

Document Reference FD2406_103

Proposed Residential Development for 21 residential dwellings and associated infrastructure and landscaping with access from The Blossoms

Land Off Garstang Road East Poulton-Le-Fylde FY6 7EH

WBC Application Number: 24/00129/FULMAJ

Introduction

This document provides a sustainability statement as part of the design process for the proposed development of 21 residential properties and associated infrastructure and landscaping located off the Blossoms, Garstang Road East, Poulton le Fylde.

The sustainability of the scheme will be measured in part, by the practical success of the renewable and energy-efficiency technologies and the technologies discussed below are under consideration for their suitability for use within the scheme.

The focus for the properties will be on low risk, tried and tested technology, and systems that are simple to use, and leave no long term operational or maintenance burden.

1. Reducing Energy

The scheme has been designed with a view to reducing demand and subsequent energy consumption, and thereby reducing the associated carbon emissions.

Reducing the initial demand provides opportunities where the inclusion of renewable source energy becomes more significant and effective.

The following renewable energy options are to be assessed for their viability within the development in the detailed design stage;

- Solar water heating
- Solar photovoltaic (pv)
- Ground source heat pumps
- Passive solar design

Solar Water Heating (SWH)

- SWH employs solar collectors to capture energy from the sun, and uses it to heat domestic hot water. Solar water heating is suitable for urban and rural situations and is an effective affordable renewable technology for residential and commercial buildings. These systems do not generally provide space heating.

Overall a SWH system could provide 80% of hot water needs over a year. Factors such as the level of occupancy and when the water is actually used will mean that this range can vary widely.

Solar photovoltaic

- Solar Photovoltaic converts energy from the sun into electricity through semi conductor cells. PV arrays should face between south-east and south-west. These will be investigated and introduced should they prove to be economically viable.

Ground Source Heat Pumps

- Ground source heat pumps (GSHP) are currently the most common type of heat pump used for domestic space heating in the UK. A heat pump extracts heat from the ground, air or water and transfers it to a heating distribution system, such as underfloor heating.

Heat pumps can be designed to supply 100% of a buildings space heating requirements, and will usually need an auxiliary immersion heater to top-up the heating of hot water.

Passive Solar Design

- The buildings, where appropriate, will be designed to contain a level of thermal mass to moderate internal temperatures. This will enable the absorbance of passive solar energy within the structure and maintain levels of thermal comfort inside the buildings

2. Water Strategy and SUDS

A strategy based on the implementation of Sustainable Urban Drainage Systems (SUDS) has been designed by PSA consulting engineers (FRA and Drainage Strategy D3941-R-01)

Water resource management is to be integrated into the scheme from the outset.

The collected rainwater is an essential asset that will also be used for maintenance and irrigation of the landscaped areas. The demand for potable, mains supplied water will be reduced throughout the development by:

- the adoption of a water hierarchy similar to that of the energy use.
- Rainwater harvesting systems will be used to collect water for occupants use, reducing mains water demand.
- Water conservation measures to be assessed during the detailed design process will include; water efficient appliances, dual low-flush WCs, aerated spray taps with automatic shut off for bathrooms and low water use showers.

These measures are intended to reduce the amount of water that the development consumes during its lifetime.

3. Building Materials.

The homes have been designed to be built using modern methods of construction. This allows for a component of off-site construction to be employed, enabling more efficient and higher standards of constructed quality to be achieved in a controlled manufacturing environment.

This approach will in turn reduce the amount of construction waste created on site and waste requiring disposal in landfill sites.

Building materials for the proposal will be sourced locally where possible and make use of recycled and low embodied energy options where feasible. The buildings have been designed with environmental performance in mind.

4. Waste

Minimizing the generation of waste for this project has been considered for the construction and operational phases.

Waste minimization will be most effective during building where modern methods of construction are proposed, to reduce the amount of waste generated on site and also the amount of building materials to be transported to the site.

Where practical the scheme will avoid the import or export of fill material.

All construction timbers are to be of timber from sustainable Forest Stewardship Council (FSC) sources.

Recycled aggregate will be specified where possible, and may potentially include the re-use of onsite demolition aggregate. If suitable, this may be used for structural bedding material.

Recycling of waste when the development is occupied and in use is an essential part of reducing the amount of landfill waste. Space for recycling waste storage bins will be provided and designed in consultation with Wyre Borough Council Officers.

5. Air Pollution

The scheme will be developed incorporating the principles of designing and constructing in accordance with Health and Safety legislation including the associated specific air quality impact assessments.

- Locally sourced materials will reduce delivery transport emissions.
- A Travel Plan will outline the benefits and encourage the use of alternative modes of transport to the car
- Installation of Electric Vehicle charging points will be included in accordance with the Local Authority and Building Regulation requirements.
- Insulating materials for the walls, roofs, and floors and heating systems specified to avoiding where possible, the use of substances that have a global warming potential in either their manufacture or composition.
- Space heating and hot water systems to reduce the emission of nitrogen oxides into the atmosphere.

6. Health and well-being

The scheme will provide for both outdoor recreation through the internal paths, and communal areas, together with landscaped public open space and water features.

This element of the scheme is a high priority with considerable care being taken in respect of the health and well being of the residents and visitors.

The scheme has been developed along the principles of designing and constructing healthy buildings. The scheme will be built to high standards of construction, and in particular are to achieve higher standards of thermal insulation.

Lifetime homes standards will be assessed, with the aim to allow the homes to be accessible to everyone with layouts that can easily be used to meet the needs of future occupiers.

7. Transport

It is the intention to influence and encourage sustainable modes of transport through the reduction of car use.

The following are incorporated into the proposals,

- Permeability for pedestrians and cyclists and provision of cycle parking;
- Design features to ensure reduced vehicle speeds;
- Direct, safe and convenient access to the nearest bus stops;
- The promotion of public transport, pedestrian, and cycle links.

8. Landscaping, Ecology and Biodiversity

The development provides an opportunity for the enhancement of biodiversity on the site with the creation of the public open space to the east and linkage to the adjoining residential developments open space.

Wildlife corridors along the east and southern boundaries will be established creating a continuous green link and habitat connectivity comprising native species-rich hedgerows and trees providing habitat corridors for foraging birds.

The landscaping scheme including ground preparation, tree and shrub planting and maintenance schedules has been designed by Trevor Bridge Landscape Architects.

9. Summary of Proposed Measures

To conclude, the proposal is to create an exemplar development with established sustainability measures taking into account climate change that will allow residents to be comfortable within their homes, with the knowledge that they are contributing to a sustainable form of development.

The individual properties are to be constructed in accordance with the principles of fabric first energy conservation, reducing the need for energy through passive measures including form, orientation and fabric and using energy efficient mechanical and electrical systems, including heat pumps, heat recovery and LED lights.

The development will have a dedicated management committee to enable residents to develop a sense of ownership and belonging over time, while also feeling welcoming to visitors.

Community participation will be welcomed in the ongoing management of the communal areas.

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