



FORMER JOHN LEWIS DEPOT, LETCOMBE STREET, READING
(ALSO KNOWN AS JLP MILL LANE)

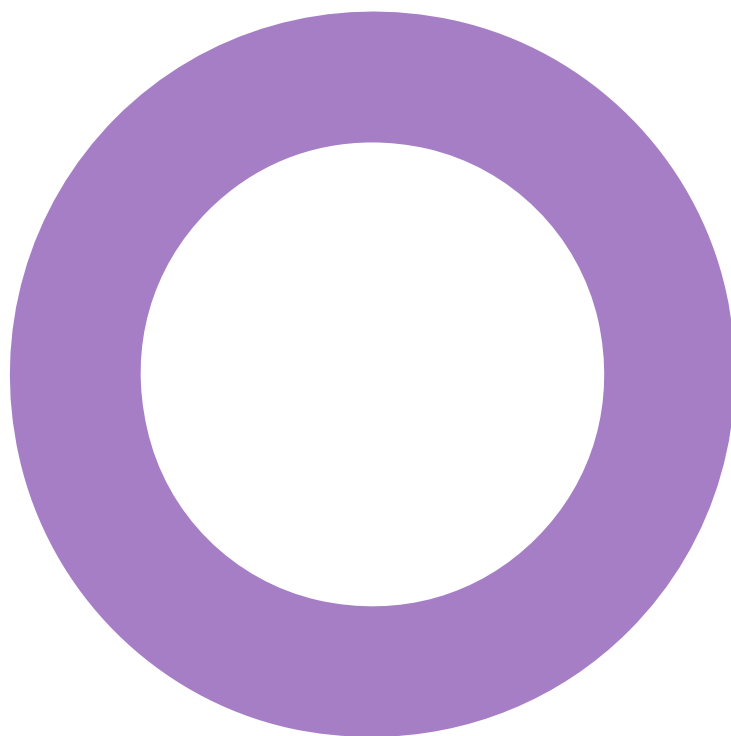
SUSTAINABILITY STATEMENT

AUGUST 2024

**John Lewis, Letcombe Street.
Reading.**
The John Lewis Partnership BTR Ltd.

SUSTAINABILITY
SUSTAINABILITY STATEMENT

REVISION 07 – 22 AUGUST 2024



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
01	16/02/2024	Draft Issue for Comment	A. Jackson	I. Oosthuizen	T. Spurrier
02	23/02/2024	Updated to include comments from MEP, ecologist, civil and acoustician	A. Jackson	I. Oosthuizen	T. Spurrier
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07	22/08/2024	Final Update	A. Jackson	J. Drane	T. Spurrier

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1. Introduction.

1.1 Purpose of the report

This document has been prepared on behalf of John Lewis Partners, hereafter referred to as the ‘Applicant’, in support of the planning application for John Lewis, Letcombe Street, Reading, hereafter referred to as the ‘Proposed Development’.

The Sustainability Statement summarises the pertinent regulatory and planning policies applicable to the Proposed Development and sets out how the Proposed Development addresses the relevant policy requirements. In preparing this statement, the Applicant and design team have met to consider all aspects of development form which can contribute to securing high standards of sustainable development.

The approach to sustainability has considered the following:

- Energy efficiency and carbon emissions of the building;
- Overview of water conservation measures;
- Overview of flood risk and drainage strategy;
- Community impacts;
- Transport;
- Health and Wellbeing, including daylighting analysis and thermal comfort;
- Material usage, wastage, responsible sourcing, and environmental impact, including embodied carbon;
- Pollution issues, low NOx, low global warming potential (GWP), reducing need for mechanical cooling;
- Ecological aspects to enhance the proposed developments for flora and fauna; and
- Best practice management of the site.

1.2 Description of development

The Proposed Development comprises demolition of the existing building and redevelopment of the site comprising erection of a new building for up to 215 build to rent residential dwellings (Use Class C3) together with flexible commercial / community space (Use Class E/F1/F2), residents’ facilities, landscaping, public realm, amenity space, cycle parking and disabled car parking.

The Proposed Development has high sustainability ambitions, including low carbon design and operation, improved sustainable travel provision, and increased landscaping to improve local biodiversity. Please refer to Figure 1 for an illustrative view of the Proposed Development.

1.3 Site location

The site is located on the edge of the town centre in Central Reading within close proximity of key local services and facilities including The Oracle shopping centre opposite, the Premier Inn hotel adjacent to the west and Reading railway station located approximately 1 km to the north.

The site itself is bound by Mill Lane and the A329 to the north, Letcombe Street to the south-west and Crossland Road to the south-east, from which the Site is accessed. The site currently comprises the now vacant John Lewis building with associated car parking and servicing areas to the north-east and south-west of the building. See Figure 2 for further site context.

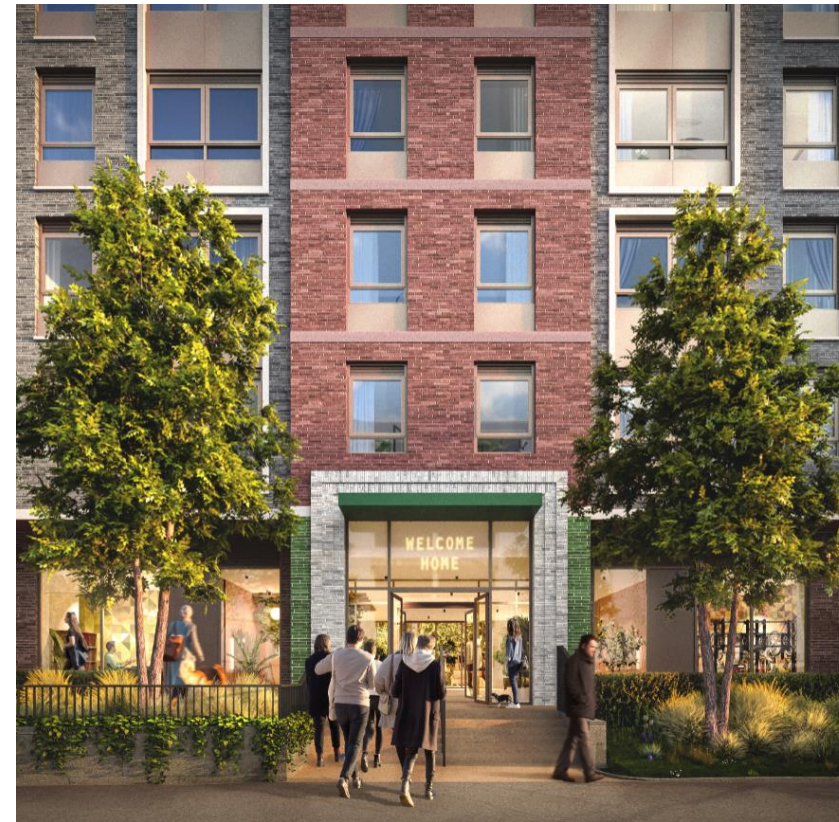


Figure 1: Illustrative view of the Proposed Development: street view looking into the courtyard on Crossland road (Credit: CJCT, DAS).

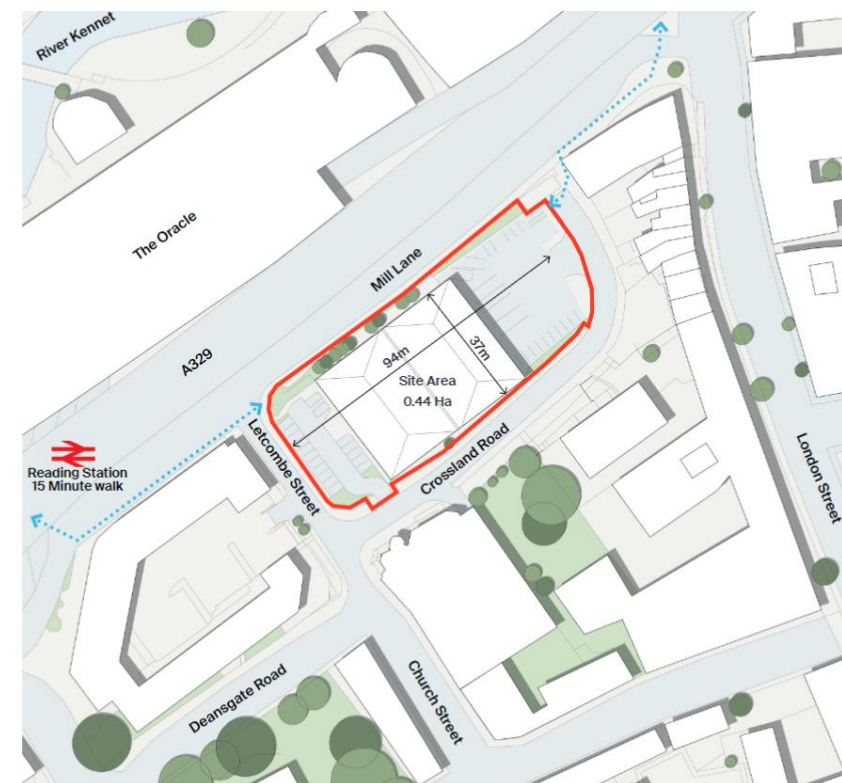


Figure 2: Site location.

