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Sustainability Statement

McGregor Homes Ltd

159-161 Iverson Road

Final

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ABOUT RICHARD HODKINSON CONSULTANCY

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

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

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

Executive Summary

The purpose of this Sustainability Statement is to demonstrate that the proposed development at 159 – 161 Iverson Road in West Hampstead by McGregor Homes Ltd, in the London Borough of Camden is considered sustainable, as measured against relevant local, regional and national planning policies.

A combination of a 35% reduction in regulated CO_2 emissions over Building Regulations Part L 2013, with a commitment to Code for Sustainable Homes level 4 represents what is considered a very high level of sustainability, and it is considered that the Application accords with all levels of planning policy.

Through the incorporation of sustainable design and construction methods, energy, water and waste saving measures, as well as open/green space provision and measures to enhance the ecological value of the site, the proposed development is considered high quality and sustainable.

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

> All homes will achieve a Code for Sustainable Homes rating of Level 4;

> The proposed development will benefit from excellent levels of energy efficiency, with 'Be Lean' measures improving over Part L 2013 baseline by 9% for the residential dwellings;

> Photovoltaic panels are proposed to further reduce carbon emissions over the Be Green baseline by an additional 30%;

> The site-wide reduction in regulated CO_2 emissions over the Building Regulations (2013) baseline will be 35%;

> 100% of the proposed development is on previously developed land;

> Water efficiency measures and devices will be installed in the homes to achieve a maximum daily water usage of 105 litres/person/day;

> Surface water run-off will be reduced from existing levels in accordance the Code for Sustainable Homes mandatory requirements;

> The proposed development includes the provision of dedicated cycle storage areas to promote sustainable travel, as well as Home Office facilities to reduce the need to travel;

> Advice from an ecologist will be sought during detailed design to ensure ecology/ biodiversity is protected and enhanced as part of the Code for Sustainable Homes assessment;

> Where practical, building materials will be sourced locally to reduce transportation pollution and support the local economy. All timber will be purchased from responsible forest sources. Materials will be selected based on their environmental impact, with preference given to high rated materials from the BRE Green Guide to Specification where possible;

> Recycling facilities will be provided for domestic, commercial and construction related waste.

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CONTENTS

1. INTRODUCTION

1.1 This Sustainability Statement has been prepared by Richard Hodkinson Consultancy, an innovation, energy and sustainability consultancy, appointed by McGregor Homes Ltd (hereafter referred to as 'the Applicant'). This Statement sets out the sustainable design and construction measures included in the planning application for the redevelopment of 159-161 Iverson Road. This application is for a residential led redevelopment of the existing tyre centre on the site.

1.2 The proposed development is located within the London Borough of Camden (hereafter referred to as 'the Council').

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

> To achieve the maximum viable reduction in CO_2 emissions through the application of the London Plan Hierarchy with an affordable, deliverable and technically appropriate strategy;

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

> Provision of high quality homes that are adaptable to future changes in climate;

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

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

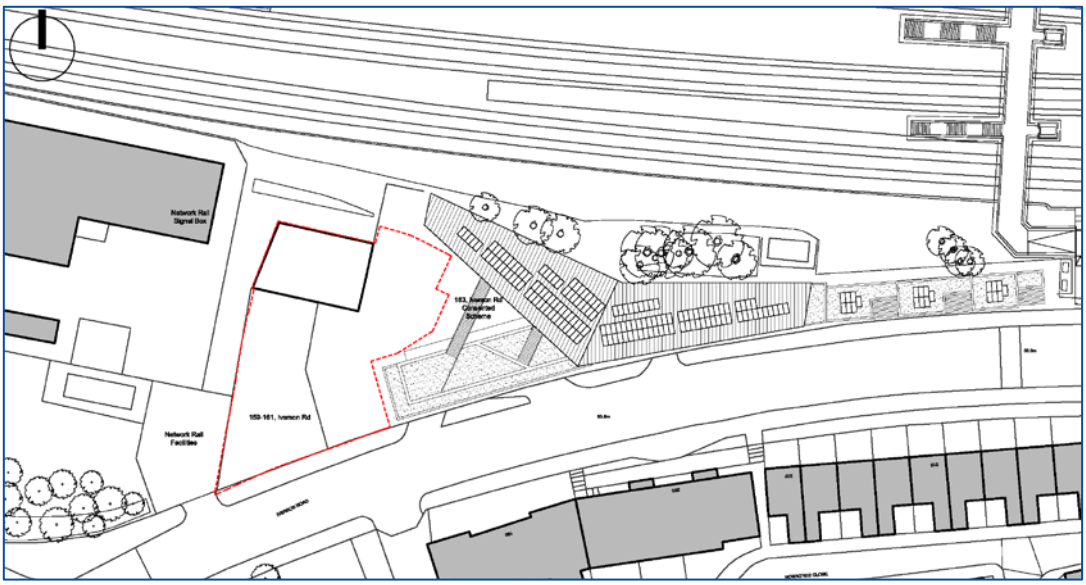
> To minimise emissions of pollutants such as oxides of nitrogen and particulate matter;

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

2. DEVELOPMENT OVERVIEW

2.1 The development proposals are for 23 apartments, with 160 sqm ground floor flexible workspace (use class B1). This workspace will be focused on the Iverson Road frontage. The location plan is shown below in Figure 1.

