing building consists of five storeys including a basement floor and was constructed in the 1930s. The building has been in use as a theatre, music venue, and later has been repurposed into a cinema. The current proposal is to reinstate the theatre use with additional floors above the current roof level to form a hotel. The new development is expected to extend the lifespan of the existing building structure by at least 60 years, potentially 100 years.



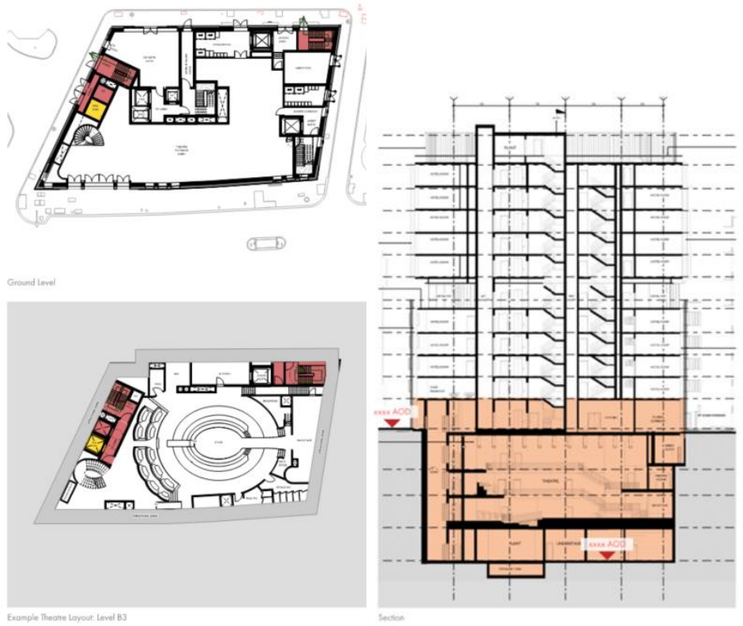


Figure 4: Model of proposed development compared to existing (Top left), existing building section and layout (top right), proposed layout and section (bottom).

The existing external envelope consists of a steel frame structure with a solid masonry façade which encases the outer steel columns and beams. As the façade is Grade II listed, the outer façade elements will be retained, with the inner structure replaced to support the upper-level extension. In addition the façade will be thermally upgraded with new glazing elements to improve the energy performance of the final building, in line with the latest regulatory requirements and best practice guidance.

The interior of the building will be replaced creating hotel use to the upper levels, including the new build extension, and theatre use at ground level and below.

Disassemble/ Deconstruct and reuse

The proposed façade design requires part of the façade to be demounted and re-assembled after structural enhancements are made. The demounting of the existing façade panels will require more care and time on site but will lead to circa 44 tonnes of materials being saved from landfill. The retained panels will be inspected for quality prior to re-assembly. Any defects will be repaired in line with the façade condition survey.

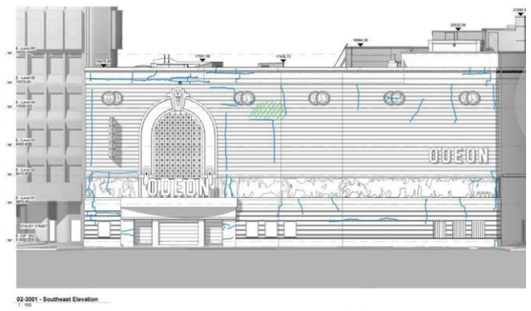


Figure 2: Front elevation. Cracking visible from ground level is shown as blue lines. Areas of bulging and misaligned masonry is shown by green hatching

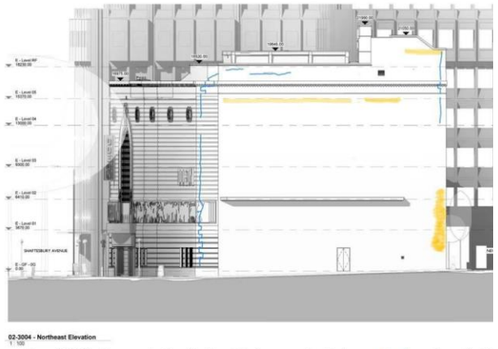


Figure 3: St Giles Passage elevation. Cracking visible from ground level is shown as blue lines. Areas of existi brick replacement is shown by orange shading