2. Policy context and drivers.

The strategy will respond first and foremost to the universal challenges of the climate emergency, biodiversity crisis facing humanity, and health and wellbeing. National and local policy will shape the baseline of performance, with the UN Sustainable Development Goals alongside best practice principles of masterplan design, delivery, and operation shaping the eventual strategy.

The approach will ensure the Proposed Development is sufficient and proportionate to the proposed level of development sought in the local area, and compliant with national and local policy and UK Building Regulations. Analysis and approach will be set within the adopted local policy context of the Reading Borough Local Plan (adopted Nov. 2019), specifically:

- CC1 Presumption in favour of sustainable development;
- CC2 Sustainable design and construction;
- CC3 Adaptation to climate change;
- CC4 Decentralised energy;
- CC5 Waste minimisation and storage;
- EN11 Water spaces;
- EN12 Biodiversity and green network;
- EN14: Trees, hedges and woodlands;
- EN15 Air quality;
- EN16 Pollution and water resources;
- EN17: Noise generating equipment;
- EN18 Flooding and drainage;
- H4 Build to rent;
- H5: Standards for new homes;
- TR4 Cycle routes and facilities;
- TR5 Car and cycle parking and electric vehicle charging;
- CR6 Living in central Reading.

NATIONAL POLICY



LOCAL POLICY



2.1 National policy

National Planning Policy Framework

The National Planning Policy Framework, updated in December 2023, sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally prepared plans for housing and other developments can be produced.

Building Regulations: Approved Document Part L (2021)

Approved Document Part L (2021, England edition), here forward referred to as ADL 2021, is the Building Regulation relating to the conservation of fuel and power in buildings. ADL 2021 has two parts, Part L1 relates to dwellings and Part L2 relates to buildings other than dwellings.

Part L of the Building Regulations is the mechanism by which government is driving reductions in the regulated CO₂ emissions from refurbished, change of use and new buildings. For new buildings ADL 2021 has four performance metrics as follows:

- Primary energy target;
- CO₂ emissions target;
- Fabric Energy Efficiency (FEE) target;
- Minimum standards for fabric and fixed building services.

Building Regulations: Approved Document Part O (2021)

Approved Document O (introduced in December 2021) represents the first-time overheating mitigation has been dealt with separately in the Building Regulations suite. The new Approved Document aims to incorporate a formalised and more detailed approach to the assessment of and mitigation against overheating in new homes, which was previously only tackled through provisions in Approved Documents L and F. The new requirements include a requirement for overheating to be considered in all new residential buildings in England in line with CIBS TM59. The key requirements of the newly introduced Approved Document (AD) O 2021 are as follows:

- Reasonable provision must be made to limit unwanted solar gains in summer, and provide an adequate means to remove heat from the indoor environment.
- Mechanical cooling may only be used where insufficient heat is capable of being removed from the indoor environment without it.
- Internal blinds cannot be used to help achieve compliance as part of the dynamic assessment.
- Information must be provided to the building owner/user at handover to allow them to use the overheating mitigation strategy effectively.

Future Homes Standard

The Future Homes and Building Standard (FHS/FBS) is expected to come into force from 2025. New homes built to the FHS would achieve a reduction in emissions of 75% over a home built to Part L 2013 standards, calculated using updated carbon factors.

The Environment Act

Following the consultation on mandating biodiversity net gain (BNG) in development last year, the government used their autumn Environment Bill to mandate 'biodiversity net gain' and is the Development Plan against which planning applications should be determined unless material considerations indicate otherwise. Announced in the Queen's speech, it was confirmed that new developments must achieve a biodiversity net gain of 10% using the Defra BNG toolkit.

From February 12, 2024, developers have been required to provide a BNG of at least 10% for most new developments in England. The aim is to ensure that developments have a positive impact on the natural environment.

2.2 Local policy

Reading Borough Council Local Plan

The Reading Borough Local Plan was adopted in November 2019, to set out planning policies for development in Reading up to 2036 and is the main consideration in deciding planning applications. The Local Plan replaces previous development plans, the Core Strategy, Reading Central Area Action Plan and Sites and Detailed Policies Document, which no longer apply. The relevant policy requirements to the Proposed Development have been summarised in Appendix A.

Reading Sustainable Design and Construction (2019)

The Reading Council Sustainable Design and Construction SPD is intended to guide developers and decision-makers on the implementation of key sustainability policies set out in the Reading Local Plan, namely CC2-CC5, EN18 and H5. It brings together relevant national guidance and provides practical advice on forms of sustainable design and construction, as well as waste minimisation that will meet these policy requirements. It does not contain further mandatory requirements to the Local Plan.

Response to the checklist has been provided in Section 6.

3. Approach to sustainability.

The approach to sustainability at the Proposed Development at Letcombe Street, captures a wide range of sustainability subject areas and covers various headline sustainability categories. The approach will be built around the applicable building regulations and planning policy requirements, as well as the Applicant's own aspirations.

3.1 Aspirations

The design of the Proposed Development is based on sustainable design and construction principles as informed by planning requirements and industry best practice. These have been integrated within the Applicant's Responsible Property Framework, provided in Figure 3 and summarised in Table 1.

The Responsible Property Framework is based around the UKGBC philosophy: A built environment that enables people and planet to thrive. This is split into the 5 themes of 'climate change', 'health & wellbeing', 'nature & biodiversity', 'socio-economic', and 'resource use', as outlined by the UK Green Building Council (UKGBC). There is a core ambition for the Applicant across each of these themes.

The approach will be embraced for the development as far as practical as it promotes an holistic, interdisciplinary approach to sustainability. The approach aligns with realising real term social, economic, and environmental benefits to all stakeholders and investors and thereby generating value and wealth in the community that will be created at Letcombe Street, Reading.

3.2 The delivery framework

Working with all key stakeholders, an overall vision for the development has been established and will continue to be defined through design team collaboration. The strategy responds to the five elements of the Applicant's defined Responsible Property Framework; and is intended that the agreed objectives are tracked and monitored throughout project delivery and operational phases.

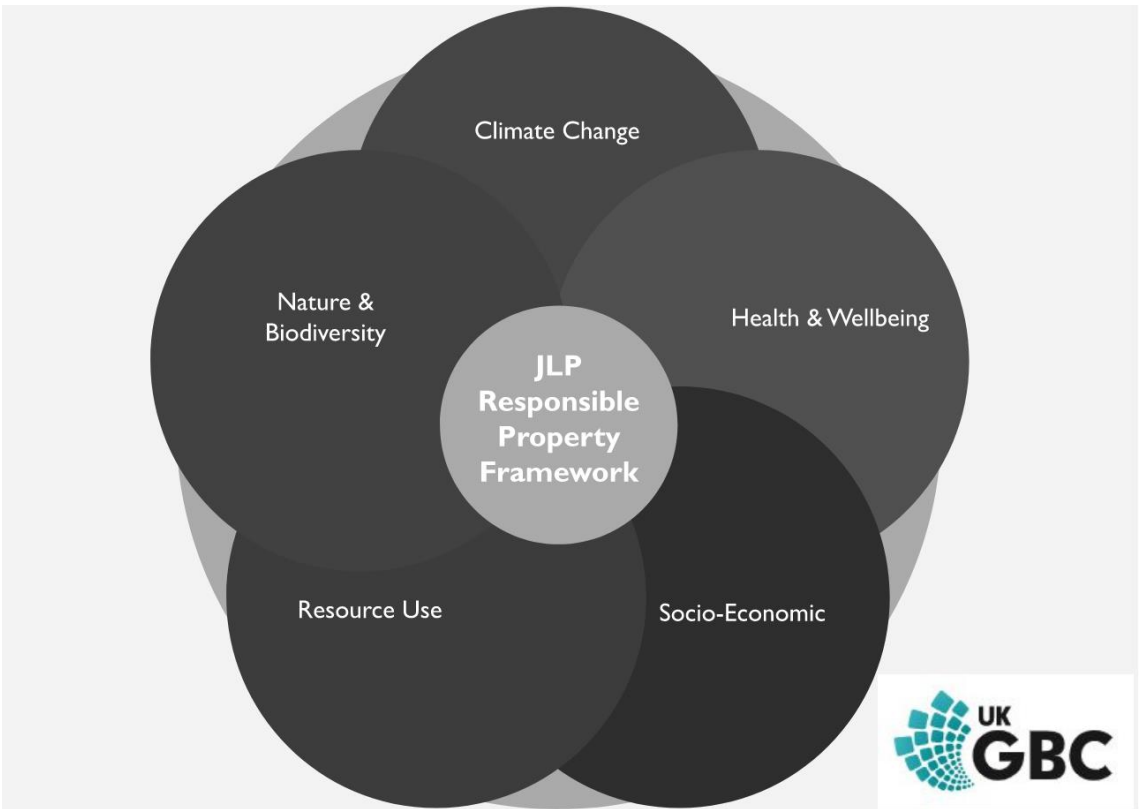


Figure 3: JLP Responsible Property Framework, in alignment with UK GBC

Table 1: Summary of the JLP Responsible Property Framework.



