

Eaton Court
Sustainability Statement

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60994 – Eaton Court
Energy Statement

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Executive Summary

This Sustainability Statement has been prepared to support an application for full planning permission for the:

The proposed development will comprise 120 residential dwellings (Use Class C3) located on the Oxford Road frontage. The proposals constitute three buildings which will rise between four to six storeys. A total of 14 car parking spaces -6 No. for residents and 8 No. for the Royal Meteorological Society- will be provided within an undercroft car park on the Site.

This Sustainability Statement has been developed to detail the sustainability features of the development and demonstrate how they relate to the following guidance documents:

- The Reading Borough Local Plan (2019);
- Reading Sustainable Design and Construction Supplementary Planning Document (2019)

The Sustainability Statement for Eaton Court demonstrates that the design will holistically incorporate sustainable principles into the full range of sustainability aspects covered by the above mentioned guidance documents.

1 Introduction

This sustainability statement has been prepared by chapmanbdsp on behalf of Venta PropCo 1 Limited ('the Applicant') in support of the detailed planning application for the proposed development at Eaton Court in Reading.

1.1 Site Location & Description

The development site is located at the junction of Oxford Road and Eaton Place, approximately a 10-minute walk from Reading Train Station.

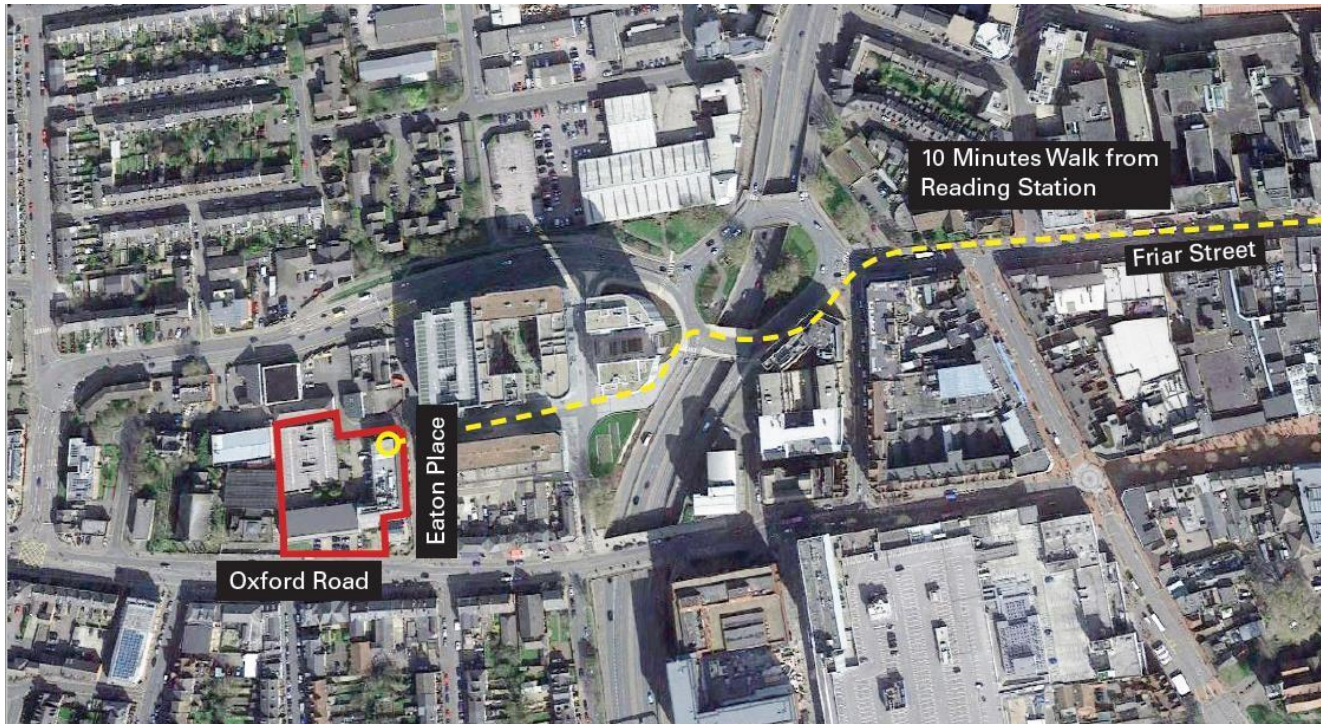


Figure 1-1 Site Location

The proposed development comprises demolition of the existing development and redevelopment of the site to create a residential use redevelopment providing three buildings comprising residential units (Use Class C3), and one ground floor unit comprising residential floorspace and residential amenities, along with car parking, cycle parking, servicing bay and associated landscaping, amenity space, plant and refuse areas, and access arrangements.

