SUSTAINABILITY STATEMENT
MILTON KEYNES EAST
MARCH 2021

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Sustainability Statement

St James Group Limited

Milton Keynes East

Final

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ABOUT HODKINSON CONSULTANCY

Our team of technical specialists offer advanced levels of expertise and experience to our clients. We have a wide experience of the construction and development industry and tailor teams to suit each individual project.

We are able to advise at all stages of projects from planning applications to handover.

Our emphasis is to provide innovative and cost-effective solutions that respond to increasing demands for quality and construction efficiency.

Executive Summary

The purpose of this Sustainability Statement is to demonstrate that the proposed development at Milton Keynes East by St James Group Limited is considered sustainable, as measured against relevant local and national planning policies.

The Hybrid Planning Application for the proposed development comprises the following elements:

- **Outline Component**: Outline permission for a large-scale mixed use urban extension comprising residential (4,000 – 4,600 homes), employment including business, general industry and storage/distribution, three primary schools and secondary school, community hub, a new linear park, open space, access roads and associated highways improvements and associated infrastructure works.

- **Detailed Component**: Strategic highway and transport infrastructure and associated utilities, lighting, earthworks and drainage works.

Through the incorporation of sustainable design and construction methods, energy and water saving measures, sustainable transport methods, waste reduction techniques and measures to enhance the ecological value of the site, a good quality and sustainable development is proposed.

The key sustainability features outlined in this Sustainability Statement are listed below:

- **Energy efficiency:** Initial plots will comply with interim Part L 2021 (31% reduction over Part L 2013) and later plots with Future Homes Standard 2025 (75-80% reduction over Part L 2013).

- **Overheating:** The scheme will be designed to ensure overheating risk is reduced to acceptable levels in accordance with CIBSE TM59:2017 requirements.

- **Water efficiency:** Flow control devices and water efficient fixtures and fittings will be installed in all dwellings to target a maximum internal daily water consumption of 105 litres/person/day.

- **Waste and recycling:** Adequate facilities will be provided for domestic and construction related waste, including segregated bins for refuse and recycling.

- **Circular Economy:** The principles of a circular economy shall be incorporated into the development, where possible.

- **BREEAM:** All commercial units will be designed and built to achieve a BREEAM ‘Very Good’ rating under the New Construction 2018 scheme.

- **Materials:** Where practical, new building materials will be sourced locally to reduce transportation pollution and support the local economy. New materials will be selected based on their environmental impact and responsible suppliers will be used where possible. The embodied

carbon of materials will be reviewed upon selection and Berkeley Group has a target to reduce the carbon impact of the materials and services it uses by 40% between 2019 and 2030.

> **Sustainable Drainage Systems:** The proposed development will benefit from SUDs such as living roofs, rainwater harvesting, swales and permeable paving.

> **Security:** Consultation with a Security Specialist will take place to ensure the development is safe and secure for its residents.

> **Sound insulation:** The dwellings are to target an improvement on Building Regulations Part E through party walls and floors.

> **Sustainable transport:** Sustainable transport modes will be encouraged through the provision of cycle storage spaces and electric vehicle charging points.

> **Biodiversity and ecology:** Ecological enhancements will be implemented across the site, and at least a 10% biodiversity net gain will be achieved.

> **Sustainable construction:** The site will aim to achieve a 'Beyond Best Practice' score with the Considerate Constructors Scheme and will closely monitor construction site impacts.

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CONTENTS

1. INTRODUCTION

1.1 This Sustainability Statement has been prepared by Hodkinson Consultancy, a specialist energy and environmental consultancy for planning and development, appointed by St James Group Limited.

1.2 This Statement sets out the sustainable design and construction measures included in the planning application for the proposed development at Milton Keynes East in Milton Keynes.

Sustainability Statement Structure and Methodology

1.3 The formulation of the Sustainability Strategy for the proposed development has taken into account several important objectives, including:

> To address all national and local planning policies and requirements;

> To achieve a viable reduction in CO_2 emissions with an affordable, deliverable and technically appropriate strategy;

> To provide a high quality development that is adaptable to future changes in climate;

> To minimise the negative impact of the proposed development on both the local and wider climate and environment;

> To achieve the highest viable levels of sustainable design and construction;

> To minimise emissions of pollutants such as oxides of nitrogen and particulate matter; and

> To create a pleasant, safe and friendly working and living environment that will be flexible to its occupants' needs.

1.4 This Sustainability Statement does not duplicate the work of the technical reports prepared in support of the application, but presents the findings in the overall context of sustainability.

1.5 **Chapter 2** provides an introduction to the site and the proposed development.

1.6 **Chapter 3** sets out the relevant national and local policy documents which have been used to guide and inform the sustainability strategy for the proposed development.

1.7 **Chapters 4 to 17** outline the sustainability strategy of the proposed development in relation to the policy documents listed in Chapter 3.

1.8 **Chapter 18** provides a summary of the key sustainability features associated with the proposed development.

Berkeley Group 'Our Vision' (2030)

1.9 As part of the Berkeley Group, St James Group will ensure that the Proposed Development achieves the goals and targets set out in the 'Our Vision' document.

1.10 Berkeley Group's approach to sustainability is about considering the future. It is about developing the homes and places of the future without compromising the ability of the younger generations to meet their needs.

1.11 Berkeley Group consider the long term impacts of their activities an ensure that they take action to reduce them both in terms of running the business efficiently and considerately and by developing sustainable homes and places. Berkeley has had a strong commitment to sustainability and environmental management across the business for many years, with their Sustainability and Climate Change policies launched in 2007. Berkeley Group's sustainability strategy sets out the approach to maintaining a leadership position by embedding sustainability within the business and setting out key focus areas which seek to protect, enhance and inspire. To meet these ambitions, Berkeley Group have five focus areas:

- Climate action.
- Communities and sustainable living.
- Nature.
- Environmental management.
- Resources.

1.12 The sustainability strategy supports the wider business strategy 'Our Vision' and is supported by sustainability standards that set out the detail on how Berkeley Group manage sustainability through their projects and in their business. This is discussed further in Chapter 4.

2. DEVELOPMENT OVERVIEW

Site Location

2.1 The proposed development site at Milton Keynes East is located to the north east of Milton Keynes town centre, as shown in Figure 1 below.