Climate Change.

Reduce our carbon emissions, both operational and inherent carbon in the fabric of our buildings.

- All developments will be designed and operate as zero carbon. Low & zero carbon technologies will be utilised to heat and power the development, with a non-combustion approach to improve local air quality.
- Energy consumption will be minimised through efficient fabric and systems, with Energy Use Intensity predicted and tracked throughout the design stage.
- Lessons learnt should be shared between projects maximising efficiency and reducing overall impact of the portfolio.



Health & Wellbeing.

Enhance the health and wellbeing of our partners, customers, and suppliers.

- The design of all developments should prioritise the wellbeing of residents and the local community, be this through access to green space, encouragement of active lifestyles or provision of high quality streetscaping with easy crossings and places to rest.
- Internal environments should deliver comfortable and welcoming spaces with access to daylight, view out, prioritisation of natural ventilation and integration of biophilic design.



Nature & Biodiversity.

Enhance our green spaces, providing the opportunity for partners, customers, and suppliers to have a relationship with nature.

- All developments should seek to improve the biodiversity of the existing site through enhanced planting, tree coverage and introduction of new habitats where required.
- Existing protected habitats and trees should be maintained.
- Biodiverse roofs should be considered as options to provide secure habitats for pollinators.



Resource Use.

Reduce our requirement for raw materials, reviewing our material selection and opportunities for recycling and reuse.

- The developments will support the transition to a low and resource efficient future.
- Durability and designing for resilience should also be key considerations in any material choices.
- Water will be used efficiently through all developments, protecting local water resources, and reducing the risk of flooding and drought.



Socio-Economic Impact.

Positively impact the local community through providing social and economic benefits.

- Delivering affordable housing, creating community facilities and cohesion, and supporting the local economy and culture, creates sustainable livelihoods where everyone can succeed.
- Future developments will not only deliver high quality homes but improve the local economy and prospects for those living in the local area.
- Employment opportunities will seek to reflect the current skillsets of the community, local economic diversity and support continued economic growth.

Table 2 has been prepared in reference to the applicable standards as outlined in the Reading Borough Local Plan (2019).

Table 2: Response to relevant RBC policy requirements.

Policy and Relevant Requirements	Development Response
Climate Change.	
CC1: Presumption in favour of sustainable development. Development proposals that champion sustainable development will be favoured.	One of the Proposed Development's aims is to identify leading approaches to enhance environmental performance, protect the planet and positively contribute to tackling future climate change. The Applicant's focus areas are climate change and carbon, resource efficiency, air quality, and biodiversity.
CC3: Adaptation to climate change. Natural heating and ventilation should be maximised where possible. Resilient design measures like solar shading, thermal mass, green and brown roofs, etc. should be implemented where possible. Use trees and other planting for shading and to boost habitat connectivity.	Passive measures have been explored, and the performance of the glazing has been carefully considered to maximise natural daylight penetration to reduce the reliance of artificial lighting whilst also allowing a controlled amount of passive solar heating. The overheating assessment will consider an iteration where windows are openable for natural ventilation, however, an acoustics survey for the site of the Proposed Development has deemed that the windows are unlikely to be suitable for opening. Brown roofs are proposed, which are a type of biodiverse extensive roof created to mimic brownfield land.
CC4: Decentralised energy. Any development with >20 dwellings should consider decentralised energy unless demonstrated as unviable. If a decentralised energy is present, developments with >10 dwellings are expected to link into it or justify why this is unviable.	There are no district heat networks (DHNs) available to connect to for the Proposed Development, and it has therefore been ruled as unviable.
H5: Standards for new homes. All major new-build residential developments should be designed to achieve zero carbon homes. All other new-build housing must exceed the target emission rate (as defined in the 2013 Building Regulations) by at least 19%.	As above, the development will be optimised such that the dwellings and amenity spaces comply with Part L 2021 as a minimum. The JLP responsible property framework stipulates that all developments are to be designed and operate as zero carbon. Low & zero carbon technologies will be utilised to heat and power the development, please refer to the energy statement for further details.
Health & Wellbeing.	
CC1: Presumption in favour of sustainable development. Development proposals that champion sustainable development will be favoured.	One of the Proposed Development's aims is to empower the community by creating a place that supports individuals, families, groups and businesses to come together and support each other to lead happy, healthy and prosperous lives. The Applicant's focus areas are connectedness, health and well-being, community engagement, and diversity and inclusion.

Policy and Relevant Requirements	Development Response
	Investing in communities the Applicant has served for decades is both commercially and socially responsible. Upgrading their stores is a costly process that can be unlocked through wider development. Aside from much-needed rental housing, it can improve the retail experience through the creation of modernised stores that can also offer additional facilities and spaces for neighbourhoods to use and enjoy, strengthening the Applicant's position at the heart of the community.
CR6: Living in central Reading. A mix of different sized units should be provided. Developments in the central area will be required to demonstrate how noise disturbance from neighbouring land uses and other sources have been considered, and mitigated if necessary.	The 'Proposed Development' will consist of a mix of 1 bed 1 person apartments, 1 bed 2 person apartments, 2 bed 3 person apartments, 2 bed 4 person apartments, 3 bed 4 person apartments, and 3 bed 5 person apartments. A number of the 1B2P and 2B4P apartments will be made wheelchair accessible, amounting to 6.5% of the dwellings (14 no.).
EN15: Air quality. Developments that adversely affect air quality will not be permitted unless these effects are demonstrably mitigated.	Low & zero carbon technologies will be utilised to heat and power the development, with a non-combustion approach to avoid negatively impacting local air quality.
EN16: Pollution and water resources. Planning permission will not be granted where developments are likely to cause land, noise, and light pollution. It will also be denied in cases where ground and surface water quality are likely to be reduced.	Careful consideration will be given to the impact of the development on natural resources, minimising land, noise, light, and watercourse pollution. An ecological assessment has been completed to achieve optimal ecological outcomes in line with the mitigation hierarchy of action (i.e. avoidance > protection > reduction > on-site compensation > enhancement). The principal contractor will be required to achieve a Considerate Constructors Scheme (CCS) score of 36.
EN17: Noise generating equipment. Noise source specific levels (plant) should be at least 10dBA lower than existing background level, as measured at the nearest noise receptor.	New building services equipment will be controlled to limiting noise levels which have been derived relative to the existing background sound levels measured during the environmental sound survey. As the existing background sound levels at night are low, a fixed night-time noise limit is proposed to Reading Council. Whilst not fully 10 dB(A) lower than the existing background sound, the resulting noise levels would result in a 'low impact' when assessed against recognised British Standards. Further details are provided in the acoustic report submitted as part of the planning application.
TR4: Cycle routes and facilities. Improve access to local cycle routes and facilities. Measures to achieve this may include integrating cycle hire points and cycle parking into developments.	Cycle parking will be provided for the development in line with RBC policy requirements to encourage the use of local cycle routes.
Nature & Biodiversity.	

Policy and Relevant Requirements	Development Response
CC7: Design and the public realm. Maintain or enhance the character and appearance of the local area, including the following development components: layout, urban structure, landscape, density and mix, scale (height and massing), architectural detail, materials.	In recognition of Reading’s historic legacy as John Lewis’s furniture making division, and the site at Letcombe Street previous use as a manufacturing factory, craft and heritage have been considered in the design of the building to enhance the character of the area. The process of manufacturing clothing includes a number of processes; pattern making, weaving, cutting, stitching and assembly. Ordered façades will be specified that weave rich colours and textures through the elevation, with varying grid sizes to respond to change in context between the north and south side of the plot. In addition, a public external amenity space will be provided.
EN11: Water spaces. Ensure that developments have no negative impact on Reading’s water spaces.	Please refer to the site-specific Flood Risk Assessment and drainage strategy which accompany this planning submission.
EN12: Biodiversity and the green network. Ensure that no net loss of biodiversity and geodiversity occurs, facilitating net gains where possible.	In line with the Applicant’s Responsible Property Framework, the Proposed Development will be targeting a > 10% biodiversity net gain.
EN14: Trees, hedges and woodlands. New developments should make provisions for tree planting, particularly on street frontages.	The Proposed Development comprises erection of a new building for up to 215 build to rent residential dwellings (Use Class C3) together with flexible commercial / community space (Use Class E/F1/F2), residents’ facilities, landscaping, public realm, amenity space, cycle parking and disabled car parking.
Resource Use.	
CC1: Presumption in favour of sustainable development. Development proposals that champion sustainable development will be favoured.	The project is developing a sustainability strategy and energy strategy to respond to the demand for sustainable residential developments. The project is also pursuing Home Quality Mark accreditation. The Proposed Development will adopt biophilic design which seeks to connect residents more closely to nature by incorporating natural lighting, ventilation and landscape features to create a more productive, healthy, spacious and comfortable living environment
CC2: Sustainable design and construction. Development proposals (including both new buildings and refurbishments) must use energy, water, minerals, materials and other natural resources appropriately. Rainwater harvesting and greywater recycling systems must be included.	The Proposed Development is targeting “4 Stars” under HQM v6 which is dedicated to residential homes, unlike BREEAM which focuses on commercial properties. Initial discussions on the Proposed Development’s strategy to reduce whole life carbon have emphasised the impact of material re-use and recycled content. As part of the detailed whole life carbon assessment, a thorough optioneering study would be developed at Stage 3, and feasibility of reduction opportunities evaluated in terms of carbon, cost, look and feel, and

