

Sustainability and Energy Statement

Land at Broadleees, Angmering

July 2018

Turley
Sustainability

Contents

Contents	2
1. Introduction	4
2. Policy Context.....	6
3. Sustainability at Land at Broadlees, Angmering	13
4. Conclusion.....	21

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The proposed development will deliver a sustainable long term investment for the local community through care home provision.

1. Introduction

This Sustainability and Energy Statement has been prepared to demonstrate how Frontier Estates Ltd will integrate sustainability into the development proposals for Land at Broadlees, Angmering.

This report has been prepared by Turley Sustainability following dialogue with the Local Planning Authority (LPA) with respect to the development proposals and a request from the Council that an Energy Statement is submitted in relation to the 10% renewable energy generation requirement set out in the emerging Local Plan.

Discussions confirm that there is flexibility in the application of the requirement where it may impact on viability, or where an alternative strategy for energy efficiency and carbon reduction is proposed and that this is sufficient to comply with the objective of the emerging Local Plan policy.

This report is structured to detail the recent announcements in relation to national policy and legislation, to demonstrate the challenges that the development proposals face with respect to the 10% requirement and outline how the measures at design, construction and operational phases promote sustainability as part of the planning balance.

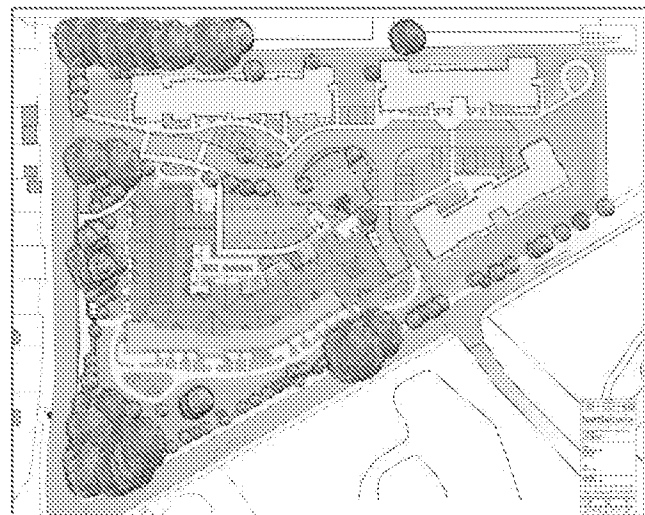


Figure 1: Proposed Development

Site Context

The application site is located approximately 0.5km north east of Angmering village centre, east of Dappers Lane and immediately north of Water Lane.

The site is comprised of one residential dwelling and associated barn and curtilage, scrub and grazing land.

A mix of employment horticultural and residential uses, surround the application site to the north, south and west respectively.

Proposed Development

Planning permission was previously granted on the site, for 53 care apartments, comprising 4 buildings. The applicant is now seeking full planning permission for the construction of a 70 bed care home on part of the site, as a replacement to building 4, leaving the remainder of the site as permitted. The Care Home is proposed to be operated by Care UK.

The following sections set out the local and national sustainability objectives, followed by a

review of the sustainable design measures incorporated into the design of the development and to be considered during the detailed design of the new care home, in line with the objectives of sustainable development.

2. Policy Context

This chapter of the report provides an overview of the relevant planning policy and guidance regarding Climate Change and carbon emissions for new non-domestic developments from a national and local perspective.

National Policy

This section sets out a summary of current national guidance and policy in relation to sustainable development.

UK Sustainable Development Strategy

In 2005, the Government published an updated strategy for implementing sustainable development across the UK.

This strategy acts as an overarching document from which a range of specific policies and legislation was derived. Although published in 2005, the strategy has taken a recently renewed focus in light of the government's definition of Sustainable Development in the NPPF.

One of the key aims of this strategy is to recognise the threats of climate change and ensure that the UK develops a strategy to mitigate and adapt to this phenomenon.

The document established five key principles that will underpin the national sustainable development strategy:

- ✦ Living within Environmental Limits;
- ✦ Ensuring a Strong, Healthy and Just Society;

- ✦ Achieving a Sustainable Economy;
- ✦ Promoting Good Governance; and
- ✦ Using sound science responsibly.

