Temple Group Ltd

Bishopsgate Goods Yard, Plot 1
Circular Economy Statement
October 2023

# CIRCULAR ECONOMY STATEMENT

temple

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Document Control

| Version No. | Date | Authors | Reviewed | Approved |
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# Contents

# 1. Executive Summary

Plot 1 of the Bishopsgate Goodsyard (the Proposed Development) is approximately 61,000 $m^2$ of commercial and retail space and sits in the North-West corner of the Site, the footprint of the plot sits over the existing overground Shoreditch Station and its associated tracks (East London Line (ELL)), Box Park and artificial football pitches to the south. The Proposed Development will consist of 12 storeys in the eastern section and 16 storeys in the western section of the building, sitting predominantly within the boundary of the London Borough of Hackney (LBH), with a small section (to the east of the plot) in the London Borough of Tower Hamlets.

## 1.1. Summary of the Approach, Key Commitments and Targets

The purpose of this Circular Economy Statement is to demonstrate that the Proposed Development has applied circular economy principles, in line with London Plan Policy SI 7. Following the nine pillars of the Circular Economy, Bishopsgate Goodsyard Regeneration Ltd (the Applicant) will:

Ensure that material and resource use is minimised as far as possible. Focus has been given to minimising the quantities of materials and other resources used, as well as ensuring materials will be sourced responsibly during construction.

Ensure the design is flexible, adaptable, designed for longevity, reuse and recovery and by designing out construction and excavation waste arisings.

Manage excavation, construction and municipal waste to maximise recycling and reuse and minimise waste sent to landfill, in accordance with the waste hierarchy, managing as much waste as possible on site.

It is deemed unfeasible to retain the existing structures on site given their temporary design and leisure use and the desire to change the land use and aspirations for the project. By constructing a new development, the operational efficiency of the building can be optimised without the constraints of unsuitable existing structures. As demonstrated in this document, the Proposed Development has been designed for flexibility, adaptability and longevity. The existing Box Park structure on site will be dismantled and is designed for reuse in its current form elsewhere.

A number of assumptions have needed to be made to support this assessment, for example the use of indicative waste figures from the Waste Management Chapter of the Environmental Statement[1]. This is because a Site Waste Management Plan (SWMP) has not yet been developed for the Site.

[1] The Goodsyard Environmental Statement Volume 2. Chapter 6: Waste Management. September 2019.

The Applicant will continue to work with all key stakeholders on an overall sustainability vision for the development. They will minimise the embodied carbon of the project as demonstrated in the Whole Life Carbon Assessment (WLCA), submitted alongside this document in line with London Plan (2021) policy SI 2. Further workshops may be held to develop and investigate Circular Economy objectives with specific metrics (design team, contractor, suppliers, and facility managers).

At RIBA Stage 6, a Post-completion Report will be produced, setting out the predicted and actual performance against all numerical targets. Updated versions of the Recycling and Waste Reporting Form and Bill of Materials will be provided (alongside supporting evidence) and should any variation have occurred this will be identified and explained.

# 2. Introduction

## 2.1. Description of the Development

Temple has undertaken a Circular Economy Statement (CES) for the proposed commercial and retail development of Plot 1 at Bishopsgate Goodsyard (the Proposed Development), on behalf of Bishopsgate Goodsyard Regeneration Limited (the Applicant). This is in support of the reserve matters planning application for Plot 1 of Bishopsgate Goodsyard (the Site).

The Site is approximately 61,000 $m^2$ of commercial and retail space and sits in the North-West corner of the Site, the footprint of the plot sits over the existing overground Shoreditch Station and its associated tracks (East London Line (ELL)), Box Park and artificial football pitches to the south. The Proposed Development will consist of 12 storeys in the eastern section and 16 storeys in the western section of the building, sitting predominantly within the boundary of the London Borough of Hackney (LBH) though with its western edge falling into the London Borough of Tower Hamlets. The ground floor will be fully utilized in the areas outside of the station and accommodates retail units, service yard and plant space. The station is approximate 28 - 30 m wide while the viaduct is 12 – 14 m; a set of transfer trusses are provided running north to south in order to allow the building to span over the existing station box.

The Site is surrounded by roads on all sides except the south where football pitches and existing masonry arches are. The neighbouring buildings are ranging from 4 to 6 storeys, the tallest one being the Tea Building beyond the northwest corner. The west elevation is facing the ELL road bridge over Shoreditch High Street (A10). Existing Box Park retail containers are currently occupying the area between the ELL and the north facing Bethnal Green Road. These will be dismantled prior to site occupancy. In the east, over Braithwaite Street, an existing masonry wall with high heritage interest is located.

**Figure 1** shows the wider geographical location of the Bishopsgate Goodsyard. **Figure 2** shows the location of the Site.

