

## **Sustainability Statement**

**Site:** 9 Holly Road, Ashurst SO40 7AB

**Proposal:** First Floor Rear Extension

**Date:** 26-11-2021

**Details of how the Proposal reduces carbon emissions and incorporates measures to reduce its contribution to climate change:**

### **1. Making the most efficient use of land, buildings and natural resources including site layout and building design.**

Guidance: Energy consumption can be significantly reduced through the location of development, site layout and building design, the type of materials used, the use of existing and new resources and the efficient management of the construction process.

The proposed development is on the top floor of an existing dwelling. Solar gain with glazing to the rear south and south west facing part of the building. The materials will match existing and will be sourced locally where applicable. The delivery of materials and removal of waste on site will be managed efficiently during the construction stage.

### **2. Energy Hierarchy\***

Guidance: Level 1 – Reduce the need for energy; Level 2 – Using energy more efficiently; Level 3 – Supplying energy efficiently; Level 4 – Use low carbon and renewable energy. There are opportunities in all types of development to use low carbon and renewable energy sources, however what is appropriate will depend on the physical nature of the building, its site characteristics and the surrounding landscape.

The heating system will be extended to comply with current building regulations. U-Value of the enclosing walls, roof and double glazed windows to comply with current building regulations. Energy efficiency lighting will be installed to comply with building regulations.

### **3. Minimising Flood Risk\*\***

Guidance: Directing development away from flood risk areas, reducing overall risk from flooding within the National Park and areas outside it, upstream and downstream.

The site is located within the Flood zone level 1, as shown in the environmental agency map.

There is minimal flood risk within the existing dwelling.

The proposal will be on the top floor of the existing dwelling and will therefore have no risk to flooding.

The existing surface drainage and soakaway will be retained and upgraded to suit the new proposal.

### **4. Carbon Reductions**

Guidance: Consideration of means of reducing carbon emissions for the development. Seeking to take every opportunity to reduce carbon and build sustainably.

High energy efficient insulation within the walls, roof and windows will reduce the carbon emissions in the development.

Materials sourced locally where applicable and labour will be sourced within the local area, to avoid long distance delivery of building materials.

Recycling and waste disposal to be within the local area.

## 5. Water Efficiency.

Guidance: Water conservation methods include ensuring that the design of buildings and their surrounding landscape maximises water efficiency and minimises water wastage; identifying opportunities to use water more efficiently during the construction of the development; designing surface water drainage systems to take into account future changes in rainfall.

Existing soakaway to be retained and upgraded. To maximise water efficiency, the existing water butt will be upgraded at the rear of the proposed development. This can be used for landscape, gardening and other external use. Internally, the proposed ensuite will incorporate water and energy efficient shower heads and control. A dual energy efficient water closet will also be used. A water-saving eco-friendly taps will also be used for the wash hand basin in the en-suite.

### \*Energy Hierarchy

#### **Level 1 – Reduce the need for energy**

The energy hierarchy places great emphasis on Integrated Passive Design. Key methods include:

- *Orientation* – making best use of high summer sun angles & low winter sun angles on southern exposures;
- *Thermal mass* – to store heat in the winter and act as a heat sink for cooling in the summer;
- *Natural ventilation* – designing controlled flows through buildings for cooling;
- *Zoning* – to allow different thermal requirements to be compartmentalised.

#### **Level 2 – Using energy more efficiently**

Using energy more efficiently means not wasting energy or using more than is required. The following potential energy efficiency measures should be considered:

- High levels of insulation.
- Utilising appropriate forms of glazing
- Installing heating controls.
- Using energy efficient heating and heat recovery systems.
- Adding draught strips on doors, windows & letter boxes.
- Fitting chimney balloons.

- Installing zoned low energy lighting and presence sensors.
- Replacing doors in existing buildings.
- Upgrading to a high efficiency condensing boiler
- Adding a sun pipe/tunnel

### **Level 3 – Supplying energy efficiently**

Supplying energy efficiently refers to connecting to existing low carbon heat networks. Connection to, or development of, a mini district heating network can be a carbon efficient means of energy supply.

### **Level 4 – Use low carbon and renewable energy**

Once the energy needs of a new building have been minimised through design, consideration needs to be given as to how the remaining energy needs can be met through:

- Heat pumps: ground source heat pumps and air source heat pumps.
- Wood burning stoves/biomass boilers.
- Solar thermal/hot water panels.
- Solar photovoltaic/electric panels.
- Hydro power, small scale water turbines.
- Anaerobic digesters.

### **\*\*Minimising Flood Risk**

Sustainable Urban Drainage Systems (SuDS) remove water quickly and efficiently and should be included in the original design and layout of a proposal wherever possible. The approach used will differ with each application and the circumstances of each site.