energycouncil
engineering sustainable buildings

Sustainability Statement
Ref: Z10719

9No. New Build Apartments

at

128-130 Grafton Road,
Kentish Town,
London,
NW5 4BA

for

Daisy Designs UK



BREEAM ACCREDITED PROFESSIONAL
BSI FS 560187
C2E
LOW CARBON ENERGY ASSESSORS
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committed to CSCS Platinum award

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Contents

Executive Summary

The development has been assessed to maximise its sustainability and environmental credentials. This strategy considers many aspects of the design and construction of the development and the following issues have been identified:

1. Energy Efficiency
2. Transport
3. Pollution
4. Construction Materials and Waste
5. Water Consumption
6. Ecological Aspects (Land Use and Ecology
7. Health and Wellbeing
8. Sustainable Management of the Construction Process

New and existing buildings have become priority concerns for policy-makers with a range of policy (and related fiscal) measures targeting the energy and carbon performance of buildings. Below is a summary of the main performance criteria:

The following approaches to sustainable design have been explored within this report for the Grafton Road development:

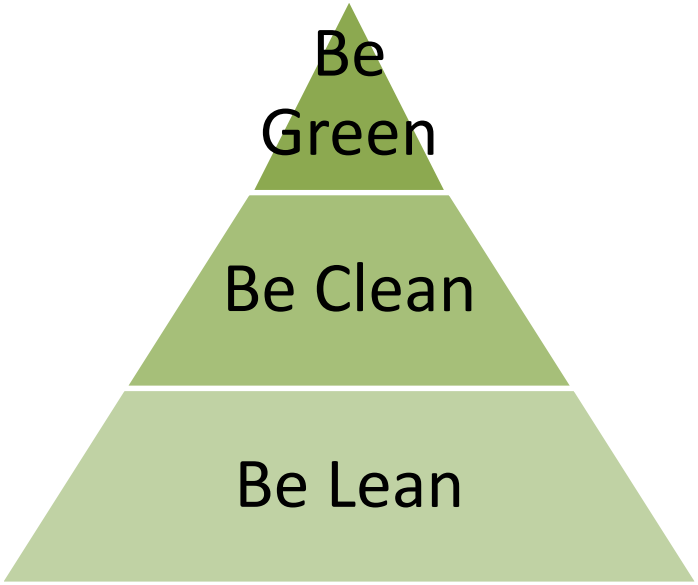
- A preliminary assessment has been undertaken to review how the layout, orientation, design and materials used in the construction of the development will impact on the sustainability.

This assessment has been used to consider and evaluate best practise energy efficient and sustainable design, and a number of improvements have been listed in Section 3.

- Water efficiency will be promoted throughout the development through the incorporation of water efficient fittings and water metering. Reduction in water usage indirectly impacts on energy usage embodied carbon reductions through water treatment.
- Procurement and construction processes will be carried out to minimise the environmental impacts of materials, with sustainable locally sourced and/or recycled materials being selected wherever practically possible. This also impacts on embodied carbon and energy usage.
- The development aims to provide compliance with the sustainability measures in the Camden Local Plan (2017) through a holistic range of sustainability and energy efficiency measures to ensure impact is minimised.

An energy hierarchy for the Grafton Road development has considered the need to reduce energy use first, then use clean, efficient non-renewable systems and finally (where practical or necessary) using renewable energy for the remaining carbon reduction requirements.

Full details are provided in the separate Energy Statement Z10719.



1. Introduction

This Sustainability Statement has been developed in support of the planning application for the proposed development of 9No. residential apartments at 128-130 Grafton Road, London.

The proposed development consists of a single five-storey block and basement with self-contained flats and a communal stairwell. The development is required to achieve compliance under Building Regulations Approved Document Part L1A (2016), as detailed within a standalone Energy Statement that should be referred to with this report.

