|  |  |
| --- | --- |
| **Title:**  | **Planning Application: 18/00484/OUT Land North and Adjoining Home Farm, Banbury Road, Caversfield** |
| **Request Date:**  | 23 March 2018  |
| **Due:**  |  |
| **Issued:**  |  |
| **Name of Cherwell Employee Requesting:** | Jenny Barkerjenny.barker@cherwellandsouthnorthants.gov.uk 01295 221828   |
| **Details of Request:**  | Assessment for compliance with ESD policies  |
| **Actions:**  | See comments below  |

**Planning application:**

This is an outline planning application to include:

* up to 75 homes
* pedestrian and cycle routes
* creation of a new access point from Charlotte Avenue
* provision of open space, play space, allotments, orchard, parking and associated works.

All matters are reserved with the exception of access, therefore much of the information is available either in outline or as a commitment to provide further detail at the reserved matters stage.

**Assessment:**

The planning application documents were reviewed and considered against Cherwell’s Local Plan, and in particular the ESD policies, as well as applicable supplementary guidance documents. Compliance with policy requirements was considered and findings are set out below. The documents reviewed, submitted as part of the planning application, were the following:

* Environmental Statement
* Outline Energy Statement
* Sustainability Statement
* Development Specification
* Design Guidelines & Parameter Plans, as set out in the Design & Access Statement

**Table 1**: Sustainability and energy requirements and applicant’s response

|  |  |  |
| --- | --- | --- |
| **Item** | **Requirement**  | **Response**  |
| Policy Bicester 1:North West Bicester | * Proposals should comply with Policy ESD15.
* High quality exemplary development and design standards including zero carbon development, Code Level 5 for dwellings at a minimum and the use of low embodied carbon in construction materials, as well as promoting the use of locally sourced materials.
* All new buildings designed to incorporate best practice on tackling overheating, taking account of the latest UKCIP climate predictions.
* Proposals should enable residents to easily reduce their carbon footprint to a low level and live low carbon lifestyles.
* Demonstration of climate change mitigation and adaptation measures including exemplary demonstration of compliance with the requirements of policies ESD 1 – 5
* Have real time energy monitoring systems
* Homes to be constructed to be capable of achieving a minimum of Level 5 of the Code for Sustainable Homes on completion of each phase of development, including being equipped to meet the water consumption requirement of Code Level 5.
* Green infrastructure – 40% of the total gross site area will comprise green space of which at least half will be publicly accessible and consist of a network of well-managed, high quality green/open spaces which are linked to the open countryside.
 | The zero carbon target is acknowledged in the Outline Energy Strategy as has the pre-consultation advice received from CDC that it is applicable to both regulated and unregulated energy. However, viability testing has not yet taken place and the developer discusses negotiating with CDC at the detailed design stage. To achieve, or work towards, zero carbon the following are proposed to be considered further at the reserved matters stage: * The proposed development will connect to the adjacent Elmsbrook district heating system that will be delivered as part of the wider Eco-Town development. This is served by a CHP unit. Discussions have been opened with SSE to understand capacity availability. In the interim, a plant room will serve the residential areas.
* Building fabric and orientation
* Passive and active measures to promote energy efficiency and reduce energy demand
* Consideration of renewable technologies including:
	+ Solar PV
	+ Solar thermal
	+ Air source heat pumps
	+ Ground source heat pumps
	+ Water source heat pumps
	+ Wood-burning stoves

The Design & Access Statement confirms that open green space and SuDS drainage features will meet the 40% requirement of the total gross site area as set out in this policy; the parameter plans provide approximately 56% of the site as open space. **This is not compliant with policy as it does not demonstrate how zero carbon will actually be achieved. Further detail is required.**  |
| North West Bicester Masterplan SPD  | The BREEAM Communities assessment methodology will be used to assess the sustainability of the proposals. The approach to energy and carbon dioxidereduction includes:* A large scale solar array on all roofs;
* Energy efficient buildings; and
* A network of energy centres providing gas and biomass combined heat and power (CHP) which will require a district heating network.