The strategy will be implemented at a national level through the development of more specific strategies at a government department or sector level.

With regards to planning and the built environment, this document sets the basis for the development of plans and Policies that promotes development that mitigates and adapts to climate change.

Climate Change Act

The Climate Change Act (2008) sets a legally binding target for reducing UK CO₂ emissions by least 80% on 1990 levels by 2050.

At the end of June 2016, the Government published the Fifth Carbon Budget. The budget sets a target for emission cuts of 57% from 1990 levels by 2030.

The House of Lords passed the Carbon Budget Order 2016 on 19 July, making the budget and its target law. A bill passed in early July to abolish the Department of Energy and Climate Change (DECC) and absorb its functions into the new Department for Business, Energy and Industrial Strategy, will not affect the implementation of the Carbon Budget.

UK Carbon Plan

In 2011, the Government published an updated Carbon Plan setting out how the UK will achieve decarbonisation and make the transition to a low carbon economy. It sets this objective within a framework of mitigating and adapting to climate change and maintaining energy security in a way that minimises costs and maximises benefits to the economy.

With regards to development, the Carbon Plan presents the Government's approach to promoting the delivery of low carbon, resilient and adaptive buildings and enabling sustainable transportation as positive contributions to aid national carbon reduction targets.

Building Regulations

In late 2015, the Green Construction Board published, Low Carbon Routemap for the Built Environment. This updated the Low Carbon Routemap for the Built Environment prepared in 2013 aimed at delivering an 80% cut in UK built environment carbon emissions by 2050 compared to 1990 levels.

It found that annual emissions in the UK had actually increased since 2009, primarily due to an increase in gas consumption from heating. The report states "There has been a growing divergence occurring over just a few years (2009 through 2013). Given the steepness of the trajectory required to meet the ambition for built environment carbon reductions (and statutory targets for the UK as a whole), a significant transformation from the ongoing 'status quo' trajectory is needed."

Building Regulations

Whilst not planning policy, in April 2014 the Part L regulations changed and it is now a requirement for new homes to deliver a 6% reduction in carbon emissions compared to equivalent 2010 Part L standards. This change aims to strike a balance between the commitments to reducing carbon emissions and improving energy efficiency and ensuring that the overall effect of regulation upon consumers and businesses does not stifle growth.

The Government has stated that developers and house builders' should have full flexibility in how they meet carbon reduction targets and that in accordance with the energy hierarchy the emphasis should be on a Fabric First approach towards the design and construction of new homes.

The Housing Standards Review (HSR)

On 27 March 2015 the Government confirmed a new approach to the setting of technical housing standards in England and published a written Ministerial Statement which outlined the policy on the application of these technical standards.

The Statement set out that from the date the Deregulation Bill 2015 is given Royal Assent (30 March 2015) "local planning authorities should not set any additional local technical standards or requirements relating to the construction, internal layout or performance of new dwellings".

This includes the winding down of the Code for Sustainable Homes (The Code). It also set out that local planning authorities may need to review their local information requirements to ensure that technical detail that is no longer necessary is not requested.

The National Planning Practice Guidance was also updated in March 2015 to reflect the Ministerial Statement and now highlights that planning authorities need to take account of government decisions on the Housing Standards Review when considering local sustainability requirements relating to new homes.

Fixing the Foundations

Following the general election in May 2015 the government has produced a number of policy documents including "Fixing the Foundations" published in July 2015.

The document sets out the Government's plan for future carbon reduction requirements in new development and outlines the government's intention to no longer continue with the Allowable Solutions scheme and postpone any increases in on-site energy efficiency standards in 2016 which were planned as part of the national zero carbon buildings policy.

It is understood that the Government aims to keep energy efficiency standards under review, recognising that existing measures to increase

energy efficiency of new buildings should be allowed time to become established.

National Planning Policy Framework

Following its publication in March 2012, national planning policy is now provided by the National Planning Policy Framework (NPPF) which sets out the government's planning policies for England and how these are expected to be applied. It also sets out the requirements for the planning system only to the extent that it is relevant, proportionate and necessary to do so.

