PRICE&MYERS

Open University, 1 – 11 Hawley Crescent, Camden, NW1 8NP

Sustainability Statement

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1 Introduction

1.1 Site Analysis

Price & Myers have been commissioned by Castle Haven Row Limited to produce a Sustainability Statement for the proposed development at the Open University, 1 – 11 Hawley Crescent on behalf of their client.

The existing building is mixed use and is currently 5 storeys with basement car parking. The ground, first and second floors are B1 Commercial, let to the Open University. The third and fourth floors are residential. The proposed development involves the major refurbishment of the existing residential third and fourth floors, outward extension of the fourth floor and upward single storey extension of the Open University building provide an uplift of 8-9 residential units. The development is in the London Borough of Camden.

The building has a flat roof, some of which will be used as a green roof for ecological enhancement. The building footprint occupies the majority of the site so there is not much available usable space at ground level.

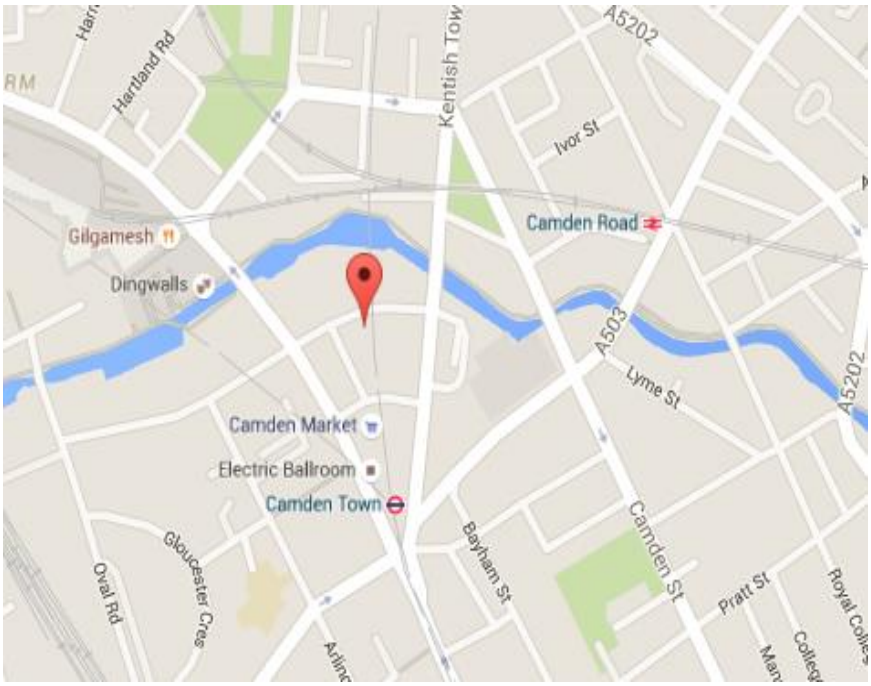


Figure 1 Google Maps extract indicating site location of 1-11 Hawley Crescent

Our assessment has been based on drawings and details provided by Chassay & Last Architects.

1.2 Objectives

This report summarises the sustainable design and construction measures that have been incorporated into the project in order to meet the sustainability requirements of the London Borough of Camden and the London Plan. A statement of intent with respect to sustainability has been requested by the planning department and this report will support the planning application in demonstrating the proposed implementation of sustainable design and climate change mitigation measures.

2 Planning Policies

2.1 London Borough of Camden

Core Strategy Policy CS13: Tackling climate change through promoting higher environmental standards

The Council adopted the Core Strategy on 8 November 2010.

The Council will require 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.

The Council will have regard to the cost of installing measures to tackle climate change as well as the cumulative future costs of delaying reductions in carbon dioxide emissions.

CPG3 Sustainability

The Council adopted CPG3 Sustainability on 6 April 2011 following statutory consultation.

Developments are to target a 20% reduction in carbon dioxide emissions from on-site renewable energy technologies.