Figure 4: New Compton Street elevation. Cracking visible from ground level is shown as blue lines. Areas of existing brick replacement is shown by orange shading

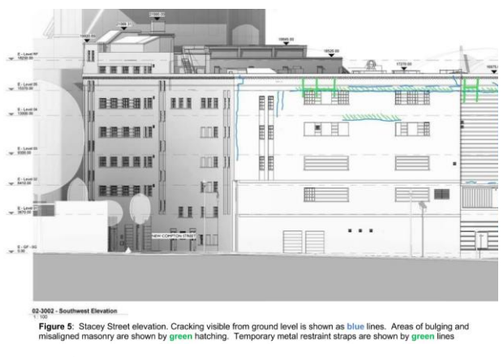


Figure 5: Stacey Street elevation. Cracking visible from ground level is shown as blue lines. Areas of bulging and misaligned masonry are shown by green hatching. Temporary metal restraint straps are shown by green lines

Figure 5: Screenshots of the facade condition survey (Source: Ingram consultancy).

Demolish/ Deconstruct and Recycle

An early study of existing materials shows that the demolished materials can be used to form crush for the new concrete required for the new structural elements to increase circularity and reduce waste generated. This will be further investigated in the next design stages when quantities become more refined.

The existing building is over 90 years old and much of the internal structure will be demolished due to structural issues identified in an early structural and geotechnical study. The stability issues relate to the old age of the building, and environmental degradation over time. In addition, demolition and replacement will give the building a significantly longer life expectancy, and greater flexibility for future adaptability. The Proposed Development will be sited on the same building footprint and extend the height of the building by 6 additional storeys, to maximise space utilisation in such a central and well-connected location.

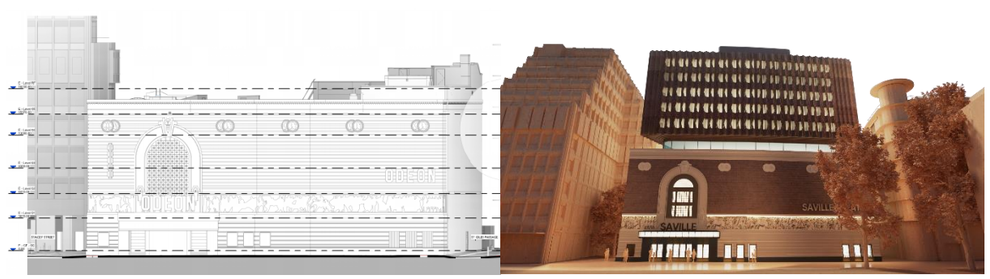


Figure 6: existing and proposed elevation of the front of the development.

Further investigations with market supply chains will be made in the next design stages to ensure these elements can re-enter the value chain.

3.2 Pre-demolition audit.

- A pre-demolition audit is a detailed inventory of the materials in the building that will need to be managed upon demolition.
- If substantial demolition is proposed, the pre-demolition audit should include the following core information:
  - An explanation as to why it is proposed that the building(s) be demolished. Applicants should explain the different considerations for developing the site. This should go beyond simply saying that the buildings are of 'low quality'. Justification for demolition should be provided, in line with the approach set out in sections 2.4.3 to 2.4.5, above. An assessment of carbon impacts should be highlighted and, where relevant, the WLC assessment should be cross-referenced. It should be explained how any negative impacts resulting from demolition, such as the loss of embodied carbon in existing buildings, would be mitigated and offset.
  - A summary of the key components and materials present in the existing buildings, with an estimate of the quantities and associated embodied carbon and whether they are suitable for reclamation.
  - An explanation and drawings that show the extent of the proposed demolition and whether any parts of the building are being considered for retention.
- Where possible, the following best practice information should also be included:
  - how the value of existing building elements or materials can be recovered.
  - the amount of demolition waste (cross-reference the Recycling and Waste reporting table – refer to section 4.9 for further details)
  - a schedule of practical and realistic providers who can act as brokers for each of the reclaimed items.
  - target reuse and reclamation rates.
- An audit that simply lists out the likely waste arisings and the routes for treating those waste streams (i.e., crushing and shredding) is not suitable.
- The audit should be undertaken by a third-party independent specialist with expertise in reclamation of components and materials and experience in preparing these types of reports.
- Applicants should justify reasons for adopting less preferred approaches or moving down the hierarchy of CE design approaches in Figure 3 (London Plan Figure 3.2), and the decision trees in Figures 4 and 5. Refer to sections 2.4.3 to 2.4.5 and 4.6.8 for further information.
- In limited circumstances it may be appropriate to secure a pre-demolition audit by condition – for example, where there is limited demolition proposed.

