LAND WEST OF RAYLEIGH

Sustainability Statement

08 / 2014
Sustainability Statement

Land West of Rayleigh
This Sustainability Statement has been prepared by Turley Sustainability on behalf of Countryside Properties Ltd for Land West of Rayleigh, Essex.

Client
Countryside Properties Ltd

Turley reference
COUZ3001

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Executive Summary

This Sustainability Statement has been prepared by Turley Sustainability on behalf of Countryside Properties Ltd in support of an outline planning application for the development of up to 500 new homes at Land West of Rayleigh.

Achieving Sustainable Development

This report demonstrates how the proposed new homes and non-residential buildings will achieve sustainable development in accordance with the National Planning Policy Framework and Planning Practice Guidance on sustainability standards for new homes whilst reflecting local sustainability priorities.

The scheme presents proposals that aim to effectively balance economic, social and environmental impacts in accordance with national and local sustainability priorities.

The Planning Practice Guidance is clear when setting any local requirements for sustainability authorities must do so in a way consistent with the national zero carbon buildings policy. The guidance expects planning authorities to take account of the Housing Standards Review which has confirmed the government’s intention to wind down the Code for Sustainable Homes.

In this context Countryside Properties Ltd proposes a bespoke Sustainability Strategy for the new homes and non-residential buildings at Land West of Rayleigh which recognise the recommendations of the Housing Standards Review, whilst ensuring the delivery of energy and resource efficient new homes and buildings of low environmental impact.

The key sustainability benefits of the application are split between Economic, Environmental and Social benefits, and include:

Economic

- The development will positively contribute to the growth of the local economy creating new homes and jobs.
- The provision of new homes will create additional council tax and new homes bonus income for the council.
- New residents will add significant local expenditure supporting local businesses.
- Provision of non-residential buildings providing local employment opportunities and local services.
- The development will contribute to investment in local infrastructure through committed financial contributions.
- The application site is in a sustainable location close to the centre of Rayleigh with good access to local amenities and services.
Environmental

- Sustainable energy efficient and low carbon new homes delivered through a fabric first approach to design and construction in accordance with best practice.

- New non-residential development designed and constructed to achieve a BREEAM ‘Very Good’ rating.

- Provision of water conservation measures to achieve residential water use of <105l/p/d and a reduction in water use in non-residential buildings.

- Design to promote sustainable travel making connections to established local public transport links, cycle and pedestrian routes with no adverse impact on the local highways network.

- Development in an area at low risk of flooding with flood risks mitigated through onsite attenuation as part of a Sustainable Drainage System (SuDS).

- Protection of the sites existing ecological habitats and enhanced biodiversity through the creation of new wetland habitats via ecological management of SuDS features.

- Creation of new green infrastructure including native tree planting and new ecological habitats which will result in a net gain in biodiversity.

- Development that does not adversely impact on local air quality during construction or occupation.

- Effective waste management in construction and operation, informed by the waste hierarchy, encouraging reuse and recycling.

Social

- Delivery of 35% much needed new affordable homes for the local area.

- Provision for a new local primary school within the development (or expansion of existing local schools) to ensure sufficient school places to serve the development locally.

- Comfortable living environments that optimise natural daylight and ventilation, whilst safeguard overheating risks, ensuring resilience to future climate change.

- Creation of new equipped and informal green public open spaces including areas designed to promote connections to the local environment and services promoting social inclusion.

- Provision of allotments allowing onsite food growth, enhancing sustainability and health and wellbeing of residents.
The development at Land West of Rayleigh will contribute positively to the local environment, economy and society providing well designed, sustainable new homes.
1. Introduction

This Sustainability Statement has been prepared to communicate how the development at land West of Rayleigh will integrate sustainability into its design.

Delivering sustainable development is a key aim of national and local planning policy and has been a guiding principle in the design of this proposed development and has been embedded in its various elements from the outset.

This report has been structured to demonstrate how the proposed development responds to both the local and national sustainability policies.

Site and Surroundings

The application site is located approximately 2km from the centre of Rayleigh and is on the edge of the urban development to the North West of the town.

The site covers approximately 46.7ha and is currently agricultural land which is allocated in Rochford District Council’s Site Allocation Plan and as site SER1.

The site is bounded by Rawreth lane and agricultural land to the North, a mixture of residential and commercial development to the East and agricultural land to the West. The Southern edge of the development site is bounded by a sports field which is within the allocation plan, currently under different ownership.

Figure 1: Site boundary

Proposed Development

The applicant is seeking outline planning permission for the development of up to 500 new homes, a primary school and up to 5,050m² of non-residential development. The application comprises:

“Erection of residential development, provision of non-residential floorspace (uses falling within Use Classes A1, A3, A4, C2, D1a or D1b), and provision of primary school, alongside associated open space, landscaping, parking, servicing, utilities, footpath and cycle links, drainage and infrastructure works.”

Full details of the proposed development are provided within the Design and Access statement and Planning Statement that accompany the outline planning application.
This section of the report provides an overview of the relevant planning policy and guidance regarding sustainability standards for new homes from a national and local perspective.