The Government has made clear its expectation that the planning system should positively embrace well-conceived development to deliver the economic growth necessary and the housing we need to create inclusive and mixed communities.

The NPPF states that: 'the purpose of the planning system is to contribute to the achievement of sustainable development'.

It states clearly that in order to deliver sustainable development, the planning system must perform three distinct roles, aligned to the three pillars of sustainability, which must not be taken in isolation and should be pursued jointly:

An economic role contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure;

A social role supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being; and

An environmental role contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources

prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.

Demonstrating Sustainable Development –

Paragraph 6 of the Framework states that:

"The purpose of the planning system is to contribute to the achievement of sustainable development. The policies in paragraphs 18 to 219, taken as a whole, constitute the Government's view of what sustainable development in England means in practice for the planning system".

Planning Policy Guidance (The Guidance)

The revised Planning Practice Guidance (PPG / The Guidance) provides further advice on various planning issues associated with development, including those linked to sustainability and renewable energy and underpins the policies within the NPPF.

The Guidance is an important material consideration in planning decisions and should generally be followed unless there are clear reasons not to. It sets out how local authorities should include policies that protect the local environment and strategies to mitigate and adapt to climate change and supports developments that are functional and adaptable for the future.

The Guidance reiterates that local authorities should set sustainability policies for new housing that are in line with the government's Housing Standards Review.

The latest update to the PPG in April 2016 confirms Local Authorities have the option to set technical requirements exceeding the minimum requirements of the Building Regulations in respect of access, water and space where sufficient evidence is produced to justify the target.

The Guidance also states that the distribution and design of new development, and the potential for servicing sites through sustainable transport solutions, are particularly important considerations.

The Local Development Plan

The adopted Local Plan sets out the current guidance for the development and use of land in the site area. The Development Plan for the Arun District includes:

- » The 'saved policies' of the adopted Arun District Local Plan 2003;
- » Adopted Neighbourhood Plans.

These documents set out policies which provide a framework for development in the district against which planning applications are determined.

The emerging Arun District Local Plan 2011-2029 is noted as a proposed development plan which will replace the 'saved policies' of the previous Local Plan once adopted.

Saved Policies of the Arun Local Plan 2003

The Arun District Local Plan 2003 (adopted in April 2003) covers the period up to 2011. It is divided into four sections which set out objectives and policies for development proposals within the District to comply with:

Section 1 - General Policies

Section 2 - Area Policies

Section 3 - Specific Development

Section 4 - Land Allocations

Arun District Council has a number of sustainability policies underpinning the adopted Local Plan: The key adopted policies are:

Policy GEN1: Sustainability

The policy sets out that all development must take full account of the sustainability of any proposals and reflect the need to safeguard and improve the quality of life of residents, conserve energy resources, protect and, where possible, enhance

the Plan area's essential character and environmental assets such as:

- » The Sussex Downs AONB;
- » The general attractiveness and diversity of the landscape;
- » The open and undeveloped nature of the countryside;
- » Areas of wildlife and ecological value;
- » The setting, form and character of settlements;
- » The quality of natural assets, such as air supply, water environments and high quality agricultural land;
- » Buildings and areas of historic and architectural interest;
- » Sites of archaeological importance;
- » Land of recreation and amenity value; and
- » The public rights-of-way network.

Policy GEN24: Energy and Water Conservation

The policy expects all new developments to facilitate energy and water efficiency. Proposals should be of a design and layout that:

- » Minimises heat loss from dwellings;
- » Maximises the potential for passive and active solar gain and other renewable energy sources, whilst minimising the exposure of structures to wind and wind driven rain through appropriate landscaping;
- » Minimises specific requirements for wholesome potable water from mains sources

and provides infrastructure for water harvesting and/or grey water recycling; and

- » Provides appropriate short term individual and community storage of re-usable and recyclable waste.

Angmering Neighbourhood Plan (2015)

The Neighbourhood Plan for Angmering was made part of the Arun District Council Development Plan in March 2015. The following policies relate to sustainable design:

Housing Policy HD6: Layout and Design

Seeks development that meets the highest possible standards of construction and strongly supports the Code for Sustainable Homes or BREEAM (Building Research Establishment Environmental Assessment Method) standards.

