



# BRICKKILN

**Sustainability Strategy  
December 2009**

**BLOOR HOMES**

**BRICKKILN SUSTAINABILITY STRATEGY**

**DECEMBER 2009**

**REF: 2008-050**

*Authorised for and on behalf NJL Consulting LLP*



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This document presents the Sustainability Strategy to accompany the outline application for the development known as Brickkiln in North Hertfordshire.

- Brickkiln is proposed to meet immediate housing needs of the sub-region. It is a residential led mixed-use scheme which will deliver private and affordable housing, a local centre providing a range of facilities together with landscaping and ecological mitigation features.
- Land to the East of Luton has been identified as a suitable location for new housing development through the East of England Regional Spatial Strategy and Sustainability Appraisal. The sustainability credentials of the site and the proposed development are demonstrated through this Sustainability Strategy.
- This Sustainability Strategy has followed the emerging BREEAM Communities Guidance with reference to the East of England Regional Sustainability Checklist. The strategy has been devised around a series of commitments and targets, together with identification of future opportunities for reserved matters applications.
- **Climate Change and Energy** – the site is not located within an area at risk from flooding, the drainage strategy for the site will incorporate sustainable drainage systems to help re-charge the underlying aquifer, together with the opportunity for rainwater harvesting and recycling. Public spaces and the substantial landscape planting will provide shade and cooling. Buildings will be designed with high energy efficiency and incorporate low or zero carbon energy technologies.
- **Community** – buildings will be designed to incorporate accessible features and to be adaptable, for example through the provision of lifetime homes standards. Consultation has been held with the local community and stakeholders have been engaged. Community spaces and opportunity for interaction, for example through allotments and the community hall are provided.
- **Place Shaping** – the site is adjacent to an existing urban area and will deliver a range of affordable housing to meet current and predicted future housing need in accordance with the principles set down in the Design and Access Statement. It will also provide a comprehensive Green Infrastructure Framework and deliver high quality public open spaces.
- **Ecology and Biodiversity** – a full Ecological Impact Assessment has been undertaken and measures to protect, retain and enhance biodiversity on site have been incorporated. These include retention of the existing woods and key hedgerows, enhanced management of these and substantial new tree and hedgerow planting. In addition the Green Infrastructure and Biodiversity Management Plan proposed for Putteridge Bury will return arable farmland to pasture, create new grasslands and incorporate new tree planting to further benefit wildlife in the area.

- **Transport and Movement** – the development is adjacent to existing amenities and an existing public transport bus route. Measures will be implemented to secure public transport service improvements for residents together with proactive vehicle management.
- **Resources** – building materials will be selected with a Good rating in the BRE Green Guide to Specification. Houses will have sufficient space for composting systems and external water recycling facilities.
- **Business** – the development will deliver short term construction employment opportunities together with longer term employment prospects and encouraging new businesses.
- **Buildings** – all buildings will meet Building Regulations as these increase performance standards, sustainable design standards including the Code for Sustainable Homes and BREEAM for non-residential will also be met.

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# 1 INTRODUCTION

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## 1.1 PURPOSE OF THIS DOCUMENT

Bloor Homes is applying to North Hertfordshire District Council for outline planning permission for a residential led development of up to 1000 new homes.

The application comprises the following key elements:

- Up to 1000 residential units;
- A new primary school;
- A local centre and community hall;
- Ecological and Landscape enhancement and mitigation features;
- Sustainable drainage systems;
- Improvements to existing footpaths and cycleways with new routes created; and
- New bus route;

This Sustainability Strategy has been prepared to accompany the planning application and should be read in conjunction with the following application documents:

- Planning Statement (PS) and Application Pack including Parameter Plan, Red Line Plan and Illustrative Masterplan;
- Design and Access Statement (DAS);
- Environmental Statement (ES); and
- Transport Assessment (TA) and Travel Plan Framework (TPF).

## 1.2 STRUCTURE OF THIS SUSTAINABILITY STRATEGY

This strategy aims to set a site specific approach to Sustainable Development and provide a framework of commitments and opportunities for the proposals.

The strategy covers the following key topics and has been based on the standard approach adopted in the East of England Regional Sustainability Checklist and the emerging guidance for BREEAM Communities which adopts the same categories and objectives, the majority of which are based upon adopted Planning Policy Statements (PPS) or Guidance (PPG).