A pre-demo audit has been prepared by Material Index and can be found included as an appendix to this Circular Economy statement.

The pre-demo audit identifies 76% material on site is to be recycling waste, 17% can be retained in-situ, 1% for reuse off-site and 6% for reuse on-site. These opportunities are to be explored further during design development to determine the best strategy for implementing circular economy principles through the proposed development.

3.3 Proposed strategy for new buildings and buildings layers over the lifetime of the development.

The preferred strategy for the new buildings is to design for adaptability.

Component or material reuse

GLA definition: The use of a product in its original form with minimal reprocessing. Preparation for reuse involves checking, cleaning or repairing materials so that they can be used again for their original purpose. Materials can be reused as a whole; redeployed as modules; or reused as a kit of parts on one or more different sites.

This strategy will be adopted for the Grade II listed existing facades, which will be cleaned and repaired to restore their original appearance, and overall condition considering maximising the lifespan of the building.

Design for adaptability

GLA definition: A building that has been designed with thought of how it might be easily altered to prolong its life, for instance by alteration, addition, or contraction, to suit new uses or patterns of use. Often used interchangeably with flexibility; however, it relates more to building structural changes.

The reconstruction of the building structure, and incorporation of a new, extended basement for creation of the theatre space will maximise opportunities for adaptability in the future. The configuration of the theatre space will allow a variety of stage and audience layouts to suit a wide range of cultural and performance types. Incorporation of new floorplates within the existing building and the upper-level extension will also be considerate of future adaptability with minimal structural works required.

Design for flexibility

GLA definition: A building that has been designed to allow easy rearrangement of its internal fit-out and arrangement to suit the changing needs of occupants.14 Often relates to floorplates rather than structural changes (see Adaptability).

Due to the internal layouts within the Grade II listed façade, opportunities for flexibility are limited within the retained areas of the building, in addition, configuration of the cores for plant space and services distribution may limit flexibility options, but the upper levels could potentially be considered for alternative uses and flexibility. This could be further explored during design development.

Design for replaceability

GLA definition: Designing to facilitate easy removal and upgrade, and ideally to be reused, remanufactured, or recycled on a part-by-part basis.

Much of the plant and building services strategy will be designed with replaceability in mind, with the services optimised for current use but potentially adaptable to future strategies.

Design for disassembly

GLA definition: Designed to allow the building and its components to be taken apart with minimal damage to facilitate reuse or recycling. If designed well, it should be possible to replace any component.

The current refurbishment strategy is to remove the north façade and replace it once internal changes have been made. In this same way the new facades will be developed considering opportunities to design for easy disassembly and further re-use. This will be explored during design development.

Design for longevity

GLA definition: Designing to avoid a premature end of life for all components through considering maintenance and durability.

Both the basement and upper-level extensions have been developed with longevity in mind. The primary aspiration of the development is to create a robust space that will not only extend the existing building life span, but exceed expectations of building life for new build developments (i.e. RICS 60 years).

3.4 End-of-life strategy.

The end-of-life scenarios align with the assumptions of lifespans and recyclability made in the bill of materials/ whole-life carbon assessment. The end-of-life strategy will be communicated with both the hotel and theatre tenant, in addition to owners and managers throughout the design development stages. The building information will be stored through a BIM model (to be confirmed during the next stages of design development) to facilitate disassembly and maximise opportunities on site.

3.4.1.1 End-of-life strategy commitments confirmation

YC Saville Theatre Ltd. agree to committing to a condition to produce a revised Circular Economy Statement Report at RIBA Stage 4 / Pre-construction to capture the detailed information not available at this stage of design. An end-of-life strategy will be produced prior to construction to describe how building materials, components and products can be disassembled and re-used at the end of their useful life. This will include how the information will be communicated to future building users.