Environment and Heritage Policy EH 6: Flood Prevention

Requires development at risk from flooding to incorporate a sustainable urban drainage systems unless it is demonstrated that an alternative drainage system is appropriate.

Emerging Local Plan: The Arun Local Plan 2011-2031

The emerging Arun District Local Plan 2011-2031 and supporting documents were submitted on 30th January 2015 for independent examination to the Secretary of State for Communities and Local Government via the Planning Inspectorate.

The Emerging Local Plan continues to be prepared; the Council have now responded to the Inspector's issues raised and the final Inspector's Report is anticipated in early July 2018.

The Council have advised that given the late stage in plan preparation, some weight will be applied to

the policies within the emerging Local Plan document when determining applications. These will however only form material considerations until such a time that the new Local Plan is adopted.

Policy H DM2: Independent living and care homes

The Policy states that new independent living and care homes will be permitted where applications can demonstrate that the scheme will be easily accessible by foot or public transport to community and social facilities, it is adaptable, and located so that it encourages a healthy, active lifestyle.

Policy D SP1 Design

The Policy states that all development proposals should adhere to objectives informing sustainable design.

Policy ECC SP1: Adapting to climate change

The Policy states that the Council will support development which is located and appropriately designed to adapt to impacts arising from climate change such as the increased probability of tidal and fluvial flooding; water stress; health impacts as a result of extreme temperatures and a decline in the quality of habitats and richness of biodiversity.

In order to achieve this, development must be designed to take account of the following issues:

- » Location (in relation to flood risk and vulnerability to coastal erosion);
- » Water efficiency;
- » Shade, cooling, ventilation, solar gain;
- » Connectivity to the green infrastructure network;
- » Layout and massing;

- ✧ Resilience of buildings and building materials to extreme weather events;
- ✧ Capacity of drainage systems and incorporation of Sustainable urban Drainage Systems (SuDS)

Policy ECC SP2: Energy and climate change mitigation

All new residential and commercial development (including conversions, extensions and changes of use) will be expected to be energy efficient and to demonstrate how they will:

- ✧ Achieve energy efficiency measures that reflect the standards in Part L of the Building Regulations (or any documentation which supersedes this), or the level of the Code for Sustainable Homes or appropriate BREEAM rating, applicable at the time of submission;
- ✧ Use design and layout to promote energy efficiency; and
- ✧ Incorporate decentralised, renewable and low carbon energy supply systems, for example small scale renewable energy systems such as solar panels.

All major developments must produce 10% of the total predicted energy requirements from renewable or low carbon energy generation on site, unless it can be demonstrated that this is unviable. Energy efficiency measures will be taken into consideration when the total predicted energy requirements are calculated. The Council will consider 'allowable solutions' where it is clearly demonstrated that the provision of on-site renewable or low carbon energy generation is unviable or not feasible.

In assessing the achievement of these standards the Council will consider:

- ✧ Site constraints;
- ✧ Technical viability;
- ✧ Financial viability; and
- ✧ Delivery of additional benefits.

Additionally, a review of the emerging Local Plan evidence base identifies the West Sussex Sustainable Energy Study as a primary evidence document in relation to this policy. Section 8.5 discusses the viability of targets for new development only in relation to targets proposed through future Building Regulation changes.

The policy recommendations made to the five local authorities (including Arun District Council) within Section 9 of the study focus upon carbon emissions reductions and make it clear that any area or district-wide targets for renewable and low carbon energy technologies (and how they may relate to an appropriate trajectory of CO₂ reduction) should be the subject of further study and consultation.

Policy HWB SP1: Health and Wellbeing

The Policy states that development should be designed to maximise the impact it can make to promote healthy communities and reduce health inequalities.

Policy T SP1: Transport and Development

The Policy states that the Council will support development which reduces the need to travel by car, gives priority to pedestrian and cycle movements and incorporates facilities for charging electric and plug-in hybrid vehicles.