This assessment has been undertaken to strategically look at the technical and economic feasibility of sustainability measures to maximise the schemes sustainable and environmental credentials and in accordance with the following planning policies:

- Camden Borough Council Local Plan (2017)
- National Planning Policy Framework (2012)

A range of sustainable design principles are explored for this development to minimise the adverse effects of development on the environment at global and local scales, whilst promoting healthy indoor conditions for the occupants.

1.1. Location

The area of land for the proposed development at 128-130 Grafton Road, NW5 4BA, is highlighted by the red line boundary shown in Figure 1. Kentish Town West train and underground station is located around 500m to the south east of the site.

Figure 1 - Location and surrounding area of proposed Grafton Road residential development

The site is located along Grafton Road, with existing developments to either side. The site currently houses a two-storey warehouse/industrial unit that is to be demolished, due to the building change of use and floor area requirements of the proposed apartments. The site is considered to be located in a dense urban area.

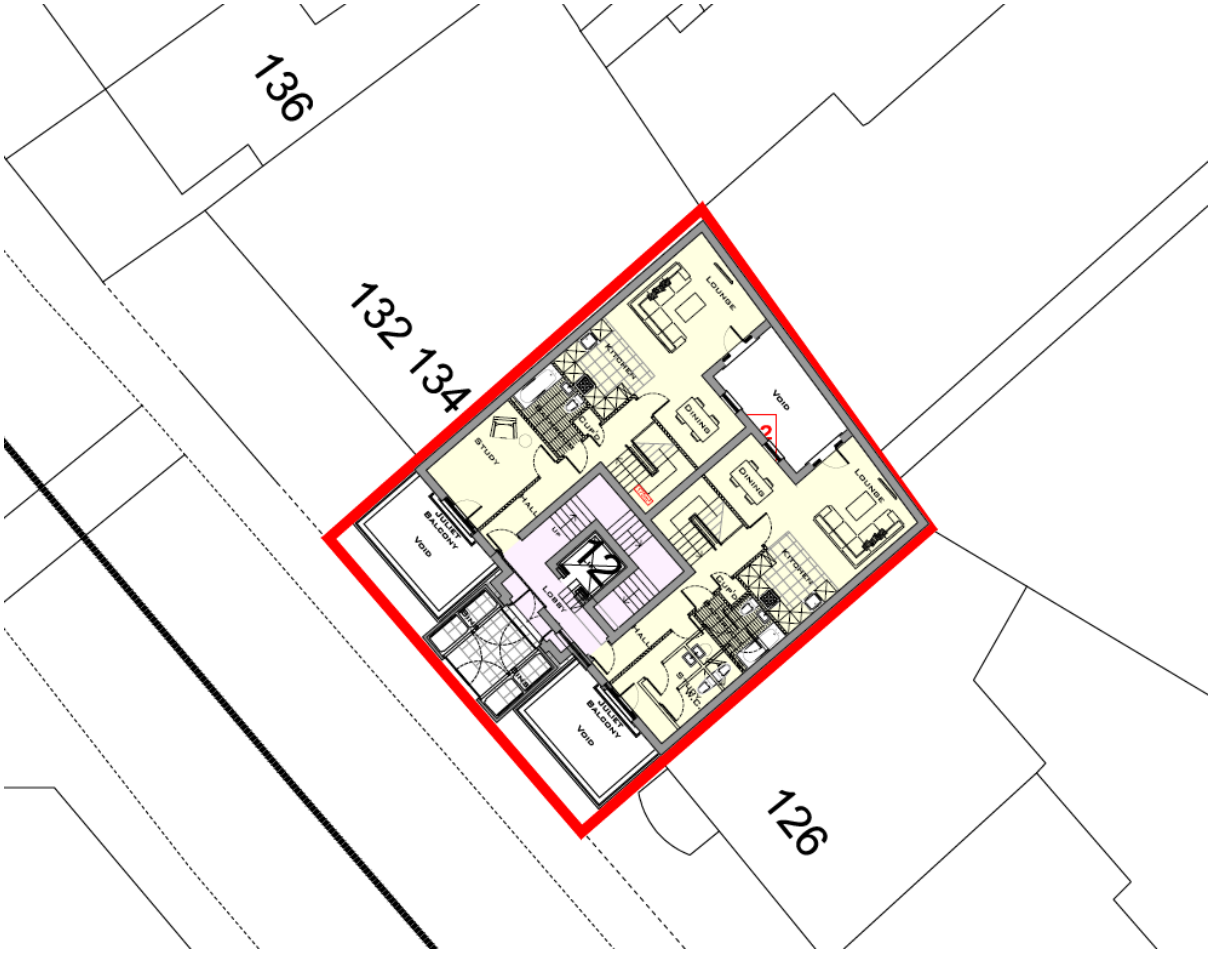


Figure 2 - Site plan for the proposed Grafton Road development

The proposed development consists of a single five-storey tall residential block with basement. The proposed ground floor is shown in Figure 2 above. This floor houses the top level of two duplex apartments that form the basement and ground floor levels. A central staircase and lift core run through the building, providing access to all dwellings. Two apartments are located on each of the upper floors, with a penthouse and open terrace at the top level.