Policy and Relevant Requirements	Development Response
CC5: Waste minimisation and storage. Development must demonstrate measures to minimise waste generation in construction, use and life of buildings.	other relevant material criteria. Low & zero carbon technologies will be utilised to heat and power the development.
	The Principal Contractor for the Proposed Development will be required to have a thorough Site Waste Management Plan (SWMP). Active engagement will continue to be required for key stakeholders engaged in the design and procurement of materials for the site, and the waste management of materials taken off site.
Socio-Economic Impact.	
CC1: Presumption in favour of sustainable development. Development proposals that champion sustainable development will be favoured.	One of the Proposed Development’s aims is to stimulate economies by creating new jobs and training, whilst providing support for local businesses and SME’s. The Applicant’s focus areas are education, skills and jobs, supporting businesses, responsible procurement, and innovation.
H4: Build to rent schemes. Ensure that a mix of unit sizes are catered for in the development, as set out in policy H2 or CR6. Provide 30% affordable housing, in accordance with policy H3.	As per CR6. The Applicant will build as much affordable housing as is commercially viable, targeting local people and key workers, who will have access to the same service and amenities as private residents
TR5: Cars and cycle parking. Car and cycle parking appropriate to the accessibility of locations within the borough and sustainable transport facilities should be installed.	The Proposed Development will look to provide appropriate cycle parking, and to limit car parking space in order to encourage use of sustainable transport measures. 3 no. disable car parking spaces are proposed.

4. Home Quality Mark (HQM).

4.1 Introduction to HQM

It is envisaged that the dwellings within the Proposed Development, when assessed against the HQM standard, will achieve a 4 Star rating. HQM provides a new benchmarking tool in the design of new domestic developments.

A precursor to Home Quality Mark (HQM), was the Code for Sustainable Homes which was withdrawn by the Government as part of the Housing Standards Review (April 2015). This has subsequently been replaced by the voluntary HQM criteria, which was created and is maintained by the Building Research Establishment (BRE).

The HQM assessment procedure takes on a similar approach built upon three key sections;

1. Our Surroundings – the ability of homes to work with current and future surroundings.
2. My Home – the provision of living spaces that are comfortable, healthy, cost effective, and have reduced harmful effects on the environment.
3. Delivery – a focus on delivering construction quality. It encourages the designers, builders, client, and householder to co-operate and share knowledge, and to support occupiers after handover.

Whilst it is viewed as the replacement of the now rescinded Code for Sustainable Homes, the focus of the Home Quality Mark is not only on sustainable design, but also to promote a high quality of construction, and to ensure the rating is clear to future homeowners, with each criteria based on the indicators of running costs, health and wellbeing, and environmental impact.

Please refer to full credit requirements in the [Home Quality Mark Version 6 Technical Manual \(bregroup.com\)](https://www.bregroup.com).

4.2 Mandatory requirements

A home must meet all criteria marked as 'minimum requirement' to achieve an HQM certificate, in order to ensure certified homes consistently deliver on important issues. The minimum requirements have been set in a way that can be achieved on all types of homes, but still require performance which is better than building regulations. These are summarised in the list below:

- **3.1 Flood risk:** Site specific flood risk assessment (FRA) undertaken in accordance with best practice, taking into account all current and future sources of flooding into consideration and this is communicated to the purchaser before they make a decision to buy a home.
- **4.5 Temperature:** Thermal analysis must be carried out and the results of the analysis is included in the home information with guidance on how to manage high temperatures.
- **4.6 Ventilation:** The home achieves the minimum ventilation rates set for continuous mechanical extract ventilation and mechanical ventilation with heat recovery. Ventilation systems are capable of boosting the rates during instances of increased humidity.
- **9.1 Project preparation:** A project delivery plan is in place, which sets out roles, responsibilities, target, requirements for handing over the home to the occupier after construction is complete, strategy to manage quality, carry out commissioning and testing.
- **9.1 Project preparation:** The project has a product procurement and substitution policy in place.
- **9.1 Project preparation:** Processes are in place to communicate project requirements and key considerations to all trades and site workers.
- **9.2 Commissioning and testing:** Commissioning of building systems is carried out according to best practice guidance, by people not involved in installations.
- **9.3 Inspections and completions:** A visual defects inspection is carried out for the assessed home when construction is complete to make sure any defects identified are put right. Inspection details are agreed and carried out at key stages to ensure the home complies with required performance characteristics.
- **9.3 Inspections and completions:** Throughout the construction stage, a record is kept of all quality assurance measures.

- **11.1 Aftercare:** The home is covered by a building warranty, recognised by the Consumer Code for Home Builders or the Trading Standards Institute. The developer has committed to provide demonstrations to occupants when they move in to make sure they know how to operate and maintain their home.
- **11.2 Home Information:** The developer gives occupants key information in an accessible way, to help them get the most from their home.

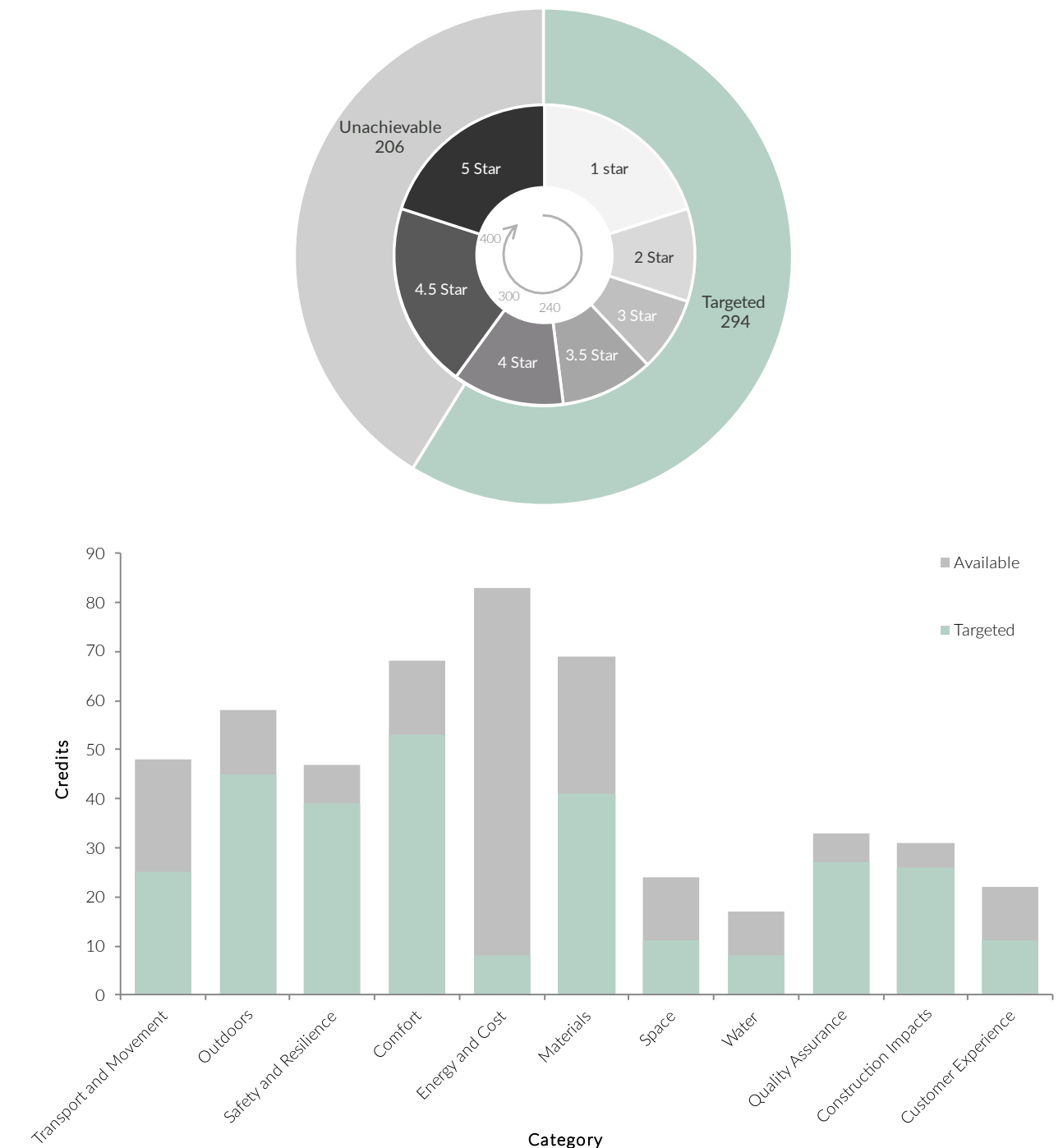


Figure 4: Development's targeted HQM score.

