HOARE LEA

Hayes Park West.
London Borough of Hillingdon.
Shall Do Hayes Developments Ltd.

SUSTAINABILITY
STAGE 2 REPORT – CIRCULAR ECONOMY STATEMENT

REVISION P02 – 23 OCTOBER 2025

STAGE 2

Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
P01	26/09/2025	Draft issue for review.	N. Rumley	C. Brierley	J. Drane
P02	23/10/2025	Planning issue following comments.	N. Rumley	J. Pollard	J. Drane

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Contents.

Executive summary.

This Circular Economy Statement has been prepared by Hoare Lea on behalf of Shall Do Hayes Developments Ltd, (hereafter referred to as 'the Applicant') in support of the full planning application for development at the Site of Hayes Park West (hereafter 'the Proposed Development').

Project description.

This report has been prepared in support of the detailed planning application being submitted by Shall Do Hayes Developments Ltd ('the Applicant') to the London Borough of Hillingdon ('the Council') for the proposed residential development at Hayes Park West, Hayes Park, Uxbridge, UB4 8FE ('the Site').

"Partial demolition and redevelopment of the existing multi storey car park to provide new homes (Use Class C3), landscaping, car and cycle parking, and other associated works."

Scope of Circular Economy statement.

The Circular Economy Statement (CES) focuses on the work carried out to define a strategic approach to CE principles for the project and identify high level strategic opportunities early in the development process. The CES summarises principles and responds to the published guidance put forward by the Greater London Authority (GLA) in the London Plan (2021) and Circular Economy Statement London Planning Guidance (LPG)(2022).

Circular Economy approach.

CE principles have been considered as part of the overall sustainability strategy for the project.

As a site-wide strategy, the project has formulated commitments around reducing waste and materials on Site. The project is also committing to:

- Designing for materials efficiency and waste reduction.
- Diverting excavation and construction waste from landfill.
- Maximising the use of materials with recycled and reused content; and
- Embedding responsible sourcing practices, including giving preference to solutions available closer to the Site.

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. Designing for longevity and adaptability and maximising the use of recycled 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.

Circular Economy targets.

Targets around waste, material efficiency and responsible sourcing from relevant policies are listed below. It is recommended that these are reviewed by the Proposed Development's Design Team at each key project stage and relevant measures are incorporated to meet these targets.

GLA Circular Economy KPIs and Targets

The Proposed Development is referrable to the GLA. The following targets are set out by the GLA for Circular Economy.

- Minimum of 95% of Excavation waste materials diverted from landfill for beneficial reuse.
- Minimum of 95% of Construction waste materials diverted from landfill for reuse, recycling or recovery.
- Minimum of 65% Municipal waste recycling rate by 2030.
- Minimum of 20% by value of the building material elements to be comprised of recycled or reused content.

Based on information available at this stage, the Proposed Development will meet the policy requirements for excavation waste materials, construction waste materials and municipal waste.

Key commitments.

Documenting information on design measures pertaining to material efficiency, waste minimisation, and embedding longevity, adaptability, and design for disassembly in the structure, architecture, facade, and overall development design is critical to further reporting and embedding circularity. This report details the current proposed Circular Economy strategy in support of the planning application for the Proposed Development, including a summary of actions taken thus far. The key commitments of the strategy are:

Material Reuse

By including the existing lower ground area as a basement and reusing pad foundations, the level of excavation and new materials required will be reduced. The use of concrete cement replacements will reduce the quantity of new materials required.

Adaptability and Flexibility

The flexibility and adaptability of spaces in the Proposed Development, which notably includes the use of non-load bearing partitions within the homes, allows for a reduction of potential waste associated with adaptation of use in the future as they are designed to accommodate changes to suit new uses without further or destructive works being carried out. The Mechanical, Electrical and Public Health (MEP) systems design considers ease of access for maintenance and repairs, with systems that allow for replacement of individual components or assemblies, rather than replacing the whole system. Fittings, furnishings and equipment will avoid adhesives where possible to allow for changes in residential tenant needs without damage.

Design for Disassembly

The new building design includes but is not limited to the following measures to reduce waste arisings at replacement or end of life:

- Fittings and furnishings will be placed and not glued to allow for disassembly at the end of life and potential recycling of finishes or reuse of tiles. Mechanical fixings will be prioritised.
- The Design Team will maintain good documentation on the structure, materials and construction for future disassembly.
- MEP services will be accessible to allow ease of disassembly before demolition, with metal and WEEE elements able to be recycled.
- Internal walls will be non-structural, to allow ease of disassembly with potential for reuse and recycling.

Design for Longevity

New layers will be specified with durable materials to prolong their operational life, including mechanically fixed concrete façade panels. Where possible materials will be selected and specified such that they can be easily recycled upon decommissioning of the proposed building.

New MEP plant equipment will be specified with longer lifespan to ensure robust material distribution. During FFE selection, long-life and durability will be prioritised.

1. Introduction.

1.1 Site context.

The application site is located 'Hayes Park West, Hayes Park, Uxbridge, UB4 8FE' and the 'site area' is approximately 0.9 ha. Hayes Park West ('the site') is located within the Charville Ward of the London Borough of Hillingdon ('the Council'), who will be the relevant Local Planning Authority for the application. The site sits within a wider former business park known as 'Hayes Park'.

The Hayes Park estate comprises a historically significant office campus in West London, situated in Hayes, and bounded by a structured, pastoral landscape. The estate is framed by the buildings known as Hayes Park North ('HPN'), Hayes Park Central ('HPC'), and Hayes Park South ('HPS'), both positioned within a broader landscape setting originally envisaged by architect Gordon Bunshaft as a modernist business park set in parkland. HPC and HPS are Grade II* listed due to their architectural and historic interest.

In recent years, the character and context of Hayes Park estate has undergone a fundamental shift from office use to residential, which following a series of planning applications is delivering 188 new homes. The relevant applications are as follows:

- Hayes Park North ('HPN') – a three-storey, early 2000s office building, was granted Prior Approval in 2022 for conversion to 64 homes (Ref: 12853/APP/2021/2202), followed by permission for external enhancements to the building (Ref: 12853/APP/2023/3720). These works are now on-site and being delivered.
- Hayes Park Central ('HPC') and Hayes Park South ('HPS') – both mid-century, listed office buildings, were granted full planning permission and listed building consent in early 2024 for conversion into 124 homes, with associated landscape enhancements (Ref: 12853/APP/2023/1492).

Hayes Park West is bound to the north and west by dense trees planting and open parkland, which is private land owned by the Church Commissioners. To the east the site is bound by HPN, and to the south by the listed HPC and HPS.

The entirety of the site and much of the surrounding land is located within the Green Belt. Beyond that, there are large areas of low-density terraced housing. There is a wide selection of parks and leisure facilities in the area, including the Hayes End Recreation Ground, Park Road Green and the Belmore Playing Fields. The nearest town centres are located at Hillingdon Heath Local Centre, 1.6km to the southwest, and at Uxbridge Road Hayes Minor Centre, 3.3km to the southeast.

Figure 1 Existing Site and Structure.

1.2 The Proposed Development.

This report has been prepared in support of the detailed planning application being submitted by Shall Do Hayes Developments Ltd ('the Applicant') to the London Borough of Hillingdon ('the Council') for the proposed residential development at Hayes Park West, Hayes Park, Uxbridge, UB4 8FE ('the site').

"Partial demolition and redevelopment of the existing multi storey car park to provide new homes (Use Class C3), landscaping, car and cycle parking, and other associated works."

The Proposed Development has evolved through an extensive pre-application and wider stakeholder consultation process, which has included collaborative discussions with the Council, GLA, Historic England ('HE'), and a number of other key stakeholders.

The Proposed Development provides the opportunity to make sustainable use of a redundant, disused car park, and deliver a high-quality residential development that can enhance the setting of the adjacent listed buildings. The Proposed Development includes the provision of a high proportion of family homes, which is a significant planning benefit that directly addresses the Council's priority housing need.

From the outset, the Applicant has taken a carefully informed design approach, proposing a new building of outstanding architectural quality. The objective has been to enhance the setting of the adjacent listed buildings, providing a contextual architectural response and significantly improving the landscape setting.

The Proposed Development will deliver a range of planning benefits, completing the wider transformation of the Hayes Park estate and this unique new community.

Table 1 Proposed housing mix

Bedrooms	Total
1 bed	16
3 bed	36
TOTAL	52

Figure 2 Proposed lower ground floor plan

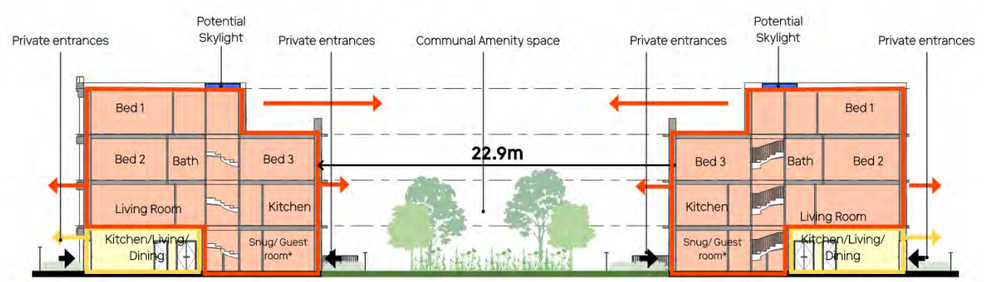


Figure 3 Proposed building section

1.3 Project team.

Table 2 details the key project team members.

Table 2: Key Project Team Members

Discipline	Organisation
Client / Developer	Shall Do Hayes Developments Ltd
Architect	Studio Egret West
Landscape Architect	Studio Egret West
Building Services Consultant	Hoare Lea
Sustainability Consultant	Hoare Lea
Structural Consultant	Whitby Wood
Ecologist	Greengage
Cost Consultant	Hennessey Godden

1.4 Policy & guidance.

While the Proposed Development is located in the London Borough of Hillingdon, it also falls within the green belt and is therefore referable to the GLA. Therefore, both London GLA policies and Hillingdon Local Plan policies are applicable.

Hillingdon Local Plan 2020

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

1.4.1 Policy DMIN 4: Reuse and Recycling of aggregates

The Council will promote the recycling of construction, demolition and excavation waste. All developments will be encouraged to:

i) recycle and re-use construction, demolition and excavation waste as aggregates.

ii) process and re-use the recyclable material on-site, and where this is not possible, the material should be re-used at another site or for land restoration; and

iii) use substitute or recycled materials in new development in place of primary minerals.

London Plan, March 2021

The London Plan adopted in March 2021, sets out a policy framework to support the delivery of a circular built environment in London. Towards this, the policy SI7 '*Reducing waste and supporting the Circular Economy*' outlines specific requirements and targets for promoting the adaptation of Circular Economy principles throughout the whole-life cycle of a development. An overview of the policy SI7 and other relevant policies is outlined below.

1.4.2 Policy SI 7 Reducing Waste and Supporting the Circular Economy

7A. 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% by 2030.
5. Meet or exceed the targets for each of the following waste and material streams:
    a. Construction and demolition – 95%
    b. Excavation – 95% 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.

7B. 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.

7C. Development Plans that apply Circular Economy principles and set local lower thresholds for the application of Circular Economy Statements for development proposals are supported."

1.4.3 Policy 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 published guidance document "London Plan Guidance - Circular Economy Statements (March 2022)" which interprets the policies set out above and describes what Circular Economy Statements should include.

1.4.4 Policy D3 Optimising Site Capacity Through the Design -led Approach

The Circular Economy Guidance references Policy D3 – Optimising site capacity through the design-led approach. This ensures that the development makes the best use of the land by following a design-led approach which optimises the capacity of sites.

The Policy references that developments must aim for high sustainability standards, and account for the principles of Circular Economy, including identifying and utilising existing heritage assets and architectural features as part of a proposed design.

1.5 Method statement.

1.5.1 Sustainability Strategy

A holistic, interdisciplinary approach has been adopted to define and communicate the sustainability strategy for the Proposed Development. The framework utilises systems thinking and spans the whole project lifecycle with the project legacy in mind from day one.

The design of the Proposed Developments is based on sustainable design and construction principles as informed by planning requirements and industry best practice. The project has utilised a sustainability framework based on five defined factors; the people, the building, the social network, the natural environment, and the economic aspects to capture the multi-faceted sustainability benefits and values that the development seeks to bring to the application Site; local community; surrounding businesses and future building users.

Social Capital	Create a lasting positive social impact in our communities.
Human Capital	Put Health & Wellbeing front and centre.
Natural Capital	Design climate change resilient and adaptable spaces.
Physical Capital	Decarbonised development.
Economic Capital	Supporting local communities.

1.6 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 remove waste completely and increase efficiency. There is an incredible breadth of opportunity that this shift in approach will create across the entire supply chain.

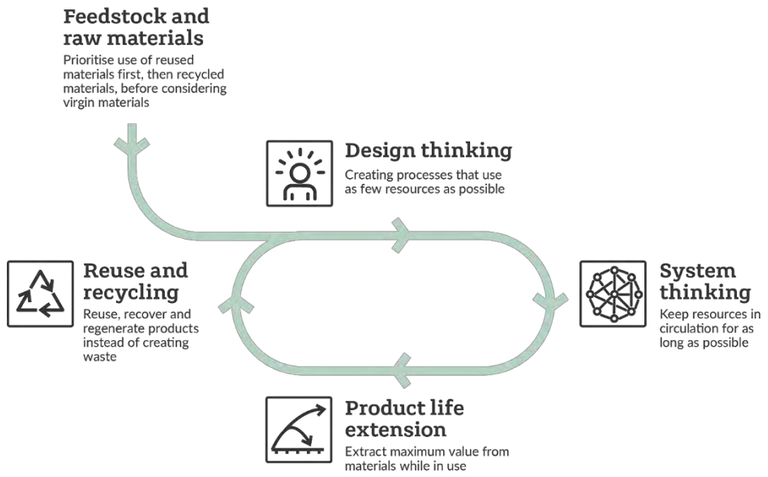


Figure 4: Circular Economy approach.

Circular Economy considerations have formed a key part of the project sustainability strategy, given the scale of the Proposed Development. 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 the design team or other stakeholders.

As a site-wide strategy, the project has formulated commitments around the promotion of sustainable use of materials. This includes prioritising the 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
- Closed loop / Take back – working with manufacturers who take back used products to recover the value by using them to make new products where possible.

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.

There is a clear understanding that, in order to achieve the ambitious objectives, set for the project, the Design Team will have to engage and collaborate extensively with the supply chain to foster knowledge sharing and fast track innovative ideas and techniques spanning the design, construction and operation stages thus enabling synergies.

1.6.1 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 Proposed Development has been defined and agreed.
- A series of sustainability workshops have been held during the concept design stages, in collaboration with the Applicant 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 in a Circular Economy workshop, held early in the design stage. The workshop was led by the sustainability consultant and reviewed opportunities and challenges for the Site, identifying potential actions against the circular design approaches.
- Additional workshops will be held during the detailed design stages to explore further opportunities to incorporate key Circular Economy principles into aspects of the design, procurement, and construction process.
- 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 are:
  - Pre-redevelopment studies were conducted on the carpark to explore the feasibility of various designs and layouts. (Appendix A)
  - A Pre-Demolition Audit has been undertaken for the existing structures on site to gauge which elements on site can be retained, reused, reclaimed or recycled. (Appendix B)
  - A Site Waste Management Plan (Appendix C) has been developed detailing the waste management strategies for all materials handled on Site.
  - An Operational Waste Management Plan (Appendix D) has been developed in support of the planning application for the Proposed Development to demonstrate that the Proposed Development will: achieve the relevant targets (depending on the operational activity) set out in London Plan Policy SI 7, and include shared, adequate, flexible, and easily accessible storage space and collection systems, as required by London Plan policies D3, SI 7 and D6.

Figure 5: Sustainability Strategy – Delivery Phase (Inception to Completion).

2. Circular Economy targets.

The following table (Table 3) details the minimum target for waste arising and recycling throughout the project, which follow the policy requirements as set out in Section 1.4.

Table 3: Response to the London Plan Circular Economy policy targets

Circular Economy targets for existing and new development	Policy requirement	Target (%)	Policy met?	How will performance against this metric be secured through design, implementation, and monitoring?
Demolition waste materials (non-hazardous)	Minimum of 95% diverted from landfill for reuse, recycling or recovery.	95%	Yes	The Pre-Demolition Audit report identifies the key demolition products on site and their potential for reclaim, reuse and recycling.
Excavation waste materials	Minimum of 95% diverted from landfill for beneficial reuse.	95%	Yes	A Site Waste Management Plan has been produced to monitor and review waste management during construction and report against targets.
Construction waste materials	Minimum of 95% diverted from landfill for reuse, recycling or recovery.	95%	Yes	A Site Waste Management Plan has been produced to monitor and review waste management during construction and report against targets.
Municipal waste	Minimum 65% recycling rate.	65-75%	Yes	An Operational Waste Management Strategy has been produced to monitor and review waste management during operation and report against targets.
Recycled content	Minimum 20% of the building material elements to be comprised of recycled or reused content.	20%	Yes	A calculation for recycled content by value is provided with the application. (Appendix E). Based on the Stage 2 calculations the Proposed Development is currently achieving 25% recycled content by value.

3. Circular Economy design 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.

The Circular Economy London Planning Guidance (LPG) (2022)
The Circular Economy LPG highlights six principles that should be fundamental to a proposed design:

1. Building in layers – ensuring that different parts of the building are accessible.
2. Designing out waste – ensuring that waste reduction is planned through inception to completion of the project design.
3. Designing for longevity.
4. Designing for adaptability or flexibility.
5. Designing for disassembly.
6. Using elements, systems and materials that can be reused and recycled.

The LPG highlights the Circular Economy hierarchy for building approaches, which sets out an approach that maximises the use of existing materials - see Figure 6. Diminishing returns are gained by moving outwards through the hierarchy, through refurbishment and reuse to recycling materials arising from demolition.

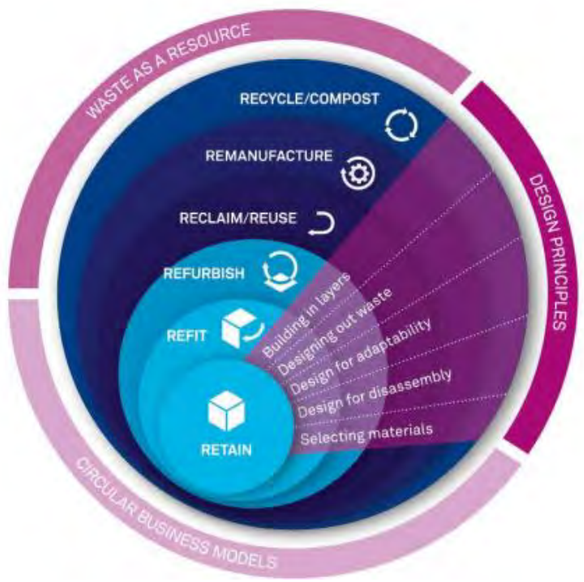


Figure 6: Circular Economy Design Approaches

As discussed earlier, a series of sustainability-focused and Circular Economy specific workshops were held in collaboration with the project team to help craft a holistic and consistent sustainability approach for the Proposed 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.

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

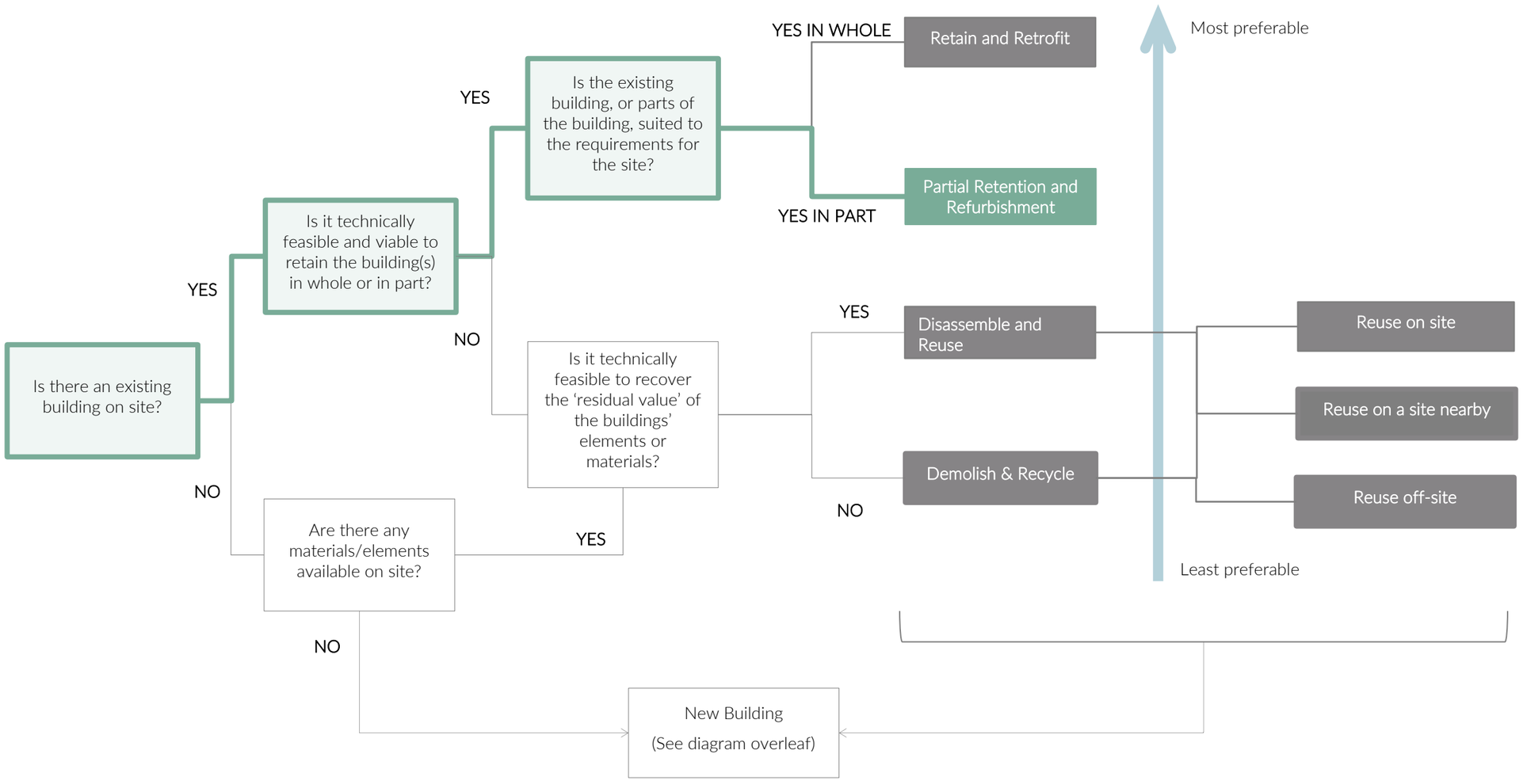
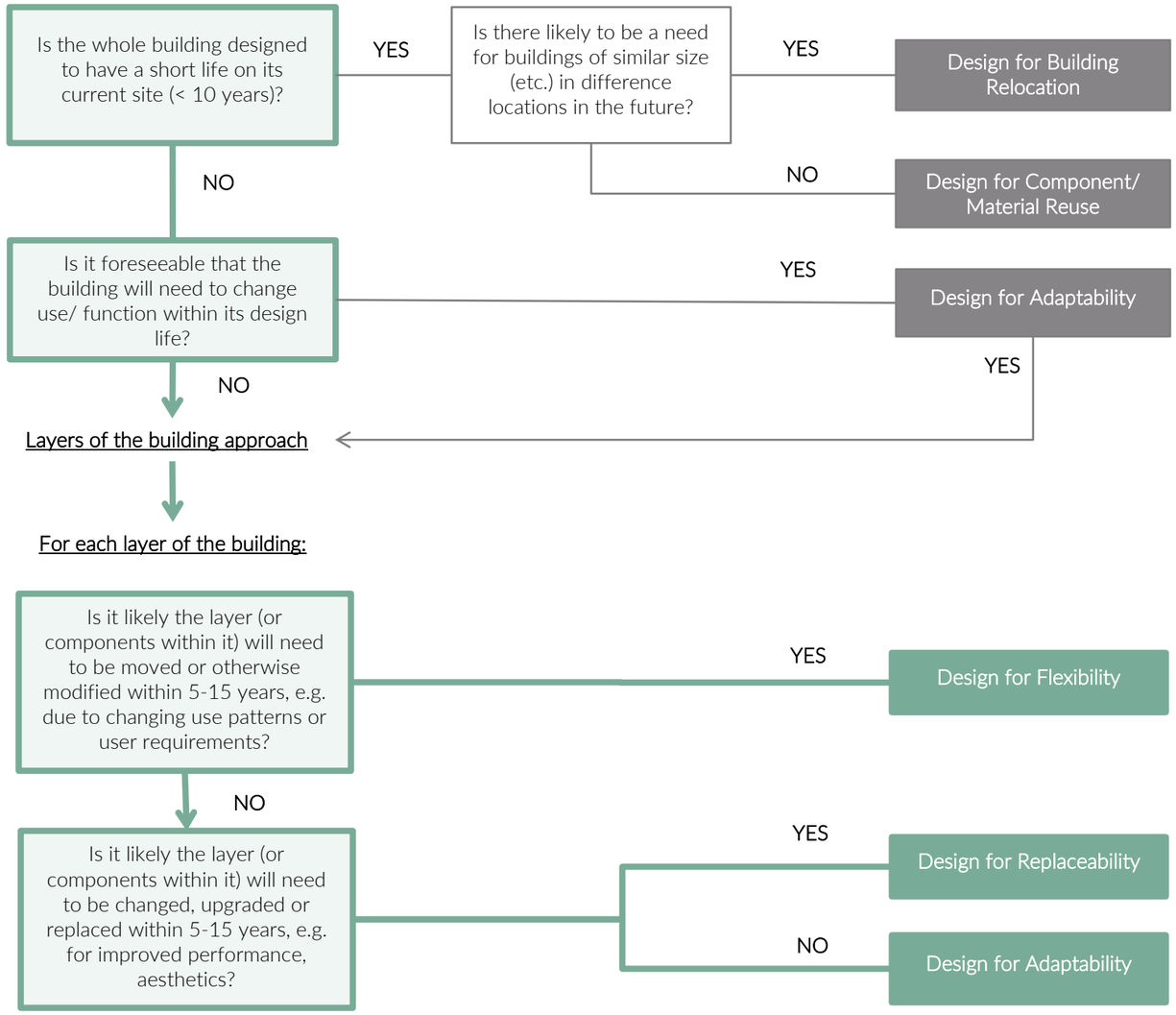


Figure 7: Project specific decision tree for choosing the most appropriate Circular Economy strategy.

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

Figure 8: GLA's Design approaches for new buildings and structures.

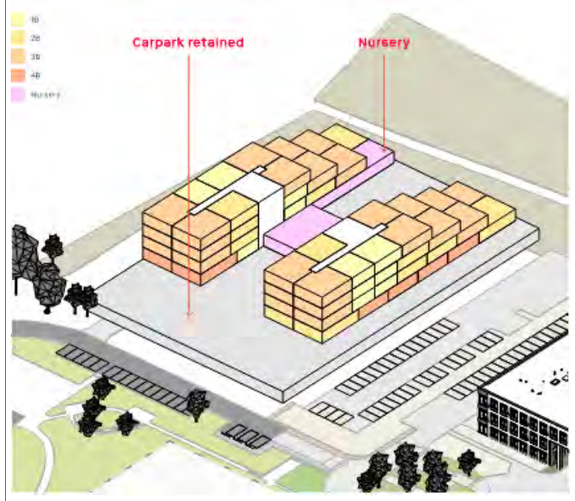
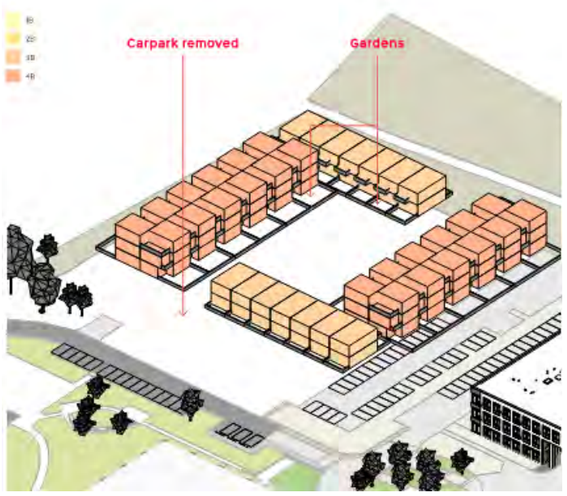
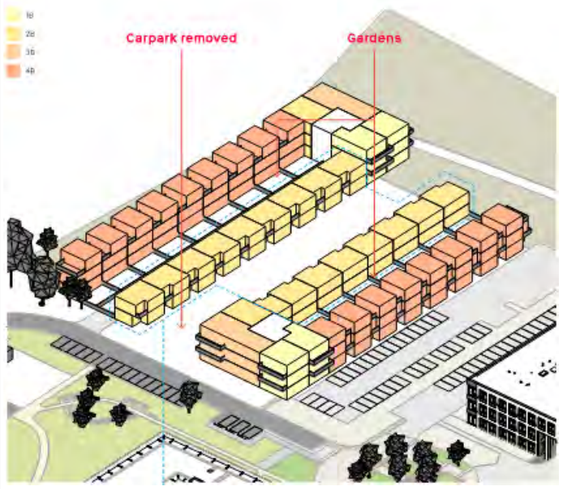
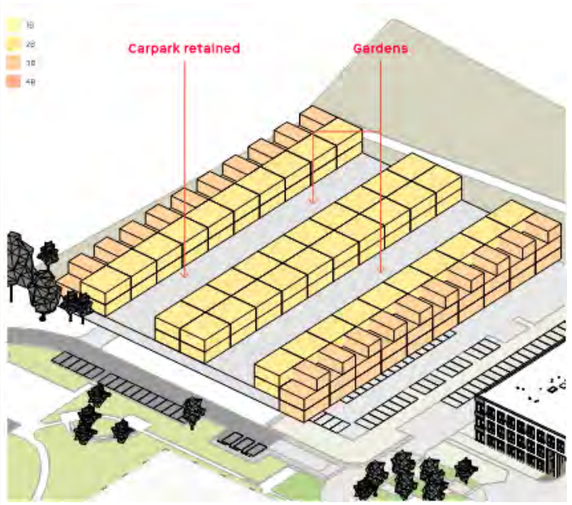
3.1 Proposed strategy for existing structures/buildings.