1.2. Floor Plans

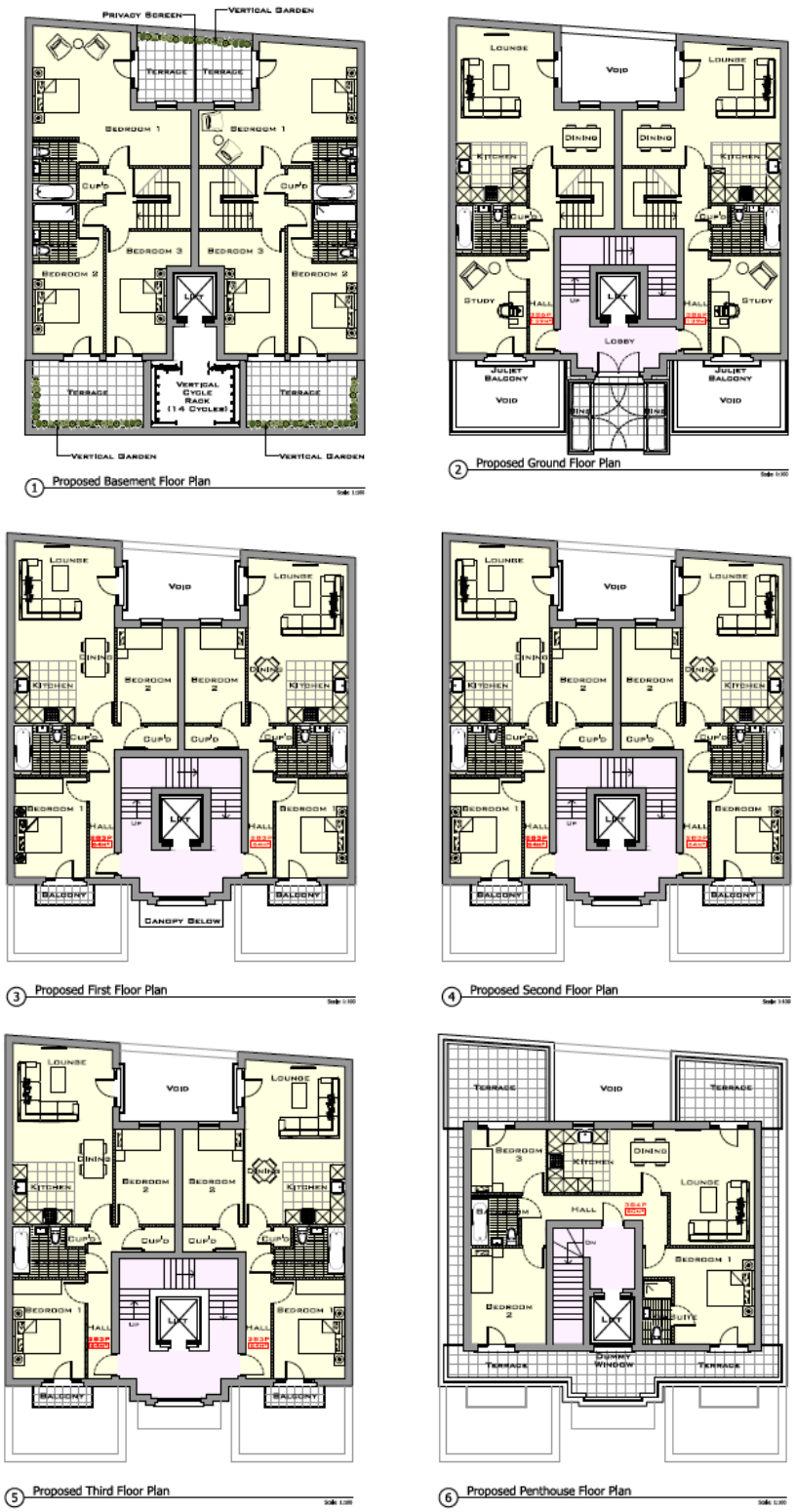


Figure 3 – Grafton Road floor plans

Nine self-contained apartments are arranged across six floors as per the floor plans shown in Figure 3. The development will provide a total of 742m^2 of residential area.

The following apartment types are to be provided within the development:

- 2No. 3 bedroom duplex apartments at 139m^2 each
- 6No. 2 bedroom apartments at 64m^2 each
- 1No. 3 bedroom penthouse apartment at 80m^2

2. Policy Drivers for Sustainable Development

This section presents a range of sustainable planning policy that is applicable to the Grafton Road development.

2.1. Local Policy

The adopted Camden Local Plan (2017) provides a set of guidelines for new development. All relevant energy policy within this document is provided within this section together with a design response.

As the development consists of nine units, it is considered a minor development by the Greater London Authority, therefore the requirements of the London Plan (2016) are not applicable.

Table 1 – Key Local Planning Policy Requirements and Design Responses

Camden Local Plan (2017)		
Section	**Policy Requirements**	**Design Response**
CC2 – Adapting to climate change	The Council will require development to be resilient to climate change. 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. 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. Sustainable design and construction measures The Council will promote and measure sustainable design and construction by: e. ensuring development schemes demonstrate how adaptation measures and sustainable development	The proposed development consists of nine dwellings in an infill site located along Grafton Road. This sustainability statement confirms measures to be undertaken within the proposed development to ensure the appropriate climate change adaptation measures are integrated. As the site is located in a dense urban environment, there will be no loss of green spaces, and the proposed development will incorporate a range of energy and sustainability measures in relation to water consumption, material specification and energy consumption to minimise