**Figure 1 – Bishopsgate Goodsyard, Hackney & Tower of Hamlets, London**

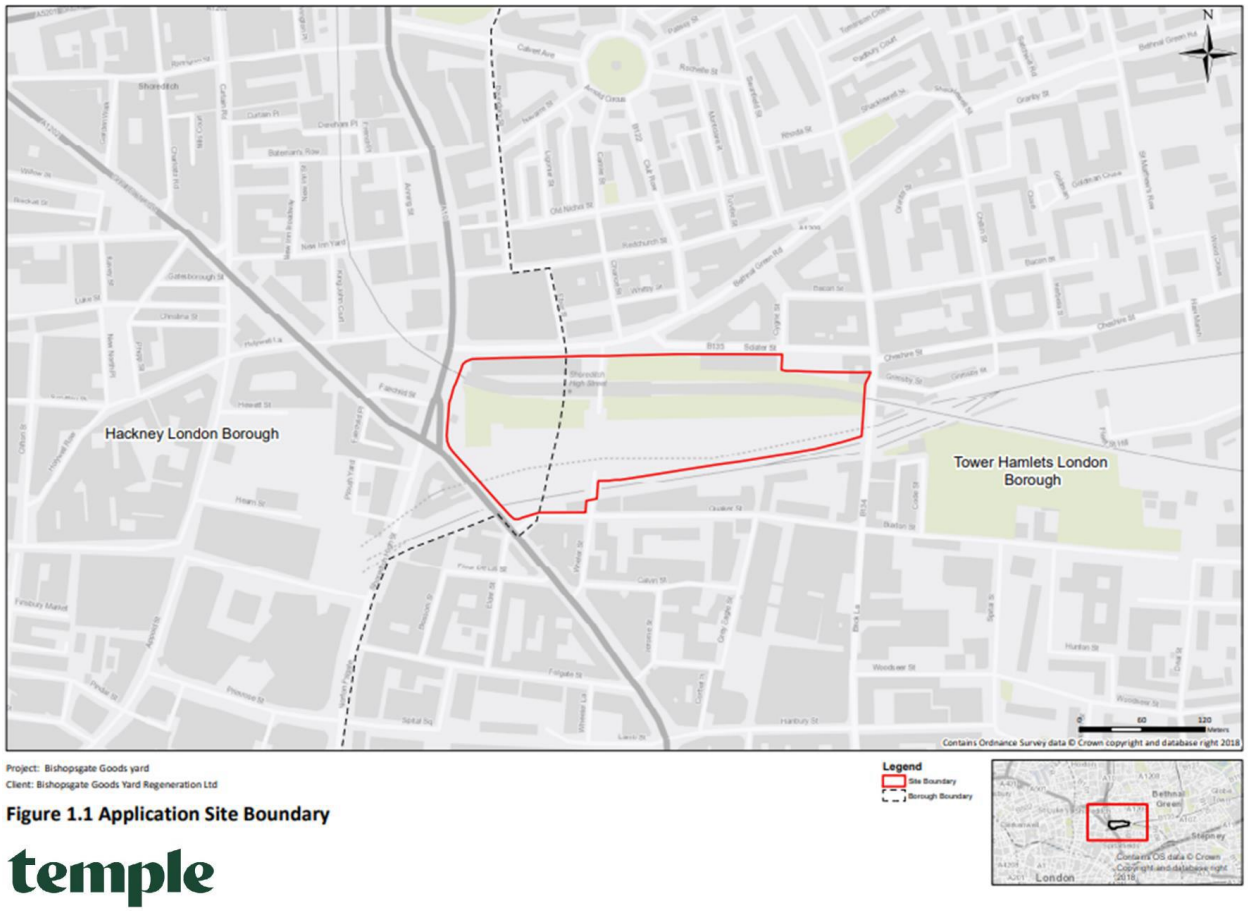
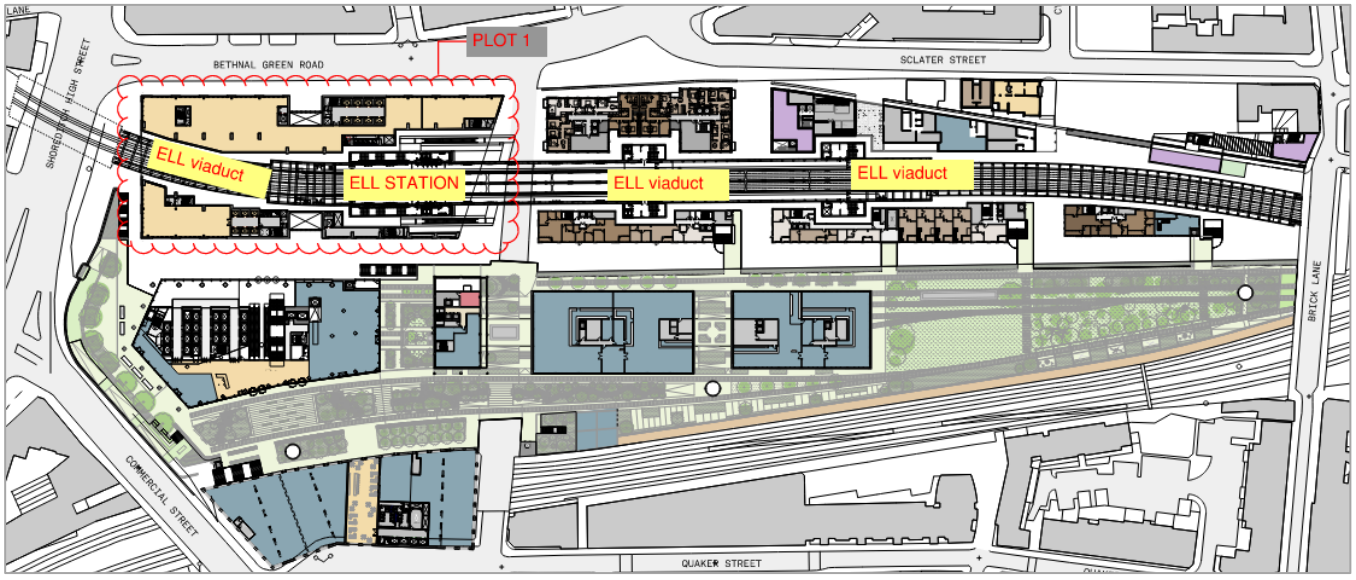



**Figure 2 Site Location – Plot 1**



This report is structured in accordance with the core guiding principles and commitments, as identified in the GLA's 'Circular Economy Statement: Guidance (pre-consultation draft)[2] and takes into consideration the London Plan 2021 Policy SI 7[3] to identify high level strategic opportunities early in the development process.

## 2.2. Method Statement

**Table 1 Circular Economy Guiding Principles**

| Guiding Principle | Individual Circularity Principles/Commitments |
|---|---|
| To conserve resources, increase efficiency and source sustainably. | Minimise the quantities of materials used.<br>Minimise the quantities of resources used.<br>Specify and source materials and other resources responsibly and sustainably. |
| To design to eliminate waste (and for ease of maintenance). | Design for longevity, adaptability or flexibility and reusability or recoverability.<br>Design out construction, demolition, excavation, and municipal waste arising. |
| To manage waste sustainably and at the highest value. | Manage demolition waste.<br>Manage excavation waste.<br>Manage construction waste.<br>Manage municipal waste (and industrial waste, if applicable). |

Through the process undertaken so far various options available for implementing Circular Economy principles have been identified within the Proposed Development.

**Table 2 Circular Economy Options at Plot 1 Bishopsgate Goodsyard**

| Option | Description | Feasibility Plot 1 Bishopsgate Goodsyard |
|---|---|---|
| Retain/Refurbishment | Redeveloped for similar needs and uses but meeting or exceeding current regulations and standards through restoring, refinishing and future proofing while minimising | It is not technically feasible to retain the building currently in situ. The Box Park development which currently sits within the site was design as a temporary structure and will |

[2] Mayor of London Circular Economy Statement Guidance Pre-Construction Draft

[3] Mayor of London, The London Plan March 2021. The Spatial Development Strategy for Greater London

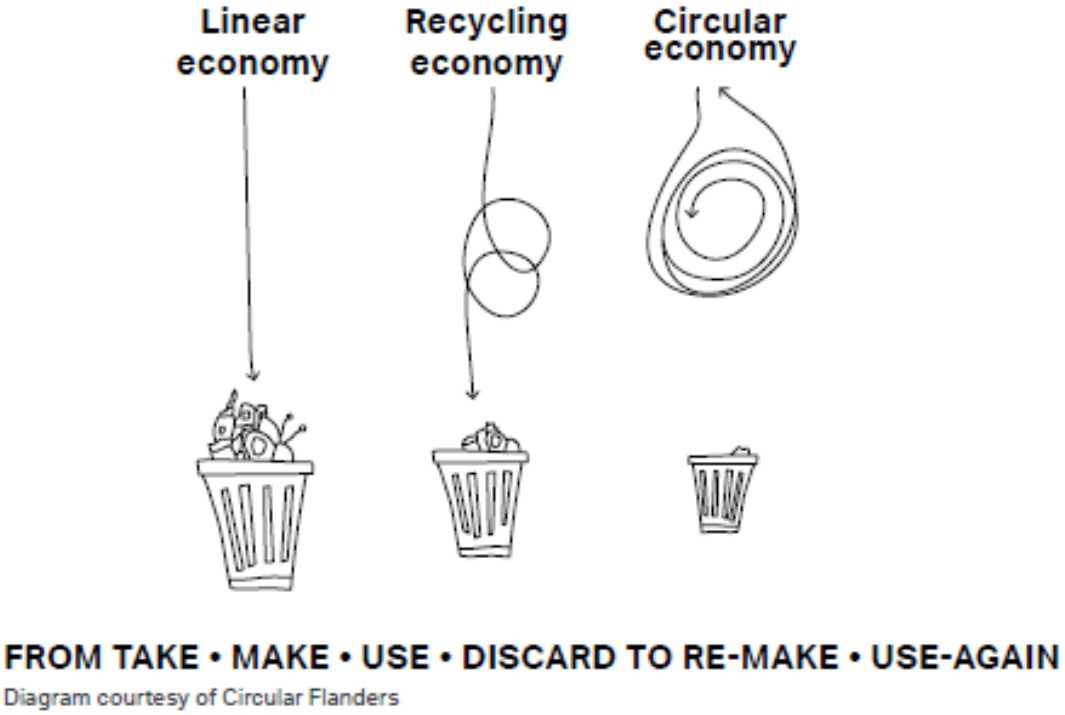
| Option | Description | Feasibility Plot 1 Bishopsgate Goodsyard |
|---|---|---|
| | changes and avoiding replacement of any parts. Parts of historical significance are incorporated in the design and carefully preserved. Designed for longevity, adaptability, or flexibility to prolong the new life of the development. | therefore be removed from site prior to possession of the site for this development. Refurbishment/retention of the building has been screened out of this report, due to the temporary nature of the building. |
| Refit/Repurpose | Redeveloped to accommodate different needs and/or uses (e.g., from industrial use to mixed use) but exceeding current regulations and standards through with significant changes and replacement of shorter-life parts. Parts of historical significance are incorporated in the design and carefully preserved. Designed for longevity, adaptability, or flexibility to prolong the new life of the development. | It is not technically feasible to retain the building on site due to it's temporary design. Therefore, repurposing/refitting the building on site has been screened out of this report. |
| Deconstruct and Reuse (remanufacture) | Building/infrastructure disassembled, with the entire asset being reconstructed elsewhere, or individual components directly reused elsewhere. | It is not technically feasible to retain the building on site. However, the existing building's modular design will allow it's reuse on other sites. |
| Demolish, recycle and compost | Traditional demolition, with elements and materials converted into new elements and materials and objects for use on the site or on another site nearby. | Where materials cannot be deconstructed and reused, they will be demolished, recycled, and reused to minimise the amount of waste produced. |

A detailed description of how the targets will be achieved are presented in the Strategic Approach Table (**Appendix B**), The Key Commitments Table (**Appendix C**), the Bill of Materials (**Appendix D**), and the Waste Metrics reporting form (**Appendix E**).