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:

1. Living within Environmental Limits;
2. Ensuring a Strong, Healthy and Just Society;
3. Achieving a Sustainable Economy;
4. Promoting Good Governance; and
5. 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 set the basis for the development of plans and policies that promote development that mitigates and adapts to climate change.

Climate Change Act

The Climate Change Act (2008) sets a legally binding target for reducing UK CO$_2$ emissions by at least 80% on 1990 levels by 2050.

It established the Committee on Climate Change, which is responsible for setting binding interim carbon budgets for the government over successive five year periods. The first three carbon budgets were announced in the Budget 2009, resulting in an interim target of a 34% reduction in CO$_2$ equivalent emissions on 1990 levels by 2020.

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 positively contributing to these national carbon reduction targets.

**Building Regulations**

Whilst not planning policy, the Building Regulations, and specifically Approved Documents Part L; Conservation of Fuel and Power, are relevant as they determine the energy efficiency and carbon emission standards required by new buildings.

The primary mechanism for reducing carbon emissions in new development is progressive changes to Part L aiming to deliver zero carbon homes by 2016.

The zero carbon policy sets out a plan for progressive changes to Part L of the Building Regulations to eventually achieve zero carbon homes. 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 house builders will continue to have flexibility in how they meet carbon reduction targets, however, the emphasis of these changes is on using a fabric first approach and this is reinforced through the introduction of a new target for fabric energy efficiency.

**Code for Sustainable Homes and Housing Standards Review**

The Code for Sustainable Homes (CfSH) was introduced in 2007 and, at the present time, remains the national standard for the sustainable design and construction of new homes in England and Wales.

Following the publication of the Harman Review into local housing standards in 2012 a Technical Housing Standards Review Group was established to look into existing sustainability standards applied to new housing, including the Code for Sustainable Homes.

On August 20th 2013 the Government published the Housing Standards Review Consultation in relation to the rationalisation of the framework of building regulations and local housing standards.

This outlined two potential routes the Government was considering for the implementation of new, consolidated standards:

- A set of ‘nationally described standards; or
- Fully integrating the standards proposed in the review into the Building Regulations (England).

The overall aim of this policy is to prevent local and national housing standards being unnecessarily complex and overlapping or contradicting each other, or parts of the Building Regulations.

With regard to the Code for Sustainable Homes, the Government proposed to wind down the role of the Code with the possibility of new national standards for:

- Accessibility
- Space
- Domestic Security
- Water Efficiency

In March 2014 the government announced the results of the consultation and issued a Ministerial Letter outlining proposals for the simplification of residential sustainability standards.
This involves consolidating requirements into the Building Regulations with amendments to the Planning and Energy Act 2008 to remove local authority’s ability to set energy standards above Building Regulations.

The Ministerial letter states that the government proposes, ‘a “Building Regulations only” approach, with no optional additional local standards in excess of the provisions set out in Part L of the Regulations.’

The announcement also confirmed the Government’s intention to wind down the Code for Sustainable Homes with transitional arrangements announced in the summer of 2014.

**Proposed Infrastructure Bill**

In June 2014 the Queen’s Speech proposed a new Infrastructure Bill which includes details on new homes being built to the zero carbon standard from 2016.

The proposals confirm the government’s intention to introduce an ‘Allowable Solutions’ mechanism which allows developers to meet a portion of the zero carbon target through cost effective, offsite carbon abatement measures.

**National Planning Policy Framework**

Following its publication on 27 March 2012, national planning policy is now provided by the 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 presumption in favour of sustainable development is a key thread running through national policy for both plan making and decision taking.

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 NPPF 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”.

The policies referred to in Paragraph 6 of the NPPF have been divided into 13 themes;

1. Building a Strong Competitive Economy
2. Ensuring the Vitality of Town Centres
3. Supporting a prosperous rural economy
4. Promoting sustainable transport
5. Supporting high quality communications infrastructure
6. Delivering a wide choice of high quality homes
7. Requiring good design
8. Promoting healthy communities
9. Protecting Green Belt Land
10. Meeting the challenge of climate change, flooding and coastal change
11. Conserving and enhancing the natural environment
12. Conserving and enhancing the historic environment
13. Facilitating the sustainable use of minerals

Should a proposed development demonstrate that it is supporting the relevant policies of the NPPF then it is deemed to be ‘Sustainable Development’.

National Planning Policy Guidance

In March 2014 the government released the updated National Planning Policy Guidance (the Guidance). The Guidance provides information to local authorities on how to implement the policies of the NPPF and approach specific policy aims.

The guidance sets out how local authorities should include policies that protect the local environment and strategies to mitigate and adapt to climate change. It reiterates that local authorities should set sustainability policies for new housing that are line with the Government’s Zero Carbon Buildings Policy and the findings of the Housing Standards Review. It supports developments of good design that are functional and adaptable for the future.