Figure 1: Site Location – Map data © 2021 Google

Proposed Development

2.2 The proposed development is described as follows:

"Hybrid planning application encompassing: (i) outline element (with all matters reserved) for a large-scale mixed-use urban extension (creating a new community) comprising: residential development; employment including business, general industry and storage/distribution uses; a secondary school and primary schools; a community hub containing a range of commercial and community uses; a new linear park along the River Ouzel corridor; open space and linked amenities; new redways, access

roads and associated highways improvements; associated infrastructure works; and (ii) detailed element for strategic highway and multi-modal transport infrastructure, including: new road and redway extensions; a new bridge over the M1 motorway; a new bridge over the River Ouzel; works to the Tongwell Street corridor between Tongwell roundabout and Pineham roundabout including new bridge over the River Ouzel; alignment alterations to A509 and Newport Road; and associated utilities, lighting, earthworks and drainage works."

2.3 The proposed site layout is shown in the submitted Parameter Plans and Design and Access Statement.

3. RELEVANT PLANNING POLICY

3.1 The following planning policies and requirements have informed the sustainable design of the proposed development.

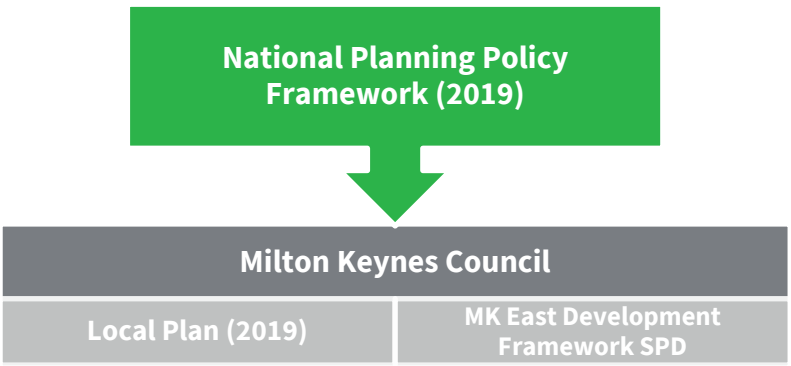

Figure 2: Relevant Planning Policy Documents

National Policy: NPPF

3.2 The revised National Planning Policy Framework (NPPF) was published on the 19th February 2019 and sets out the Government's planning policies for England.

3.3 The NPPF provides a framework for achieving sustainable development, which has been summarised as "*meeting the needs of the present without compromising the ability of future generations to meet their own needs*" (Resolution 42/187 of the United National General Assembly). At the heart of the framework is a **presumption in favour of sustainable development**.

3.4 The document states that the planning system has three overarching objectives which are interdependent and need to be pursued in mutually supportive ways:

a) **An economic objective** – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;

b) **A social objective** – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and

c) **An environmental objective** – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

Local Policy: Milton Keynes Council

Plan:MK Local Plan

3.5 Milton Keynes Council Local Plan document 'Plan:MK' was adopted in March 2019. The following policies are considered relevant to this Statement:

3.6 **Policy SC1 Sustainable Construction** states the following:

A. Development proposals will be required to demonstrate how they have implemented the principles and requirements set out below. With the exception of requirements K.2/3/5, non-residential development of 1,000 sqm or more that is demonstrated to achieve a BREEAM Outstanding rating will not be required to meet the requirements below.

Materials and Waste

B. Reuse land and buildings wherever feasible and consistent with maintaining and enhancing local character and distinctiveness.

C. Reuse and recycle materials that arise through demolition and refurbishment, including the reuse of excavated soil and hardcore within the site.

D. Prioritise the use of materials and construction techniques that have smaller ecological and carbon footprints, help to sustain or create good air quality, and improve resilience to a changing climate where appropriate.

E. Incorporate green roofs and/or walls into the structure of buildings where technically feasible to improve water management in the built environment, provide space for biodiversity and aid resilience and adaptation to climate change.

F. Consider the lifecycle of the building and public spaces, including how they can be easily adapted and modified to meet changing social and economic needs and how materials can be recycled at the end of their lifetime.

G. Space is provided and appropriately designed to foster greater levels of recycling of domestic and commercial waste.

Energy and Climate

H. Implement the Energy Hierarchy within the design of new buildings by prioritising fabric first, passive design and landscaping measures to minimise energy demand for heating, lighting, and cooling.

I. Review the opportunities to provide energy storage and demand management so as to tie in with local and national energy security priorities.

J. The design of buildings and the wider built environment is resilient to the ongoing and predicted impacts of climate change.

K. Development proposals for 11 or more dwellings and non-residential development with a floor space of 1,000 sqm or more will be required to submit an Energy and Climate Statement that demonstrates how the proposal will achieve the applicable requirements below:

    1. Achieve a 19% carbon reduction improvement upon the requirements within Building Regulations Approved Document Part L 2013, or achieve any higher standard than this that is required under new national planning policy or Building Regulations.

    2. Provide on-site renewable energy generation, or connection to a renewable or low carbon community energy scheme, that contributes to a further 20% reduction in the residual carbon emissions subsequent to (1) above.

    3. Make financial contributions to the Council's carbon offset fund to enable the residual carbon emissions subsequent to the (1) and (2) above to be offset by other local initiatives.

    4. Calculate Indoor Air Quality and Overheating Risk performance for proposed new dwellings.

    5. Implement a recognised quality regime that ensures the 'as built' performance (energy use, carbon emissions, indoor air quality and overheating risk) matches the calculated design performance of all dwellings in (4) above.

    6. Put in place a recognised monitoring regime to allow the assessment of energy use, indoor air quality and overheating risk for 10% of the proposed dwellings for the first five years of their occupancy and ensure that the information recovered is provided to the applicable occupiers and the planning authority.

Water

L. All newly constructed dwellings will be required to achieve an estimated water consumption of no more than 110 litres/person/day.

M. Water reuse and recycling and rainwater harvesting should also be incorporated wherever feasible to reduce demand on mains water supply, subject to visibility. Proposals will be expected to maximise the use of the above measures subject to the outcome of the viability assessment.

Retrofitting

N. Proposals which would result in considerable improvements to the energy efficiency, carbon emissions and/or general suitability, condition and longevity of existing buildings will be supported, with significant weight attributed to those benefits.

3.7 **Policy SC2 Community Heat Networks and Large Scale Renewable Energy Schemes** states that:

> Proposals for over 100 homes and non-residential developments of over 1,000 sqm will be expected to consider the integration of community energy networks in the development. This consideration should form part of development proposals and take into account the site's characteristics and the existing cooling, heat and power demands on adjacent sites.

> All new developments in proximity of an existing or proposed combined heat and power (CHP), combined cooling, heat, and power (CCHP) station or local energy network will be expected to connect to the network unless it can be demonstrated that a better alternative for reducing carbon emissions can be achieved; heating and/or cooling loads of the scheme do not justify a CHP connection; or the cost of achieving this would make the proposed development unviable.

