April 2023

1.0 INTRODUCTION

This Sustainable Construction and Energy Statement relates to the proposed development at Vintage Court, Puckeridge. This comprises the demolition of the existing filling station and shop and the creation of a new convenience store. The development is subject to the planning requirements of East Herts District Council. This report addresses policies relevant to the energy strategy as set out in National and Local policy. This report also provides detail on the proposed approach to meet specific targets relating to those policies, Building Regulations, and energy use on site.

2.0 PLANNING POLICY/BUILDING REGS

This document is prepared in line with the requirements of the East Herts District Plan 2018 Policies:

CC1 –Climate change adaptation

CC2 –Climate change mitigation

NE2 –Net gain in biodiversity (advising planting will occur is not sufficient for this)

NE3 –Biodiversity

WAT4 –efficient use of water resources.

(NE2 and NE3 are dealt with in documents 1010 VC - BR01 Ecological Appraisal and 1010 VC - BR02 Small Sites Metric Calculation Tool)

Consideration is also given to the requirements of Building Regulations Part L 2021 and will consider potential options for low and zero carbon technologies that could reduce the predicted onsite CO2 emissions in line with Part L regulations 2021.

3.0 ENERGY STRATEGY

In response to policies CC1 and CC2

The proposed scheme will follow the latest guidance to reduce CO_2 emissions firstly by Increasing insulation, reducing the effects of thermal bridging, and creating effective air tightness. Secondly through mechanical controlled ventilation with the consideration to heat recovery input ventilation. This will be achieved by adopting the following principles:

Walls:

Enhanced U Values to be achieved by increasing the size of the cavity walls and increasing the insulation thickness, or alternatively using timber framed construction with the use of high levels of insulation with the timber studwork.

Roof:

Enhanced U Values to be achieved through increasing the thickness of the insulation.

Floors:

Installation of high-performance insulated ground floors will provide enhanced U values.

DPE ARCHITECTURE LTD
156 Sydney Road
London, N10 2RN
07919 302673 - devans@dpearchitecture.co.uk

Windows & Doors:

Utilisation of high-performance glazing will provide improved U values.

Thermal Bridging:

By employing enhanced construction details heat losses can be reduced.

Air Tightness:

By employing enhanced construction details air leakage rates can be significantly improved.

Ventilation:

With excellent air tightness principles used appropriate ventilation will need to be installed in line with Building Regulations to provide fresh tempered air.

Low and zero carbon technologies:

Photovoltaic (PV) panels use sunlight to produce electricity; the cells convert the sunlight into electricity which can be used to run household appliances and lighting. PV cells don't need direct sunlight to work, and some electricity will be generated on a cloudy day.

Waste:

Backhauling and recycling policy in place meaning there has been zero operational waste since 2020. Asda definition of zero waste is 90% diversion for landfill and incineration (including energy recovery) or 90% of operational waste reused, redistributed, recycled.

Energy:

Lighting, heating and cooling of the stores is one of the biggest operational impacts. The energy strategy focuses on three core areas:

1. Reduce energy intensity by lowering energy consumption and decreasing the cost to sell
2. Buy renewables and lessen impact of rising costs and reduce reliance on fossil fuels
3. Control energy efficiency and carbon reduction

General reduction of energy consumption intensity through initiatives such as LED lighting upgrades, new fridge shelf edge technology, fridge controls optimisation and energy efficiency trials.

4.0 WATER

In response to policy WAT 4

It is proposed to utilise a commercial grey water recycling system harvesting the water collected from the flat roofs and reusing it in the building. This waste water will be used to flush the toilets and for irrigation of the green areas to the site.

A permeable paving system will be installed for the carparking areas. Rain passes through the surface, either through gaps between individual blocks or permeable material such as gravel or porous asphalt, trapping pollutants below. Once there, many pollutants are broken down by natural processes. By using permeable paving, you can also prevent water pooling on impermeable surfaces, avoiding puddles and ice on car parks.

5.0 CONCLUSIONS

The proposed strategy is based on an improvement in standard energy efficiency to meet Part L of the Building Regulations 2021. Full details of how the scheme will fully achieve any Part L Building Regulation targets can only be confirmed at detailed design stage but will target performance of the building fabric.

Additional renewable energy generation technology may need to be installed within the development to achieve the required CO_2 emissions targets to meet the Building Regulations targets and the Councils desire to achieve a reduction in CO2 emissions.

Douglas Evans
For and on behalf of DPE Architecture Ltd.

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London, N10 2RN
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