4.3 Summary score sheet

The summary table below highlights the list of targeted credits for the current HQM v6 pre-assessment for the dwellings in the Proposed Development at Mill Lane. Several of these have minimum requirements to achieve an HQM Star Rating, or preconditions to achieve a score across specific HQM Issues.

As detailed design progresses, the credits targeted are subject to change, however the design team are looking to at a minimum target sufficient features to achieve a '4 Star' rating on all dwellings, which requires a score of 240/500 points.

Table 3: Summary of anticipated score per category.

Category	Issue	Available Points	Targeted Points
Our Surroundings			
1. Transport & Movement	1.1 Public Transport Availability	15	6
	1.2 Sustainable Transport Options	17	3
	1.3 Local Amenities	16	16
2. Outdoors	2.1 Identifying Ecological Risks and Opportunities	7	7
	2.2 Managing Impacts on Ecology	9	9
	2.3 Ecological Change & Enhancement	12	12
	2.4 Long Term Ecological Management and Maintenance	8	8
	2.5 Recreation Space	22	9
3. Safety and Resilience	3.1 Flood risk	19	19
	3.2 Managing the Impact of Rainfall	19	11
	3.3 Security	9	9
My Home			
4. Comfort	4.1 Indoor Pollutants	12	10
	4.2 Daylight	13	6
	4.3 Internal and External Noise	4	2
	4.4 Sound Insulation	9	5
	4.5 Temperature	17	17
	4.6 Ventilation	13	13
5. Energy and Cost	5.1 Energy Forecast and Cost	60	8
	5.2 Decentralised Energy	8	0
	5.3 Impact on Local Air Quality	15	0
6. Materials	6.1 Responsible Sourcing of Construction Products	25	15
	6.2 Environmental Impact of Construction Products	25	13
	6.3 Life Cycle Costing of Materials	11	6
	6.4 Durability of Construction Products	7	7

Category	Issue	Available Points	Targeted Points
7. Space	7.1 Drying Space	3	1
	7.2 Access and Space	11	3
	7.3 Recyclable Waste	10	7
8. Water	8.1 Water Efficiency	17	8
Delivery			
9. Quality Assurance	9.1 Project Preparation	6	6
	9.2 Commissioning and Testing	11	5
	9.3 Inspections & Completion	16	16
10. Construction Impacts	10.1 Responsible Construction Practices	5	5
	10.2 Construction Energy Use	5	5
	10.3 Construction Water Use	5	5
	10.4 Site Waste Management	16	11
11. Customer Experience Future Learning	11.1 Aftercare	4	4
	11.2 Home Information (pre-requisite)	-	-
	11.3 Smart Homes	8	4
	11.4 Post Occupancy Evaluation	10	3
Baseline score rating:		294/500, '4 Star'	

Table 4: Summary of Credit Weighting.

Section	Category	Number of Credits	Proportion of Total Number of Credits
Our Surroundings	1. Transport and Movement	48	10%
	2. Outdoors	58	12%
	3. Safety and resilience	47	9%
My Home	4. Comfort	68	14%
	5. Energy and Cost	83	17%
	6. Materials	69	14%
	7. Space	24	5%
Delivery	8. Water	17	3%
	9. Quality Assurance	33	7%
	10. Construction Impacts	30	6%
	11. Customer Experience	22	4%

5. Sustainable design and construction checklist.

5.1 Energy and carbon

Aim: To conserve energy, in particular carbon dioxide emissions and maximise the use of energy efficient techniques.

5.1.1 How has the development been designed to optimise the use of the energy from the sun and limit heat losses?

Optimising the developments fabric is seen to be the most robust and effective way to improve energy efficiency and in turn reduce carbon emissions whilst also optimising thermal comfort. The performance of the envelope, i.e. material performance is unlikely to deteriorate significantly with time and therefore will benefit occupants throughout the building life span.

During design, consideration has been given to the potential for useful solar heat gain to reduce heating demand in winter, but with careful consideration to the glazing specification. This will help limit solar gain in the summer which would therefore reduce the potential risk of glare and overheating.

Please refer to the Energy Statement which addresses the passive design features incorporated for the Proposed Development and overheating risk assessments undertaken.

5.1.2 How has the development been designed to optimise natural daylighting, energy efficient lighting, external lighting and natural ventilation?

As above, passive measures have been explored, and the performance of the glazing has been carefully considered to maximise natural daylight penetration to reduce the reliance of artificial lighting whilst also allowing a controlled amount of passive solar heating.

The overheating assessment has considered an iteration where windows are openable for natural ventilation, however, an acoustics survey for the site of the Proposed Development has deemed that the windows are unlikely to be suitable for opening.

An additional daylighting assessment has been completed for the Proposed Development, to ensure all pertinent regulatory criteria has been met. Please refer to the Daylight Statement which addresses the Proposed Development's results in further detail.

Please refer to the Energy Statement which addresses the passive and energy efficiency design features incorporated for the Proposed Development.

5.1.3 How will the design of the building make efficient use of energy? (e.g. use of thermally massive materials, levels of insulation, energy efficient white goods and use of green/ brown roofs etc.)

As above, the development will be optimised such that the dwellings and amenity spaces comply with Part L 2021 as a minimum.

Consideration has been given to the compactness of the building through the building form factor (i.e. the ratio of external surface area to internal floor area), improved U-values through insulation level, and positioning of the dwellings to ensure sufficient daylighting without risk of overheating.

White goods will be specified with energy efficiency in mind, and 1 credit is being targeted under the HQM issue '7.2 Drying Space (internal drying), which requires washer-dryers to be specified with a minimum EU energy efficiency class.

Please refer to the Energy Statement which addresses the passive and energy efficiency design features incorporated for the Proposed Development.

Brown roofs are proposed within the landscape plans produced for the Proposed Development. Brown roofs are a type of biodiverse extensive roof created to mimic brownfield land. It is recommended that brown roofs will

have an undulating substrate depth to create differing habitats for a greater range of invertebrate species. The presence of solar panels will provide further diversity of habitats and microclimate for insects and birds. The brown roof should follow the Green Roof Organisation (GRO) Green Roof code^[1]. Brown roofs have benefits for biodiversity, water runoff and cooling of buildings.

5.1.4 Has local energy generation from renewables and/or decentralised energy been considered as part of the scheme?

Further details have been set out in the supporting Energy Strategy. Decentralised energy has been explored however is unviable for the Proposed Development, as there are no district heat networks (DHN) available to connect to. The Proposed Development will look to maximise PV on the roof space as far as possible.

Details of PV provision is set out within the Energy Statement as 210m².

5.1.5 How have cycle storage facilities been considered?

Cycle storage will be provided for residents in line with policy requirements (i.e. 0.5 spaces per 1-2 bed dwelling, and 1 space per 3+ bed dwelling). This would be provided as either Josta type 2 Tier cycle parking stands or Sheffield stands, avoiding the use of vertical stands.

5.1.6 Does the development meet the requirements of policies H5? Is this clearly illustrated?

The JLP responsible property framework stipulates that all developments are to be designed and operate as zero carbon. Low & zero carbon technologies will be utilised to heat and power the development, with a non-combustion approach to improve local air quality, Please refer to the Energy Statement for further details.

A variety of dwelling sizes are proposed and 6.5% of dwellings will be wheelchair accessible across a mix of 1 bed and 2 bed apartments, exceeding the RBC policy requirements of at least 5% of dwellings.

5.1.7 Is a Section 106 contribution required? If so, what amount?

A S106 contribution will be made, the amount of which is to be agreed with Officers at RBC.

5.2 Water

Aim: To improve efficiency in the use of water, conserve water resources and minimise vulnerability to flooding.

5.2.1 How will the development incorporate the use of water saving devices to achieve the higher water efficiency standard under Regulation 36(3) of the Building Regulations?

The Proposed Development will incorporate low flow water fittings and is targeting 8 of 11 credits in HQM issue '8.1 Water Efficiency'. This requires all water fitting categories to meet a prescribed flow rate, and for the modelled water consumption to not exceed 110 l/p/d (modelled in line with Appendix A of Approved Document G).

5.2.2 How will the development incorporate recycling rainwater and reduce the use of potable water?

Rainwater harvesting is being considered for the Proposed Development design for irrigation and bin wash down.

5.2.3 Has the collection, treatment and re-use of grey water been considered? If so, how will these facilities be incorporated within the development?

Grey water reuse has been considered, however, at this stage, only rainwater harvesting has been included in the Proposed Development design.

5.3 Materials

Aim: To retain local character and promote the use of materials with a low environmental impact.

^[1] Green Roof Organisation (2021). The GRO Green Roof Code. Amended June 2023

5.3.1 How will the selected materials help retain local character, ensure long life and ensure a low environmental impact, including consideration of embodied energy?

The Applicant's Responsible Property Framework requires a whole life carbon assessment to be completed for the Proposed Development, going above and beyond the RBC policy requirements. Initial conversations have been held with the Proposed Development's project team to discuss maximising the use of recycled content, low carbon materials, and prioritising local procurement, to reduce embodied carbon and retain local character.

5.4 Surface water run-off

Aim: To reduce flooding, pollution and other environmental damage.