The Development Plan

The Development Plan for the application is based on the policies of Rochford District Council. The Council is currently developing a Local Development Framework of documents which it aims to assess all development proposals by. The current policies are made up of the Core Strategy, the adopted Allocation Plan and the saved policies of the Local Plan.

- Local Development Framework Allocation Plan (2014)
In addition to the adopted policies the Council is in an advanced stage of preparation of a Development Management Plan.

As well as the current adopted Core Strategy and emerging Development Management Plan there are a number of supporting documents and Supplementary Planning Documents. The most applicable sustainability document is:

- **Supplementary Planning Document 2 – Housing Design (2007)**

**Local Development Framework – Core Strategy (2011)**

The Core Strategy sets out the strategy for the District until 2025 and as part of its objectives it aims to foster sustainable development and communities.

The following policies are considered relevant to this development and its sustainability strategy:

**Policy H4 – Affordable Housing** – On developments over 15 units the Council requires 35% of dwellings to be affordable.

**Policy H6 – Lifetime Homes** – All new developments are required to meet the Lifetime Homes Standards and 3% of dwellings on developments over 30 dwellings are required to meet wheelchair accessibility standards.

**Policy ENV4 – Sustainable Drainage Systems (SuDS)** – All residential developments over 10 units are required to incorporate SuDS to manage surface water runoff and ensure infiltration rates do not increase the likelihood of flooding.

**Policy ENV8 – Onsite Renewable and Low Carbon Energy Generation** – Developments over 5 or more units and over 1000m² should secure 10% or more of its energy from decentralised and renewable low carbon sources unless not feasible or visible.

**Policy ENV9 – Code for Sustainable Homes** – All new developments from 2013 are expected to achieve CfSH Level 4 as a minimum.

**Policy ENV10 – BREEAM** – Non-residential buildings are required to achieve the BREEAM Very Good standard as a minimum unless this is proven unviable.

**Policy CLT7 – Play Space** – Development is expected to incorporate appropriate community play space which is accessible and subject to natural surveillance.

**Policy T3 – Public Transport** – Development should be well related to public transport and accessible by means other than the private car and large scale development is required to be integrated with public transport and designed in a way to encourage alternative transport methods.

**Local Development Framework – Allocations Plan (2014)**

The development site forms part of the District’s allocated housing land supply designated SER1 – North of London Road, Rayleigh.

SER1 – Land North of London Road Rayleigh is allocated for a minimum of 550 properties and there are a number of development aims and requirements for the site. These include:
• Dwellings should be LTHs compliant and at least 16 should meet the wheelchair accessibility standards.

• Dwellings should meet the appropriate Code compliance standards and 10% of the energy should be produced from onsite renewable or low carbon technologies.

• The development should include a Green Travel Plan.

• Over 0.03ha of outdoor youth facilities or equivalent should be supplied.

• Over 0.07 ha of play space should be provided with at least 0.04ha allocated as a LEAP.

• The site should include pedestrian and cycle routes throughout.

• The development should provide at least 4ha of natural/semi natural green space.

• A new playing field should be provided to replace the one currently on the development land including new club house built to meet BREEAM Very Good.

• The site should include a Sustainable Drainage System.

Rochford District Replacement Local Plan (2006)

The Local Plan was amended in 2009 with a number of policies retained and then superseded in 2011 with the adoption of the Core Strategy which replaced a large number of the policies.

Of the remaining policies one is considered relevant to this development:

Policy H6 – Design and Layout – The Council expects new housing development to be of a high standard and take into account a number of design and layout measures including; accessibility, gardens, play spaces, landscaping, scale and form of development.

Local Development Framework – Development Management Plan (Emerging document)

The Development Management Plan (DMP) was submitted for examination in December 2013. The examination has proposed a number of modifications to make the plan sound. These modifications are currently being consulted on until September 2014.

Once adopted the DMP will set out the detailed planning policies through which development within the district will be delivered.

Supplementary Planning Document – Housing Design (2007)

This document is linked to Policy H6 of the Local Plan (2006) and provides guidance on a number of design areas. Specific to this development is:

Children’s’ Play Space – The guidance states that where this is provided it should be located to minimise nuisance to nearby homes, maximise child safety and ensure that it is visible from neighbouring properties to provide security,

Landscaping – The guidance encourages development to retain trees and hedges, use landscaping to reduce the risk of flooding and use the landscaping to link existing habitats, preserve them and where possible enhance local biodiversity.

Pre-application Advice

In July 2014 Rochford District Council were approached to discuss the interpretation and implementation of policies ENV8 and 9
of the Core Strategy in relation to the Housing Standards Review and the Government’s plan to wind down the Code for Sustainable Homes.

During an initial call with the Council it was confirmed that water conservation is a key local priority and there is flexibility with the application of the energy targets. It was also confirmed that following the confirmation that the Code for Sustainable Homes will be wound down, it is appropriate not to commit to this standard.

As a result of this an outline of the bespoke sustainability strategy set in line with these comments was submitted to the Council and relevant case officer for comment. In a follow up call the case officer has indicated that the strategy set out in this document is sound at this stage.