1.2 Report Objectives

The objectives of this report are to:

- Demonstrate how the proposed development will meet and exceed the sustainability standards set by Reading Borough Local Plan (2019) and the Sustainable Design and Construction Supplementary Planning Document (2019).
- Identify areas for consideration at the early stages of the project to facilitate the incorporation of the principles of sustainable design and construction into the design of the development.

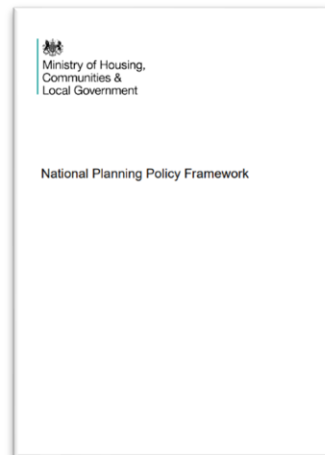
1.3 Report Structure

This introductory section is followed by a comprehensive review of national/regional/local policies on sustainability. Section 3 summarises the results of the energy strategy. Sections 4 - 10 detail the sustainability strategy for the scheme related to Climate Change Mitigation & Adaptation, Water Efficiency, Flood Risk and SUDs, Pollution, Sustainable Construction Processes/Materials & Recycling, Landscaping & Biodiversity and Sustainable Transport/Accessibility. Section 11 provides a summary and conclusion on the Sustainability strategy for the scheme.

2 Panning Context

This section outlines the most appropriate set of sustainability targets that the project is required to adhere to. The following documents have formed an integral part of developing the energy strategy for Eaton Court development.

2.1 National Planning Policy Framework (NPPF) (2021)

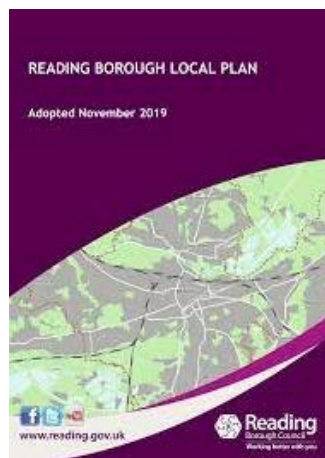


The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally prepared plans for housing and other development can be produced. Planning law requires that applications for planning permission be determined in accordance with the development plan unless material considerations indicate otherwise. The NPPF must be taken into account in preparing the development plan and is a material consideration in planning decisions. Planning policies and decisions must also reflect relevant international obligations and statutory requirements.

The purpose of the NPPF is to contribute to the achievement of sustainable development. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs. Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways:

- 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.
- 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.
- 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.

This statement has been developed in line with NPPF and alongside the suite of documents submitted as part of this application fulfils the requirements of the NPPF.



2.2 Reading Borough Local Plan (2019) & Reading Borough Sustainable Design and Construction Supplementary Planning Document (2019)

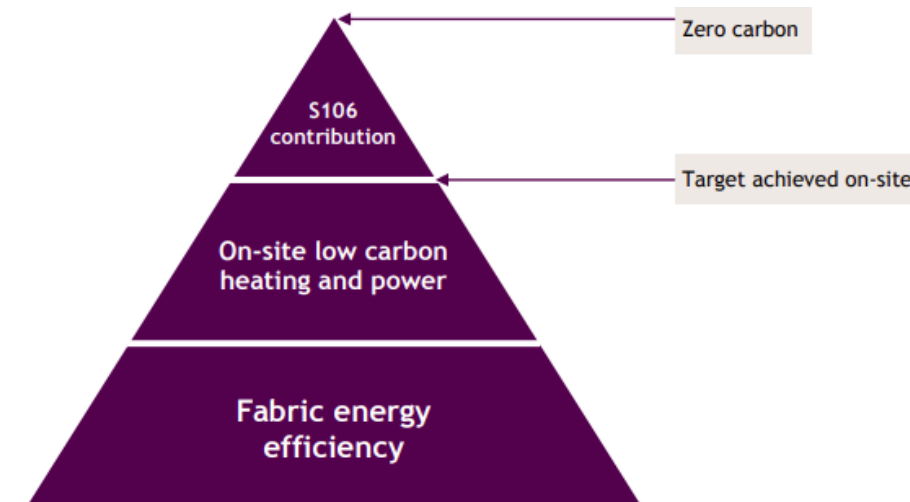
The Local Plan for Reading is the document that contains the policies for how Reading will develop up to 2036, which is the end date of the plan. It identifies the amount of development that will take place, the areas and sites where development is expected to be accommodated, and where it will be restricted, and sets out policies for how planning applications will be decided.

A high-level summary of the policies affecting this energy statement follows next.

CC2: Sustainable Design and Construction

This policy seeks improved sustainability performance of buildings by setting out BREEAM requirements for non-residential developments conversions to residential. It also sets out the general principles of sustainability in new development that applies to both residential and non-residential uses.