All residential new build should achieve a Code for Sustainable Homes level 4 with 50% of the unweighted Energy, Water and Materials credits.*

Camden Development Policy DP22 - Promoting sustainable design and construction

The Council will require development to incorporate sustainable design and construction measures. Schemes must:

- Demonstrate how sustainable development principles have been incorporated into the design and proposed implementation
- Incorporate green or brown roofs and green walls wherever suitable

The Council will promote and measure sustainable design and construction by:

- Expecting new build housing to meet Code for Sustainable Homes Level 3 by 2010 and Code Level 4 by 2013 and encouraging Code Level 6 (zero carbon) by 2016;*
- Expecting developments (except new build) of 500 sqm of residential floorspace or above or 5 or more dwellings to achieve “very good” in EcoHomes assessments prior to 2013 and encouraging “excellent” from 2013;

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 basements in flood-prone areas

Camden Development Policy DP23 - Water

The Council will require developments to reduce their water consumption, the pressure on the combined sewer network and the risk of flooding

*NB since the Code for Sustainable Homes has been withdrawn, these policies no longer apply. The London Borough of Camden will expect the development to demonstrate how it will incorporate sustainable design measures in line with the policies above.

2.2 The London Plan

The London Plan, March 2015, requires compliance with the following policies relating to climate change:

Policy 5.2 Minimising Carbon Dioxide Emissions

Development proposals should make the fullest contribution to minimising carbon dioxide emissions in accordance with the following energy hierarchy:
1. Be lean: use less energy
2. Be clean: supply energy efficiently
3. Be green: use renewable energy

As this is not a major development, the remaining London Plan policies are not applicable.

3 Sustainable Design & Construction Measures

The following appraisal addresses the sustainable features of the proposed development, following policy guidelines.

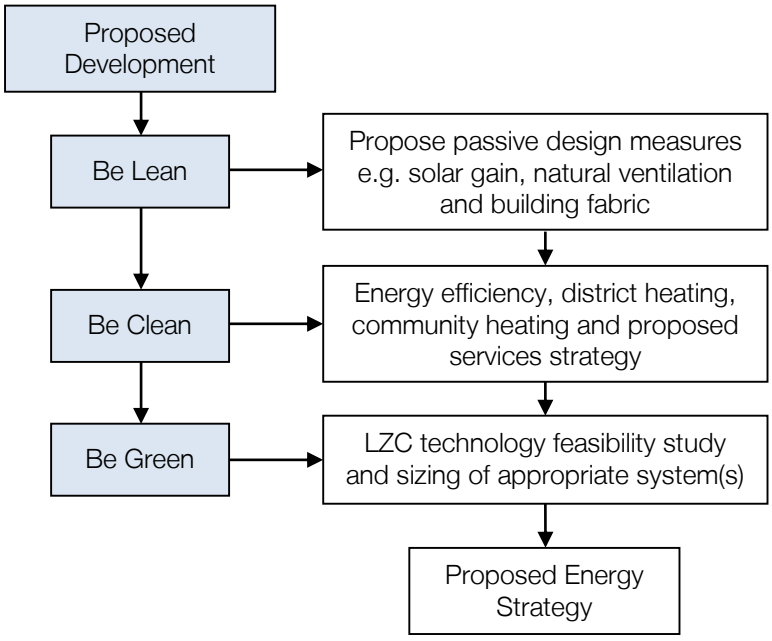
3.1 The Energy Hierarchy, Energy Efficiency and Renewable Energy

The approach to reducing energy used by the proposed new development has been to consider strategies and technologies to achieve a low energy and carbon footprint for the scheme.

The development follows the energy hierarchy:

- Use less energy through passive design measures (Be Lean)
- Supply and consume energy efficiently (Be Clean)
- Utilise renewable energy sources to reduce carbon emissions (Be Green)

The energy strategy report for the proposed follows the energy hierarchy based on the following methodology:



The performance of the development in terms of energy consumption and carbon emissions is calculated at each stage of the assessment, ensuring that both regulated and unregulated energy is considered when determining the performance of the proposed energy strategy.