**Review of Policy and Implications**

There are consistent themes emerging from the review of national and local sustainability policy which are considered relevant to this application.

Central to the government’s vision for ‘Sustainable Development’ is the approval of development that jointly promotes economic, social and environmental benefits; this is reflected by a number of policies in Rochford District Councils Core Strategy.

The adopted policy requires development to use the national standards (BREEAM and CfSH) to provide a measure of sites sustainability. These requirements along with a number of specific site requirements are reflected in the Site Allocation Plan SER1 for this development.

Through pre-application conversations with the planning department and case officer it has been indicated that water conservation is considered the most important local sustainability priority and that renewable energy and the CfSH are considered to be of limited local importance.

Sustainability policy for new homes has undergone a period of considerable change since the adoption of the Core Strategy with the NPPF and Planning Practice Guidance. This supports the national Zero Carbon Buildings Policy and recommendations of the Housing Standards Review which signals the government’s intention to wind down the Code for Sustainable Homes and the removal of a Local Authorities ability to set energy efficiency targets beyond those set by national Building Regulations. This approach is envisaged reduce the regulatory burden on the housing industry saving money and time for industry and authorities.
These recommendations mean that some of the requirements of the District’s sustainability policies are now inconsistent with the recent outcome of the Housing Standards Review¹.

In this context the following section of this report demonstrates how the proposed development at Land West of Rayleigh will deliver energy efficient low carbon and sustainable new homes and non-residential buildings through a bespoke Sustainability Strategy that is in accordance with best practice and latest guidance which where appropriate reflects local sustainability priorities.

This chapter summarises the approach and specific measures taken by Countryside Properties Ltd to ensure that the proposed development at land West of Rayleigh functions within environmental limits, and achieves sustainable development.

The purpose of the planning system is to contribute to the achievement of sustainable development.

This bespoke Sustainability Statement has been prepared to clearly demonstrate that the proposed development supports the policies of the NPPF, the objectives of adopted Core Strategy and sustainability priorities for Rochford District Council.

Through pre-application conversations with the planning department and case officer it has been indicated that water conservation is considered the most important local sustainability priority and that renewable energy and the CfSH are considered to be of limited local importance.

The results of the Housing Standards Review demonstrate the clear direction the government is taking in the run up to 2016 and the introduction of the Zero Carbon Building policy. The winding down of the CfSH and restrictions on local authority’s ability to set sustainability targets beyond those contained in the Building Regulations is a clear change in national policy and is considered a material consideration for developments that are being proposed during this transitional stage.

The Core Strategy and specifically Policy ENV9 adopted in 2011 are now behind current government sustainability policy and do not reflect the government’s latest position relating to the CfSH or the Zero Carbon Buildings Policy.

Given the government’s intention to wind down the CfSH Countryside Properties does not feel it is appropriate to commit to delivering homes to this standard and instead proposes a bespoke strategy that identifies the positive sustainability measures and relevant to local sustainability priorities incorporated into the development that support local policy.

Achieving Sustainable Development

Sustainability has been considered for the development at Land West of Rayleigh under the following chapter headings:

3.1 Economic Benefits
3.2 Sustainable Transport
3.3 Well Designed and High Quality Homes
3.4 Promoting Health and Wellbeing
3.5 Energy and Carbon Emissions
3.6 Water
3.7 Flood Risk and Sustainable Drainage
3.8 Biodiversity and Pollution
3.9 Waste Management
3.10 BREEAM
3.1 Economic Benefits

The proposed development will contribute to positive economic growth for Rayleigh providing sustainable new homes, including 35% affordable housing, for local people.

The economic benefits of construction are well known with considerable direct and indirect positive impacts resulting from new housing construction.

Based on Professor Michael Ball’s report, Labour Needs of Extra Housing (2006), for every new house built 1.5 construction related jobs and 3 supply chain jobs are created. Assuming 150 homes will be built per year this the development will therefore generate approximately 225 construction jobs and 450 supply chain jobs.

A recent study by the Confederation of British Industries (CBI) demonstrates that construction projects have a significant benefit on the local and wider economy. The report concludes that for every £1 of construction expenditure £2.84 is injected into the economy.

The construction of up to 500 new homes will create direct local employment opportunities as well as indirect benefits through demand for goods and services to support the construction phase.

Provision of a new primary school and non-residential floor space provides the opportunity for local employment, estimated at up to 200 jobs, and encourages local spending, further enhancing the local economy.

As part of the development Countryside Properties will be providing financial contributions to the Council via a section 106 agreement to support local infrastructure.

Additional council tax revenues will also be generated thereby proving further benefits to the local authority and economy.

3.2 Sustainable Transport

The project aims to minimise car use and promote sustainable transport options through a detailed Transport Assessment of the development.

This approach to sustainable travel and transport reflects the requirements of the existing local transport policies.

The assessment has determined that the estimated number of pedestrians, cyclists and public transport users arising from development, alongside suitable mitigation works, can be accommodated within the areas existing networks, which are all considered to be of a good standard.

Access to the site is proposed via new junctions on both Rawreth Lane and London Road providing road and pedestrian link through the site.