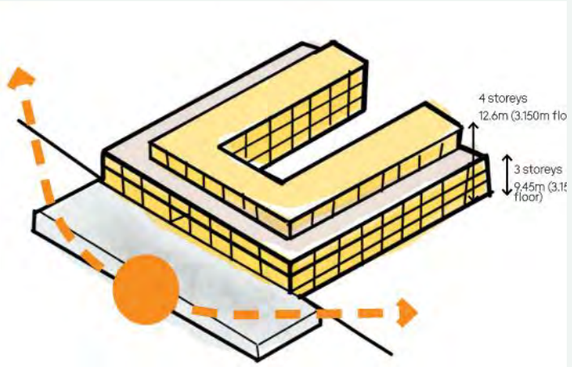
A pre-redevelopment study (prepared by SEW) outlines the strategies explored for the Proposed Development. This work has been undertaken to assess options for residences whilst reusing the existing structures. The options considered include Park Apartments, Communal Homes, Gardened Streets or Terraced Homes.

3.1.1 Redevelopment scenarios

The scenarios tested for residential redevelopment have been detailed below.

Table 4 Redevelopment scenarios for the Proposed Development.

Redevelopment scenario	Details
Park Apartments 	This scenario includes retention of the car park level, with apartments centred around a landscaped podium to provide a mix of homes within a low-rise block sitting over the original apartment deck with a planted podium. This would achieve 73 homes with a mix of 1, 2, 3 and 4 beds and a total GIA of 7,453m^2. The 5-storey height above the retained car park was considered inappropriate in the green belt and adjacent to the listed buildings, and so it was determined that redevelopment should start from the sunken car park level.
Communal Homes 	This scenario includes demolition of the car park to provide terraced homes centred around a shared communal garden. This would achieve 38 homes with 3 and 4 bed mix and a total GIA of 5,059m2. The feedback from the Council encouraged openness in the amenity space and discouraged dominating, competing or undermining the park and original buildings. In addition, development proposals should not negatively affect the amenity, daylight, or sunlight of neighbouring properties and open spaces.
Gardened streets 	This scenario includes full car park demolition to provide terraced homes connected via a garden street oriented each- west with dual aspect and generous outdoor amenity. This would achieve 56 homes with a mix of 1, 2, 3 and 4 beds and a total GIA of 6,834m2. The feedback from the council encouraged generous external amenities to be met.
Terraced Homes 	This scenario includes retention of the existing structure to provide back-to-back terraced homes connected via a green street-oriented east, each home with access to amenity at different levels. This would achieve 60 homes with 2 and 3-bed mix and a total GIA of 8,033m2. The feedback from the council encouraged privacy, spacing and generous external amenities.

Redevelopment scenario	Details
Proposed Development: Homes centred around landscaped courtyard 	The chosen approach is to provide a mix of 1 and 3-bed terraced homes around a landscaped courtyard, providing approximately 52 homes, 6,037m^2 of GIA and generous external amenity. The sites openness is preserved whilst achieving required separation distances, parking standards, a sustainable dwelling typology. This approach also retains some of the existing car park structure. The Proposed Development provides the opportunity to make sustainable use of a redundant, disused car park, and deliver a high-quality residential development that can enhance the setting of the adjacent listed buildings. It includes the provision of a high proportion of family homes, which is a significant planning benefit that directly addresses the Council's priority housing need. From the outset, the Applicant has taken a carefully informed design approach, proposing a new building of outstanding architectural quality. The objective has been to enhance the setting of the adjacent listed buildings, providing a contextual architectural response and significantly improving the landscape setting. The Proposed Development will deliver a range of planning benefits, completing the wider transformation of the Hayes Park estate and this unique new community.

Under the proposed scenario, the substructure of the car park can be largely retained and re-used, avoiding additional excavation, although some demolition works will be required achieve the desired building shape.

Table 5 Proposed housing mix

Bedrooms	Total
1 bed	16
3 bed	36
TOTAL	52

3.1.2 Pre-Demolition Audit

The pre-demolition audit (prepared by WPSCC) evaluated the existing structure at the Hayes Park West site, including its age, the extent and justification for demolition, estimated key material arisings, and the opportunities for reuse, recycling, and recovery.

The existing multi-storey car park has a gross floor area of approximately 10,131m², accommodating around 553 spaces across a lower ground and raised deck structure. The proposal sees the partial demolition of the car park structure, including the deck, retaining walls, stairways, and associated hardstanding. It is anticipated that materials from the demolition can be reused and recycled according to the waste hierarchy ensuring compliance with the GLA London Plan guidance for Circular Economy Statements.

The overall diversion from landfill is estimated to be 7,192.76 tonnes (100%) according to the audit. A target of 95% has been proposed.

Key Demolition Products

The key demolition products are provided in Table 6.

Table 6 Demolition materials

Product	EWC Code	Weight (Tonnes)
Asphalt and tarmac	17 03 01	283.43
Binders	17 01 01	2.62
Bricks	17 01 02	259.28
Concrete	17 01 01	4843.09
Inert	17 01 07	1738.42
Other Metals	17 04 07	0.90
Steel	17 04 05	65.03
Total		**7192.77**

Justification for Demolition

The car park was constructed in the 1990s to service the three adjoining office buildings at Hayes Park North, Central, and South. The wider Hayes Park West site extends to 5.356 hectares, while the multi-storey car park itself has a gross floor area of approximately 10,131 m², accommodating around 553 spaces across a lower ground and raised deck structure.

The structure is now surplus to requirements due to the conversion of Hayes Park offices to residential use. Its partial demolition will enable the delivery of new housing and public realm improvements, increase biodiversity on-site, and make more efficient use of previously developed land within the Metropolitan Green Belt.

Opportunities for Reuse, Recycling and Recovery

There is opportunity to reuse the existing columns as benches in the new landscaping, subject to their condition. Most of the demolition waste from the existing site will be made up of inert materials. All waste generated will be managed in line with the waste hierarchy. Management of the key demolition products; inert materials and metals, is included below.

Inert material

These inert materials (including binders, concrete) should be crushed on-site and used as Recycled Aggregate (RA) where possible. The lower value material should be kept separate from Recycled Concrete Aggregate; its first use would be as fill material on-site, with any surplus sold locally. Maximum benefit is to be realised by using the recycled material on-site in the highest value applications first, thereby displacing the procurement of virgin materials.

The potential for reuse of existing bricks has been considered but is not deemed to be a viable option. Disassembling brickwork in a way that prevents damage is time-consuming and requires specialist contractors. This will likely increase the cost and timeframe of the demolition. Additionally, the type and condition of the brickwork does not lend itself easily to the requirements of the Proposed Development. Therefore, it is determined that the most sustainable method would be to crush the material on site for use as piling mat or as hardcore base.

A diversion from landfill rate of 100% is targeted for inert materials.

Figure 9 Site images of potential inert waste in the existing structure

Metals

Metal items, including iron & steel, and waste electrical equipment are mostly unfit for reuse. Sections of structural steel could be reused within the project, subject to testing. Extracting steel for reuse is typically more labour and cost-intensive than conventional demolition methods, but these costs can be offset by savings made from not having to purchase virgin steel.

A diversion from landfill rate of 100% is targeted for inert materials.

Figure 10 Site images of metal elements in the existing structure

3.2 Proposed strategy for new structures.

The Circular Economy strategy for the new building and building layers addresses the following design approaches.

3.2.1 Component or Material Reuse

Component or material reuse refers to elements of the existing building which can be reused on or offsite to limit the amount of waste generated and optimise the use of virgin material. The following instances of component or material reuse have been proposed in the design:

- Formwork is likely to be reused on future sites, multiple times.
- Opportunities to reuse the existing pad foundations and build onto them where feasible to minimise new concrete required, and to minimise the concrete to be removed from the ground. This also reduces the emissions and waste arisings from excavation when compared to reinstating them.
- Opportunities to reuse the below ground drainage are being explored.
- Opportunities to reuse structural steel in the new structure are being explored.
- Tarmac and bricks have the potential to be reused/recycled from the existing car park structure.
- The Design Team is considering the use of cement replacements in concrete, with a minimum of 20% GGBS being proposed.
- Concrete columns in the car park can be reused.

3.2.2 Design for Adaptability

Design for adaptability refers to design measures incorporated in a building that would allow it to be easily altered to prolong its life, for instance by alteration, addition, or contraction, to suit new uses or patterns of use. The following design features have been considered that demonstrate the adaptable nature of the Proposed Development's design.

- A lightweight metal structure with concrete floors is proposed with layouts and columns that allow for ease of adaptability for alternative use. Non-load bearing partitions in the units allow conversion of the building without affecting the structural integrity.
- GRC panels proposed in the facade are designed to be easy to replace, especially when using the specialised fastening systems with screws or rivets supplied by the manufacturer, which allows for the quick removal of individual elements.
- The project team will maintain good records of the building's construction for the potential changes in future use which can extend the life of the building. This data can be evidenced with more than just drawings, but a summary of design principles, materials, strategies, and calculations, making design loads clear and communicating loading assumptions to allow future engineers to adapt the design.
- The heating and hot water are provided by a heat pump, and the ventilation system is separate and provided by a whole house ventilation unit. The independent townhouses have been designed with an external air source heat pump connected to an internal cylinder, which can easily be adapted to suit different townhouse configurations.
- The existing level slab being retained demonstrates how the structure has been adapted to suit a different use.

3.2.3 Design for Flexibility

Design for flexibility refers to a building that has been designed to allow easy rearrangement of its internal fit-out and arrangement to suit the changing needs of occupants. The following design features have been considered that demonstrate the flexibility of design for the Proposed Development.

- The floorplates of the residential spaces have been designed with emphasis on the ability to facilitate smaller spaces based on the tenants needs.
- The modularity of MEP services will offer a good amount of flexibility in changing the servicing strategy without the need for large-scale central changes. Services are likely to need upgrading several times through the life of the building and accessible and flexible service zones will facilitate this process.
- Fittings and furnishings will be placed and not glued to allow for future changes to the building and changes in tenant.
- Plant equipment, pipework and ductwork sizing to be designed to allow flexibility for upgrades or expansion.

3.2.4 Design for Replaceability

Design for replaceability relates to designing to facilitate easy removal and upgrade, and ideally to be reused, remanufactured, or recycled on a part-by-part basis. The following design features have been considered to improve the replaceability of the Proposed Development's design.

- Fitted furniture and fittings will predominantly use modular units, allowing for easy disassembly and reuse.
- GRC panels proposed in the facade are designed to be easy to replace, especially when using the specialised fastening systems with screws or rivets supplied by the manufacturer, which allows for the quick removal of individual elements.
- It is expected that the building services will need to be replaced at least once over the building's life cycle (though not within 5-15 years). A plant replacement strategy will be produced which will outline how plant can be replaced without creating additional waste.
- Services will be accessible and modular, to ease access for maintenance, repair and replacement and shall be designed with adequate working space to allow disassembly of equipment for replacement without material impact to the building where possible.

3.2.5 Design for Disassembly

This principle relates to design measures that allow the building and its components to be taken apart with minimal damage to facilitate reuse or recycling. The principle encourages Design Teams to maximise the ability to reclaim and reuse materials at the end-of-life of the building, as well as demonstrate an awareness of unnecessary material use, cost and disruption arising from the need for future adaptation works.

- The Design Team will maintain good documentation on the structure, materials and construction for future disassembly. Modular construction methods will be followed to ensure elements will be easy to access and disassembly at end of life. A lightweight metal structure with concrete floors is proposed, with steel being easily disassembled and recycled at end of life.
- Fitted furniture and fittings will predominantly use modular units, allowing for easy disassembly and reuse.
- Façade panels, glazing, and the main structure are designed to be demountable. Panels are proposed at a maximum size of 1m wide by 2.6m high, ensuring they remain manageable for disassembly. They are durable and low maintenance. Concrete panels can be crushed for reuse as aggregate or recycled in the long term.
- Mechanical/reversible fixings to be prioritised, alongside avoidance of adhesives where possible.
- Modular MEP services will be disassembled at end of life, metal and WEEE elements will be recycled.
- Systems will be designed to ensure isolation of particular branches or circuits can be achieved to ensure disassembly or maintenance of areas can be undertaken with minimal impact on entire systems.
- Pipework system specified will be suitable for disassembly and reuse (press fit jointing methods). Ductwork systems will be specified with standardised dimensions and can be easily disassembled (through joint clamp method) to allow for potential reuse.

3.2.6 Design for Longevity

This principle relates to design measures that prevent a premature end of life for the building or components through considering maintenance and durability. The aim is to create buildings with well-defined long-term needs, while being durable, resilient or able to cope with societal and environmental change. The need for modification/replacement of parts, is minimised due to its 'loose fit', generous proportions and readiness for alternative technologies.

- Materials will be specified with the building use in mind to ensure they are suitable to their intended life with consideration to robustness and durability. The Whole Life Carbon study will consider longevity of materials and compare their benefits in terms of upfront and embodied carbon, to ensure longevity is prioritised where possible.
- Concrete and steel elements have been chosen for longevity as these materials are robust and durable, likely to withstand extreme environmental changes. The buildings incorporate GRC concrete façade

elements concrete, which contribute to the longevity of the buildings. GRC façade panels are high-quality, durable and low maintenance.
- MEP services materials and equipment shall be specified in line with the Hoare Lea specification and reputable manufacturers ensuring longevity. Equipment usage shall also be discussed with manufacturers to ensure it shall be working optimally thus maximise lifespan.
- Building services will be specified with materials in order to prolong their operational life. Where possible materials will be selected and specified such that they can be easily recycled or re-used upon decommissioning of the building proposed.

3.3 End-of-life strategy.

In line with Circular Economy principles, the main priority is to extend the lifetime of the building through careful design and specification and to ensure that if the building is to be deconstructed at a later date that there is a clear process to follow. The proposed end-of-life strategy is as follows:

- Design specification will prioritise considerations for products and materials that have a high re-use potential, including modularised components that can be re-fitted or re-used in a different context, products that are made with materials that can be re-processed such as metals, and products that are assembled in non-toxic ways that allow disassembly without risk of contamination or damage.
- Information regarding the specification, product certifications and maintenance requirements, and assembly/ construction methods will be documented in a pack co-produced by the Design Team and contractor to enable future users and building management to access necessary information for material maintenance, replacement and removal to minimise waste and enable circularity at end-of-life scenarios.
- Guidance on general access, maintenance and repair of building layers will also be provided to future users in a building user guide to enable effective handover and building operation.
- Design for disassembly will also be explored for interior fit-out elements at later stages of the design to allow for ease of replacement and facilitate material recovery at the end-of-life of the building.
- Further, the design will look to consider efficient design solutions including designing to standard material dimensions to reduce off-cuts and waste on Site and allow for future reuse; and removing redundant materials from the design.

In support of the end-of-life strategy documentation will be made readily available by the Design Team (incl. Building User Guides (BUG), Building adaptability and disassembly guide) for the building occupants, tenants, and Facilities Management (FM) team in order to inform them on the end-of-life strategy, disassembly, future reuse, waste avoidance and waste reduction principles which have been adopted and incorporated into the building design and construction. These documents will also include the building drawings as well as manufacturer guidance. This information will facilitate the building occupiers in understanding how the building elements work, and appropriate management methods to adhere to.

3.4 The biggest opportunities for this project.

The biggest opportunity for carbon savings and Circular Economy integration is the use of retained materials in the Proposed Development.

- Reusing the existing car park will reduce the level of excavation required and new slab materials required.
- Existing columns being reused as benches in the landscaping design, subject to their condition following demolition.
- Opportunities to reuse steel in the building frame.
- Inert materials from the car park structure can be crushed on site to be used as recycled aggregate.
- Efficient floor layouts and non-loading bearing walls allow apartment spaces to be adaptable in future if required for an alternative use.
- High quality, durable, robust materials palette proposed that could be reused at the end of life.
- Lightweight steel structure can be easily disassembled at the end of the building life.

Utilising as much recycled content as possible can reduce the carbon impact otherwise associated with importing new materials and can reduce the waste diverted to landfill from the Site. This can also reduce the emissions associated with recycling the material, as this is an energy intensive process.

4. Opportunities for managing and reducing waste.

The opportunities to reduce waste in the Proposed Development include waste management during construction and during operation of the buildings.

4.1 Managing waste during construction.

The Site Waste Management Plan (prepared by Iceni Projects Ltd) sets out how construction waste will be managed during the redevelopment of the site. The objectives include identifying roles and responsibilities, setting aspirations, identifying waste arisings, and monitoring and reviewing waste management.

Construction Waste Arisings

A breakdown of expected construction waste arisings can be found in Table 7.

Table 7 Estimated construction waste arisings (Source: SWMP prepared by Iceni Projects)

Material Type (see EWC Code classifications)	Suggested EWC Code	Waste Forecast (m^3)	Waste Forecast (tonnes)
Waste paint and varnish containing organic solvents	08 01 11	12.6	3.4
Packaging (including separately collected municipal packaging waste)	15 01	22.3	6.0
Packaging containing residues of or contaminated by hazardous substances	15 01 10	11.1	3.0
Metallic packaging containing a dangerous solid porous matrix, including empty pressure containers	15 01 11	0.7	0.8
Absorbents, filter materials, wiping cloths, protective clothing contaminated by dangerous substances	15 02	1.6	0.4
Aqueous liquid wastes containing hazardous substances	16 10 01	1.6	0.4
Concrete	17 01 01	181.2	235.5
Bricks	17 01 02	125.3	150.3
Tiles and ceramics	17 01 03	50.1	60.1
Wood	17 02 01	35.8	25.1
Glass	17 02 02	80.2	60.1
Plastic	17 02 03	55.7	15.0
Bituminous mixtures containing coal tar	17 03 01	41.8	50.1
Iron and steel	17 04 05	125.3	150.3
Mixed metals	17 04 07	25.1	30.1
Metal waste contaminated with hazardous substances	17 04 09	10.0	12.0
Soil and stones	17 05 04	58.5	70.2
Gypsum-based construction materials	17 08	110.2	110.2
Mixed construction and Demolition wastes	17 09 04	83.5	100.2
Textiles	20 01 11	18.6	5.0
Discarded electrical and electronic equipment	20 01 36	18.6	5.0
Biodegradable waste	20 02 01	41.2	30.9

Waste Management

The main opportunities to manage and reduce waste in construction include following the waste hierarchy to minimise waste production, implementing good practice waste minimisation and management and applying Circular Economy principles.

Key measures involve careful design to reduce waste generation, using durable and recycled-content materials, reusing excavated materials, and avoiding over-ordering. On-site, waste can be managed by creating dedicated storage areas for reusable materials, securely storing waste to prevent contamination or loss, and segregating waste for recycling or reuse. Additionally, setting waste reduction targets, coordinating deliveries to avoid damage or excess, and working with suppliers adopting cleaner manufacturing processes are important strategies to reduce construction waste effectively.

Target Setting

The following targets have been set:

- Excavation waste: 95% beneficial use.
- Demolition waste: 95% reuse/recycling/recovery.
- Construction waste: 95% reuse/recycling/recovery.

For the full Site Waste Management Plan, please refer to Appendix C.

4.2 Managing waste during operation.

The Operational Waste Management Strategy (prepared by Iceni Projects Ltd) sets out how waste will be managed during the operation of the building.

Waste Arisings

The Proposed Development is anticipated to produce approximately 10,760 litres of waste from per week.

Table 8 Breakdown of estimated waste arisings per week during building operation

Dwelling Type	Number of homes	Refuse (litres)	Dry recyclables (litres)	Compostable (litres)
1B2P	16	800	800	160
3B6P	8	960	960	80
4B7P	28	3,360	3,360	280
Total	**52**	**5,120**	**5,120**	**520**

Waste Management

For the proposed dwellings served by communal waste stores, residential waste storage will consist of separate 1,110 litre Eurobins for refuse and dry recyclables, and 240 litre wheeled bins for organic waste, in accordance with local authority guidance. Communal waste stores have been located to the south within the curtilage of the residential block at the lower ground floor level and to the north rear of the central landscaped area at the lower ground floor level to ensure easy access for both residents and waste collection operatives. For dwellings on the lower ground floor level with private amenity spaces fronting onto vehicular access routes, residential

waste storage will consist of suitable containers for the storage of sacks for the collection of refuse and dry recyclables, and external storage bins for organic waste.

In order to facilitate easy sorting of waste streams for residents, each dwelling will be fitted with a three-compartment waste bin, with each compartment corresponding to the relevant waste stream to be collected by the nominated waste collection body. This will maximise the potential for residents to correctly sort waste within their home. Guidance for waste stream sorting and collection will be provided in the home user manual.

When internal bins are full, residents will transfer their waste to an external storage location. To ensure residents are not required to transfer waste in excess of 30m (horizontal distance) from the front doors of their homes, it is intended that a range of storage locations be provided.

Waste Minimisation
The following measures will be considered for inclusion within the scheme to minimise operational waste to meet the municipal waste recycling target of 65% (by weight/tonnage) by 2030:

- Consolidated waste management, whereby the collection of waste from the Proposed Development is undertaken in line with other residences in the surrounding area to minimise the movement of refuse collection vehicles and to make collections more efficient. There is potential for this to be implemented, and this will be explored in further detail during the continued detailed design of the Proposed Development.
- Opportunities to use smart logistics, such as the use of “smart bins” which measure the volume of waste within the bins to inform collection rates and routes, will be explored. This would aid to minimise unnecessary refuse collection vehicle trips.
- The establishment of community-led waste minimisation schemes, such as the facilitation of repair and reuse services within the Proposed Development, and potentially the wider surrounding area to enable residents to prolong the life of materials by repairing or sharing items and therefore preventing their disposal.

5. Plan for implementation.

Plan for implementation looks at how the key commitments will be implemented throughout the design and construction phase of the building development. During the design stage the commitments and targets outlined in this report will be subject to on-going review by the majority of the Design Team members. Key responsibilities have been summarised, outlining how they plan to progress forward with each principle and ensure the aspects are captured within the final build design.

The GLA Circular Economy template has been completed documenting the Circular Economy principles and confirming the principles and design aspects included, targets, potential challenges, and counteractions identified.

This process should be repeated following the construction of the development, reporting on the strategies and commitments implemented by the Principal Contractor and their team in line with the approach made throughout the design stage. Final evidence including the following as listed below should be provided in order to confirm how the development has and will perform throughout its lifecycle.

- Evidence of audits
- Written agreements or correspondence
- As-built drawings and photos
- Specifications
- Performance and test certificates
- Updated Recycling and Waste Reporting tables
- Updated Bill of Materials.
- Final SWMP

Table 9 summarises the potential plan for implementation for the Proposed Development.

Table 9 Implementation Plan

RIBA stage	Action	Responsibility	Evidence	Status:
2-3	Set broad objective for circular economy aspirations	Client; Project Manager; Design Team; Sustainability consultant.	– Project Brief – Design Team meeting minutes – Design and Access statement. – Circular Economy and Whole Life Carbon workshop	Completed
	Develop objectives with specific metrics	Client; Project Manager; Design Team; Sustainability consultant.	– KPI targets for waste – BREEAM pre-assessment	Completed
	Identify further information required	Cost consultant; Design Team; Sustainability consultant; Project manager	– Design development notes – Circular Economy RFI – Circular Economy Statement – BREEAM proformas	Completed
	Hold workshop to investigate circular economy alternative approach	Client; Project Manager; Design Team including architects, structure engineers, waste	– Workshop notes – Site waste management Plan – Operational Waste Management Plan – Cost Plan/Bill of Quantities	Completed
	Agree opportunities, commitments, and metrics/ targets.	consultant; cost consultants, sustainability consultant;		
4	Include metrics as clauses within procurement packages	Client; Project Manager; Principal Contractor; Design Team.	– Tender documents and specifications – Contractor and supply chain written agreements	To be commenced.
	Monitor design against metrics, continue to engage with suppliers		– Detailed design drawings and reports – Design specifications – Value engineering studies – Cost Plan/Bill of Quantities – Supply chain interaction correspondence evidence	
5	Monitor metrics with contractor and supply chain	Client; Project Manager; Contractor	– Procurement receipts/invoices – Waste receipts – Site photos – Performance and test certificates – Technical specification documents and drawings.	
	Continue to investigate alternative materials/products	Client; Project Manager; Contractor; Design Team	– Design Team, Contractor, and supply chain correspondence evidence. – Material optioneering reviews.	
6	Review success against objectives	Client; Project Manager; Contractor	– Procurement receipts/invoices – Waste receipts – Site photos – Performance and test certificates – Technical specification documents and drawings.	
	Post completion Circular Economy statement and reporting		– As built information – Services commissioning and testing – Building User Guides (BUG) – Building adaptability and disassembly guide – Site photos – Post completion circular economy statement	

6. Conclusion.

The Circular Economy approach and commitments for the Proposed Development have been developed through a collaborative and interdisciplinary approach. The Proposed Development complies with local and national policy and will achieve high sustainability standards. The interventions proposed aim to embed sustainable practice, waste reduction and Circular Economy principles within the built environment.

The analysis completed indicates the Proposed Development will align to the following project targets:

- Excavation waste - Minimum of 95% diverted from landfill for beneficial reuse.
- Demolition waste - Minimum of 95% diverted from landfill for beneficial reuse.
- Construction Waste - Minimum of 95% diverted from landfill for reuse, recycling or recovery.
- Recycled content - Minimum 20% of the building material elements to be comprised of recycled or reused content.
- Municipal waste - The residential waste commitment is 65%.

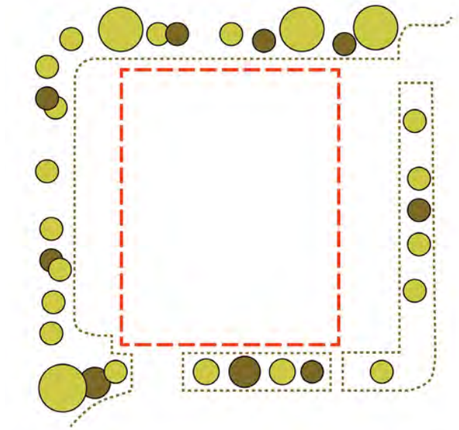
Appendix A – Pre-redevelopment study: Hayes Park Carpark Layout.

Hayes Park Carpark Layout

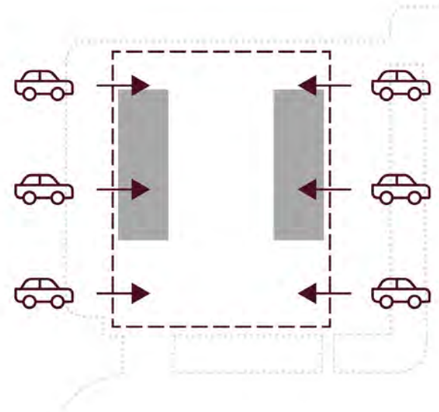
Car Park Layout Strategy

The six key principles for developing the car park are:

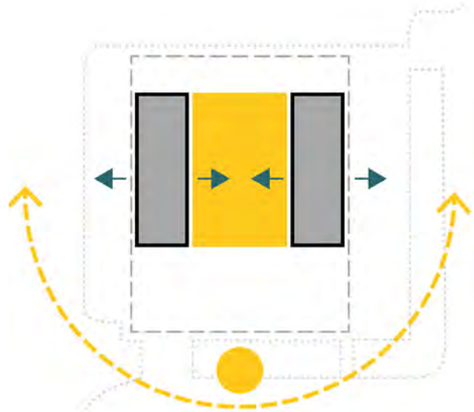
- Enhancing the woodland character and connection to the Shrub. Our design strategy is to preserve the existing landscape, and to introduce new trees and planting.
- Retaining the existing two storey car park structure. This is good sustainable practice, and also allows us to keep the underground car parking.
- The service route to be at lower ground and around the car park. It will to provide access into the car park and service the Lido.
- The new residential blocks are orientated north to south along the edges of the existing car park. This will optimise the daylight from the east and west.
- A new communal garden will act as focus for the new community, with a direct connection to the Shrub.
- There will be lower ground floor and ground floor entry points for the flats to animate the ground conditions.



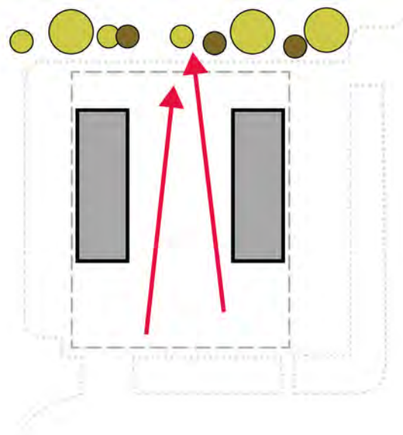
1. Amplify the surrounding landscape



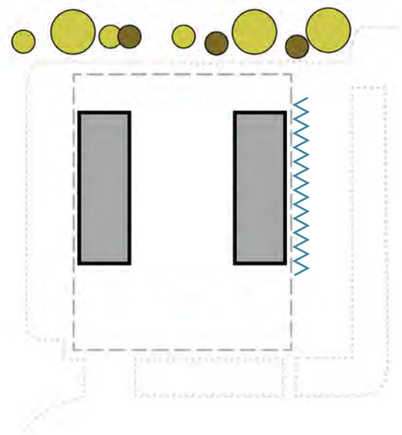
2. Reuse the existing structure to maximise the undercover parking



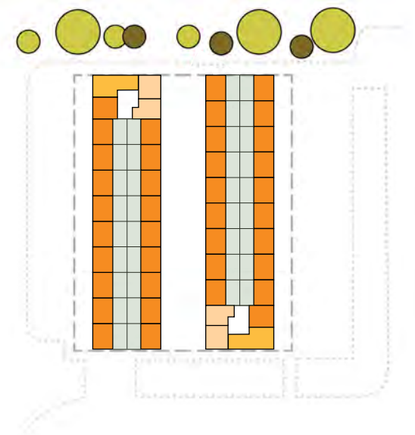
3. East-West facing residential homes



4. Create a new garden and a connection to the Shrub



5. Activation on ground floor



6. Providing a mix of family homes

Homes strategy

In this study, we've explored various home designs and site layouts. Currently, we're in the process of evaluating the opportunities and wish to present them to you early on to understand the council's preferences.