- **Climate Change**
- **Resources**
- **Transport**
- **Ecology**
- **Business**
- **Community**
- **Place Shaping**
- **Buildings**

### 1.3 BACKGROUND AND POLICY CONTEXT

#### ***PPS1 – Delivering Sustainable Developments (2005)***

PPS1 sets out the overarching principles of the delivery for sustainable development through the planning system: “*Sustainable development is the core principle underpinning planning*”. The statement provides a framework for the achievement of Government’s objectives for sustainable development, which were set out in *A Better Quality of Life – A Strategy for Sustainable Development* (1999) and updated by the UK Sustainable Development Strategy (2005), these are:

- Living within environmental limits;
- Ensuring a strong, healthy and just society;
- Achieving a sustainable economy;
- Promoting good governance; and
- Using sound science responsibly.

#### ***Supplement to PPS1 – Planning and Climate Change (2007)***

The Supplement to PPS1 (sPPS1) sets out how planning should contribute to reducing greenhouse gas emissions, stabilising climate change and adapting to its foreseeable effects. The document sets a series of objectives covering general, social, environmental and economic objectives for the delivery of sustainable development. For considering individual planning applications, paragraph 42 of the sPPS1 states that planning authorities should expect new development to adhere to the following principles.

- Compliance with Development Plan Document (DPD) policies on local requirements for decentralised energy supply and sustainable buildings.
- Take account of landform, layout, orientation, massing and landscaping to minimise energy consumption.
- Consider how all aspects of the development, together with the proposed density and mix of development, support opportunities for decentralised and renewable or low carbon energy supply.
- Deliver a high quality local environment.
- Provide public and private open space so that it offers accessible choice of shade, shelter and recognises opportunities for flood storage, wildlife and people.
- Give priority to the use of sustainable drainage systems and consider the contribution to be gained from water harvesting from impermeable surfaces and encourage layouts that accommodate waste water recycling.
- Provide for sustainable waste management.
- Create and secure opportunities for sustainable transport in line with PPG13, including, travel plans, safe and attractive walking and cycling opportunities and an appropriate approach to the provision and management of car parking.

Paragraph 40 of sPPS1 also identifies that applications for planning permission to develop a proposal that will *'contribute to the delivery of the Key Planning Objectives set out in the PPS should expect expeditious and sympathetic handling of the planning application'*.

### ***Regional Spatial Strategy for the East of England (RSS)***

The Regional Spatial Strategy (RSS) for the East of England (East of England Plan) was published in May 2008. This provides a planning strategy to promote the creation and development of sustainable communities across the region in the next 15 to 20 years. It identifies the scale and distribution of new housing in the region, indicates areas for regeneration, expansion or sub-regional planning and specifies priorities for the environment, transport, infrastructure, economic development, agriculture, minerals and waste treatment and disposal.

The Plan seeks to bring about Sustainable Development by applying the guiding principles of the UK Sustainable Development Strategy (2005) and the elements that contribute to the creation of sustainable communities:

- Active, inclusive and safe in terms of community identity and cohesion, social inclusion and leisure.
- Well run in terms of effective participation, representation and leadership.
- Environmentally sensitive.
- Well designed and built.
- Well connected in terms of good transport services.
- Thriving in terms of a flourishing and diverse economy.
- Well served in terms of public, private, community and voluntary services.
- Fair for everyone.

#### **1.4 IDENTIFYING SUSTAINABILITY COMMITMENTS AND OPPORTUNITIES**

Using national, regional and local policy as a framework, a series of key sustainability principles have been devised based around:

- *Commitments* – targets and features that the proposed development can commit to at this outline planning application stage.
- *Opportunities* – potential targets or features that the proposed development may be able to commit to in the future once further detailed design principles have been established at reserved matter stage.

**2.1 INTRODUCTION**

New development should be appropriately adapted and resilient to the impacts of present and future climate change, it should aim to minimise emissions of greenhouse gases, and reduce the effects on flooding, heat gain, water resources and water quality.

Climate change is expected to lead to hotter and drier summers with milder and wetter winters which should influence the way in which new development is planned and designed. Reducing carbon emissions and managing water resources are therefore key priorities for new developments. This section addresses the approach taken with regard to:

- Flood Risk;
- Surface water run off;
- Heat island (heat gain) effects;
- Energy efficiency and low or zero carbon technology; and
- Water consumption.

**2.2 FLOOD RISK**

A rise in sea level and changing weather patterns including increased duration and intensity of rainfall is one of the principal predicted environmental effects of climate change. Ensuring that new development is protected from flood risk is an essential requirement.

Commitment of the development	The proposed development is located within Flood Zone 1. New housing is located in accordance with the sequential approach set out in PPS 25 and the site has not been classified as being susceptible to flooding from rivers.
How this will be delivered	Site location.
Evidence	Refer to Flood Risk Assessment presented in Chapter 13 of the ES.
Opportunity for further improvements	Not applicable – no flood mitigation is required.