## 2.3. Circular Economy Aspirations

The Ellen MacArthur Foundation defines the circular economy as one that is "restorative and regenerative by design, and which aims to keep products, components and materials at their highest utility and value at all times, distinguishing between technical and biological cycles"[4].

**Figure 3 Linear, Recycling and Circular Economies (GLA, 2019)**




Current and future trends point toward the need for a fundamental shift in the way resources are consumed. A shift to a circular economy will provide considerable economic opportunities as the Circular Economy stands in contrast to the current linear system, where materials are mined, manufactured, used, and thrown away (**Figure 3**). The 'Take, Make, Dispose' model, or 'linear' economy, has fuelled rapid growth but is inherently unsustainable in the long term where resources are finite. Widespread adoption of Circular Economy principles would dramatically reduce the quantity of new material imported into the city, and the amount of waste needing to be managed including that exported.

The aim of this CES is to support the creation of a building that is high quality, flexible and pays attention to its lifespan, through appropriate construction methods and the procurement of robust materials. This is achieved by improving resource efficiency and keeping products and materials at their highest value for as long as possible and promoting waste avoidance and minimisation, in line with the waste hierarchy.

[4] Ellen MacArthur Foundation

# 3. Circular Economy Commitments

This section provides a summary of the specific commitments by the Applicant which are either embodied within the design already or will be investigated during the remaining design stages.

**Appendix C** provides a description of how each of the nine principles of circularity (Table 1) has been or will be applicable to each of the building 'layers' as described in the GLA guidance and RICS New Rules of Measurement (2012):

- Site; Substructure; Superstructure; Shell/skin; Services; Space; Stuff; Construction stuff.

## 3.1. Commitment 1.1 – Minimise the Quantities of Materials Used

The Proposed Development will ensure that material and resource use is minimised as far as possible.

The Proposed Development will minimise the quantities of concrete by adopting lean design principles, minimising structural depths and designing appropriate loadings for the proposed use. Speculative finishing of spaces will be avoided if there isn't a known tenant, avoiding the risk of unnecessary waste materials. Known tenants will be involved in finishing decisions.

For Plot 1 a Whole Life-Cycle Carbon Assessment (WLCA) was undertaken in line with London Plan Policy SI 2. Whole Life-Cycle Carbon (WLC) emissions are the sum total of all asset related GHG emissions and removals, both operational and embodied over the life cycle of an asset including its disposal. With operational efficiencies improving, the significance of embodied carbon emissions increases, in turn increasing the potential for reduction in overall carbon emissions through structural design choices including material selection. The WLCA uses LCA software (OneClickLCA) to establish performance indicators and help inform material and design choices.

## 3.2. Commitment 1.2 – Minimise the Quantities of Resources Used

The Site is previously developed / brownfield land which currently has temporary structures on site, thereby its redevelopment makes the best use of the land resource avoiding the development of greenfield land.

With regards to building operation, services and appliances offer the greatest opportunity to reduce resource use. The proposed Energy Strategy5 has been developed in line with the GLA energy hierarchy, as outlined below:

**Be Lean: Use Less Energy** – Passive design measures will reduce the demand for energy within buildings, without consuming energy in the process. The Proposed Development will include

[5] Bishopsgate Goodsyard, Plot 01. Energy Strategy 2023.

passive solar heating to limit the need for space heating in winter and limiting summertime solar gains; mechanical ventilation and heat recovery units to reduce uncontrolled ventilation in winter periods; an air source heat pump led cooling system to reduce energy demands; and water efficient fixtures and fittings including WCs with low flush volumes and flow restrictors on wash hand basin taps as well as a cascade water source heat pump system to generate hot water.

Be Clean: Supply Energy Efficiently – Whilst there are currently no District Heat Network proposals for the Site within the wider Shoreditch area, the Proposed Development looks to take advantage of a site-wide community heat network. The loop will connect all plots on the Bishopsgate Goodsyard site, allowing energy to be shared across the building, reducing the primary energy needed to meet the site-wide heating and cooling demands at any given time.

Be Green: Use Renewable Energy – High efficiency ground source and air source heat pumps are proposed to meet the thermal loads of the Proposed Development. Photovoltaics are proposed to be incorporated at rooftop level to provide onsite electricity generation.

Be Seen: Monitor, verify, and report on energy performance – Effective metering will be enabled by the provision of suitable infrastructure within the building services systems. Furthermore, the Applicant is committed to monitoring and reporting sustainability performance and data every year. The Proposed Development will fall under the Applicant's energy and carbon monitoring and reporting regime, which includes both landlord and tenant usage and encourages engagement with tenants to optimise operational performance.

In terms of carbon emissions, engagement with the design team has been undertaken to address the end-of-life strategy for the material. Building material data including quantities, types and formation has been made available and Whole Life Carbon Assessment (WLCA)[6] using the One Click LCA tool has been produced in conjunction with this CES. The aim of this is to identify and minimise the carbon emissions across the overall project life cycle, in accordance with new London Plan Policy SI 2. The initial findings and early recommendations have been included in an accompanying report in support of the reserve matters application.

Fossil fuel consumption will be reduced (in the 'construction stuff' layer) by a number of aspects set out in the supporting Construction Environmental Management Plan (CEMP) but could include using alternatives to diesel / petrol powered equipment where possible. Photovoltaics will be used where possible to reduce grid electricity consumption.

Consideration will be given to offsite modular construction where possible to reduce construction programme and therefore associated resources.

[6] Bishopsgate Goodsyard Temple Whole Life Cycle Analysis. October 2023

Consideration will be given to conserve water during all project phases and will include measures such as[7]:

- Installing smart water meters and using water efficient goods.
- Prioritising design and construction materials with a lower water footprint (e.g., altering a manufacturing process to use less water or coatings that prevent water leakage).
- Rainwater collection and harvesting and Greywater recycling.
- Ensuring pipes and services are maintained regularly to prevent leaks.

## 3.3. Commitment 1.3 - Specify and Source Materials and Other Resources Responsibly and Sustainably

Any new material specified in the Proposed Development will aim to be low impact materials with little or no adverse effect on either the environment or on human health throughout its lifecycle. Anticipated construction material quantities are shown in **Appendix D**. The Contractor will be required to source materials sustainably and procurement will be guided throughout the project and include the following:

- Preference will be given to the use of local sources and suppliers whenever possible and commercially viable to reduce 'transport miles.
- 100 % of timber will be Forest Stewardship Council (FSC), Programme for the Endorsement of Forest Certification (PEFC) or Forest Law Enforcement, Governance and Trade (FLEGT). Certified.
- 100 % concrete will be BES 6001 certified (Responsible Sourcing of Construction Products) and Ground Granulated Blast-furnace Slag (GGBS) content will be optimised for it's lower embodied carbon content.
- Where possible steel will be sourced from suppliers rated under the CARES Sustainable Constructional Steel Scheme.
- Where feasible other major construction materials will be certified under an Environmental Management System (EMS) such as ISO 14001.
- Chemicals on the Cradle-to-Cradle Red list will be eliminated from the materials inventory.