Figure 1: Site Location Plan



Site Description

2.2 The site is located in West Hampstead in the London Borough of Camden.

2.3 The site is currently occupied by the Iverson Tyre Centre.

Sustainability Statement Structure & Methodology

2.4 In preparing this Sustainability Statement the policy documents set out in Section 3 have been used to guide and inform the sustainability strategy for the Proposed Development.

2.5 Sections 4 – 14 highlight the sustainability of the Proposed Development in relation to the policy documents listed in Section 3.

2.6 Appendix A presents an illustrative route to achieving Code for Sustainable Homes level 4. The final route to achieving certification would be determined during detailed design and may vary slightly from that presented here.

3. PLANNING POLICIES AND PROPOSED DEVELOPMENT REQUIREMENTS

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

National Planning Policy

3.2 **The National Planning Policy Framework (NPPF)** was published on 27 March 2012. This document sets the overarching policies for development in England and states that:

"At the heart of the NPPF is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking.

For decision-taking this means:

> *Approving development proposals that accord with the development plan without delay; and*

> *Where the development plan is absent, silent or relevant policies are out-of-date, granting permission unless:*

> *Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or*

> *Specific policies in this Framework indicate development should be restricted."*

3.3 Paragraph 95 of the NPPF states that:

"To support the move to a low carbon future, local planning authorities should:

Plan for new development in locations and ways which reduce greenhouse gas emissions;

> *Actively support energy efficiency improvements to existing buildings; and*

> *When setting any local requirement for a building's sustainability, do so in a way consistent with the Government's zero carbon buildings policy and adopt nationally described standards."*

3.4 The document also makes it clear that the delivery of a wide choice of well-designed high quality homes is central to delivering sustainable development.

Regional Policy

3.5 **The London Plan (July 2011)** sets out an integrated economic, environmental, transport and social framework for the development of London over the next 20 – 25 years.

3.6 The following outlines key policies set out in the London Plan which must be addressed by new developments and which are relevant to the Proposed Development.

3.7 **Policy 5.2 – Minimising Carbon Dioxide Emissions** requires that all residential and non-residential buildings between 2010 – 2013 achieve a 25% improvement on 2010 Building Regulations, and between 2013 – 2016 a 40% reduction. The GLA have clarified that they would seek the 40% reduction to be applied from the 1 October 2013.

3.8 **Policy 5.3 – Sustainable Design and Construction** states that the highest standards of sustainable design and construction should be achieved in London to improve the environmental performance of new developments. Major development should meet the minimum standards outlined in the London Plan Supplementary Planning Guidance on this stop and this should be clearly demonstrated. The standards includes the following sustainable design principles (summarised):

> Minimising CO_2 emissions;

> Avoiding internal overheating and contributing to the urban heat island effect;

> Efficient use of natural resources (including water);

> Minimising pollution (including noise, air and urban run-off);

> Minimising the generation of waste and maximising reuse and recycling;

> Avoiding impacts from natural hazards (including flooding);

> Ensuring developments are comfortable and secure for users;

> Securing sustainable procurement of materials, using local suppliers where feasible; and

> Promoting and protecting biodiversity and green infrastructure.

3.9 **Policy 5.5 – Decentralised Energy Networks** states that the Mayor expects 25 per cent of the heat and power used in London to be generated through the use of localised decentralised energy systems by 2025. The Mayor will prioritise the development of decentralised heating and cooling networks at the development and area wide levels, including larger scale heat transmission networks.

3.10 **Policy 5.6 - Decentralised Energy** – requires that all developments should evaluate the feasibility of Combined Heat and Power (CHP) systems, and examine the opportunities to extend the system beyond the site boundary to adjacent sites.

3.11 **Policy 5.7 – Renewable Energy** states that within the framework of the energy hierarchy, major development proposals should provide a reduction in expected carbon dioxide emissions through the use of on-site renewable energy generation, where feasible.

3.12 **Policy 5.8 – Innovative Energy Technologies** encourages the more widespread use of innovative energy technologies to reduce use of fossil fuels and carbon dioxide emissions.

3.13 **Policy 5.9 – Overheating and Cooling** seeks to reduce the impact of the urban heat island effect, reduce potential overheating and reduce reliance on air conditioning systems.

3.14 **Policy 5.10 – Urban Greening** encourages new planting in the public realm (including streets, squares and plazas) and green infrastructure, to contribute to the adaptation to, and mitigation of, the effects of climate change.

3.15 **Policy 5.11 – Green Roofs** requires roof, wall and site planting, especially green roofs and walls, to be designed where feasible.

3.16 **Policy 5.12 – Flood Risk Management** states that new developments must comply with the flood risk assessment and management requirements, and will be required to pass the Exceptions Test addressing flood resilient design and emergency planning.

3.17 **Policy 5.13 – Sustainable Drainage** requires that developments should use sustainable urban drainage systems (SUDS) unless there are practical reasons for not doing so, and should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible.

3.18 **Policy 5.15 – Water Use and Supplies** requires that development should minimise the use of mains water by incorporating water saving measures and equipment and that residential development is designed so that mains water consumption meets a target of 105 litres/person/day or less.

3.19 **Policy 7.3 – Designing Out Crime** requires that development should reduce the opportunities for criminal behaviour and contribute to a sense of security without being overbearing or intimidation.

3.20 **The London Plan Supplementary Planning Guidance – Sustainable Design and Construction (May 2006)** identifies the following seven key objectives for future developments:

> Re-use land and buildings;

> Maximise use of natural systems;

> Conserve energy, water and other resources;

> Reduce the noise, pollution, flooding and microclimatic effects;

> Ensure developments are comfortable and secure for users;

> Conserve and enhance the natural environment and biodiversity;

> Promote sustainable waste behaviour.

