

172-176 KILBURN HIGH ROAD, CAMDEN

Sustainability Statement

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- **Reference:** AG/VL/P21-2430/03

Date: October 2021

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Registration of Amendments

| Revision and Date | Amendment Details | Revision Prepared By | Revision Approved By |
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EXECUTIVE SUMMARY

This Sustainability Statement is submitted to support the planning application for the proposed conversion and extension development located at 172-176 Kilburn High Road, Camden.

The London Borough of Camden and the GLA sustainability policies have been reviewed and used to optimise the environmental strategy of the development and to demonstrate the sustainability credentials of the scheme.

The Sustainability Statement for the proposed development demonstrates that the design will holistically incorporate sustainable principles into the full range of sustainability aspects covered by the London Borough of Camden's planning documents: Energy, Noise, Daylighting and Sustainable Construction Processes/Materials & Recycling.

It is proposed that the scheme will address the sustainable design and construction considerations through the adoption of a number of measures:

- Highly efficient building fabric to improve the energy performance of the building envelope well beyond Building Regulations compliance in order to reduce reliance on fossil fuels;
- Incorporation of Low and Zero carbon technology appropriate for the site -heating via Air Source Heat Pumps, and additional electricity generation via Photovoltaic panels on roofs);
- Passive measures to address potential overheating;
- Sustainable construction practices, local sourcing of materials and the use of materials with low life cycle impacts;
- Windows sized to maximise daylight;
- Reduce construction waste and provide facilities to enhance recycling rates;
- Measures to ensure compliance with air quality and noise policies.

The proposals for the scheme have fully considered opportunities for sustainable construction to provide positive environmental, social and economic benefits that are consistent with the policy requirements of the London Borough of Camden and the GLA.

1.0 INTRODUCTION

- 1.1 Create Consulting Engineers Ltd has been commissioned by Lexstorer Ltd to prepare a Sustainability Statement to support a full planning application for the proposed development at 172-176 Kilburn High Road, Camden.
- 1.2 The objective of the Sustainability Statement is to assess the proposed development against the policy requirements of the Camden Local Plan (2017).

Site Location and Description

1.3 The proposed development comprises the conversion of the first floor and the extension of the building upwards, to provide 8 flats. The ground floor will remain in retail use. Please refer to the Site Location plan below for details.



Contains Ordnance Survey data © Crown copyright and database rights 2021. Figure 1.1: Site Location Plan

Objectives

- 1.4 The objectives of this report are to:
 - Demonstrate how the proposed development will meet the policy requirements of the Publication London Plan (2021) and Camden's Local plan (2017).

• 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.

Report Structure

1.5 This introductory section is followed by a comprehensive review of national/regional/local policies on sustainability and best practice standards. The following 2 sections address measures taken to mitigate the effects of climate change, and measures to enhance the energy efficiency of the scheme, as well as reducing CO₂ emissions. The remaining Sections 5 – 7 detail the sustainability strategy for the scheme related to Water Efficiency, Noise, Sustainable Construction Processes/Materials & Recycling.

2.0 CURRENT AND FUTURE PLANNING POLICIES/GOOD PRACTICE REVIEW AND PROJECT REQUIREMENTS

National Planning Policy Framework (July 2021)

- 2.1 The National Planning Policy Framework sets out the Government's planning policies for England and how these are expected to be applied. It provides a framework within which locally prepared plans for housing and other development can be produced. The ministerial foreword of this NPPF highlights that 'the purpose of planning is to contribute to the achievement of sustainable development' and that at the heart of the framework is a presumption in favour of sustainable development.
- 2.2 Sustainable development is summarised in the NPPF as comprising developments "meeting the needs of the present without compromising the ability of future generations to meet their own needs" in line with the definition of the Brundtland Commission ('Our Common Future', 1987). The NPPF also refers to the three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways an economic objective, a social objective and an environmental objective.