Milton Keynes East Development Framework Supplementary Planning Document (2020)

3.8 The Milton Keynes East Development Framework was adopted in March 2020. The SPD provides guidance on how the allocated of Milton Keynes East within Plan:MK should be planned and developed. The site has been allocated to deliver around 5,000 new homes, 105 ha of employment land, a comprehensive transport network and supporting social and green infrastructure.

3.9 Development proposals must demonstrate how they have met requirements of Policy SC1 with regard to sustainable construction including materials and waste, energy and climate and water.

3.10 In accordance with Plan:MK Policy SC2, developers will be expected to consider the integration of community energy networks in the development.

MK Sustainability Strategy (2019-2050)

3.11 Milton Keynes Council declared a Climate Emergency in January 2019. The Milton Keynes Sustainability Strategy (2019-2050) was adopted in December 2018 and states that the Council are striving to be carbon neutral by 2030 and carbon negative by 2050.

3.12 Milton Keynes Council's Sustainability Strategy is the long-term vision to create a sustainable city which embraces innovation, creates high quality jobs and recognises it has a vital role in tackling the global challenges of climate change.

3.13 The main Sustainable Principles are:

> Green Energy – Maximise the use of renewable energy, reducing carbon and providing resilience to the grid.

> Circular Economy – Increasing the efficient use of resources to reuse materials, use less water and ensure the best use of land.

> Low Emissions – Reducing the level of emissions from transport, industry and agriculture and ensure clean air.

3.14 The following are considered relevant to this Statement:

> All new developments to include green energy generation schemes.

> The use of energy efficient and carbon passive technology on new buildings.

> Drive lower and more efficient energy use.

> Ensure excellent sustainable design.

> Promote low impact and sustainable building methods and materials.

> Continue to encourage waste reduction, reusing and recycling.

> Ensure better waste management and usage.

> Seek to be carbon neutral by 2030, and carbon negative by 2050.

4. BERKELEY GROUP SUSTAINABILITY STANDARDS

4.1 The following sustainability design requirements are required on each Berkeley Group development and as such, will be implemented at Milton Keynes East.

Climate Change

4.2 All developments, including Milton Keynes East, will aim to reduce their impact on climate change by achieving Berkeley Group's science-based targets. These are the following:

> The site will meet the minimum energy efficiency requirements which will be set out through the Group work on the Climate Change Goal and align to the Future Homes Standard. Please refer to the Energy Statement by Hodkinson Consultancy submitted alongside this application for further detail.

> The development will incorporate 100% LED internal and external lighting.

> All domestic appliances will achieve a minimum E energy efficiency rating, other than washer dryers which should be D class or above.

> All homes will be fitted with a smart meter and energy display device.

> The development will assess the overheating risk and incorporate measures to reduce this. Please refer to the Overheating Assessment by Hodkinson Consultancy submitted alongside this application for further detail.

Nature

4.3 To protect the natural environment all developments, including Milton Keynes East, will:

> Complete a net biodiversity gain assessment and achieve a minimum of a 10% net biodiversity gain on site.

> Include living roofs on all suitable roof space.

> Design all new homes to achieve an internal water use of less than 105 litres per person per day.

> Incorporate rainwater harvesting.

Communities and Sustainable Living

4.4 Berkeley Group's ambition at Milton Keynes East is to strengthen the local community, improve people's quality of life and have a lasting social impact. This will be carried out by:

> Completing a Social Value assessment.

> Developing and implementing a community plan.

> Designing all homes to the Berkeley Group healthy homes framework.

> Incorporating electric vehicle charging and cycle storage spaces.

> Ensuring that all commercial space achieves a minimum BREEAM Very Good rating.

> Communicating information on specific sustainability features of the homes and how to live a sustainable life throughout the 'customer journey'.

Resources and Material Efficiency

4.5 All developments, including Milton Keynes East, must reduce their impact on key resources and work collaboratively with the supply chain to procure sustainable materials by:

> Providing internal recycling facilities to all new homes.

> Ensuring that materials and products are sourced responsibly.

> Ensuring that all timber is FSC or PEFC certified and has a Chain of Custody.

5. BREEAM SUMMARY

5.1 In accordance with Berkeley Group Sustainability Standard, all commercial space will be assessed under the relevant BREEAM Scheme, with a target of achieving a 'Very Good' rating as a minimum.

5.2 Full BREEAM Pre-Assessments will be provided alongside the applicable Reserved Matters Application for each phase. The principles and requirements of many of the individual credits feature throughout this Sustainability Statement, where appropriate, however the mandatory credits for BREEAM 'Very Good' fully fitted assessments are listed as follows:

> **Man 04: Commissioning and Handover** – A schedule of commissioning and testing must be prepared, identifying commissioning and timescales for all complex and non-complex building services and control systems. Prior to handover, a technical and non-technical building user guide must be developed.

> **Ene 02: Energy Monitoring** – Install energy metering systems to monitor at least 90% of the estimated annual consumption.

> **Wat 01: Water Consumption** – Achieve a minimum 12.5% improvement over baseline building water consumption.

> **Wat 02: Water Monitoring** – A water meter is to be provided on the mains water supply which should have a pulsed output connected to a Building Management System (BMS).

> **Mat 03: Responsible Sourcing** – All timber used on the project must be sourced in accordance with the UK Government's Timber Procurement Policy.

6. ENERGY AND CO_2 REDUCTION

6.1 As stated in Chapter 3, Milton Keynes Council declared a Climate Emergency in January 2019. The Milton Keynes Sustainability Strategy (2019-2050) was adopted in December 2018 and states that the Council is striving to be carbon neutral by 2030 and carbon negative by 2050.

6.2 Berkeley Group have recently approved the use of a set of Science Based Targets which are included in the Berkeley Group Sustainability Standards detailed in Chapter 4. These have been calculated against the overarching aim of limiting warming to 1.5°C, therefore aligning with the Milton Keynes Sustainability Strategy.

Energy Strategy

6.3 An Outline Energy Statement has been prepared by Hodkinson Consultancy and is submitted as part of this planning application. A summary of this statement has been outlined as follows however this document should be referred to for greater detail.

6.4 The Outline Energy Statement aims to ensure a standards-based approach is adopted, as well as accounting for a development timeline that is likely to span multiple changes in regulation and policy. As such, a prescriptive energy strategy to be adhered to across the site is not set out. Nonetheless, key future-proofing measures which will provide flexibility for the site to meet varying standards are set. For instance, no new home will be connected to the natural gas grid, with all heating requirements to originate from low or zero carbon sources. The most likely solution is the use of heat pumps, however alternatives may arise through future technological developments which later phases of the site could incorporate. Parameters for indicative specifications that are compliant with potential increases in standards are also provided, in order to demonstrate the long-term vision St James have for this site. Delivery against these potential standards with key future-proofing measures means an excellent level of energy performance will be obtained from the outset. Each development phase will detail a specific energy strategy through a Reserved Matters Energy Statement which intends to tie into the principles set out in this report.