Senarios tested:

- **Apartments centred around landscaped podium -** a mix of home sizes within a low rise block sitting over the orginal apartment deck with a planted podium.
- **Homes centred around a communal garden -** terraced homes centred around a shared communal garden, creating a true neighbourhood.
- **Homes connected via a garden street -** terraced homes connected via a green street orientated east - west with dual aspect and generous outdoor amenity.
- **Homes connected via a garden street -** back to back terraced homes connected via a green streets orientated east - each with access to amenity at different levels.

Apartments centred around landscaped podium?

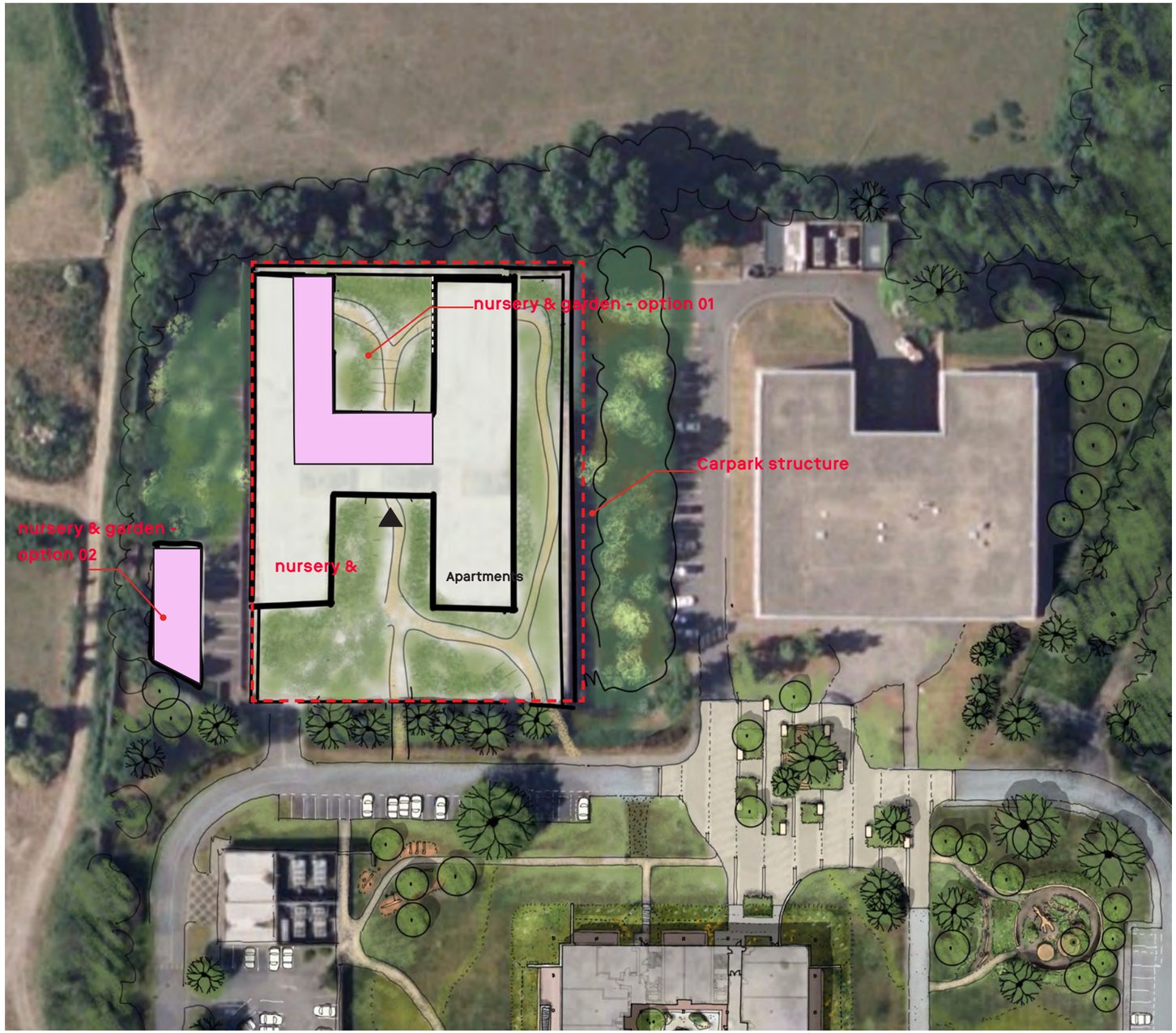
Quantum

Residential	
1B	18 Homes
2B	26 Homes
3B	22 Homes
4B	7 Homes
Residential GEA	8768.8 m²
Residential GIA (85% of GEA)	7453.5m²

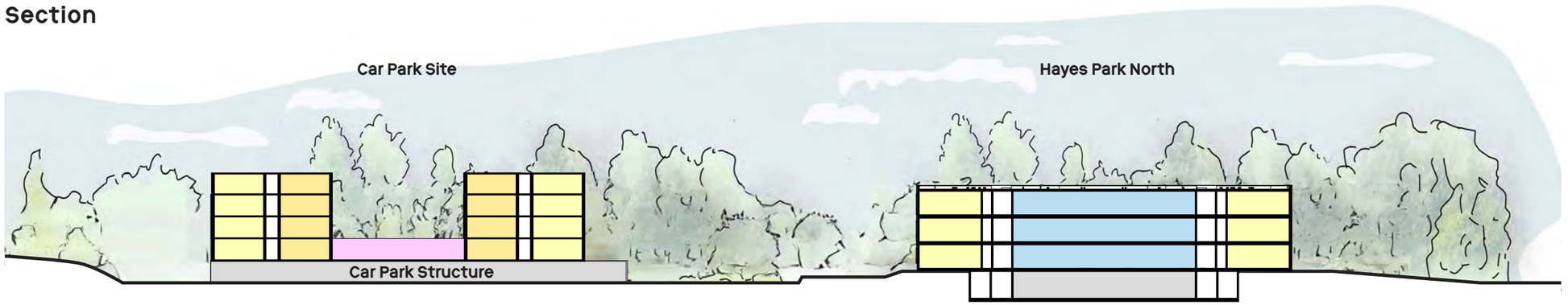
Parking Spaces	Approx 100

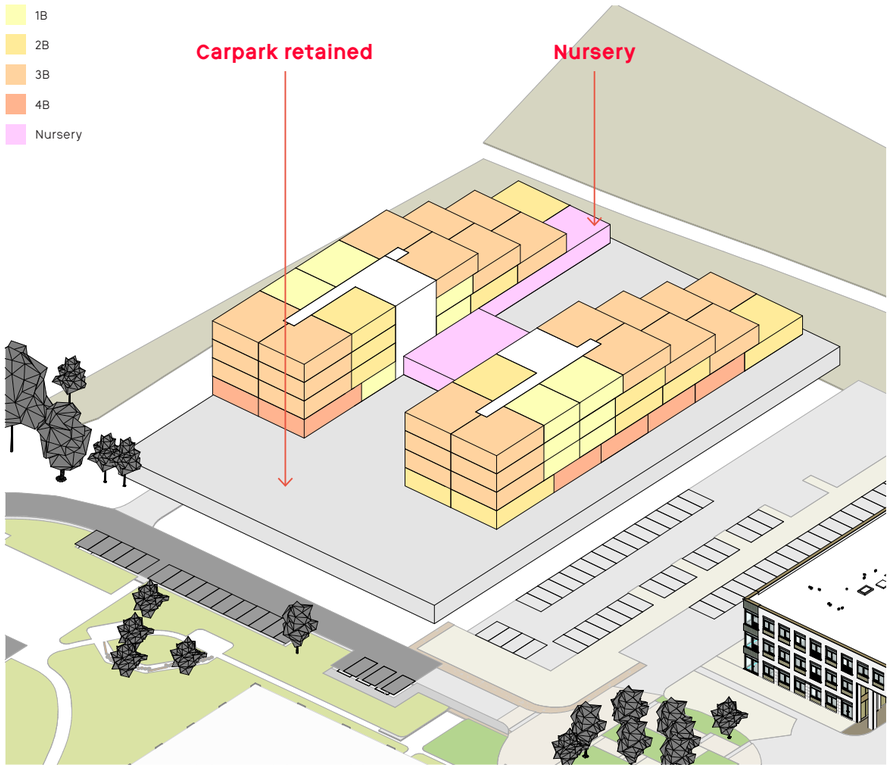
Benefits

- Meets Hillingdon seperation distances
- Meets Hillingdon external amenity area
- Meets parking standards
- Sustainable dwelling typology
- Retains existing carpark
- Front of building aligns with HPN building footprint



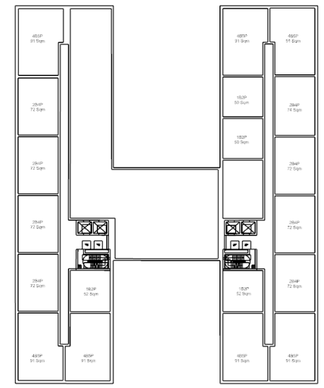
Section





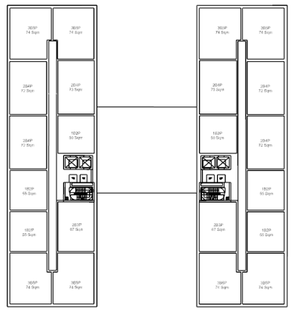
Axo

Example Typologies

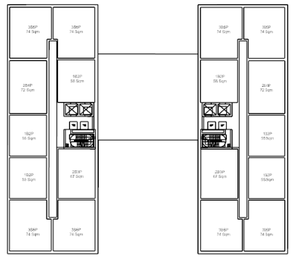


Raised Ground Floor - 19 Homes

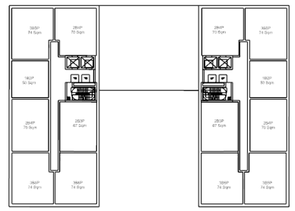
Overall Mix
1B - 24%
2B - 35.5%
3B - 30%
4B - 9.5%



Typical Floor - 22 Homes



Upper Floor - 18 Homes



Upper Floor - 14 Homes

Homes centred around a communal garden?

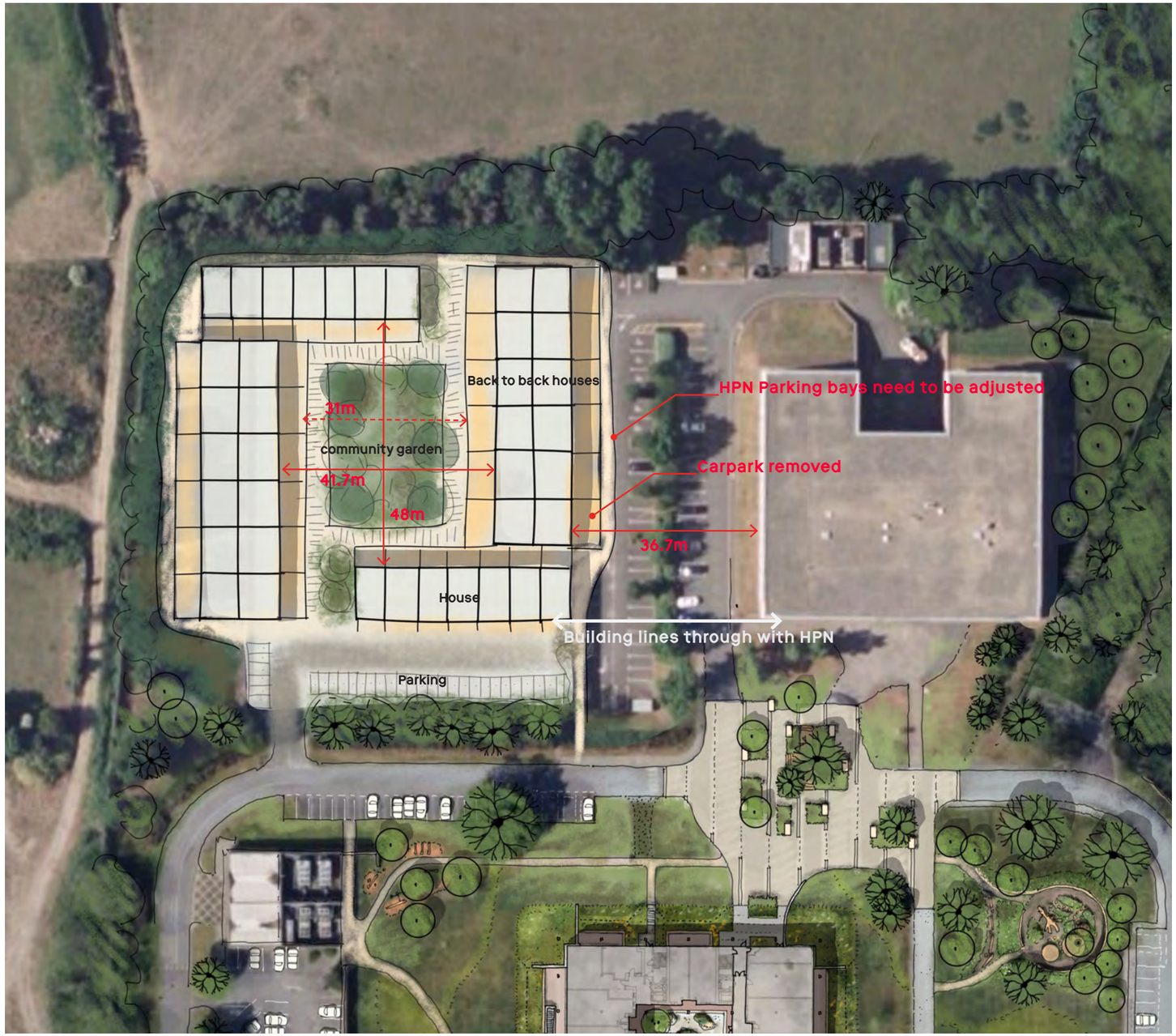
Quantum

Residential	
1B	0 Homes
2B	0 Homes
3B	14 Homes
4B	24 Homes
Residential GEA	5952m²
Residential GIA (85% of GEA)	5059m²

Parking Spaces	Approx 30+

Benefits

- Meets Hillingdon seperation distances
- Meets Hillingdon external amenity area
- Sustainable dwelling typology
- Front of building aligns with HPN building footprint
- Meets Hillingdon housing mix (ie large proportion of 3B+ homes)
- Dual aspect homes



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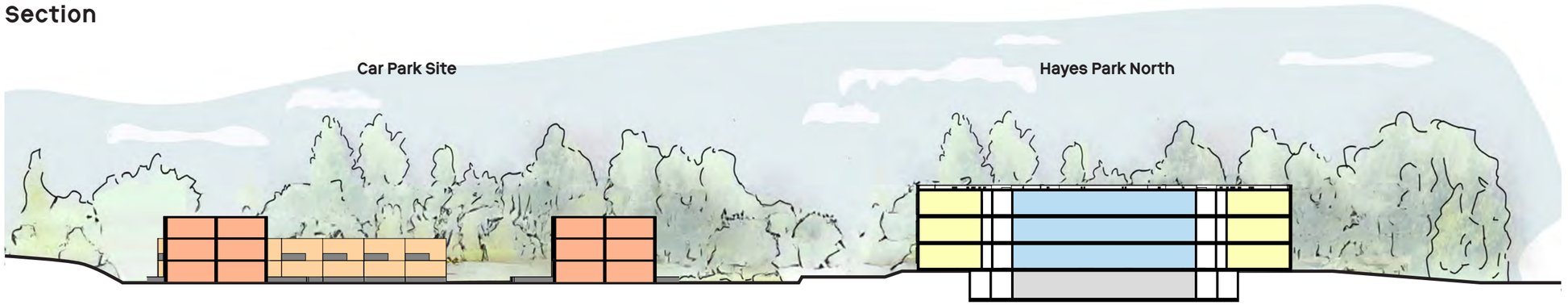
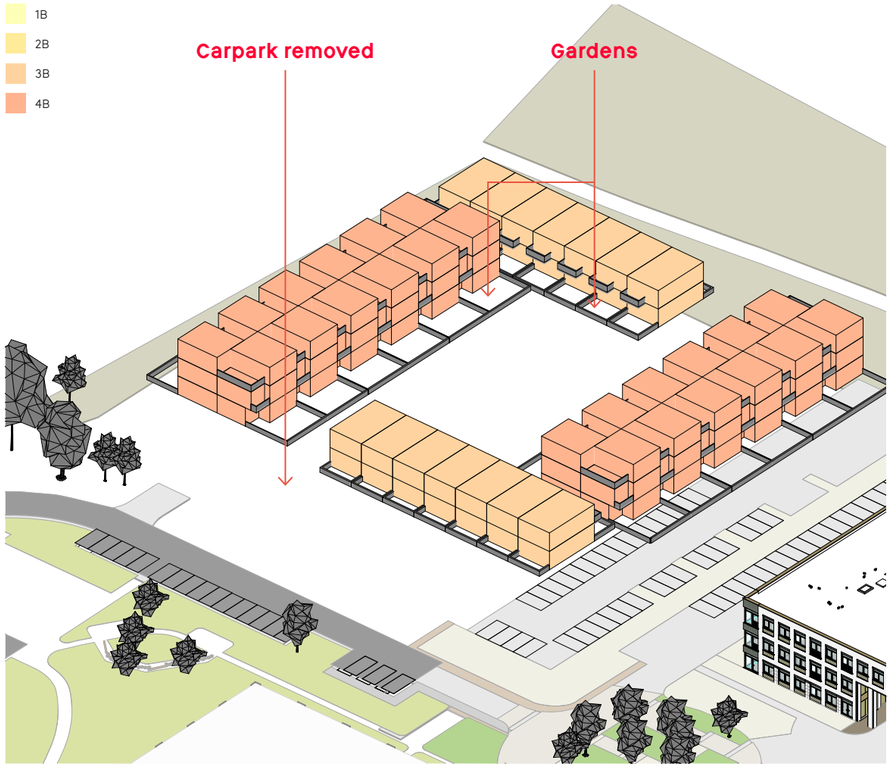
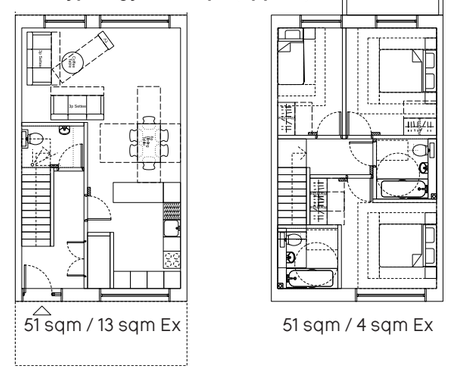




Axo

Example Typologies

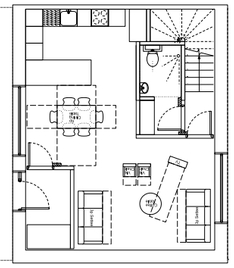
3B5P Typology - 102 sqm (approx)



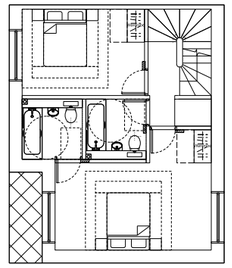
51 sqm / 13 sqm Ex

51 sqm / 4 sqm Ex

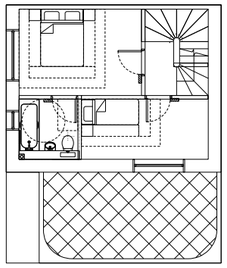
4B7P Typology - 142 sqm (approx)



55 sqm / 49 sqm Ex



52 sqm



35 sqm / 18 sqm Ex

Homes connected via a garden street?

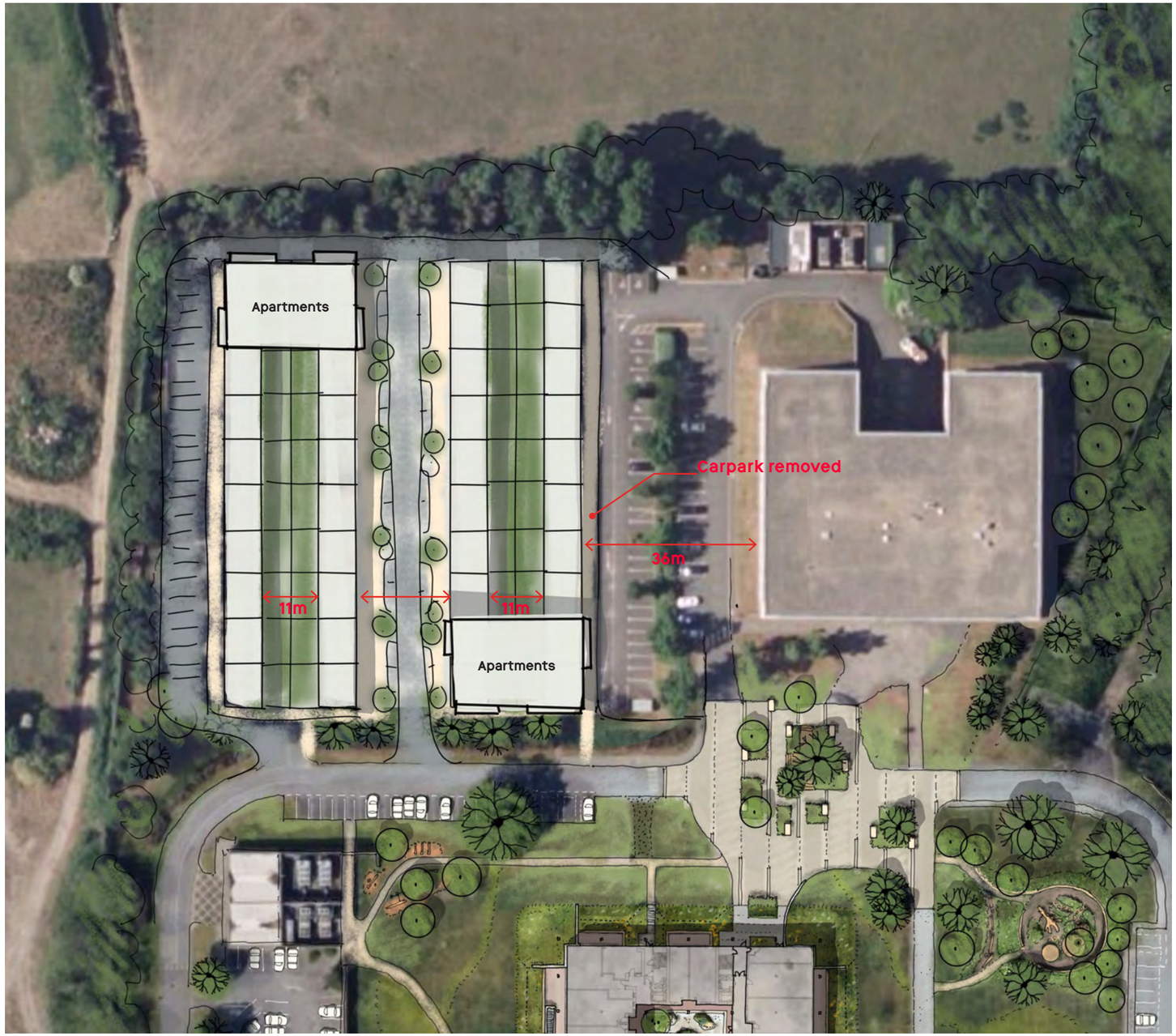
Quantum

Residential	
1B	12 Homes
2B	6 Homes
3B	22 Homes
4B	16 Homes
Residential GEA	8040m²
Residential GIA (85% of GEA)	6834m²

Parking Spaces	Approx 44

Benefits

- Meets Hillingdon seperation distances
- Meets Hillingdon external amenity area
- Sustainable dwelling typology
- Meets Hillingdon housing mix (ie large proportion of 3B+ homes)
- Dual aspect homes



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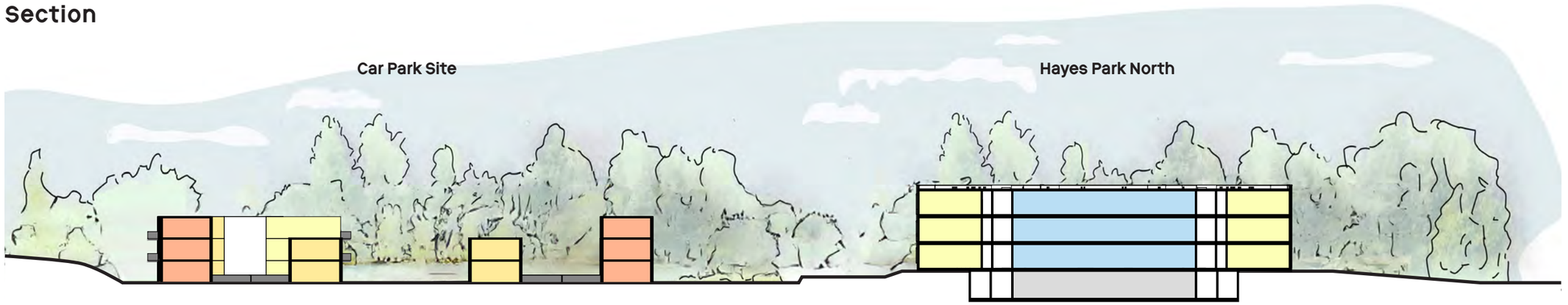
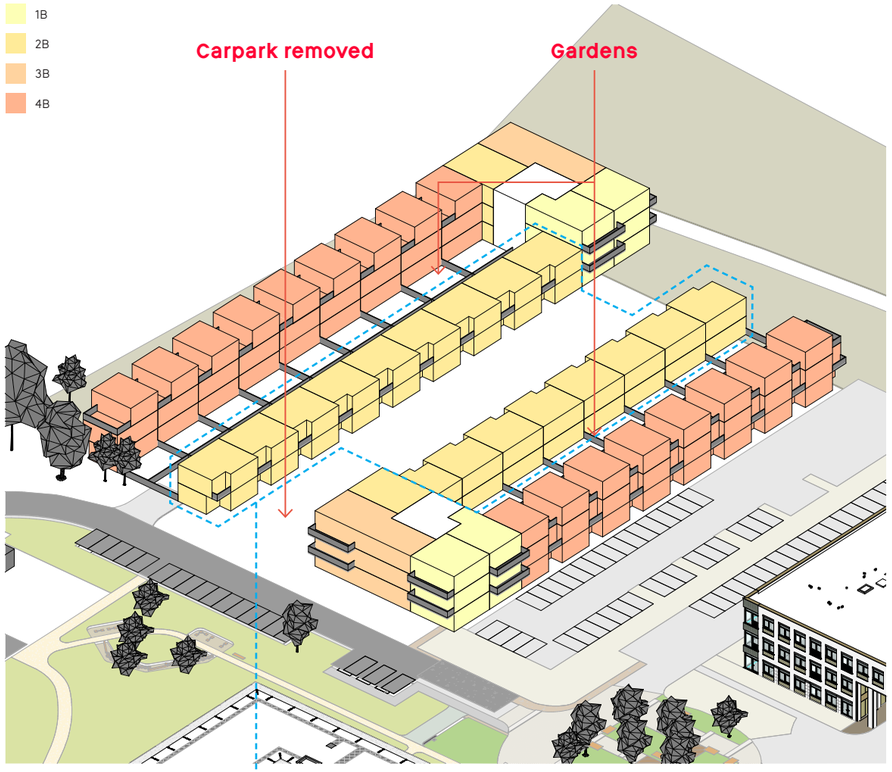


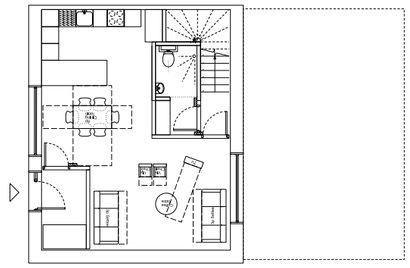


Axo

Can update to a 3B Typology

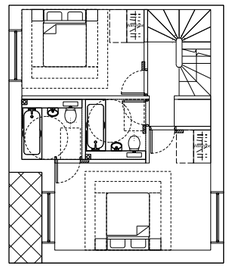
Example Typologies

2B4P Typology - 107sqm



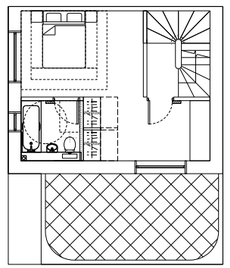
55 sqm

49 sqx EX



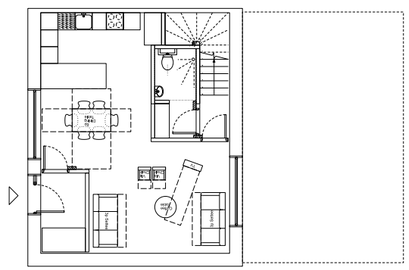
52 sqm

3B6P Typology - 142sqm



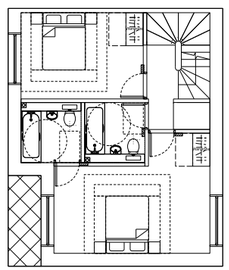
35 sqm / 18 sqm Ex

4B7P Typology - 142 sqm

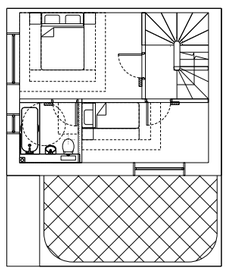


55 sqm

49 sqx EX



52 sqm



35 sqm / 18 sqm Ex

Back to back terraced homes?