The Greater London Authority - London Plan 2021

2.3 The London Plan 2021 sets out the overall strategic plan for London, and it sets out a fully integrated economic, environmental, transport and social framework for the development of the capital over the next 20-25 years. It forms part of the development plan for Greater London. London boroughs' local plans need to be in general conformity with the London Plan, and its policies guide decisions on planning applications by councils and the Mayor. The Plan contains a number of policies directly related to energy and sustainability. In particular, relating to sustainability:

Policy SI 2: Minimising Greenhouse Gas Emissions

- 2.4 Major development should be net zero-carbon. This means reducing greenhouse gas emissions in operation and minimising both annual and peak energy demand in accordance with the following energy hierarchy:
 - 1) be lean: use less energy and manage demand during operation
 - 2) be clean: exploit local energy resources (such as secondary heat) and supply energy efficiently and cleanly
 - 3) be green: maximise opportunities for renewable energy by producing, storing and using renewable energy on-site
 - 4) be seen: monitor, verify and report on energy performance.

Policy SI 3 Energy infrastructure

- 2.5 Major development proposals within Heat Network Priority Areas should have a communal low-temperature heating system:
 - 1) the heat source for the communal heating system should be selected in accordance with the following heating hierarchy:
 - a) connect to local existing or planned heat networks
 - b) use zero-emission or local secondary heat sources (in conjunction with heat pump, if required)
 - c) use low-emission combined heat and power (CHP) (only where there is a case for CHP to enable the delivery of an area-wide heat network, meet the development's electricity demand and provide demand response to the local electricity network)
 - d) use ultra-low NOx gas boilers
 - 2) CHP and ultra-low NOx gas boiler communal or district heating systems should be designed to ensure that they meet the requirements in Part B of Policy SI 1 Improving air quality
 - 3) where a heat network is planned but not yet in existence the development should be designed to allow for the cost-effective connection at a later date.
- 2.6 Where developments are proposed within Heat Network Priority Areas but are beyond existing heat networks, the heating system should be designed to facilitate cost-effective future connection.

Policy SI 4: Managing heat risk

- 2.7 Major development proposals should demonstrate through an energy strategy how they will reduce the potential for internal overheating and reliance on air conditioning systems in accordance with the following cooling hierarchy:
 - 1) reduce the amount of heat entering a building through orientation, shading, high albedo materials, fenestration, insulation and the provision of green infrastructure;
 - 2) minimise internal heat generation through energy efficient design;
 - manage the heat within the building through exposed internal thermal mass and high ceilings;
 - 4) provide passive ventilation;
 - 5) provide mechanical ventilation;
 - 6) provide active cooling systems.

Local Policy

Camden Local Plan 2017

2.8 The Camden Local Plan is the key strategic document in Camden's development plan. It sets out the vision for shaping the future of the Borough and contains policies for guiding planning decisions. The following policies have been identified as appropriate for assessing the sustainable performance of new developments:

Policy A4: Noise and vibration

- 2.9 The Council will seek to ensure that noise and vibration is controlled and managed.
- 2.10 Development should have regard to Camden's Noise and Vibration Thresholds. We will not grant planning permission for:
 - a. development likely to generate unacceptable noise and vibration impacts; or
 - b. development sensitive to noise in locations which experience high levels of noise, unless appropriate attenuation measures can be provided and will not harm the continued operation of existing uses.

Policy CC1 Climate change mitigation

- 2.11 The Council will require all development to minimise the effects of climate change and encourage all developments to meet the highest feasible environmental standards that are financially viable during construction and occupation. We will:
 - a) promote zero carbon development and require all development to reduce carbon dioxide emissions through following the steps in the energy hierarchy;
 - b) require all major development to demonstrate how London Plan targets for carbon dioxide emissions have been met;
 - c) ensure that the location of development and mix of land uses minimize the need to travel by car and help to support decentralised energy networks;
 - d) support and encourage sensitive energy efficiency improvements to existing buildings;
 - e) require all proposals that involve substantial demolition to demonstrate that it is not possible to retain and improve the existing building; and expect all developments to optimize resource efficiency.