For a full analysis of the energy performance of the proposed development, please refer to Price & Myers Energy Strategy Report for this project (28.07.16)

Each unit will be provided with an energy display device to allow occupants to monitor and manage their energy usage.

3.2 Water efficiency

Water use will be reduced to a maximum of 105l/person/day through the use of low flow equipment such as smaller baths, dual flush WCs and low flow taps and showers. All white goods provided will have maximum water efficiency ratings. Individual Water fittings will be specified with the following flow rates to meet the target water consumption:

- Wash basin taps - 4 l/min
- Baths - 160 litre overflow
- Showers - 10 l/min
- Dishwasher - 1.1 l/place setting
- Washing machine - 7 l/kg load
- WC - 4/2.6 litre dual flush
- Kitchen taps - 5 l/min

Water meters will be provided, to be monitored remotely.

Due to a lack of suitable outside space there is no opportunity to collect rainwater for irrigation use.

3.3 Sustainable use of materials

The design team have put a strong focus on sustainability and durability when considering construction profiles and building materials for the development. All the building elements will achieve the highest feasible rating on the BRE Green Guide to Specification. Materials will be specified to have a low embodied energy, taking into account whole life cycle analysis.

Some existing structure will be retained in-situ which improves material efficiency for the project.

Insulating materials will be specified to maximise thermal performance whilst still paying attention to the environmental impact of the materials used. The use of recycled products will be pursued wherever feasible and the use of other low embodied energy products will be further investigated.

The newly proposed structure comprises a lightweight steel frame structure over the existing building, including steel columns for vertical support. Where possible the steel will be sourced with BES:6001 certification.

Responsible sourcing will also be pursued for other building materials. All timber used on site during the construction phase and within the building will be from FSC sources or equivalent. Other materials, including insulation, will be sourced from manufacturers who employ environmental management systems such as ISO 14001 or BES 6001. Where possible, materials will be sourced locally.

Non-toxic materials will be used wherever possible, including the specification of products with low VOC content in line with European testing standards.

Site waste management
A construction site waste management plan will be developed and implemented to ensure that construction site waste is effectively reduced and recycled following the waste hierarchy, including designing waste out from the initial stages. Material ordering control and modern construction methods will be employed to minimise the potential for waste on site. The contractor will also be obliged to sign up to the Westminster Considerate Builders code of practice and adhere to the requirements.

The following benchmarks will be used, which have been set in line with the Code for Sustainable Homes methodology:

- Construction waste diverted from landfill:
    - Non-hazardous construction waste; 85% by weight or volume
    - Non-hazardous demolition waste; 80% by volume or 90% by tonnage

Waste will either be segregated on site into at least 5 different streams for recycling or collected, sorted and recycled by an external recycling contractor. Re-use of construction waste will also be encouraged. The site waste management plan will also ensure that hazardous waste is properly managed.

The homes will be designed to encourage recycling through the provision of a central store allocated in the ground floor with street level at Stucley Place and containers in kitchens.
Construction site waste will be monitored through a Site Waste Management Plan. There will be procedures and commitments to minimise waste generated on site and to sort, reuse and recycle construction waste.

3.4 Brown roofs, green roofs and green walls

The development will incorporate an extensive green roof or around 100m depth. The green roof will incorporate a biodiverse meadow seed mix in order to encourage and provide habitat for local wildlife. Additionally a green wall will be provided on the westerly façade which will be beneficial to wildlife and also enhance and sympathise with the local streetscape. The MTV building opposite the proposed development also has a green wall.

The benefits of providing a green roof extend from habitat and ecological provision. They also help to mitigate the Urban Heat Island effect in highly urbanised areas, act as a filtration systems for dust and pollutants and can provide a degree of rainwater attenuation.

As the provision of external amenity space to all units is a high priority for this development, then this will be given priority in accessible external areas. Occupants will be provided with information on planting for wildlife to encourage them to install planters on their terraces.