Policy ENV DMS: Development and biodiversity

The Policy states that development schemes will seek to achieve a net gain in biodiversity and protect existing habitats on site. They will also be appropriately designed to facilitate the emergence

of new habitats through the creation of links between habitat areas and open spaces.

Policy W DM3: Sustainable Urban Drainage Systems

The Policy states that proposed developments must identify opportunities to incorporate SUDS features at an early stage of the design process.

Policy WM DM1: Waste management

The Policy states that development over £300,000 must identify the volume and type of materials to be demolished and/or excavated as part of the development, and opportunities for the re-use and recovery of materials on site must be demonstrated and off-site disposal of waste must be minimised and managed.

Planning Policy Summary

Central to the vision for 'Sustainable Development' at a national and local level is the approval of development that jointly promotes economic, social and environmental benefits.

Both the adopted and emerging local policies support sustainable development, promoting, high quality design and the safeguard of natural resources through energy efficiency measures.

The Neighbourhood Plan for Angmering seeks the use of sustainable design and construction methods and sustainability standards such as BREEAM.

Though the emerging policy sets a requirement for all major developments to produce 10% of the total predicted energy requirements from on-site renewable or low carbon energy generation, the Council have been shown via pre-application discussions to allow flexibility with respect to this requirement where there remains a commitment to the improved energy efficiency of the proposed development.

The consideration of 'allowable solutions' by the Council is likely to be reviewed as part of the examination process given that this policy has been abandoned by the government.

The evidence base for the local plan supports a focus upon a reduction in carbon emissions delivered through an energy hierarchy approach which prioritises energy efficiency and demand reduction. It highlights that any area or district-wide targets for renewable and low carbon energy technologies should be supported by appropriate further studies and consultation upon which the viability of the policy targets must be based.

The overall contribution of the development proposals to wider economic, social and environmental objectives will also be demonstrated in relation to the requirements of adopted and emerging local policy.

3. Sustainability at Land at Broadlees, Angmering

This chapter summarises the approach and specific measures to be taken by Frontier to address relevant national and local sustainability policy.

This Energy and Sustainability Statement has been prepared to clearly demonstrate that Frontier Estates Ltd is committed to the delivery of this sustainable care building.

Formal BREEAM assessment is not proposed as, despite support for the standard from the emerging Local Plan and the Angmering Neighbourhood Plan it is not required by adopted or emerging policy. However, as part of the above commitment, the development proposals include a range of energy efficiency and sustainable design measures which are appropriate and where feasible, in line with the criteria of BREEAM.

This section presents the measures proposed in support of the application and is structured to reflect key topics covered by emerging policies ECC SP1 and 2 and broader issues such as management, transport and waste to demonstrate the overall sustainability performance of the proposals:

3.1 Energy Efficiency and Carbon Emissions

3.2 Water Efficiency

3.3 Management

3.4 Occupant Health and Wellbeing

3.5 Connectivity and Transport

3.6 Materials and Waste

3.7 Flood Risk and Drainage

3.8 External Design

3.9 Biodiversity

3.1 Energy Efficiency and Carbon Emissions

Developing energy efficient, low carbon buildings is a key objective of the emerging local policy.

Policy ECC SP2 within the emerging Local Plan expects new developments to meet 10% of the total predicted energy requirements from on-site renewable or low carbon energy generation where this is both commercially and technically viable.

It is also noted that the evidence base for the policy recommends additional studies and consultation to be undertaken in relation to any area or district wide targets for renewable and low carbon energy technologies.

In this context Frontier Estates propose to adopt a carbon emissions reduction approach which prioritises energy efficiency and demand reduction as an alternative to the requirement for renewable and low carbon energy technologies.

. The estimated baseline energy usage is presented in Table 1.

Table 1: Predicted Energy Consumption – Building Regulations compliance

Energy usage	Energy use (kWh/annum)
Electricity	45,460
Fossil Fuel	245,484
Total energy use	290,944

These are estimates at this time and will be reviewed during detailed design and once the building services specification is known.

The following measures will be incorporated into the development to demonstrate a reduction in onsite energy use.