**2.3 SURFACE WATER RUN OFF**

Urbanisation and new development in a river catchment area can increase surface water run-off due to the accelerated run-off associated with hard paved areas. This can contribute to flash flooding and a resulting increase in flood risk. To mitigate against this, it is important that the drainage provision does not increase run-off and is comparable to pre-development conditions.

Commitment of the development	<p>Run-off from the site will reflect existing run-off rates and the site can contain rainfall from extreme events. The drainage strategy for the site comprises the following key features.</p> <ul style="list-style-type: none"> <li>• Surface water will be discharged to the underlying permeable chalk strata.</li> <li>• Deep bored soakways will be constructed together with attenuation ponds.</li> <li>• Swales will be used to convey surface water run-off to the point of discharge.</li> </ul>
How this will be delivered	The drainage strategy, SuDS features and attenuations ponds are incorporated and illustrated as part of the Parameter Plan and Illustrative Masterplan.
Evidence	Refer to Flood Risk Assessment presented in Chapter 13 of the ES and also the DAS.
Opportunity for further improvements	<p>The detailed design of the SuDS features should have regard to ongoing maintenance and to ensure that there is no risk of inundation due to trapped debris.</p> <p>Rainwater recycling facilities could be incorporated on residential and non-residential buildings. Other features such as permeable paving could also be used.</p>

## 2.4 HEAT ISLAND

Urban areas are effectively a concentration of heat, a further anticipated effect of climate change is increasing summer temperatures and consequently a rise in the heat island effect. Developments can help reduce heat absorption through design and landscaping thereby reducing the incidence of over-heating and need for powered cooling.

Commitment of the development	<p>The development provides shaded public spaces and footpaths with community spaces designed to provide suitable safe shaded areas, together with open water in public open spaces.</p> <p>New areas of structure planting will be provided, together with reinforced green corridors, hedgerow planting and landscape buffers.</p>
How this will be delivered	Green Infrastructure Framework Strategy.
Evidence	Refer to Chapter 5 (Landscape) and 6 (Ecology) of the ES and also the DAS.
Opportunity for further improvements	<p>Buildings will be designed to enable air flow through the development, with appropriate choice of external finish to limit heat absorption and over heating</p> <p>Fountains and water features could be provided in public spaces.</p>

**2.5 ENERGY EFFICIENCY AND LOW OR ZERO CARBON TECHNOLOGY**

Improving energy efficiency is the key principle that underpins the Communities and Local Government (CLG) consultation on the definition of zero carbon homes and non domestic buildings<sup>1</sup>. High energy efficiency standards are, therefore, the first stage to secure significant energy and carbon savings over the lifetime of the building. Further to this, residual energy demands should be met by means of a low or zero carbon energy supply.

PPS22 Planning and Renewable Energy advises Regional and Local Authorities to encourage the development of renewable energies to help put the UK on a path to cut it's carbon dioxide emissions. The document also recognises the value of small-scale and decentralised energy systems. It states that Local Planning Authorities:

*“Should ensure that the requirement to generate on-site renewable energy is only applied to developments where the installation of renewable energy generation equipment is viable given the type of development proposed, its location and design” (para 8(i)).*

The East of England RSS recommends that new development should secure at least 10% of their energy from decentralised, renewable or low carbon sources, unless it is not feasible or viable. The project team have been liaising with utility companies on possible site-wide solutions and also renewable energy technology providers about small-scale / micro low carbon systems.

Commitment of the development	<p>An energy strategy will be developed for submission of the first reserved matters application. This will be undertaken by an independent energy specialist and focus on:</p> <ul style="list-style-type: none"> <li>• Meeting Building Regulations as they increase efficiency standards in new buildings.</li> <li>• Minimising energy demand through orientation and passive solar design.</li> <li>• Maximising thermal efficiency of building envelopes through the use of: thermal efficiency, high levels of insulation, improved air tightness and avoidance of cold bridging.</li> <li>• Minimising demand for water and space heating, cooling, lighting and power.</li> <li>• Identifying appropriate low and zero carbon energy technologies able to meet a proportion of the residual energy demand – a minimum of 10% total residual building energy demand.</li> </ul>
How this will be delivered	Requirement for an Energy Strategy will be made a condition of planning consent.
Evidence	Not applicable.

<sup>1</sup> Communities and Local Government (2008) **Definition of Zero Carbon Homes and Non Domestic Buildings – Consultation.**

Opportunity for further improvements	At the detailed design stage, where appropriate, buildings that are not fitted with or connected to low or zero carbon devices will be designed to enable future installation or connection in the future.
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## 2.6 WATER CONSUMPTION

The demand for clean, fresh potable water increases with new development and population. In order to limit the potential effects of future fluctuations in rainfall and temperatures in water stressed areas, the consumption of clean water for non-potable uses should be minimised.