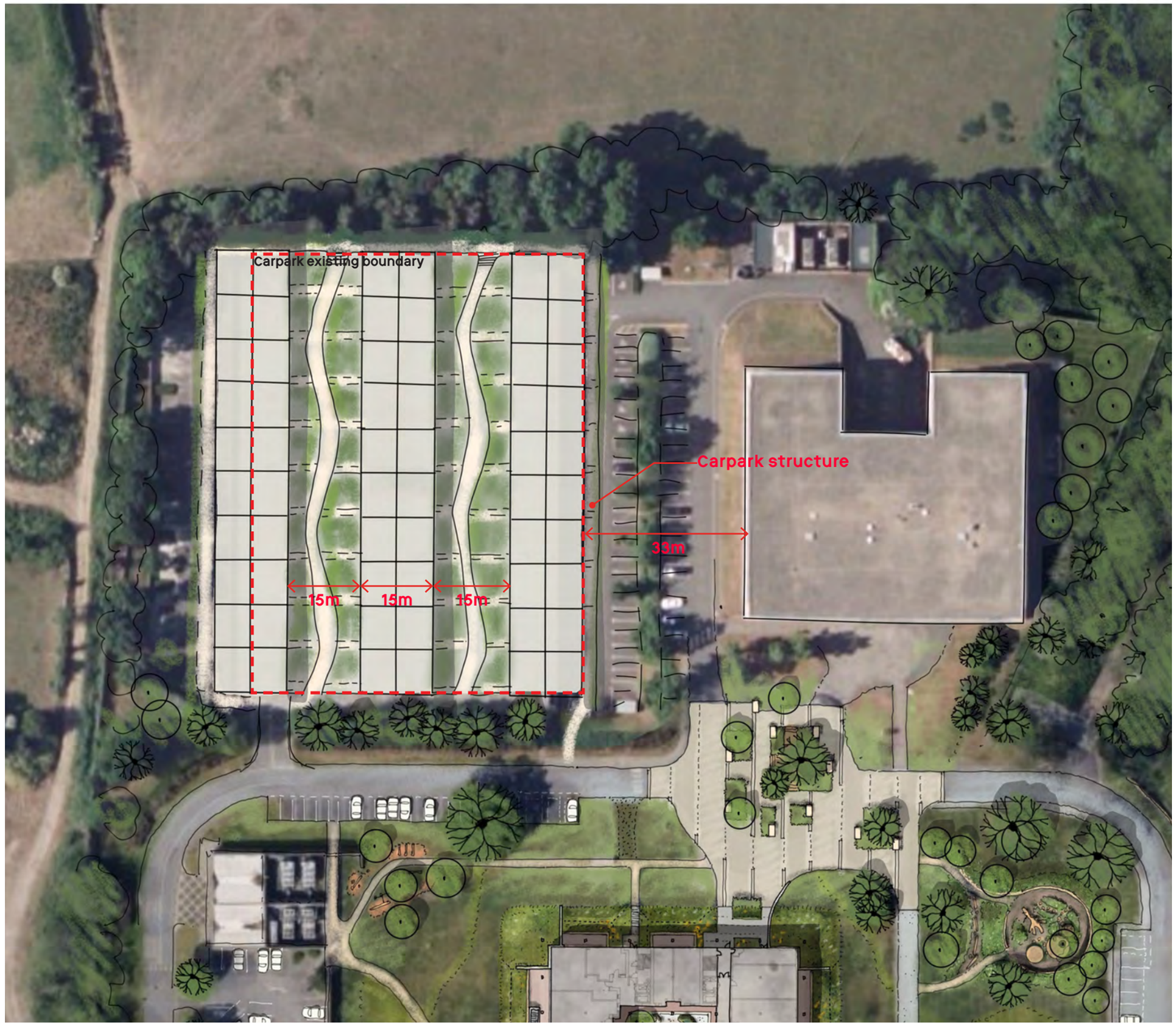
Quantum

Residential	
1B	0 Homes
2B	40 Homes
3B	20 Homes
4B	0 Homes
Residential GEA	9450 m^2
Residential GIA (85% of GEA)	8032.5 m^2

Parking Spaces	Approx 100

Benefits

- Retains existing carpark
- Meets Hillingdon external amenity area
- Sustainable dwelling typology
- Meets Hillingdon housing mix (ie large proportion of 3B+ homes)
- Meets parking standards
- Dual aspect homes



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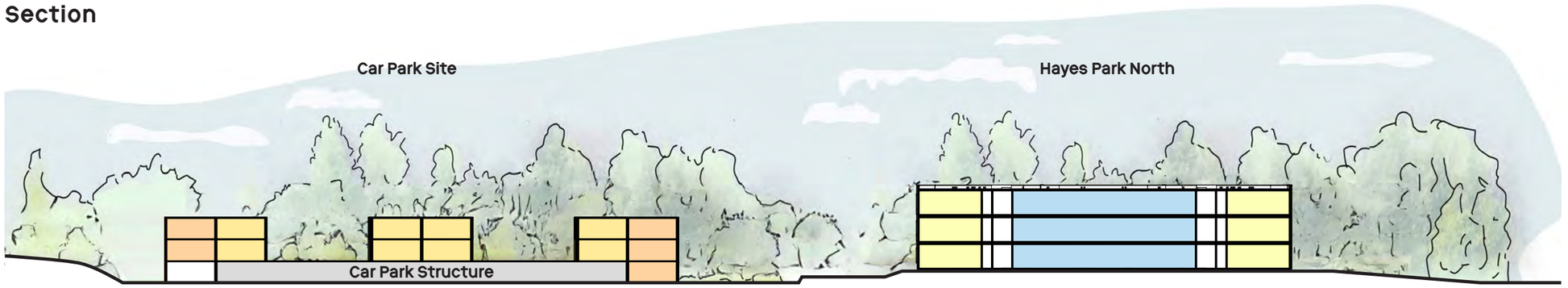

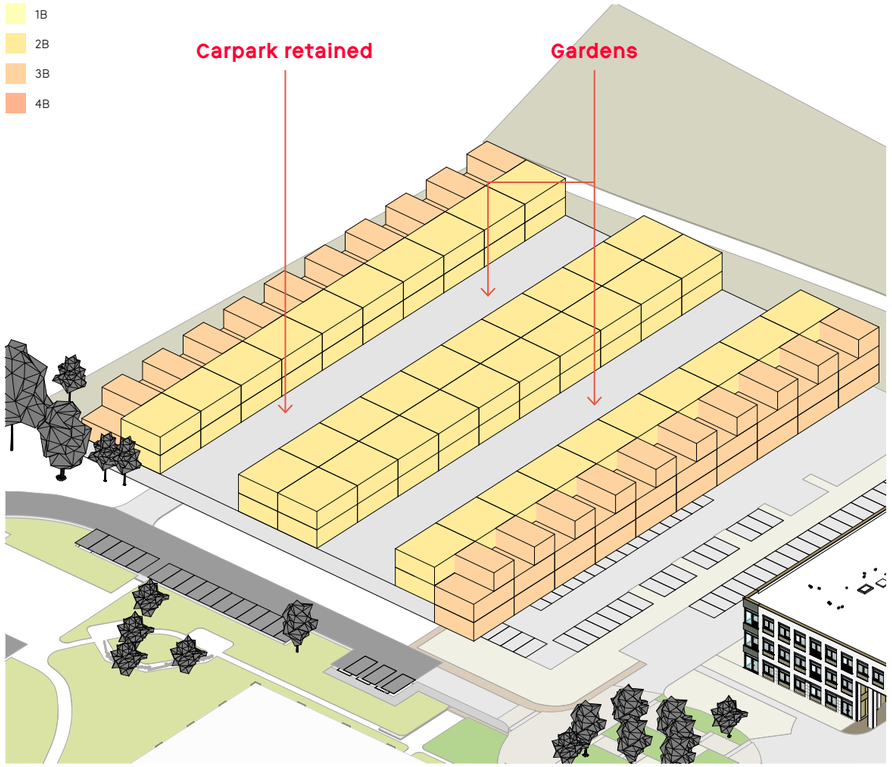

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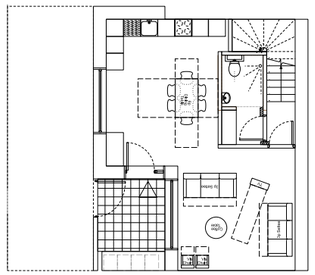
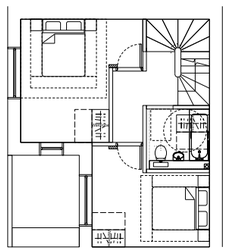
Example Typologies

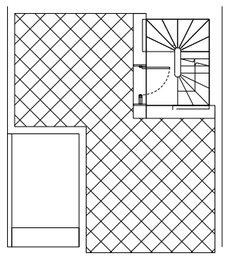
2B4P Typology - 99 sqm



28 sqm Ex



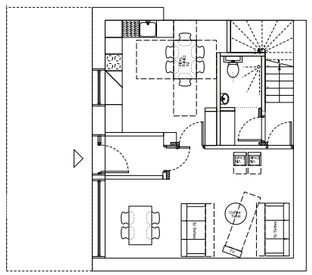
49 sqm / 6 sqm Ex



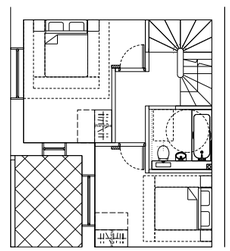
43 sqm / 8 sqm Ex

7 sqm / 37 sqm Ex

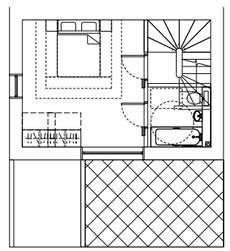
3B5P Typology - 128 sqm



28 sqm Ex



49 sqm / 6 sqm Ex



43 sqm / 8 sqm Ex

29 sqm / 15 sqm Ex

Appendix B – Pre-demolition audit.

WPS Compliance Consulting Ltd

Pre-Demolition Audit

Client: Marson Property Ltd

Project: Hayes Park West, Uxbridge, UB4 8FE

Ref: 16130

09/09/2025

Version: V2

Executive Summary

This report aims to improve the sustainable management of waste materials arising from the demolition of the existing car park at Hayes Park West, Uxbridge, UB4 8FE.

This pre-demolition audit has been prepared in accordance with the requirements of the London Plan (Policy SI 7: Circular Economy and Whole Life Carbon) and the associated GLA Circular Economy Statement guidance. The audit identifies the existing structure and its age, the extent and justification for demolition, estimated material arisings, and the opportunities for reuse, recycling, and recovery.

The recommendations made in this report are based on the findings of the Pre-Demolition Audit carried out by WPS Compliance Consulting Ltd (WPSCC Ltd).

WPSCC Ltd has been conducting Pre-Demolition and Pre-Refurbishment Audits since 2011 and the Project Lead on this project was Lara Ayris.

The report includes results of the audit and a reclamation valuation survey. Together these identify the Key Demolition Products (KDPs), their potential for being recycled or re-used and their economic potential. The information in the report can be used to:

- Reduce the cost of disposal of materials from Hayes Park
- Inform the project's Site Waste Management Plan
- Inform the project's Circular Economy Statement
- Realise financial returns from the recovered materials.

The overall Diversion from Landfill is 7,192.76 tonnes (100%).

The results from the audit show an overall waste volume, for Hayes Park of 7,192.76 tonnes. The selected key demolition products (KDP) could have a potential income/saving of approximately £174,921.

The key findings and conclusion for Hayes Park are:

- All the 7,192.76 tonnes predicted to be produced is targeted for recycling.
- It is estimated that the economic returns from recycling the inert materials would fetch between £9.00 and £11.00 per tonne. This could result in the demolition contractors receiving between £61,591 - £75,278.
- It is estimated that the value of metals would be in the region of £10,730.
- The KDPs present represent approximately 100% by weight of the total demolition products.

Carbon Analysis

Product	EWC Code	Weight (Tonnes)	Sequestered Carbons in each materials kgCo2/kg	Embodied Carbons per kg (sequestered*quantity)
Asphalt and tarmac	17 03 01	283.43	0.13	36.85
Binders	17 01 01	2.62	0.05	0.13
Bricks	17 01 02	259.28	0.2	51.86
Concrete	17 01 01	4843.09	0.1	484.31
Inert	17 01 07	1738.42	0.15	260.76
Other Metals	17 04 07	0.90	2	1.80
Steel	17 04 05	65.03	2.8	182.08
Total		**7192.77**		**1017.79**

Carbon Sequestration data taken from the Institute of Structural Engineers Brief Guide to Calculating Embodied Carbon. Data applies to Life Cycle Modules A1-A5 for the existing buildings on site.

Embodied Carbon Assessment

As much as 1018 tonnes of embodied carbon could be released from the planned demolition works at Hayes Park. Novel techniques, such as active carbonisation, whereby recycled demolition aggregates are used to enhance the carbon sequestration of new concrete material, have been shown to significantly increase the amount of carbon that can be sequestered (Kaliyavaradhan S. & Tung-Chai L., 2017).

To further mitigate the impacts of demolition, the project will use sustainable demolition methods where possible, although the exact methods and programme of demolition works are still being finalised.

Contents

1: Introduction

1.1 Project Introduction

This pre-demolition audit has been undertaken for Marson Property Ltd and enables the project, referred to as Hayes Park to qualify for the Greater London Authority (GLA) Circular Economy Statement (CES) requirements. This report identifies the potential for reusing and recycling components and materials from Hayes Park due to be demolished.

The opportunities to reclaim materials and to generate economic and environmental benefits are often overlooked and the majority tends to end up in landfill. This report will identify the feasibility of, and opportunities for, re-use and recycling as alternatives to landfilling.

The report will focus on the complete proposed demolition works. Included in the report will be:

- A pre-demolition audit identifying key demolition products (KDP)
- A recycling valuation of two KDPs

The information in this report will help to demonstrate the benefits of recycling of KDPs.

The criteria used to select the KDPs include economic value, the number of units and the viability of deconstruction.

N.B. The findings and values contained in the report represent the best estimate of the materials and components within Hayes Park that comprise the scope of this project, by means of using plans, site surveys and photos of the different materials and components of Hayes Park.

1.2 Competence

Background

At WPSCC we have been successfully conducting Pre-Demolition and Pre-Refurbishment Audits since 2011, either as standalone works, or as part of a larger works package.

Whenever original drawings are not available (which is often) our survey team complete a comprehensive site survey to complete the calculations for the Audit.

Previous clients for similar works include Leeds Teaching Hospitals Trust, Morgan Sindall, Gardiner & Theobold, and Kier. Significant sites / projects have included Stophill Hospital (Glasgow), Leeds General Infirmary, Queen Mary University London.

2: Methodology

2.1 Brief Overview

The car park was constructed in the 1990s to service the three adjoining office buildings at Hayes Park North, Central, and South. The wider Hayes Park West site extends to 5.356 hectares, while the multi-storey car park itself has a gross floor area of approximately 10,131 m², accommodating around 553 spaces across a lower ground and raised deck structure.

The structure is now surplus to requirements due to the conversion of Hayes Park offices to residential use. Its demolition will enable the delivery of new housing and public realm improvements, increase biodiversity on-site, and make more efficient use of previously developed land within the Metropolitan Green Belt.

The proposal sees demolition of the car park structure, including the deck, retaining walls, stairways, and associated hardstanding, with partial retention of the slab. It is anticipated that materials from the demolition can be reused and recycled according to the waste hierarchy ensuring compliance with the GLA London Plan guidance for Circular Economy Statements.

2.2 Method

This audit is based on a non-intrusive survey methodology. The survey team made a thorough inspection of the building. While site plans were available to aid the survey, not all construction details were evident, hence certain assumptions have had to be made. The site audit was on the 19th of June 2025.

This report does not cover hazardous wastes: for example, asbestos fibres may be present in insulation or other materials, and it is recommended that an asbestos survey is carried out and asbestos-containing materials are removed by a licenced contractor.

Results of the survey have been analysed according to the principal materials present, these being aggregated into Key Demolition Products (KDPs) with approximate total quantities indicated and recommendations made for their reclamation, recycling, or disposal. The condition of products and materials and their suitability for various reclamation or recycling options cannot be guaranteed.

Reclamation is taken to mean the segregation of products and materials for re-use in the same form, whilst recycling refers to the reprocessing of materials into new products. A brick is reclaimed if used as a brick, recycled if crushed and used for fill material. Recycling may be “closed loop”, resulting in a new product of the same type or “open loop”, resulting in a new product of a different nature, and potentially lower grade. Reclamation is environmentally preferable to recycling as it displaces the environmental impact of manufacturing new construction products and involves little or no re-manufacturing.

3: Pre-Demolition Audit Results for Hayes Park

It was decided to concentrate on certain KDPs that present the most potential for recycling. The selection was made by looking at the quantity, value and viability for deconstruction and recycling.

3.1 Overall volumes of waste produced from Hayes Park

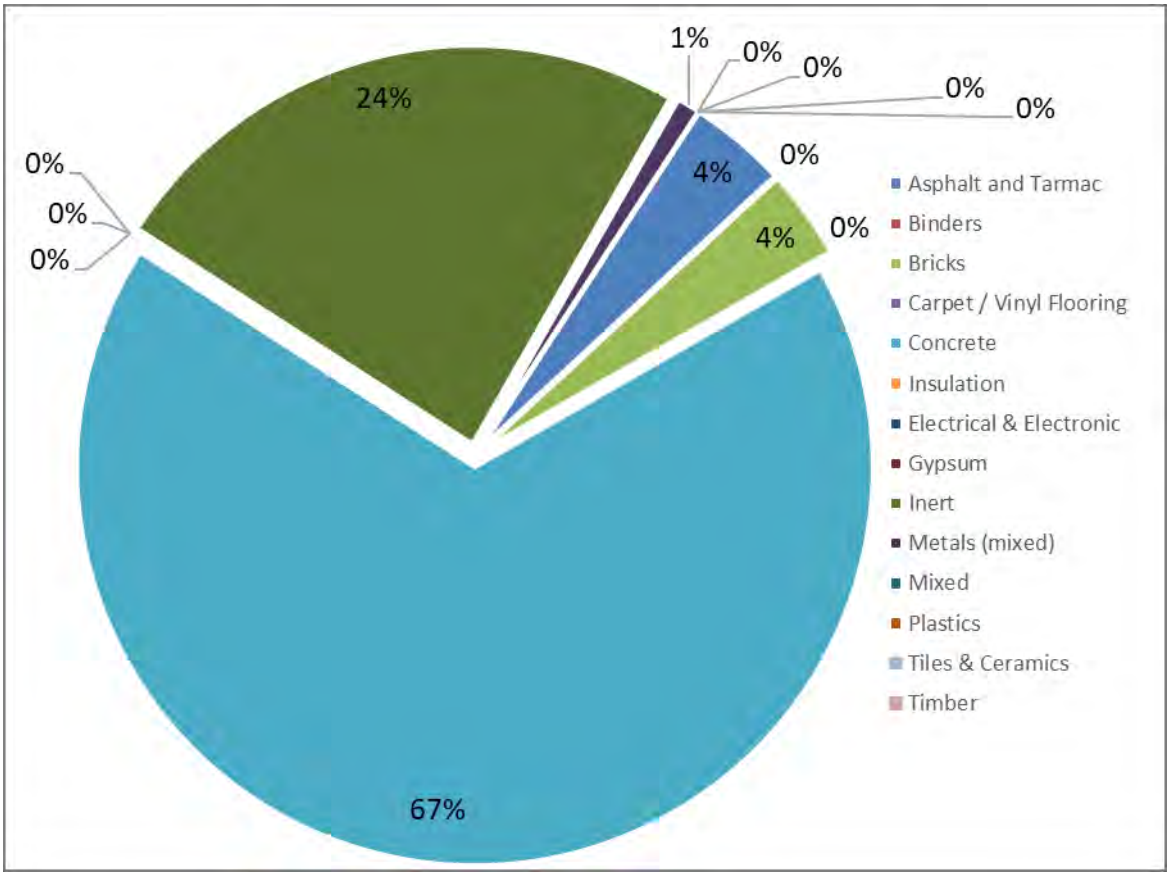


Fig.1. Distribution of waste by type

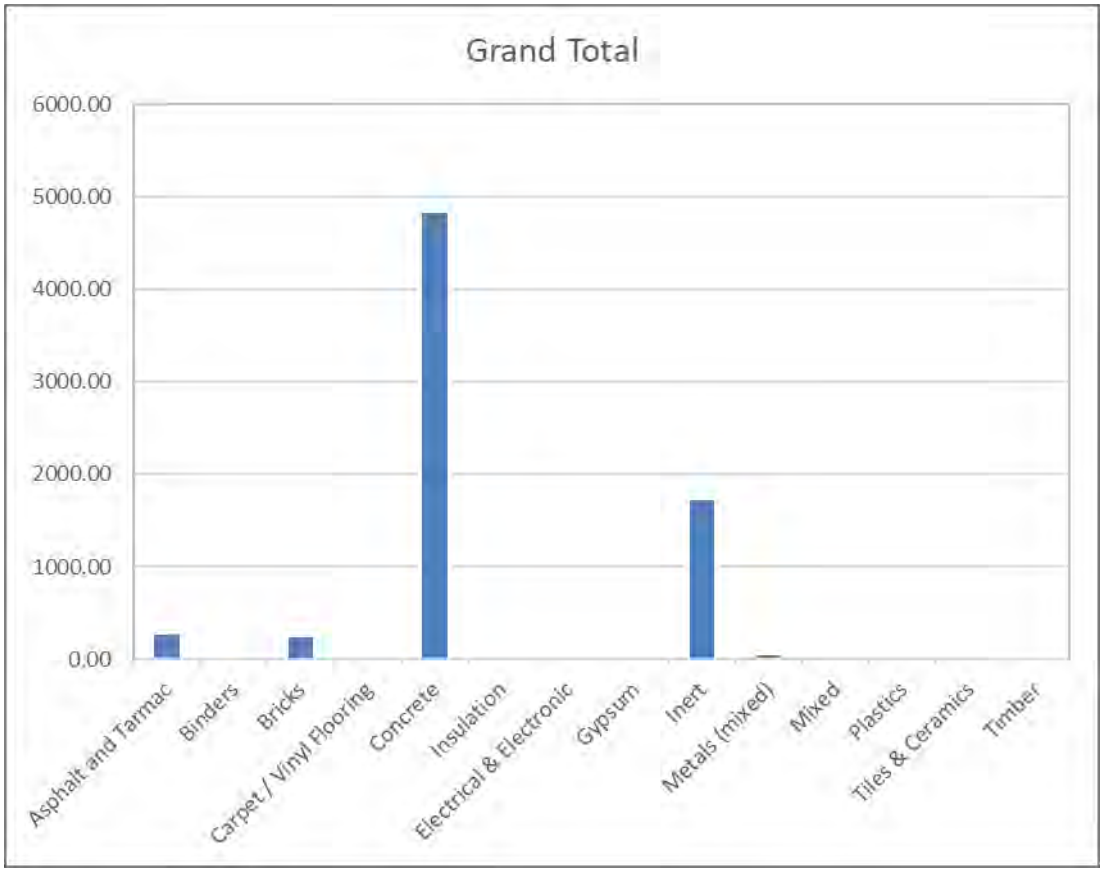


Fig.2. - Overall volumes of waste produced from Hayes Park

3.2 Material Recovery Options for Hayes Park

(Approximate percentages based on report recommendation)

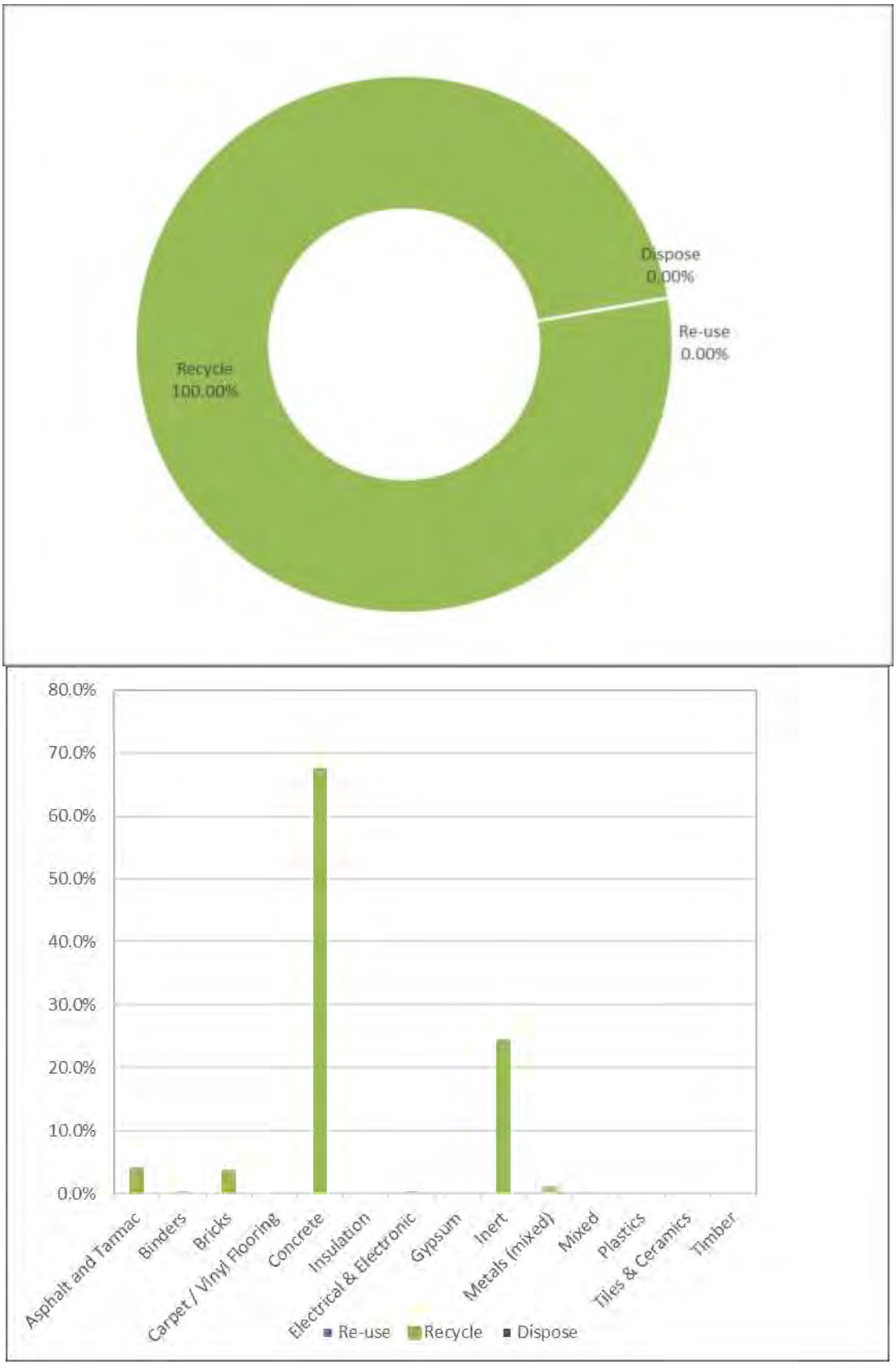


Fig.3. - Material Recovery Options for Hayes Park

4: Key Demolition Product Details for Hayes Park

This section of the report presents the waste produced as KDPs. There are two KDPs identified for this project; Inert (including Concrete) and Metals (including M & E elements), representing approximately 100% of all waste occurring on-site.

4.1 Inert (including Concrete)

- Product description:

Inert materials make the largest volume of waste arising from the site from the structure, retaining walls, posts, stairways, foundation and paved areas.

- Product detail:

Product	European Waste Classification (EWC)	Weight (Tonnes)	Suggested Reuse Rate %	Suggested Recycling Rate %	Diversion from Landfill (%)
Binders	17 01 01	2.62	0%	100%	100%
Bricks	17 01 02	259.28	0%	100%	100%
Concrete	17 01 01	4843.09	0%	100%	100%
Inert	17 09 04	1738.42	0%	100%	100%
Total		**6843.41**	**0%**	**100%**	100%

- Recommendations for Hayes Park:

The recycling of demolition arisings, such as concrete, to produce recycled aggregates is now a mainstream activity usually driven by the cost benefits to be made (Demolition Protocol, 2008). Case study results from implementing the Demolition Protocol (2008) indicate that close to 100% recycling performance can be achieved for concrete and masonry where a soft strip process has removed materials/wastes that would be considered contamination.

Disposal of this inert material could cost £102,600 based on a waste management charge of approximately £300 per 20yd container (excluding a possible extra charge of £98.60 per tonne disposal/recycling cost).

These inert materials should be crushed on-site and used as Recycled Aggregate (RA) where possible. The lower value material should be kept separate from Recycled Concrete Aggregate; its first use would be as fill material on-site, with any surplus sold locally. For the remaining inert waste, it could fetch up to £9.00 per tonne. Maximum benefit is to be realised by using the recycled material on-site in the highest value applications first, thereby displacing the procurement of virgin materials. Based on this valuation the overall potential value to the project of on-site recycling of this material is in the region of £61,591, less the cost of processing.

The potential for reuse of existing bricks has been considered but is not deemed to be a viable option. Disassembling brickwork in a way that prevents damage is time-consuming and requires specialist contractors. This will likely increase the cost and timeframe of the demolition. Additionally, the type and condition of the brickwork does not lend itself easily to the requirements of the development. Therefore, it is determined that the most sustainable method would be to crush the material on site for use as piling mat or as hardcore base.

The overall maximum benefit achievable therefore, including disposal savings if retained on-site, could be in the region of £164,191 excluding any processing costs.

4.2 Metals

- Product description:

Most of the metal by weight comes from the stairways and pipework.

- Product detail:

Product	European Waste Classification (EWC)	Weight (Tonnes)	Suggested Reuse Rate %	Suggested Recycling Rate %	Diversion from Landfill (%)
Iron & Steel	17 04 05	65.03	0%	100%	100%
Other Metals (Electrical)	17 04 07	0.90	0%	100%	100%
Total		**65.92**	**0%**	**100%**	100%

- Recommendations:

In this instance, unfortunately, much of the items are either unfit, or unavailable for reuse, although the potential for the reuse of structural steel on site will be considered. Given the low quantities present it is unlikely that associated costs with disassembling the steel would make this a viable option.

According to the SCI's *Protocol for reusing structural steel*, any potentially reusable structural steel should undergo visual inspection and testing to ensure confidence in its reuse capacity. This should include visual inspection for buckling or plasticity, followed by testing each component for composition and tensile strength. Should it meet the required standards, there is no reason sections of structural steel can't be reused within the project. It is worth noting that extracting steel for reuse is typically more labour and cost-intensive than conventional demolition methods, but these costs can be offset by savings made from not having to purchase virgin steel.

All metals should be segregated for recycling, which is both cost-effective and preserves a large part of their environmental value. Recycling of the metals via a waste management company may realise a net rebate in the order of £10,730.

5: Reclamation: General note

To maximise reclamation value, it is advisable to have a long lead-in time and maximum exposure to sell architectural salvage items. To maximise environmental and economic benefits, it is advised that any materials/items be re-used as near to site as possible, and they are either:

- Used in the re-development
- Used by the same client locally
- Sold or given away locally

It is important that salvaged items are removed and stored so that components remain together. Salvo operates a demolition alert service on their website which brings forthcoming demolition products to the attention of potential buyers. Demolition alerts are also available on the BREMAP system.