3.5 The biggest opportunity for this project.

The greatest opportunity that could be explored further is consideration of flexible use of the above ground spaces; currently proposed as hotel use type. The structure of the building will allow adaptability within the constraints of the retained ground to fourth floor, but it is recommended the design team consider a variety of potential adaptations when refining the design strategy.

4. Opportunities for managing and reducing waste.

4.1 Operational waste management.

Circular economy principles including reducing municipal waste were considered as part of the design team discussions waste store design.

As part of the Transport Assessment, produced by Momentum, the principles that the site will follow to reduce waste, storage and removal measures has been detailed. The design is based on guidance contained within the London Freight Plan and the relevant national, London and local waste policies.

Table 3 shows the estimates of the recycling and waste based on the current stage of the design for the Proposed Development.

Table 3: Recycling and Waste Reporting

Category	Total Estimate	Of Which			Source of information
	t/m² Gross Internal Area (GIA)	% reused or recycled onsite	% reused or recycled offsite	% to landfill	
Excavation waste	0.16	95%	5%	0%	Based on Oneclick WLCA tool.
Demolition waste	0.425	6%	77%*	17%	Taken from pre-demolition audit
Construction waste	0.064	0%	74%	1 (24% to other management – i.e. energy)%	Based on Oneclick WLCA tool.
Municipal waste	**Total:** 0.057 **Hotel:** 0.067 **Theatre:** 0.022 **Restaurant:** 0.087	0%	70%	30%	Momentum Waste Strategy

Municipal waste

The weekly volume of waste arising from the proposed development has been calculated on the basis as set out in Table 4 and Table 5 below.

Table 4: Waste metrics (source: Momentum)

Land use	Metric	Source
Use Class C1 Hotel	3,500L per 1,000m²	Local waste Guidance: City of Westminster 2023
Theatre	2,000L per 1,000m²	
Restaurant	3,500L per 1,000m²	

Table 5: Calculated weekly arising.

Land use	Net internal area (m²)	Total waste volume (L)
Use Class C1 Hotel	6,164	21,574
Theatre	1,979	3,958
Restaurant	350	1,225
Total		

Municipal waste calculations

The figures provided in Table 3 are based on the following assumptions:

- Assumed no. collections per year: 728 collections per year (572 for restaurant, 156 for theatre)
- Annual waste generation estimate, volume: 1,625,798 litres/annum
- Annual waste generation estimate, tonnage: 488.1 tonnes/annum.
- Total municipal waste estimate: 0.057 t/m²

The waste management strategy provided by Momentum has been attached to this report for reference.

4.2 Waste during demolition and construction.

Waste management during both the demolition and construction periods will be undertaken in accordance with the project Environmental Statement for managing the environmental impact from enabling and construction.

Waste management procedures and documentation information will be covered within the Demolition & Site Waste Management Plan (D&SWMP) prepared by the contractor, identifying the types and quantities of waste produced during every stage of the project, as well as opportunities to reduce, reuse and recycle construction process waste. A waste hierarchy approach will be followed with the intention first to minimise waste generation, followed by reuse or recycling off-site.

To facilitate minimising on-site waste generation:

- Materials suppliers will agree to reduce packaging, to use reusable packaging, or to operate a packaging take-back scheme;
- 'Just-in-time' material delivery to minimise stockpiling and related risk of damage and disposal as waste;
- Close attention to material quantity requirements to avoid over-ordering and generation of waste;
- Reuse of materials where feasible;
- Segregation of waste at source where practicable; and
- Reuse and recycling of materials off-site, where reuse on-site is not practical.

Where materials cannot be reused or recycled on-site, the Contractor will identify opportunities for potential reuse off-site. Materials and other arisings will be stored safely and efficiently, prior either for reuse on site or removal. Any materials to be reclaimed / reused will be done so in accordance with the Waste & Resources Action Programme (WRAP) protocol. As such materials requiring off-site disposal will be classified within the D&SWMP.

Contractor energy use on and off-site will be minimised where possible:

- Using alternatives to diesel/petrol powered equipment;
- Incorporating sources of renewable energy, to offset the use of main utilities;
- Selecting and specifying energy efficiency plant and equipment; and
- Implementing staff training for initiatives to turn off plant and equipment when not in use.