[7] Water Efficiency - The Contribution of Construction Products. 2015

- Where available the Principal Contractor will obtain an inventory of all ingredients used within each product. Some example labels for material transparency include Health Product Declaration (HPD), Declare Label and Cradle to Cradle Material Health Certification.

The use of recycled content and secondary aggregates will be encouraged and given priority, reducing the demand for virgin material and optimising material efficiency in construction. The design has taken in to account the reuse of reprocessed material from the site, e.g., recycled aggregates, timber, or masonry. As a minimum:

- Engineered fill (up to 100% recycled content);
- Concrete (10 % recycled aggregate content, and/or 10 % cement replacement with Ground Granulated Blast-furnace Slag (GGBS) or with fly ash. Fly ash cement content can reach 30 %, whilst GGBS can be increased to 50 % for all mixes providing longer curing time can be accommodated in the construction process);
- Reinforced steel (up to 40 % recycled content).
- Blockwork and concrete paving (at least 50 % recycled content).
- Insulation (at least 50 % recycled content).
- Plasterboard (at least 95 % recycled content).
- Carpet tiles (at least 50 % recycled content).

## 3.4. Commitment 2.1 - Design for Longevity, Adaptability, Flexibility, Reuse and Recoverability

Over the course of the Proposed Development's lifespan, changes could be required because of evolving functional demands. The project will seek to avoid any unnecessary materials use, cost and disruption arising from any future works by designing for adaptability and flexibility.

In terms of longevity, the Proposed Development will be durable, resilient, and able to cope with societal and environmental change. It will require little modification or replacement of parts, due to its 'loose fit', proportions and readiness for alternative technologies. This will result in long-term operational cost and whole life carbon savings, as well as avoidable weathering and changes to climatic conditions over time.

To be adaptable, the Proposed Development will be designed to meet the needs of the present, but with consideration of how those needs might change in the future. Elements which are known to require replacement within the life of the building will be removable without undue waste or damage. Furthermore, MEP plant can be accessed and maintained from basement level to facilitate easy replacement and upgrades as necessary.

Flexibility will be achieved through the design of spaces which will have flexible floorplates where feasible to allow easy reconfiguration. Spaces will be designed without excessive finishes, avoiding excess waste during reconfigurations.

Climate change adaptation will be incorporated within the design, with durability and longevity in mind, to ensure the scheme allows for challenging climatic conditions. Passive design strategies, such as that set out in the Flood Risk Assessment, the reduction in water usage, the fabric first approach to energy efficiency, retention and maintenance of landscaping and trees, and overheating analysis/ventilation strategy will enable the Proposed Development to cope with future climate scenarios, reflecting risks from high temperatures and high rainfall.

Reusing and/or recovery any elements of the existing structure at the site is not considered feasible due to the existing structure's temporary design, however as mentioned the existing building's modular design will allow it's reuse on other sites.

Notwithstanding, construction materials will be shared between sites, where feasible. The Contractor will sign up to an industry approved measure, such as BRE's Smart Waste[8] to support this.

## 3.5. Commitment 2.2 - Design Out Construction, Demolition, Excavation and Municipal Waste Arisings

Standardisation and modularisation will be considered to enable the Applicant to design out the need for components or materials and to ensure that waste reduction is planned in from project inception to completion. Material dimensions will use standard design shapes and sizes to enable future reuse, e.g., minimal bespoke cutting of materials as this can make replacements difficult to obtain. The Applicant will work towards <5 % 'special' components across standardised and/or modular designs. If feasible, the Proposed Development will use products and services designed to be assembled, deconstructed, and reused or recycled on a part-by-part basis. This will have benefits like enabling easier future recovery, incorporation in new designs, and reuse, and will result in less waste in manufacture and construction.

Offsite fabrication and DfMA (Design for Manufacture and Assembly) approaches will be adopted where practical to improve efficiencies, reducing both carbon emissions and the creation of waste.

Packaging will be minimised through design and contractors will be obliged to make use of supplier take-back schemes.

At the end of life (given to be 100 years), the strategy has been, where practical, designed for repurpose and replacement of individual elements, based on their design life periods. This will be developed in more detail as the design progresses but could be done through planning

[8] https://www.bresmartsite.com/products/smartwaste/

future of disassembled materials through a contractual agreement, making information available via a material passport and apply Building Information Modelling (BIM) to understand future life and creating a materials inventory detailing all the building elements and their reuse/recycled potential.

## 3.6. Commitment 3.1 – Manage Excavation Waste

The Defra Waste Hierarchy has been applied in the Proposed Development, with indicative targets developed for each waste stream, as well as an overall construction waste target and included on the datasheet in **Appendix E**. Standard, Good and Best Practice level targets will be updated at detailed design stage when more information is known.

Excavation waste will be managed by the relevant subcontractor. The Proposed Development will aim for net-zero import/export of soil to avoid excavation waste. In the event that this is unachievable:

- No excavation waste will be sent to landfill, unless hazardous or requires specialist disposal.
- It is not anticipated that topsoil from excavation activities will be generated. However, in the event it is created, topsoil will be given special attention due to its high value. No topsoil will be sent to landfill.

### Commitment 3.2 – Manage Construction Waste

In accordance with government targets, the demolition and construction contractor will be required to maximise the proportion of recyclable materials, including reclaimed aggregates from the demolition works. As part of this, the Proposed Development will aim to achieve a 95 % diversion from landfill rate for all construction waste.

All waste or other materials removed from the site will be in accordance with the requirements of the Environment Agency (EA), Control of Pollution Act 1974 (COPA), Environment Act 1995, Special Waste Regulations 1996 and the Duty of Care Regulations 2003. Where materials cannot be recycled or re-used on site, the Principal Contractor will identify opportunities for potential re-use of materials off-site. To reduce potential risks throughout the demolition and construction phases of the proposed development, the following measures will be implemented:

- All waste shall be stored in appropriate colour-coded containers or bays prior to consignment. Containers and bays shall be sufficiently allocated to maximise waste segregation wherever space allows.

- The containers/bays will be designed appropriately to prevent waste escaping. This includes any secondary containment to comply with the site requirements for pollution prevention.
- Burning of waste or unwanted materials will not be permitted on-site.
- All containers and bays will be clearly labelled with the waste contents. Labelling will include any specific handling instructions (e.g., hazardous labelling), shall include colour coding and will be sufficiently clear to minimise cross contamination of waste streams.

## 3.7. Commitment 3.3 – Manage Municipal Waste

Waste reduction during the operational phase has also been considered. Appropriate levels of waste storage will be provided within the residential homes and with the bin storage areas. Storage for bulky items can facilitate the collection of white goods and other items, to potentially lead to improved repairs and recycling rates. High profile signage will be provided, where feasible, in communal waste storage facilities to encourage correct use of the recycling service. New occupants will be encouraged to reduce and prevent waste through good practice measures such as providing information packs about how the waste segregation and recycling scheme operates. The information will also include details on waste prevention schemes within the London Borough of Hackney and the London Borough of Tower Hamlets. There may be limitations on municipal waste management as residents are reliant upon the service provided by the Council.

# 4. End of Life Strategy

In line with Circular Economy Principles, an end-of-life strategy is important to prevent unintended waste creation upon deconstruction of the building. The below table makes reference to the building in layers principle, outlining the appropriate strategies which vary depending on the built element.