All planning applications should demonstrate the provision of 40% green space and a range of types of green space. Particular attention should be given to land to allow the production of food from community, allotment and/or commercial gardens.Proposed landscape schemes and green infrastructure design should be used to provide external cooling and reduce heat islands.Proposed development shall incorporatea water efficiency design standard to limitaverage per capita consumption (PCC) to105 litres per person per day (l/p/d) in all new homes. For residential properties, at least 25 l/p/d of potable water demand must be replaced with non-potable water to allow the target of 80 l/p/d to be achieved.Planning applications should be accompanied by a water cycle strategy (WCS) that provides a plan for the necessary water services infrastructure improvements. The WCS should be prepared and developed in partnership with interested parties, including the local planning authority, the Environment Agency (EA) and the relevant water and sewerage companies through a water cycle study. | The proposed development will aspire to achieve the highest levels of sustainability, including a BREEAM Communities rating of ‘Excellent’ and zero carbon emissions. **More detail on how BREEAM ‘Excellent’ is to be achieved is required to demonstrate compliance with policy requirements.** See comments under ESD 3 regarding construction materialsSee comments under ESD 4 and 5 regarding energy (decentralised and renewable energy). See also comments under Policy Bicester 1 regarding zero carbon homes.  |
| Policy ESD 1: Mitigating and Adapting to Climate Change  | At a strategic level, this will include:* Designing developments to reduce carbon emissions and use resources more efficiently, including water (see Policy ESD 3 Sustainable Construction)
* Promoting the use of decentralised and renewable or low carbon energy where appropriate (see Policies ESD 4 Decentralised Energy Systems and ESD 5 Renewable Energy).

The incorporation of suitable adaptation measures in new development to ensure that development is more resilient to climate change impacts will include consideration of the following:* Taking into account the known physical and environmental constraints when identifying locations for development
* Demonstration of design approaches that are resilient to climate change impacts including the use of passive solar design for heating and cooling
* Minimising the risk of flooding and making use of sustainable drainage methods, and
* Reducing the effects of development on the microclimate (through the provision of green infrastructure including open space and water, planting, and green roofs).
 | The Environmental Statement (ES) states that the proposed development’s **materials** will be determined at the reserved matters stage, but that they will be consistent with achieving high sustainability performance and low embodied energy. Materials will be sourced locally where possible to enhance the local design vernacular. The style and approach to design will contribute to the performance and vision for the Eco-Town.**Sustainable urban drainage systems** (SuDS) will be incorporated into the design at the reserved matters stage, to include a detention basin and permeable paving for runoff storage prior to a controlled discharge rate into the River Bure of 5l/s. The ES confirms that the storage volume will be designed for a 1 in 100 year event + 30% allowance for climate change. However, no detailed plans have been submitted at this outline application stage. **Hedgerows** will be retained where possible with the exception of the one on the northern boundary of the site to facilitate the pedestrian/cycleway construction. A new hedgerow will be planted on the eastern site boundary to mitigate for that which will be removed. The new hedgerow will comprise native species planting or species that are known to benefit wildlife. New allotments (0.06 ha) and new orchard planting (0.49ha) will be provided as part of a wider provision of **open space**, of which 42% will be publically accessible. **Further details on the actual materials to be used and how the SuDS system will meet policy requirements is necessary to determine whether compliance can be achieved.**  |
| Policy ESD 2: Energy Hierarchy and Allowable Solutions  | In seeking to achieve carbon emissions reductions, we will promote an 'energy hierarchy' as follows:* Reducing energy use, in particular by the use of sustainable design and construction measures
* Supplying energy efficiently and giving priority to decentralised energy supply
* Making use of renewable energy
* Making use of allowable solutions.
 | The Environmental Statement (ES) states that the proposed development’s **materials** will be determined at the reserved matters stage, but that they will be consistent with achieving high sustainability performance and low embodied energy. Materials will be sourced locally where possible to enhance the local design vernacular. The style and approach to design will contribute to the performance and vision for the Eco-Town.An Outline Energy Strategy was submitted to accompany the planning application. It sets out the findings of a Predicted Energy Demand (PED) model which was run to determine the likely regulated and unregulated energy demand for the proposed development. At this stage a SAP or SBEM model is not feasible as the design is still at an early stage. The PED model assumes compliance with Part L regulations (and it is acknowledged that this may be tighter once the high fabric efficiency is considered at the detailed design stage). It also assumes an average floor area in the absence of detailed tenure information. This predicts the following: * Approximately 31 MWh of electricity demand (regulated & unregulated)
* Approximately 550 MWh of heat demand (including hot water)
* Total CO2 emissions of 280 tonnes, of which 160 tonnes is associated with unregulated use

The Outline Energy Strategy acknowledges the national and this local policy to adopt the energy hierarchy in the design of the development. The following have been considered as part of the masterplan and form the design principles in relation to energy:* The proposed development sits within a comprehensive green infrastructure network which forms part of the wider Eco-Town development. The eastern boundary forms an open space buffer and community allotments/orchard space is provided adjacent to Banbury Road
* The low density of dwellings allows for pockets of green open space and large back gardens which provide evaporative cooling at night.
* High permeability of space, plot layout selection, and building location (to be undertaken at the detailed design stage) will facilitate natural ventilation through the free movement of air.
* A west-east alignment of residential dwellings will offer a south-facing façade increasing natural daylighting opportunities, passive solar gains, and roof-mounted renewable technologies.
* Passive solar shading will be considered as part of the reserved matters application through detailed landscaping design.