The site is approximately 2km from Rayleigh town centre and therefore has good accessibility to local services including education, healthcare, and food retail all within approximately 2km.

The site benefits from good access to existing public transport, but moreover it is proposed to extend public transport services to run through the site, thereby ensuring all homes will benefit from proximity to bus services.
The nearest train station is Rayleigh train station approximately 2km from the site with local links and national links to London.

The proposals make provision for connections to be made to existing pedestrian links, including to St Nicholas School.

In addition to links to the neighbouring area the site includes green links and recreational paths within the development green infrastructure.

To promote sustainable travel the development makes provision for:

- Homes with suitable safe and secure cycle storage, where appropriate,
- A potential circular bus route,
- Free bus travel options for new residents for up to a year (based on 4 tickets per household),
- Travel packs with information on local public transport and cycle and pedestrian routes,
- Improvements to the pedestrian route to St Nicolas Primary School,
- Off-street parking for vehicles is to be provided, and
- Design measures to promote low vehicle speeds and safe pedestrian and cycle access.

Overall it has been determined that the development can be accommodated by the local transport network.

More detailed information on how the development promotes sustainable transportation is contained within the Transport Assessment that accompanies the planning application.

3.3 Well designed and high quality homes

The proposals will deliver up to 500 new homes that will provide a mix of housing with a broad range of dwelling types appropriate to the location and market demand.

A portion of the development will be affordable homes, making a positive contribution to this key local sustainability issue.

Where possible homes will be designed to include the requirements of the Lifetimes Homes and the final details on Lifetime Homes will be provided in future Reserved Matters applications.

The development seeks to promote character and quality in its design approach and the masterplan for the development has been developed in response to the specific constraints and opportunities of the site and its local context.

More detailed information on how the illustrative masterplan and design principles have been developed is contained within the Design and Access Statement that accompanies the planning application.

3.4 Health and Wellbeing

Creating a high quality development that promotes health and wellbeing for residents and local people is a key aim of the proposals.

The design has been developed with a number of aims and design features to enhance the health and wellbeing of the residents:

- Safe and secure accessibility links over looked by the development with strong connections to and from the development encouraging walking and
cycling via links extended into the development.

- Provision of pedestrian and cycle links to adjacent residential and industrial areas.
- Provision of green public open space and equipped play areas providing amenity opportunities.
- Provision of a green link between Rawreth Land and London Road providing an informal green space.
- An area of parkland providing recreational footpaths and informal play areas.
- Homes orientated towards green spaces, mature trees and landscape receptors beyond the site boundary to settle the development in the local area.
- Provision of space for allotments within the development.
- New homes with comfortable living environments that have natural daylighting and thermal comfort prioritised through good design.
- Where possible internal layouts are adaptable to reflect changing needs.
- Where appropriate, homes designed to meet the requirements of Lifetime Homes.
- Where possible homes will be provided with private gardens.
- Provision of space for a new primary school and local amenity within the development.

3.5 Energy and Carbon Emissions

The adopted Local Plan focuses on providing development that follows sustainable building principles and includes Policies ENV 8 and 9 which require new development to provide an onsite contribution to energy use through low carbon or renewable energy and homes built to CfSH level 4, exceeding the carbon reduction requirements of the Building Regulations.

As outlined in Section 2 the Planning Practice Guidance states that when setting out local development policies for new housing planning authorities should ensure policies are in line with the government’s Zero Carbon Buildings Policy and the findings of the Housing Standards Review.

The Zero Carbon Buildings Policy sets out a roadmap for all new homes to be zero carbon from 2016.

The recommendations of the Housing Standards Review and proposed changes to national planning policy form part of the strategy to support the implementation of the Zero Carbon Homes Policy from 2016.

The outcome of the Housing Standards Review has established a framework for the consolidation of the Building Regulations including the removal of the ability for Local Authorities to set energy efficiency targets above those set out in the Building Regulations and the proposed winding down of the CfSH in favour of new standards incorporated in the Building Regulations.

These proposals constitute a material change in government policy and in response to these changes Countryside Properties considers development that reflects emerging national policy to be of greater, long term benefit to residents.
In response to local policy as well as recent recommendations of the Housing Standards Review the application proposes a ‘Fabric First’ approach to the design incorporating the principles of passive solar design and constructing new homes to meet the requirements of the applicable Building Regulations.

**Passive Solar Design**

The Planning Practice Guidance recognises the importance of Passive Solar Design and the outline design of the development layout has given consideration to maximising solar gain by orientating as many of the new homes and non-residential buildings to the south where possible without compromising layout or connectivity or increasing the risk of overheating in the summer.

At the detailed design stage measures will also be included to transmit the solar energy into the buildings. Such measures may include south facing windows into habitable rooms combined with the use of trees and or overhangs to provide shading in the summer.

**A Fabric First Approach**

Central to the creation of low carbon and energy efficient homes and buildings at land North of London Road is the ‘Fabric First’ principle which recognises that 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.