3.21 For each of these objectives, plus a separate section on sustainable construction, the SPG includes a series of 'Essential Standards', which apply to all major developments in London, as well as 'Mayor's Preferred Standards' indicating exemplary benchmarks that are not yet policy requirements.

3.22 The Mayor's Energy Strategy (February 2004) lists its specific aims as:

> Reducing London's contribution to climate change by minimising emissions of carbon dioxide from all sectors (commercial, domestic, industrial and transport) through energy efficiency, combined heat and power, renewable energy and hydrogen;

> Helping to eradicate fuel poverty by giving Londoners, particularly the most vulnerable groups, access to affordable warmth;

> Contributing to London's economy by increasing job opportunities and innovation in delivering sustainable energy, and improving London's housing and other building stock.

Local Policy: London Borough of Camden

3.23 **The Camden Core Strategy** was adopted in November 2010. It sets out the key elements of the Council's planning vision and strategy for the borough. The principle policy relevant to the Sustainability Statement is presented below.

3.24 **Policy CS13: Tackling Climate Change Through Promoting Higher Environmental Standards** requires that all development to take measures to minimise the effects of, and adapt to, climate change and encourage all development to meet the highest

feasible environmental standards that are financially viable during construction and occupation.

3.25 This includes minimising carbon emissions from the redevelopment, construction and occupation of buildings by implementing in order the following hierarchy – use less energy, make use of energy from efficient sources, and generate renewable energy on-site. It states that the Council will promote local energy generation and networks.

3.26 Additionally, it requires that water efficiency is considered and the potential for surface water flooding minimised.

3.27 The **Camden Development Policies** was adopted in 2010. This sets out the development management policies for the Borough from 2010 – 2025, including relating to sustainability, building on the strategic policies set out in the Core Strategy. The principle policies relevant to the Sustainability Statement document are presented below.

3.28 **Policy DP6 – Lifetime Homes and Wheelchair Housing** requires that all housing development should meet Lifetime Homes standards, and 10% of homes should be developed to meet wheelchair housing standards, or be easily adapted to meet them.

3.29 **Policy DP22 – Promoting Sustainable Design and Construction** outlines Camden's key policies relating to sustainable design and construction. It states that the application must demonstrate how sustainable development principles have been incorporated into the design.

3.30 It also states that schemes must incorporate green or brown roofs and walls wherever suitable. The Council expects new build housing to meet Code for Sustainable Homes level 3 by 2010 and Level 4 by 2013. In addition, BREEAM 'very good' is expected on new non-domestic buildings of more than 500 sqm.

3.31 The Council will require development to be resilient to climate change by ensuring schemes include appropriate climate change adaptation measures, such as summer shading and planting; limiting run-off; reducing water consumption; reducing air pollution and not locating vulnerable uses in basement in flood-prone areas.

3.32 **Policy DP23 – Water** outlines Camden's approach to water conservation and reducing risk of flooding. It states that new development in the Borough should incorporate water efficient features and equipment, retaining and re-using surface water and grey water on-site.

3.33 London Borough of Camden has published a range of Supplementary Planning Guidance. **Camden Planning Guidance 3: Sustainability** is relevant to this document,

and provides further detail on the policies outlined above, as well as what the Council like to see provided with planning applications.

Environmental Assessment Methodology - Code for Sustainable Homes

3.34 All residential homes will achieve Code for Sustainable Homes level 4. An illustrative route to achieving Level 4 is presented in Appendix A.

3.35 This meets the requirement of Policy DP22 and CPG3, which states that all residential proposals must be rated against the Code for Sustainable Homes.

3.36 The proposed B1 workspace measures approximately 160 sqm. This is below the policy threshold for a BREEAM assessment.

4. MAXIMISING USE OF LAND

Brownfield Land

4.1 The site is currently occupied by the Iverson Tyre Centre. Reusing brownfield land is a Core Planning Principle of the NPPF.

5. SUSTAINABLE TRANSPORT STRATEGY

5.1 Good sustainable transport links are central to the sustainability debate. They provide a positive contribution to the environmental, societal and economic sustainability of the places they serve.

5.2 The site has a Public Transport Accessibility Level (PTAL) of 5, as measured by the Transport for London PTAL calculator. A PTAL of 5 is considered to be Very Good.

5.3 The site is located approximately 340m from West Hampstead Underground station on the Jubilee line, and approximately 200m and 100m from the West Hampstead London Overground and Thameslink stations respectively.

5.4 In addition, four separate bus services run close to the site, outlined in Table 1 below.

Table 1: Bus services near the site

Bus Service	Destination/ Frequency (peak time)
328	Golders Green - Chelsea
139	Waterloo – West Hampstead
189	Oxford Circus – Brent Cross
C11	Brent Cross – Archway

Car Parking

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

5.6 The proposed development will include provision for cycle parking sufficient to achieve 1 credit as part of the Code for Sustainable Homes assessment.

5.7 A total of 31 spaces are proposed. These will be designed in accordance with the requirements of the Code for Sustainable Homes, and so would be secure and fully accessible to the residents.

Car Free Development

5.8 Given the site's location close to excellent transport links, no car parking is proposed. This will help to ensure that residents and visitors travel by sustainable modes.