Commitment of the development	<p>Consultation with Three Valleys Water has established that there are sufficient available potable water resources to serve the proposed development.</p> <p>Water efficiency measures will be proposed in accordance with the prevailing building regulations and proposed amendments to Part G – water consumption to be less than 120 litres/person/day.</p>
How this will be delivered	Water efficient fixtures and fittings such as low flow taps, aerators, dual flush toilets and low flow showers.
Evidence	Not applicable at this stage.
Opportunity for further improvements	Opportunity for rain and grey water recycling to be incorporated on WCs, hand basins and washing machines.

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## 3 COMMUNITY

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### 3.1 INTRODUCTION

The proposed development should integrate with surrounding communities and seek to create a vibrant and diverse community which includes suitable places for meeting and socialising. It should also respond to the needs of all members of the community including people with young families, older children, professionals and elderly people and keep existing and future residents informed. This section addresses the approach taken with regard to:

- Inclusive design;
- Community consultation; and
- Operational management and information.

### 3.2 INCLUSIVE DESIGN

People wish to lead more flexible and adaptable lifestyles and homes should be designed to reflect this. To create an inclusive community, buildings should be designed to be accessible and easily adaptable to meet the current and future needs of occupants.

Commitment of the development	Buildings and public spaces will be designed to be readily accessible for disabled residents and less mobile people such as the elderly and parents with pushchairs.
How this will be delivered	Through the detailed design stage and subsequent reserved matters applications with the production of an appropriate Design Strategy.
Evidence	Refer to DAS.
Opportunity for further improvements	Opportunity for a proportion of homes to be designed to lifetime homes standards.

### 3.3 COMMUNITY CONSULTATION

Involving the local community and enabling them to influence a new development is important as future residents may well move in from the immediate local area and the local community would be encouraged to contribute to, and make use of the new facilities that are proposed.

Commitment of the development	<p>Initial consultation on the scheme was held in early 2008 (January to March). The result of the consultation and feedback is presented in the Statement of Community Involvement (SCI) for the scheme.</p> <p>Local community stakeholders have been told about the proposal and will have opportunity to comment on the application.</p> <p>At the detailed design stage, local community stakeholders will be invited to attend events and workshops to develop the proposals.</p>
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How this will be delivered	As part of the ongoing community consultation strategy for the scheme.
Evidence	The Statement of Community Involvement is presented as part of the PS.
Opportunity for further improvements	Ongoing community consultation and engagement will continue through the determination period and as part of future reserved matters applications.

### 3.4 OPERATIONAL MANAGEMENT AND INFORMATION

Through the process of construction and once the development is completed, new residents and occupiers together with the existing local community should be encouraged to lead sustainable lifestyles and to integrate.

Commitment of the development	The development will provide community spaces and a community hall with local facilities and services. Allotments and shared spaces will also be provided which will be handed over to the local community.
How this will be delivered	This is included as part of the Illustrative Masterplan.
Evidence	Description of the development is presented in the PS.
Opportunity for further improvements	<p>There will be the opportunity to engage with the local community through public consultation to establish the exact nature and type of the community spaces and facilities to be provided.</p> <p>A resident's information pack containing information on the development and the surrounding area could be provided. This would include information on local transport services, local events and destinations.</p>

**4.1 INTRODUCTION**

Place shaping is the art of transforming locations and buildings into places where people live, rather than just work or sleep. It needs to ensure that developments are well-designed, built efficiently and deliver the type and tenure of housing that people need.

Public spaces and neighbourhoods should provide lively and attractive locations for people to interact, they should be safe, secure and accessible. Buildings should reflect the character of the area in which the development is situated and provide a sense of identity which makes people want to spend time in the location. This section addresses the approach taken with regard to:

- Effective use of land and meeting housing needs;
- Landscaping and green infrastructure;
- Design and Access; and
- Open spaces.

**4.2 EFFECTIVE USE OF LAND AND MEETING HOUSING NEEDS**

New development should make effective use of existing land and serve to meet the current and future needs of the local community. The re-use of brownfield land and vacant / derelict land in urban areas is an effective use of land, however, this is not always suitable, sustainable or deliverable.

Commitment of the development	<p>The development is on greenfield land immediately adjacent to an existing urban area.</p> <p>A study of the existing and future housing needs of the local community has been undertaken including affordable housing.</p>
How this will be delivered	<p>The site location has been identified and appraised through the Sustainability Appraisal of the Regional Spatial Strategy.</p> <p>The nature and scale of the development is led by the need to meet existing and future housing needs in terms of housing numbers, types, sizes and tenures.</p> <p>The development will provide up to 40% affordable housing.</p>
Evidence	<p>Housing needs analysis presented as part of the PS, affordable housing provision is also identified.</p>
Opportunity for further improvements	<p>As reserved matters come forward, the type, size and tenure of housing can be reviewed and adapted as necessary.</p>

### 4.3 LANDSCAPING AND GREEN INFRASTRUCTURE

Green Infrastructure is a term used to address access and opportunity for people and for wildlife to benefit from green open spaces, and importantly to provide a network of connected green corridors and spaces. It forms an important part of the landscape and contributes to the recognition of places and their identity.