5.1 Reclamation / Recycling recommendations

The following recommendations may assist in maximising the reclamation and recycling potential of KDPs:

- Discuss with the client the findings of the report and ensure that all options for on-site re-use are considered.
- Consider setting aside storage on-site for segregation of salvage items.
- For useful advice / guidance consult WRAP Construction Contractors (http://www.wrap.org.uk/content/construction-contractors) for resources to help manage waste.
- Consult http://www.ciria.com/recycling/ for a list of construction related recycling sites.
- EMR metal recycling is a nationwide network of scrap metal processors (www.emrgroup.com).
- Contact local architectural salvage merchants about specific items. Salvo publishes a directory on their website. Local options are listed on the NetRegs Waste Directory (www.wastedirectory.netregs.gov.uk).
- Any switch boxes, distribution boxes and fluorescent light fittings should be disposed of according to the WEEE Regulations. We strongly recommend that this is discussed with your demolition contractor or with a specialist WEEE handler.

5.2 Local Waste Contractors

This is a sample of local Waste Contractors who could be used on the project:

Waste Contractor	Waste Carriers License number	PAS 402	Address	Contact	Distance
London Waste Management Ltd	CBDU308350	No	6, Stockley Park, 9 The Square, Hayes, Heathrow UB11 1FW	02030971517	1.5 miles
Talking Rubbish	CBDU149804	No	39 Penn Dr, Denham, Uxbridge UB9 5JR	07495169333	1.6 miles
Aymer Clearance	CBDU578050	No	Robbs Nursery Spout Lane North, Staines-Upon-Thames, TW19 6BW	01277584351	5.3 miles
Ace Skip Hire	CBDU160750	No	102 Windsor Rd, Gerrards Cross, Buckinghamshire, SL9 8SW	01753963118	6.8 miles

6: Conclusion and Recommendations

Inert Materials will be the dominant demolition product. This product should be treated in terms of the priorities of the waste hierarchy of Reduce > Re-use > Recycle > Dispose. Much of the metal should be sold to local dealers for recycling. Any unsuitable and damaged inert materials can be crushed for recycled aggregate. Other inert materials should be segregated where possible. These actions will significantly reduce the environmental impact of the demolition process.

The findings of this report will be used to inform the Circular Economy Statement submitted to the GLA, as required by the London Plan. The data will form part of the project's Resource Management Plan (RMP) and will be monitored against actual waste arisings during demolition.

6.1 Breakdown of Recovery Options for Hayes Park

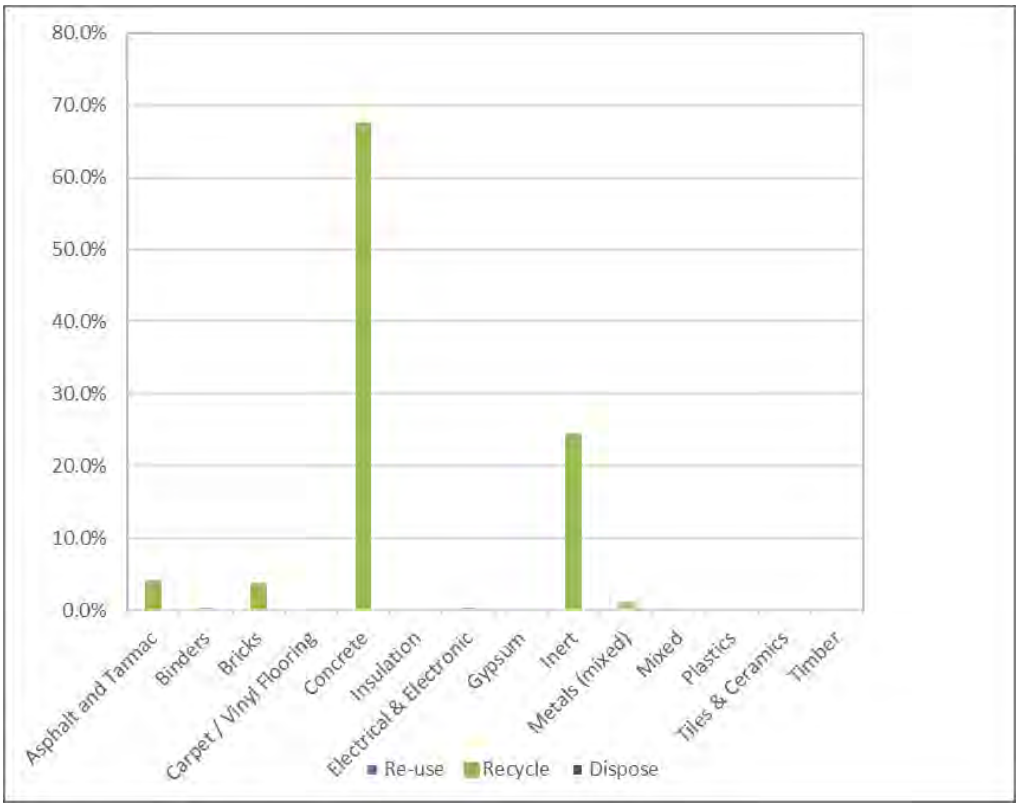


Fig.4. - Breakdown of Recovery Options for Hayes Park

6.2 Economic potential for Hayes Park

Key Demolition Product	Economic Potential
Inert (including Concrete)	£164,191
Timber	Variable
Metal	£10,730
Gypsum	Variable
TOTAL	**£174,921**

Table 1 - Economic potential for Hayes Park

6.3 General

The client, architect and demolition contractor should be involved in the implementation of the recommendations of this report. Re-use on-site or in a similar project is the ideal option from an environmental and economic point of view, and the client and architect are best placed to facilitate these actions.

The above recommendations should be considered concerning reclamation, specific segregation, storage and advertising using the suggested routes.

It is recommended that, as part of this process, a plan is drafted for management of demolition waste, the key features of which would be:

1. Targets set for segregation and recycling of key demolition products (KDP), based on the above, to be agreed with the demolition contractor
2. Targets for reclamation of specific materials and named items, based on the above, to be agreed with the demolition contractor
3. Adequate on-site practices for removal and storage of products and materials for reclamation and recycling
4. A template for monitoring waste management routes, with which contractors will be asked to comply.

6.4 Waste Monitoring

Measuring systems such as WPS Compliance Consulting's SitePlan (www.siteplan.online) could be implemented on-site to reflect the waste management plan, because: -

- Reference to this Audit must be made in the Resource Management Plan (RMP)
- The data from this Audit must be used as the Forecast data in the project's RMP
- The data from this Audit must be included in Appendix D of the Circular Economy Statement
- At the end of the project the Waste Actuals should be compared to the Forecast values (as is the norm in the Review section of the RMP), with any deviations from the planned targets being investigated and explained.

Without this adequate waste monitoring it will not be possible to check the performance of contractors, or to verify the success of the waste management plan.

References:

British Standards Institute (2002) *Standards for Concrete*. BS8500-1. London: BSI

Institute of Civil Engineers (2008) *Demolition Protocol*. London: ICE

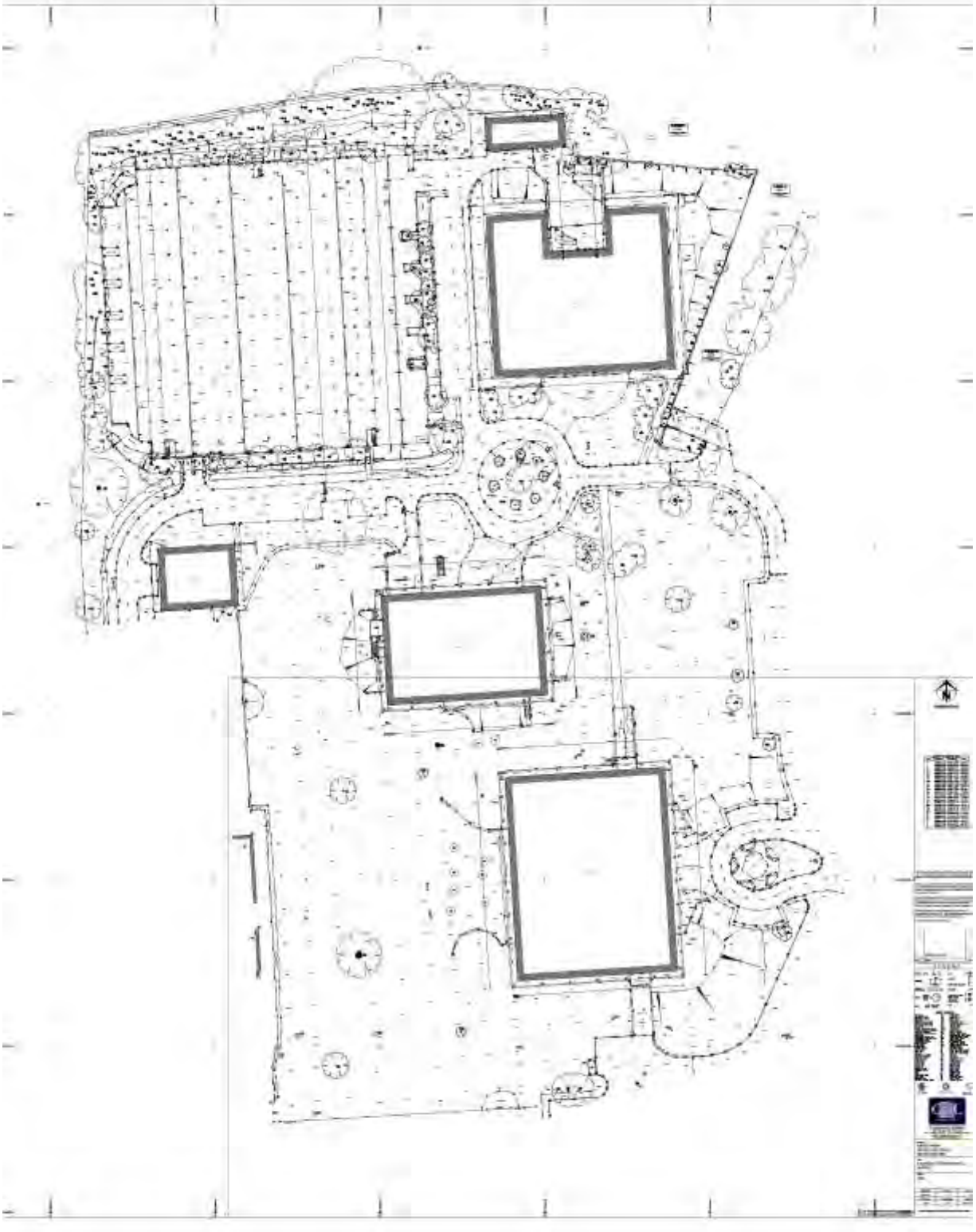
Recipro (2016) *What is Recipro?* [online] Available at: http://www.recipro-uk.com/ (Accessed: 24th June 2025)

Scrap Metal (2023) *Scrap metal prices* [online] Available at: https://www.reclamet.co.uk/scrap-metal-prices (Accessed: 23rd June 2025)

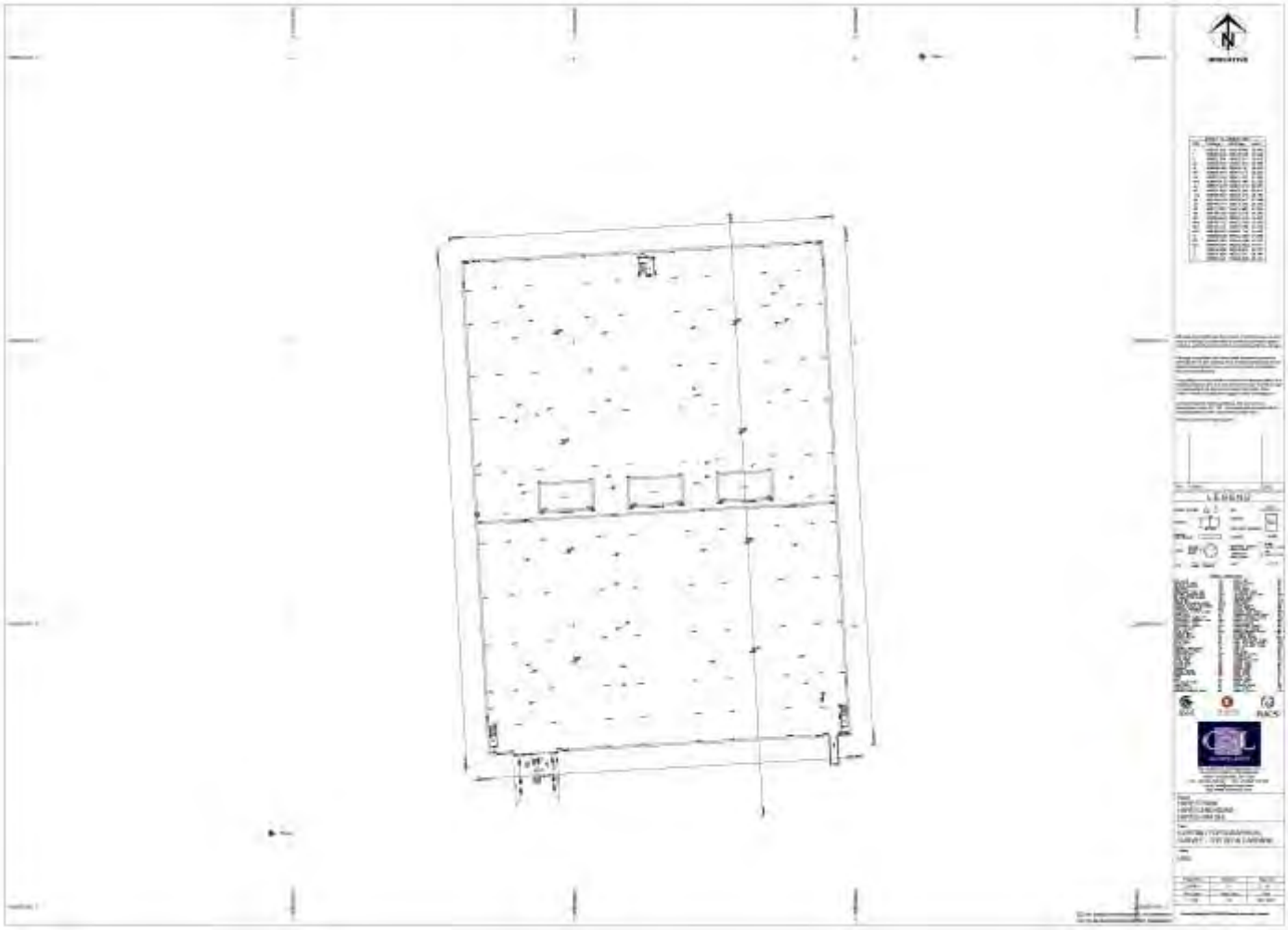
Waste and Resource Action Programme (2005) *The quality protocol for the production of aggregates from inert waste.* Oxon: WRAP

Steel Construction Institute *Protocol for Reusing Structural Steel* (Accessed: 23rd June 2025)

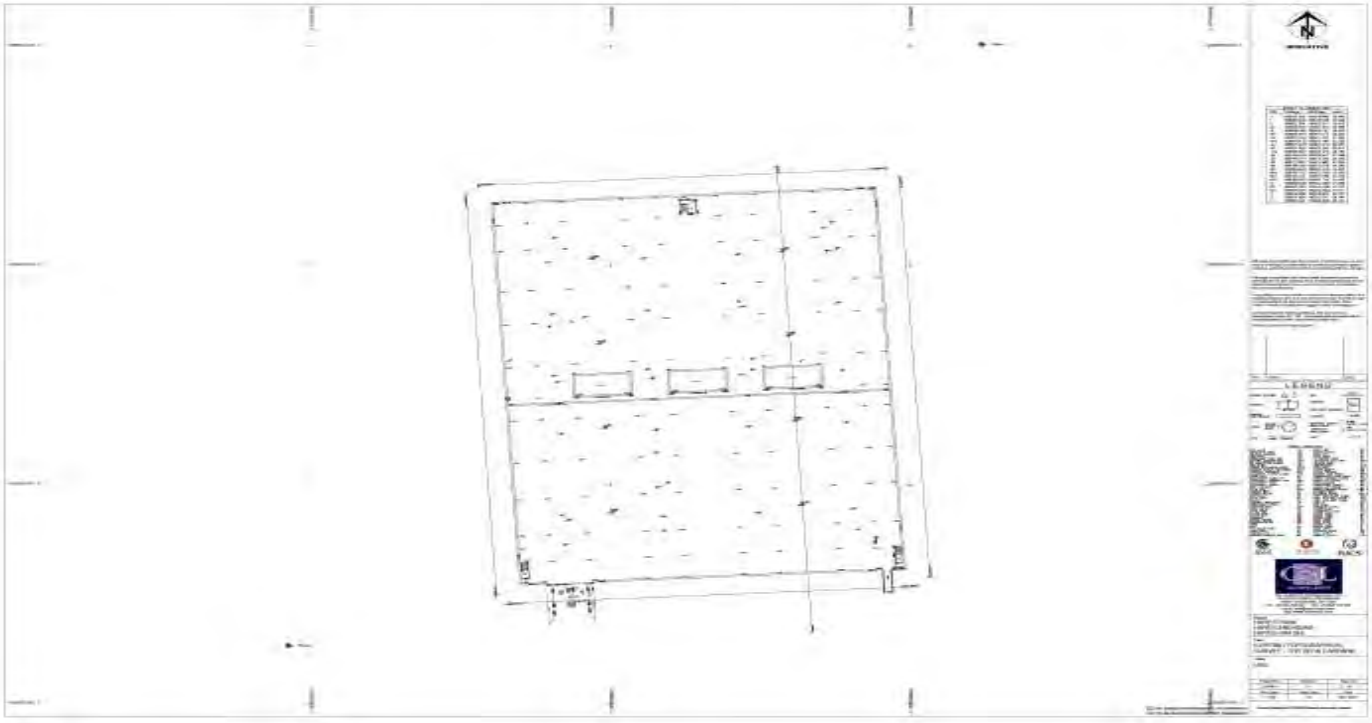
Appendix 1 (Plans)



Site Plan



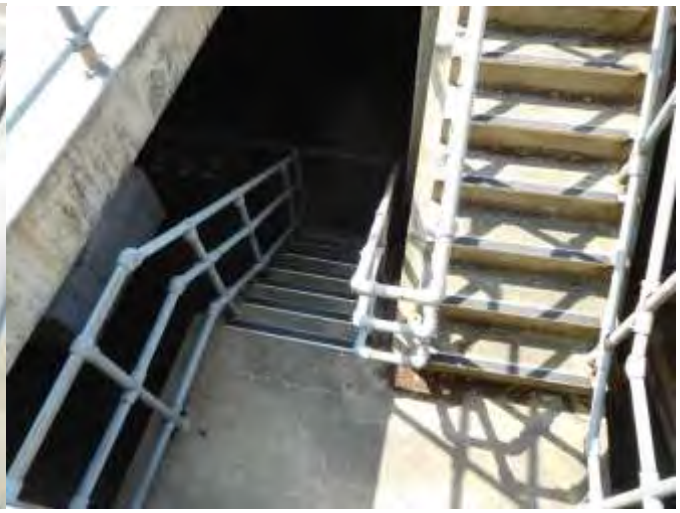
Upper Deck

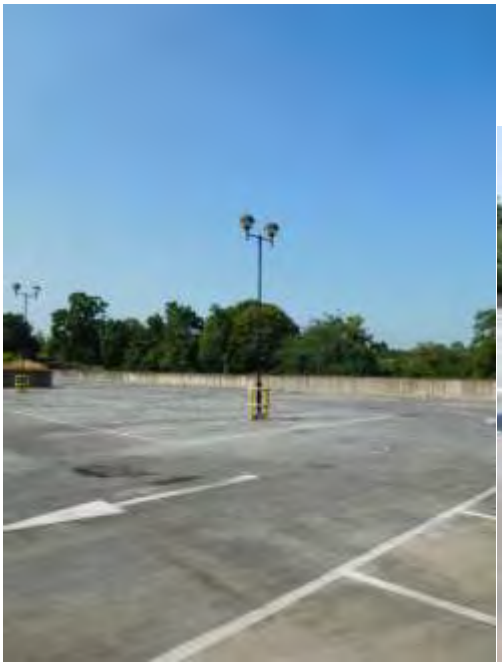


Lower Deck

Satellite image of the site

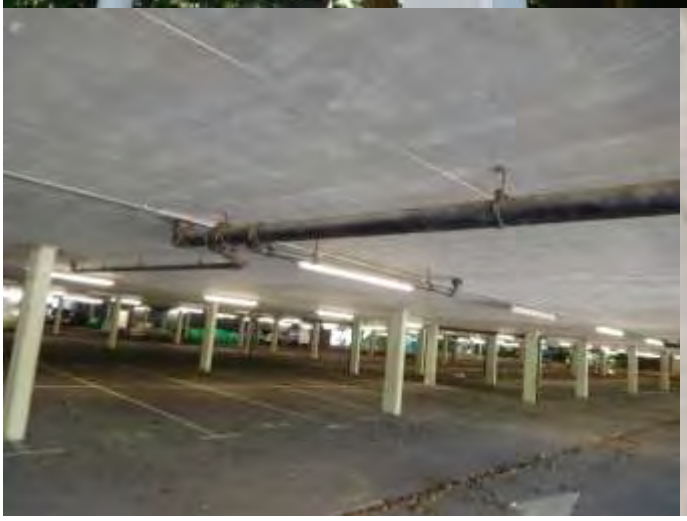
Appendix 2 – Images taken during site visit










BS 416/2

Appendix C – Site waste management plan.

SEPTEMBER 2025

Site Waste Management Strategy

Hayes Park West, Hayes Park, Uxbridge, UB4 8FE

ICENI PROJECTS LIMITED ON BEHALF OF SHALL DO HAYES DEVELOPMENTS LTD

Iceni Projects Limited on behalf of
Shall Do Hayes Developments Ltd

September 2025

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Site Waste Management Strategy
HAYES PARK WEST, HAYES PARK, UXBRIDGE, UB4 8FE

CONTENTS

1. INTRODUCTION

1.1 This Site Waste Management Plan (SWMP) has been prepared by Iceni Projects Ltd on behalf of Shall Do Hayes Developments Ltd ('the Applicant') to accompany the planning application for the proposed residential development (the 'Proposed Development') of Hayes Park West, Hayes Park, Uxbridge, UB4 8FE. The purpose of this SWMP is to set out how construction and excess material waste will be managed by the Applicant in relation to the redevelopment of the Site, and has been based on the information available at the time of writing. This document provides a summary of:

- How the Applicant has developed the SWMP during the design stage.
- How waste will be managed on-site in line with Duty of Care legislation.
- The Applicant's requirements for training on waste management issues.
- The Applicant's responsibilities for updating monitoring and reporting volumes of waste.

1.2 It is anticipated that this SWMP will be a will be a condition of the planning permission and that it will be a living document, regularly monitored and updated with the relevant information as and when it becomes available through each stage of the project.

1.3 Prior to the commencement of construction works, the Applicant is responsible for preparing a SWMP. At the pre-construction stage, the Applicant should enter the following information into the plan, where practicable:

- Project Details and Duty Holders.
- Objectives relevant to the project.
- Inception and Design Decisions taken to eliminate and reduce waste generation.
- Proposed Waste Management Actions to reduce the amount of waste generated.
- Completion of a waste data sheet at the tender stage, describing the type and quantity of waste likely to be generated throughout the project and how that waste will be treated, reused, recycled, etc.

1.4 When the Principal Contractor is appointed, the Applicant will hand the SWMP over to the Contractor. The Contractor must then update the plan to include the following throughout the course of the project:

- The name of the Site Manager; the person responsible for implementation of the SWMP.

- Recording the details of all contractors to work on the project and any specific responsibility they have in relation to the SWMP.
- Details of the waste contractors to be employed.
- Completion of the document register, detailing the records kept in order to prove compliance with environmental legislation.
- Any waste management action taken, in addition to those proposed by the Applicant to reduce the amount of waste generated.
- Production of updated waste data sheets as often as necessary, but at least every 6 months.
- Details regarding how and where waste will be separated and stockpiled on-site and any security measures that will be implemented to prevent illegal disposal.
- Details of any training that will be provided to ensure adherence to the SWMP.
- The type and frequency of any measuring or monitoring that will be carried out.

Project Details

Project Information

1.5 Table 1.1 below provides the key project information available at this stage, including the proposed Gross Internal Area (GIA).

Table 1.1 Key Project Information

Applicant	Shall Do Hayes Developments Ltd
Employers Agent	*TBC*
Principal Contractor	*TBC*
Principal Designer	*TBC*
Site Location	Hayes Park West, Hayes Park, Uxbridge, UB4 8FE Grid Reference: TQ088825
Proposed GIA (m^2)	7,348.64
Start Date	*TBC*
Completion Date	*TBC*
Description of Project	Partial demolition and redevelopment of the existing multi storey car park to provide new homes (Use Class C3), landscaping, car and cycle parking, and other associated works.
Waste Management Champion	*TBC*
SWMP Owner	*TBC*

Site and Surroundings

1.6 The Site, known as Hayes Park West, is located within the Charville Ward of the London Borough of Hillingdon. The Site sits within a wider former business park known as 'Hayes Park'.

1.7 The Hayes Park estate comprises a historically significant office campus in West London, situated in Hayes, and bounded by a structured, pastoral landscape. The estate is framed by the buildings known as Hayes Park North ('HPN'), Hayes Park Central ('HPC'), and Hayes Park South ('HPS'), both positioned within a broader landscape setting originally envisaged by architect Gordon Bunshaft as a modernist business park set in parkland. HPC and HPS are Grade II* listed due to their architectural and historic interest.

1.8 In recent years, the character and context of Hayes Park estate has undergone a fundamental shift from office use to residential, which following a series of planning applications is delivering 189 new homes. The relevant applications are as follows:

- Hayes Park North ('HPN') – a three-storey, early 2000s office building, was granted Prior Approval in 2022 for conversion to 64 homes (Ref: 12853/APP/2021/2202), followed by

permission for external enhancements to the building (Ref: 12853/APP/2023/3720). These works are now on-site and being delivered.

- Hayes Park Central ('HPC') and Hayes Park South ('HPS') – both mid-century, listed office buildings, were granted full planning permission and listed building consent in early 2024 for conversion into 125 homes, with associated landscape enhancements (Ref: 12853/APP/2023/1492).

1.9 Hayes Park West is bound to the north and west by dense trees planting and open parkland, which is private land owned by the Church Commissioners. To the east the site is bound by HPN, and to the south by the listed HPC and HPS.

1.10 The entirety of the site and much of the surrounding land is located within the Green Belt. Beyond that, there are large areas of low-density terraced housing. There is a wide selection of parks and leisure facilities in the area, including the Hayes End Recreation Ground, Park Road Green and the Belmore Playing Fields. The nearest town centres are located at Hillingdon Heath Local Centre, 1.6km to the southwest, and at Uxbridge Road Hayes Minor Centre, 3.3km to the southeast.

The Proposed Development

1.11 The description of the Proposed Development is as follows:

> *"Partial demolition and redevelopment of the existing multi storey car park to provide new homes (Use Class C3), landscaping, car and cycle parking, and other associated works."*

1.12 The Proposed Development will deliver the following mix of residential dwellings:

- 16no. 1-bedroom 2-person units;
- 8no. 3-bedroom 6-person units; and
- 28no. 4-bedroom 7-person units.

2. OBJECTIVES

2.1 The objectives of this Site Waste Management Plan are to:

- Identify relevant policy and guidance that needs to be considered and supported by the Proposed Development.
- Identify and implement roles and responsibilities of all parties involved in the management of waste.
- Set the waste management principles and aspirations for the construction and operation of the Proposed Development.
- Identify the waste expected to arise during the demolition, enabling and construction phases.
- Implement good practice waste minimisation and management, outlining how waste will be eliminated, reduced, reused and recycled and, if required, disposed of correctly.
- Monitor and review waste minimisation and waste management.

3. WASTE MANAGEMENT REGULATIONS AND GUIDANCE

3.1 The means of mitigating and managing both site and operational waste are incorporated within policy and regulation as set out below.

Legislation and Guidance

Definition of Waste

3.2 Waste is defined by the Council Directive on Waste (75/442/EEC) as “any substance or object which the producer or person in possession of discards, intends to discard or is required to discard.”

Hazardous Waste

3.3 Hazardous Waste is waste with one or more properties that are hazardous to human health or the environment as defined by the Hazardous Waste (England and Wales) Regulations 2005 (HWR).

3.4 Under the HWR “it is an offence to produce hazardous waste at premises, or remove that waste from premises, unless those premises are either registered with the Environment Agency or are exempt.”

3.5 Where subcontractors produce hazardous waste, it will be removed under the Hazardous Waste Premises Registration for that site. The Hazardous Waste (England and Wales) Regulations 2005 require a Hazardous Waste Consignment Note (HWCN) to be produced for each consignment of hazardous waste removed from site.

Inert Waste

3.6 The definition of inert waste (including bricks, tiles and ceramics, concrete, soils and stones and glass), is set out in the Landfill Directive (99/31/EC). It states that: “Waste is considered inert if:

1. It does not undergo any significant physical, chemical or biological transformations;

2. It does not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm to human health;

3. Its total leachability and pollutant content and the ecotoxicity of its leachate are insignificant and, in particular, do not endanger the quality of any surface water or groundwater.”

Waste Framework Directive

3.7 The revised European Union (EU) Waste Framework Directive was adopted and published in the Official Journal of the European Union in November 2008 (L312/3) as Directive 2008/98/EC. The Directive has established a framework for the management of waste across the EU and aims to encourage reuse and recycling of waste, as well as simplifying current legislation. Since Brexit, the

legal requirements remain largely unchanged, save that references to EU institutions, obligations and targets will be removed.

3.8 The key requirements are:

- Give priority to waste prevention and encourage reuse and recovery of waste.
- Ensure that waste is recovered or disposed of without endangering human health and without using processes which could harm the environment.
- Prohibit the uncontrolled disposal of waste, ensure that waste management activities are permitted (unless specifically exempt).
- Establish an integrated and adequate network of disposal installations.
- Prepare waste management plans.
- Ensure that the cost of disposal in borne by the waste holder in accordance with the polluter pays principle.

Materials Management Plan (MMP)

3.9 The Definition of Waste: Code of Practice (DoWCoP) requires that a Materials Management Plan (MMP) is produced and specifies what information must be gathered and documented. The MMP must demonstrate the material has been deposited in the appropriate manner and will not pose unacceptable risks to human health or the environment. The MMP must be reviewed by a Code of Practice Qualified Person and receive final signoff by the Environment Agency.