5.4.1 How has the development considered flooding and pollution?

A Flood Risk Assessment (Flood Zone 1) and a drainage strategy (Foul and surface water drainage system) has been completed for the Proposed Development as part of this planning submission. The Client has liaised with the LLFA and Thames Water to agree discharge rates and the points of connection to the existing adopted sewers.

5.4.2 Has the design considered the use of sustainable drainage systems (SuDS) and how will they be incorporated within the development?

SuDs will be incorporated within the Proposed Development. As the site is extremely constrained with the building footprint taking up majority of the site, this is achieved through the use permeable pavements.

5.4.3 Does the development meet the requirements of policy EN18?

The Proposed Development has incorporated the use of permeable pavements. The requirements of policy EN18 have been considered and referenced within the accompanying FRA.

5.5 Waste

Aim: To minimise the production of waste and maximise re-use and recycling.

5.5.1 How will the development minimise waste sent to landfill?

The Proposed Development has committed to 90% of construction waste to be diverted from landfill through the Applicant's Responsible Property Framework. The waste hierarchy will be adopted, i.e. Prevention > Preparing for re-use > recycling > other recovery > disposal.

The Proposed Development will embed the principles of circular design, with a flexibility strategy to be developed at detailed design to include steps to support change of use/ layout with minimal material wastage, as per the Applicant's Responsible Property Framework. This includes the following:

- Structural frame strategy has a design life of 40-60 years, however, have the option to far exceed this with appropriate maintenances regimes.
- MEP services design to allow maximum flexibility for repair and maintenance.
- All services infrastructure through the building to be designed within designated risers. All risers to be accessible.
- High quality, robust materials palette proposed.

5.5.2 How will the development make the maximum use of construction and demolition waste?

The Principal Contractor for the Proposed Development will be required to have a thorough Site Waste Management Plan (SWMP). It is expected that advances in innovation and best practise over time combined with effective feedback loop mechanisms will lead to continuous improvement as the development design and construction progresses.

Active engagement will continue to be required for key stakeholders engaged in the design and procurement of materials for the site, and the waste management of materials taken off site. These include, but are not limited to:

- Main contractor and sub-contractors
- Lead architect

- Structural engineer
- Civil engineer
- Landscape architect
- Operational waste consultant

5.5.3 How will the development make maximum use of re-used and recycled materials?

As required by the Applicant's Sustainable Development Framework, the Proposed Development will target at least 15% of material value met by recycled content or local reclaimed building materials. Initial discussions on the Proposed Development's strategy to reduce whole life carbon have emphasised the impact of material re-use and recycled content. As part of the detailed whole life carbon assessment, a thorough optioneering study would be developed at Stage 3, and feasibility of reduction opportunities evaluated in terms of carbon, cost, look and feel, and other relevant material criteria.

5.5.4 How will provision be made for the storage and recycling of waste for all users of the site?

The Proposed Development is targeting 5 of 5 credits under issue '7.3 Recyclable waste' as part of its HQM pre-assessment. This requires a dedicated internal space to be provided, with fixed units to store recyclable waste, is provided. The number of internal recyclable waste facilities will be provided to reflect the number of recyclable waste streams collected by the waste collection authority. Each individual bin (provided for different recycling waste streams) will be a minimum of 10L in volume.

5.6 Pollution

Aim: To minimise damage to the environment through air, ground/surface water, land, noise or light pollution.

5.6.1 What measures have been incorporated to ensure that noise and light pollution will be minimised through the development?

Environmental sound surveys have been undertaken to quantify the existing acoustic environment around the site and experienced by existing noise sensitive receptors. The building envelope will be designed and constructed to reduce external noise to suitable internal sound levels in line with recognised British Standard guidance. The required level of sound reduction will be achievable with commercially available double-glazed windows in combination with relatively conventional external wall constructions.

New building services equipment will be controlled to limiting noise levels which have been derived relative to the existing background sound levels measured during the environmental sound survey. The resulting noise levels would result in a 'low impact' when assessed against recognised British Standards. Further details are provided in the acoustic report submitted as part of the planning application.

5.6.2 What measures have been incorporated to reduce nitrogen oxide emissions and reduce the global warming potential of insulants?

Consideration has been given to reducing refrigerants and minimising NOx emissions. Low & zero carbon technologies will be utilised to heat and power the development, with a non-combustion approach to improve local air quality, as per the Applicant's sustainability commitments in their Responsible Property Framework.

5.6.3 What measures have been incorporated to reduce the release of pollution into the atmosphere?

The Applicant's Responsible Property Framework requires a whole life carbon assessment to be completed for the Proposed Development, this will consider emissions associated with material product and construction, as well as those associated with operation, replacement, refurbishment, and end-of-life scenarios. This approach pushes the design team to consider the carbon impact of the building elements at both construction and across a 60 year life-cycle.

The Proposed Development will both provide appropriate cycle parking and limit car parking spaces to disabled and key working parking only in order to encourage use of sustainable transport measures. 3 no. disable car parking spaces are proposed, with cycle parking to be provided to encourage the use of local cycle routes in line with RBC policy requirements.

5.7 Health and well-being

Aim: To improve the quality of life in homes through good daylighting, improved sound insulation, provision of outdoor space with good accessibility.

5.7.1 How has the development been designed to maximise natural lighting, reduce the likelihood of noise complaints, incorporate private outdoor space and ensure the layout of the development can be easily adapted to meet the needs of future occupants?

The Proposed Development includes solutions to mitigate traffic impacts, reducing noise impacts, and to provide both private and communal outdoor space across dwellings. It has adopted biophilic design which seeks to connect residents more closely to nature by incorporating natural lighting, ventilation, and landscape features to create a more productive, healthy, spacious, and comfortable living environment.

The overheating assessment results have been summarised in the Energy Statement, to demonstrate compliance with Building Regulations Approved Document O 2021. The results of this assessment will help to avoid discomfort resulting from unsuitable internal thermal conditions.

5.8 Management

Aim: To manage the site in an environmentally and socially considerate manner.

5.8.1 What measures have been taken to ensure the construction of the site is managed in an environmentally and socially considerate manner, mitigating environmental impacts?

Careful consideration will be given to the impact of the development on natural resources, minimising land, noise, light, and watercourse pollution. An ecological assessment has been completed to achieve optimal ecological outcomes in line with the mitigation hierarchy of action (i.e. avoidance > protection > reduction > on-site compensation > enhancement). The principal contractor will be required to achieve a Considerate Constructors Scheme (CCS) score of 36.

5.8.2 How has the development been designed to ensure people feel safe and secure?

As part of the Proposed Development's HQM pre-assessment, 9 of 9 credits have been targeted under issue '3.3 Security'. A Suitably Qualified Security Specialist (SQSS) has been appointed to conduct an evidence-based Security Needs Assessment (SNA), to develop a set of recommendations to improve safety and security of the site. These recommendations or solutions aim to ensure that the homes, and external areas within the site's boundary are designed and specified to address the issues identified in the preceding SNA. The Proposed Development will integrate all feasible solutions into the design.

5.9 Ecology

Aim: To retain, protect and enhance wildlife habitats and natural features.

5.9.1 How have the wildlife habitats and natural features on and adjacent to the site been considered and how will they be retained, protected and enhanced?

Wildlife habitats and natural features adjacent to the site have been identified through a combination of desk study and a site visit. Two designated sites are within 1 km of the Site – Holy Brook Local Wildlife Site (470 m south west) and River Kennet (470 m south west). St Giles church and cemetery is 50 m south of the Site and the Quaker graveyard is adjacent to the south of the Site. The habitats are suitable for bats. These will be protected by designing a low lighting strategy on the southern boundary of the site during construction and operation. Additionally, the habitats will be protected by the standard measures to control noise, dust, vibration, and lighting as set out in a construction and environmental management plan (or equivalent). The habitat will be enhanced by the Proposed Development's biodiverse roof and soft landscaping strategy, and proposed bat and bird boxes.

6. Conclusions.

This Sustainability Statement summarises the pertinent regulatory and planning policies applicable to the Proposed Development and sets out how the Proposed Development addresses the relevant policy requirements. The approach will be in line with the Applicant's Responsible Property Framework, which seeks to meet, and in some cases build upon, the requirements of national and local policy.

In preparing this statement, the Applicant and design team have met to consider all aspects of development form which can contribute to securing high standards of sustainable development. This has included discussion of appropriate certifications for the development. As BREEAM focuses on commercial properties, Home Quality mark is pursued, with "4 Stars" targeted under HQM v6.

6.1 Energy and carbon

The development will be optimised such that the dwellings and amenity spaces comply with Part L 2021 as a minimum. The JLP responsible property framework stipulates that all developments are to be designed and operate as zero carbon. Low & zero carbon technologies will be utilised to heat and power the development, please refer to the Energy Statement for further details.

6.2 Water conservation

The Proposed Development will incorporate low flow water fittings and is targeting 8 of 11 credits in HQM issue '8.1 Water Efficiency'. This requires all water fitting categories to meet a prescribed flow rate, and for the modelled water consumption to not exceed 110 l/p/d (modelled in line with Appendix A of Approved Document G). The Proposed Development will also incorporate rainwater harvesting for irrigation and bin wash down.