Fabric improvements are much more likely to ensure long-term carbon reductions and are generally achieved at lower cost than on-site generation. Therefore, fabric efficiency should be improved in the first instance.



CC3: Adaptation to Climate Change

It identifies measures including building orientation, shading, heating, ventilation, green or brown roofs and walls, planting and surface water run-off to deal with the effects of climate change. This policy will ensure that development within the Borough is resilient in the face of climate change.

It is vital that the effects of climate change are considered over the lifetime of a development, especially with regard to its location and design. If they are not, then the long term sustainability and fitness for purpose of the development could be compromised.

CC4: Decentralised Energy

This policy requires developers to consider inclusion of decentralised energy infrastructure, increasing the amount of decentralised energy provision in the Borough. This will help to achieve a shift to sustainable energy consumption and production and covers a wide range of technologies that reduce dependence on a centralised network or grid.

CC5: Waste Minimisation and Storage

This policy requires developers to identify measures to minimise the generation of waste and to handle waste appropriately during the lifetime of a development. It will help to achieve the aims of the Council's Waste Minimisation Strategy, as well as to comply with national policy.

EN18: Flooding and Drainage

This policy directs development away from areas that are liable to flood. In areas of lower risk, development may move forward if it passes the exception test in the NPPF. It also requires major developments to incorporate Sustainable Drainage Systems (SuDS). This policy will help to protect people and property from flooding.

H5: Housing Standards

This policy outlines standards for new-build housing, including those for sustainable design and construction. All new-build housing must be built to the higher water efficiency standard under the Building Regulations. All major new-build residential should achieve zero carbon homes and all other new-build housing must achieve a minimum 19% improvement over the 2013 Building Regulations target. This policy will help to deliver high-quality new homes and achieve Reading's emissions targets, as well as mitigate the effects of climate change.

Reading’s Climate Change Strategy (Reading Means Business on Climate Change 2013-2020) sets challenging targets for tackling the Borough’s contribution to climate change, and aims to reduce Reading’s carbon footprint by 34% by 2020 in comparison to 2005 levels.

One of the Strategy’s strategic principles is that buildings in Reading should be built to high standards of energy efficiency incorporating on-site renewable energy where possible. Given the scale of residential development in Reading up to 2036, achieving the aims of the Climate Change Strategy will not be possible without that development having a minimal impact on carbon emissions. Therefore, the requirement will be that major new housing is built to zero carbon homes standard.

Where homes are not designed to be carbon neutral, this will mean as a minimum a 35% improvement in the dwelling emission rate over the 2013 ¹Building Regulations plus a contribution of £1,800 per tonne towards carbon offsetting within Reading (calculated as £60 per tonne over a 30 year period). Where it is proposed to meet the zero carbon homes requirement in another way, clear evidence should be provided to demonstrate how it will be achieved at planning application stage.

Other relevant policies not supplemented in the Supplementary Planning Document:

- CCI: Presumption in Favor of Sustainable Development
- EN14: Air Quality
- EN16: Pollution and Water Resources
- EN17: Noise Generating Equipment

¹ However, the current energy strategy is targeting to achieve a minimum of 35% improvement in regulated emissions over the Target Emissions Rate in the **2021** Building Regulations.

3 Energy

The Sustainability Strategy for the scheme has been developed in line with the requirements of the following guidance documents: the Reading Borough Local Plan (2019) and the Supplementary Planning Guidance on Sustainable Design and Construction (2019). The above-mentioned documents have been used to demonstrate the development’s commitment to sustainability.

The strategy particularly focuses on carbon emissions reduction in line with the adopted Reading Borough Local Plan guidance. The environmental strategy that describes chapmanbdsp approach to the design process is illustrated in Figure 3-1. This approach targets to first minimise the energy demand and subsequently apply energy efficient systems. As a third step, chapmanbdsp recommends to first consider renewables (due to their effectiveness in reducing emissions) prior to relying on other alternatives. The environmental approach adopted is therefore in line with the adopted Reading Borough energy hierarchy: fabric energy efficiency, on-site low carbon heating and power.

The design approach follows this energy hierarchy to achieve the following targets:

- reduce regulated CO₂ emissions below those of a development compliant with Part L 2021 of the Building Regulations through energy efficiency measures alone; and
- zero carbon target for residential developments, with at least a 35% on-site reduction beyond Part L 2021 and proposals for making up the shortfall to achieve zero carbon, where required.

Energy demand has been minimised by implementing passive envelope design strategies; low emissivity glass, highly insulated windows and walls combined with high level of airtightness. The whole-house ventilation providing adequate fresh air and with high heat recovery efficiency can meet most of the dwellings’ energy needs and reduce the dependency on active cooling for summer comfort.

Subsequently, the energy strategy considers a site wide community heating network for greater efficiency. The study of Reading energy network shows that there are no existing or foreseen district energy network available to connect at this stage of the project.