6.5 The presence of low or zero carbon heating in all homes should enable all initial homes to significantly exceed the CO_2 reduction requirements of Policy SC1 of Plan:MK and the incoming Part L 2021 update (expected in 2022). For homes completed following the adoption of the Future Homes Standard (adoption planned for 2025) further uplifts in the build specification may be required. Indicative specifications have been used within this Energy Statement to provide an indication of the performance that could be achieved across these time periods.

6.6 Further regulatory and policy changes are anticipated into the 2030s. It is difficult to ascertain what these may be, however the Energy Statement does outline some possible directions these could take. St James are keen to demonstrate their commitment to building in low and zero carbon principles from the outset. Recently introduced Berkeley Group science-based targets align with

Milton Keynes' Sustainability Strategy, both of which commit to adopting measures which assist in limiting warming to 1.5°C (as set out in the Paris Climate Agreement, 2015).

Lighting

6.7 All external lighting, and any security lighting, will be energy efficient and adequately controlled using PIR sensors, daylight cut-off sensors or time switches where possible. This will ensure the conservation of energy when the lighting is not in use.

Energy Monitoring

6.8 Energy display devices, which can monitor electricity and primary heating fuel consumption, will be provided to each of the dwellings. This can empower the occupants to be more aware of their usage and therefore make energy and cost savings, where possible.

6.9 Poor energy monitoring and management is the biggest contributor to higher than expected energy use in operational buildings and can present major opportunities to reduce energy consumption. BMS systems are to be installed as part of the BREEAM strategy for all units over 1,000 sqm.

7. WATER REDUCTION

Internal Water Efficiency

7.1 Increased frequency of drought across Europe lines up with climate change projections and water companies in the UK capture much less rain for our use than people assume. As of February 2019, 12 out of the 23 water companies operating in areas of England were classified as being under 'serious' stress (Energy Saving Trust, 2019).

7.2 Reducing water consumption will not only help to preserve our water sources but will also save energy. Approximately 15% of a typical gas-heated household's heating bill is from heating water for showers, baths and taps and the energy used to heat water for devices and appliances emits an average of 875 kg of CO_2 per household per year. This is equivalent to the CO_2 emissions from driving more than 1,700 miles in an average family car (Energy Saving Trust, 2013). As such, internal water consumption will be significantly reduced through the use of practical and hygienic water saving measures.

Residential Water Use

7.3 All new dwellings will target a minimum water efficiency standard of **105 litres/person/day** in accordance with MK Plan Policy SC1 and the optional tighter Building Regulations Approved Document G requirement (110 litres/person/day). Water efficiency calculators will be provided alongside the applicable Reserved Matters Application for each phase and an evaluation of the proposed fixtures and fittings will be undertaken during the detailed design.

Commercial Water Use

7.4 The internal water consumption of the commercial spaces will also be significantly reduced through the use of water efficient fixtures and fittings in line with the Wat 01 requirements of the BREEAM assessment. Water monitors and leak detection systems will be installed to prevent unnecessary waste.

External Water Efficiency

7.5 Rainwater harvesting tanks will be installed to reduce the demand on potable water and promote effective use of our water supplies. These will be appropriately sized and capable of harvesting rainwater for external irrigation across the development.

8. WASTE MANAGEMENT

8.1 Waste reduction and recycling is another key challenge of sustainable development and something which is strongly encouraged in Policy SC1. The waste hierarchy, illustrated in Figure 3 below, prioritises those waste management options which are best for the environment.

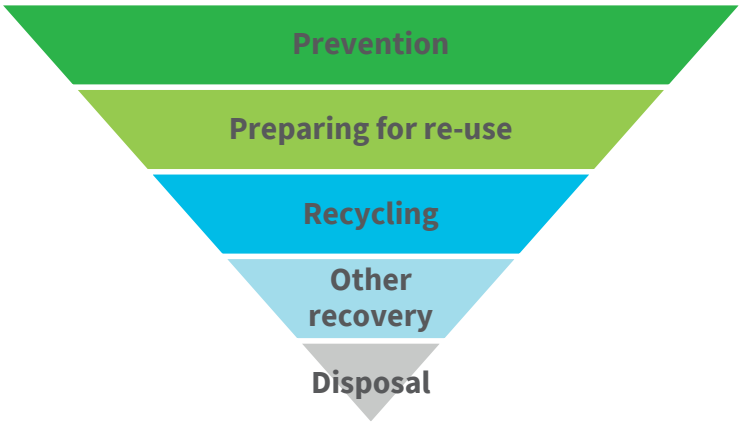

Figure 3: Waste Hierarchy

8.2 The waste hierarchy establishes waste management options according to what is best for the environment. It places great importance on preventing waste in the first place. When waste is created it prioritises preparing if for re-use, then recycling, recovery and lastly disposal (e.g. landfill).

Construction Waste

8.3 The reduction of construction waste not only minimises environmental impacts through ensuring the responsible use of resources and waste disposal but can also significantly reduce construction costs for the developer.

8.4 Prior to construction, St James Group will develop a Site Waste Management Plan which will establish ways of minimising waste at source, assess the use, reuse and recycling of materials on and off-site and prevent illegal waste activities. This plan will then be disseminated to all relevant personnel on and off-site.

8.5 The following waste minimisation actions will be considered:

> Consider opportunities for zero cut and fill to avoid waste from excavation or groundworks;

> Design for standardisation of components and the use of fewer materials;

> Design for off-site or modular build;

> Return packaging for reuse;

> Consider community reuse of surplus materials or offcuts; and

> Engage with supply chains and include waste minimisation initiatives and targets in tenders and contracts.

8.6 As part of their commitment to divert construction waste from landfill, St James Group will regularly monitor and record the site's waste reduction performance. This will be compared against a target benchmark where at least 95% (by volume) of non-hazardous waste is to be diverted from landfill.

Household Waste

8.7 St James Group is committed to following the above waste hierarchy and reducing waste sent to landfill. As such, adequate storage is to be provided where both recyclable and non-recyclable waste can be stored in accordance with Milton Keynes' waste collection service.

8.8 When each phase of the development is considered in more detail at each Reserved Matters Application stage, St James will investigate utilising innovative or new methods in terms of storage and collection of household waste.

