Humbly Grove, South Warnborough, Hampshire RG29 1RY

Proposed Development of a New 5 Bed Dwelling

Sustainability Statement

Final Report

September 2016
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Introduction

Blewburton Ltd has been commissioned to prepare a Sustainability Statement to support the application for planning permission for the proposal to construct a new 5 bedroom dwelling on the site of three redundant farm buildings at Humbly Grove, Baymans Lane, South Warnborough. Consent has been granted which allows the conversion of one of the barns for residential use, however, as plans have progressed the developer has come to the conclusion that a new build will be a more efficient use of resources and will result in a superior scheme than that in the approved plans. The purpose of this report is to examine the plans for the new build from a sustainability perspective and to compare it with the plans for the conversion.

As licensed BREEAM, Code for Sustainable Homes and energy assessors, Blewburton has considerable expertise in all issues of sustainability.

Policy Background

The site lies in the hamlet of Blounce to the south of the village of South Warborough in a rural setting. The map below shows the location of the site

![Figure 1 Location of the Humbly Grove site](image)

It falls within the jurisdiction of the Basingstoke and Dean local authority area. Planning policy within the Council area is currently subject to the local plan 1996-2011 and its accompanying Supplementary Planning Documents. In March 2012 the Council published the Design and Sustainability Supplementary Planning Document (SPD) which sets out in the
objectives of planning policy and the requirements of new developments with regard to sustainability. The key objectives of the Basingstoke and Dean planning policy are to:

- Support the development of mixed communities that are socially inclusive and contribute to local sustainability
- Ensure that new development positively responds to the local character of the area and maintains the amenity of the existing local community
- Ensure that new development is easily accessible by a range of modes of transport
- Ensure that new development is designed and constructed to maximise resource efficiency over its full lifetime
- Ensure that new development takes into account climate change
- Encourage sustainable practices in the local economy
- Maximise the benefit of new development on the built and natural environment
- Ensure that new development does not increase flood risk and that flood risk is reduced in all redevelopment.

The SPD provides guidance to developers on the measures that can be implemented to address these objectives and states that the achievement of Level 3 of the Code for Sustainable Homes is chief requirement to demonstrate compliance. However, recent legislation has meant that the Code for Sustainable Homes can no longer be applied to residential developments. In accordance with the National Housing Standards Review completed during the last parliament, many issues included in the Code will be replaced by a suite of additional building regulations. These have yet to be finalised and implemented. In the meantime, Part L of the Building Regulations, relating to carbon emissions and energy conservation, has been further enhanced as the chief mechanism to deliver reductions in carbon emissions arising from new homes. This is in line with the step by step approach towards the aspiration that all new homes should be Zero Carbon set out by government in 2008 and reaffirmed by subsequent administrations.

District planning policy is that development should be appropriate and sensitive to the rural environment. The re-use of buildings is encouraged where a change of use is not detrimental to the employment prospects of the area. Development on brownfield sites is also to be encouraged together with the remediation of contaminated land for use as residential development sites.

In line with national policy, new development should include measures to minimise its impact on the environment both during construction and throughout its lifetime. These measures will include design measures to minimise the energy demand of the dwelling, thereby reducing the carbon emissions associated with it, using materials that have low
environmental impact, managing waste in a sustainable fashion, minimising the impact on the habitat value of the site and reducing water consumption through the specification of water saving sanitary fittings.

The Proposed Approach to Sustainability
This document sets out the approach that the developer is proposing to ensure that the development meets the objectives of the Basingstoke and Deane District Council as set out in its Local Plan. The report includes a discussion of the full range of sustainability issues as shown below with a comparison between the approved conversion plan and the proposed new development.

- Energy
- Health and wellbeing
- Management and construction
- Water conservation
- Materials
- Security
- Management of surface water
- Waste
- Ecology

The site
The site is located in Blounce in a rural setting off Bayman’s Lane. The site currently comprises 3 redundant farm buildings in an area that has been found to have a significant level of ground contamination. The existing buildings are of a mixture of rendered blockwork, brickwork, with steel frame and corrugated asbestos roofing with concrete flooring. They have no intrinsic aesthetic value.
The photographs below show the existing buildings on the site. The approved plan is to convert the central building to a four bedroom single storey dwelling. The haystore and shed on either side are to be retained. In the proposed development all buildings will be demolished and replaced with a two storey plus basement 5 bedroomed house.