3.5 Flooding

The Environment Agency flood map shows that the development site is not located within a zone at risk of flooding, with less than a 0.1 per cent (1 in 1000) chance of flooding occurring each year.

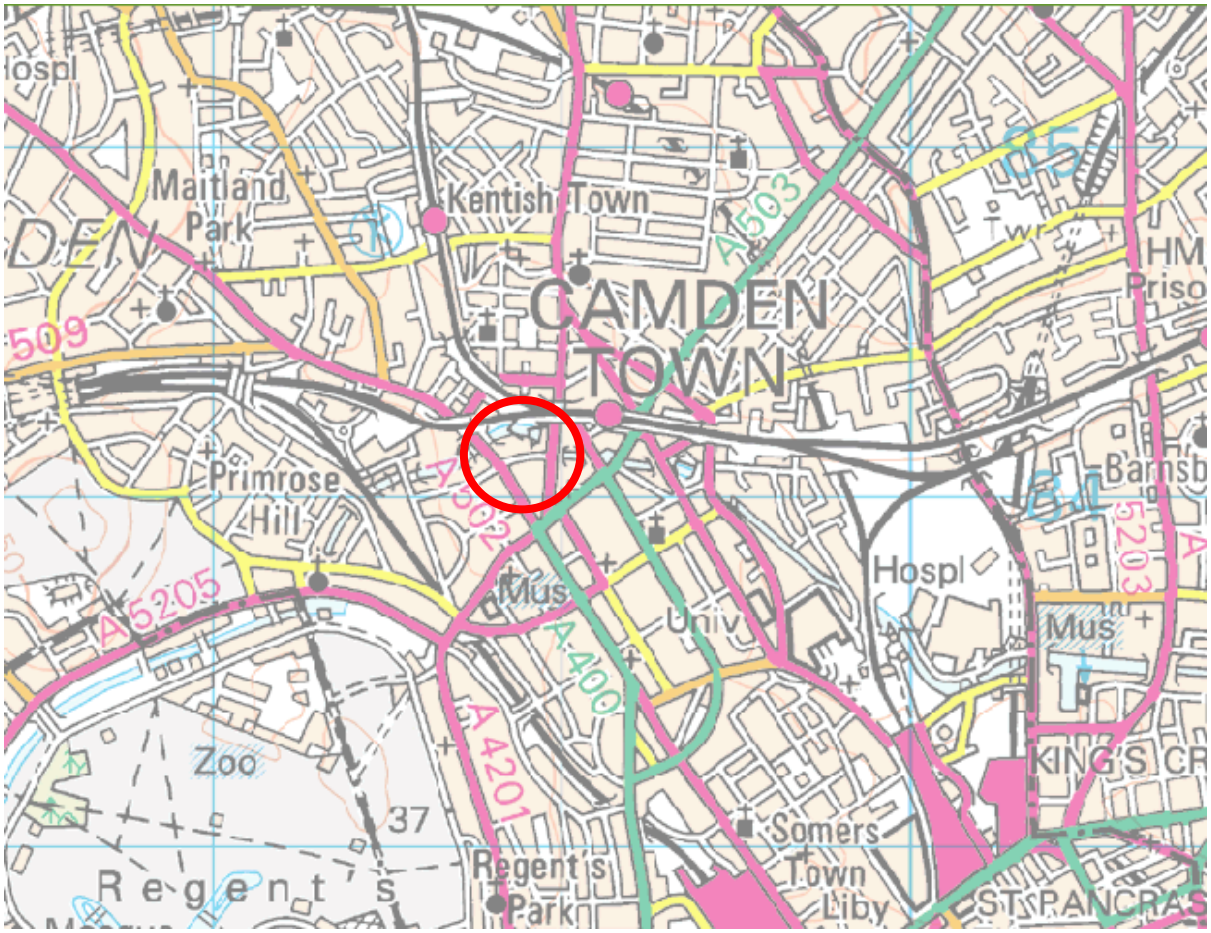


Figure 2 - Flood risk map for 1-11 Hawley Crescent (© Environmental Agency)

Surface water drainage strategies will ensure that the peak and volume of surface water run-off rates will not be increased due to the development. Sustainable Urban Drainage Systems (SUDS) will be employed if required following the SUDs hierarchy.