Home Office

5.9 It is anticipated that the homes will have provisions for a home office where possible. Encouraging people to live and work in the same locality is central to the sustainability agenda as it reduces the need to travel and creates more lively and vibrant communities.

5.10 Under the Code for Sustainable Homes Home Office credit (Ene9), it is necessary for two double electrical sockets, a broadband enabled telephone point, good ventilation (preferably through an openable window), good daylighting (minimum 1.5% average daylight factor) and a wall greater than 1.8m in length. This allows enough room for a desk and either a filing cabinet or a bookshelf.

6. ENERGY

Energy

6.1 The Energy Statement submitted with this Application (prepared by Richard Hodkinson Consultancy) follows the London Plan Energy Hierarchy in preparing the Energy Strategy for the site, i.e. Be Lean, Be Clean and Be Green.

6.2 A very high building specification will ensure that the Be Lean measures for the proposed residential elements of the proposed development meets the mandatory requirements of Building Regulations 2013 for CO_2 emissions. This specification is likely to include:

> Glazing with a U-value of 1.2 W/m2.K;

> External wall U-values will be improved to 0.18 W/m2.K;

> Party walls will be fully insulated and sealed (achieving an effective U-Value of 0.0 W/m2.K);

> Ground floor U-values will be improved to 0.1 W/m2.K;

> Roof U-values will be improved to 0.1 W/m2.K.

6.3 Additional measures will be adopted within the detailed design of the residential aspect to reduce the energy load. These include:

> High level of air tightness (targeted at 3 m3/hm2);

> High efficiency gas boilers to be specified;

> Specifying energy efficient internal and external lighting throughout;

> Providing comprehensive advice to occupants on how to operate their homes efficiently and effectively via Home User Guides and Building User Guides;

> Insulating all pipe work;

> Specifying A+ or A rated materials under the online Green Guide to Specification for the building envelope;

> Operating energy efficient external lighting with motion sensors and/or daylight cut-off devices;

> Where fitted, encouraging energy efficient white goods that meet the following specification:

> Fridges, freezers and fridge-freezers: A+ rated

> Washing machines and dishwashers: A+ rated

> Tumble dryers and washer-dryers: A/B rated.

6.4 Similar measures are proposed for the non-residential aspects, and are described in more detail in the accompanying Energy Statement.

6.5 In addition to the advanced levels of energy efficiency (Be Lean), photovoltaic panels are proposed to maximise the CO_2 savings site–wide (Be Green). A rooftop survey has been undertaken and potential output estimated in SAP methodology.

6.6 The combination of Be Lean and Be Green results in regulated CO_2 reductions of 35% over Part L 2013.

Ventilation

6.7 Low energy Mechanical Ventilation and Heat Recovery (MVHR) is proposed for all homes. These systems remove stale air and odours from kitchens and bathrooms, while retaining as much heat as possible within the home.

6.8 Air tightness standards would conform to Approved Document Part L accredited details. These details reduce air leakage loss and convective bypass of insulation. Design air permeability to less than 4m3/hm2 will further reduce space heating requirements.

6.9 All homes will benefit from openable windows allowing natural convective ventilation and night-purging should the occupant desire. Diagram 1 below demonstrates the concept of natural ventilation.

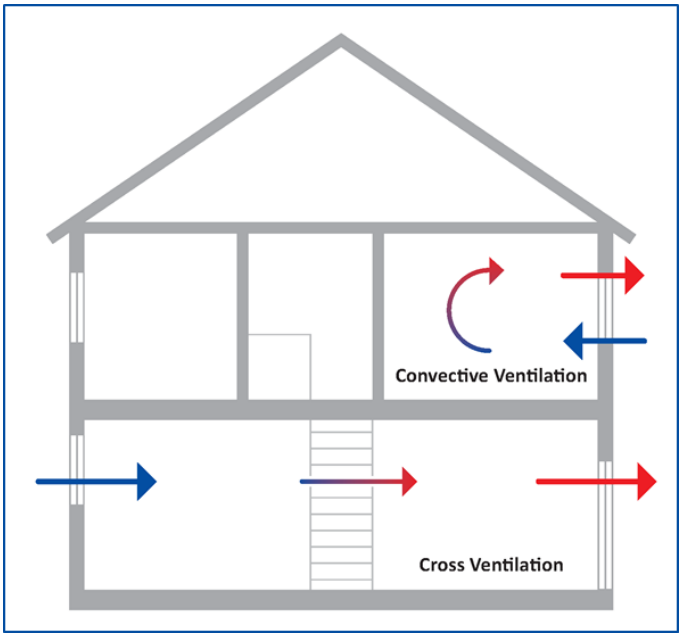


Diagram 1: Natural Ventilation

CPG 3 - Energy

6.10 In line with the policy requirements of CPG3 which asks for at least 50% of the energy credits to be targeted, the Code pre assessment in Appendix A is targeting 18/31 credits.

7. WATER

Internal Water

7.1 Conservation of water is crucial to the sustainability debate. The processing of water into fresh, drinking water uses large amounts of energy. Using water in our homes contributes around 35 million tonnes of greenhouse gas a year (on average 1.5 tonnes per family).

7.2 Additionally, water is a finite resource and during times of drought supplies can run low. Many natural ecosystems in the United Kingdom can suffer as a result of water abstraction.

7.3 In accordance with the requirement in both the Code for Sustainable Homes to achieve Level 4, Policy 5.15 of the London Plan and policy DP23 of the Camden Development Policies Adoption document, internal potable water usage in homes will be less than 105 litres/person/day.