The energy consumption of the project will be monitored, through submetering or reading of utility bills, to allow comparison against best practice benchmarks, and improved where possible.

As part of understanding the impact of the demolition and construction periods the Construction Environment Management Plan will illustrate indicative construction vehicle routes.

In addition, vehicle routes to recommended demolition waste processing plants will be indicated, with a focus of these to be located within Greater London, minimising vehicle distances to travel, and such impacts of these vehicles on the surrounding environment.

4.2.1.1 Post completion report – Commitments confirmation

YC Saville Theatre Ltd. agree to committing to a condition to produce a Post Completion Report and set out an indicative timetable for the production of the report.

Appendix A – Supporting documentation.

Written evidence that the destination landfill(s) have the capacity to receive waste

As per section 5.4.2.

Independent pre-refurbishment / pre-demolition audit

See Appendix C.

Site Waste / Resource Management Plan

To be produced by the contractor once appointed

Municipal / Operational Waste Management Plan

As per section 4.1.

Cut and fill calculations and/or Excavated Materials Options Assessment

A detailed cut and fill calculation have not been undertaken as yet. These calculations will be undertaken pre-construction, once a main contractor is engaged.

Building weight calculation (load take-down)

Appendix B shows the bill of materials. These figures were extracted from the WLCA calculation.

Scenario modelling demonstrating adaptability

This will be covered as part of the completion of the Wst 06 credits to support the BREEAM certification

Other supporting material depending on project characteristic:

The Applicant agrees to commit to provide any additional supporting material as part of a revised Circular Economy Statement at RIBA Stage 4 / Pre-construction as per Section 4.8.

Appendix B – Bill of Quantities.

Table 6: BoQ as per Whole Life Carbon assessment, taken from the GLA reporting spreadsheet.

RICS Category	Category and material		Sum of Mass of raw materials kg
0.1	Demolition: Toxic/Hazardous/Contaminated Material Treatment		19,011,520
	Demolition: Toxic/Hazardous/Contaminated Material Treatment	Excavation works, kg or m3 of removed masses (Required for IMPACT calculations)	19,011,520
0.4	Specialist Ground Works		1,774,080
	Specialist Ground Works	Excavation works, kg or m3 of removed masses (Required for IMPACT calculations)	1,774,080
1	Substructure		**9,640,634**
1	Substructure	Reinforcement steel (rebar)	650,920
		Ready-mix concrete, RC32/40 with 25% GGBS cement	8,212,168
		Concrete block wall, with high density solid blocks, per m2 of wall including mortar	777,546
2.1	Superstructure: Frame		1,438,546
2.1	Superstructure: Frame	Structural open rolled steel sections, UK average (IStructE)	1,248,897
		Gypsum plasterboard	31,350
		Reinforcement steel (rebar)	6,360
		Ready-mix concrete, RC32/40 with 25% GGBS cement	151,939
2.2	Superstructure: Upper Floors		2,327,697
2.2	Superstructure: Upper Floors	Glass wool acoustic insulation with expanded recycled glass granules coating	10,811
		Reinforcement steel (rebar)	43,539
		Ready-mix concrete, normal-strength, generic, C30/37 (4400/5400 PSI), 10% (typical) recycled binders in cement (300 kg/m3 / 18.72 lbs/ft3) (One Click LCA)	2,185,997
		Steel sheets, generic, 90% recycled content (typical), S235, S275 and S355 (One Click LCA)	87,350
2.3	Superstructure: Roof		16,677
2.3	Superstructure: Roof	Bituminous waterproofing system	443
		Precast concrete paving products, 2350 kg/m3 (BPCF)	14,100
		Drainage floor underlay from EPS	38
		Unreinforced EPDM Membrane for single-ply roofing- Ballasted system, 1.5 mm, 2.1 kg/m2, Elevate RubberGard EPDM 1,5 mm (HOLCIM SOLUTIONS AND PRODUCTS)	2,047
		Polypropylene vapour membrane, French average, 0.18 kg/m2 (MDEGD)	15