The development, however, will include a low carbon ASHP communal heating network serving all domestic and amenities areas. A series of ASHP energy centres will meet the demand for space heating and domestic hot water. This strategy will provide future resilience to connect to a district heating scheme when one is made available for connection.

Considering the decarbonisation of the grid and the council’s target for zero carbon developments, the site’s community network will be fed by air source heat pumps (ASHP) to deliver a hybrid solution of heat energy to residential units each having HIU units for heating and hot water.

With this proposed strategy, the development achieves a 64% improvement against Part L 2021 carbon emission target. To meet the zero-carbon target, the remaining carbon emissions will be offset via cash in-lieu contribution.

Please refer to chapmanbdsp Energy Statement for additional details on the energy strategy.



Figure 3-1 chapmanbdsp Environmental Design Approach

Energy hierarchy for proposed development

	Carbon Dioxide Emissions for proposed development (regulated)		
	Tonnes CO ₂ /annum	Savings	% Reduction
Part L 2021 Compliant Building	85.4	-	-
After energy demand reduction	71.1	14.3	17%
After heat network / CHP	71.1	0.0	0%
After renewable energy	30.9	30.9	47%
Total		45.2	64%

	Annual Shortfall (Tonnes CO ₂)	Cumulative Shortfall (Tonnes CO ₂)
Total Target Savings	85.4	-
Shortfall	30.8	924
Cash in-lieu contribution (£)	55,440	-

Table 3-1 Regulated CO₂ savings & cash in lieu contribution for domestic element of the development.

4 Climate Change

The Reading Borough Local Plan (2019) and Sustainable Design and Construction Supplementary Planning Document (2019) focus on the impact of climate change in 'CC3: Adaptation to Climate Change', which provides further guidance on how developers should incorporate climate change adaptation and greening priorities outlined in these policy documents.

Climate change brought about by man-made emissions of greenhouse gases has been identified as the greatest challenge facing human society at the beginning of the 21st century. The effects of climate change are complex, they include:

- Increased average temperatures;
- Rising sea levels;
- Increased precipitation; and
- More frequent extreme weather.

Action to address climate change falls into two categories: mitigation and adaptation. Mitigation measures are designed to reduce greenhouse gas emissions to slow down or stop climate change, whilst adaptation measures are designed to adjust society and buildings to cope with climate changes that are already happening.

The design proposal for the domestic use at Eaton Court incorporate the following climate change mitigation and adaptation features in line with the Reading Borough Local Plan planning requirements.

4.1 Climate Change Mitigation

The energy strategy of the scheme has considered measures to mitigate the effects of climate change through the specification of energy efficient systems and LZC technologies (air-source heat pumps) to provide a proportion of the energy demand of the development, hence reducing fossil fuel usage and greenhouse gas emissions equivalent to 30.9 tonnes of CO₂/yr.

Please refer to Eaton Court Energy Statement prepared by chapmanbdsp for details of the energy strategy proposed for the development.

4.2 Climate Change Adaptation

Adapting to heavier rainfall

The site is located in flood zone 1 according to flood maps, meaning there is less than a 1 in 1000 annual probability of river or sea flooding. Surface water flood maps indicate that the site is at a low risk of flooding and any surface water flooding would be contained within the public highway. All surface water within the site boundary will be drained via SUDS. This will contribute to lowering the risk of surface water flooding in the area. For localised flood mitigation, please refer to the Flood Risk Assessment (FRA) prepared by Morph Structures in support of this application.

Adapting to drier and hotter summers

The energy strategy of the scheme has considered measures to adapt to the effects of climate change, in particular through an optimised design minimising risk of overheating. Thermal comfort studies in line with ADO and CIBSE TM59 have been carried out for the domestic element of the scheme to ensure the risk of overheating is minimised. Please refer to Eaton Court Energy Statement report prepared by chapmanbdsp for details of the features proposed to limit the risk of overheating for the scheme.

The proposed development will significantly reduce its demand on mains water supply through the use of water efficient fittings. The proposed fittings will ensure:

- The non-domestic scheme will consume 50% less potable water than a conventional scheme; and

- The residential scheme will exceed the requirements of the Building Regulations regarding the maximum water use per person per day of 125 Litres (indoor water use < 105 Litres/person/day targeted). Please refer to the Section 5 of this Sustainability Statement (Water, Flood Risk & Drainage) for additional details on the water efficiency strategy of the scheme.

Studies of the appropriate allowances for material tolerances to drier and hotter summers will be carried out during the next design stage to ensure that movement, expansion and contraction are taken into consideration to avoid potential material damage. Assessment of the materiality for the building fabric will be carried out during stage 4 and 5 of design via physical mock-ups to review the interfaces and detailing to ensure that satisfactory solutions are provided at the best possible levels of quality.