7.4 Meeting the above target may be achieved by the following suggested measures, set out in the Code for Sustainable Homes Pre-Assessment (Appendix B), and will be developed during detailed design.

> WC – 6/4l;

> Wash basin taps – 3l/min;

> Shower flow – 9l/min;

> Bath volume – 140l;

> Kitchen taps – 3l/min;

> No white goods assumed (default values used).

7.5 Water waste reduction advice will be provided to residents and within comprehensive Home User Guides to enable optimum use to be made of the devices installed.

Rainwater Collection

7.6 Rainwater harvesting for irrigation will be provided as part of the development. This will capture rainfall and allow it to be used on the development's landscaped areas.

CPG 3 - Water

7.7 In line with the policy requirements of CPG3 which asks for at least 50% of the water credits to be targeted, the Code pre assessment in Appendix A is targeting 4/6 credits.

8. MATERIALS

8.1 The Building Research Establishment (BRE) Green Guide will be used to assess the building materials as part of the Code assessment. As part of this, materials are rated from 'A' to 'E', with the rating reflecting the Life Cycle of the materials in question. At the proposed development, the materials used will be carefully sourced and specified by the Design Team to ensure that, where possible, higher rated materials would be used.

8.2 Preference will be given to the use of local materials and suppliers where viable. This will be considered as part of the detailed design and construction process.

8.3 All insulation materials will have an Ozone Depleting Potential of zero and a Global Warming Potential of less than 5, in order to achieve credit Pol 1 of the Code for Sustainable Homes.

8.4 Timber used in the proposed development for both basic and finishing elements will be sourced from sustainable sources (e.g. PEFC and FSC) where possible. This also includes timber used in the construction phase, such as hoarding, fencing and scaffolding.

CPG 3 - Materials

8.5 In line with the policy requirements of CPG3 which asks for at least 50% of the materials credits to be targeted, the Code pre assessment in Appendix A is targeting 12/24 credits.

9. FLOOD RISK

9.1 According to the Environment Agency, the site is located in Flood Zone 1.

10. COMFORTABLE, ACCESSIBILITY AND SECURITY

Private and Semi-Private Amenity Space

10.1 Private or semi-private amenity space is provided for the apartments in the form of either private balconies or the semi-private courtyard garden.

10.2 These will be designed to be in accordance with the Code for Sustainable Homes Checklist of Inclusive Design Principles, and are sized according to the London Housing Design Guide. The Code for Sustainable Homes requires that level thresholds are specified, with a maximum chamfered up-stand of 15mm.

10.3 The outside space will be sized to meet and exceed the Code for Sustainable Homes requirements, i.e. a minimum of 1 sqm per bedroom for shared outside space, and 1.5 sqm per bedroom for private space.

Accessibility

10.4 The Applicant's commitment to inclusivity will ensure that the proposed development is scaled appropriately so as to respond to the needs of all its users. The proposed development will meet the requirements of the Equality Act (2010) and Part M of the Building Regulations (2010), making reasonable adjustments to enable disabled access, regularly reviewing whether the buildings are accessible and effective, and providing necessary design adjustments where it is practical to do so.

10.5 In order to achieve any Code for Sustainable Homes rating, the Applicant must design all new build homes in accordance with Checklist Inclusive Design Principles (Checklist IDP). This summarises British Standards BS8300:2009, BS 5709:2006, BS 1703:2005 and Approved Documents Part M and H. The Checklist IDP ensures inclusive access routes, wheelchair turning space, level access, and switches and sockets at a height usable by all.

10.6 Residents will enjoy a high quality lifestyle in a secure and well-designed development, within homes that are environmentally friendly and adaptable to their changing needs.

Lifetime Homes

10.7 Homes will be built to Lifetime Homes Standards and 10% of the homes have been designed to be easily adapted for wheelchair accessibility in line with London Plan Policy 3.8 and Section 2.2 of the London Plan Design and Construction SPG.

10.8 The Lifetime Homes standards are a series of 16 design criteria intended to make homes more easily adaptable for use over their lifetime. The Lifetime Homes standards are intended to ensure accessible and adaptable accommodation for everyone; young families, older people, individuals with a temporary or permanent physical impairment, and allow residents to stay in their home despite developing disabilities.

10.9 The principles of Lifetime Homes enable flexibility, visitability (facilitating ease of visiting access to the homes by everyone, regardless of mobility or disability) and future-proofing i.e. the accommodation will be adaptable and able to respond to changing technological and environmental conditions. This will ensure that the highest standards of accessibility are achieved, for example:

> Level thresholds at all entrances;

> 800mm clear front doorways;

> Adaptability of bathrooms and toilets for future ease of use.

Education – Home User Guides

10.10 Home User Manuals will be provided to the occupants of the homes providing advice and information on how to best operate the services within their homes. By providing information on how to operate the systems within the home, and make the most of the various sustainability features, the user will be more aware of how to operate them more efficiently. It is expected that through greater awareness and understanding of these domestic features, energy and water use in particular can be reduced significantly over the proposed development lifetime.

10.11 In addition to energy and water use, these guides will also elaborate on other issues including recycling and waste; sustainable DIY, sustainable transport and access to services and facilities.

10.12 Water and energy use meters will also be included across the proposed development as a means to monitor use and determine any excess use or wastage. Their inclusion can be a very effective means to reduce energy and water usage.