Policy CC2 Adapting to climate change

- 2.12 The Council will require development to be resilient to climate change.
- 2.13 All development should adopt appropriate climate change adaptation measures such as:
 - a) the protection of existing green spaces and promoting new appropriate green infrastructure;

- b) not increasing, and wherever possible reducing, surface water runoff through increasing permeable surfaces and use of Sustainable Drainage Systems;
- c) incorporating bio-diverse roofs, combination green and blue roofs and green walls where appropriate; and
- d) measures to reduce the impact of urban and dwelling overheating, including application of the cooling hierarchy.
- 2.14 Any development involving 5 or more residential units or 500 sqm or more of any additional floorspace is required to demonstrate the above in a Sustainability Statement.
- 2.15 The Council will promote and measure sustainable design and construction by:
 - e) ensuring development schemes demonstrate how adaptation measures and sustainable development principles have been incorporated into the design and proposed implementation;
 - f) encourage new build residential development to use the Home Quality Mark and Passivhaus design standards;
 - g) encouraging conversions and extensions of 500 sqm of residential floorspace or above or five or more dwellings to achieve "excellent" in BREEAM domestic refurbishment; and
 - h) expecting non-domestic developments of 500 sqm of floorspace or above to achieve "excellent" in BREEAM assessments and encouraging zero carbon in new development from 2019.

Camden Supplementary Planning Guidance- Energy and Efficiency (2021)

Chapter 3- Making buildings energy efficient

- 2.16 Natural 'passive' measures should be prioritised over active measures to reduce energy. Major residential development to achieve 10%, and nonresidential development to achieve 15% reduction (beyond part L Building regulations), in accordance with the new London Plan, through on-site energy efficient measures (Be lean stage). Chapter 6- Energy statements
- 2.17 Energy statements are required for all developments involving 5 or more dwellings and/or more than 500sqm of any (gross internal) floorspace. Energy statements should demonstrate how a development has been designed following the steps in the energy hierarchy. <u>Chapter 7- Energy reduction</u>
- 2.18 All development in Camden is expected to reduce carbon dioxide emissions through the application of the energy hierarchy.
- 2.19 Developments of five or more dwellings and/or more than 500sqm of any gross internal floorspace to achieve 20% reduction in carbon dioxide emissions from on-site renewable energy generation.

Building Regulations Approved Document Part L 2013

- 2.20 Part L of the current Building Regulations (2013) considers the reduction of carbon emissions in new and existing buildings. As the proposals consist of the creation of new domestic and non-domestic spaces they fall under Part L1A, L1B and L2B of the Regulations.
- 2.21 The overall structure of compliance with the 2013 Building Regulations for new buildings includes five criteria to comply with:
 - Criterion 1 The Dwelling/Building Emission Rate (DER/BER) should be better than the Target Emission Rate (TER);
 - **Criterion 2** Limit on design flexibility;
 - Criterion 3 Limiting effects of heat gain in summer;
 - **Criterion 4** Commissioning and air-tightness;
 - **Criterion 5** Efficient operation of buildings.

3.0 CLIMATE CHANGE – MITIGATION AND ADAPTATION

- 3.1 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.
- 3.2 The effects of climate change are complex, they include:
 - Increased average temperatures;
 - Rising sea levels;
 - Increased precipitation;
 - More frequent extreme weather.
- 3.3 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.

Climate Change – Mitigation

3.4 The energy strategy for the scheme has considered measures to mitigate the effects of climate change through the specification of energy efficient systems (ASHP). The Energy Strategy is discussed further in Section 4 of this report.

Climate Change – Adaptation

Flood Risk – Adapting to heavier rainfall

- 3.5 The problem of flooding has become increasingly prevalent in the UK in recent years. Examples of extreme flash flooding and prolonged periods of above average rain fall have increased the incidence and severity of these events and caused substantial economic and structural damage in many areas.
- 3.6 One contributing factor to these events is the increasing urbanisation of the UK. Over 10% of land in England is now developed and this land discharges rain and storm water rapidly into sewers and water courses. This can increase the risk of flash flooding. Undeveloped land is generally much better at absorbing and holding rain water and discharging it over prolonged periods of time and at reduced rates.
- 3.7 Many existing urban drainage systems can cause problems of flooding, pollution or damage to the environment and are not resilient to climate change in the long term. Therefore to encourage prolonged discharge of storm water a preferred method of surface water disposal is through the use of Sustainable Drainage Systems (SUDs). This term refers to any system designed to infiltrate, hold or delay storm water discharge in urban areas. A variety of

methods can be employed including permeable paving, balancing ponds, reed beds, soakaways and water butts, green roofs and attenuation tanks.