	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.	environmental impact. These measures are detailed within Section 3 of this report. As the development is relatively small scale, at nine dwellings, an environmental design standard is not deemed appropriate for this development, however the project will be design with the principles of the HQM.

3. Sustainable Design & Construction

The proposed development has been developed to a high standard. In order to achieve these levels, a number of sustainable design and construction techniques will need to be explored and where feasible incorporated into the design. Potential measures are provided in the list below.

- Minimising internal gains through good specification of lighting and low energy consuming equipment.
- Procuring materials sustainably using local suppliers;
- Using materials which are responsibly sourced and have a low embodied impact (Green Guide rating);
- Controlling unwanted ventilation and draughts by minimising air leakage;
- Ensuring building designs make the most of natural systems both within and around the building;
- Managing flood risk to residential buildings, through sustainable drainage systems (SUDS) and flood resilient design for infrastructure and residential properties;
- Ensuring buildings are comfortable and secure for occupants;
- Conserving and enhancing the natural environment, particularly in relation to biodiversity and enabling easy access to open spaces;
- Avoiding creation of adverse local climate conditions;
- Reducing the thermal transmittance of the building envelope by adding high performance insulation and use of medium/high thermal mass;
- Optimising window design through the type of glazing specified, along with the shape, location and functionality of the building.