Daylighting

10.13 Daylighting will be maximised throughout the proposed development where possible. This may be assessed as part of the Code for Sustainable Homes, with up to three credits available for this issue, including for a 2% Average Daylight Factor (ADF) in the kitchen, 1.5% ADF in all living, dining rooms and studies, and at least 80% of the working plane (desk level height) receiving direct light from the sky, in line with the target recommendations of the British Standard 8206.

10.14 Where appropriate, solar control glazing will be installed to reduce solar gains.

10.15 Savills have undertaken a daylight assessment in support of this application.

11.POLLUTION

Global Warming Potential

11.1 The building materials within the proposed development will all meet the following criteria:

> Use traditional and/or long-established materials that do not emit pollutants;

> Use materials that are stable, durable and appropriate;

> Do not use materials that contain heavy metals, biocides or known toxins such as lead or asbestos;

> Make sure that mineral and other fibres are completely encapsulated;

> Use low or nil-formaldehyde-emitting materials;

> Minimise the use of paints, using organic, water-based or mineral paints wherever practicable;

> Avoid timber preservatives;

> Avoid harmful cleaning agents, solvents and smoke from open fires; and

> All insulation materials to have Ozone Depleting Potential of zero and a Global Warming Potential of less than 5.

Noise Pollution

11.2 A noise assessment is being submitted in support of the application.

11.3 Construction traffic will be minimised by restricting deliveries and arrival times in order to manage potential impacts on existing and future occupants. Work would be limited to appropriate hours to be agreed with the Council.

11.4 All homes will be aiming to achieve airborne sound insulation values that improve upon the performance standards outlined within the Building Regulations for England and Wales, Approved Document E, in line with the London Plan's SPG Preferred Standard for

Dwellings. This will be demonstrated at the design stage through either a regime of sound testing or compliance with approved Robust Details.

11.5 This would help to achieve credits as part of the Code for Sustainable Homes assessment.

12. BIODIVERSITY & ECOLOGY

12.1 An ecological survey has been undertaken by the Ecology Consultancy as part of this application. This found the site contains no vegetative features or otherwise of any interest in terms of nature conservation value, and therefore the site has been confirmed to be of low ecological value. No ecological features would be lost as a result of this development.

Mitigation

12.2 As part of the Code for Sustainable Homes assessment, an ecologist would be appointed to assess the current ecological value of the site and make recommendations for improving the site's ecology.

12.3 The Applicant would commit to adopting all key and at least 30% of additional recommendations, which are likely to involve soft landscaping, including native species and species of value for wildlife. Flowering species will be preferred as these benefit invertebrate species and may provide nesting opportunities for birds.

12.4 These would increase the overall value of the site in terms of nature conservation and biodiversity.

Green roof and green wall

12.5 Green walls and green roofs are proposed to help maximise biodiversity on the site, in addition to the proposed landscaped courtyard. A green roof is proposed over approximately 353 sqm, and a green wall over 72 sqm. The green roof would be combined with the specified photovoltaic panels (please refer to the Energy Statement for further detail).

12.6 The detailed planting specification would be confirmed during detailed design, with advice from an ecologist, and would be specified to maximise credits as part of the Code for Sustainable Homes assessment.

12.7 Green walls and roofs are known to provide significant localised benefits, including:

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

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

> Reduction in surface water run-off;

> Contribute to the provision of ecology credits as part of the Code assessment.

13.WASTE

Construction Waste

13.1 Waste reduction is a key challenge of sustainable development. The two main waste issues that the Applicant has considered are:

> Domestic waste: to reduce waste by the new homeowners and building occupiers, and incorporating various techniques for this

> Construction waste: to reduce waste by the contractors and incorporating various techniques for this

13.2 A reduction in waste offers benefits not only to the environment, but also to the occupier and developer. The amount of waste materials on the site can be reduced by introducing regular audits to monitor and control site activities more closely, for example by reviewing materials ordering. Surveys have found that detailed attention to the quantity of materials purchased and the way these are off-loaded, labelled and stored can significantly reduce the amount of materials wasted. Wherever possible, the use of packaging and non-returnable pallets should be avoided, recycling or re-used.

13.3 Measures that would likely be implemented at the proposed development and driven in part through a fully compliant Site Waste Management Plan include:

> Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging ‘take-back’ scheme;

> Implement a 'just-in-time' material delivery system to avoid materials being stockpiles, which increases risk of damage and disposal;

> Attention to material quantity requirements to avoid over-ordering;

> Re-use of materials wherever feasible;

> Segregation of waste at source;

> Identification of materials to be diverted from landfill to meet national targets;

> Selection of materials and design styles that minimise waste;

> Engagement of the supply chain and site team in waste and packaging issues;

> Training and information on waste issues;

> Reducing waste at source, re-using or recycling material wherever practical with over 85% of all waste generated from construction to be diverted from landfill;

> Waste monitoring and report performance against local or national benchmarks; and

> Site security measures to prevent loss through vandalism or theft.

13.4 Construction operations generate waste materials as a result of general handling losses and surpluses. These wastes can be reduced through appropriate selection of construction methods, good site waste management practices and identifying opportunities to avoid creating unnecessary waste.

13.5 A number of these measures would also contribute to the achievement of 'beyond best practice' scoring as part of the Considerate Constructors Scheme.

Recycling of Domestic Waste

13.6 The Applicant is committed to supporting recycling, assisting in delivering the government targets for recycling and landfill waste reduction.

