SUSTAINABLE CONSTRUCTION, ENERGY, WATER AND CARBON REDUCTION STATEMENT

at

Land Adjacent 3 Havers Lane

Bishops Stortford

Herts, CM23 3PA

Proposed Erection of
New 3 Bedroom Detached Dwelling

Date: April 2024

To support a planning application

Prepared by:
Mr N Marks.
Herts Essex Planning
61 The Stewarts
Bishop's Stortford
Hertfordshire
CM23 2NU

Tel. No. 01279 491285
E-mail: enquiry@HertsEssexPlanning.com

Introduction
The proposal has been designed to reduce the energy demand of the new dwelling and the carbon emissions created by the development in accordance with National Planning Policy set out in section 14 of the NPPF and policies CC2, CC3 and DES4 of the adopted District Plan.

The application is submitted with a Sustainability checklist and Biodiversity Checklist and the following statement sets out the sustainable construction, energy and water consumption measures that will reduce energy demand; promote energy efficiency and lower carbon emissions:

1.0 Construction
The proposal has been designed in accordance with the Energy Hierarchy as set out in the District Plan: via passive design and orientation; fabric performance and energy efficiency. This ensures that its construction includes measures to reduce carbon emissions through thermal performance, high levels of insulation, good levels of air tightness and installation of high-performance windows and doors. It's simple external form also minimises surface area and thereby heat loss.

The external walls, roof, floor, windows and doors will be super insulated, airtight and wind tight.

The rendered external walls would provide thermal mass and maintain a stable internal temperature, delaying heat gain in the building fabric on warm days and releasing it slowly as external temperatures fall. This limits the needs for space heating internally.

Materials of construction and building contractors will be locally sourced wherever possible – this will reduce the need for long delivery or work trips and thereby reduce CO_2 emissions and air pollution in transportation.

High performance double/triple glazed, and sustainably sourced windows and doors are proposed which will result in increased thermal energy in-use whilst being constructed from low embodied carbon materials.

2.0 Energy and Carbon Reduction
Layout
The layout of the proposed dwelling maximises passive solar gain as much as possible. The principal elevations are oriented to benefit from good natural daylighting to all main habitable rooms.

Heating
The details/specification of the proposed heating of the dwelling will be finalised at the Building Regulations stage, but the applicant is keen to use renewable energy wherever possible and the proposed house would be provided with photovoltaic panels on its roof. These may be coupled with an air/ground source heat pump to provide heating and domestic hot water, and this would be subject to specialist technical design. Alternatively, heating could be provided by solar energy through the photovoltaic panels.

Electricity
The site already has access to exiting utilities, services and mains electricity.
In addition, there is scope for the installation of integrated photovoltaic panels in order to provide renewable electricity on site.

The location/specification for any photovoltaic panels will be determined at Building Regulations stage but can also be secured by planning condition if the local planning authority considers it reasonable and necessary.

All white goods installed will be A+++ rated and lighting installation will be specified to Energy Star qualified CFL and LED to reduce energy-in use. Temperature and energy consumption monitors will also be fitted.

A waste and recycling storage area is proposed and composting facilities will also be made available.

SAP calculations will be provided at the Building regulations stage but this statement sets out the general approach to meeting policy requirements as set out in the SPD.

3.0 Climate Change
Design
As mentioned above, the house has been designed with energy demand reduction in mind throughout the design process and the construction will include 'futureproofing' measures such as the provision of Broadband facilities to enable flexible home working, teleworking and video conferencing.

This facilitates a reduction in vehicle movements and contributes to better air quality management.

Daylighting & Ventilation
There is generous glazing to the principal living spaces of the dwelling and good opportunities for cross ventilation. This will provide good natural daylight to the property and reduces the need for electric lighting.

Good natural ventilation is provided and there will therefore be no need for future occupiers to rely on mechanical ventilation. All fenestrations will be thermally efficient and air tight to avoid the need for heating in the winter and cooling in the summer.

4.0 Water Efficiency
The applicant is keen to ensure the minimum use of mains water wherever possible and fittings will include low flow taps, water efficient shower heads, efficient dual-flush WC's and the development will comply with the water consumption target in Policy WAT4 of 110 litres or less per head per day.

5.0 Pollution
Air Quality pollution in the construction of the development will be mitigated using locally sourced materials wherever possible (to reduce transportation journeys for materials) and the provision of secure cycle storage so that cycling is a genuine transport option for future residents.

The proposal could include an electric vehicle charging point. A factor that would ensure that future occupiers are able to minimise the use of energy and air pollution.

The applicant is keen to ensure that the development does not have any adverse impact on lighting in this rural location and there are no proposals for significant elements of external lighting. Where access or security lighting is required, it will be low level and via timer to reduce both energy use and light pollution.

6.0 Biodiversity
A biodiversity checklist accompanies the application, the local planning authority is referred to this document.

7.0 Sustainable Transport
Havers Lane is located within easy walking distance to Bishop's Stortford high street. The nearest railway station is at Bishop's Stortford, where there are regular train services to London Liverpool Street, Stratford (London), Cambridge and Stansted Airport.

8.0 Waste Management
Waste prevention measures will be incorporated into the construction of the dwelling such as using recycled aggregates and locally source materials with a longer lifespan.

Kerbside waste and recycling facilities are available through the Local Authority household refuse scheme, and there is provision for refuse bin storage on site.
Composting facilities will also be used.

Conclusion
Overall, the energy strategy for the site will be consistent with the NPPF and policies CC1, CC2 and CC3 of the adopted District Plan. It also meets the aims and objectives of the Council's Sustainability SPD.