Duty of Care

3.10 The Duty of Care is set out in Section 34 (1) of the Environmental Protection Act 1990 and imposes a duty on any person who is the holder of controlled waste. Any persons who import, produce, carry, keep, treat or dispose of controlled waste, or as a broker has control of such waste, safe storage, transfer to the right person and requirement for checking up.

Waste Transfer Notes (WTNs)

3.11 The Environmental Protection (Duty of Care) Regulations 1991 require a Waste Transfer Note (WTN) to be provided on the transfer of waste between parties. The WTN will contain enough information about the waste to enable anyone encountering it to handle it safely and either dispose of it or allow it to be recovered whilst maintaining compliance with law.

3.12 Copies of WTNs must be retained for 2 years minimum and be available for inspection by the environmental regulator following the transfer of waste.

3.13 The Regulations give specific requirements for the content of a WTN, which must:

- Contain a written description of the waste and the corresponding 6-digit EWC reference code.
- State the quantity of waste.
- State whether the waste is loose or in a container, and if in a container, the type of container used.
- State the time and place of transfer.
- State the name and address of the transferor and transferee.
- State whether the transferor is the producer of the waste.
- State to which category of person the waste is transferred to, e.g. a registered waste carrier, or a holder of a waste management licence.
- Provide details of any waste carrier's registration or any waste management licence, where used.

Waste Carrier's Registration (WCR)

3.14 The Control of Pollution (Amendment) Act 1989 establishes the requirement for carries of controlled waste to register with the Environment Agency. There are a number of exceptions to these requirements, including charities, waste collection authorities, and emergency situations.

3.15 Waste will only be removed from site using a subcontractor or supplier holding a valid WCR.

Site Waste Management Plans (SWMPs)

3.16 The legislation[1] mandating the development and implementation of a SWMP on medium and large-scale construction projects was repealed in December 2013. However, many continue to recognise that SWMPs, when correctly implemented, can improve construction waste management with associated environmental and economic benefits.

3.17 A SWMP is an important part of implementing good practice WMM. A SWMP is not just a tool for managing waste on-site, it should also be used as a tool during the early design phase of projects, identifying potential waste streams to minimise and targeting appropriate rates of recovery to inform the development of the design. Planning and developing the SWMP before construction begins greatly helps realise the benefits of good practice WMM.

[1] Site Waste Management Plans Regulations 2008 (Repealed in December 2013).

3.18 SWMPs remain best practice during construction and allow waste credits to be achieved under certification schemes such as BREEAM. It is anticipated that this SWMP will be regularly monitored by the Principal Contractors once appointed.

Construction Environmental Management Plan (CEMP)

3.19 Details of measures to protect the environment during the construction of the Proposed Development are set out in a Construction Environmental Management Plan (CEMP).

3.20 Measures address hours of working, noise, vibration, dust, light spill, wheel washing, control of runoff, and waste management. It is anticipated that the phased implementation of the CEMP will be a condition of the planning permission and that it will be regularly monitored.

3.21 Once finalised and approved by the local authority, the CEMP will be held on-site and all site personnel will be made aware of its existence and adhere to its guidance.

Considerate Constructors Scheme

3.22 This is a national initiative, set up by the construction industry. Construction sites that register with the Scheme sign up and are monitored against a Code of Considerate Practice, designed to encourage best practice beyond statutory requirements.

3.23 The Scheme is concerned about any area of construction activity that may have a direct or indirect impact on the image of the industry as a whole. The main areas of concern fall into three categories: the environment, the workforce and the general public.

3.24 It is expected that registered construction sites work in an environmentally conscious, sustainable manner.

Policy Context

3.25 Regional, local and Applicant environmental policy is outlined below in respect of the Proposed Development.

The London Plan (March 2021)

3.26 The London Plan outlines the Mayor's commitment to creating a low carbon circular economy, in which the greatest possible value is extracted from resources before they become waste, as this is not only socially and environmentally responsible, but will save money and limit the likelihood of environmental threats affecting London's future. The following London Plan policies are relevant to waste:

- **Policy SI7 (Reducing waste and supporting the circular economy)** states that resource conservation, waste reduction, increase 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 goods;
- 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;
- Meet or exceed the targets for each of the following waste and materials streams:
    - Construction and demolition – 95 per cent reuse/recycling/recovery
    - Excavation – 95 per cent beneficial use
- Design developments with adequate, flexible, and easily accessible storage space and collection systems and that supports the separate collection of dry recyclables (at least card, paper, mixed plastics, metals, glass) and food waste, as well as residual waste.

- **Policy D6 (Housing quality and standards)** states that housing should be designed with adequate and easily accessible storage space that supports the separate collection of dry recyclables (for at least card, paper, mixed plastics, metals, glass) and food waste, as well as residual waste.
- **Policy T7 (Deliveries, servicing and construction)** states that development proposals should facilitate safe, clean and efficient deliveries and servicing. Provision of adequate space for servicing, storage and deliveries should be made off-street, with on-street loading bays only used where this is not possible. Construction Logistics Plans and Delivery and Servicing Plans will be required and should be developed in accordance with Transport for London guidance and in a way which reflects the scale and complexities of developments.

London Environmental Strategy (May 2018)

3.27 The London Environmental Strategy (2018) sets out a vision for improving London's environment. It is noted within the Strategy that, at the time of writing, less than half of the waste generated by London's homes and businesses was recycled. As part of the Strategy, the following objectives are set out with respect to waste:

- Drive resource efficiency to significantly reduce waste, focusing on food waste and single use packaging waste.

- Maximise recycling rates.
- Reduce the environmental impact of waste activities.
- Maximise local waste sites and ensure London has sufficient infrastructure to manage all the waste it produces.

3.28 In order to achieve the objectives of the London Environment Strategy, a number of targets are set out, as follows:

- Achieve 50% Local Authority collected waste recycling by 2025.
- No biodegradable or recyclable waste to be sent to landfill by 2026.
- Increase recycling rates to achieve a 65% municipal recycling rate (by weight) by 2030.
- Achieve a minimum 75% recycling of business waste by 2030.
- Achieve a 50% reduction in food waste per head by 2030.

Hillingdon Local Plan: Part 1 – Strategic Policies (November 2012)

3.29 The Hillingdon Local Plan: Part 1 – Strategic Policies sets out the long-term vision and objectives for the Borough, what is going to happen, where, and how this will be achieved. Policies of relevance to waste management include:

- **Strategic Objective SO13** of the Local Plan is to support the objectives of sustainable waste management.
- **Policy EM11 (Sustainable Waste Management)** states that the Council will aim to reduce the amount of waste produced in the Borough and work in conjunction with its partners in West London, to identify and allocate suitable new sites for waste management facilities within the West London Waste Plan to provide sufficient capacity to meet the apportionment requirements of the London Plan which is 382 thousand tonnes per annum for Hillingdon by 2026.

  The Council will follow the waste hierarchy by promoting the reduction of waste generation through measures such as bioremediation of soils and best practice in building construction. The Council will promote using waste as a resource and encouraging the re-use of materials and recycling. The Council will also support opportunities for energy recovery from waste and composting where appropriate. The Council will safeguard existing waste sites unless compensatory provision can be made.

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

Hillingdon Local Plan: Part 2 – Development Management Policies (January 2020)

3.30 The Hillingdon Local Plan: Part 2 – Development Management Policies provides detailed policies that will form the basis of the Council's decisions on individual planning applications. Policies of relevance to waste management include:

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

- **Policy DMIN 4 (Re-use and Recycling of Aggregates)** states that the Council will promote the recycling of construction, demolition and excavation waste. All developments will be encouraged to:

    - Recycle and re-use construction, demolition and excavation waste as aggregates;

    - Process and re-use the recyclable material on-site, and where this is not possible, the material should be re-used at another site or for land restoration; and

    - Use substitute or recycled materials in new development in place of primary materials.

British Standard 5906:2005

3.31 The Standard, which applies to new buildings, refurbishments and conversions of residential and non-residential buildings, provides a code of practice for the storage, collection, segregation for recycling and recovery, and on-site treatment of waste. This includes the following:

- All containers for waste, including recyclable material, are easily accessible to both the occupier and waste collector;

- Collectors will not have to manoeuvre waste storage containers from the storage areas to the collecting vehicles for a distance of more than 10m (four wheeled bins) or 15m (two wheeled bins);

- Paths between storage areas and collecting vehicles are free from steps, kerbs or inclines with a gradient of more than 1:12, be non-slip and a minimum of 2m wide. They will have foundations and a hardwearing surface that will withstand the loading imposed by wheeled containers;

- Waste stores have been designed and located in such a way as to limit potential noise disturbance to residents;

- Storage areas for waste and recycling will be clearly designated for this use only, by a suitable door or wall sign and, where appropriate, with floor markings;

- Waste storage sites will include areas for instructional signage detailing correct use of the facilities;
- The entrance of the waste storage room will be free from steps and projections;
- Adequate ventilation will be provided, with permanent ventilators giving a total ventilation area of no less than 0.2m2;
- Electrical lighting will include sealed bulkhead fittings (housings rated to IP65 in BS EN 60529:1992 (Ref. 43)) for the purpose of cleaning down with hoses and inevitable splashing. Luminaires will be low energy light fittings or low energy lamp bulbs, controlled by proximity detection or a time delay button to prevent lights being left on; and
- Gullies for wash down facilities will be positioned so as not to be in the track of container trolley wheels.

3.32 The Standard also presents typical weekly waste arisings and subsequent storage requirements for a variety of building types, as shown below:

Table 3.1 Waste volume calculations

Building Type	Equation for weekly waste arisings (litres)
Domestic	Number of dwellings x {(number arising per bedroom (70l) x average number of bedrooms) +30}*
Office	Volume arising per employee [50 l] x number of employees
Shopping centre	Volume arising per sqm of sales area [10 l] x square meterage
Fast food outlet	Volume per sale [5 l] x number of sales
Department store	Volume per sqm of sales area [10 l] x sales area
Restaurant	Volume per number of covers [75 l]
4/5 star hotel	Volume per bedroom [350 l] x number of bedrooms
2/3 star hotel	Volume per bedroom [250 l] x number of bedrooms
1 star hotel / B&B	Volume per bedroom [150 l] x number of bedrooms
Supermarket (small)	Volume per sqm of sales area [100 l] x sales area
Supermarket (large)	Volume per sqm of sales area [150 l] x sales area
Industrial unit	Volume per sqm of floor area [5 l] x floor area
Entertainment complex / leisure centre	Volume per sqm of floor area [100 l] x floor area

* Based on average household occupancy.

4. ROLES AND RESPONSIBILITIES

Overview

4.1 The table below identifies the various parties involved and their responsibilities in relation to the SWMP.

Table 4.1 Roles and Responsibilities

Party	Role and Responsibility
Principal Contractor	• Production and distribution of the SWMP • Implementation of the SWMP • Appointment of Waste Contractor for removal of waste and off-site segregation and recycling • Auditing and reporting of site performance against the SWMP • Updating of the SWMP to reflect any changes of responsibilities or personnel • Recording of the quantities of materials being delivered to the Site • Recording of the quantities of materials being removed from the Site for recycling • Recording of all training held in respect to waste management • Ensuring all records are maintained on-site • Retention of report for 2 years after project completion
Waste Contractor	• Provision of waste containers and equipment • Recording of the quantities of waste removed from the Site • Collecting, transporting and disposing of waste for re-use, recycling, recovery or disposal • Providing waste transfer notes • Providing monthly waste reports
Subcontractors	• Attendance of training as directed by the Principal Contractor • Following arrangements for the collection and segregation of waste on-site as specified in the SWMP • Contacting the Principal Contractor if they are unclear about any aspect of waste or waste management on-site

4.2 All persons working on-site are responsible for adhering to the SWMP. This includes attending training as specified and following arrangements for the movement and segregation of waste on-site.

Principal Contractor

4.3 The Principal Contractor shall distribute copies of the SWMP to the Principal Designer, Applicant and each Subcontractor. This will be undertaken every time the plan is updated.

4.4 They will ensure that an appointment is in place with a registered Waste Management Contractor.

4.5 The Principal Contractor will also carry out regular auditing and reporting of how the project is performing against the Site Waste Management Plan.

4.6 The Principal Contractor will also be responsible for the implementation of the SWMP.

4.7 Their duties will include, but are not limited to:

- Ensuring waste is managed on-site in accordance with the SWMP. This includes ensuring appropriate segregation of waste on-site and arrangements for the removal of waste from the Site.
- Ensuring all employees and contractors understand their duties in relation to the SWMP. This includes arranging appropriate training and toolbox talks.
- Ensuring that all required records and documents are filed and retained.
- Ensuring compliance with Duty of Care and other relevant legislation. The Site Manager will be the point of contact for all employees, contractors and waste contractors in relation to the SWMP.

4.8 It is recommended that the Principal Contractor nominates a “Waste Champion” on-site to be responsible for the daily management, monitoring and enforcing of waste and also co-ordinating pickup times with the waste management companies. The Waste Champion should also ensure that skips do not become contaminated by incorrect waste being placed in them.

4.9 The Principal Contractor’s Procurement Lead is responsible for working with the SWMP Owner to ensure that all waste management requirements and targets are included in subcontract procurement packages. The Procurement Lead is also responsible for ensuring the Waste Management Contractor appointed for use on the project are registered Waste Carriers and have valid and verifiable registration documents.

Waste Management Contractor

4.10 The Waste Management Contractor will be responsible for recording the amount of waste taken off-site. They will also provide suitable waste containers, equipment and personnel as necessary to meet the requirements set out in the SWMP as well as produce documents and keep records as required.

4.11 They will be responsible for removing waste off-site and transporting to a licensed waste management facility.

4.12 The Waste Contractor is responsible for ensuring waste is managed off-site as specified in the SWMP and ensuring the waste treatment facilities have a waste licence and that records are provided to the Principal Contractor.

4.13 The Waste Contractor's details are listed below:

Table 4.2 Waste Contractor Details

Contractor	Contact Details	Licence Number and Expiry Date
TBC	*TBC*	*TBC*

Subcontractors

4.14 Subcontractors are expected to ensure compliance, to adhere to the principals and site practices described in this SWMP, to attend training sessions and to contribute to the achievement of the SWMP targets as necessary.

4.15 The subcontractors are yet to be confirmed. This SWMP will be updated and revised as information becomes available. All contractors will be listed in the following table with contact details. All contractors are responsible for adhering to the SWMP.

Table 4.3 Subcontractor Details

Package	Subcontractor	Contact Details
Piling	*TBC*	*TBC*
Groundworks	*TBC*	*TBC*
Frame	*TBC*	*TBC*
Façade	*TBC*	*TBC*
Roofing	*TBC*	*TBC*
Brick / Blockwork	*TBC*	*TBC*
Drylining	*TBC*	*TBC*
Joinery	*TBC*	*TBC*
MEP	*TBC*	*TBC*
Screed	*TBC*	*TBC*
Kitchens	*TBC*	*TBC*
Bathrooms	*TBC*	*TBC*
Floor Finishes	*TBC*	*TBC*
Metalwork	*TBC*	*TBC*

Package	Subcontractor	Contact Details
Painting and Decorating	*TBC*	*TBC*
External Works	*TBC*	*TBC*

Key Personnel Contact Details

4.16 The table below provides the contact information of key personnel in relation to the SWMP.

Table 4.4 Key Personnel Contact Details

Role	Name	Address	Telephone	Email
Applicant	Shall Do Hayes Developments Ltd	c/o Marson Property Ltd, 15-16 Margaret Street, London, England, W1W 8RW	*TBC*	*TBC*
Principal Contractor	*TBC*	*TBC*	*TBC*	*TBC*
Principal Designer	*TBC*	*TBC*	*TBC*	*TBC*
Operations Director	*TBC*	*TBC*	*TBC*	*TBC*
Waste Management Champion	*TBC*	*TBC*	*TBC*	*TBC*
Document Controller	*TBC*	*TBC*	*TBC*	*TBC*

5. WASTE MANAGEMENT PRINCIPLES

5.1 As defined above, waste is “any substance or object which the producer or person in possession of discards, intends to discard or is required to discard”. Construction, demolition and excavation (CD&E) generated around three fifths (62%) of total UK waste in 2018[2].

5.2 Implementing good practice Waste Minimisation and Management (WMM) on construction projects will help reduce the amount of construction waste sent to landfill. Waste minimisation includes designing out waste from a project and limiting waste arising in the construction phase. Waste management involves identifying potential waste streams, setting target recovery rates and managing the process to ensure these targets are met. Good practice WMM is increasingly being implemented in construction projects to realise key benefits. The following principles are the pillars of WMM.

Circular Economy Principles

5.3 As specified under London Plan Policy SI7, the principles of circular economy should be at the core of the Proposed Development. The CE can be defined as “…one where materials are retained in use at their highest value for as long as possible and are then reused or recycled, leaving a minimum of residual waste[3].” The six circular economy (CE) principles, which should be fundamental throughout both detailed design and construction works, are:

1. Building in layers – ensuring that different parts of the building are accessible and can be maintained and replaced where necessary.
2. Designing out waste – ensuring that waste reduction is planned in from project inception to completion, including consideration of standardised components, modular build, and reuse of secondary products and materials.
3. Designing for longevity.
4. Designing for adaptability or flexibility.
5. Designing for disassembly.
6. Using systems, elements or materials that can be reused and recycled.

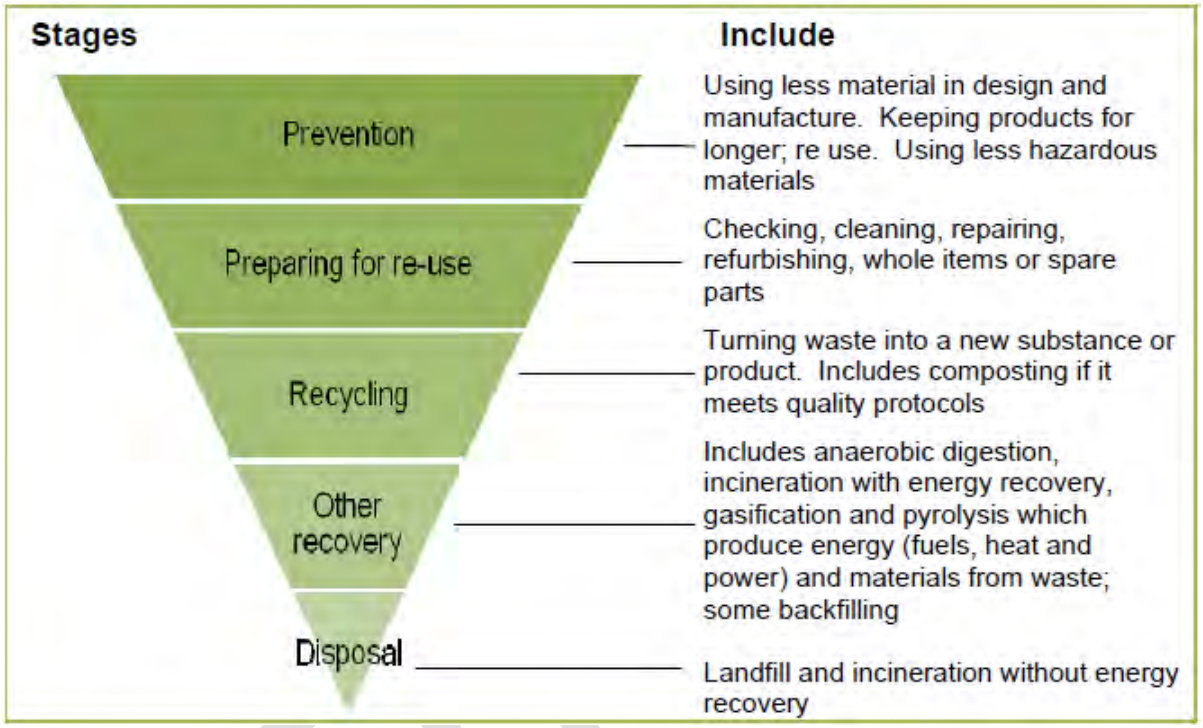
[2] Gov.uk. (2022). Statistics on waste. Available at https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste

[3] Mayor of London. (2022). London Plan Guidance: Circular Economy Statements.

Waste Hierarchy

5.4 The waste hierarchy is displayed in Figure 5.1 below. The hierarchy orders waste management options according to what is best for the environment. Consideration of how to manage waste should be carried out in this order.

Figure 5.1 The Waste Hierarchy



5.5 Waste management needs to consist of a holistic approach during the design, contractual and construction phases. This should involve the Applicant, designers, contractors and any other relevant parties. Each party can take actions to reduce the amount of waste arising at different stages of a development.

Prevent / Reduce Waste

5.6 The following items are to be taken into account by the Applicant / Designers in relation to the design or the construction method in order to minimise the quantity of waste produced on-site:

- Design the project to suit component sizes.
- Reduce the need for temporary or false works.
- Structural solutions which minimise materials and simplify the structure.
- Set the level of the building to minimise export of spoil.
- Plan for the re-use of spoils to form landscape features.

5.7 The following actions will be taken by the Principal Contractor in order to reduce the amount of waste generated throughout the project:

- Order the correct materials, as specified.
- Order the correct quantity of materials.
- Deliver materials at the appropriate time (just in time delivery).
- Encourage suppliers to use less packaging.
- Store and handle materials correctly.
- Ensure protection of finished works.
- Follow the suppliers' storage instructions.
- Keep harmful chemicals in secure bunded areas.
- Protect lightweight materials from wind.

Re-Use Materials

5.8 Where possible, surplus materials should be re-used on the Site. Where materials are surplus to requirements on-site (such as soils), there may be a requirement for them to be recovered off-site at other projects. Materials can be sold on by the Principal Contractor, or donated.

Recycling Waste

5.9 Wherever possible, waste will be segregated before being removed from the Site, with skips and bins clearly labelled. This prevents specific waste streams from becoming contaminated and ensuring they are ready for recycling. However, due to the limited storage area on typical construction sites, a general waste skip may be used for all waste generated (other than Gypsum products) and separation will be carried out off-site at a Waste Transfer Station. Waste will either be diverted for reuse or recycling or disposed of at landfill.

5.10 It is critical that waste separation is relayed to the Site Manager by the operators of the Waste Transfer Station in order to ensure that accurate data is recorded in the SWMP. Where possible, smaller waste materials, such as that from the canteen and the office, should be segregated and recycled separately at the nearest Local Civic Amenity point or other recycling centre. This is to include the recycling of plastic, paper, cardboard, cans and other waste.

Waste to Landfill

5.11 This is a last resort option. Landfill disposal is expensive, and it is accompanied by high disposal costs in the Landfill Tax.

6. WASTE TYPES, QUANTITIES AND TARGET SETTING

Construction Stage Waste Targets

6.1 Waste related targets for the Site will be set by the Applicant. Overall construction and operational waste targets will be set, as well as specific targets developed for each waste stream. These are specified in the section below.

6.2 The following targets will be set:

- Construction and demolition waste – 95% reuse/recycling/recovery.
- Excavation waste – 95% beneficial use.
- Incorporate an effective incident reporting system to reduce near misses with a target of zero environmental incidents.

6.3 The use of recycled content and secondary aggregates must be encouraged and given priority, reducing the demand for virgin material and optimising material efficiency in construction. Recommended at:

- Concrete (up to **10% recycled aggregate content, and/or 20-40% cement replacement with Ground Granulated Blast-furnace Slag (GGBS) or Calcinated Clay**. GGBS supply is becoming more restricted and expensive. Calcinated clay is produced at much lower temperatures than conventional cement clinker and does not emit carbon dioxide as part of its chemical reaction).
- Blockwork (at least **50% recycled content**).
- Insulation (at least **50% recycled content**).
- Plasterboard (at least **95% recycled content**).

Demolition Waste Segregation and Diversion Targets

6.4 The project involves the partial demolition of the existing multi-storey car park and the redevelopment of the Site to deliver residential dwellings. The Proposed Development will therefore be constructed on brownfield land.

6.5 Demolition waste produced during construction of the Proposed Development is expected to generated during the partial demolition of the existing structures on the Site, and is anticipated to consist predominantly of inert and excavated materials created during the decommissioning of part of the existing multi-storey car part, in addition to groundworks and excavations. In line with London Plan Policy SI7, 95% of construction and demolition waste should be either reused, recycled or

recovered. As a priority, non-hazardous inert material will be reused on-site, potentially in groundworks and future landscaping works. Where this is not practical, then material should be repurposed at nearby construction sites or recovered at licensed facilities. Non-hazardous excavated materials should target a landfill diversion rate of 95% of the total volume (m^3).

6.6 Further review is required once the Principal Contractor is appointed.

Construction Waste Segregation and Diversion Targets

6.7 The Building Research Establishment (BRE) has developed indicators to aid in the calculation of construction waste arisings at the design of a new development. The Environmental Performance Indicator (EPI) measures tonnes of waste / 100m^2 of gross floor area. Table 6.1 shows the EPIs from the BRE.

Table 6.1 Construction waste benchmarks

Project Type	Tonnes / 100m^2 gross floor area
Residential	15.3
Commercial Retail	15.7
Commercial Offices	12.4
Education	14.9
Leisure	14.8
Industrial Buildings	12.4
Healthcare	13.0

Notes: Data taken from BRE Waste Benchmark Data (issued October 2017)

6.8 Tables 6.2 below shows the estimated construction waste arisings for the Proposed Development, based on the indicative Gross Internal Area (GIA) and the applicable BRE benchmarks.

Table 6.2 Estimated Construction waste

Total GIA (m^2)	BRE project type	Tonnes / 100m^2 gross floor area (BRE)	Estimated construction waste (tonnes)
7,348.64	Residential	15.3	1,124.34
Total	-	-	1,124.34

6.9 It is estimated that approximately 1,124.34 tonnes of waste may arise from the construction of the Proposed Development. Waste generation is likely to vary significantly according to the programme and phasing.

6.10 It should be noted that the estimated total figure assumes wastage rates from site-wide infrastructure development such as utilities/plant including refuse storage, car parks, cycle storage, pavements

and landscaping within the Industrial category. This is due to the fact that infrastructure development cannot be easily calculated using benchmarking data; and the BRE have no applicable information for this area of construction.

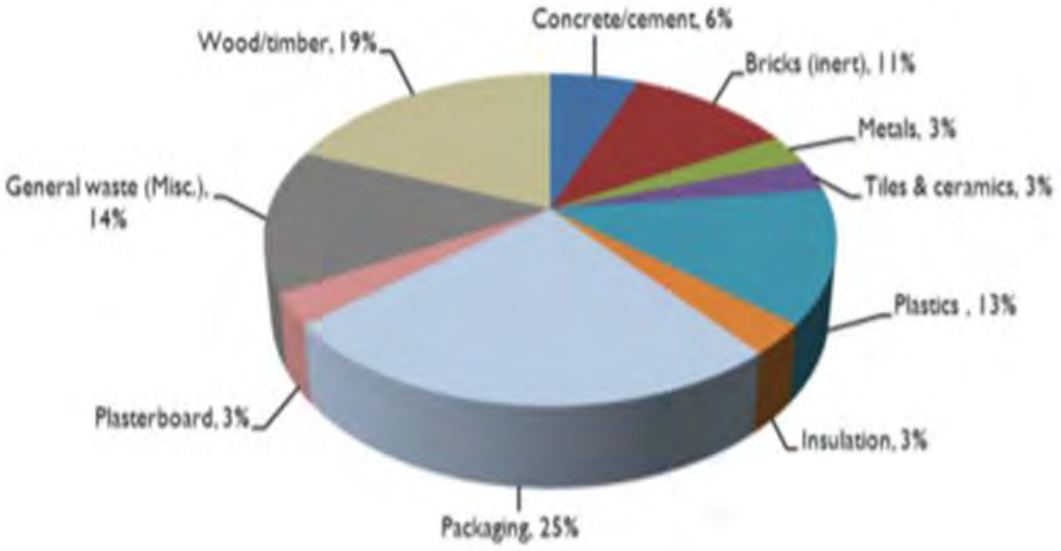
Identification and Classification of Waste

6.11 Prior to the start of works and/or upon the introduction of a new waste stream, the SWMP Owner will identify and classify waste materials leaving the Site by reference to a six-digit European Waste Catalogue (EWC) code and associated description as required by the List of Wastes (England) Regulations 2005 (LoWR). Waste can be solid, liquid or sludge.

Predicted Waste Streams

6.12 Figure 6.1 below illustrates the estimated composition of construction waste arisings for the Proposed Development, based on data from UK construction projects of a similar nature.

Figure 6.1 Estimated Construction Waste Composition (Source: SmartWaste)



6.13 Based on the total anticipated figure of 1,124.34 tonnes of construction waste, estimated using the indicative Gross Internal Area (GIA) of the Proposed Development and the applicable BRE benchmarks, Table 6.3 below provides an estimated breakdown of the waste arising by material type. It is intended that this SWMP remain a live document and that the final waste figures will therefore be inputted on the completion of the Proposed Development when available.

Table 6.3 Estimated Construction waste breakdown

Material Type (based on EWC Code classifications)	Suggested EWC Code	Waste Forecast (m^3)	Waste Forecast (tonnes)	Final Waste Figures
Waste paint and varnish containing organic solvents	08 01 11	12.6	3.4	*TBC*
Packaging (including separately collected municipal packaging waste)	15 01	22.3	6.0	*TBC*
Packaging containing residues of or contaminated by hazardous substances	15 01 10	11.1	3.0	*TBC*
Metallic packaging containing a dangerous solid porous matrix, including empty pressure containers	15 01 11	0.7	0.8	*TBC*
Absorbents, filter materials, wiping cloths, protective clothing contaminated by dangerous substances	15 02	1.6	0.4	*TBC*
Aqueous liquid wastes containing hazardous substances	16 10 01	1.6	0.4	*TBC*
Concrete	17 01 01	181.2	235.5	*TBC*
Bricks	17 01 02	125.3	150.3	*TBC*
Tiles and ceramics	17 01 03	50.1	60.1	*TBC*
Wood	17 02 01	35.8	25.1	*TBC*
Glass	17 02 02	80.2	60.1	*TBC*
Plastic	17 02 03	55.7	15.0	*TBC*
Bituminous mixtures containing coal tar	17 03 01	41.8	50.1	*TBC*
Iron and steel	17 04 05	125.3	150.3	*TBC*
Mixed metals	17 04 07	25.1	30.1	*TBC*
Metal waste contaminated with hazardous substances	17 04 09	10.0	12.0	*TBC*
Soil and stones	17 05 04	58.5	70.2	*TBC*
Gypsum-based construction materials	17 08	110.2	110.2	*TBC*

Material Type (based on EWC Code classifications)	Suggested EWC Code	Waste Forecast (m^3)	Waste Forecast (tonnes)	Final Waste Figures
Mixed construction and Demolition wastes	17 09 04	83.5	100.2	*TBC*
Textiles	20 01 11	18.6	5.0	*TBC*
Discarded electrical and electronic equipment	20 01 36	18.6	5.0	*TBC*
Biodegradable waste	20 02 01	41.2	30.9	*TBC*

* The table above has been populated with the information available to date. It will be updated as more information becomes available. The last column (final waste figures) will be populated at the end of the project once the final waste data is available.