5 Water, Flood Risk and Drainage

Consideration has been made with regards to the conservation of water resources through water efficiency measures, in addition to the risk posed by flooding. This includes the use of Sustainable Urban Drainage Systems (SUDs) to reduce the risk of surface water flooding, in line with the Reading Borough Local Plan policies:

- CC1: Presumption in Favour of Sustainable Development;
- CC3: Adaptation to Climate, EN16: Pollution and Water Resources; and
- EN18: Flooding and Sustainable Drainage Systems.

5.1 Flood Risk and SUDS

The Flood Risk Assessment (FRA) and Sustainable Urban Drainage System (SUDS) study has been carried out by Morph Structures. Please refer to the full report for the details.

5.2 Water Efficiency

Water consumption in the UK has risen by more than 50% over the last 25 years. This represents a huge strain on natural water resources such as reservoirs and rivers and has a knock-on effect on wetland habitats and ecosystems. Traditionally the response to increasing demand in the UK has been to build new reservoirs, but this is increasingly unacceptable from environmental and social points of view.

Water use can be minimised by installing water efficient equipment and appliances and increasing awareness of water consumption.

Water efficient fittings and appliances use significantly less water than their traditional counterparts by limiting water flow through pipes and fittings and by changing conventional design to more ergonomic. The water conservation strategy proposed for the scheme incorporates flexibility in the specification of water fittings and appliances, recognising the rapid industry progress in this field, and allowing the inclusion of new and innovative solutions where they are proven to offer:

- Occupant satisfaction;
- Technical Performance;
- Economic competitiveness.

White goods provided for the residential units will be water efficient with the highest Eco-rating.

The following features will be also included for the non-domestic areas:

- A water meter with a pulsed output will be provided for the water supply of the building;
- Flow control devices that regulate the supply of water to each WC area/facility according to demand will be installed (therefore minimising water leaks and wastage from sanitary fittings); and

6 Materials, Waste and Construction Processes

Preference has been given to the selection of sustainable materials with a low environmental impact over their life cycle, as well as sustainable procurement and waste disposal. This review has been undertaken in the context of the Reading Borough SPD on Sustainable Design and Construction – CC5: Waste Minimisation and Storage and EN16: Pollution and Water Resources.

The environmental impact of construction activities will be minimised through the implementation of best practice measures detailed in the following sections:

6.1 Sustainable Construction

Sustainable construction practices include good site management to encourage resource efficiency, increased materials recovery and the avoidance of the disposal of waste to landfill.

As part of achieving a sustainable approach to construction, the main contractor will be encouraged to commit to reducing the impact of the construction processes on the environment. The contractor will be required to monitor and mitigate construction site impacts throughout the construction period (in particular: energy, water, transport of materials to the site and waste from the site). Best practice pollution prevention policies will be adopted in respect of air (dust) and water pollution arising from site activities. To minimise air (dust) pollution, skips will be covered, dust generating site activities will be dampened down and wet cutters will be used. Low emission and efficient equipment will be used on site.

A construction management plan will be in place prior to commencement of activities on site. The construction management plan will appropriately demonstrate how the impacts of air/water pollution, noise and vibration will be mitigated during the construction of the development. Where feasible timber used on site will be reclaimed, re-used or responsibly sourced.

The contractors will be also required to minimise the ecological impact of construction activities. (Please refer to Section 8 of this Sustainability Statement for additional details on the measures which will be implemented).

6.2 Demolition and Construction Waste

A pre-demolition/refurbishment audit of existing buildings, structures or hard surfaces will be completed to determine if, reuse is feasible and, if not, to maximise the recovery of material from demolition for subsequent high grade/value applications. The audit will cover:

- Identification of the key refurbishment/demolition materials;
- Potential applications and any related issues for the reuse and recycling of the key refurbishment and demolition materials in accordance with the waste hierarchy.

The developer is committed to the minimisation of waste and will employ methods such as the acquisition of a Site Waste Inventory prior to the site clearance which will identify any hazardous wastes and the opportunity for the recycling of materials within the construction process.

A Waste Management Strategy will include an Outline Construction Waste Management Plan which will require:

- Management of the construction site in order to provide opportunities to segregate materials for ease of reuse and recycling in order to minimise waste to landfill;
- Where possible, material to be processed at sites as close as possible the scheme site; and
- The use of resources such as water, diesel and timber will be recorded and managed in a sustainable manner.

The scheme itself has been considered in a manner to design out waste (material optimisation) and the design team has embedded resource efficiency within the overall scheme design with specific reference to WRAP's Designing out Waste principles. The contractor will aim to divert 70% by volume (or 80% by

tonnage) of non-demolition waste and 80% by volume (or 90% by tonnage) of demolition waste away from landfill.

6.3 Construction Materials

The proposed development will give preference to the selection of sustainable materials and the minimisation of waste. The following measures will be considered to demonstrate that the materials specified are sourced, managed and used in a sustainable manner.