Commitment of the development	<p>A comprehensive green infrastructure framework will be developed and follow the provisions set out in the Bedfordshire and Luton Strategic Green Infrastructure Plan 2007. This will be based around the following:</p> <ul style="list-style-type: none"> <li>• Existing mature planting, hedgerows and woodland.</li> <li>• New areas of structural planting and landscape buffers.</li> <li>• Formal open spaces.</li> <li>• Wide strip of public open space bordering the eastern edge of Luton and Wiggmore.</li> <li>• Series of smaller, well linked and distributed open spaces.</li> <li>• Central village green adjacent to the local centre.</li> <li>• Reinforced green corridors including Chiltern Way.</li> <li>• Green Infrastructure and Biodiversity Management Plan for Putteridge Bury.</li> <li>• Multi-functional green spaces.</li> </ul>
How this will be delivered	The Parameter Plan forms the basis of the Masterplan and includes the Green Infrastructure Framework Strategy.
Evidence	Green Infrastructure Framework Strategy and DAS.
Opportunity for further improvements	As part of detailed design, green infrastructure proposals will be developed.

### 4.4 DESIGN AND ACCESS

Design and Access Statements (DAS) are important documents to set out the design context and approach to the Design Principles of the development together with the access arrangement for the scheme.

Commitment of the development	A Design and Access Statement has also been prepared which is based on context appraisal and establishes design principles which examines a number of things including overall context, urban design, key views, vistas and focal points.
How this will be delivered	The Parameter Plan forms the basis of both design and access with an Illustrative Masterplan demonstrating how this would be delivered.
Evidence	Parameter Plan and DAS.
Opportunity for further improvements	<p>Architectural design and aesthetic quality of the development to be developed through reserved matters applications with clear consideration of the following:</p> <ul style="list-style-type: none"> <li>• Incorporation of Secured by Design principles.</li> <li>• Ensure streets are designed with active frontages which promote and support pedestrian usage.</li> </ul>

	<ul style="list-style-type: none"> <li>• Create defensible spaces that clearly define public and private spaces.</li> </ul>
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#### 4.5 OPEN SPACES

Functional open spaces contribute to a range of sustainability objectives including ecological function, reducing urban heat island effects, flood storage and healthy lifestyles. It is important to ensure that the local community has access to high quality public open spaces which include formal and informal spaces, play areas and recreational space.

Commitment of the development	<p>There is provision of over 12 hectares of green open space, recreational and informal spaces including Local and Neighbourhood Equipped Areas of Play together with formal sports infrastructure and pitches. Allotments are also proposed.</p> <p>The alignment of the Chiltern Way is retained and incorporated as a key green link through the development. A Green Infrastructure and Biodiversity Management Plan will be created for Putteridge Bury that will enhance access and interpretation for visitors.</p>
How this will be delivered	Open space is included as part of the Parameter Plan and Illustrative Masterplan and will be incorporated as part of the green infrastructure framework.
Evidence	Refer to PS, DAS and supporting parameter plans.
Opportunity for further improvements	<p>There is opportunity to incorporate Health Routes as part of integrated footpath / cycle ways / green corridors.</p> <p>Encourage dual use of facilities.</p>

**5.1 INTRODUCTION**

New development should ensure that the ecological value of the site is conserved and enhanced by maintaining biodiversity and protecting existing natural habitats. Biodiversity, together with ecosystems and green spaces contribute to a high quality of life and deliver recognised improved mental and physical health benefits.

Trees and plants have further benefits in stabilising soil, preventing erosion, reducing water run-off and forming landscape, visual, wind and noise barriers, softening the intrusion of the built environment. This section addresses the approach taken with regard to:

- Ecological surveys and protection; and
- Ecological enhancement.

**5.2 ECOLOGICAL SURVEYS AND PROTECTION**

Biodiversity and the protection of habitats and species is important to conserve the ecological interest in an area, but also to contribute to human health and well-being. To determine the ecological value of habitats in and around the site surveys should be undertaken by suitably qualified ecologists and their recommendations incorporated.