**Table 3 Building Layers End of Life Strategy**

| Element | Building in layers principle | End of Life Strategy / Opportunity |
|---|---|---|
| Structure | Design for Deconstruction | Enable major structural components to be deconstructed at end of life without causing undue waste by enacting a design for disassembly plan. |
| Skin | Design for ease of refurbishment | The building is designed to be robust and expected to last in excess of 100 years. Notwithstanding, elements such as windows are expected to require replacement during the lifespan of the building. Design will allow for their repair and replacement without creating excessive waste. Windows will be designed to be removeable with minimal impact to surrounding materials and replaceable from the inside to avoid the need for extensive scaffolding. |
| Services | Design for long life, loose fit | Services will be designed to cater for present and future needs. Service replacements will be designed into the Proposed Development to avoid the creation of unnecessary waste. |
| Space | Design for flexibility & adaptability | Internal partitions shall be designed to be non-structural to allow internal reconfiguration of spaces. |
| Stuff | Design for service and sharing | Consideration will be given to partnership contracts with companies, incentivising longer lasting products and those that allow for reuse and refurbishment as occupants requirements change. |
| Site | Design for remediation, integrated infrastructure and longevity | If the Proposed Development were to be removed in the future, the site would be returned to the same state as found. |

# 5. Conclusion

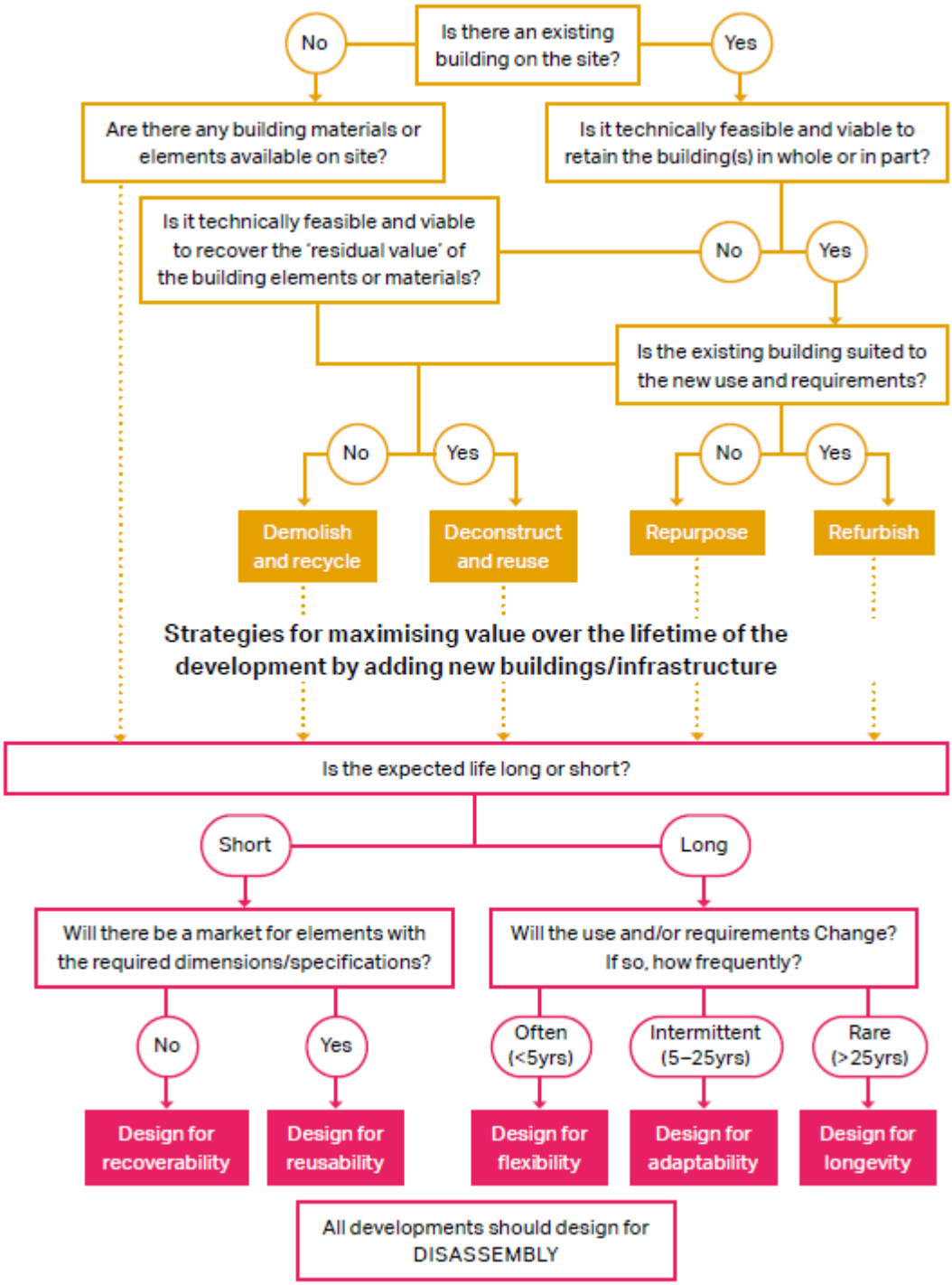
The purpose of this Circular Economy statement is to demonstrate that the Proposed Development of Plot 1 at Bishopsgate Goodsyard in the London Borough of Hackney and the London Borough of Tower Hamlets has considered the circular economy principles to minimise embodied carbon, maximising the value extracted from materials and prioritising the reuse and recycling of materials.

- With regard to Circular Economy principals, the Applicant has demonstrated:
- How demand for materials will be minimised.
- How demand for quantities of resources will be reduced. Including, land, carbon dioxide, water, and energy.
- How materials and resources will be sourced sustainably considering low impact materials and recycled content.
- How the Proposed Development is designed for longevity, adaptability, flexibility, reuse and recoverability.
- How the Proposed Development will design out waste through, standardisation of components, modularisation, prefabricated building designs, building in layers, servitisation / leasing of materials and through an end-of-life strategy (including design for disassembly).
- How construction demolition, excavation and municipal waste will be reduced and handled at the Proposed Development in accordance with the waste hierarchy.

In addition:

- The Applicant will continue to work with all key stakeholders on an overall sustainability vision for the Proposed Development.
- The Applicant will minimise the embodied carbon of the project as demonstrated in the Whole Life Carbon Assessment, and;
- 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).

## Appendix A Circular Economy Decision Tree




Mayor of London Circular Economy Statement Guidance

## Appendix B Strategic Approach Template

Demonstrates the strategic approach to focus on conserving materials and resources, and to source materials responsibly.

| Aspect | Phase / Building / Area | Steering Approach | Explanation | Target | Supporting Analysis / studies/ survey/ audits |
|---|---|---|---|---|---|
| Circular Economy Approach for the new development | Whole Development | Sustainable Sourcing | Contractor to operate a Sustainable Procurement Plan. Materials to be sustainable sourced. Local suppliers to be preferred where possible to reduce material transport distances. | 100% FSC/PEFC certified timber 100% concrete BES 6001 certified (Responsible Sourcing of Construction Products). Where possible steel to be sourced from suppliers rated under the CARES Sustainable Constructional Steel Scheme. Other materials to be certified under an Environmental Management System (EMS) such as ISO 14001. | *Unavailable at time of writing report* |
| | | Manage Construction Waste | Contractor to record total construction waste generated and how this waste will be disposed of. Measures to be implemented to manage | 95% diversion from landfill at end of life. | *Unavailable at time of writing report* |

| Aspect | Phase / Building / Area | Steering Approach | Explanation | Target | Supporting Analysis / studies/ survey/ audits |
|---|---|---|---|---|---|
| | | | and reduce construction waste. | | |
| | | Design for Durability | Durable, long-lasting materials will be utilised. | Durable external materials to be used to limit effects of environmental degradation. Measures to be implemented to protect finishes internally and externally. | *Unavailable at time of writing report* |
| | | Optimise Material Use | Materials to be used efficiently to reduce wastage on site. | | *Unavailable at time of writing report* |
| | | Functional Adaptability | Design for adaptability and flexibility - to increase building lifespan. | | *Unavailable at time of writing report* |
| | | Reuse and recycling at end of life | Design for disassembly and deconstruction – to ensure materials are retained in a high value state. | | *Unavailable at time of writing report* |
| Circular Economy Approach from Municipal waste during operation | Whole Development | Storage and segregation of operational waste | On-site bin store to accommodate sufficient storage for both | 95% diversion from landfill | *Unavailable at time of writing report* |

| Aspect | Phase / Building / Area | Steering Approach | Explanation | Target | Supporting Analysis / studies/ survey/ audits |
|---|---|---|---|---|---|
| | | | recyclable and landfill waste. | | |