The demolition of all buildings presents the opportunity to undertake a full remediation of the contamination on site. The conversion project will only allow a fraction of the work that would be required to decontaminate the site.
Figure 3 Pictures of the buildings on site
Energy Conservation and Carbon emissions

The new dwelling will be constructed to exceed the requirements of Part L 2014 of the Building Regulations. This will mean that regulated carbon emissions will be at least 25% less than would have been required under the previous, 2010, version of the regulations. A fabric first approach will be taken so that the dwelling will feature exceptional thermal performance to minimise heat loss. This will be achieved through the implementation of best practice in both design and construction. In particular;

- U values will be substantially lower than the Part L standards for all major building elements; walls, floors, roofs and openings;
- Non repeating thermal bridging will be minimised through the use of Accredited or enhanced construction details;
- Attention to detail on site will ensure that the dwellings achieve an Air tightness result of 5m3/hm²(@50pa) or less.

Space and water heating will be provided by a highly efficient, condensing, low NOx gas boiler. Heating will be to an underfloor distribution system and will feature time and temperature zone controls.

Further measures will be implemented to reduce energy use;

- In order to minimise the need for lighting the dwelling has been designed to maximise natural daylight;
- The dwelling will be designed to avoid overheating through a natural ventilation strategy;
- The use of solar PV, as the most appropriate renewable energy source for the site, will be considered where feasible and necessary to supplement the fabric first approach to achieve Part L compliance;
- All external and internal light fittings will be energy efficient;
- The home will be provided with a smart meter and a monitoring display device that allows residents to monitor usage and costs of the energy they are using and to compare it to previous periods;
- All ‘White Goods’ – fridges, freezers and dishwashers – will be rated as minimum ‘A’ under the EU Energy Labelling Scheme;

The use of energy conscious design principles and a fabric first approach means that whatever happens to the building services, the dwelling will remain energy efficient for its lifetime. Heating, ventilation and electrical systems may continue to improve, and, as the systems in the house need replacing, it will benefit from any such developments. The installation of a smart meter will mean that the home will be prepared for energy saving initiatives that are currently under development by energy supply companies.

While the conversion project may be able to incorporate many of these measures it will be not be able to achieve the same standards due to the constraints of working within the
same footprint and structure. In particular, the ability to improve the fabric performance will be limited and the opportunities to minimise thermal bridging between elements and to achieve high levels of airtightness are constrained.

Consequently carbon emissions over the lifetime of the home will be less for the new dwelling than for the conversion.

**Health and Well-being**
The health and wellbeing of resident is a prime consideration in the design of the dwelling. In particular attention has been paid to:

- Daylighting – good daylighting will be achieved in the living areas of each unit.
- Thermal comfort – the dwelling will feature advanced control systems for heating to enable residents to set comfortable temperatures for the different zones in the home.
- Indoor air quality – the dwelling will feature low VOC finishes and effective ventilation

**Construction Site Management**
The construction process can have a detrimental effect on the local environment, if poorly managed, and, in an effort to mitigate against this, the main contractor will be required to on energy and water use arising from site based activities and adopt best practice policies in respect of air and water pollution.

The demolition of the existing buildings will generate a substantial amount of material. This will be significantly more than would be generated by the approved plan for the conversion of the centre building. This is largely by virtue of the fact that the approved plan involves the retention of the two buildings either side, whereas the proposal for the new build involves the demolition of all three buildings.

The material arising from the demolition will be managed in accordance with best practice as defined by WRAP. This will involve minimising the amount that goes to landfill through the actions detailed below:

- Reusing on site – wherever possible material will be used on site this would include using concrete, brick and blockwork as hardcore within any subbase required for hard landscaping or soakaways etc. This may be restricted due to the contamination known to be on site
- Reusing material off site – the developer will identify any material that can be recovered and reused off site and will ensure that this occurs
- Recycling – material that cannot be reused but can be recycled
A comprehensive site waste management plan (SWMP) will be developed prior to the start of construction reflecting the recognition that reduction of waste begins in the design and ordering stage of a project and carries on through to the sign-off of the building. This SWMP will set targets and procedures for the sorting, reusing and recycling of construction waste into defined waste groups, either on site or through a licensed contractor.

It is anticipated that a Construction Management Plan (CMP) will be required via condition should planning permission be granted.

**Water Conservation**

The UK has a poor record in being profligate with its abundant water resource and it is proposed that this development will incorporate water saving features that will deliver a level of consumption lower than the requirements of Part G (Sanitation, hot water safety and water efficiency) of the Building regulations through the specification of water efficient products.