6.3 Flood risk and drainage

The site location is at 'very low risk' of rivers and sea flooding, surface water flooding, and other flood risks. Sustainable urban drainage systems will be integrated into the design of the Proposed Development where feasible, with permeable pavements specified.

6.4 Community impact

One of the Proposed Development's aims is to empower the community by creating a place that supports individuals, families, groups and businesses to come together and support each other to lead happy, healthy and prosperous lives.

In recognition of Reading's historic legacy as John Lewis's furniture making division, and the site at Letcombe Street previous use as a manufacturing factory, craft and heritage have been considered in the design of the building to enhance the character of the area. The process of manufacturing clothing includes a number of processes; pattern making, weaving, cutting, stitching and assembly. Ordered façades will be specified that weave rich colours and textures through the elevation, with varying grid sizes to respond to change in context between the north and south side of the plot. In addition, a public external amenity space will be provided.

6.5 Transport

The Proposed Development will look to provide appropriate cycle parking, and to limit car parking space in order to encourage use of sustainable transport measures. 3 no. disable car parking spaces are proposed. Cycle parking will be provided for the development in line with RBC policy requirements to encourage the use of local cycle routes.

6.6 Health and wellbeing

The Applicant's focus areas are connectedness, health and well-being, community engagement, and diversity and inclusion. The 'Proposed Development' will consist of a mix dwelling sizes, 6.5% made wheelchair accessible.

Biophilic design has been adopted, connecting residents more closely to nature by incorporating natural lighting, ventilation and landscape features to create a more productive, healthy, spacious and comfortable living environment.

An overheating assessment has been completed in line with Part O 2021 to inform the building fabric and building services design at an early stage, and to ensure occupant thermal comfort within dwellings. An additional daylighting assessment has been completed to address all pertinent regulatory criteria has been met.

6.7 Material usage, wastage, responsible sourcing, and environmental impact

The Applicant's Responsible Property Framework requires a whole life carbon assessment to be completed for the Proposed Development, going above and beyond the RBC policy requirements. Initial conversations have been held to discuss maximising the use of recycled content, low carbon materials, and prioritising local procurement, to reduce embodied carbon and retain local character.

The Proposed Development has committed to 90% of construction waste to be diverted from landfill through the Applicant's Responsible Property Framework. The waste hierarchy will be adopted, i.e. Prevention > Preparing for re-use > recycling > other recovery > disposal.

The Proposed Development will embed the principles of circular design, with a flexibility strategy to be developed at detailed design to include steps to support change of use/ layout with minimal material wastage, as per the Applicant's Responsible Property Framework. This includes the following:

- Structural frame strategy has a design life of 40-60 years, however, have the option to far exceed this with appropriate maintenances regimes.
- MEP services design to allow maximum flexibility for repair and maintenance.
- All services infrastructure through the building to be designed within designated risers. All risers to be accessible.
- High quality, robust materials palette proposed.

6.8 Pollution

Low & zero carbon technologies will be utilised to heat and power the development, with a non-combustion approach to improve local air quality.

Careful consideration will be given to the impact of the development on natural resources, minimising land, noise, light, and watercourse pollution. An ecological assessment will be completed to achieve optimal ecological outcomes in line with the mitigation hierarchy of action (i.e. avoidance > protection > reduction > on-site compensation > enhancement). The principal contractor will be required to achieve a Considerate Constructors Scheme (CCS) score of 36 in alignment with the Applicant's Responsible Property Framework, with the current HQM baseline targeted score looking to surpass this.

6.9 Ecology

Wildlife habitats and natural features adjacent to the site have been identified through a combination of desk study and a site visit. Two designated sites are within 1 km of the Site – Holy Brook Local Wildlife Site (470 m south west) and River Kennet (470 m south west). St Giles church and cemetery is 50 m south of the Site and the Quaker graveyard is adjacent to the south of the Site. The habitats are suitable for bats. These will be protected by designing a low lighting strategy on the southern boundary of the site during construction and operation. Additionally, the habitats will be protected by the standard measures to control noise, dust, vibration, and lighting as set out in a construction and environmental management plan (or equivalent). The habitat will be enhanced by the Proposed Development's biodiverse brown roof and soft landscaping strategy, and proposed bat and bird boxes.

6.10 Management of site

The Principal Contractor for the Proposed Development will be required to have a thorough Site Waste Management Plan (SWMP). It is expected that advances in innovation and best practise over time combined with effective feedback loop mechanisms will lead to continuous improvement as the development design and

construction progresses. As per HQM criteria, waste, energy, and water usage on the site will be monitored and reported.

Active engagement will continue to be required for key stakeholders engaged in the design and procurement of materials for the site, and the waste management of materials taken off site.

Appendix A – Policy review.

Reading Borough Council Local Plan

The Reading Borough Local Plan was adopted in November 2019, to set out planning policies for development in Reading up to 2036 and is the main consideration in deciding planning applications. The Local Plan replaced previous development plans, the Core Strategy, Reading Central Area Action Plan and Sites and Detailed Policies Document, which no longer apply. The relevant policy requirements to the Proposed Development have been summarised in the table below.

Table 5: Relevant local policy requirements in the Reading Borough Council Local Plan (2019).

Policy	Relevant Policy Requirements
CC1: Presumption in favour of sustainable development	A positive approach to considering development proposals will be taken that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework (NPPF). Planning law requires that applications for planning permission must be determined in accordance with the development plan unless material considerations indicate otherwise. Planning applications that accord with the policies in the development plan (including, where relevant, with policies in neighbourhood plans) should be permitted without delay.
CC2: Sustainable Design and Construction	Proposals for new development, including the construction of new buildings and the redevelopment and refurbishment of existing building stock, will be acceptable where the design of buildings and site layouts use energy, water, minerals, materials, and other natural resources appropriately, efficiently and with care and take account of the effects of climate change. To meet these requirements: – All major non-residential developments or conversions to residential are required to meet the most up to date BREEAM ‘Excellent’ standards, where possible; – All minor non-residential developments or conversions to residential are required to meet the most up to date BREEAM ‘Very Good’ standard as a minimum; – All non-residential development or conversions to residential should incorporate water conservation measures so that predicted per capita consumption does not exceed the appropriate levels set out in the applicable BREEAM standard. Both residential and non-residential development should include recycling greywater and rainwater harvesting where systems are energy and cost effective.
CC3: Adaptation to Climate Change	All developments will demonstrate how they have been designed to incorporate measures to adapt to climate change. The following measures shall be incorporated into development: – Wherever possible, new buildings shall be orientated to maximise the opportunities for both natural heating and ventilation and reducing exposure to wind and other elements. – Proposals involving both new and existing buildings shall demonstrate how they have been designed to maximise resistance and resilience to climate change for example by including measures such as solar shading, thermal mass, heating and ventilation of the building and appropriately coloured materials in areas exposed to direct sunlight, green and brown roofs, green walls, etc; – Use of trees and other planting, where appropriate as part of a landscape scheme, to provide shading of amenity areas, buildings and streets and to help to connect habitat, designed with native plants that are carefully selected, managed and adaptable to meet the predicted changed climatic conditions; and

Policy	Relevant Policy Requirements
	– All development shall minimise the impact of surface water runoff from the development in the design of the drainage system, and where possible incorporate mitigation and resilience measures for any increases in river flooding levels as a result of climate change
CC4: Decentralised Energy	In meeting the sustainability requirements of this plan, developments of the sizes set out below shall demonstrate how consideration has been given to securing energy for the development from a decentralised energy source. Any development of more than 20 dwellings and/ or non-residential development of over 1,000 m ² shall consider the inclusion of decentralised energy provision, within the site, unless it can be demonstrated that the scheme is not suitable, feasible or viable for this form of energy provision. Where there is existing decentralised energy provision present within the vicinity of an application site, further developments of 10 dwellings or more or non-residential development of 1,000 m ² or more will be expected to link into the existing decentralised energy network or demonstrate why this is not feasible.
CC5: Waste Minimisation and Storage	Development should demonstrate measures to minimise the generation of waste in the construction, use and life of buildings and promote more sustainable approaches to waste management, including the reuse and recycling of construction waste and the promotion of layouts and designs that provide adequate, well-designed space to facilitate waste storage, reuse, recycling and composting.
CC7: Design and the Public Realm	All development must be of high design quality that maintains and enhances the character and appearance of the area of Reading in which it is located. The various components of development form, including: – Layout: urban structure and urban grain; – Landscape; – Density and mix; – Scale: height and massing; and – Architectural detail and materials.
EN11: Water spaces	Reading’s water spaces will be protected and enhanced, so that they can continue to contribute to local and regional biodiversity and ecology, flood mitigation, local character, heritage and visual amenity, the provision of accessible leisure and recreational opportunities and, where appropriate, navigation. There will be no adverse impact on the functions and setting of any watercourse and its associated corridor.
EN12: Biodiversity and the green network	On all sites, development should not result in a net loss of biodiversity and geodiversity, and should provide a net gain for biodiversity wherever possible. Development should protect and wherever possible enhance features of biodiversity interest on and adjacent to the application site, incorporating and integrating them into development proposals wherever practicable; and provide new tree planting, wildlife friendly landscaping and ecological enhancements (such as wildlife ponds, bird and bat boxes) wherever practicable.
EN14: Trees, hedges and woodlands	New development shall make provision for tree retention and planting within the application site, particularly on the street frontage, or off-site in appropriate situations, to improve the level of tree coverage within the Borough, to maintain and enhance the character and appearance of the area in which a site is located, to provide for biodiversity and to contribute to measures to reduce carbon and adapt to climate change.
EN15: Air quality	Development that would detrimentally affect air quality will not be permitted unless the effect is to be mitigated.

