SAMMONS Architectural LIMITED

Chartered Institute of Architectural Technologists
Registered Practice

10 Cawdry Buildings
Fountain Street
Leek
Staffordshire
ST13 6JP
Tel: 01538 386002
e-mail: info@sammonsltd.co.uk

ENERGY / SUSTAINABILITY STATEMENT

OUTLINE PLANNING APPLICATION FOR RESIDENTIAL DEVELOPMENT
LAND AT STAFFORDSHIRE FARMERS SITE, CHEADLE ROAD, CHEDDLETON
09/08/2016

1.0 INTRODUCTION

1.1 This statement is submitted to support an outline planning application with all matters reserved. So on this basis, no exact figures can be quoted and this statement is to outline the ideals and aspirations behind this planning application with regards to energy and sustainability.
1.2 This energy statement analyses the potential energy and CO savings that could be achieved by installing renewable or low-carbon technologies at the proposed development. It also looks at energy efficiency measures that could be implemented at the development to make energy and CO savings beyond current building regulations.
1.3 This project comes under the Staffordshire Moorlands Planning authority where the low carbon policy objectives are contained within the following policies:

2.0 PLANNING POLICY

2.1 SD1 – Sustainable Use of Resources

The Council will require all development to make sustainable use of resources, and adapt to climate change. This will be achieved by:
1. Giving encouragement to development on previously developed land in sustainable locations in allocating land for development and determining planning applications, except where:

- *a previously developed site performs poorly in sustainability terms and could not be made otherwise acceptable;*
- *development upon a previously developed site would cause harm to some asset of acknowledged importance or if it would create an unacceptable flood risk.*
  Development on non-allocated greenfield land will only be considered acceptable where the proposal:
- *relates to the provision of needed development which cannot be accommodated on a deliverable previously developed site or other allocated site in the locality and is in a sustainable location, or;*
- *relates to the conversion or reuse of a rural building in accordance with policy R2, or;*
- *would secure the future conservation of a heritage asset through appropriate enabling development in accordance with policy DC2, or;*
- *is for a rural exceptions affordable housing scheme in accordance with policy H2.*

2. Supporting or promoting proposals that remediate brownfield sites affected by contamination, where this is consistent with other policies and also ensuring that any legacy from former land uses (such as coalmining) is appropriately addressed so that no future liability for future maintenance or public safety arises.
3. Requiring that development is located and designed to minimise energy needs and to take advantage of maximised orientation to achieve energy savings in line with Policy SD3.

4. Ensuring all major-scale planning applications (10 or more residential units or 1,000+ square metres floor area) are accompanied by a Sustainability/Energy Statement. This should address the energy efficiency, water conservation, sourcing of construction materials, and site orientation aspects of the scheme,and where possible the feasibility of integrating micro-renewables. The degree of detail expected will depend on the scale/complexity of the proposal.
5. The Council will expect that all developers investigate the potential for re-using construction or construction waste materials, especially those sourced locally (which can include those minerals available on site, as appropriate) and integrates where possible on-site waste management acilities.
6. The Council will promote water conservation standards in approved schemes which exceed those set out in the Buildings Regulations (for example as expressed in the Code for Sustainable Homes and the BREEAM offices scale).

2.2 SD2 - Renewable/Low-Carbon Energy

The District will strive to meet part of its future energy demand through renewable or low-carbon energy sources (which could be through a variety of technologies, for example wind power, solar energy, biomass etc), in line with current evidence which identifies the feasibility of these forms of energy across the District. This will be achieved by supporting small- and large- scale stand alone renewable or low-carbon energy schemes, subject to the following considerations:

- *the degree to which the scale and nature of a proposal impacts on the landscape, particularly having regard to the Landscape Character Assessment and impact on the Peak District National Park (taking into account both individual and cumulative effects of similar proposals);*
- *the degree to which the developer has demonstrated any environmental/economic/social benefits of a scheme as well as how any environmental or social impacts have been minimised (e.g. visual, noise or smell);*
- *the impact on designated sites of European, national and local biodiversity and geological importance in accordance with policy NE1;*
- *the impact on the amenity of residents and other interests of acknowledged importance, including the historic environment;*
- *the degree to which individual proposals reflect current local evidence regarding the feasibility of different types of renewable or low-carbon energy at different locations across the District.*

2.3 SD3 - Carbon-saving Measures in Development

The Council will promote further carbon-saving measures in both new and existing developments (where this is consistent with other Core Strategy Policies), in the following ways:
1. Supporting developers who propose exceeding the thermal efficiency standards required by law for new buildings or extensions, at the time of the application. In the case of larger developments such as housing estates the Council will support measures such as 'communal' micro-renewables, or District Heating installations.
2. The Council will support measures by landowners/developers designed to contribute to existing or emerging District Heating networks (for example by connecting 'exporters', with receptors, of heat).
3. The Council will support measures designed to improve the sustainability of existing buildings (such as improved thermal insulation, water conservation, or the installation of micro-renewables).