6.14 Table 6.4 below shows the standard, good and best practice recovery rates for typical construction materials.

Table 6.4 Recovery rates for typical construction materials

Material	Standard recovery* %	Good practice recovery* (quick win) %	Best practice recovery* %
Timber	57	90	95
Metals	95	100	100
Plasterboard	30	90	95
Packaging	60	85	95
Ceramics	75	85	100
Concrete	75	95	100
Inert	75	95	100
Plastics	60	80	95
Miscellaneous	12	50	75
Electrical Equipment	Limited information	70**	95
Furniture	0-15	25	50
Insulation	12	50	75
Cement	Limited information	75	95
Liquids and oils	100	100	100
Hazardous	50	Limited information***	Limited information***
* Proposed waste management actions			
‘Reuse’ and ‘recycling’ are forms of waste recovery			
** This is a required recovery target for the type of Waste Electrical and Electronic Equipment (WEEE)			

6.15 It should be noted that typical hazardous materials from construction sites that fall within the HWR include:

- Treated wood, glass, plastic (alone or in mixture) containing dangerous substances;
- Bituminous mixture containing coal tar and other dangerous substances;
- Metals containing oil, coal tar and other dangerous substances;
- Cables containing oil, coal tar and other dangerous substances;
- Rubble or hardcore containing dangerous substances;
- Soil, stones and dredging spoil containing dangerous substances;
- Gypsum materials such as plasterboard containing hazardous materials;
- Unused or unset cement;
- Paints and varnishes containing organic solvents or other dangerous substances;
- Paint or varnish remover;
- Adhesives and sealants containing organic solvent or other dangerous substances; and
- Empty packaging contaminated with residues of dangerous substances e.g. paint cans.

6.16 Hazardous waste materials will be stored in secure bunded compounds in appropriate containers which are clearly labelled to identify their hazardous properties and are accompanied by the appropriate assessment sheets.

6.17 Any fuels, oils and chemicals that are used will be stored in appropriate containers within secure bunded compounds in accordance with good site practice and regulatory guidelines and located away from sensitive receptors.

6.18 This section will be reviewed and amended as required once the Principal Contractor is appointed.

Operational Waste Targets

6.19 LBH is committed to working towards meeting London Plan Policy SI7 of ensuring that there is zero biodegradable or recyclable waste to landfill by 2026 and meeting or exceeding the municipal waste recycling target of 65 per cent by 2030[4].

6.20 In line with the Mayor of London's target, the amount of waste to be diverted for recycling during operation of the Proposed Development has been set at 65% of the total volume (m^3). The waste hierarchy should be followed and landfill diversion (i.e., energy from waste) should be prioritised for the remaining volume in line with London Plan Policy SI7. The following actions have been identified to achieve this:

- Each dwelling will be fitted with a three-compartment waste bin, with each compartment corresponding to the relevant waste stream to be collected by the Council.
- Guidance for waste stream sorting and collection will be provided in the user manual.
- For a proportion of dwellings, centralised and easily accessible refuse areas located on the lower ground floor level, and for the remaining dwellings, the provision of storage space within private amenity spaces to the front of the units for the storage of waste.
- Adequate signage to reduce the likelihood of waste contamination.

[4] The London Plan (2021). Policy SI 7 Reducing waste and supporting the circular economy.

7. WASTE MANAGEMENT MEASURES

Construction Phase Waste Reduction Measures

7.1 This section presents a number of measures that may be implemented during the construction of the Proposed Development in order to minimise the amount of waste arising. Appendix A3 identifies additional measures for reducing waste during specific elements of the construction phase. This document will be further developed once the Principal Contractor has been appointed.

7.2 The waste hierarchy identified above will be followed throughout the construction phase. Good practice actions to reduce waste and subsequent actions identified during construction will be recorded within A2. This will seek to minimise the production of waste throughout the project.

Storage and Segregation

7.3 Where space allows, an area for the storage of off-cuts and surplus materials will be created with appropriate packaging and weatherproofing to keep them in usable order so that these materials can be reused on-site or stored for reuse on another project.

7.4 All waste will be stored securely on-site and during transportation to prevent pollution, contamination, fly tipping and nuisance complaints. A waste management compound will be established within the Site perimeter taking into account the sensitivity of the surrounding area and characteristics of the waste types produced on-site. This will be accessible to on-site staff and waste removal to facilitate re-use, recycling and recovery of waste. Signs will be placed throughout the relevant areas of the Site directing individuals to the location of waste storage areas.

7.5 The Applicant will also adhere to the following requirements:

- Waste will be segregated into hazardous, non-hazardous and inert waste. Waste materials will be classified in accordance with the LoWR and segregated on-site according to European Waste Classification (EWC) codes.
- There will be an adequate number of containers of an appropriate size and type for the collection and segregation of waste. Suitable containers may include: Wheelie bins: 240ltr, 360ltr, 660ltr; Skips: 8YD, 12YD, 16YD.
- Waste containers will be covered with netting, sheeting or lids to prevent the escape of waste and the contents from getting wet e.g., from rain and on-site water use.
- Storage areas for raw materials and assembly areas for construction components will be located away from sensitive receptors.

- All waste containers will be clearly labelled with appropriate segregation stickers as per the Institution of Civil Engineers (ICE) colour coding. Each will be labelled with the relevant waste segregation sign to help reduce mixed waste skips.

- During the internal fit out phases, wheelie bins or a practical alternative will be provided on each floor and labelled with segregation signs for each relevant waste stream being produced. Once full, these bins are to be transported to the designated waste consolidation area.

- Regular checks on-site will be conducted for litter and damage to waste containers, such as leaks.

- Temporary offices and work compounds on-site will retain all details relating to the waste strategy for the Site, health and safety and monitoring and reporting details.

7.6 In addition, the provision of effective and secure storage areas for construction materials is important to ensure that potential loss of material from damage, vandalism or theft is avoided. These measures will be supported by ensuring well-timed deliveries to the Site, providing on-site security and installing temporary site security fencing.

7.7 Implementation of good practice measures in terms of on-site storage and security practices will assist in reducing unnecessary wastage of material and ensure that high standards are maintained throughout the development process.

Earthworks

7.8 Where excavations required for groundworks and landscaping works encounter both Made Ground and the underlying natural soils, the soils should be segregated prior to subsequent testing for either disposal off-site or reuse on-site (under The Definition of Waste: Development Industry Code of Practice).

7.9 If off-site disposal is required, classification of surplus arisings should be carried out in line with the requirements of Technical Guidance WM3, including analysis of the total concentrations of polycyclic aromatic hydrocarbons, total petroleum hydrocarbons, metals and pH and waste acceptance criteria (WAC) analysis. If asbestos is identified in the sample, asbestos quantification testing should be undertaken.

7.10 Where practicable, clean excavated material will be reused on-site within the proposed landscaping works.

7.11 Any material that cannot be reused on-site will be removed by licensed waste carriers and sent for treatment or disposal (as appropriate) at appropriately licensed facilities.

Gypsum Waste

7.12 Any waste containing any amount of Gypsum that is sent to landfill must go to a separate cell for high sulphate waste. Therefore, it is imperative that Gypsum waste is separated from other waste.

7.13 The following measures will be implemented to address this:

- A dry storage area will be set aside for bagged plaster mix. This will reduce wastage and may save money.
- Mixed or dry plaster should not be washed into drains or surface waters as this can cause water pollution.
- Clean, uncontaminated plasterboard will be recycled.
- Wet, mixed plaster should be left to go off before disposal. Liquid waste cannot be disposed of at landfill sites.
- Plaster, plasterboard and other Gypsum products will be separated from general waste, as they contain high levels of sulphates.

Landfill

7.14 Indicative lists of landfill sites and transfer / treatment facilities that have the potential to receive waste from the Proposed Development can be found at Appendix A4. It should be noted that the specific waste facilities that will be used during construction phases will not be known until the Principal Contractor(s) has been appointed.

Sustainable Selection of Construction Materials

7.15 A sustainable materials selection strategy should be prepared prior to construction. Measures should be taken, such as face-to-face 'toolbox talks' and provision of clear operational instructions, to ensure that contractors are committed to the operation of good practice measures on-site with emphasis on continual improvement and identifying appropriate opportunities to reduce waste, promote recycling and use recyclable materials. The ordering of appropriate, minimum amounts of building materials should be part of the materials selection strategy.

Promotion of Best Practice

7.16 As part of the encouragement of on-site best practice, there will also be a need to ensure that suppliers of raw materials to the Proposed Development are committed to reducing any surplus packaging associated with the supply of any raw materials. This includes the reduction of plastics (i.e. shrink wrap and bubble wrap), cardboard and wooden pallets. This may involve improved procurement and consultation with selected suppliers regarding commitments to waste minimisation, recycling and the emphasis on continual improvement in environmental performance. Where

practical, site waste targets and incentives will be set and incorporated into the contracts of supply chain suppliers.

7.17 Table 7.1 summarises the most important mitigation measures to minimise the potential waste of on-site materials during construction. It is important to note, however, that not all construction materials will be provided by local suppliers.

Table 7.1 Measures to reduce the wastage of on-site construction materials

Task	Action
Ordering	Avoid: Over-ordering (order 'just in time') Ordering standard lengths rather than lengths required Ordering for delivery at the wrong time (update programme regularly)
Delivery	Avoid: Damage during unloading Delivery to inappropriate areas of the Site Accepting incorrect deliveries, specification or quantity
Storage	Avoid: Damage to materials from incorrect storage Loss, theft or vandalism through secure storage and on-site security
Handling	Avoid: Damage or spillage through incorrect or repetitive handling

7.18 Where practicable, waste types that have the potential to be reused on-site or transported off-site for recycling will need to be segregated. Although every effort will be made to retain all suitable materials on-site, it is possible that some of these materials cannot be reused or recycled during the construction process. In these situations, the Site Managers will work to identify a nearby Transfer Station or suitably licensed facility in order for material to be redistributed as fill on other suitable sites. This represents the most sustainable alternative to landfill disposal.

Construction Logistics and Traffic Impacts

7.19 The logistics associated with construction waste are affected by a wide range of factors. The quantity and types of waste materials generated will fluctuate during the construction phases and the resulting number of waste collections will be dictated by a range of variables, including the amount of storage space for waste, the capacity of waste containers used, the materials segregated for recycling and whether any on-site processes are used for reducing the volume of waste (e.g. compactors / balers / shredders etc.).

7.20 The Principal Contractors will be expected to provide construction waste logistics forecasts, that will be discussed with waste contractors and the relevant local authority following appointment of relevant parties.

7.21 The impact of traffic associated with the movement of construction and waste materials on surrounding neighbourhoods and the local road network will be minimised by a combination of factors. These include reducing the need to import / export materials; and minimising off-site removal

of waste to landfill. Dedicated haulage routes will be agreed with the local authority to minimise disturbance to local communities.

Pre-Construction Phase Waste Reduction Measures

7.22 During the pre-construction phase, the following measures and actions have been identified for review by the design team.

Table 7.2 Pre-Construction Phase Waste Reduction Measures

Action	Responsibility	Agreed Outcome
Minimise lift pit depths	Design Team	*TBC*
Structural solutions that minimise and simplify the structure as much as possible, e.g. use of pre-cast concrete	Design Team	*TBC*
Use of cement alternatives	Design Team	*TBC*
Re-use of excavated material	Design Team	*TBC*
Using materials with high recycled content (RC)	Design Team	*TBC*
Prioritise durable products and materials	Design Team	*TBC*
Prioritise products with EPDs, ISO14001, BES6001, or accredited EMS certification	Design Team	*TBC*
Use of low embodied carbon façade cladding	Design Team	*TBC*
Materials procurement from manufacturers adopting cleaner manufacturing processes	Design Team / Applicant	*TBC*

Action	Responsibility	Agreed Outcome
Paints and finishes with low VOC content and formaldehyde levels will be specified	Design Team	*TBC*
Minimise composite materials	Design Team	*TBC*
Aim to specify standard sized components	Design Team	*TBC*
Maximise non-structural internal partitions	Design Team	*TBC*
Consider flexible floor plates or grids	Design Team	*TBC*
Waste management to be integral to the procurement process and appointment of contractors	Design Team / Applicant	*TBC*

Setting Targets

7.23 In addition to those presented within this document, appropriate targets and objectives will be set in relation to the minimisation and recycling of any waste materials during earth works and construction. This will ensure that a clear action plan is generated for the management of specified types and quantities of materials identified for each of the construction stages. These targets will be agreed at the inaugural meeting between the Principal Contractors, the contractors and the local authority.

7.24 To ensure that the system of waste prevention, minimisation, reuse and recycling is effective, consideration will be given to the setting of on-site waste targets and a suitable programme of monitoring at regular intervals to focus upon:

- Quantifying raw material wastage;
- Quantifying the generation of each waste type;
- Any improvements in current working practices;
- Methods by which the waste types are being handled and stored; and
- The available waste disposal routes used, e.g. landfills, waste transfer stations.

7.25 The Principal Contractors will be responsible for the setting and review of waste targets from the outset of the development process to ensure that high standards are maintained with the emphasis being on continual improvement. Specific waste quantification and monitoring will assist in determining the success of waste management initiatives employed on each construction site and progress against these targets should be relayed back to the appropriate stakeholders.

Training

7.26 Waste training will be provided by the Principal Contractors or external trainers and include a combination of the following:

- Induction covering general waste management on-site including segregation and storage.
- Toolbox Talks and briefings covering specific waste topics such as the legal requirements for the management of waste; the environmental effects of waste; and management of soil movements.
- Specialist Waste Training for individuals such as how to complete WTNs/HWCNs for those who have responsibility for completing and signing off WTNs/HWCNs.

Operational Phase Waste Reduction Measures

7.27 This section details the strategy that will be adopted to manage the waste arising from the Proposed Development once operational.

Operational Waste Management Strategy

7.28 It is intended that a waste strategy utilising traditional wheeled bins be employed for the collection of waste within the residential cores of the Proposed Development.

Management and Storage of Waste

7.29 In order to facilitate easy sorting of waste streams for residents, each dwelling will be fitted with a three-compartment waste bin, with each compartment corresponding to the relevant waste stream to be collected by the Council. This will maximise the potential for residents to correctly sort waste within their home. Guidance for waste stream sorting and collection will be provided in the home user manual.

7.30 For a portion of the proposed dwellings, dedicated domestic waste stores have been located at the lower ground floor, with one store (Store A) provided within the curtilage of the building adjacent to the main entrance, and another store (Store B) provided to the rear of the centralised landscaped area. For the remaining dwellings, all of which are located at the lower ground floor level, waste will be stored within the private amenity space to the front of each unit. This will ensure easy access for both residents and the Council' waste operatives. This will also ensure that residents are not required to carry refuse in excess of 30m (horizontal distance) from their front doors. The waste storage areas

will have dedicated containers for, at a minimum, refuse, dry recycling and compostable waste streams which will be segregated in line with the relevant guidance, standards and legislation.

7.31 Waste within each domestic waste store would be collected by the Council on a weekly basis.

7.32 The locations of domestic waste storage areas are shown in Appendix A2.

7.33 The waste storage areas will be designed to the standards within BS5906:2005 Waste management in buildings – Code of practice and in accordance with BS 8300:2009. In summary, the facilities should include the following:

- A suitable water point in close proximity to allow washing down to mitigate against odours;
- All surfaces sealed with a suitable wash proof finish (vinyl, tiles etc.);
- A suitable floor drain;
- All surfaces easy to clean; and
- Suitable lighting and ventilation (the latter to help mitigate against any odours).

7.34 All waste storage areas will be designed to ensure the appropriate segregation of non-hazardous and hazardous waste, as required by the relevant guidance, standards and legislation. They will have clear signage to ensure cross contamination of refuse, recycling and other waste streams is minimised.

7.35 Doors will have a minimum clearance opening of 1.5m. Floor surfaces will be of a smooth, continuous finish and free from steps or other obstacles. Any steps will incorporate a drop-kerb.

Collection of Waste

7.36 Residents will be responsible for depositing waste in the correct refuse storage areas and bins.

7.37 The LBH standard residential waste collections occur on a weekly basis at present.

7.38 Surfaces that waste containers need to be moved over will be of a smooth, continuous finish and free from obstacles. Any steps will incorporate a drop-kerb. Measures will be taken by the tenants to ensure that access to the agreed collection points will not be restricted on collection days.

8. MONITORING AND REPORTING

8.1 All movements of waste from the Site will be recorded and evidenced through WTNs or HWCNs.

8.2 The Site will be monitored on a monthly basis during the construction phase to confirm whether the requirements of the SWMP are being managed effectively. This will ensure:

- That the plan is up-to-date and that it is the correct version;
- That skip returns and waste data are being faxed or emailed back to the Applicant;
- That subcontractors are complying with the SWMP; and
- That Waste Carrier returns are being received and filed.

8.3 Waste Records have to be accurate so that the SWMP's progress is monitored correctly. A database will be used to record all waste leaving the Site. Records will be taken directly from relevant forms, waste tickets and monthly waste reports provided by the Waste Contractor.

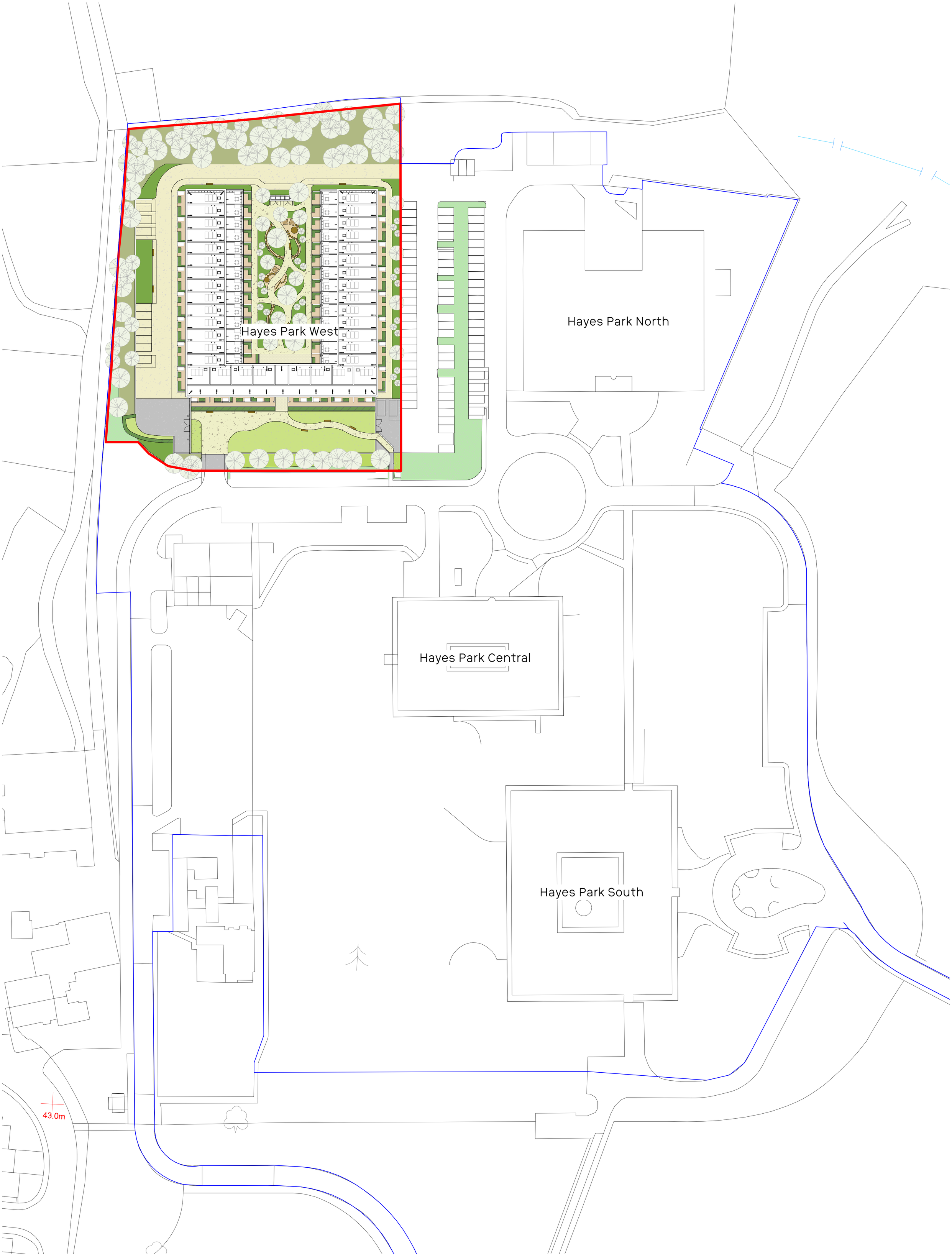
8.4 Waste Data Collections forms to be recorded and collected on a monthly basis. The electronic SWMP will be kept up-to-date following receipt of the completed forms, and at a period of not less than every three months, to ensure that the plan accurately reflects the progress of the project.

8.5 A review of the data will be carried out every three months, to ensure the compliance targets are being met, and any exceedances in waste type and percentages are reasoned, and actions implemented.

8.6 Once construction works are complete, a report will be completed, containing the following:

- Confirmation that the SWMP has been monitored on a regular basis;
- Comparison of the estimated quantities and percentages of each waste type against the actual quantities of each waste type;
- A short analysis and discussion; and
- Recommendations and conclusions.

A1. SITE PLAN



General Notes

No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation.
Do not scale this drawing for construction purposes. All dimensions to be checked on site by the contractor and such dimensions to be their responsibility.
All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect.

Notes

All SEW drawings are based on survey information by CSL Surveys, dated May 2021

Hayes Park West Boundary

Hayes Park Masterplan Boundary

Key Plan

0 20m
@ 1:500

Project No.	0489
Project Name	Hayes Park West

Drawing Title

Proposed Site Plan

Client	Shall Do Hayes Developments Ltd
Scale @A1	1 : 500
Date	20/08/25
Drawn by	PJ
Checked by	GLJ

Rev	Date	Reason	Chk
02	21/08/25	Design Freeze	
01	29/07/25	For Information	
00	10/06/25	For Information	

Studio Egret West
3 Brewhouse Yard
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+44 (0) 20 7549 1730

Drawing Number	Rev
0489-SEW-ZZ-ZZ-DR-A-501001	02

A2. LOCATIONS OF WASTE STORAGE AREAS

General Notes

No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation.
Do not scale this drawing for construction purposes. All dimensions to be checked on site by the contractor and such dimensions to be their responsibility.
All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect.

Notes

Unit Types

- 1B2P
- 3B6P
- 4B7P
- BOH
- C3 Residential Ancillary

Parking

- EV Parking

Boundary

- Application Boundary

0 10m
@ 1:200

Key Plan

Studio Egret West
3 Brewhouse Yard
London, EC1V 4JQ
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Project No.	0489
Project Name	Hayes Park West
Drawing Title	Proposed Lower Ground Site Plan
Client	Shall Do Hayes Developments Ltd
Scale @A1	1 : 200
Date	13/06/25
Drawn by	PJ
Checked by	GLJ

Rev	Date	Reason	Chk
02	21/08/25	Design Freeze	
01	13/08/25	For Information	
00	29/07/25	For Information	

Drawing Number	Rev
0489-SEW-HPW-ZZ-DR-A-501002	02

A3. CONSTRUCTION PHASE WASTE REDUCTION MEASURES

Table A3.1 Construction Phase Waste Reduction Measures

Element	Waste Type	Estimated Quantity	Is this Hazardous Waste? (Y / N)	Waste Reduction Measures	Recycling Measures
Substructures					
Groundworks Piling Foundations Below-ground Services	Excavation waste	TBC		Re-use at a later stage of the project or investigate options for use on other projects	
	Excess concrete	TBC		Use as blinding to future pours	
	Timber	TBC		Re-use timber frames and formwork	Recycle using segregated skips or bins
	Pipework and Ducting	TBC		Avoid over-ordering and return excess material	
Superstructure					
Frame Envelope Roofing	Metalwork	TBC			Recycle using segregated skips or bins
	Timber	TBC		Re-use timber frames and formwork	Recycle using segregated skips or bins
	Concrete	TBC		Care taken to order correct quantity	Discuss return policy with supplier
	Bricks and Mortar	TBC			Recycle using segregated skips or bins
	Pallets and Packaging	TBC		Minimise packaging	Agree return or recycling policy with suppliers

Finishes					
Drylining and Partitions Joinery Painting and Decorating	Metals	TBC		Order in optimised lengths to minimise on-site cottage and wastage	Recycle using segregated skips or bins
	Timber	TBC		Order in optimised lengths to minimise on-site cottage and wastage	Recycle using segregated skips or bins
	Plasterboard	TBC		Order in optimised lengths to minimise on-site cottage and wastage	Discuss return policy with supplier
	Pallets and Packaging	TBC		Minimise packaging	Recycle using segregated skips or bins
	Plastics	TBC			
Building Services					
M&E Plumbing Security IT and Comms Cabling	Metals	TBC		Order in optimised lengths to minimise on-site cottage and wastage	Recycle using segregated skips or bins
	Cables	TBC			Recycle using segregated skips or bins
	Plasterboard	TBC		Order in optimised lengths to minimise on-site cottage and wastage	Discuss return policy with supplier
	Pallets and Packaging	TBC		Minimise packaging	Agree return or recycling policy with suppliers
	Plastics	TBC		Avoid over-ordering and return excess material	
Site Facilities					
Cleaning Service	Canteen Waste	TBC			Recycle using segregated skips or bins
Canteen Provision	Office Paper and Drawings	TBC		Print double-sided where possible	Recycle using segregated skips or bins

Office Management	Site Hoarding	TBC			Re-use on other sites. Recycle using segregated skips or bins
	Plastic, Foam Cups and Cutlery	TBC		Use of re-usable mugs, plates and cutlery instead of disposable	

A4. RELEVANT LANDFILL/TREATMENT SITES

Table A4.1 Selected landfills in proximity to West London

Environmental Permitting Reference	Waste Management Licence No.	Operator	Site Type	Waste Types Permitted	Site Address and Postcode
BV1674IL	N/A	Pinden Ltd.	Merchant hazardous Landfill 01	Asbestos and Asbestos contaminated wastes. Contaminated Soils inc. Hazardous	Pinden Quarry Landfill, Green Street, Green Road, Longfield, Dartford, DA2 8EB
KP3187NU/V004	80524	Havering Aggregates Ltd.	Inert Landfill 05	Inert C&D Waste	South Hall Farm, New Road, Rainham, Essex, RM13 9EW
EPR/EP3136GK/V007	N/A	Veolia ES Landfill Limited	Non-Hazardous Landfill 04	Wide Variety	Rainham Landfill, Coldharbour Lane, Rainham, RM13 9DA
DP3794ER/V002	101016	Ingrebourne Valley Ltd.	Inert Landfill 05	Inert C&D Waste	New Road, Rainham, Essex, RM13 9GF
CP3190VE/T001	210001	Ingrebourne Valley Ltd.	Inert Landfill 05	Inert C&D Waste	Marks Warren Quarry Landfill, Whalebone Lane North, Romford, Essex, RM6 6RB
EB3201HA/V002	403322	Brett Aggregates Limited	Inert Landfill 05	Non-hazardous soils & stones, inert C&D waste. Recovery R5.	East Hall Farm, New Road, Wennington, Rainham, Essex, RM13 9DS
QP3196NT/V003	80124	Ebbcliff Limited	A5 Landfill Non-Biodegradable Wastes	C&D Waste	Mardyke Farm, South Dagenham Road, South Hornchurch, Dagenham, Essex, RM13 7RS
YP3791NR/V004	80389	Brett Tarmac Ltd	A5 Landfill Non-Biodegradable Wastes	C&D Waste	Fairlop Quarry, Hainault Road, Little Heath, Redbridge, Essex

Notes: Source: EPR Landfill Sites - Quarterly Summary - End July 2025

Table A4.2 Selected landfills in Hertfordshire (bordering North London)

Permit / Installation reference	Waste Management Licence No.	Operator	Site type	Waste types permitted	Site address
BW0231IH	N/A	Water Hall (England) Ltd	L04 Non-Hazardous	Wide Variety	Waterhall Quarry, Lower Hatfield Road, Hertford SG13 8LF
BP3893EW/V006	80737	Tarmac Aggregates Ltd	Inert Landfill L05	Inert C&D Waste	Tyttenhanger Landfill Site, Coursers Road, London Colney, Colney Heath, Hertfordshire, AL4 0PG
LP3993EU/V002	80760	Ingrebourne Valley Ltd.	Inert Landfill L05	Inert C&D Waste	Hoddesdon Quarry Landfill, Cock Lane, Hoddesdon, Hertfordshire, EN11 8LS
N/A	80216	C J Pryor Ltd	A5 Landfill taking Non-Biodegradable Wastes	C&D Waste	Presdales Pit, Hoe Lane, Ware, Hertfordshire, SG12 9NX
N/A	80271	Hepburn Cyril	A5 Landfill taking Non-Biodegradable Wastes	C&D Waste	Woodcock Hill Farm, Barnet Lane, Elstree, Hertfordshire, WD6 3SU

Notes: Source: EPR Landfill Sites – Quarterly Summary – End July 2025

Table A4.3 Selected transfer and treatment facilities in London

Permit / Installation reference	Waste Management Licence No.	Operator	Site type	Waste types permitted	Site address
HP3098EW/V	100373	Biffa G S Environmental Ltd	A11 Household, Commercial & Industrial Waste T Stn	Wide Variety	Unit 2, Aztec 406, 12, Ardra Road, Enfield, London, N9 0BD
FB3609LQ/A001	404398	GBN Services Ltd	A11 Household, Commercial & Industrial Waste T Stn	Wide Variety	Montagu Industrial Estate, Gibbs Road, Edmonton, London, N18 3PU
PP3093EE/V007	80723	Powerday Plc	A15 Material Recycling Treatment Facility	Wide Variety	Old Oak Sidings, Off Scrubs Lane, Willesden, London, NW10 6RJ
FB3600TZ/A001 4	404338	Premier Material Supplies	A16 Physical Treatment Facility	Enfield Bund Soil Management Area	Holly Hill Farm, The Ridgeway, Enfield, Middlesex, EN2 8AN
JP3795EL/V003	100204	J O'Doherty Haulage Ltd	A11 Household, Commercial & Industrial Waste T Stn	Wide Variety	Pegamoid Site, Nobel Road, Edmonton, London, N18 3BH
DP3891NP/V002	80355	Camden Plant Ltd	A16 Physical Treatment Facility	Wide Variety	Lower Hall Lane, Chingford, London, E4 8JG

Notes: Source: EPR Landfill Sites – Quarterly Summary – End July 2025

A5. GENERAL NOTES

A5.1 The report is based on information available at the time of the writing and discussions with the client during any project meetings. Where any data supplied by the client or from other sources have been used it has been assumed that the information is correct. No responsibility can be accepted by Iceni Projects Ltd for inaccuracies in the data supplied by any other party.