A Fabric First Approach

Central to the creation of a low carbon and energy care home facility at Angmering is the 'Fabric First' principle which recognises the most effective way of minimising carbon emissions is to reduce the demand for heat and power through a well-insulated, energy efficient building fabric and services. Benefits of this approach include:

- Carbon savings delivered are 'locked-in' the house for the lifetime of the building (60 years or more) rather than the much shorter lifespan (around 25 years) of a renewable energy technology;
- Virtually no maintenance and/or replacement costs to maintain carbon reductions through improved fabric;
- No reliance on an occupier's behaviour to deliver carbon reductions. Achieving carbon savings from renewable energy technologies requires education, awareness and behavioural changes from occupants which might be particularly challenging within a care setting.

A range of energy efficiency and monitoring measures are proposed as part of the development to provide a reduction in energy use and deliver associated carbon reductions equating to a circa 4% improvement above the 2013 Building Regulations. These include:

- Design to maximise the benefits of passive solar gain and natural daylight and ventilation where possible;
- Target U-values as outlined in Table 2;

Table 2: Target U-values

Building Element	U-value (W/m ² .K)
Roof	<0.25 W/m ² .K
Wall	<0.35 W/m ² .K
Floor	<0.25 W/m ² .K
Windows	<2.2 W/m ² .K
Air permeability of 5 m ³ /h.m ² @ 50 Pa	

- The increased use of energy monitoring and analysis equipment including installation of a building management system;
- Photocell controlled external lighting to prevent inappropriate operation and lower lighting levels between set periods to minimise any potential effects on the urban environment;
- Incorporation of energy efficiency measures such as variable speed, voltage and frequency control of the drive motor to all lifts within the development.

Building Services and Equipment

Additional 'active' measures can further enhance the energy efficiency of the development and

reduce carbon emissions. Below is a summary of measures which have been considered prior to detailed design of the building services and which, where suitable will be incorporated:

- » Installation of low energy/LED lighting where possible;
- » The use of Passive Infrared (PIR) lighting sensors to reduce energy use in unoccupied spaces within communal areas;
- » A sophisticated Building Management System and training to staff to help monitor and reduce energy use; and
- » Provision of A⁺ energy efficient appliances where these are provided by the developer/operator.

Through the inclusion of these design measures the development aims to further reduce energy use over the development baseline energy requirement and provide associated carbon emissions savings.

It should be noted that the exact energy strategy for the buildings can only be determined during detailed design and completion of relevant SBEM calculations. At this stage the energy strategy is preliminary until further design work is carried out by the appointed M&E consultants and any further carbon emissions savings can be confirmed through the above measures.

Renewable and Low Carbon Technologies

The heat demand of the care home will differ considerably to that of the communal and other function areas and site spatial constraints, air quality concerns and security of supply in particular are barriers to the implementation of heat generating systems such as Combined Heat and Power (CHP), biomass and heat pumps.

At this stage, it is envisaged that carbon savings above Building Regulation requirements can be achieved through the use of an energy efficient

fabric and services. Over the lifetime of the buildings this will deliver far greater carbon savings than through the use of renewable energy technologies alone.

3.2 Water Efficiency

Potable water is an increasingly important resource and crucial to the function of the environment, the health of the population and to businesses and industry. Many areas of the UK, including Arun, are now identified as areas of 'serious water stress' by the Environment Agency. The quality and availability of water resources are under increasing pressure from a growing population and the effects of climate change which are likely to exacerbate this problem through increased temperatures and lower levels of rainfall.

Therefore in order to minimise water consumption the development will specify low flow fixtures and fittings to target a 20% reduction over a 'standard' specification' for the building function. This is based upon the methodology outlined by BREEAM and surpasses the required performance level to achieve 'Excellent' under the BREEAM standard in support of adopted policy GEN 24 and emerging policy ECC SP 1.

Sub-metering of high water use communal areas such as the proposed beauty/hair salon will also be used as appropriate to monitor usage and help reduce the overall consumption of the development.

Water supply shut off via solenoid valves will also be provided to any toilet facilities within communal/staff areas.