# Appendix C Key Commitments for the Proposed Development

As required by the GLA Guidance, this section demonstrates how each of the 9 circularity commitments (under the 3 core principles) have been considered in terms of the life cycles for each of the 8 building layers. The contents of this table has been completed as far as practical at this stage, and the key challenges to the assessment are identified. It is expected that this will evolve, be refined, and updated as the designs progress and new members join the project team. This table also highlights details (as far as can be specified now) as to who will be responsible for developing circularity measure and monitor the success to allow the post-construction stage of the CES to be completed.

| Principle 1: Conserve resources, increase efficiency and source sustainably | |
|---|---|
| **Minimise the quantities of materials used** | |
| Site | Aim for net-zero import/export of soil. Incorporate material on site where possible; will be informed by pre-construction audit report. |
| Sub-structure | Minimise the quantities of concrete; Minimise structural depths and design appropriate loadings for proposed use. |
| Superstructure | Minimise the quantities of concrete. Lean design principles adopted.<br>Material efficiency review. Use of blue roofs, rain gardens and swales to reduce attenuation tank requirements. |
| Shell/Skin | Lean design principles implemented for façade to reduce overall weight. Investigate opportunities for offsite modular construction. |
| Services | TBC |

| | |
|---|---|
| Space | No speculative finishing of retails spaces if there isn't a known tenant, avoiding the risk unnecessary waste of materials.<br>Involve known tenants in finishing decisions. |
| Stuff | No speculative finishing of retails spaces if there isn't a known tenant, avoiding the risk unnecessary waste of materials.<br>Involve known tenants in finishing decisions. |
| Construction Stuff | Aspects to be set out in the CEMP and SWMP, to be reviewed with contractor during preconstruction supply chain engagement. |
| Summary | Lean design principles adopted. Design out material use and ensure adaptability to reduce operational waste. |
| Challenges | Limited existing site materials available for reuse. |
| Counter Actions +Who + When | Ensure structural design is optimised. A pre-construction audit will be completed to fully investigate how reuse of construction, and excavation material can be maximised. Preconstruction contractor engagement required to determine Modular construction opportunities. |
| Plan to prove and quality | Material efficiency review exercise. |
| Minimising the quantities of other resources used (energy, water, land) | |
| Site | Measures set out in Sustainability Statement. Exceed the GLA recommended 35% reduction against the notional gas boiler baseline for regulated emissions. |
| Sub-structure | Consider DfMA and modular design opportunities to reduce construction programme therefore associated resources (energy, water, etc). |

| | |
|---|---|
| Superstructure | Use of material replacements such as GGBS to reduce energy demands. |
| Shell/Skin | Follow the Energy Hierarchy. Repetition of design may provide the opportunity to consider DfMA and modular design to reduce construction programme therefore associated resources (energy, water, etc). |
| Services | Use of photovoltaics where possible to reduce grid electricity consumption. Achieve GLA Be Lean targets of 15% (non-domestic) reduction against the notional gas boiler. This will ensure low operational energy demand of spaces. Exceed the GLA recommended 35% reduction against the notional gas boiler baseline for regulated emissions. Efficient COP of community network will ensure low thermal operational energy consumption. Installation of flow restrictors in bathroom appliances and dishwasher/washing machines with low water consumption. Meet 10l/p/d for non-residential buildings. |
| Space | TBC |
| Stuff | TBC |
| Construction Stuff | Contractor to implement Construction Environmental Management Plan (CEMP) to reduce use of energy and water during construction phase. |
| Summary | Consideration of offsite modular construction where possible.<br>Measures to reduce energy and water consumption. Produce energy needs renewably onsite as far as possible. |
| Challenges | Maturity of the market /design solutions. |
| Counter Actions +Who + When | Preconstruction contractor engagement required to determine modular construction opportunities. |

| | |
|---|---|
| Plan to prove and quality | Energy and Water monitoring installed and measured. |
| **Specifying and sourcing materials responsibility and sustainability** | |
| Site | Sustainable procurement plan to be implemented across the development. Incorporate material on site where possible; will be informed by pre-construction audit report. |
| Sub-structure | Prioritise certified products / materials, i.e.:<br>- EPDs<br>- BES6001<br>- FSC<br>- PEFC<br>- CARES<br>- ISO14001<br><br>Concrete GGBS content to be optimised.<br>Prioritise materials that can be reused at end of life. Prioritise locally sourced materials where possible. |
| Superstructure | Prioritise certified products / materials, i.e.:<br>- EPDs<br>- BES6001<br>- FSC<br>- PEFC |

| | |
|---|---|
| | - CARES<br>- ISO14001<br>Report on percentage materials with EPDs.<br><br>Prioritise locally sourced materials where possible.<br>Prioritised materials that can be reused at end of life. |
| Shell/Skin | Report on percentage materials with EPDs. Prioritise certified products / materials i.e.:<br>- EPDs<br>- BES6001<br>- FSC<br>- PEFC<br>- CARES<br>- ISO14001<br><br>Recycled content of Concrete and Brickwork to be maximised as part of reducing Whole Life Carbon. Concrete GGBS content to be optimised. |
| Services | Report on percentage materials with EPDs.<br>Maximise recycling opportunities of services, pipes and cables. |
| Space | Prioritise certified products /materials, i.e.: |

| | |
|---|---|
| | - EPDs<br>- BES6001<br>- FSC<br>- PEFC<br>- CARES<br>- ISO14001 |
| Stuff | TBC |
| Construction Stuff | Create sustainable procurement plan and review with Contractor prior to commencement. To be reviewed with contractor during preconstruction supply chain engagement. |
| Summary | Sustainable procurement plan to be established across the development.<br>Materials to be responsibly sourced, and locally sourced where possible.<br>Structural elements to have high recycled content or cement or replacement levels. |
| Challenges | Potential cost premium. Higher recycled content targets may limit supply chain. Structural constraints for higher GGBS/Fly Ash content. |
| Counter Actions +Who + When | Ensure structural design is optimised (Structural engineer).<br>Preconstruction supply chain engagement. |
| Plan to prove and quality | Report on percentage materials with Environmental Product Declarations (EPDs). |
| Principle 2: Design to eliminate waste (and for ease of maintenance) | |

| Designing for reusability / recoverability / longevity / adaptability / flexibility | |
|---|---|
| Site | - |
| Sub-structure | - |
| Superstructure | PT design more durable than conventional slabs. |
| Shell/Skin | The following aspects have been considered:<br>- Modular assembly<br>- Off-site fabrication<br>- Disassembly strategy<br>- Standardised components<br><br>Elements which are known to require replacement within the life of the building to be removable without undue waste or damage. |
| Services | MEP plant can be accessed and maintained from basement level.<br>Elements which are known to require replacement within the life of the building to be removable without undue waste or damage. |
| Space | Design flexible commercial spaces with no excessive finishes. Adequate space for appropriate operational waste storage. |
| Stuff | Minimise the amount of appliances and furnishings, to enable new occupants the fit out. |

| | |
|---|---|
| Construction Stuff | Sustainable Procurement Plan to be developed and reviewed with contractor. |
| Summary | Design spaces for flexibility whilst enabling access to all elements that will need to be reused/replaced. |
| Challenges | Designing for longevity can be a compromise with recoverability. |
| Counter Actions +Who + When | Structural engineer, architect, contractor inputs during design finalisation and pre-construction contractor onboarding. |
| Plan to prove and quality | Construction and operational site waste management plan/strategy document. |
| Designing out construction demolition, excavation, industrial and municipal waste arising | |
| Site | Aim for net-zero import/export of soil to avoid excavation waste. |
| Sub-structure | Site generally flat so minimal earth movements required. |
| Superstructure | The following have been considered as methods of reducing construction waste:<br>- Modular construction<br>- Off-site fabrication<br>- DfMA approaches |
| Shell/Skin | The following have been considered as methods of reducing construction waste:<br>- Modular construction<br>- DfMA approaches<br>- Off-site fabrication |