3.1. Adaption to Climate Change

Much current practice in designing more sustainably relates to mitigating (preventing or slowing) our impact on climate change. However, climate change is still happening and it is expected that temperatures will increasingly rise over time and weather will continue to become more unsettled and more extreme. With this in mind, the development has been designed to adapt to these potential changes in climate. The strategies described below provide a sample of ideas that has been considered in order to future-proof the development from such climatic extremes:

- Designing buildings to survive extreme winds. This increases the longevity of the building and reduces the frequency of replacing materials. This therefore reduces the embodied impacts of these materials and in turn the entire buildings.

- Specifying building materials and designs that can withstand flooding to ensure that, should a significant flood event occur, any damage is minimised.
- In urban and suburban areas, maintaining solar access for buildings.
- Planting native, climatically appropriate trees and other vegetation.
- Plumbing buildings with water-conserving fixtures in mind.
- Designing cooling-load-avoidance measures into buildings.
- Designing for robustness, as increasing the longevity of a building decreases the embodied energy.

3.2. Post-Construction Sustainable Living

A number of design principles have been included above to target future building occupants' 'sustainable living' behaviours such as:

- Ensuring buildings are safe and secure for occupants to reduce the need for unnecessary noise and lighting when occupants are absent.
- Promoting sustainable waste behaviour, including support for local integrated recycling schemes.
- Influencing occupant behaviour to reduce, reuse and recycle resources throughout the building operation.

There are numerous design principles that often fail or become redundant when building occupants move into new buildings and purposefully and/or unintentionally use the systems in ways that reduce the efficiencies originally designed in. Occupants of buildings have been found to be confused by new heating and cooling controls, for example, and there is increasing evidence of (often unintentional) 'sabotaging' behaviours, which can be targeted by initial and ongoing interventions.

3.3. Strategy for Building Occupants

A strategy has been put into place to ensure that a 'sustainable living' ethos in adopted by the occupants to ensure that the houses and their sustainable technologies has been operated to their maximum efficiency throughout their life cycle. The client is in a strong position to ensure this happens effectively. This strategy will include measure to enforce and promote 'sustainable living' among occupants.

An additional 5-10% saving in CO_2 emissions can be saved through behavioural change techniques over the life cycle of the building. This aspiration has been explored further, throughout the design stages, construction and post-construction. Much of this saving will reduce the unregulated emissions of the development.

3.4. Passive Design

Energy requirements have been lowered through passive design features such as:

- Improving the fabric of the main construction materials to reduce energy demand and minimise space heating peaks
- Keeping air-leakage levels as low as possible with quality air tight construction using accredited thermal bridging details
- Reducing other energy demands - in the case of lighting, by the maximisation of day lighting levels and solar gain (in winter) and the fitment of low energy fittings, where practicable

4. Conclusions

Energy Council has reviewed the current project and provided guidance to achieve sustainability enhancement. The proposed scheme will ensure that a quality sustainable new development is created. This will offer building occupiers, and the surrounding area added benefits in terms of quality of living standards, lower energy and water bills and enhanced/improved surroundings and facilities.

- A preliminary assessment has been undertaken to review how the layout, orientation, design and materials used in the construction of the development will impact on the sustainability. This assessment has been used to consider and evaluate best practise energy efficient and sustainable design, and a number of improvements have been listed in Section 3.
- Water efficiency will be promoted throughout the development through the incorporation of water efficient fittings and water metering. Reduction in water usage indirectly impacts on energy usage embodied carbon reductions through water treatment.
- Procurement and construction processes will be carried out to minimise the environmental impacts of materials, with sustainable locally sourced and/or recycled materials being selected wherever practically possible. This also impacts on embodied carbon and energy usage.
- The development provides compliance with the sustainability measures in the Camden Local Plan (2017) through a holistic range of sustainability and energy efficiency measures to ensure impact is minimised.

Overall, the development is considered to significantly accord and contribute positively to the energy, environmental and sustainability standards set out in the London Borough of Camden planning policy. A number of sustainable initiatives will be implemented by the project team and commitments have been identified to further improve the environmental and sustainability profile of the proposed development in the future stages of the design and construction processes.

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