As the proposed dwelling is on the site of an existing building and the building footprint will remain unchanged, there will be no additional impact on surface water runoff and drainage requirements. However, where external hard standing associated with the site is replaced as part of the redevelopment; porous / permeable paving will be installed.

An extensive green roof is being provided over the whole of the roof which will provide a degree of attenuation and slow the rate of rainfall run-off.

3.6 Adapting to climate change

Pollution Mitigation

Construction site impacts

The construction site will be managed in such a way that the environmental impact is minimised. This includes following best practice policies for dust pollution by using dust sheets, covering skips and damping down where appropriate and following best practice policies to minimise noise pollution, including the use of quieter machinery where possible. Site working hours will be managed to mitigate the possibility that they will cause a nuisance to the surrounding properties.

The contractor will be enrolled on the Considerate Constructors Scheme and achieve a best practice score of at least 35.

Plant and machinery
All plant and equipment installed will be appropriately sized and selected for efficiency in order to reduce greenhouse gas emissions.

Insulating materials and heating systems will be specified to keep pollutants to a minimum. All insulation will have a low Global Warming Potential (GWP) and zero Oxone Depletion Potential (ODP).

All equipment will be frequently maintained to ensure it continues to run efficiently and cleanly.

The development will aim to minimise reliance on vehicle use by providing storage space for 15 bicycles.

Adapting to Warmer Temperatures

The units are provided with external amenity space with large terraces. Additionally most units benefit from a dual aspect which improves the natural ventilation capacity through cross ventilation.

The development has been designed to balance the use of solar gain to reduce reliance on space heating whilst ensuring that the gains do not result in summer overheating. The U-Values of all glazed elements will meet or exceed Building Regulations standards. Windows will be specified to incorporate low emissivity coating to limit overheating, resulting in an efficient balance between passive solar gain and the thermal losses from each room.

To further improve the passive design of the development, the thermal envelope will be designed to minimise heat loss by specifying low U-values and minimising thermal bridges where possible.

Adapting to Heavier Rainfall

Green roof space has been provided where possible, which will reduce pressure on drainage systems by retaining rainwater.

Adapting to Drier Summers

The units are fitted with water efficient fittings.

3.7 Biodiversity and Local food growing

The development comprises refurbishment to the upper storeys of an existing building and new build upward extension. As such the construction zone is of low ecological value and also the proposed development will improve the efficiency of the existing building footprint.

Extensive biodiverse green roofs are proposed for the flat roof area with planting proposed for the terraces at the third, fourth and fifth floors.

4 Conclusion

The proposed measures described above, plus any additional measures outlined by the architect in the Design and Access Statement, will be incorporated to improve the environmental performance of the proposed development in response to the London Borough of Camden's sustainable design requirements.

The efficient thermal envelope and M&E strategy proposed for the development along with the installation of Air Source Heat Pumps and PV panels shows an improvement over current Building Regulations, which is summarised in the following Tables 4.1 and 4.2.

Carbon Emissions		Fabric Performance	
Average DER	15.49	Average DFEE	40.48
Average TER	17.78	Average TFEE	47.69
% improvement	**13%**	**% improvement**	**15%**

Table 4.1: Summary of SAP results

Site Wide	CO_2 Emissions (tonnes /annum)	CO_2 Savings (tonnes /annum)	% Saving
Building Regulations 2013 Baseline	19.49		
Be Lean (after demand reduction)	19.09	0.40	2%
Be Clean (after efficiency measures)	17.61	1.49	8%
Be Green (after renewable energy)	17.06	0.55	3%
Total Cumulative Savings		2.44	12%

Table 4.2 Summary the carbon savings in the interim strategy after LZCs