- The use of locally sourced materials will be prioritised, where feasible to reduce transport related emissions and to support local supply chains;
- Responsible sourcing of materials from suppliers that operate an Environmental Management System will be prioritised. 100% of all timber included in the construction of floors, roofs, walls and staircase will be legally sourced;
- Recycled aggregates will be considered for the scheme in particular for the concrete frame elements and foundations;
- The use of insulation materials with low Global Warming Potential (GWP) will be prioritised;
- The use of high VOC content paints, sealants and all ozone depleting materials including insulation will be avoided where feasible; and
- Specific consideration will be given to flexibility, durability and strength of materials selected for the scheme.

6.4 Operational Waste

The scheme has been designed to comply, in the first instance, with the capacity requirements set out with the Building Regulations Drainage and Waste Disposal Approved Document H6. This requires that adequate provision shall be made for the storage of solid waste and that adequate access shall be provided:

- For people in the building to the place of storage; and
- From the place of storage to a collection point.

Eurobins will be provided for the development, to collect waste from each residential premises.

Separate waste stores will be provided for the residential elements of the scheme. A dedicated area for bulky household waste will also be provided at a suitable and accessible location.

Dedicated refuse stores will be provided at ground floor for each building, with a holding area in Building 3 to keep waste from all buildings in advance of collection from outside, just adjacent to this space.

All dedicated storage will be clearly labelled to assist segregation, storage and collection of the recyclable waste streams.

The council offers a food and garden waste collection scheme. It is intended that the development will promote composting by informing residents of the kitchen and garden waste collection scheme within their Home Information Packs. Information on local recycling centres and sustainable living in general will be provided within the Home Information Packs provided to occupants of the dwellings upon completion.

A dedicated storage space will be provided for materials that can be recycled. This space will be clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams, accessible to building occupants / facilities operators for the deposit of materials and collections by waste management contractors, and of a capacity appropriate to the development.

7 Pollution

The development has minimised its impact on noise, air and light pollution in line with the guidance of the Reading Borough Local Plan (2019):

- EN14: Air Quality
- EN16: Pollution and Water Resources and
- EN17 Noise Generating Equipment.

7.1 Noise Pollution

The proposed development is of very high quality, with a standard of accommodation above the baseline requirements suggested by Building Regulations or related British Standards. Please refer to the Noise Assessment by Sharps Redmore for details.

Operational noise pollution

Detailed environmental noise survey work was undertaken at the site by Sharps Redmore to review the suitability of the site for residential development and the extent of mitigation that may be necessary to secure the sustainable design of the site.

Indoor ambient noise level design targets for the development have been set in line with the design recommendations set out in Table 4 of BS 8233: 2014, ProPG guidance. External outdoor spaces are being designed to the lowest practicable levels, with an aspiration to maximise the area of amenity space within the development, in line with the design guidance given of BS 8233: 2014, WHO, ProPG guidance and within the local planning guidance.

Operational noise emissions from the site will be designed in line with the requirements of Reading Borough Local Plan (2019) which will avoid any significant impacts in line with the assessment methodology and guidance of BS 4142: 2014.

The proposed development does not include any sources of use classes that have the potential to have an adverse vibration impact on neighbouring land uses. Vibration impacts on the proposed development will be assessed in line with BS 6472: 2008.

Plant noise impact will be limited to at least 10dB below the existing background noise level when assessed at the nearest noise-sensitive receiver.

External building fabric constructions will be specified to be compatible with the indoor ambient noise levels design recommendations of BS 8233: 2014, ProPG guidance and the Council's adopted SPD. This will include:

- High performance “acoustic” glazing; and
- The use of whole house mechanical ventilation systems (MVHR to provide means of ventilation and thermal control).

Construction phase noise pollution

The potential impact construction phase noise and vibration will be controlled through the implementation of Construction Environmental Management Plan (CEMP), which will include detailed noise and vibration control proposals for the site. In particular, the CEMP will require all works to be undertaken implementing the “best practicable means” for noise control, in accordance with general guidance of BS5228:2009+A1:2014 (Parts 1 and 2). This will include the need to carefully consider the selection of appropriate plant; the maintenance of plant; the timing and duration of work activities; the location of plant and construction traffic routing; the use of screening to minimise noise propagation; early and good public relations and an effective complaints procedure.

The Reading Borough will require demonstration that the site will be designed and operated so that any noise

emitted by plant and machinery will meet the standards in relation to the existing external noise level at the nearest noise-sensitive property. The exact standards and requirements for the Eaton Court site have been further detailed in the Sharps Redmore Noise Assessment. Plant will also be installed to ensure that no perceptible noise or vibration is transmitted through the structure to adjoining premises. Structure-borne noise and vibration will be minimised through the provision of good practice vibration isolations techniques (e.g. use of anti-vibration mountings to plant, etc).