8.9 In addition, space will be provided for segregated recycling waste bins within the kitchen areas. This will involve the installation of recycling bins, where waste can be segregated into paper, glass, cans, plastic and cardboard, if necessary. In accordance with Berkeley Group's Sustainability Standard, the combined capacity of internal recyclable waste facilities will be a minimum of:

> 30 litres for homes with 1 or 2 bedrooms.

> 40 litres for homes with 3 or more bedrooms.

> Space for at least 5 litres of additional storage for food waste.

Commercial Waste

8.10 Adequate space for the segregation and storage of commercial waste and recycling will be provided. This space will meet the following BREEAM requirements:

> Bins will be clearly labelled to assist with waste segregation, storage and collection;

> The stores will be accessible to building occupants and facilities operators; and

> The storage will be of a capacity that is appropriate to the building's type, size and predicted volumes of waste.

9. CIRCULAR ECONOMY

9.1 Current and future trends point toward the need for a fundamental shift in the way resources are consumed. A shift to a circular economy will provide considerable economic opportunities as a result. The end goal is to retain the value of materials and resources indefinitely, with no residual waste at all. This is possible but will require a fundamental change in the way that buildings are designed, built, operated, and deconstructed.

9.2 In contrast to a linear economy (take, make, dispose), a circular economy keeps products and materials circulating through the system at their highest value for as long as possible, through re-use, recycling, refurbishment and remanufacturing. As 60% of total UK waste is generated from construction, demolition and excavation (Defra and Government Statistical Service, 2019) this transition from linear to circular is essential.

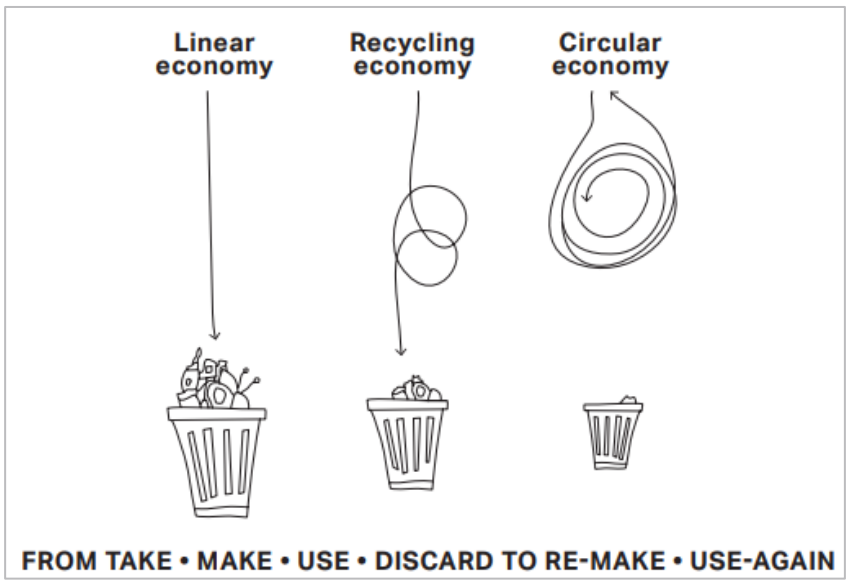

Figure 4: Linear, Recycling and Circular Economies (GLA, 2019)

9.3 Applying circular economy thinking to the built environment is complex, with many overlapping issues and trade-offs to consider. However, there are some core guiding principles that promote a regenerative and restorative whole system approach that should be applied on every project. These are as follows:

Conserve resources and source ethically;

> Minimise the quantities of materials used.

> Minimise the quantities of other resources used.

> Specify and source materials and other resources responsibly and sustainably.

Design to eliminate waste (and for ease of maintenance);

> Design for longevity, adaptability or flexibility and reusability or recoverability.

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

Manage waste sustainably and at the highest value;

> Manage demolition waste.

> Manage excavation waste.

> Manage construction waste.

> Manage municipal waste.

9.4 Adoption of these three core principles on developments typically reduce the amount of raw and new materials required. Alongside this, a reduction in vehicle movements, air pollution, noise and greenhouse gas emissions would also be beneficial. There are also benefits from cost savings through the reduction in materials required.

9.5 This shift to a circular built environment is acknowledged in Milton Keynes' Local Plan and Sustainability Strategy. In addition to this, the following guidance is available in order to apply Circular Economy principles to projects:

> 'BS 8001:2017 – Framework for Implementing the Principles of the Circular Economy' by British Standards Institution, May 2017.

> 'Designing for a Circularity - Primer' by GLA, October 2019.

> 'Circular Economy Guidance for Construction Clients' by UK Green Building Council (UKGBC), April 2019.

Design Principles

9.6 The following circular economy design principles and detail will be implemented throughout the design, construction and operational phases at Milton Keynes East:

> **Modular construction** is proposed on this development. Waste is more readily reduced in a controlled environment such as a factory where they are produced. Modular buildings can also be **disassembled,** and the modules relocated or refurbished for reuse which reduces the need for additional raw materials.

- Materials from the existing site will be **crushed and reused** within the landscaping strategy, maximising the re-use of materials prevents the unnecessary use of raw materials.
- **Early engagement with the contractor** and partnering within the supply chain will be required to ensure complete transparency and visibility throughout the supply chain.
    - **100% of timber** used on site, including timber used in the construction phase, will be sourced from sustainable forestry sources (e.g., **PEFC and FSC**) where possible;
    - Aim to specify at least **20 products with Environmental Product Declarations**;
- The proposed development seeks to design with **durability and longevity** in mind to ensure the built asset allows for challenging climatic conditions. Examples include protecting materials from degradation due to environmental conditions, adopting passive design strategies to provide resilience, and sizing systems to cope with future climate scenarios.
- Permanent fixing of products, such as by glue and cement mortar, will be avoided where feasible, to enable **end of life deconstruction** and salvage of building elements. Fixings will be easily accessible, where possible, for disassembly.
- A **Waste Management Strategy** will be prepared to confirm the hierarchy of waste management will be adopted in accordance with national policy requirements. The waste management methods will include preparation for reuse and material recovery. The scale of the site lends itself to store materials and manage construction so that vehicle movements off-site can be minimised. For example, if appropriate, areas for temporary stockpiling of materials will be assigned.
- To facilitate the **effective management of waste during operation**, sufficient space will be provided to both residents and commercial users to sort and store their waste, encouraging the recycling of materials wherever possible.

10.MATERIALS

Environmental Impact

10.1 New building materials will be selected, where possible, to ensure that they minimise environmental impact and have low embodied energy – from manufacture, transportation and operational stages, through to eventual demolition and disposal.