| | |
|---|---|
| Services | Consider supplier take back schemes. |
| Space | The following have been considered:<br>- Minimising Packaging<br>- Supplier take-back schemes<br>- Provision of suitable construction and operational waste storage. |
| Stuff | Minimise provision of stuff prior to occupation. |
| Construction Stuff | Accurately forecasting the amount of materials needed, using larger pack sizes to reduce the amount of packaging per unit and by using cardboard packaging instead of plastic where possible. |
| Summary | Designing out waste through modular design, offsite fabrication and DFMA approaches. Site Waste Management Plan (SWMP) to be developed in order to identify all opportunities for waste reduction. |
| Challenges | Supplier takeback schemes still an immature market for certain materials in the UK. |
| Counter Actions +Who + When | Site Waste Management Plan (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. |
| Plan to prove and quality | Review procurement plan with contractor during preconstruction supply chain engagement. |
| Principle 3: Manage waste sustainably and at the highest value | |
| Excavation waste (how waste from excavation will be managed) | |

| | |
|---|---|
| Site | Aim for net-zero import/export of soil to avoid excavation waste. |
| Sub-structure | - |
| Superstructure | - |
| Shell/Skin | - |
| Services | - |
| Space | - |
| Stuff | - |
| Construction Stuff | - |
| Summary | Excavated waste to be reused on site where possible. |
| Challenges | New basement level will increase excavation soil quantities and consequently it may be challenging finding applicable uses for excavated waste. |
| Counter Actions +Who + When | Cut and Fill report to be completed. |
| Plan to prove and quality | - |
| Construction waste (how waste arising from construction of the layers will be reused or recycled) | |
| Site | Aim to achieve 95% diversion from landfill. |
| Sub-structure | Aim to achieve 95% diversion from landfill. |

| | |
|---|---|
| Superstructure | Aim to achieve 95% diversion from landfill. |
| Shell/Skin | Aim to achieve 95% diversion from landfill. |
| Services | Aim to achieve 95% diversion from landfill. |
| Space | Aim to achieve 95% diversion from landfill. |
| Stuff | Guidance and targets to be included in fit-out guidance to be drafted. |
| Construction Stuff | Review with contractor during pre-construction, supply chain engagement. |
| Summary | Overarching project targets of 95% diversion from landfill of non-hazardous construction waste. |
| Challenges | Dealing with the most challenging waste streams commonly sent to landfill. |
| Counter Actions +Who + When | Site Waste Management Plan (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. |
| Plan to prove and quality | Final site waste management plan data as used for BREEAM assessment. |
| Municipal and Industrial waste (how the design will support operational waste management) | |
| Site | Refuse storage planned in conjunction with site waste management strategy. |
| Sub-structure | Suitable refuse storage provided to enable segregation and storage of waste. |
| Superstructure | - |
| Shell/Skin | - |

| | |
|---|---|
| Services | - |
| Space | - |
| Stuff | Provide space for segregation of recyclables and bulk items to allow for collection for recycling. |
| Construction Stuff | - |
| Summary | Appropriate refuse storage to enable recycling and best practise waste management. |
| Challenges | Limitations in segregated waste collected by the local authority. |
| Counter Actions +Who + When | - |
| Plan to prove and quality | - |

| Layer and Building element category | | Material type | Material quantity (kg) | Recycled content (% by value) | Reused content (% by value) | Estimated reusable materials (kg) | Estimated recyclable materials (kg) |
|---|---|---|---|---|---|---|---|
| 0.1 | **Demolition: Toxic/Hazardous/Contaminated Material Treatment** | | | | | | |
| 0.2 | **Major Demolition Works** | | | | | | |
| 0.3 | **Temporary Support to Adjacent Structures** | | | | | | |
| 0.4 | **Specialist Ground Works** | | | | | | |
| 1 | **Substructure** | Ready-mix concrete (coumns, piling, slabs) | 16,696,207 kg | Cement replacement - Fly ash up to 30%, GGBS up to 50% | | | |
| | | Reinforced concrete (piling, slab, column) | 8,845,842 kg | Cement replacement - Fly ash up to 30%, GGBS up to 50% | | | |
| | | Precast concrete (ground beam) | 1,287,770 kg | Cement replacement - Fly ash up to 30%, GGBS up to 50% | | | |
| | | Secant pile wall | 370,000 kg | | | | |
| | | Clay soil | 53,867,972 kg | | | | |
| | | Formwork | 1,587,415 kg | | | | |
| | | Attenuation tank | 24,000 kg | | | | |
| | | Reinforcement steel | 948,283 kg | Up to 40% recycled content | | | |
| | | Waterproofing membrane | 3136 kg | | | | |
| | | | | | | | |
| 2.1 | **Superstructure: Frame** | Steel | 5,285,427 kg | Up to 40% recycled content | | | |
| | | Precast concrete | 196,020 kg | Cement replacement - Fly ash up to 30%, GGBS up to 50% | | | |
| | | Concrete for masonry | 30,018 kg | Cement replacement - Fly ash up to 30%, GGBS up to 50% | | | |
| | | Reinforcement steel | 640,000 kg | Up to 40% recycled content | | | |
| | | Formwork and insulation | 4,518,303 kg | At least 50% recycled content | | | |
| | | | | | | | |
| 2.2 | **Superstructure: Upper Floors** | Structural steelwork | 5,225,000 kg | Up to 40% recycled content | | | |
| | | Reinforcement steel | 36 kg | Up to 40% recycled content | | | |
| | | Concrete (flooring) | 14,739,110 kg | Cement replacement - Fly ash up to 30%, GGBS up to 50% | | | |
| | | Recycled surface finishing | 1,400,000 kg | | | | |
| | | Galvanized steel | 570,000 kg | Up to 40% recycled content | | | |
| | | Intumescent paint | 434,000 kg | | | | |
| | | | | | | | |
| 2.3 | **Superstructure: Roof** | Waterproofing system | 18,500 kg | | | | |
| | | Reinforced steel | 745,811 kg | Up to 40% recycled content | | | |
| | | Concrete (slab) | 2,148,000 kg | Cement replacement - Fly ash up to 30%, GGBS up to 50% | | | |
| | | Intumescent Paint | 240,000 kg | | | | |
| | | Stainless Steel | 12,236 kg | Up to 40% recycled content | | | |
| | | Structural Steel | 239,000 kg | Up to 40% recycled content | | | |
| | | Wood construction | 10 kg | | | | |
| | | Green roof system | 48,000 kg | | | | |
| | | | | | | | |
| 2.4 | **Superstructure: Stairs and Ramps** | Precast concrete | 121,830 | Cement replacement - Fly ash up to 30%, GGBS up to 50% | | | |
| | | | | | | | |
| 2.5 | **Superstructure: External Walls** | Alluminium (curtain walling, façade) | 25,140 kg | | | | |
| | | Concrete cladding system | 1,043,641 kg | Cement replacement - Fly ash up to 30%, GGBS up to 50% | | | |
| | | Terracotta bricks | 110,000 kg | | | | |
| | | | | | | | |
| 2.6 | **Superstructure: Windows and External Doors** | Revolving door | 1,800 kg | | | | |
| | | Other external doors | 22,094 kg | | | | |
| | | Reinforced concrete | 10,466,400 kg | Cement replacement - Fly ash up to 30%, GGBS up to 50% | | | |
| | | Alimium composite panel | 35,872 kg | | | | |
| | | | | | | | |
| 2.7 | **Superstructure: Internal Walls and Partitions** | Concrete masonry brick | 9,644,400 kg | | | | |
| | | | | | | | |
| 2.8 | **Superstructure: Internal Doors** | Wood (doors) | 626,886 kg | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 3 | **Finishes** | Coating | 260 kg | | | | |
| | | Tiles (floors, walls) | 59,099 kg | | | | |
| | | Anti-corrosive paint | 2,900 kg | | | | |
| | | | | | | | |
| 4 | **Fittings, furnishings & equipment (FFE)** | Stainless Steel | 500 kg | | | | |
| | | Wood | 2,700,000 kg | | | | |
| | | Sheet metal | 5,929 kg | | | | |
| | | Services fit out elements | 358,800 kg | | | | |
| | | Floor panels | 460,000 kg | | | | |
| | | | | | | | |
| 5 | **Services (MEP)** | Alarm system | 220 kg | | | | |
| | | Sanitaryware (stainless steel) | 969 kg | | | | |
| | | Sanitaryware (ceramics) | 8,800 kg | | | | |
| | | Electric elevator elements | 115,782 kg | | | | |
| | | Ventilation, heat, electricty, watewater, freshwater system | 200,000 kg | | | | |
| | | | | | | | |
| 6 | **Prefabricated Buildings and Building Units** | | | | | | |
| 7 | **Work to Existing Building** | | | | | | |
| 8 | **External works** | Platic pipework, dock element | 36,668 kg | | | | |
| | | | | | | | |
| | | **TOTAL** | **34,322,064 kg** | | | **0 kg** | **0 kg** |
| | | **Material intensity (kg/m2 GIA)** | **712 kg/m2 GIA** | | | **0 kg/m2 GIA** | **0 kg/m2 GIA** |