RICS Category	Category and material		Sum of Mass of raw materials kg
		Polyethylene sealing film for slabs, ép. 150 micron, Donnee par default (MDEGD)	11
		Geotextile from polypropylene, 300 g/m2 (MDEGD)	24
2.4	Superstructure: Stairs and Ramps		277,274
2.4	Superstructure: Stairs and Ramps	Hot-dip galvanized/zinc coated steel	275,985
		Stainless steel	1,290
2.5	Superstructure: External Walls		226,716
2.5	Superstructure: External Walls	Lightweight concrete block	53,437
		Brick, common clay brick	30,797
		Glass facades and glazing	149,328
		Gypsum plasterboard	1,402
		Mortar (masonry/bricklaying)	5,792
		Regular gypsum board	4,537
		Sandwich panels, metal	1,301
		Stone wool insulation panels	7,919
		Ready-mix concrete, normal-strength	1,996,301
2.6	Superstructure: Windows and External Doors		6,178
2.6	Superstructure: Windows and External Doors	Aluminium-framed glass doors	3,588
		Metal and industrial doors	2,590
2.7	Superstructure: Internal Walls and Partitions		564,163
2.7	Superstructure: Internal Walls and Partitions	Internal wall with improved sound insulation with steel studs, glass wool core and double panel gypsum board double siding	525,784
		Aluminium framed single glazed partition systems	10,865
		Regular gypsum board	9,603
		Gypsum plaster (interior applications)	17,911
2.8	Superstructure: Internal Doors		101,948
2.8	Superstructure: Internal Doors	Wooden door with solid chipboard core	101,948
3	Finishes		120,436
3	Finishes	Wallpaper adhesive	846

RICS Category	Category and material		Sum of Mass of raw materials kg
		Vinyl wallpaper	2,782
		Primer for wallpaper	550
		Tufted carpet tile	11,211
		Self-levelling screed	1,341
		Luxury vinyl flooring tile	23,324
		Decorative and acoustic plasterboard	5,030
		Suspended ceiling systems	23,364
		Acrylic emulsion paint	1,310
		Cement-based tile adhesive	475
		Ceramic glazed tile	50,204
4	Fittings, furnishings & equipment (FFE)		2,045
4	Fittings, furnishings & equipment (FFE)	Aluminium frame chair	445
		Table with round veneered medium density fibreboard top	1,600
5	Services (MEP)		243,623
5	Services (MEP)	Ceramic toilet with flush tank	7,517
		Porcelain sink	6,601
		Acrylic shower tray	5,792
		Shower head	54
		Electric elevator elements	35,238
		Multilayer PE-AL-PE pipe for water and gas distribution networks, DN 40 mm (1 1/2 in), 0.6 kg/m, wall thickness: 4 mm (One Click LCA)	22
		Drinking water supply piping network, per m2 GIFA (residential buildings) (One Click LCA)	3,065
		Sewage water drainage piping network, per m2 GIFA (residential buildings) (One Click LCA)	2,165
		Heat distribution piping network, per m2 heated area, all building types (One Click LCA)	2,173
		Steel pipes	63,567
		Ball fitting and manifolds	33
		Gate valve	3,390
		Sump pump, 23 kg/unit, 80 m3/h, Pompe de relevage [Dmax = 80 m3/h] [Hauteur = 20m] (DONNEE ENVIRONNEMENTALE GENERIQUE PAR DEFAUT)	23

RICS Category	Category and material		Sum of Mass of raw materials kg
		Rainwater storage tank, per cubic meter of water storage, 51.3kg/m3 d´eaux stockées, REHAU RAUSIKKO BOX (REHAU)	12,415
		Water heater (water cylinder), gas fired , French average, P=10kW, Chauffe eau gaz (DONNEE ENVIRONNEMENTALE GENERIQUE PAR DEFAUT)	620
		HVAC components and equipment	94,634
		Lighting	920
		Electrification components and systems	88
		HVAC equipment with refrigerant	1,858
		Hot-dip galvanized/zinc coated steel	3,450
7	Work to Existing Building		-

Appendix C – Pre-demo Audit.

CHARLOTTE DUTTON
PRINCIPAL SUSTAINABILITY CONSULTANT

+44 1454 806 882
charlottedutton@hoarelea.com

HOARELEA.COM

Broadwalk House
Southernhay West
Exeter
Devon
EX1 1TS