Sustainability Statement

Site: Oakfields (formerly Stonard), Stoney Cross, LYNDHURST, SO43 7GP.

Proposal: Proposed demolition of single storey conservatory from rear of property and construction of new single storey extension.

Date: 26.05.2021

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.
This proposal comprises the removial of an outdated and thermally inefficient conservatory with fully glazed roof and walls. The Walls, floors, roof and glazed elements will be comply with the current requirements of PART L of the buildiing regulations. Materials used are highly recyclable (glass, steel, aluminium, zinc). Where possible, demolition materials will be reused on site (ie hardcore for slabs) and materials recycled (glass, metal, timber etc) The construction process will be managed in such a way as to minimise on-site wastage and will incorporate maximise off-site methods (ie glazing systems and steel frame)

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 design incorporates a deep eaves and roof overhang that will provide summertime shading. The proposed floor slab will be constructed to maximise the 'thermal mass' effect (ie hard tile finishes on concrete substructure above insulation) and create a useful heat sink. There are extensive window and roof openings that will allow natural ventilation of the space. Heating systems will be separately zoned in the proposed extension. The proposal will include high levels of insulation in the floor, walls, roof and glazed elements. Glazing will incorporate 'Low E' coatings to reduce summer heat gains. Extensive glazing will minimise the need for artificial lighting. Any lighting systems will be low energy and will be switched to allow seperate zoning. Construction will be detailed in such a way to maintain air-tightness and avoid air leakage and 'cold bridging'. An efficient wood burning stove is proposed that along with zoned thermostatic controls will minimise the demand from the house central heating system

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 scale of this proposal would not impact on Flood Risk

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.

It is proposed that construction will be carried out by a local contractor and consultants. Building materials will be sourced from local suppliers where possible.

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.

The proposal will not impact on the water usage of the property. The use of 'dry' construction methods (ie drylining) will minimise the water demands during construction.

*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.