# Appendix E Recycling and Waste Reporting Form

This section reports the estimates of total amount of waste and material generated during excavation, demolition, and management methods construction. Where possible, information has been extracted from the Waste Management Chapter of the Environmental Statement[9].

For the post-construction stage CES, the Principal Contractor will update the form with actual monitored figures.

The following evidence is required to complete the Waste Metrics Form:

Cut and fill calculations.

Reused or recycled content calculations, including supporting details such as Environmental Product Declarations, specification documents, etc.

Relevant extracts from the Site Waste / Resource Management Plan.

Relevant extracts from the Municipal / Operational Waste Management Plan.

In addition, when it is intended to send waste to landfill applicants must provide written confirmation the receiving landfill has the capacity to deal with waste over the lifetime of the development. Where possible, confirmation should be provided for all waste handling facilities, in or outside London[10]. This should be supported by the calculations / estimates of waste arising. Figures must align with the Waste Metrics form.

[9] The Goodsyard Environmental Statement Volume 2. Chapter 6: Waste Management. September 2019.

[10] The UK Department for Environment, Food & Rural Affairs Waste Duty of Care Code of Practice (2018) states: 'You have a responsibility to take all reasonable steps to ensure that when you transfer waste to another waste holder that the waste is managed correctly throughout its complete journey to disposal or recovery.'

| Category | Total Estimate | Of which… | | | | Source of Information |
|---|---|---|---|---|---|---|
| | t/m $^2$ Gross Internal Area (GIA) | % Reused or recycled onsite | % Reused or recycled offsite | % Not reused or recycled 5% max | | |
| | | | | % To landfill | % To other management (e.g. incineration) | |
| Excavation waste | TBC | 100 | 0 | 0 | | Project commitment to Net Zero import/export of soil |
| | | | | | | |
| Demolition Waste | N/A | N/A | N/A | N/A | | N/A |
| | | | | | | |
| Construction Waste | TBC | 0 | 0 | 100 | | |
| | | | | 5 | 95 | Environmental Statement Volume 2. Chapter 6: Waste Management |
| | t/annum | | | % Not reused or recycled | | |

| Category | Total Estimate | Of which… | | | | Source of Information |
|---|---|---|---|---|---|---|
| | | % Reused on or off site | % Recycled or composted on or off site | % To landfill | % To other management (e.g. incineration) | |
| Municipal waste | TBC | TBC | TBC | Max. 35% and **no** recyclable or compostable waste | | TBC on completion of SWMP. 95% diversion from landfill rate commitment. |
| | | | | | | |
| Industrial waste (if applicable) | N/A | N/A | N/A | Max. 35% and **no** recyclable or compostable waste | | N/A |
| | | | | | | |

# Appendix F Policy and Regulations

This section highlights the policies and regulations which are relevant to the Proposed Development.

## Legislation: Climate Change Act 2008[11]

The UK government amended the **Climate Change Act 2008** in June 2019 to target net zero carbon emissions by 2050. The target requires the UK to bring all greenhouse gas emissions to net zero by 2050, compared with the previous target of at least 80% reduction from 1990 levels. Additionally, any emissions must be balanced by schemes to offset an equivalent amount of greenhouse gases from the atmosphere.

## National Policy: (NPPF)[12]

The revised **NPPF** sets out the Government's planning policies for England and provides a framework for achieving sustainable development. This can be summarised as "*meeting the needs of the present without compromising the ability of future generations to meet their own needs*" and supports sustainable development.

## Regional Policy: The London Plan March 2021 Error! Bookmark not defined.

The London Plan defines a Circular Economy as "One where materials are retained in use at their highest value for as long as possible and are then reused or recycled, leaving a minimum of residual waste"[13] **Error! Bookmark not defined.**.

## Policy SI 7 Reducing Waste and supporting the circular economy states

*"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:*

*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.*

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

*ensure that there is zero biodegradable or recyclable waste to landfill by 2026.*

*meet or exceed the municipal waste recycling target of 65 per cent by 2030.*

---

[11] Climate Change Act 2008

[12] Ministry of Housing, Communities & Local Government – National Planning Policy Framework February 2019

[13] The London Plan 2021 Policy SI7 'Reducing waste and supporting the Circular Economy'

*meet or exceed the targets for each of the following waste and material streams:*

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

*b) excavation – 95 per cent beneficial use.*

*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.*

## Hackney Local Plan 2033[14]

The Hackney local Plan 2033 states under Policy LP57: Waste:

*"A. Developments should seek to minimise waste during both construction and operation of the development, and should provide clear details in plans for the facilities needed for the storage and collection of waste and recycling."*

## RICS Whole Life Carbon Assessment for the Built Environment[15]

The RICS professional statement underpins the British Standard EN 15978, "providing a consistent whole life carbon assessment implementation plan and reporting structure for built projects and promoting the reliability of whole life carbon assessments by acting as a solid reference for the industry. This professional statement is intended to standardise whole life carbon assessment and enhance consistency in outputs, by:

*Providing specific practical guidance for the interpretation and implementation of the methodology in EN 15978 in carbon calculations. This is to achieve coherent and comparable results that can be used to benchmark the whole life carbon performance of built assets. The specific objectives of this professional statement are to:*

*provide a consistent and transparent whole life carbon assessment implementation plan and reporting structure for built projects in line with EN 15978*

*enable coherence in the outputs of whole life carbon assessments to improve the comparability and usability of results*

*make whole life carbon assessments more 'mainstream' by enhancing their accessibility and therefore encourage greater engagement and uptake by the built environment sector*

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[14] Hackney Local Plan 2033. Strategic Planning. Adopted July 2020.

[15] Royal Institute of Chartered Surveyors (RICS) Whole Life Carbon Assessment for the Built Environment, 1st edition whole-life-carbon-assessment-for-the-built-environment-1st-edition-rics.pdf

*increase the reliability of whole life carbon assessment by providing a solid source of reference for the industry*

*promote long-term thinking past project practical completion, concerning the maintenance, durability and adaptability of building components and the project as a whole; and*

*promote circular economic principles by encouraging future repurposing of building components, as well as of the project as a whole, through quantify."*

*As a minimum, RICS requires the WLCA to be carried out before the commencement of the technical design (RIBA Stage 4 or equivalent) of the project".*

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