**The level of information provided is still aspirational and as such, could change. In order to determine compliance with policy requirements further detail is necessary, including building materials, passive and active energy measures to reduce demand.**  |
| Policy ESD 3: Sustainable Construction  | All new residential development will be expected to incorporate sustainable design and construction technology to achieve zero carbon development through a combination of fabric energy efficiency, carbon compliance and allowable solutions in line with Government policy.Cherwell District is in an area of water stress and as such the Council will seek a higher level of water efficiency than required in the Building Regulations, with developments achieving a limit of 110 litres/person/day.All development proposals will be encouraged to reflect high quality design and high environmental standards, demonstrating sustainable construction methods including but not limited to:* Minimising both energy demands and energy loss
* Maximising passive solar lighting and natural ventilation
* Maximising resource efficiency
* Incorporating the use of recycled and energy efficient materials
* Incorporating the use of locally sourced building materials
* Making use of sustainable drainage methods
* Reducing the impact on the external environment and maximising opportunities for cooling and shading (by the provision of open space and water, planting, and green roofs, for example); and
* Making use of the embodied energy within buildings wherever possible and re-using materials where proposals involve demolition or redevelopment.
 | The planning application documents state that the proposed development will aspire to achieve the highest levels of sustainability, including a BREEAM Communities rating of ‘Excellent’ and zero carbon emissions. The proposals include for the following: * Reduction in carbon emissions through building orientation, passive solar design, and appropriate building fabric to maximise building performance and minimise energy demand
* South-facing aspect of certain residential buildings to increase natural daylight, passive solar gains, and roof-mounted renewable technologies
* Layout and building allocation will take into consideration the flow and movement of air to facilitate natural ventilation
* Low development density and the inclusion of green open spaces will allow night cooling through evaporation and reduce the heat island effect.

The Outline Energy Strategy acknowledges the national and this local policy to adopt the energy hierarchy in the design of the development. The following have been considered as part of the masterplan and form the design principles in relation to energy:* The proposed development sits within a comprehensive green infrastructure network which forms part of the wider Eco-Town development. The eastern boundary forms an open space buffer and community allotments/orchard space is provided adjacent to Banbury Road
* The low density of dwellings allows for pockets of green open space and large back gardens which provide evaporative cooling at night.
* High permeability of space, plot layout selection, and building location (to be undertaken at the detailed design stage) will facilitate natural ventilation through the free movement of air.
* A west-east alignment of residential dwellings will offer a south-facing façade increasing natural daylighting opportunities, passive solar gains, and roof-mounted renewable technologies.
* Passive solar shading will be considered as part of the reserved matters application through detailed landscaping design.

Passive measures to reduce energy demand, to be considered at detailed design stage, will include: * External building fabric to have low U values in order to minimise thermal heat loss
* Reducing air permeability and thermal bridging coefficient to the lowest level practicable
* Incorporating buildings with high thermal mass to avoid internal temperature fluctuations
* Incorporate larger windows on south-facing facades to enhance natural daylighting and passive solar gains. Reverse this for north-facing facades to reduce heat loss
* Install openable windows to allow a through-flow of air and provide cross ventilation
* Incorporate external design features to reduce excessive heat gains (e.g. brise soleil)

Active design measures to be considered include:* Use of highly-efficient mechanical ventilation with heat recovery (MVHR) systems where appropriate
* Adopt water efficiency measures to reduce water heating demand – e.g. flow restrictors on taps, low-flow showers, small capacity baths, and time/thermostat control of hot water
* Use of real-time energy monitors, smart energy management systems, and heating controls as appropriate
* Fitting variable speed drives to fans and pumps for greater control of energy-efficient equipment
* Installation of 100% low energy lighting and lighting efficiency systems – e.g. daylight cut-off and passive infrared controls
* Installation of highly efficient white goods
* Complying with CIBSE commissioning requirements, including for facilities and building management teams
* Knowledge transfer to residents through training and user guides

**Water**The Sustainability Statement outlines the measures to be taken to reduce water consumption and they include: * Flow restrictors to reduce the flow rate of kitchen sink and bathroom basin taps
* Dual flush toilets
* Low capacity baths
* Water efficient kitchen appliances