13.7 The Code for Sustainable Homes requires that waste storage is provided to meet the larger of either the BS5906: Waste Management in Buildings, or the London Borough of Camden Refuse and Recycling Storage Guidance.

13.8 These measures include the following:

> Space will be provided for segregated recycling waste bins within the kitchen areas of the dwellings. This will involve the supply of a recycling

bin, in addition to a non-recyclable bin, which waste can be segregated into the paper, cans, plastics and glass;

> Refuse storage is also to be provided where both recyclables and waste can be stored;

> All non-residential uses will also be provided with means for recycling.

13.9 A 21 sqm refuse store is proposed as part of the development.

13.10 Similarly to energy efficiency, much of the task in reducing waste is associated with educating users as well as providing facilities which make the process practical. Information on the subject will be provided to the residents and tenants of the proposed development.

Waste

13.11 A comprehensive Site Waste Management Plan will include measures for sorting and recycling construction waste. Internal and external recycling facilities will also be included for all homes and non-residential spaces.

14.SUSTAINABLE CONSTRUCTION

Considerate Constructors Scheme

14.1 The proposed development will be registered under the Considerate Constructors Scheme whereby the Site will be registered and assessed against the following:

> Enhancing the appearance;

> Respecting the community;

> Protecting the environment;

> Securing everyone's safety;

> Caring for the workforce.

14.2 The site would target 'above best practice' certification, requiring a score of no less than 35 out of 50, with none of the five sections scoring less than seven. This will contribute to achieving credits under the Code for Sustainable Homes assessment.

14.3 During the construction processes, control procedures will be put in place to minimise noise and dust pollution whilst emissions will be monitored. Roads will be kept clean. The management systems will generally comprise procedures and working methods that are approved by the proposed development team together with commercial arrangements to ensure compliance.

14.4 Specific action will be taken to minimise and control any nuisance from construction traffic to surrounding neighbourhoods.

14.5 In addition to Considerate Constructors, the Code for Sustainable Homes incorporates credits awarded for sustainable construction practices. Energy and water consumption would be metered and monitored where possible.

15.CONCLUSION

15.1 The issue of sustainable development has been considered throughout the design of the proposed development. In particular, the associated effects of ecology, surface water drainage, water efficiency, building structure, low and zero carbon technologies and recycling have been addressed.

15.2 A combination of a 35% reduction in regulated CO_2 emissions over Building Regulations Part L 2013, with a commitment to Code for Sustainable Homes level 4 represents a very high level of sustainable design and construction, and it is considered that the proposed development accords with all levels of planning policy.

15.3 In summary, the proposed development includes the following key commitments relating to sustainability:

> All homes will achieve a Code for Sustainable Homes rating of Level 4;

> The proposed development will benefit from excellent levels of energy efficiency, with 'Be Lean' measures improving over Part L 2013 baseline by 9% for the residential dwellings;

> Photovoltaic panels are proposed to further reduce carbon emissions over the Be Green baseline by an additional 29%;

> The site-wide reduction in regulated CO_2 emissions over the Building Regulations (2013) baseline will be 35%;

- 100% of the proposed development is on previously developed land;
- Water efficiency measures and devices will be installed in the homes to achieve a maximum daily water usage of 105 litres/person/day;
- Surface water run-off will be reduced from existing levels in accordance the Code for Sustainable Homes mandatory requirements;
- The proposed development includes the provision of dedicated cycle storage areas to promote sustainable travel, as well as Home Office facilities to reduce the need to travel;
- Advice from an ecologist will be sought during detailed design to ensure ecology/ biodiversity is protected and enhanced as part of the Code for Sustainable Homes assessment;
- Where practical, building materials will be sourced locally to reduce transportation pollution and support the local economy. All timber will be purchased from responsible forest sources. Materials will be selected based on their environmental impact, with preference given to high rated materials from the BRE Green Guide to Specification where possible;
- Recycling facilities will be provided for domestic, commercial and construction related waste.

APPENDICES

Appendix A
Code for Sustainable Homes Level 4 Pre Assessment

Code for Sustainable Homes Pre-Assessment - 159 Iverson Road - Typical Apartment

69.06	Total Predicted Score	Development Description	Completed by
Level 1 Level 2 Level 3 Level 4 Level 5 Level 6	36 Points 48 Points 57 Points 68 Points 84 Points 90 Points	23 residential dwellings in the London Borough of Camden	Christopher Scobie: CS35 04.08.14