This approach has a number of distinct benefits including:

- There are virtually no maintenance and/or replacement costs to maintain carbon reductions through improved fabric, and
- There is no reliance on an occupier’s behaviour to deliver carbon reductions. Achieving carbon savings from renewable energy technologies require education, awareness and behavioural changes from occupants.

The development will be constructed to the 2013 Building Regulations which requires a 6% improvement above 2010 Regulations for residential dwellings (9% for the non-residential buildings) and represents the optimum Fabric Energy Efficiency Standards as outlined in the Zero Carbon Buildings Policy.

The table below shows the proposed development target U-values.

**Table 1: Target U-values**

<table>
<thead>
<tr>
<th>Building Element</th>
<th>U-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall</td>
<td>0.2 (W/m²k)</td>
</tr>
<tr>
<td>Roof</td>
<td>0.11 (W/m²k)</td>
</tr>
<tr>
<td>Floor</td>
<td>0.13 (W/m²k)</td>
</tr>
<tr>
<td>Windows and doors</td>
<td>1.2 (W/m²k)</td>
</tr>
<tr>
<td>Fabric Energy Efficiency Standard</td>
<td>52 (kWh/m²)</td>
</tr>
<tr>
<td>Air permeability</td>
<td>5 (m³/hr/m²)</td>
</tr>
</tbody>
</table>

The exact specification and thermal performance of construction materials will vary by dwelling and building type and the final performance specification will be determined at the detailed design stage.
**Heating and Appliances**

In addition to a highly energy efficient fabric, the use of additional ‘active’ measures can further enhance the energy efficiency of the homes and the measures to be included in the development are:

- Space heating and hot water to all dwellings and non-residential buildings, where appropriate, will be provided by programmable high efficiency natural gas boilers.

- The new homes and non-residential buildings will include suitable zoning and segregation of internal spaces to allow effective temperature control.

- 100% low energy lighting and appropriate controls will be installed throughout the development.

- Where white goods are to be provided they will have a minimum of an A+ rating.

**Low Carbon and Renewable Energy**

As part of the Housing Standards Review the government is currently re-evaluating the suitability of renewable energy policies in favour of targets set through Building Regulations which focus on a fabric first approach where savings are achieved through the building envelope.

Part of Rochford Council’s sustainability policy is the use of low carbon and renewable energy technologies to generate energy on-site and lower the carbon footprint of new buildings; however discussion with the Council has determined that this is not a local priority.

Although the installation of low carbon, renewable energy is is not seen as a local priority it has been considered here to determine which technologies could be suitable for the development.

**Table 2: LZC suitability at Land West of Rayleigh**

<table>
<thead>
<tr>
<th>LZC</th>
<th>Potential suitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar PV</td>
<td>Solar PV systems generate electricity and are feasible on roofs orientated within 30 degrees of south on pitched or flat roofs. The proposed new homes and non-residential space have suitable roof spaces for solar PV systems.</td>
</tr>
<tr>
<td>Solar Thermal Hot Water</td>
<td>Solar Hot Water systems are an alternative which is technically feasible. Systems require orientation within 30 degrees of south and internal space for a hot water storage tank. Solar Thermal may be considered alongside solar PV as part of the detailed design and specification of the new homes.</td>
</tr>
<tr>
<td>Biomass Heating</td>
<td>Biomass boilers can provide hot water and space heating to dwellings. However these are not considered appropriate given the site location, spatial and maintenance demands, with potential fuel sourcing, storage and air quality impacts.</td>
</tr>
<tr>
<td>Heat Pump Systems</td>
<td>Heat pumps provide low grade heat best suited to energy efficient buildings. Ground Source Heat Pumps (GSHP) require sufficient external space for horizontal loops or vertical boreholes. Unknown ground conditions and high capital cost restricts the suitability of ground source heat pumps at the site. Air Source Heat Pumps (ASHP) require significantly less space and also provide low grade heat.</td>
</tr>
</tbody>
</table>
There is some anecdotal evidence of poor performance of ASHP systems and noise from systems can be an issue. Therefore ASHPs are not proposed at this stage however this may be re-evaluated as part of the detailed design stage.

The most suitable renewable energy technologies for this development at the outline application stage are considered to be either Solar Photovoltaic (PV) or Solar Thermal Hot Water Systems.

The feasibility of other technologies within the proposed development is restricted by a number of factors including the low density of housing, low thermal demand of the homes and lack of suitable anchor heat load which limits the application of Combined Heat and Power or biomass community heating.

The inclusion of renewable energy technologies should be determined based on plot specific constraints and opportunities in response to relevant national energy performance and carbon targets of the building regulations through a whole building approach.

As a minimum, development will be built to incorporate the future installation of suitable low carbon, renewable energy technologies, as set out above.

In this context the suitability of low carbon and renewable energy technologies will be evaluated in more detail as part of future Reserved Matters applications and in response to latest guidance on the national zero carbon buildings policy.

**Carbon Sequestration**

Green Infrastructure offers a number of benefits which include localised cooling and improved air quality as well as providing an important, local carbon sequestration resource.