7.2 Light Pollution

Light pollution from the scheme will be minimised through careful lighting design.

The external lighting will be designed in compliance with the guidance in the Institution of Lighting Professionals (ILP) Guidance notes for the reduction of obtrusive light, 2011. Lighting will be designed so that it is directed to where it is needed and does not spill into neighbouring residential properties or affect wildlife.

The external lighting for the residential scheme will be controlled via daylight cut-off sensors or timers.

All external lighting specified for the scheme (except for safety and security lighting) will include appropriate controls to ensure they can be automatically switched off between 11pm and 7am. Safety and security lighting system will comply with the lower levels of lighting recommended during these hours in the ILP's Guidance notes. Where specified, illuminated advertisements will be designed in compliance with ILE Technical Report 5 – The Brightness of Illuminated Advertisements.

7.3 Air Pollution

Air pollution will be minimised as far as is practicable using best available technology and transport planning. Emissions from the ASHP network will be minimised to ensure concentrations are below the air quality neutral thresholds.

The use of high VOC content paints, sealants and all ozone depleting materials, including insulation, will be avoided for the residential units. Where feasible, consideration will be made for the use of low emission finishes, furnishings, carpets and construction materials to enhance the indoor air quality and reduce the building user's exposure to chemicals and other pollutants.

Moreover, measures to minimise air pollution will be implemented by the contractor on site during construction.

Demolition and construction phase

The developer is committed to the minimisation of construction impacts via the application of a Construction Environmental Management Plan (CEMP) in part based upon the result of a site-specific Dust Risk Assessment.

The CEMP will include but will not be limited to, the following Best Available Techniques:

- All vehicles should switch off engines when stationary, no idling vehicles;
- On-road vehicles to comply with the requirements of the Low Emission Zone;
- All NRMM to use ultra-low sulphur diesel (ULSD) where available;
- Minimise the movement of construction traffic around the site;
- Maximising efficiency (this may include alternative modes of transport, maximising vehicle utilisation by ensuring full loading and efficient routing);
- Vehicles should be well maintained and kept in a high standard of working order;
- Avoid the use of diesel or petrol-powered generators by using mains electricity or battery powered equipment where possible; and
- Location of plant away from boundaries close to residential areas

Operational Phase

The use of high VOC content paints, sealants and all ozone depleting materials including insulation will be avoided wherever possible. Where feasible, consideration will be made for the use of low emission VOC finishes, furnishings, carpets and construction materials to enhance the indoor air quality and reduce the building user's exposure to chemicals and other pollutants.

The provision of cycle storage spaces will encourage the residents to use public transport and promote cycling, which will also help to limit the use of cars and reduce the emissions of carbon dioxide and other air pollutants. A total of 14 parking spaces will be provided; 6 No. blue badge for residents and 8 No. for the Royal Meteorological Society.

8 Landscape & Biodiversity

Please refer to the Biodiversity Enhancement Scheme Technical Note and the Bat Survey report completed by Aspect Ecology.

The site is currently dominated by buildings and hard standing with little vegetation present in the form of a small number of trees and very limited amenity planting. The redevelopment of the site presents the opportunity to provide a number of biodiversity benefits as part of the proposal, as described below:

8.1 Habitat Enhancements

The landscape proposals include ground floor and first floor planting, incorporating a range of tree, shrub and herbaceous planting which will provide an ecological enhancement compared to the existing situation. A proportion of the species to be included as part of the landscape planting scheme comprise varieties listed on the Royal Horticultural Societies' 'Plants for Pollinators' database. Species include English Lavender *Lavandula angustifolia*, Field Maple *Acer Campestre*, Common Box *Buxus sempervirens*, Japanese Aralia *Fatsia japonica*, Hebe sp., Panicle Hydrangea *Hydrangea paniculata* 'Kyushu', Sweet Box *Sarcococca hookeriana*, Skimmia *Skimmia japonica*, Geranium sp., Catmint *Nepeta* sp., Brachyglottis 'Sunshine', Escallonia sp., Sage *Salvia* sp., Purple Top Verbena *bonariensis*, and Lamb's Ear *Stachys byzantine*. These species are of known ecological value, providing a nectar source for bees and other pollinating insects. Planting a variety of species with varying flowering periods will also provide a year round nectar resource at the site.