A typical water fitting specification is included to demonstrate that 110 l/person/day can be achieved (Table 4.1 from the Sustainability Statement): **Building materials**There is little scope for re-use of materials as the site is currently comprised of grassland, hedgerows, and trees so there is little demolition material. It is recommended in the Sustainability Statement that consideration should be given to building materials are sourced in line with the BRE’s BES 6001 The Framework Standard for Responsible Sourcing. This includes utilising recycled materials as the most sustainable type while also considering those whose production is less energy intensive, such as timber, clay bricks, and slate tiles. **No actual specifications are made in this document, therefore it is not possible to determine compliance with policy requirements. It should also be noted that the North West Bicester Masterplan SPD sets out a water use requirement of 105 l/person/day which will apply.**  |
| Policy ESD 4: Decentralised Energy Systems  | The use of decentralised energy systems, providing either heating (District Heating (DH)) or heating and power (Combined Heat and Power (CHP)) will be encouraged in all new developments. | The proposed development will connect to the adjacent Elmsbrook district heating system that will be delivered as part of the wider Eco-Town development. This is served by a CHP unit. Discussions have been opened with SSE to understand capacity availability. In the interim, a plant room will serve the residential areas. The Ardley energy-from-waste centre is 3.5km away and connection has not been shown to be economically viable. **More detail is required, in particular what SSE’s response is and what the alternatives are should connection to Elmsbrook not be feasible.**  |
| Policy ESD 5: Renewable Energy  | The Council supports renewable and low carbon energy provision wherever any adverse impacts can be addressed satisfactorily. The potential local environmental, economic and community benefits of renewable energy schemes will be a material consideration in determining planning applications.Planning applications involving renewable energy development will be encouraged provided that there is no unacceptable adverse impact, including cumulative impact. | An initial assessment of the viability of renewable energy technologies has been undertaken and the following will be considered further at the detailed design stage: **Most suitable** * Photovoltaic solar panels
* Solar thermal – water heating
* Air source heat pumps

**Potential to be explored further*** Ground source heat pumps
* Water source heat pumps
* Wood-burning stoves

Hydropower and micro wind energy were deemed unsuitable. **In order to determine compliance with policy requirements further detail on the actual measures to be included in the design is required.**  |
| Policy ESD 15: The Character of the Built and Historic Environment | Incorporate energy efficient design and sustainable construction techniques, whilst ensuring that the aesthetic implications of green technology are appropriate to the context (also see Policies ESD 1-5 on climate change and renewable energy)Use locally sourced sustainable materials where possible. | See comments under ESD Policies 1-5.  |

**Assessment**

The planning application is still at the outline stage and at this point contains limited detail on how the proposed development will be constructed. While a number of design commitments to be considered at the reserved matters stage are made through information set out in the Parameter Plans (found in the Design & Access Statement), Outline Energy Strategy, and Sustainability Statement this is not sufficient to determine compliance with policy requirements. **In order to determine whether this application is compliant with policy, and in particular with the requirement to achieve zero carbon, further detail is required at this outline stage.**

The D&AS confirms the design of open space will meet the 40% of the total gross site area to comprise open green space requirement as required by CLP Policy Bicester 1; it is stated that the proposed development will exceed it aiming to achieve 56%. **This complies with policy requirements.**

The developers propose to connect to the Elmsbrook district heating system and have opened a dialogue with the operator SSE. **We would like to see further detail on this, in particular SSE’s response as to the viability of such a connection. If connection is not possible, what are the alternatives proposed to achieve zero carbon for the proposed development? As it stands, this is not compliant with policy requirements.**

Commitments for sustainable construction are made on building fabric, orientation, use of passive and active measures to reduce energy demand, as well as specified sustainable construction materials to comply with BRE’s BES 6001 The Framework Standard for Responsible Sourcing to comply with ESD policies which will be considered as the design progresses. This also includes a commitment to achieving 110 l/person/day of water which, if included in the final design, would comply with ESD 3. **While the commitment to consider these is a positive step, it falls short of demonstrating compliance with the zero carbon policy requirements set out in Policy Bicester 1: North West Bicester and North West Bicester Masterplan SPD. We would like to see detailed measures that will demonstrate how zero carbon will be achieved. These should include a mix of measures including, but not limited to: orientation, building fabric, construction materials, and passive and active measures that will reduce energy demand.**

It should also be noted that the North West Bicester Masterplan SPD requires a water use of 105 l/person/day – this is more stringent than the ESD 3 policy – and this is **not addressed** in the planning application submission. **The application therefore does not comply with the policy requirement. Further detail is necessary at this outline stage to demonstrate how 105 l/person/day will be achieved.**

While the various documents submitted as part of this outline planning application acknowledge the policy requirements and make commitments to address certain issues at the reserved matters stage, there is no definitive design detail at this stage and it is noted that final design will be based on viability assessments to be completed at a later date. Until definitive designs and specifications are submitted it is not possible to know exactly if and how compliance with policy will be achieved. **This application is therefore not compliant with the policy requirements set out in the Policy Bicester 1: North West Bicester, North West Bicester Masterplan SPD, or the Local Plan policies ESD 1-5 and ESD 15.**