Commitment of the development	<p>A full extended phase 1 habitat survey together with recommended species surveys have been undertaken by a fully qualified Ecologist. Surveys have included:</p> <ul style="list-style-type: none"> <li>• Breeding and wintering birds;</li> <li>• Bat surveys;</li> <li>• Badger surveys and mitigation strategy;</li> <li>• Dormice survey;</li> <li>• Great crested newt and reptile surveys;</li> <li>• Invertebrates; and</li> <li>• Veteran trees and arboricultural survey.</li> </ul> <p>A full ecological impact assessment is included in the ES and the recommendations for mitigation will be incorporated.</p>
How this will be delivered	<p>A full Ecological Impact Assessment has been prepared and submitted. Key mitigation measures include new woodland and hedgerows, creation of water bodies, retention of woodland planting and key hedgerows, bird and bat boxes, relocation of badger sett.</p> <p>Measures to protect local biodiversity during construction is presented in the draft Code of Construction Practice.</p>
Evidence	The full Ecological Impact Assessment is reported in Chapter 6 of the ES.
Opportunity for further improvements	A biodiversity action plan with targets for enhancement and improvement could be prepared for each reserved matters application.

### 5.3 ECOLOGICAL ENHANCEMENT

Development can be detrimental to the ecological value of a site, however enhancements can be implemented to improve the biodiversity value of the site and to contribute to the achievement of local biodiversity species and habitat action plans.

Commitment of the development	<p>Key ecological features have been protected wherever possible and incorporated into the Parameter Plan and Illustrative Masterplan. Retained trees and hedgerows will be protected during construction and replacement planting will comprise trees and shrubs of local and native origin and common to the Breachwood Green Ridge Character Area.</p> <p>Proposed habitat creation and green infrastructure will increase the biodiversity value of the site. For woodland trees, hedgerows and planting that is retained a management strategy will be developed in conjunction with North Herts District Council.</p> <p>The Putteridge Bury Green Infrastructure and Biodiversity Management Plan will secure significant habitat enhancements including new pasture, grasslands, woodlands and specimen tree planting, together with specific measures for bats.</p>
How this will be delivered	Mitigation measures from the ES are committed to and can be secured by means of a condition of the planning consent.
Evidence	Chapter 6 and 14 of the ES. Putteridge Bury Green Infrastructure and Biodiversity Management Plan is also presented in the ES.
Opportunity for further improvements	Detail of the landscaping and ecological proposals will be developed at the reserved matters application stage.

**6.1 INTRODUCTION**

Development should be planned to ensure that residents can reach facilities they need by appropriate transport modes, by encouraging walking and public transport use and reducing the use of private cars for shorter journeys. The first principle is to reduce the need to travel and ensuring that there are facilities close to where people live and work.

Following this, public transport should be easily accessible and serve key destinations encouraging a shift away from car use. The dominance of cars on-street and within developments should be reduced so that people feel safer when walking or cycling. This section addresses the approach taken with regard to:

- Public transport;
- Accessibility of local amenities;
- Cycling; and
- Car parking and private vehicles.

**6.2 PUBLIC TRANSPORT**

Availability and accessibility of public transport is important to encourage people out of private cars and onto alternative, sustainable modes of transport. This contributes to reducing carbon emissions, improving health and fitness and community integration.

Commitment of the development	<p>The development is adjacent to an existing public transport route for buses, with proposals to improve and enhance public transport to serve the development, including a new bus loop route through the site.</p> <p>The proposed service will be regular with transport nodes located at safe, walkable distances from residential properties. Facilities will be safe with timetable information and appropriate waiting facilities.</p> <p>The majority of residential properties are within a reasonable walking distance of a regular bus service and stop.</p>
How this will be delivered	<p>Public transport nodes and routes are identified on the Parameter Plan and Illustrative Masterplan.</p> <p>Proposals for public transport including a regular service are set out in the Transport Assessment.</p>
Evidence	Refer to TA and Chapter 10 of ES.
Opportunity for further improvements	Travel Plans for residential and non-residential elements of the development could be delivered as part of future reserved matters applications.

### 6.3 ACCESSIBILITY OF LOCAL AMENITIES

A key objective of PPG 13 is to promote accessibility and to ensure that residents have access to suitable, safe footpaths and cycle ways that either connect directly to destination hubs (for example local centres or schools) or directly to public transport networks for onward travel. It is also important to ensure that these are suitable for use by all including parents with push chairs, younger children and the elderly or mobility impaired.

Commitment of the development	Provision of safe, secure footpaths and cycle ways between key destinations that are safe and accessible to all.  Residents have access to existing or proposed local amenities including schools, local convenience stores and community facilities.
How this will be delivered	Local centre and amenity provision is included as part of the Parameter Plan and Illustrative Masterplan.
Evidence	Masterplan and Parameter Plan showing land use and main access routes.
Opportunity for further improvements	At detailed design stages, consideration could be given to delineating key routes to destinations as well as safe routes to schools / walking bus.