10.2 All insulation materials will have an Ozone Depleting Potential (ODP) of zero and a Global Warming Potential (GWP) of less than 5. In addition, all decorative paints and varnishes will meet the relevant standards in order to reduce the emission levels of volatile organic compounds (VOCs).

Local and Responsible Sourcing

10.3 Preference will be given to the use of locally sourced materials and local suppliers, where viable. This will benefit the local economy as well as having environmental benefits through reduced transportation.

10.4 As part of the Berkeley Group, St James Group will follow their defined Sustainable Procurement Policy which ensures that new building materials are selected to ensure that they minimise environmental impact and have low embodied energy – from manufacture, transportation and operational stages, through to eventual demolition and disposal.

10.5 The main building materials will be responsibly and legally sourced from manufacturers with environmental management systems and/or responsible sourcing credentials, such as BES 6001.

10.6 Timber used on site, including timber used in the construction phase, such as hoarding, fencing and scaffolding, will be sourced from sustainable forestry sources (e.g. PEFC and FSC) where possible.

Recycled Materials

10.7 Where feasible, St James Group will commit to using materials that have been recycled. The use of recycled materials (e.g. crushed concrete from waste, used for hard-standing) has less embodied energy impact, other than that expended in their processing or transport.

Berkeley Group Targets

10.8 Berkeley Group has committed to reducing the carbon impact of the materials and services it uses by 40% between 2019 and 2030.

11.POLLUTION

Noise Pollution

11.1 St James Group are committed to reducing noise disturbance to internal and external areas of dwellings to improve the health and wellbeing of the occupants and to help protect community cohesion.

11.2 A Noise and Vibration Assessment has been undertaken by WSP, assessing the impacts of noise and vibration during the construction phase and operational phase generated road traffic noise impacts. A baseline noise survey was conducted in order to establish existing noise levels on the development site.

11.3 Construction noise and vibration impacts will be mitigated with appropriate mitigation and controls in place and adherence to the Construction Environmental Management Plan. Operational road traffic noise will be mitigated through a 30mph speed limit on primary roads throughout the development site and the impacts are considered minor. Please refer to the Noise and Vibration Assessment for further detail.

Air Quality

11.4 Poor air quality is the greatest environmental risk to public health in the UK and is known to exacerbate the impact of pre-existing health conditions. It is not only a major risk to human health, but it also has significant damaging impacts on both plants and animals.

11.5 St James Group are committed to reducing the proposed development's negative impact on air quality during construction and operation. An Air Quality Assessment has been undertaken by WSP, assessing increases in dust deposition and airborne particulate matter from construction activities, local air quality impacts due to operational road traffic, and the potential exposure of future residents of the development to poor quality. All potential effects during construction and operation are considered negligible, however the recommended best practice mitigation measures will be implemented where necessary. Please refer to the Air Quality Assessment for further detail.

Air Tightness and Ventilation

11.6 Air leakage is to be minimised and an air permeability of 3 $m^3/hr/m^2$ will be targeted.

11.7 It is proposed to install Mechanical Ventilation with Heat Recovery (MVHR). MVHR provides a constant supply of fresh air to dwellings which has been filtered to remove external pollutants. It operates regardless of external conditions and provides the additional benefit of incorporating boost modes for use during hot weather or when internal humidity levels increase beyond acceptable levels.

12. FLOOD RISK & SURFACE WATER RUN-OFF

Flood Risk

12.1 Developments in low flood risk areas are promoted to, not only protect homes and local communities and reduce the cost implications if flooding occurs, but to protect the environment from the transfer of pollutants during flooding events.

12.2 As detailed in the Flood Risk Assessment (FRA) undertaken by WSP, the majority of the site is located in Flood Zone 1 based on the Environment Agency's Flood Map for Planning. Within the west of the site, the land adjacent to the River Ouzel is located in Flood Zone 3. There is also a small area next to Broughton Brook in the south of the site within Flood Zone 3.

12.3 In order to mitigate against flooding, each of the development parcels which are adjacent to the River Ouzel floodplain have been raised 600mm above the 1 in 100 year plus 35% climate change flood level along with the 1 in 1,000 year flood level. Please refer to the FRA for further detail.

Sustainable Drainage Systems

12.4 Sustainable drainage systems (SuDS) can deliver multiple benefits which broadly fit into four categories: water quantity, water quality, amenity and biodiversity. The overarching principle of SuDS design is that surface water runoff should be managed for maximum benefit.

12.5 Long term environmental and social factors must be included in decisions regarding sustainable drainage. Sustainable drainage takes account of the quantity and quality of runoff, and the amenity and aesthetic value of surface water in the urban environment.

12.6 Please refer to the Surface Water Strategy by WSP for further information on the proposed SuDS. These will not only help to attenuate surface water but will provide the necessary water treatment. Please refer to the Surface Water Strategy by WSP for further information.

13. BUILDING QUALITY

Security

13.1 St James Group are committed to ensuring the development is safe and secure for the occupants; reduce the risks and costs associated with crime; and improve occupiers' quality of life by reducing the fear of crime.

13.2 As such, the proposed development will be aiming to incorporate the principles of Secured by Design where appropriate. This may involve consultation with a Security Consultant during the detailed design stage of each phases. Furthermore, a Security Needs Assessment may be undertaken for the commercial units in order to achieve the BREEAM requirements.

Sound Insulation

13.3 In order to reduce the likelihood of noise complaints and to ensure a high quality development is created, the development will be aiming to achieve airborne sound insulation values that will improve upon the performance standards outlined within the Building Regulations for England and Wales, Approved Document E.

13.4 The commercial elements will meet the appropriate acoustic performance standards and testing requirements for sound insulation, indoor ambient noise level and reverberation times in order to achieve the Health and Wellbeing 05 (Acoustic Performance) credit of the BREEAM assessment. A full Noise Impact Assessment will be required during the design stage to assess the impact of noise on sensitive areas and buildings within an 800m radius of the proposed development. This will suggest noise attenuation measures which will need to be implemented to achieve the Pollution 05 (Reduction in Noise Pollution) credit.

Inclusive Design

13.5 St James Group's commitment to inclusivity will ensure that the proposed development is scaled appropriately so as to respond to the needs of all its users. St James Group will endeavour to incorporate the requirements of the Equality Act (2010) into their design, making reasonable adjustments to enable disabled access, regularly reviewing whether the buildings are accessible and effective, and providing necessary design adjustments where it is practical to do so.