The development proposals aim to retain as much of the site’s existing green infrastructure as possible and through landscaping and new planting.

**Summary**

The proposed development will deliver homes and non-residential buildings that provide substantial carbon reductions through recent changes to Part L of the Building Regulations. Where appropriate and feasible the installation of low carbon and renewable energy technologies will also be considered in accordance with the Planning Practice Guidance.

The design will also incorporate a number of other passive design features, in line with the Planning Practice Guidance, such as maximising day lighting and solar heat gains, while minimising the risk of summer overheating, which can deliver further reductions in carbon emissions.

The final specification of the fabric and associated thermal and carbon performance of individual homes will be defined as part of the detailed design of individual dwellings.
What is the carbon footprint of new homes at land West of Rayleigh?

The graph below illustrates the estimated carbon savings of the proposed development of up to 500 new homes compared with the performance of existing homes and typical build standards. These savings are to be delivered through a fabric first approach designed to meet the 2013 Part L Building Regulations.

![Graph showing carbon emissions comparison](image-url)
3.6 Water

Potable water is an increasingly important natural resource and the conservation of water is becoming a more influential sustainability metric.

The proposed consolidation of the Building Regulations recognises this and aims to set new standards for water efficiency within which local authorities will be able to select higher standards provided they have a robust evidence basis to support the higher standard.

The site is supplied by Anglian Water Services which is in a moderate water stress area in the UK which emphasises the need for a sustainable water strategy.

Water conservation has been identified as a key local priority and to reduce water consumption during occupation, all homes will achieve high standards of water efficiency through the installation of a number of measures which include:

- Dual Flush WCs
- Low flow taps
- Water meters to each property
- A 240 litre water butt in each residential garden, where possible, to capture rainwater.

These measures are anticipated to reduce domestic water consumption to <105 litres per person per day, well below the typical consumption average of 150 litres.

The proposed non-residential buildings will also include a number of measures to reduce water consumption including:

- Leak detection on the incoming building supply, and
- Low flow fittings and dual flush WCs.

These measures are anticipated to reduce the non-residential consumption beyond the typical water use in the appropriate non-residential buildings.

3.7 Flood Risk and Sustainable Drainage

The site is currently used for agricultural purposes and is therefore considered to be a greenfield site. The development site is located predominantly within Flood Zone 1 with part of the site surrounding the Rawreth Brook within Flood Zone 2 and 3.

In the areas around the Brook there is a low to high risk of fluvial flooding and a moderate risk of flooding due to surface water runoff.

To mitigate against fluvial flooding development will only take place in flood zone 1 and floor levels will be raised by 300mm to take into account extreme weather events. Additionally any crossings of the Brook will take into account potential flooding risks.

Development of a greenfield sites inevitably results in additional surface water runoff if suitable mitigation measures are not taken. The proposed surface water drainage strategy therefore includes Sustainable Drainage Systems (SuDS) to mitigate the impact of increased surface water runoff.

The surface water will be discharged into Rawreth Brook after treatment and
attenuation. To facilitate this, the drainage strategy includes three attenuation ponds within the development.

The Sustainable Drainage System and attenuation ponds will be designed to accommodate a 1 in 100 year event plus an additional 30% to take into account the impact of climate change.

Other SuDS techniques such as crates and permeable paving will be considered at the detailed design stage.

The SuDS strategy will reduce runoff rates and mitigate the impact of increased volumes of surface water that will be created due to the development.

3.8 Biodiversity and Pollution

Both national and local planning policy recognises the importance of conserving and enhancing the natural environment, preventing pollution and providing net gains in biodiversity where possible.

A Phase 1 Habitat Survey has been carried out by Terence O’Rouke Ltd to determine the habitat and biodiversity impact of the development.

Site Habitats

The site predominantly comprises of arable fields with improved grassland along the field boundaries, wet and dry ditches, ponds and a series of native hedgerows.

In general the site habitats are considered to be of low local/parish importance with the exception of the species rich hedgerow which forms part of the central southern field which is considered to be of a receptor of medium importance.

The site does not include and statutory or non-statutory sites of ecological importance and while there are some sites nearby the development is not considered to have any major adverse impacts on any of them.

Site Species

The site survey has determined that the site habitats have the potential to support a number of species including; bats, birds, Great Crested Newts, water voles and badgers.

- The site survey noted the presence of a number of suitable bat roosting trees and bats are assumed to use the site.
- The site hedgerows and improved grassland provide nesting and foraging habitats for birds.
- The site and surrounding area includes a number of ponds and Great Crested Newts have been recorded breeding in the pond on site.
- Evidence was discovered on the site visit indicating the presence of water voles in the site wet ditches.
- No badger activity was recorded on site.

It is considered that any potential adverse impacts from the proposed development upon specific protected species can be wholly mitigated with careful design.

Sensitive landscape design will provide enhancements to existing habitats both on
and adjacent to the site which in turn will improve biodiversity.