3.3 Management

The proposed development proposes to, where feasible and appropriate, adopt many of the best practice site and development management

principles included within the BREEAM through the measures listed below:

- ✧ Registration of the site to the Considerate Constructors scheme with the aim of going beyond best practice site management, targeting a score of at least 32;
- ✧ Seasonal commissioning of systems to ensure they operate at maximum efficiency post occupancy;
- ✧ Ensuring systems to monitor and control air (dust) pollution from construction activities; and
- ✧ Post Occupancy Evaluation exercise to be carried out 12 months after occupation to inform operational processes and maintain or improve health, safety and comfort for the building users.

3.4 Occupant Health and Wellbeing

The design focus within a care home setting is undoubtedly upon creating a balance between the best possible living spaces and a sense of community for the occupants through communal areas. A number of measures are proposed to ensure a high quality environment within the various areas of the development including:

- ✧ The use of thermal modelling to aid prevention of overheated living and communal spaces and therefore benefit the end users;
- ✧ The provision of flexible and attractive spaces which can respond to changing care and support needs;
- ✧ All internal and external lighting will be in accordance with the appropriate maintained luminance (lux) levels as recommended by CIBSE guidance;
- ✧ Key internal finishes and fittings will be specified in line with best practice

emissions levels of Volatile Organic Compounds (VOCs); and

- ✧ A security consultant (as appropriate) will be consulted on the design proposals to ensure the outdoor environment enhances the feeling of safety and security for the end users.

3.5 Connectivity and Transport

The project team have ensured the maximum connectivity of the site and occupant access to local services through a number of measures including the appropriate provision of cycle/buggy and wheelchair storage on-site.

This ensure that the development is accessible and supports the use of sustainable transport modes such as walking and cycling.

Further details are provided within the Transport Statement which accompanies the application.

3.6 Materials and Waste

The construction of the care apartments will be undertaken in accordance with a standard specification which has been preselected with a view to maximising resource efficiency in terms of materials and pre-fabrication. In accordance with emerging Policy WM DM1, the following measures are currently included and will be reviewed during the detailed design prior to construction:

- ✧ Sourcing of major building materials with consideration to embodied energy and carbon impacts according to the Green Guide to Specification;
- ✧ Procurement of materials and labour sustainably using local suppliers wherever possible; and

- ✦ Suitable protection to vulnerable parts of the building such as areas exposed to high pedestrian traffic or vehicular movements

To promote a more sustainable approach to waste management the following measures will be utilised at the site which are again in line with the best practice principals of BREEAM:

- ✦ The creation of a Resource Management Plan by the appointed contractor;
- ✦ Segregation of non-hazardous construction stage waste into key waste streams to maximise reuse and recycling; and
- ✦ The provision of external operational recycling facilities for use during operation of the development. These will be in accessible locations to ensure that regular collections can be made easily and appropriate staff training will be provided to maximise recycling uptake at the site.

3.7 Flood Risk and Drainage

The management of flood risk is a key issue within the Angmering area. Ambiental have composed a surface water drainage strategy; the following measures will be implemented as part of the development proposals:

- ✦ Implementation of Sustainable Urban Drainage systems including infiltration trenches and a swale to manage surface water in line with emerging Policy ECC SP1;
- ✦ Inclusion of site treatment via interceptors to minimise watercourse pollution to vehicle movement areas;
- ✦ Permeable paving will be installed – details will be subject to detailed design;
- ✦ Geocellular soakaways will be included throughout the proposed development

Further details are provided within the Surface Water Drainage Strategy which accompanies the application.

3.8 External Design

The proposals incorporate a variety of accessible external amenities and garden spaces for residents on a brownfield site. Proposals include:

- ✦ A landscaped buffer zone at the edges of the development in part through the use of existing retained trees to create privacy for the development;
- ✦ A series of open spaces throughout the site including a variety of soft landscaping and courtyards allowing for both communal and private spaces for residents;
- ✦ Planting to enhance the open spaces whilst integrating safe and secure gardens for residents; and
- ✦ External lighting design in line with best practice Institution of Lighting Engineers (ILE) Guidance notes to reduce obtrusive light.

