folkes architects

Sustainability Statement

Proposed development at

Land North of
Lake Lane
Barnham
West Sussex
PO22 0AJ

Rev A

1.00 Introduction

1.01 This statement has been prepared for Property Sphere Development Ltd in conjunction with the above development and no responsibility is accepted to any third party for all or part of this statement in connection with this or any other development.

1.02 This Sustainability Statement has been produced to evidence the construction of 7 (seven) new detached dwellings at Land North of Lake Lane Barnham.

1.03 The site forms part of the land off Lake Lane, Barnham, West Sussex PO22 0AJ and is approximately 0.51 ha in size. The site is surrounded by residential housing on the western, eastern, and southerly boundaries.

1.04 The site is located within Arun District Council's jurisdiction. It is outside of the South Downs National Park and any Conservation Area.

2.0 Sustainability Summary

The need for sustainable development is well documented and it is estimate that 40% of the Uk's carbon emissions are generated by the built environment. The need to decarbonise the built environment is essential in order to achieve the Net Zero standards set by the government by 2050 and it is critical that all new development addresses the issues and works towards reducing the Embodied and Operational Carbon from the early design stages.

The Embodied Carbon is the level of carbon dioxide emissions associated with manufacturing and transport of the materials and the construction processes involved in the realisation of the project.

The Operational Carbon is the levels of carbon dioxide emissions associated with the running, or operation, of the building – i.e. heating, lighting, ventilation.

The construction industry is addressing these issues with the imminent updates to the Building Regulations in June 2022, which will act to uplift the current requirements to help the construction industry adapt to the changing regulations and low carbon heating.

Although the built environment is a large contributor to the UK's carbon emissions, it is only through a whole shift across the economy and the country that will allow development to truly reach the Net Zero standards.

This scheme is proposing to utilise the following components to make the development as sustainable as possible and allow the decarbonisation of the UK to help it reach Net Zero in the future.

Building location, orientation and form: the properties have been designed and positioned to work with the existing topography and have mainly been orientated to maximise their exposure to the sun and utilise solar gain where possible.

The low density nature of the design and utilisation of the separation distances with the Arun Design Guide mean that overshadowing of neighbouring properties has been minimised. The forms of the dwellings have been kept relatively compact in order to reduce the external surface areas, therefore improving the overall energy efficiency of the dwellings.

Ventilation & airtightness: ventilation is critical in maintaining indoor air quality and maximise the health of the occupants. Ventilation is to be provided within every dwelling via background trickle vents to the high performance door and window systems, but also by the opening casements within every room. The airtightness of the building is important to prevent heat escaping through the superstructure of the building, and in fact contributes to the comfort levels within the building by allowing the occupants control over the temperature and airflow via opening/ closing windows.

Renewable technology: There is currently no gas supply to the site and in order to future proof the development all of the dwellings hot water and heating demands are to be met via high efficiency Air Source Heat Pumps.

Appliances, lighting and use: The specification and installation of efficient white goods and light fittings throughout the dwellings reduces the energy demand for the dwelling but also has the added benefit of reducing the running costs of the dwelling for the occupants.

However, it is through the ongoing use of the building that can have the most significant impact on the efficiency of the dwelling, and therefore the running costs. Each dwelling will include a guide on ways to 'save energy', including:
- leaving thermostats are a fixed temperature,
- reducing room temperatures to 18º
- turning off appliances rather than leaving on standby,
- turn off lights when not in the room,
- reducing water usage by taking shorter showers and not leaving taps running.

There are many other aspects of sustainability beyond the need to cut Embodied and Operational Carbon, such as the inclusion of water butts on each dwelling to capture rainwater from the roofs for use within the gardens to reduce the amount of water drawn from the mains.

Each dwelling is to be fitted with an Electric Vehicle Charging point to facilitate the increasing numbers of electric vehicles on the road and future proof the development.

The paved areas will form a Sustainable Urban Drainage System (SUDs) via the specification of permeable paving which will negate the need to discharge surface water into the existing mains drainage system. The surface water from the impermeable surfaces of the roads is to discharge into the new pond to the south eastern corner of the site.

Over 25% of the properties have been designed to meet the Lifetime Home Standards and to meet M4(1) of the building regulations, which will allow houses to adapt to an ageing population, therefore reducing the need to construct additional dwellings elsewhere and or undertake excessive adaptation of the existing dwelling to accommodate the occupants.