Overheating

13.6 Minimising the risk of summer overheating and high uncontrollable temperatures is important so as to ensure that homes are comfortable for their occupants and remain comfortable in the future. In accordance with the Berkeley Group Sustainability Standards, St James Group commits to ensuring that all dwellings will not have a high risk of summer overheating and will adopt appropriate measures to ensure this is delivered.

13.7 An Overheating Mitigation Strategy Report has been undertaken by Hodkinson Consultancy. This details the following actions and design principles for the development:

> Use of the early-stage Good Home Alliance (GHA) overheating risk tool to identify any key risks factors and site constraints that can restrict the use of natural ventilation as primary mean of ventilation before fixing the massing of the development;

> Carry out interim dynamic thermal modelling exercise to guide the design process and tackle overheating; and

> Control glazing ratio below recommend values (<35% of façade area or <25% of internal floor area), maximise window openability and allow for fully openable windows (provide at least 3 times more free areas beyond minimum Part F purge ventilation requirements especially for bedrooms), avoid full-height windows where are not necessary and make effective use of external shadings based on the orientation.

14. TRANSPORT AND LOCAL AMENITIES

Sustainable Transport & Public Transport

14.1 Sustainable transport links are central to the sustainability debate. They provide a positive contribution to environmental, societal and economic sustainability of the places they serve. The provision of alternative sustainable transport options and associated facilities reduces dependency on traditionally fuelled cars and has the following benefits:

> Encourages active travel and helps improve people's health and wellbeing;

> Reduces congestion and encourages clean travel which helps to improve the air quality of the local area; and

> Provides cost savings compared with maintaining and running traditionally fuelled cars.

14.2 There is a relatively good bus network surrounding the site and in and around Milton Keynes. There are several stops in the vicinity of the site, with two stops on Willen Road, one on London Road and two stops along Newport Road. The following services are run by Uno Bus and operate in the vicinity of the site:

> C1/10/11: Bedford – Cranfield University – Milton Keynes.

> CX: Cranfield University – Milton Keynes.

> 1: Newport Pagnell – Milton Keynes – Bletchley.

> 24/25 – Bletchley – Milton Keynes – Newport Pagnell.

14.3 Milton Keynes Central Railway Station can be assessed from the proposed development by the C10 bus service in approximately 30 minutes. The station is situated on the West Coast Main Line and is served by Avanti West Coast, West Midlands Trains and Southern regional services. Destinations include London Euston, Watford Junction, Leighton Buzzard, Wolverton, Northampton and Birmingham New Street.

14.4 A Transport Chapter in the Environment Statement and Transport Assessment has been undertaken by WSP. Please refer to these for further detail.

Local Amenities

14.5 The proposed development will provide the following key amenities, which will help to reduce dependency on private transport:

> Administrative services;

> Health services;

> Small/large scale retail services;

> Recreation and leisure facilities; and

> Education and community facilities.

Cycle Parking

14.6 Encouraging cycling not only makes a positive contribution to health and well-being, but also reduces pressure on existing transport systems.

14.7 All of the dwellings will have access to secure cycle stores, the location of which will be confirmed at the Reserved Matters Applications for each phase.

14.8 The commercial units will also be provided cycle storage spaces, the location of which will be confirmed at the Reserved Matters Applications for each phase.

14.9 There are two National Cycle Network routes running in the proximity of the site, National Cycle Route 6 and 51. These are both long distance routes. There are also several leisure traffic-free cycle paths across Milton Keynes, predominantly found in parks and by rivers and lakes and are accessible from Milton Keynes' Redway network (a network of shared-use traffic-free route for people on foot or cycle).

Electric Car Charging

14.10 Electric vehicles have the benefit of eliminating emissions, including carbon dioxide, oxides of nitrogen, carbon monoxide and particulates that normal cars emit.

14.11 The UK Government released a consultation document in July 2019 proposing to alter building regulations so that new residential and non-residential buildings must include requirements for electric vehicle charging points.

14.12 New electric cars are expected to continue to push the boundaries of range and power, both of which require a greater energy density from the installed batteries. This is expected to result in car owners seeking quicker charging rates, with the conventional 3kW rates considered increasingly inconvenient. At the Reserved Matters Application for each phase, St James will consider the required number of electric vehicle charging points and the necessary electrical capacity for the site.

15. BIODIVERSITY AND ECOLOGY

Protection of Ecological Value

15.1 An Ecological Assessment has been undertaken by Hankinson Duckett Associates, reviewing the effects on features of ecological interest supported by the site and surroundings and the effects on statutory and non-statutory designated areas occurring in the wider area. An ecological desk study and a number of extended Phase 1 habitat surveys were conducted in order to establish initial baseline ecological conditions. A number of inherent ecological avoidance and mitigation measures have been incorporated during successive design iterations of the masterplan. Please refer to the Ecological Assessment for further details on these measures.

15.2 To protect existing biodiversity, a series of measures will be implemented to reduce any impact on local wildlife. These include the following:

> All site operatives to be made aware of current legislation, including the protection of certain species;

> Site clearance works to be timed to avoid the main bird nesting season. If this is not possible, a check should be carried out prior to the works to determine the presence of any active nests;

> Suitable fencing should be erected to reduce the possibility of any damage to established vegetation; and

> Native species, or species of known wildlife value, should be used for the proposed new planting.

Enhancement of Ecological Value

15.3 Enhancing a site's ecological value not only helps to reduce a development's environmental impact but improves the health and wellbeing of the occupants through their interaction with the natural environment.

15.4 In accordance with the Berkeley Group Sustainability Standards, the site will achieve at least a 10% net biodiversity gain.

15.5 The strategy for the new planting will include the following where possible:

> Promote local ecology through the use of native seed and fruit bearing species;

> Attract pollinators such as bees and butterflies through the use of flowering, nectar rich species;

> Combine natural and ornamental species to enrich the planting mix and promote local biodiversity;

> Create new habitats to attract local fauna; and

> Interconnect existing and proposed habitats of the site and its surroundings where possible.

Green Roofs

15.6 In accordance with the Berkeley Group Sustainability Standards, green roof is to be provided where appropriate. Green roofs have demonstrable sustainability benefits, including:

> Reduction in urban heat island effect (localised cooling through increased evaporation);

> Provision of ecological habitats for fauna and flora, particularly where these roofs can replicate pre-existing ecological conditions; and

> Reduction in surface water run-off.