### 6.4 CYCLING

Encouraging sustainable modes of travel such as walking and cycling delivers multiple benefits in terms of reducing carbon emissions and also improving general health and fitness. The provision of cycling facilities and ensuring that roads are safe to use means that cycling is a real alternative to the use of private cars for shorter journeys.

Commitment of the development	Provision of secure cycle parking for residential dwellings, at local centre, employment and education facilities.  Retention of existing cycle routes and creation of new routes through the scheme.  Contributions to the securing of cycle lane improvements off-site.
How this will be delivered	The Parameter Plan and Illustrative Masterplan demonstrates inclusion of cycle routes together with connectivity to the surrounding area.  Financial contributions to cycle lane improvements to be delivered through arrangements made with the respective highway authority.
Evidence	The Illustrative Masterplan and Parameter Plan show the land use and main access routes. Draft s106 Heads of Terms in PS includes for financial contributions to off-site works.
Opportunity for further improvements	At the detailed design stage, specifications for cycle storage facilities will ensure these are suitably specified and located.  Residential buildings will ensure there is sufficient cycle storage space.  Non-residential buildings will incorporate secure storage facilities, shower and changing facilities for cyclists.

**6.5 CAR PARKING AND PRIVATE VEHICLES**

The over-arching aim of PPG 13 and the Supplement to PPS 1 is to reduce the need to travel by private car thereby reducing carbon emissions and other associated traffic impacts such as congestion, noise and air pollutants.

The development cannot directly reduce vehicle trips that are made for personal reasons, however, it can ensure that for trips which have to be made, for example to employment or for schools, that these are accessible by means other than private car. It can also take measures to reduce the effect of cars on the development.

Commitment of the development	<p>A Transport Impact Assessment has been prepared and submitted with the application in line with appropriate guidance. This assesses the effect of new trips associated with the development and the impact on the local highways network.</p> <p>Car parking for private residences will be provided in line with local car parking standards and incorporated as both on and off street parking.</p>
How this will be delivered	Detailed design of streets and private / public car parking areas will be developed through reserved matters application.
Evidence	Refer to TA and DAS.
Opportunity for further improvements	<p>Car clubs could be set up and encouraged.</p> <p>Certain residential areas could be designated as home zones and incorporate traffic calming measures, landscaping and other features.</p> <p>Travel Plans for residential and non-residential elements of the development could be delivered as part of future reserved matters applications.</p>

**7.1 INTRODUCTION**

Materials used in the construction of buildings, the public realm and infrastructure have a range of environmental impacts from sourcing, through to processing and packaging. Specification of materials with lower environmental impacts can greatly improve the sustainability of a development.

The availability and quality of water resources is a key issue faced by the East of England. Water resource availability is limited and there are already supply-demand issues in part of the Region. It is therefore important to ensure that new development does not harm or compromise the quantity or quality of water resources. This section addresses the approach taken with regard to:

- Low impact and locally sourced materials.
- Composting;
- Water resources; and
- Water quality and ground water resources.

**7.2 LOW IMPACT AND LOCALLY SOURCED MATERIALS**

The BRE Green Guide is a recognised industry standard which provides a simple tool to aid specifiers in considering the environmental impact of their choices in material. The Green Guide is based on the Life Cycle Assessment (LCA) of products from ‘cradle to grave’ and applies a weighting system and summary score of A+ to E where A/A+ represents the lowest overall environmental impact.

Commitment of the development	The developer and its contractors will commit to using at least 50% of materials in construction awarded at least a D rating or above.  Where possible, local materials and reclaimed materials will be sourced and used in construction.
How this will be delivered	For each reserved matters application, further details will be produced to confirm proposed construction specification.
Evidence	Not applicable at this stage.
Opportunity for further improvements	At the detailed design stage, where feasible and viable there is opportunity to go beyond 50% and depending on specification to achieve at least a B rating or above.  Where material is required for land raising or levelling, road construction, public realm and other features, the first principle will be to source this as local to the development as possible.

### 7.3 COMPOSTING

Composting is one of the most effective and environmentally friendly ways to reduce waste to landfill and to recycle organic waste produced from food scraps and garden waste. The resultant product can then be used to good effect on private gardens, allotments and landscaping.

Commitment of the development	Residential properties will have sufficient space to incorporate a home composting system.
How this will be delivered	At the detailed design stage units will incorporate sufficient space and access for home composting or a Local Authority collection scheme.
Evidence	Not applicable at this stage, refer to DAS.
Opportunity for further improvements	Community composting facilities could be provided in communal or public landscaping areas including allotments.

### 7.4 WATER RESOURCES

With new development comes an increased demand on fresh potable water supplies, in areas of water stress, the capacity of the current water supply can be a limiting constraint to new development.