3.8 The Proposed Development is a refurbishment of the first floor and a two storey extension and therefore there is no increase in impermeable areas.

Overheating – Adapting to rising temperatures

- 3.9 A detailed overheating analysis has been prepared by Create Consulting Engineers Ltd and summarised in the Overheating Assessment report, reference (Ref: AK_VL_P21-2430_01)
- 3.10 The assessment found that all residential spaces pass the relevant criteria for overheating described in TM52 and TM59, in accordance with the mandatory weather file DMSY1, listed alongside other weather files additionally undertaken for study:
 - DSY1 for 2020s, high emissions, 50% percentile scenario
 - DSY2-2003: a year with a very intense single warm spell
 - DSY3- 1976: a year with a single prolonged period of sustained warmth
- 3.11 Throughout the development passive measures have been implemented as far as possible (bedrooms mainly north facing, minimised internal gains and improved building fabric) within the development design.
- 3.12 Blinds with high shading properties, fixed to the internal side of each window are proposed for all floors, to enable airflow through open windows, whilst providing shade for all rooms.
- 3.13 MVHR has been proposed to provide entire dwellings with continuous ventilation whilst windows are closed, with all flats assessed meeting the TM59 criterion for homes which are predominantly mechanically ventilated.

4.0 ENERGY

- 4.1 An Energy Statement has been prepared by Create Consulting Engineers (Ref: TH_VL_P20-2057_02) detailing how the development will meet the required energy efficiency standards.
- 4.2 The energy statement has been prepared in the context of the Camden Local Plan (2017) and the Camden Planning Guidance (2021), under the latter, new developments will be required to demonstrate a 20% carbon emission reduction compared with the Part L compliant case.
- 4.3 The energy strategy for the proposed development has at its core, the reduction of energy use on-site through effective fabric energy efficiency measures and efficient servicing solutions. The following features will lead to a significant reduction in anticipated energy consumption and CO₂ emissions compared to the Part L compliant case, through the specification of energy saving features within the services design:
 - Excellent air tightness of 3.0m³/m²/hr @ 50Pa for all residential units, and 5.0m³/m²/hr @ 50Pa for non-residential areas;
 - High levels of insulation and high performance glazing to leading to very energy efficient building fabric well in excess of Part L 2013 targets;
 - Improvement to the existing fabric where feasible;
 - Highly efficient heating and control system via Air Source Heat Pumps (ASHP) for both residential and non-residential areas;
 - Mechanical ventilation with heat recovery for all flats and commercial units;
 - 100% dedicated energy efficient lighting;
 - Accredited Construction Details to all new units to mitigate cold bridging.
- 4.4 An LZC feasibility study was undertaken to assess the potential use of renewable and low carbon energy technologies on site, taking into account practical considerations of deliverability, the likely requirements of the end users and the likely energy use profile of the operational building. The study concluded that the most feasible technology for the development is ASHPs.
- 4.5 CO₂ emissions for the site, after the inclusion of improved building fabric and systems are estimated as approximately 14.8 tonnes of CO₂ per year which is a reduction of 42% compared to the baseline scenario.
- 4.6 The proposed strategy of efficient building fabric and services design, and the incorporation of ASHPs, will allow the scheme to achieve a CO₂ emission reduction of approximately 71%, exceeding the London Borough of Camden requirement for the site.
- 4.7 For further information please refer to the energy strategy.