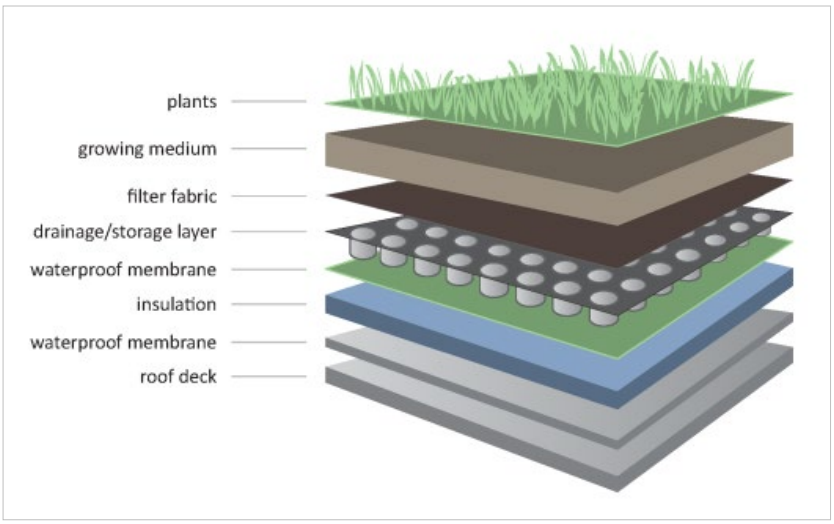

Figure 6: Indicative Build-up of Green Roof

16. SUSTAINABLE CONSTRUCTION

16.1 Sustainable construction involves the prudent use of existing and new resources and the efficient management of the construction process. This includes the following measures:

> Reducing waste during construction and demolition and sorting waste on site where practical;

> Reducing the risk of statutory nuisance to neighbouring properties as much as possible through effective site management;

> Controlling dust and emissions from demolition and construction; and

> Complying with protected species legislation.

16.2 Berkeley Group's Sustainability Standards for Construction Sites and Contractors were adopted in January 2021. These standards clearly set out Berkeley's requirements for environmental management, climate action, waste, material sourcing, timber, water and nature. The standards will be implemented and followed at Milton Keynes East.

Considerate Constructors Scheme

16.3 The development site will be registered with the Considerate Constructors Scheme. This is designed to encourage environmentally and socially considerate ways of working, to reduce any adverse impacts arising from the construction process. As commonly known, the Considerate Constructors Scheme aims are as follows:

> Enhancing the appearance;

> Respecting the community;

> Protecting the environment;

> Securing everyone's safety;

> Caring for the workforce.

16.4 The site will target *'Beyond Best Practice'* certification, achieving a score of at least 35 out of 50, with all of the five sections scoring at least seven points.

Monitoring Construction Site Impacts

16.5 During the construction processes, control procedures will be put in place to minimise noise and dust pollution and roads will be kept clean. The management systems will generally comprise

procedures and working methods that are approved by the development team together with commercial arrangements to ensure compliance.

16.6 Further to the above, additional measures will be adopted to minimise the impact on the local area during construction. This will include the limiting of air and water pollution in accordance with best practice principles, as well as the recording, monitoring and displaying of energy and water use from site activities during construction.

16.7 In terms of construction traffic, this will be minimised by restricting deliveries and arrival times in order to manage potential impacts on existing and future occupants. Work will be limited to appropriate hours to be agreed with the Council, and suppressors will be used to reduce noise from machinery. A detailed Construction Environmental Management Plan will be implemented ahead of any works commencing on site.

17. LOGISTICS WAREHOUSES

17.1 Once complete, Milton Keynes East will contain a significant amount of logistic warehouse space. St James Group have engaged with a number of logistic warehouse developers and the following are examples of sustainability measures these companies can implement into their design:

> Potentially targeting a BREEAM 'Excellent' rating or 'Outstanding', if considered feasible.

> The majority of the life cycle carbon of a logistics building is fixed at the beginning and cannot be improved later. Life Cycle Assessments could be undertaken to understand the embodied and operational carbon arising from the warehouses.

> Utilising the large roof space with PV panels.

> Targeting the Planet Mark New Development certification.

> Electric vehicle charging.

> Rainwater harvesting.

17.2 The above measures give confidence that the logistic warehouses have the ability to be of a high sustainability standard.

18.CONCLUSION

18.1 The issue of sustainable development has been considered throughout the design of the proposed development at Milton Keynes East by St James Group Limited. In particular, the incorporation of sustainable design and construction methods, energy and water saving measures, waste reduction techniques as well as measures to enhance the ecological value of the site, a good quality and sustainable development is proposed.

18.2 The key sustainability features outlined in this Sustainability Statement are listed below:

> **Energy efficiency:** Initial plots will comply with interim Part L 2021 (31% reduction over Part L 2013) and later plots with Future Homes Standard 2025 (75-80% reduction over Part L 2013).

> **Overheating:** The scheme will be designed to ensure overheating risk is reduced to acceptable levels in accordance with CIBSE TM59:2017 requirements.

> **Water efficiency:** Flow control devices and water efficient fixtures and fittings will be installed in all dwellings to target a maximum internal daily water consumption of 105 litres/person/day.

> **Waste and recycling:** Adequate facilities will be provided for domestic and construction related waste, including segregated bins for refuse and recycling.

> **Circular Economy:** The principles of a circular economy shall be incorporated into the development, where possible.

> **BREEAM:** All commercial units will be designed and built to achieve a BREEAM 'Very Good' rating under the New Construction 2018 scheme.

> **Materials:** Where practical, new building materials will be sourced locally to reduce transportation pollution and support the local economy. New materials will be selected based on their environmental impact and responsible suppliers will be used where possible. The embodied carbon of materials will be reviewed upon selection and Berkeley Group has a target to reduce the carbon impact of the materials and services it uses by 40% between 2019 and 2030.

> **Sustainable Drainage Systems:** The proposed development will benefit from SUDs such as living roofs, rainwater harvesting, swales and permeable paving.

> **Security:** Consultation with a Security Specialist will take place to ensure the development is safe and secure for its residents.

> **Sound insulation:** The dwellings are to target an improvement on Building Regulations Part E through party walls and floors.

- **Sustainable transport:** Sustainable transport modes will be encouraged through the provision of cycle storage spaces and electric vehicle charging points.
- **Biodiversity and ecology:** Ecological enhancements will be implemented across the site, and at least a 10% biodiversity net gain will be achieved.
- **Sustainable construction:** The site will aim to achieve a 'Beyond Best Practice' score with the Considerate Constructors Scheme and will closely monitor construction site impacts.

19.REFERENCES

> Ministry of Housing, Communities & Local Government (2019) National Planning Policy Framework. MHCLG: London

> HM Government (2016) The Building Regulations Approved Document L1A: Conservation of Fuel and Power. NBS: London

> Energy Saving Trust (2019) *Why we should all be saving water*

> Energy Saving Trust (2013) *At home with water*