The specification will include dual flush WCs, reduced flow taps and showers with low flow aerated shower heads.

Both the conversion project and new build will be able to incorporate these measures.

**Materials Selection and Sustainable Construction Methods**

The material specification has not yet been finalised for this project and will be subject to planning considerations, however, the developer is committed to ensuring that all materials score as highly as possible in the Green Guide to specification. In particular, the construction of the walls, roof and windows are expected to achieve an A or A+ rating.
In addition, wherever possible all building and finishing materials will be sought from suppliers and manufacturers registered to an environmental management scheme such as FSC, BES, ISO14001 or EMAS. This will ensure that the materials have been sourced from suppliers certified as ethical and responsible as far in the supply chain as possible. Priority will be given to local suppliers.

All insulation materials selected for this building will have a Global Warming Potential of below 5.

Attention will also be paid to materials specified for the internal environment with a focus on materials/finishes containing low/no volatile organic compounds (VoCs) in an effort to improve the internal environment for residents.

This would apply to both the new build and conversion project.

**Security**

Crime can have a detrimental impact on the sustainability of any development. At detailed design stage the design team will consult and seek the advice of the local police Architectural Liaison Officer or Crime Prevention Officer on designing out the opportunity for crime, in accordance with the principles of Secured by Design.

This would apply to both the conversion and new build project.

**Information for Residents**

The occupiers will be provided with a comprehensive Home User Guide. This will give clear instructions to the occupier on how to operate the heating, lighting and ventilation systems. Support will also be available for a period after occupation. This should help residents realise the efficiencies that the systems offer. The guide will also include information about the local area, the community and its facilities together with information about transport links and vital services.

**Surface water run off**

Surface water run-off is an increasingly important consideration for new development as the impact of climate change with increasingly frequent extreme weather events starts to be felt. New development generally increases the area of impermeable surfaces leading to increased risk of flooding. In this case the proposal involves the reduction in the total area
of hard surfaces and replacing much of it with soft landscaping and permeable hard landscaping.

This is a clear improvement over the approved scheme which will see no reduction in hard surfaces.

**Waste**
Facilities for external waste storage consistent with the Local Authorities general and recyclable waste collection scheme will be provided. Careful attention will be paid to the location of the storage to afford access to resident, including those less mobile, and access for waste collection vehicles. In order to encourage recycling in line with the local authority’s policy, internal storage will be provided to enable the segregation of recyclable from general waste streams.

**Ecology**
The site has clearly not been managed for some years and will consequently have a significant habitat value. The demolition and construction work will present a threat to the ecology of the site and, in all probability, this will be greater than for the approved scheme. However, this can be mitigated through the implementation of advice from a qualified ecologist. The developer will seek the appropriate advice and take all recommended steps to both protect the existing habitat value and to achieve a long run improvement in the ecology of the site. This will be helped by the extensive remediation work planned as part of the project.

While the conversion project may result in less ecological disturbance, the remediation work and removal of all existing buildings involved in the project to construct the new building should enhance the value of the site and prospects for biodiversity.

**Summary**
In summary, this development demonstrates a commitment to sustainability as required under the Local Planning Authority guidelines and within the context of the development scale and size.

It incorporates many sustainable features that are consistent with achieving a high level within the now defunct Code for Sustainable Homes scheme. In particular, the plans with regard to energy and reducing emissions, the design of features to improve the health and well-being of residents, and the management issues would score well under the code and would more than meet the standards that are anticipated to replace it within Building
Regulations. The proposed response to the challenges presented by the sensitive ecology of the site and its surroundings are well thought out and worthy of note and will ensure that the scheme minimised disturbance to its habitat value.

While the policy that the reuse of existing buildings is to be encouraged over the demolition and construction of new buildings is undoubtedly commendable; it is not clear cut in this particular case. The proposal to construct a new dwelling presents a number of advantages from a sustainability perspective over the plan to convert one of the existing sheds. These are:

- The new dwelling will have fewer carbon emissions over its lifetime;
- Remediation of the whole site rather than a small part of it;
- Improved aesthetics of the site;
- Reduction in impermeable surfaces; and
- Opportunity to improve the long term ecology of the site.

The advantages of the approved plan are that there would be less waste from demolition and less disturbance of existing ecology. Both these can be mitigated through careful management.