A5.2 The review of planning policy and other requirements does not constitute a detailed review. Its purpose is as a guide to provide the context for the development and to determine the likely requirements of the Local Authority.

A5.3 No site visits have been carried out, unless otherwise specified.

A5.4 This report is prepared and written in the context of an agreed scope of work and should not be used in a different context. Furthermore, new information, improved practices and changes in guidance may necessitate a re-interpretation of the report in whole or in part after its original submission.

A5.5 The copyright in the written materials shall remain the property of Iceni Projects Ltd but with a royalty-free perpetual licence to the client deemed to be granted on payment in full to Iceni Projects Ltd by the client of the outstanding amounts.

A5.6 The report is provided for sole use by the Client and is confidential to them and their professional advisors. No responsibility whatsoever for the contents of the report will be accepted to any person other than the client, unless otherwise agreed.

A5.7 These terms apply in addition to the Iceni Projects Ltd "Standard Terms of Business" (or in addition to another written contract which may be in place instead thereof) unless specifically agreed in writing. (In the event of a conflict between these terms and the said Standard Terms of Business the said Standard Terms of Business shall prevail). In the absence of such a written contract the Standard Terms of Business will apply.

Appendix D – Operational waste management plan.

SEPTEMBER 2025

Operational Waste Management Strategy

Hayes Park West, Hayes Park, Uxbridge, UB4 8FE

Iceni Projects Limited on behalf of
Shall Do Hayes Developments Ltd

September 2025

ICENI PROJECTS LIMITED ON BEHALF OF SHALL DO HAYES DEVELOPMENTS LTD

Operational Waste Management Strategy
HAYES PARK WEST, HAYES PARK, UXBRIDGE, UB4 8FE

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CONTENTS

1. EXECUTIVE SUMMARY

1.1 Iceni Projects Ltd has been commissioned by Shall Do Hayes Developments Ltd (the 'Applicant') to produce an Operational Waste Management Strategy to accompany the planning application for the proposed residential development (the 'Proposed Development') of Hayes Park West, Hayes Park, Uxbridge, UB4 8FE.

1.2 With reference to the policy requirements, guidance and industry best practice detailed in Section 3, anticipated arisings have been determined on the basis of relevant data and the Proposed Development mix. Waste storage areas and locations are subsequently set out in order to demonstrate compliance with local authority policy requirements and relevant standards.

1.3 An Operational Waste Management Strategy utilising traditional wheeled bins is proposed. The Proposed Development is anticipated to produce approximately 10,760 litres of waste from residential uses per week.

1.4 For the proposed dwellings served by communal waste stores, residential waste storage will consist of separate 1,110 litre Eurobins for refuse and dry recyclables, and 240 litre wheeled bins for organic waste, in accordance with local authority guidance. Communal waste stores have been located within the curtilage of the residential block at the lower ground floor level and to the rear of the central landscaped area at the lower ground floor level to ensure easy access for both residents and waste collection operatives. For dwellings on the lower ground floor level with private amenity spaces fronting onto vehicular access routes, residential waste storage will consist of suitable containers for the storage of sacks for the collection of refuse and dry recyclables, and external storage bins for organic waste.

1.5 This Strategy therefore demonstrates that the Proposed Development has been designed to be compliant with all relevant waste management policy, and will manage and dispose of waste in a sustainable manner.

2. INTRODUCTION

2.1 Iceni Projects Ltd has been commissioned by Shall Do Hayes Developments Ltd (the 'Applicant') to produce an Operational Waste Management Strategy to accompany the planning application for the proposed residential development (the 'Proposed Development') of Hayes Park West, Hayes Park, Uxbridge, UB4 8FE.

Report Objective

2.2 This document details the operational waste management measures adopted by the Proposed Development and gives an overview of the design proposals that will ensure that operational waste will be stored, collected and disposed of effectively over the lifespan of the scheme, within guidelines set out by the London Borough of Hillingdon (LBH).

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

- Section 3 discusses the planning context and policies which are relevant to operational waste management;
- Section 4 discusses the Proposed Development's response to the policy drivers for operational waste management; and
- Section 5 summarises the Proposed Development's design response.

Site and Surroundings

2.4 The Site, known as Hayes Park West, is located within the Charville Ward of the London Borough of Hillingdon. The Site sits within a wider former business park known as 'Hayes Park'.

2.5 The Hayes Park estate comprises a historically significant office campus in West London, situated in Hayes, and bounded by a structured, pastoral landscape. The estate is framed by the buildings known as Hayes Park North ('HPN'), Hayes Park Central ('HPC'), and Hayes Park South ('HPS'), both positioned within a broader landscape setting originally envisaged by architect Gordon Bunshaft as a modernist business park set in parkland. HPC and HPS are Grade II* listed due to their architectural and historic interest.

2.6 In recent years, the character and context of Hayes Park estate has undergone a fundamental shift from office use to residential, which following a series of planning applications is delivering 189 new homes. The relevant applications are as follows:

- Hayes Park North ('HPN') – a three-storey, early 2000s office building, was granted Prior Approval in 2022 for conversion to 64 homes (Ref: 12853/APP/2021/2202), followed by permission for external enhancements to the building (Ref: 12853/APP/2023/3720). These works are now on-site and being delivered.

- Hayes Park Central ('HPC') and Hayes Park South ('HPS') – both mid-century, listed office buildings, were granted full planning permission and listed building consent in early 2024 for conversion into 125 homes, with associated landscape enhancements (Ref: 12853/APP/2023/1492).

2.7 Hayes Park West is bound to the north and west by dense trees planting and open parkland, which is private land owned by the Church Commissioners. To the east the site is bound by HPN, and to the south by the listed HPC and HPS.

2.8 The entirety of the site and much of the surrounding land is located within the Green Belt. Beyond that, there are large areas of low-density terraced housing. There is a wide selection of parks and leisure facilities in the area, including the Hayes End Recreation Ground, Park Road Green and the Belmore Playing Fields. The nearest town centres are located at Hillingdon Heath Local Centre, 1.6km to the southwest, and at Uxbridge Road Hayes Minor Centre, 3.3km to the southeast.

The Proposed Development

2.9 The description of the Proposed Development is as follows:

> *"Partial demolition and redevelopment of the existing multi storey car park to provide new homes (Use Class C3), landscaping, car and cycle parking, and other associated works."*

2.10 The Proposed Development will deliver the following mix of residential dwellings:

- 16no. 1-bedroom 2-person units;

- 8no. 3-bedroom 6-person units; and

- 28no. 4-bedroom 7-person units.

3. PLANNING AND REGULATORY CONTEXT

3.1 The means of sorting, storing and collecting operational waste are incorporated within policy and regulation as set out below:

Regional

The London Plan (Adopted March 2021)

3.2 The London Plan outlines the Mayor's commitment to creating a low carbon circular economy, in which the greatest possible value is extracted from resources before they become waste, as this is not only socially and environmentally responsible, but will save money and limit the likelihood of environmental threats affecting London's future. The following London Plan policies are relevant to waste:

- **Policy SI7 (Reducing waste and supporting the circular economy)** states that resource conservation, waste reduction, increase 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 goods;
    - 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;
    - Meet or exceed the targets for each of the following waste and materials streams:
        - Construction and demolition – 95 per cent reuse/recycling/recovery
        - Excavation – 95 per cent beneficial use
    - Design developments with adequate, flexible, and easily accessible storage space and collection systems and that supports the separate collection of dry recyclables (at least card, paper, mixed plastics, metals, glass) and food waste, as well as residual waste.
- **Policy D6 (Housing quality and standards)** states that housing should be designed with adequate and easily accessible storage space that supports the separate collection of dry

recyclables (at least card, paper, mixed plastics, metals, glass) and food waste, as well as residual waste.

- **Policy T7 (Deliveries, servicing and construction)** states that development proposals should facilitate safe, clean and efficient deliveries and servicing. Provision of adequate space for servicing, storage and deliveries should be made off-street, with on-street loading bays only used where this is not possible. Construction Logistics Plans and Delivery and Servicing Plans will be required and should be developed in accordance with Transport for London guidance and in a way which reflects the scale and complexities of developments.

London Environment Strategy (May 2018)

3.3 The London Environment Strategy (2019) sets out a vision for improving London's environment. It is noted within the Strategy that, at the time of writing, less than half of the waste generated by London's homes and businesses was recycled. As part of the Strategy, the following objectives are set out with respect to waste:

- Drive resource efficiency to significantly reduce waste, focusing on food waste and single use packaging waste.
- Maximise recycling rates.
- Reduce the environmental impact of waste activities.
- Maximise local waste sites and ensure London has sufficient infrastructure to manage all the waste it produces.

3.4 In order to achieve the objectives of the London Environment Strategy, a number of targets are set out, as follows:

- Achieve 50% Local Authority collected waste recycling by 2025.
- No biodegradable or recyclable waste to be sent to landfill by 2026.
- Increase recycling rates to achieve a 65% municipal waste recycling rate (by weight) by 2030.
- Achieve a minimum of 75% recycling of business waste by 2030.
- Achieve a 50% reduction in food waste per head by 2030.

Local

3.5 The Site is located in LBH and key LBH guidance and policy requirements are detailed below.

Hillingdon Local Plan: Part 1 – Strategic Policies (November 2012)

3.6 The Hillingdon Local Plan: Part 1 – Strategic Policies sets out the long-term vision and objectives for the Borough, what is going to happen, where, and how this will be achieved. Policies of relevance to waste management include:

- **Strategic Objective SO13** of the Local Plan is to support the objectives of sustainable waste management.

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

  The Council will follow the waste hierarchy by promoting the reduction of waste generation through measures such as bioremediation of soils and best practice in building construction. The Council will promote using waste as a resource and encouraging the re-use of materials and recycling. The Council will also support opportunities for energy recovery from waste and composting where appropriate. The Council will safeguard existing waste sites unless compensatory provision can be made.

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

Hillingdon Local Plan: Part 2 – Development Management Policies (January 2020)

3.7 The Hillingdon Local Plan: Part 2 – Development Management Policies provides detailed policies that will form the basis of the Council's decisions on individual planning applications. Policies of relevance to waste management include:

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

- **Policy DMIN 4 (Re-use and Recycling of Aggregates)** states that the Council will promote the recycling of construction, demolition and excavation waste. All developments will be encouraged to:

  - Recycle and re-use construction, demolition and excavation waste as aggregates;

  - Process and re-use the recyclable material on-site, and where this is not possible, the material should be re-used at another site or for land restoration; and

- Use substitute or recycled materials in new development in place of primary materials.

Hillingdon Recycling and Waste Collection

3.8 LBH currently collects residual and recycling waste from residential developments on a weekly basis. At the time of writing, LBH also provides a weekly food waste collection for houses and maisonettes with private gardens, and for council-owned blocks of flats.

Other Considerations

Part H6 of the Building Regulations

3.9 Part H6 of the Building Regulations sets out the requirements for solid waste storage, and applies to both residential and non-residential buildings, as follows:

1. Adequate provision shall be made for storage of solid waste.

2. Adequate means of access shall be provided:

    a. For people in the building to the place of storage; and

    b. From the place of storage to a collection point (where one has been specified by the waste collection authority under Section 46 (household waste) or Section 47 (commercial waste) of the Environmental Protection Act 1990 or to a street (where no collection point has been specified.

3.10 The requirements set out under Part H6 of the Building Regulations relevant to the Proposed Development include consultation with the waste collection authority for guidance on resolving:

- The volume and nature of the waste and the storage capacity required, based on the frequency of collection and the size and type of waste container.
- Any requirements for segregation of waste which can be recycled.
- The method of waste storage, including any on-site treatment proposed, related to the intended layout and building density.
- The location of waste storage areas, waste treatment areas and waste collection points and the access to these locations for operatives and vehicles.
- Hygiene arrangements in the waste storage and waste treatment areas.
- Fire hazards and protection measures.

British Standard 5906:2005

3.11 The Standard provides a code of practice for the storage, collection, segregation for recycling and recovery, and on-site treatment of waste. It applies to new buildings, refurbishments and conversions

of residential and non-residential buildings. The Standard also presents typical weekly waste airings and subsequent storage requirements for a variety of building types, as shown below:

Table 3.1 Waste volume calculations

Building Type	Equation for weekly waste arisings (litres)
Domestic	Number of dwellings x {(number arising per bedroom (70l) x average number of bedrooms) +30}*
Office	Volume arising per employee [50 l] x number of employees
Shopping centre	Volume arising per sqm of sales area [10 l] x square meterage
Fast food outlet	Volume per sale [5 l] x number of sales
Department store	Volume per sqm of sales area [10 l] x sales area
Restaurant	Volume per number of covers [75 l]
4/5 star hotel	Volume per bedroom [350 l] x number of bedrooms
2/3 star hotel	Volume per bedroom [250 l] x number of bedrooms
1 star hotel / B&B	Volume per bedroom [150 l] x number of bedrooms
Supermarket (small)	Volume per sqm of sales area [100 l] x sales area
Supermarket (large)	Volume per sqm of sales area [150 l] x sales area
Industrial unit	Volume per sqm of floor area [5 l] x floor area
Entertainment complex / leisure centre	Volume per sqm of floor area [100 l] x floor area

* Based on average household occupancy.

4. OPERATIONAL WASTE MANAGEMENT

4.1 The Operational Waste Management Strategy for the Proposed Development has been assessed using the waste hierarchy methodology. This approach is consistent with that required by the Council, requiring new development to demonstrate how the scheme addresses waste separation, storage and collection.

4.2 For the Proposed Development, it is intended that a strategy utilising traditional wheeled bins will be adopted. The adoption of this waste management strategy will aid in maximising the area of landscaped open space provided as part of the Proposed Development, whilst also maximising the efficient use of space with the existing structure that is to be retained.

4.3 It is noted that the Applicant is committed to reducing operational waste in line with the London Environment Strategy.

4.4 The waste management strategy for the Proposed Development is outlined below.

Residential Operational Waste Management Strategy

4.5 In order to facilitate easy sorting of waste streams for residents, each dwelling will be fitted with a three-compartment waste bin, with each compartment corresponding to the relevant waste stream to be collected by the nominated waste collection body. This will maximise the potential for residents to correctly sort waste within their home. Guidance for waste stream sorting and collection will be provided in the home user manual.

4.6 The anticipated arisings from the residential component of the Proposed Development are shown in the table below, based on the guidelines provided in Section 3 above, in addition to an assumption of 10 litres of food waste arising per unit.

Table 4.1 Domestic weekly waste arisings

Dwelling Type	Number of homes	Weekly arisings (litres)		
		Refuse	Dry recyclables	Compostable
1B2P	16	800	800	160
3B6P	8	960	960	80
4B7P	28	3,360	3,360	280
Total	**52**	**5,120**	**5,120**	**520**

4.7 When internal bins are full, residents will transfer their waste to an external storage location. To ensure residents are not required to transfer waste in excess of 30m (horizontal distance) from the front doors of their homes, it is intended that a range of storage locations be provided, as follows:

- For dwellings on the lower ground floor with amenity spaces the front onto vehicular access routes (i.e. units HPW-LG-01 to HPW-LG-08 and units HPW-LG-37 to HPW-LG-44), waste will be stored within the amenity spaces to the front of the units, and collected directly from the street by the Council's waste operatives. A purpose-built structure will be provided within each of the landscaped amenity spaces for these units for the storage of waste prior to its collection.

- For the majority of the proposed maisonettes, and all dwellings located at the ground floor level and above, a waste store (Store A) will be provided at the lower ground floor level adjacent to the proposed main entrance, and within the curtilage of the building.

- For the remaining maisonettes (i.e. units HPW-LG-09 to HPW-LG-013 and HPW-LG-32 to HPW-LG-36), a waste store (Store B) will be provided at the lower ground floor level to the rear of the central landscaped area.

4.8 In accordance with the Council's waste collection requirements, waste storage bins to be provided within Store A and Store B are defined by the waste stream as follows:

- Refuse: 1,100 litre Eurobins

- Dry recyclables: 1,100 litre Eurobins

- Compostable waste: 240 litre wheeled bins

4.9 Table 4.2 below details the dimensions of the bin type proposed for use in the residential element of the scheme.

Table 4.2 Domestic waste storage dimensions

	240 litre wheeled bin	1,100 litre Eurobin
Height (mm)	1,070	1,370
Width (mm)	580	1,250
Depth (mm)	740	980

4.10 This results in the following numbers of Eurobins and wheeled bins being provided in Store A and Store B. The table below also details the area provided for each waste store. The below assumes that all waste streams will be collected by the Council on a weekly basis.

Table 4.3 Domestic waste storage requirements

Location	No. of dwellings storing for	No. of 1,100 litre residual Eurobins	No. of 1,100 litre recycling Eurobins	No. of 240 litre compostable wheeled bins	Min. area of store (m^2) (excluding circulation space)
Store A	26	5	4	1	51.07
Store B	10	2	2	1	8.58

4.11 For all waste stores, bins will be stored with a minimum of 150mm of clearance around and between each receptacle, to ensure they can be moved as required.

4.12 The locations of the bin storage areas, where all bins will be stored, are shown in Appendix A2.

4.13 As required by LBH, the communal bin storage areas are within 30m walking distance of the front door of the residences, with Store A to be provided within the curtilage of the building, and Store B to be provided to the rear of the proposed central landscaped area.

4.14 All collections will be made from private roads away from the highway. Collection vehicles will have clear access to any bin, with waste operatives required to manoeuvre the bins no more than 25m from the external door of the storage areas to the refuse collection vehicle. This is demonstrated in Figure 4.1 below.

Figure 4.1 Refuse collection strategy

4.15 For the purposes of this Operational Waste Management Strategy, the turning circle for a refuse collection vehicle has been assumed as 21 metres and in-roads are able to accommodate this. The area where the vehicle will be stationed for collections will be appropriately surfaced to withstand the weight of the collection vehicle.

4.16 In accordance with BS 5906:2005, all waste containers will need to be stored under cover in a specially designed waste storage room, or store. The walls and roofs of this store will be formed of non-combustible, robust, secure and impervious material, and have a fire resistance of one hour when tested in accordance with BS 476-21 – Fire tests on building materials and structures: Part 21 (Ref. 40), whilst the door of the store will be made of steel, or have a fire resistance of 30 minutes when tested in accordance with BS 476-22 – Fire tests on buildings materials and structure: Part 22 (Ref 41).

4.17 Further to these requirements, BS 5906:2005 outlines the measures which have been included in the design of the waste stores. Compliance with these requirements, the most applicable of which are outlined below, will help maintain a compliant waste strategy for the operation of the Proposed Development.

- All containers for waste, including recyclable material, are easily accessible to both the occupier and waste collector;
- Paths between storage areas and collecting vehicles are free from steps, kerbs or inclines with a gradient of more than 1:12, be non-slip and a minimum of 2m wide. They will have foundations and a hardwearing surface that will withstand the loading imposed by wheeled containers;
- Waste stores have been designed and located in such a way as to limit potential noise disturbance to residents;
- Storage areas for waste and recycling will be clearly designated for this use only, by a suitable door or wall sign and, where appropriate, with floor markings;
- Waste storage sites will include areas for instructional signage detailing correct use of the facilities;
- The entrance of the waste storage room will be free from steps and projections;
- Adequate ventilation will be provided, with permanent ventilators giving a total ventilation area of no less than 0.2m^2;
- Electrical lighting will include sealed bulkhead fittings (housings rated to IP65 in BS EN 60529:1992 (Ref. 43)) for the purpose of cleaning down with hoses and inevitable splashing. Luminaires will be low energy light fittings or low energy lamp bulbs, controlled by proximity detection or a time delay button to prevent lights being left on; and
- Gullies for wash down facilities will be positioned so as not to be in the track of container trolley wheels.

Total Waste Arisings

4.18 Based on the information presented above, it is anticipated that the following volumes of waste will arise as a result of the operation of the Proposed Development:

Table 4.4 Total residential waste generated during the operation of the wider masterplan

	Weekly Waste Arisings (Tonnes)			Annual Waste Arisings (Tonnes)		
	Recycling*	Residual**	Food***	Recycling	Residual	Food
Proposed Development	3.07	1.38	0.39	159.74	71.88	20.28

* Recycling waste conversion assumed as 0.60 tonnes per m^3.

** Residual waste conversion assumed as 0.27 tonnes per m^3.

*** Food waste conversion assumed as 0.75 tonnes per m^3.

4.19 It is noted that the Applicant is committed to meeting the London Plan Policy SI7 municipal waste recycling target of 65% (by weight/tonnage) by 2030.

Waste Handling

4.20 Waste management within LBH is overseen by the West London Waste Authority (WLWA). The WLWA is a waste disposal authority, with a statutory duty to prepare a waste local plan in line with legislation.

4.21 The majority of waste collected in LBH is transported to a waste transfer station in Ruislip. Here, the waste is sorted, with non-recyclable waste separated and loaded onto a train. This waste is then transported to one of two Energy Recovery Facilities (ERFs). Most waste is transferred to the Severnside Energy Recovery Centre (SERC), just north of Bristol, with the remainder sent to the Lakeside energy from waste facility, located close to Heathrow Airport.

4.22 Garden waste, or mixed food and garden waste, is treated through In-Vessel Composting techniques either by West London Composting in Harefield, or by Countrystyle Recycling Ltd in Sittingbourne, Kent. Separated food waste is treated using Anaerobic Digestion techniques, with food waste collected by the WLWA treated by BioCollectors in south London. Anaerobic digestion creates either fertilizer or energy.

4.23 Dry recyclable waste collected in LBH is taken to a materials recovery facility (MRF), where it is sorted and separated into different material streams. The materials are then baled and sent on to re-processors, where they are transformed into reusable materials to manufacture new products.

4.24 All waste generated during the operation of the Proposed Development will therefore be diverted from landfill, with the recycling of these materials prioritised, and energy generated from any waste that cannot be recycled.

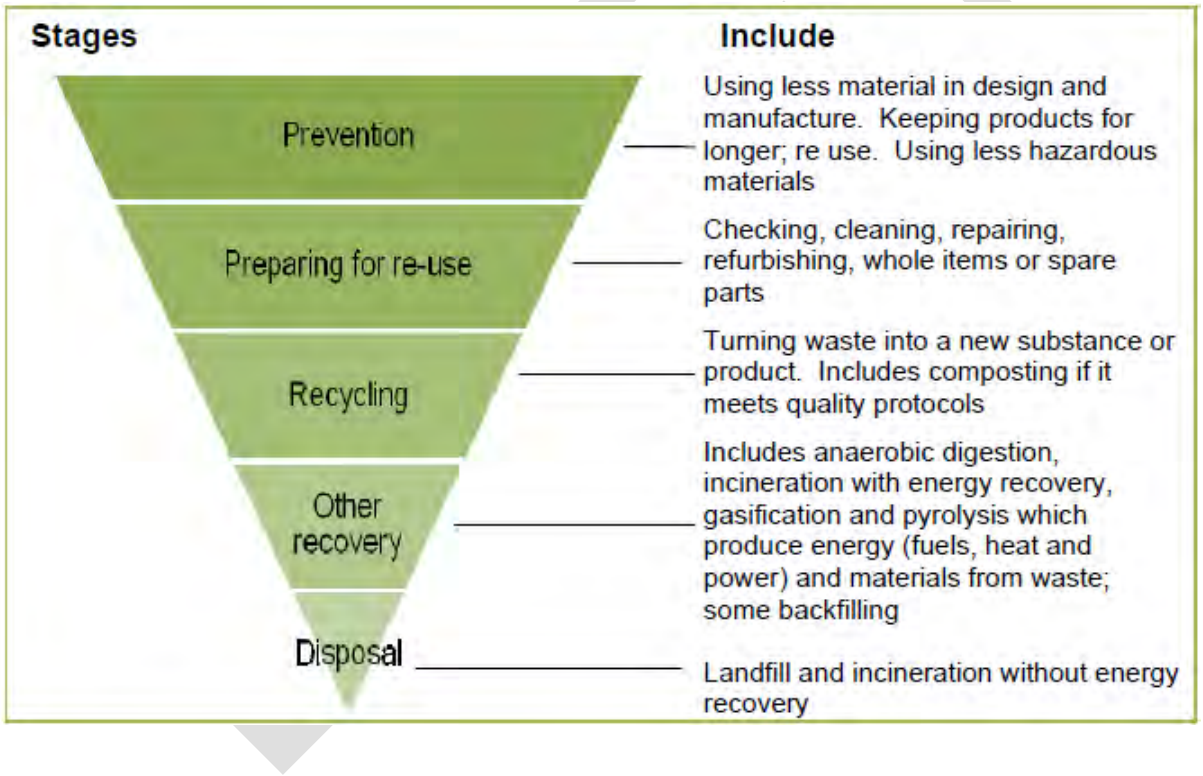
Waste Management Principles

4.25 Implementing good practice Waste Minimisation and Management (WMM) within the Proposed Development will help reduce the amount of operational waste sent to landfill.

Waste Hierarchy

4.26 The waste hierarchy is displayed in Figure 4.2 below. The hierarchy orders waste management options according to what is best for the environment. Consideration of how to manage waste should be carried out in this order.

Figure 4.2 The Waste Hierarchy



4.27 In line with the requirements of the London Borough of Hillingdon and the Greater London Authority, it is intended that operational waste will be managed according to the waste hierarchy, seeking to preferentially prevent the generation of waste, before it is prepared for reuse or recycling, with the disposal of waste considered only where materials cannot be reused, recycled or recovered. In addition, it is intended that within welcome packs provided to new residents, details on the recycling of household materials will be included, with the aim of encouraging a greater rate of waste diversion from landfill during the operation of the scheme. Information will also be provided to detail which

household materials are recyclable and how, as well as tips on how to minimise household waste, such as avoiding single use plastics and the preferential purchase of items with less packaging.

4.28 As set out above, in order to facilitate increased recycling rates during operation, separate bins will be provided both within the individual dwellings and the communal waste stores for the separate collection and storage of refuse, dry recyclable (to include for card, paper, mixed plastics, metals and glass, at a minimum) and food waste streams. At the time of writing, the London Borough of Hillingdon provided services for the collection of refuse and co-mingled dry recycling, in addition to the collection of food waste for some properties. The design of the waste storage areas has therefore been based on the current collection service offered by the Council, as well as the anticipated future introduction of food waste collection services. It should be noted, however, that should the Council seek to change this service to allow for the collection of a greater range of individual waste streams in the future, the flexible design of the waste storage areas will allow for the storage of separate waste streams beyond general refuse, co-mingled dry recyclables and food. Further details on the provision of separate waste collection facilities will be provided following further detailed design.

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

- Consolidated waste management, whereby the collection of waste from the Proposed Development is undertaken in line with other residences in the surrounding area to minimise the movement of refuse collection vehicles and to make collections more efficient. There is potential for this to be implemented, and this will be explored in further detail during the continued detailed design of the Proposed Development.

- Opportunities to use smart logistics, such as the use of “smart bins” which measure the volume of waste within the bins to inform collection rates and routes, will be explored. This would aid to minimise unnecessary refuse collection vehicle trips.

- The establishment of community-led waste minimisation schemes, such as the facilitation of repair and reuse services within the Proposed Development, and potentially the wider surrounding area to enable residents to prolong the life of materials by repairing or sharing items, and therefore preventing their disposal.

Monitoring

4.30 Subject to confirmation, it is envisaged that the generation of waste during the operation of the Proposed Development be monitored by members of the estate management team and/or the tenants of the proposed non-residential spaces. Reporting will be undertaken in line with the requirements of the Greater London Authority, where appropriate. Details on how monitoring and reporting will be undertaken will be provided following the continued detailed design of the Proposed Development.

5. CONCLUSION

5.1 With reference to the policy requirements, guidance and industry best practice detailed in Section 3, a comprehensive Operational Waste Management Strategy has been defined for the Proposed Development.

5.2 The Proposed Development has been designed with high standards of waste management performance. This strategy describes the consideration that has been given to waste generated by the Proposed Development during its operation, including how it will be sorted, stored and collected, therefore contributing towards the Council's targets for waste minimisation, recycling and reuse.

5.3 The strategy has been prepared to demonstrate that tenants and occupiers of the Proposed Development will be provided with convenient and effective waste management systems that will promote high levels of recycling and ease of collection by the Council.

5.4 An Operational Waste Management Strategy utilising traditional wheeled bins is proposed. The Proposed Development is anticipated to produce approximately 10,760 litres of waste from residential uses per week.

5.5 For the proposed dwellings served by communal waste stores, residential waste storage will consist of separate 1,110 litre Eurobins for refuse and dry recyclables, and 240 litre wheeled bins for organic waste, in accordance with local authority guidance. Communal waste stores have been located within the curtilage of the residential block at the lower ground floor level and to the rear of the central landscaped area at the lower ground floor level to ensure easy access for both residents and waste collection operatives. For dwellings on the lower ground floor level with private amenity spaces fronting onto vehicular access routes, residential waste storage will consist of suitable containers for the storage of sacks for the collection of refuse and dry recyclables, and external storage bins for organic waste.

5.6 This Strategy therefore demonstrates that the Proposed Development has also been designed to be compliant with all relevant waste management policy, and will manage and dispose of waste in a sustainable manner.

A1. SITE PLAN