8.2 Faunal Enhancements

Bat Boxes

In addition to any bat boxes required as part of the Natural England mitigation license application for the development (see Aspect Ecology's Bat Survey and Assessment report, dated February 2021, for further details), four Schwegler 2FR Bat Tubes will be incorporated within the new buildings. The bat boxes will provide additional roosting opportunities for bats in the area, such as Common Pipistrelle *Pipistrellus pipistrellus* which has been recorded roosting within the site during detailed survey work undertaken in 2019, and the national Priority Species Soprano Pipistrelle *Pipistrellus pygmaeus*, which is known to be present in the local area. This will increase the number of roosting sites available for these species and will contribute towards the aims of the draft Reading Biodiversity Action Plan (BAP)

So as to maximise their potential use, the bat boxes will be installed as high up as possible, and no lower than 5m. The bat boxes will be sited in sheltered, wind-free areas that are exposed to sun for part of the day, facing either a southerly, south-easterly or south-westerly direction. Bat boxes will be positioned away from any external lighting fixtures so as to not disrupt the potential use of the boxes and should not be located directly above any windows and/or doorways. Integrated bat boxes are rot proof, extremely long lasting and require no specific maintenance.

Bird Boxes

A total of ten bird boxes comprising six Schwegler No.17 Triple Cavity Swift Boxes and four Habibat Integrated Sparrow Terraces or equivalent, will be erected onto/incorporated within the new buildings. The boxes will

provide new nesting opportunities for birds in the area, including the Amber Listed species Swift *Apus apus*, which was recorded flying over the site during survey work undertaken in August 2019. House Sparrow is included on the RSPB Red List and are a national Priority Species as a result of declines in the population. The installation of new Sparrow Terrace boxes at the site will provide additional nesting opportunities which will help to contribute to the draft aims of the Reading Biodiversity Action Plan.

So as to maximise their potential use, Swift boxes would be installed up at eaves height and Sparrow terraces should be installed as high up as practicable and no lower than 4.5m. The bird boxes will be sited in sheltered, wind-free areas, facing in a northerly direction. Bird boxes should not be directly located above any windows and/or doorways. The bird boxes are rot proof and extremely long-lasting and should not require ongoing maintenance.

Bee Bricks

A total of six bee bricks will be incorporated within the proposed development thereby increasing nesting opportunities for declining populations of non-swarming solitary bee populations. Ideally, bee bricks should be located within suitable south-facing walls (where architectural design allows), located at least 1m off the ground. The bricks should be unobstructed by vegetation, though within close vicinity of nectar and pollen sources. Bee bricks are rot proof, extremely long lasting and require no specific maintenance.

In addition to site ecology, all relevant UK legislation relating to protection and enhancement of ecology will be complied with and the contractors will be required to minimise the ecological impact of construction activities. The following measures will be implemented:

- Nominate a 'Biodiversity Champion' with the authority to influence site activities;
- Train all workforce on how to protect site ecology;
- Records actions taken to protect biodiversity; and
- Works conducted at times to minimise ecological disturbance.

9 Sustainable Transport/Accessibility

A Residential Travel Plan (TP) and Transport Statement (TS) have been prepared by Caneparo Associates in support of the planning application on the site.

Through the TP, the development aims to encourage future residents, occupants and visitors to travel via sustainable means to the site, thus reducing the dependency on travel by car. The TP has been developed within the context of the Reading Borough Local Plan.

The Development is located approximately 850m to the southwest of Reading Station, which provides access to regular services operated by Cross Country Trains, South Western Railway, Great Western Railway and Transport for London (TfL) Elizabeth Line services. The Development is located in an area which benefits from numerous residential amenities in close proximity, with retail and community amenities as well as a good public transport network.

The development will benefit from the provision of many access points, safe crossings with appropriate tactile surfaces and have direct links that are well-lit and signposted to other amenities, public transport interchanges and services, and adjoining off-site pedestrian and cycle routes.

Cycle parking spaces will be provided for residents within 3 No. cycle stores -dedicated storage in each building- at ground floor level. A total of 71 long-stay spaces will be provided for residents in the form of two-tier racks and Sheffield stands.

The provision of cycle storage spaces will encourage the residents to use public transport and promote cycling, which will also help to limit the use of cars and reduce the emissions of carbon dioxide and nitrous oxides.

The site will include 14 car parking spaces; 6 No. blue badge for residents (3 No. resident spaces within gated area and 3 No. resident spaces to the north of Building 3) and 8 No. for the Royal Meteorological Society. However, where possible the use of public transport and cycling will be encouraged as alternatives to the use of private car travel to and from the scheme.

A supporting Travel Plan which has contributed to the design, will also be provided to occupants, highlighting all types of travel relevant to the various building users. This will encourage the use of sustainable mode of transport.

Refer to the Travel Plan from Caneparo Associates for further information.

10 Conclusion

This report has been developed to detail the sustainability features of the development and demonstrates how they relate to the relevant planning policy documents including the Reading Borough Local Plan the Sustainable Design and Construction Supplementary Planning Document.

The Sustainability Assessment for Eaton Court demonstrates that the design will holistically incorporate sustainable principles into the full range of sustainability aspects covered by the Reading Borough Local Plan: Energy, Climate Change, Water, Flood Risk & Drainage, Sustainable Construction Process, Materials & Recycling, Landscaping & Biodiversity, Pollution, Accessibility & Sustainable Transport.