Commitment of the development	Consultation has been undertaken with the Three Valleys Water Company which confirms that there is sufficient capacity to support the development.  Water demand on site will be minimised through the incorporation of water efficient fixtures and fittings.
How this will be delivered	Water efficient fittings to be specified at detailed design stage.
Evidence	Refer to Chapter 6 of the ES.
Opportunity for further improvements	Opportunity to incorporate rain or grey water recycling features on some dwellings or non-residential buildings.

### 7.5 WATER QUALITY AND GROUND WATER RESOURCES

During construction and completion of the development, there is the potential for pollution and materials to enter surface and ground water resources. This includes materials such as silt, petrol, chemical and oils. Agreements and appropriate arrangement should also be made with the local sewerage undertaker to ensure that foul and storm drainage water can be received and treated.

Commitment of the development	The site is identified on the ground water vulnerability map as overlaying a major aquifer with soils classified as having a high and intermediate leaching potential.
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	<p>Measures to protect water resources during construction are set out in the draft Code of Construction Practice. No significant sources of current or historical contamination have been identified.</p> <p>There is currently limited capacity to support foul drainage from the site, Thames Water Developer Services have proposed a solution to store foul drainage on site and then discharge during periods of low flow on the network (i.e. over night).</p> <p>Thames Water have confirmed that there is sufficient capacity at the East Hyde Waste Water Treatment Works.</p>
How this will be delivered	Detailed site drainage plans will be brought forward as part of future reserved matters applications.
Evidence	Refer to Chapter 13 of ES and Appendix A3 for the draft Code of Construction Practice.
Opportunity for further improvements	Where appropriate, for example car parking areas. oil separators could be provided.

### **8.1 INTRODUCTION**

Economic wellbeing is one of the key principles of sustainable development and the overall aim is to develop and sustain a vibrant and diverse economy and to meet the local employment and service needs of both urban and rural areas.

The proposed development is residential led, which can stimulate and attract employment and investment. It is also important to ensure that there is a supply of housing to attract major employers to the area. This section addresses the approach taken with regard to:

- Employment, labour and skills; and
- New business investment.

### **8.2 EMPLOYMENT, LABOUR AND SKILLS**

Providing employment opportunities and supporting skills development to grow the local economy will deliver benefits that are experienced outside of the local area to a regional level.

Commitment of the development	The development is residential led but will provide some employment through provision of schools and local shops and community facilities.  There will be no decrease in jobs on a permanent basis as a direct result of the proposed development and overall a net increase in employment will be secured.  Jobs, employment and the local economy will be supported throughout the construction phase.
How this will be delivered	Delivered through the master plan and proposed development quantum.
Evidence	Refer to PS.
Opportunity for further improvements	There is opportunity to develop a local labour and training skills programme during construction to encourage use of local labour, skills and apprenticeships.

### **8.3 NEW BUSINESS AND INVESTMENT**

Regions need to encourage new business together with investment to deliver sustainable economic growth. Without this growth, areas can fall behind and become overtaken in preference by new businesses or industry looking to relocate.

Commitment of the development	<p>The development will deliver new, high quality housing in an area identified for expansion in the East of England RSS.</p> <p>Some employment and investment will be secured through the provision of a local centre and mix of uses.</p>
How this will be delivered	Delivered through the master plan and proposed development quantum.
Evidence	Refer to PS.
Opportunity for further improvements	<p>There is potential opportunity to develop training links with the university campus to the north of the site.</p> <p>The local centre could provide small start-up spaces for new businesses.</p> <p>High quality communications/ broadband technology and infrastructure will be installed to serve residences and local businesses.</p>

**9.1 INTRODUCTION**

The Code for Sustainable Homes and BREEAM for non-residential buildings (BREEAM) are voluntary assessment tools for establishing the overall sustainability performance of new buildings. The Code reflects the proposed stepped changes in Buildings Regulations (Part L) for residential development which will improve the energy efficiency and carbon emissions from new buildings, but also covers other topics addressed herein including ecology, flood risk, building materials and water use.

**9.2 SUSTAINABILITY PERFORMANCE**

The sustainability features of the development are discussed above. The design and approach to the whole development can be further enhanced through improving the sustainability performance of buildings.

Commitment of the development	All buildings will meet the prevailing building regulations as these increase performance standards towards zero carbon. The energy efficiency rating of new buildings will be B or above.  All buildings will be designed with regard to the performance requirements of the Code for Sustainable Homes and BREEAM for non-residential buildings.
How this will be delivered	All dwellings are required to obtain building regulations consent prior to occupation.
Evidence	Not applicable at this stage.
Opportunity for further improvements	Opportunity for residential buildings to meet Code levels 3 or above.  Opportunity for non-residential buildings to meet BREEAM Very Good levels.