3.9 Biodiversity

A Preliminary Ecological Appraisal was undertaken by Middlemarch Environmental in January 2018, comprising an ecological desk study, and a walkover survey.

There are no European or UK statutory sites within 5km or 2km, respectively, no non-statutory sites within 1km, and 17 ancient woodland sites within 2km.

The following recommendations were made to ensure compliance with legislation and policy:

- ✦ Retention and protection of scattered trees and hedgerows;

- ※ Lighting should be kept to a minimum, and away from foraging and commuting features;
- ※ Any excavations that need to be left overnight should be covered or fitted with mammal ramps and open pipes must be covered at the end of the day;
- ※ Vegetation clearance/removal should be undertaken in a sensitive manner to avoid harming small mammals;
- ※ The following surveys are identified as necessary:
 - A preliminary root assessment
 - A Bat Activity Survey
 - A great crested newt assessment
 - A reptile survey
 - A dormouse habitat assessment should be undertaken

The corresponding Ecological Impact Assessment was completed by The Landscape Partnership in May 2018.

The results of the surveys identified as necessary in the Preliminary Ecological Appraisal are detailed in the table below.

Table 3: Ecological Survey Results

Survey	Result
Great Crested Newt Habitat Suitability Index Assessment	HSI index calculated the proposed development site as a location of poor suitability, and a low probability of great crested newts being present.
Reptile Habitat Assessment	The habitats on site are suitable for reptiles, though may not have been able to flourish under previous razing and management activities.
Reptile Survey	The survey is ongoing and there are currently no reliable results to inform this section.
Dormouse Habitat Assessment	There are suitable habitats on site for the presence of dormice.
Dormouse Habitat Survey	The survey is ongoing and there are currently no reliable results to inform this section.
Bat Roost Assessment	No evidence of bats was found in any of the current buildings on site.

Mitigation and Avoidance Measures

Whilst mitigation is not required for bats, the following typical mitigation measures have been established for reptiles and dormice, below.

Reptiles

- ⌘ Mitigation would typically include the capture of reptiles and their release off-site;
- ⌘ A reptile fence would prevent the return of released reptiles;
- ⌘ If low numbers are present, they could be moved to the site's boundary hedge and fenced out of the construction zone.

Dormice

- ⌘ Relocation of dormice elsewhere using nest boxes in the summer, or cut down the scrub in winter when dormice hibernate at ground level.

The overall value of the site is considered to be negligible for great crested newts and roosting bats, but unknown for reptiles and dormice. The implementation of recommended mitigation measures is thought to be valid, but the potential presence or absence of dormice and reptiles may require further consideration.

Frontier Estates are committed to delivering the sustainable regeneration of the brownfield site which is in a sustainable location.

4. Conclusion

This Sustainability Statement demonstrates the proposed approach to sustainability for development of the Land at Broadlees, Angmering.

Frontier Estates Ltd are committed to demonstrating the environmental and energy efficiency performance of the care home development in relation to the adopted and emerging local policies of Arun District Council.

A range of sustainability measures have been incorporated into the proposed development which will result in construction of a high quality, energy and resource efficient care home development, including:

- A fabric first approach to design and construction that will target improved performance above Building Regulations Part L 2013 compliance;
- Installation of low energy lighting internally and externally;
- A reduction in water consumption through the use of water efficient fittings and low flow fixtures;
- Prioritisation of natural ventilation where possible, promoting low energy use and high air quality;
- Improved pedestrian links to the site through the provision of a new pedestrian walkway to the western side of the site;

- Use of sustainable, local materials in construction where possible;
- A commitment to sustainable construction and registration of the site with the Considerate Constructors Scheme;
- A commitment to diverting waste from landfill both during construction and upon operation through the provision of on-site recyclable waste storage;
- The implementation of Sustainable Urban Drainage Systems (SUDs) to manage flood risk from surface water;
- Development designed to minimise the impact of development on ecology through a range of mitigation and avoidance measures.

The proposed development aims to deliver sustainable new dwellings which respond positively to the Council's sustainable development objectives, providing resource efficient new homes which incorporate measures to tackle the impacts of Climate Change

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