The development will aim to mitigate the impact of the development during construction and the longer term through:

- Creation of a Code of Construction Practice to manage the construction of the development and limit its impact on the site habitats and species.
- Necessary removal of hedgerows outside of bird nesting season.
- Clearance of the Great Crested Newts prior to construction of each phase of the development.
- Incorporating root protection zones during construction.
- Retaining existing hedgerows and use them to dictate the form of the site’s green infrastructure.
- Planting of a new species rich hedgerow to mitigate any lost hedgerow habitat.
- New native planting will be incorporated to provide new foraging and breeding habitats for native species.
- Use of the SuDS to create wetland habitats through the ecological management of the onsite attenuation ponds.
- Provision of a habitat corridor and buffer around the wet ditch, managed to create a native scrub wildflower grassland.
- Implementation of new native planting and wildflower grassland to link existing hedgerows and provide additional habitat to enhance biodiversity at the development.
- Introduction of bird and bat boxes to further enhance the local wildlife.

The development of the site aims to provide an overall improvement in site biodiversity.

3.9 Waste Management

Prior to the construction phase a Site Waste Management Plan (SWMP) will be developed to ensure the use of measures to minimise waste during the construction phases of the development.

The reduction, reuse and recycling of construction waste is to be prioritised through measures such as avoidance of over-ordering, supervision of deliveries, use of secure materials storage facilities and reuse of materials onsite where feasible.

The development will be registered with the Considerate Constructors Scheme and target a score of >32.

Insulation materials containing substances known to contribute to stratospheric ozone depletion or with the potential to contribute to global warming will not be used.

All homes will provide internal and external storage space for non-recyclable waste and recyclable household waste including dedicated internal storage for recyclable household waste and household compost bins.
Full consideration will be given to the Council’s waste management infrastructure and services to ensure that the occupiers have the necessary infrastructure to participate in any kerbside recycling services.

### 3.10 BREEAM

The Council’s preferred metric for assessing the sustainability performance of the new non-domestic developments is the BREEAM, requiring new buildings to achieve a BREEAM rating of ‘Very Good’ as a minimum as part of Policy ENV10.

BREEAM is the most widely used environmental assessment standard for non-domestic buildings within the UK and its use as a ‘nationally described standard’ is supported at national policy level within the NPPF and the PPG.

BREEAM is based upon predefined tradable credits split into nine sections relating to sustainable design, procurement and construction:

- Management
- Health and Wellbeing
- Energy
- Transport
- Water
- Materials
- Waste
- Land Use & Ecology
- Pollution

The different sections are weighted within the assessment (with Energy and Health and Wellbeing carrying the highest weight) and the final percentage score is translated into an overall rating.

In addition, there are a number of mandatory credits (also referred to as minimum standards) relevant to different ratings in order to prevent a building that does not appropriately address straightforward issues achieving a high BREEAM rating.

The BREEAM Very Good rating requires the development to achieve a score of over 55%. Future Reserved Matters applications will be accompanied by a pre-assessment, where appropriate, to demonstrate that the BREEAM rating achievable by the development.

The applicant is committed to the sustainable design and construction of the new non-residential buildings and is targeting a BREEAM rating of Very Good rating where viable and feasible.
Countryside Properties Ltd pride themselves on their proactive approach to protect and improve the natural and built environment through well designed and constructed homes.
4. Conclusion

This Sustainability Statement demonstrates the proposed development at Land West of Rayleigh be sustainable and in accordance with national policies and local sustainability priorities.

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 sustainable new homes.

The developments Sustainability Strategy reflects the latest Planning Practice Guidance on sustainability standards and outcomes of the Housing Standards Review which signals the government’s intention to wind down the Code for Sustainable Homes.

The main sustainability features of the proposed development include:

- A fabric first approach to design and construction meeting the relevant Part L Building Regulations that will deliver long term reductions in carbon emissions.
- A commitment for new non-residential development to achieve a BREEAM Very Good rating where feasible and viable.
- Provision of water conservation measures in new dwellings and non-residential buildings to reduce water use.
- A high quality and well-designed development that will provide 35% new affordable homes for the local area.
- Provision for a new local primary school and amenity space, providing local educational facilities and providing local employment opportunities.
- Areas of open space overlooked by the development providing safe, secure areas of play.
- An accessible location with strong connections to existing pedestrian and cyclist routes and close proximity to the local public transport network.
- A significant contribution to the local economy through new job creation and the New Homes bonus.
- Opportunities for the inclusion of building integrated renewable energy technologies as part of a whole building approach to future building regulation standards.
- Development in an area of low flood risk including Sustainable Urban Drainage systems (SUDs) to manage surface water runoff through an onsite attenuation pond.
- A landscape strategy which provide new green infrastructure, safeguard and enhance biodiversity including creation of new wetland habitats and new hedgerows.
- The commitment to sustainable waste management during construction and operation of new homes promoting recycling.

The proposed residential development is in a sustainable location and will deliver much needed well designed energy and resource efficient new homes, whilst safeguarding the natural environment.
Turley Birmingham
9 Colmore Row,
Birmingham
B3 2BJ

T 0121 233 0902