Policy	Relevant Policy Requirements
	Where a development would introduce sensitive uses (such as residential, schools and nurseries, hospitals, care facilities) into, or intensify such uses within, an Air Quality Management Area, detrimental effects on that use will be mitigated. Mitigation measures should be detailed in any planning application. If there are significant detrimental effects that cannot be mitigated, the application should be refused.
EN16: Pollution and water resources	Development will only be permitted where it would not be damaging to the environment and sensitive receptors through land, noise or light pollution; where it would result in no deterioration in, or ideally enhance, ground and surface water quality; and where adequate water resources, sewerage and wastewater treatment infrastructure will be in place to support the proposed development prior to occupation Related policy: Reading Council Contaminated Land Strategy (2011)
EN17: Noise Generation Equipment	Where noise generating equipment is proposed, the noise source specific ⁶¹ level (plant noise level) should be at least 10dBA below the existing background level as measured at the nearest noise sensitive receptor.
EN18: Flooding and sustainable drainage	All major developments must incorporate sustainable drainage systems (SuDS) as appropriate and in line with the Government's Technical Standards. Smaller schemes are encouraged to incorporate SuDS, where possible. Runoff rates should aim to reflect greenfield conditions and, in any case, must be no greater than the existing conditions of the site.
H4: Build to rent schemes	Planning permission will be granted for developments of self-contained, private rented homes which: 1. Are secured in single ownership providing solely for the rental market for a minimum 20-year term with provision for clawback of affordable housing contributions should the covenant not be met; and 2. Provide tenancies for private renters for a minimum of three years with a six-month break clause in the tenant's favour and structured and limited in-tenancy rent increases agreed in advance; and 3. Provide a high standard of professional on-site management and control of the accommodation; and 4. Provide a commitment to high-quality rental arrangements, through meeting Reading Borough Council's voluntary Rent with Confidence Standards or equivalent measures; and 5. Provide for a mix of unit sizes in accordance with Policy H2 or CR6; and 6. Meet the standards of design set out in Policy H5; and 7. Provide 30% on-site affordable housing, either in accordance with Policy H3 and any relevant Supplementary Planning Document; or in the form of Affordable Private Rent Housing as defined and set out in a relevant SPD.
H5: Standards for new homes	New build housing should be built to the following standards, unless it can be clearly demonstrated that this would render a development unviable: – All major new-build residential development should be designed to achieve zero carbon homes. – All other new build housing will achieve at a minimum a 19% improvement in the dwelling emission rate over the target emission rate, as defined in the 2013 Building Regulations. On developments of 20 or more new build dwellings, at least 5% of dwellings will be wheelchair user dwellings in line with M4(3) of the Building Regulations. Any market homes provided to meet this requirement will be 'wheelchair adaptable' as defined in part

Policy	Relevant Policy Requirements
	M, whilst homes where the Council is responsible for allocating or nominating an individual may be 'wheelchair accessible'.
TR3: Access, Traffic and Highway-Related Matters	In determining proposals involving a new or altered access onto the transport network, improvement works to the transport network, the creation of new transport infrastructure or the generation of additional trips on the transport network, consideration will be given to the effect on safety, congestion and the environment.
TR4: Cycle routes and facilities	Developments will be expected to make full use of opportunities to improve access for cyclists to, from and within the development and to integrate cycling through the provision of new facilities. Development of new facilities for cycling, such as cycle hire points and cycle parking, will be acceptable.
TR5: Car and cycle parking and electric vehicle charging	Development should provide car parking and cycle parking that is appropriate to the accessibility of locations within the Borough to sustainable transport facilities, particularly public transport.
CR6: Living in central Reading	All proposals for residential development within the central area will be required to contribute towards a mix of different sized units within the development. This will be measured by the number of bedrooms provided within individual units. Ideally, a mixture of one-, two- and three-bedroom units should be provided. As a guide, in developments of 15 dwellings or more, a maximum of 40% of units should be 1-bed/ studios, and a minimum of 5% of units should be at least 3-bed, unless it can be clearly demonstrated that this would render a development unviable. Proposals for new residential development within the central area will be required to demonstrate how the issue of potential noise disturbance from neighbouring land uses and other sources, and air quality implications of residential development, have been considered and if necessary, mitigated. New residential development should not be located next to existing town centre uses where those uses would give rise to unacceptable levels of noise and disturbance to the occupiers of the new scheme, unless this can be mitigated. In meeting the requirement to provide affordable housing, in the central area an overconcentration of social renting for single persons will be avoided. Where proposals for serviced apartments and apart-hotels fall outside the C3 use class, they will be located within the Central Core. Such proposals will not be permitted unless the duration of occupation of residents is restricted, to ensure the units are used on a short stay basis and not as residential flats, and information monitoring the implementation of this restriction is regularly supplied.

Reading Sustainable Design and Construction (2019)

The Reading Council Sustainable Design and Construction SPD is intended to guide developers and decision-makers on the implementation of key sustainability policies set out in the Reading Local Plan, namely CC2-CC5, EN18 and H5. It brings together relevant national guidance and provides practical advice on forms of sustainable design and construction, as well as waste minimisation that will meet these policy requirements. It does not contain further mandatory requirements which are different to those found in the Local Plan.

The table below displays the sustainable design checklist for residential developments included as part of the guidance.

Table 6: Sustainable design and construction checklist.

Topic	Aims and checklist questions
Energy and carbon	<i>Aim: To conserve energy, in particular carbon dioxide emissions and maximise the use of energy efficient techniques.</i> 1. How has the development been designed to optimise the use of the energy from the sun and limit heat losses? 2. How has the development been designed to optimise natural daylighting, energy efficient lighting, external lighting and natural ventilation? 3. How will the design of the building make efficient use of energy? (e.g. use of thermally massive materials, levels of insulation, energy efficient white goods and use of green/ brown roofs etc.). 4. Has local energy generation from renewables and/or decentralised energy been considered as part of the scheme? 5. How have cycle storage facilities been considered? 6. Does the development meet the requirements of policies H5? Is this clearly illustrated? 7. Is a Section 106 contribution required? If so, what amount?
Water	<i>Aim: To improve efficiency in the use of water, conserve water resources and minimise vulnerability to flooding.</i> 8. How will the development incorporate the use of water saving devices to achieve the higher water efficiency standard under Regulation 36(3) of the Building Regulations? 9. How will the development incorporate recycling rainwater and reduce the use of potable water? 10. Has the collection, treatment and re-use of grey water been considered? If so, how will these facilities be incorporated within the development?
Materials	<i>Aim: To retain local character and promote the use of materials with a low environmental impact.</i> 11. How will the selected materials help retain local character, ensure long life and ensure a low environmental impact, including consideration of embodied energy?
Surface water run-off	<i>Aim: To reduce flooding, pollution and other environmental damage.</i> 12. How has the development considered flooding and pollution? 13. Has the design considered the use of sustainable drainage systems (SuDS) and how will they be incorporated within the development? 14. Does the development meet the requirements of policy EN18?
Waste	<i>Aim: To minimise the production of waste and maximise re-use and recycling.</i> 15. How will the development minimise waste sent to landfill? 16. How will the development make the maximum use of construction and demolition waste?

Topic	Aims and checklist questions
	17. How will the development make maximum use of re-used and recycled materials? 18. How will provision be made for the storage and recycling of waste for all users of the site?
Pollution	<i>Aim: To minimise damage to the environment through air, ground/surface water, land, noise or light pollution.</i> 19. What measures have been incorporated to ensure that noise and light pollution will be minimised through the development? 20. What measures have been incorporated to reduce nitrogen oxide emissions and reduce the global warming potential of insulants? 21. What measures have been incorporated to reduce the release of pollution into the atmosphere?
Health & well-being	<i>Aim: To improve the quality of life in homes through good daylighting, improved sound insulation, provision of outdoor space with good accessibility.</i> 22. How has the development been designed to maximise natural lighting, reduce the likelihood of noise complaints, incorporate private outdoor space and ensure the layout of the development can be easily adapted to meet the needs of future occupants?
Management	<i>Aim: To manage the site in an environmentally and socially considerate manner.</i> 23. What measures have been taken to ensure the construction of the site is managed in an environmentally and socially considerate manner, mitigating environmental impacts? 24. How has the development been designed to ensure people feel safe and secure?
Ecology	<i>Aim: To retain, protect and enhance wildlife habitats and natural features.</i> 25. How have the wildlife habitats and natural features on and adjacent to the site been considered and how will they be retained, protected and enhanced?



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