3.0 ENERGY EFFICIENCY MEASURES

3.1 This development will benefit from energy efficiency measures to reduce the energy consumption and CO emissions over and above those required to comply with Building Regulations Part L.

3.2 Lighting could be improved above and beyond current Building Regulations Part L through energy saving bulbs and sensors that can potentially result in a total energy saving of 2.50% for the whole development.

3.3 Windows and doors could be improved above and beyond current Building Regulations Part L through the introduction of triple glazing that could potentially result in a total energy saving of 2.00% for the whole development.

3.4 Improved r*oof and cavity wall insulation in excess of the 2014 Building Regulations would be considered to improve energy efficiency and heat retention.*

3.5 Whilst not a consideration under this application the orientation of the dwellings will be key in maximising passive solar gain and ensuring that other rooms, such as bedrooms remain cool in hot weather.

4.0 POTENTIAL TECHNOLOGIES

4.1 A solar photovoltaic (PV) cell consists of two or more thin layers of semi-conducting material, most commonly silicon. When silicon is exposed to light, electrical charges are generated, which are conducted away by metal contacts in the form of direct current (DC). The electrical output from a single cell is small, so multiple cells are connected together and encapsulated to form a photovoltaic module, often referred to as a "PV panel". These are often mounted to a roof and electricity can be used in the building and/or exported to the national grid.

4.2 Solar water heaters generate hot water directly from sunlight, and work even when it is cloudy. The "collector" heats water or another fluid pumped gently through a panel on the roof. The fluid then circulates through a secondary coil inside a hot water tank. This works to heat water in exactly the same way as the coil from a regular boiler. The end result is a reduction in demand for hot water from the existing heating system. A modern, well insulated hot water tank will keep this water warm for at least twenty-four hours, until it is needed.

Solar water heating systems are generally specified in square metres (m2), which is the collector area, and determines how much sunlight the system can catch. The heating power of a system will also depend on where in the country it is sited and the direction it faces. A common size of solar collector for domestic use is about 3-4m2 (flat plate). This will deliver around 1,500 kWh per year, which will heat just over half the annual hot water demand of a typical house with 3-4 persons. Most of this will occur during the summer months. For this reason, systems are usually sized to meet all of the summer hot water needs or half of the annual needs for a building: making the system bigger will not help in summer and make a marginal difference in winter.

4.3 Wind turbines use the power of the wind to generate electricity. They usually have a life in excess of 20 years before requiring a major overhaul. Some larger turbines require an annual inspection survey where the turbine will need to be lowered to the ground. They can be installed on buildings or on masts. It must be noted that surrounding features such as tall trees and buildings and even the building that the wind turbine is mounted on, can disrupt wind flow to such an extent that the amount of electricity generated is significantly reduced. Wind turbines have a cut-off wind speed of around 3 m/s (this varies depending on the model), below which it will not generate any electricity.

4.4 An air source heat pump extracts heat from the outside air in the same way that a fridge extracts heat from its inside. It can get heat from the air even when the temperature is as low as -15° C. Heat pumps have some impact on the environment as they need electricity to run, but the heat they extract from the ground, air, or water is constantly being renewed naturally

5.0 SUSTAINABLE DRAINAGE SYSTEM AND WATER CONSERVATION

5.1 It is envisaged that sustainable drainage measures would be incorporated into the development. All paving and hardstanding should be porous, any guttering should drain into a soakaway and green roofs could be considered on some elements of the development.

5.2 Water conservation measures could be included in the development, such features could include water butts being provided on downpipes, rainwater harvesting and green roofs could be considered on some elements of the development, such as garages.

6.0 SUMMARY

6.1 As stated this document indicates the type of technologies and design considerations that will be taken into account during the submission of a future reserved matters application, when Access, Appearance, Landscaping, Layout and Scale are taken into consideration. Until then and as this is an application for outline planning permission with all matters reserved, the statement cannot include any facts or figures and will merely indicate aspirations. The most suitable energy efficiency measures and low carbon and renewable technologies will be chosen when the residential scheme is being designed.