	Issue	Credits Available	Credits Predicted	Design Assumptions Made
Energy & Carbon Dioxide Emissions	**ENE 1** Dwelling Emission Rate	10	4	A minimum 35% improvement in 2013 Part L to be targetted in accordance with the London Plan Policy 5.2.
	ENE 2 Fabric Energy Efficiency	9	7	A mininum FEE target of less than or equal to 37 kWh/m2/year required to achieve seven credits.
	ENE 3 Energy Display Devices	2	0	Energy display devices would need to be specified to each apartment to secure these credits, displaying current electricity and primary heating fuel consumption.
	ENE 4 Drying Space	1	0	This credit requires compliant internal drying space to be provided, with a minimum line length of 4m for 1-2 bed dwellings and 6m for 3+ bed dwellings.
	ENE 5 Energy Labelled White Goods	2	1	Likely no white goods provided, credit achieved for provision of information on energy labelling.
	ENE 6 External Lighting	2	2	All communal and external lighting to be low energy and controlled with PIR, daylight sensor or time-switch.
	ENE 7 Renewable Technologies	2	2	A minimum 15% reduction in CO2 emissions as a result of the specification of the PV panels required to achieve two credit for this issue.
	ENE 8 Cycle Storage	2	1	Sufficient cycle parking required to achieve one credits for this issue. To meet the requirements of Secured by Design.
	ENE 9 Home Office	1	1	A Home Office to be provided in an appropriate room in each dwelling, with a minimum 1.5% ADF, 1.8m wall space, two double sockets, telephone point, broadband and an openable window.
Energy & CO2 Category Predicted Score		**31**	**18**	**Credit Weighting - 1.17**
Water	**WAT 1** Indoor Water Use	5	3	Specification of sanitaryware and water goods to ensure that daily water use per person does not exceed 105 litres/day. To be measured using the BRE calculator.
	WAT 2 External Water Use	1	1	Compliant water butts to be specified to harvest rainwater for irrigation.
Water Category Predicted Score		**6**	**4**	**Credit Weighting - 1.5**
Materials	**MAT 1** Environmental Impact of Materials	15	7	The credits achieved for this issue to be determined during detailed design stage.
	MAT 2 Responsible Sourcing of Materials - Basic Building Elements	6	3	Materials to be responsibly sourced where appropriate. Certificates would be required during the Code assessment.
	MAT3 Responsible Sourcing of Materials - Finishing Elements	3	2	
Materials Category Predicted Score		**24**	**12**	**Credit Weighting - 0.3**
Surface Water Run-off	**SUR 1** Management of surface water run-off from developments	2	0	Mandatory requirements should be achieved as it is expected there will be no increase in impermeable area as a result of development. Compliance with this credit would require completion of the Sur 1 checklist by an appropriately qualified drainage engineer.
	SUR 2 Flood Risk	2	2	Site in low flood risk area according to EA website. To be confirmed by FRA during detailed design stage.
Surface Water Run-off Category Predicted Score		**4**	**2**	**Credit Weighting - 0.55**

	Issue	Credits Available	Credits Predicted	Design Assumptions Made
Waste	**WAS 1** Storage of non-recyclable waste & recyclable household waste	4	4	Site waste and recycling storage provision to be the larger of either the local authority requirements, or the BS5906. In addition, internal waste and recycling bins will be provided, with a minimum capacity of 30 litres and with three individual comparments. All facilities will be designed in accordance with the principles of the Checklist of Inclusive Design.
	WAS 2 Construction Site Waste Management	3	3	A SWMP to be prepared which will ensure at least 85% of construction waste is diverted from landfill.
	WAS 3 Composting	1	0	Credit unlikely to be achieved.
Waste Category Predicted Score		8	7	**Credit Weighting - 0.8**
Pollution	**POL 1** Global Warming Potential (GWP) of Insulants	1	1	All insulants to have a Global Warming Potential of less than 5.
	POL 2 NO_x Emissions	3	3	All boilers to have low NOx emissions of less than less than or equal to 40 mg/kWh.
Pollution Category Predicted Score		4	4	**Credit Weighting - 0.7**
Health & Wellbeing	**HEA 1** Daylighting	3	1	A daylighting assessment would be undertaken to determine the number of credits for this issue. One credit is awarded where the lounge/diner & home office has an ADF of more than 1.5%, one where the kitchen has an ADF of more than 2% and one where at least 80% of the living area in the kitchen and living space has a direct view of the sky. One credit has been assumed here.
	HEA 2 Sound Insulation	4	1	One credit would require a commitment to improve upon Part E by at least 3dB for both impact and airborne sound insulation.
	HEA 3 Private Space	1	1	All dwellings to have access to outside space, either a private balcony or semi-private communal garden. Access to this space to be designed in accordance with Checklist IDP, i.e. level thresholds.
	HEA 4 Lifetime Homes	4	4	All dwellings to be designed in accordance with all 16 requirements of Lifetime Homes.
Health & Wellbeing Category Predicted Score		12	7	**Credit Weighting - 1.16**
Management	**MAN 1** Home User Guide (HUG)	3	3	A Home User Guide will be provided to all dwellings, compliant with all Code requirement.
	MAN 2 Considerate Constructors Scheme	2	2	An 'above best practice' score to be targetted, with a general score of 35 and no area scoring less than 7.
	MAN 3 Construction Site Impacts	2	2	Construction site impacts to be monitred in accordance with the requirements of the Code for Sustainable Homes.
	MAN 4 Security	2	2	Principles of Secured by Design section 2 to be achieved, with all recommendations of the ALO to be incorporated into design.
Management Category Predicted Score		9	9	**Credit Weighting - 1.11**
Ecology	**ECO 1** Ecological Value of Site	1	1	Site to be assessed by an appropriately qualified ecologist. At this stage it has been assumed that the trees to be removed have little or no ecological value.
	ECO 2 Ecological Enhancement	1	1	Credit awarded for the inclusion of the ecologist's key recommendations and at least 30% of the additional recommendations.
	ECO 3 Protection of Ecological Features	1	1	As the site is likely to be considered as having 'low ecological value' this credit may be achieved by default. To be confirmed by an ecologist.
	ECO 4 Change of Ecological Value of Site	4	3	Credits awarded for the change in species per hectare. A slight improvement has been assumed based on the specification of a green roof and green wall, which would result in 3 credits.
	ECO 5 Building Footprint	2	2	The proposed building density should achieve 2 credits.
Ecology Category Predicted Score		9	8	**Credit Weighting - 1.33**

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