Sustainability Statement

23 Narcissus Road
London, NW6 1TJ

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Prepared for:

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1.0 INTRODUCTION

This report sets out the sustainability issues and targets intended for the proposed extension development at 23 Narcissus Road, London, NW6 1TJ

The development comprises the extension of an existing 2 storey dwelling, with the addition of a small side extension to the rear, to create a large kitchen/diner and a development of the existing cellar to create a 70sqm basement area.

The new basement accommodation will include a games room/entertainment room with bar area, gym, bathroom and storage.

23 Narcissus Road is not located in a conservation area

There is a requirement to submit a sustainability statement that will demonstrate how the project will aspire to the sustainability requirements of Camden Core Strategy Policy CS13 (Tackling climate change through promoting higher environmental standards) and LDF Policy DP22 (Promoting sustainable design and construction).

Further guidance is taken from Camden Planning Guidance 3 (Sustainability) as well as seeking to adopt the principles behind the Code for Sustainable Home and/or Eco Homes 2006; where possible and feasible.

The Developer of the site acknowledges the current issue with regard to concerns about climate change and the contribution that building stock makes in the form of emissions to the atmosphere, the use of water, waste generation and the use of polluting materials.

2.0 SUSTAINABILITY

2.1 Energy Efficiency

The scheme will be designed to limit the emissions of carbon dioxide to the atmosphere from the operation of the building services via the use of good building fabric, i.e. be lean – use less energy; step 1 of the Mayor's energy hierarchy. To achieve this, the development will adopt the principles of "best practice" u-values for the new build extension as noted in CPG 3:-

New (basement) walls – u=0.20

New basement floor – u=0.20

New external wall – u=0.23

New flat roof – u=0.13

New glazing – u=1.5

To further improve fabric efficiency in the ground floor element to be converted, the developer will undertake the following retrofitting works as identified in Appendix 1 of CPG 3:-

Replace existing glazing with new double glazed units - u=1.5 - subject to the appropriate consents

Existing pitched roof areas will be investigated to ascertain current insulation levels, and will be upgraded as required – target u value = 1.5

In terms of the operation of building services, the following strategies will be adopted:-

New high efficiency gas boilers will be installed with weather compensation to further enhance efficiency

Controls will be upgraded via the use of TRVs, wall stats and timers to provide full interlock mechanism to ensure that boilers are only firing when required

Under floor heating will be installed in the new build basement element to take advantage of the thermal mass of the basement structure and to enable the heating system to run at lower temperatures and therefore more efficiently.

Internal service pipework will be insulated to reduce transmissions losses.

Where possible the use of LED low energy lighting will be adopted, where this is not possible, dedicated compact fluorescent lighting pendants will be installed.

Further energy efficiency measures to assist the reduction of consumption of unregulated energy use are noted under 2.4, below.

2.2 Efficient Energy Supply

The energy hierarchy goes on to consider how energy can be supplied more efficiently via connection to decentralised supplies such as community heating or CHP provisions.

Clearly, for a small refurbishment/extension project of <200sqm, the provision of community heating within the development is not practical and would offer no efficiency savings. However, the use of "traditional" gas boilers, with the flow and return temperatures similar to community schemes, does mean that, as and when such a network was available in the area – the property at 23 Narcissus Road would have the facility to connect to the network.

2.3 Sustainable Energies

Camden's guidance on renewable technologies within CPG3 states

"Buildings can also reduce their energy consumption by generating their own energy in the form of heat or electricity using low carbon and renewable technologies which use little or no energy"

Specifically, the guidance requires the consideration of the retro-fitting of

- Solar thermal (hot water) panels
- Solar PV panels
- Ground source heat pumps

Therefore this report will briefly considered the feasibility of these technologies:

Solar hot water

Solar thermal systems harness the suns energy to heat hot water via roof mounted panels. There is access to a limited area of west facing pitched roof to the rear of the property that could accommodate solar thermal panels.

However, a solar thermal will be displacing the CO_2 emissions from efficient gas boilers, the carbon saving would not be as great when compared to other technologies

The Renewable Heat Incentive (RHI) has been introduced into the domestic market in April 2014 and will offer a financial return for renewable heat generated for such systems, albeit not as great from that achieved via the use of solar PV

Photovoltaic systems

Solar "PV" systems are roof mounted panels with photocells that generate electricity from the Sun's light. A relatively simple technology that is simple to install and offers a financial yield (circa 8-9%) via the Feed in Tariff.

Given the limited availability of suitable roof space, it would be considered more appropriate to install solar PV – potentially a 6 panel/1,5Kwp PV array, generating some 1,200 Kwh/annum - a saving of 0.6t/CO_2 per annum

Ground source heating

Ground source heat pumps extract the heat from the ground (or bodies of water) through collector loops prior to passing through a refrigeration "evaporation/compression" heat exchange cycle which passes the heat into central heating systems.

Although a highly efficient system, its efficiency is derived from the use low flow/return temperatures in well insulated properties and using the thermal mass via under floor heating systems set in screeded floors. It also requires either, large areas of external space for shallow collector loops, or deep bore thermal "wells" if ground area is limited.

Given the small scale nature of the basement extension – which would render the costs unfeasible – and the lack of high level thermal efficiencies, a ground source heat pump cannot be recommended.

2.4 Eco Homes & Code for Sustainable Homes Principles

Due to the small scale nature of the development, LDF Policy DP22's requirement for a formal Eco Homes assessment does not apply. However, the developer is committed to adopting many of the principles of Eco Homes and the Code for Sustainable Homes:-

Energy

Unregulated energy use will be reduced via the provision of clothes drying facility in the rear garden area, ensuring that all external lighting is energy efficient, providing a display energy device to enable occupants to monitor, and thereby manage their energy use and to supply information on the EU Energy Rating system to enable informed purchasing of white goods for the home.

Water

All newly installed sanitary ware will be selected to reduce wholesome water use – dual flush toilets, showers, basin and kitchen taps with flow restrictors and selecting baths with limited capacity. In addition, a water butt will be installed to the rear garden to enable the harvesting of rainwater for the upkeep of soft landscaping areas.

Materials

The re-use of much of the building structure is sustainable by definition as much material is retained in situ. In addition, the developer will ensure that the suppliers of building materials, where practical, can demonstrate a policy of responsible sourcing – FCS, BES6001, ISO14001 etc

Waste

The main contractor will be required to put in place a site waste management plan to ensure minimal waste arising from site and to ensure that much of the construction waste is diverted from landfill. In addition, the main contractor will be required to join the Considerate Constructors Scheme and meet the minimum level of "Best Practice"

Pollution

All insulants used within the development will have a rating of zero for ODP and have GWP of less than 5. New high efficiency boilers will be selected that have NOx emissions at less than 40mg/Kwh

Ecology

The nature of the development will have limited effect on the ecology of the site, indeed, the Code for Sustainable Homes would rate the effect as "neutral", however, the developer is committed to a re-modelling of the rear gardens with the use of indigenous planting to offer a minor enhancement of site ecology

3.0 CONCLUSIONS/SUMMARY

It is the intention of the developer to deliver a sustainable development as defined within the policies of Camden Council; the same polices that have informed this report and the recommendations within.

Although the policies did not require the developer to commit to the principles of the energy hierarchy and the Code for sustainable Homes, the developer has identified opportunities when they are able to do so, and will deliver these principles as part of the development, thereby meeting the minimum sustainability requirements of Camden Council and advancing the development beyond those requirements.