5.0 SUSTAINABLE CONSTRUCTION PROCESSES/MATERIALS & RECYCLING

- 5.1 Preference will be given to the selection of sustainable materials with a low environmental impact over their life cycle, as well as sustainable procurement and waste disposal.
- 5.2 The environmental impact of construction activities will be minimised through the implementation of best practice measures detailed in the sections below:

Sustainable Construction

- 5.3 Sustainable construction practices include good site management to encourage resource efficiency, increase materials recovery and avoid the disposal of waste to landfill.
- 5.4 The following sustainable construction practices will be considered within the development:
 - Reducing construction and excavation waste to landfill;
 - Ensuring the products used in construction are responsibly sourced;
 - Carrying out biodiversity surveys and following up with necessary actions;
 - Best practice site management principles through registering the site with the Considerate Constructor Scheme to commit to manage the site beyond best practice.
- 5.5 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 through monitoring and mitigating construction site impacts throughout the construction period. Best practice pollution prevention policies will be encouraged 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.
- 5.6 A construction management plan will be in place prior to commencement of the development. The construction management plan will appropriately demonstrate how the impacts of air/water pollution, noise and vibration will be mitigated against during the construction of the development. Where feasible timber used on site will be reclaimed, re-used or responsibly sourced.

Construction Materials

- 5.7 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;
- The use of recyclable materials, such as aggregate will be considered;
- 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 possible. Specific consideration will be given to embodied energy and durability and strength of materials selected for the scheme.

Construction Waste

- 5.8 On-site waste will be minimised, and a high proportion of the waste that is produced will be diverted from landfill, through either:
 - Re-use on site (in situ or for new applications) or re-use on other sites;
 - Salvaged/reclaimed for re-use;
 - Returned to the suppliers via 'take-back' schemes;
 - Recovered and recycled using an approved waste management contractor.
- 5.9 Where it is not possible to reduce or re-use materials on site, opportunities to recycle the materials off-site will be explored, where feasible.

Operational Waste

5.10 The building will be provided with easily accessible external waste storage to enable segregation of waste into recyclable and non-recyclable waste streams prior to collection.

6.0 DAYLIGHT AND SUNLIGHT

- 6.1 A Daylight and Sunlight Assessment has been prepared by GL Hearn (ref: J042342-REL01_V1_172-176) to assess the 8 neighbouring residential properties, in accordance with the BRE guidance.
- 6.2 The daylight has been assessed for 73 of the neighbouring residential windows, using the Vertical Sky Component test (VSC). A large majority of 69 windows meet the guidelines detailed by BRE, equating to a 95% pass rate.
- 6.3 The internal daylight assessed using daylight distribution for 44 rooms selected for evaluation in neighbouring properties were all considered BRE compliant, equating to a 100% pass rate.
- 6.4 In the majority of the 21 neighbouring properties, no rooms required a sunlight assessment, as there were no windows within 90 of due south as per BRE recommendation. Neighbouring residential rooms applicable for assessment were all BRE compliant, concluding a 100% pass rate.
- 6.5 The impact of the proposed development on neighbouring buildings has been assessed and overall, the development will have a minor adverse effect on the neighbouring properties.

7.0 NOISE POLLUTION

- 7.1 A BS 8233:2014 compliant Noise Impact Assessment been carried out by TECL Ltd (ref: TECL/00530/P21-2430/01) to determine whether there are any significant constraints on developing the site.
- 7.2 The noise levels measured at the rear elevation indicate daytime noise level exceeds the desirable threshold, and the existing noise levels for balconies on the rear of the development are above the upper guideline value, however it is considered that without shop activity the daytime noise would be below the upper guideline value, therefore no noise mitigation is required.
- 7.3 The measured noise levels at the site are such that robust glazing specification will allow residential accommodation to remain in compliance with the requirements of BS8233.
- 7.4 Internal noise levels will need to be considered in the context of room ventilation and overheating requirements, since the windows need to be closed to achieve the internal noise criteria. Therefore, an alternative form of ventilation and/or cooling which does not compromise the sounds insulation performance will be required.

8.0 CONCLUSION

- 8.1 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 Publication London Plan and the Camden Local Plan (2017).
- 8.2 The Sustainability Statement for the scheme demonstrates that the design will holistically incorporate sustainable principles into the full range of sustainability aspects covered by the relevant policies.

9.0 DISCLAIMER

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