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PROPERTY

Hargreaves Land Limited
Planning Application 1 at Lincolnshire Lakes (North)
Scunthorpe

Sustainability Statement

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Planning Application 1 at Lincolnshire Lakes (North) Scunthorpe

Sustainability Statement

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Notice

EXECUTIVE SUMMARY

This Sustainability Statement has been prepared to support the Planning Application 1 at Lincolnshire Lakes (North). The Statement has been prepared in accordance with North Lincolnshire Council's Adopted Core Strategy (2011) Policies CS2, CS18, and CS20, as well as the Lincolnshire Lakes Area Action Plan Policy SD1 (Sustainable Building Design and Construction), following the guidance detailed in the Supplementary Planning Document (SPD), including the Planning for Renewable Energy Development SPD.

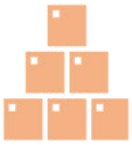
This Sustainability Statement sets a framework for the sustainability strategy for the Lincolnshire Lakes Site and outlines the approach to a sustainable development, incorporating climate change resilience and carbon management measures. It summarises the key national regulations and local planning policies which is pertinent at the time of writing and is aimed at satisfying the sustainability related requirements.

SUSTAINABLE DESIGN AND CONSTRUCTION SUMMARY

The Proposed Development will adopt a holistic approach to sustainable design and construction, considering not just energy efficiency and renewable energy generation, but also factors such as water efficiency, flooding, pollution, waste and recycling, material usage, responsible sourcing, sustainable transport, and best practice management of the Site etc. A summary of some of the adopted approaches to these issues are summarised below:

Waste: The Proposed Development will ensure consideration is given to sustainable waste management practices. In accordance with the principles of the waste hierarchy, the Proposed Development will provide storage space for both non-recyclable and recyclable waste, encouraging recycling and promoting proper waste management practices.

Materials: The aim of the Proposed Development will be for its overall environmental impact to be minimised through the specification of sustainable materials. This will include using sustainable building materials and products and ensuring all timber and timber-based products used on the project are legally harvested and traded timber.



Sustainable Transport: The Proposed Development will adhere to the principles of the sustainable transport hierarchy by prioritising sustainable modes of transport (walking/cycling/public transport. Additionally, the necessary infrastructure for Electric Vehicle (EV) charging points will be provided to support the adoption of electric vehicles.

In addition to the significant environmental and economic benefits of energy efficiency and sustainable design and construction, there are a host of other areas of sustainability. These are considered in more detail within other discipline specific standalone reports.

Through these sustainable measures, it is considered that the Proposed Development at the Lincolnshire Lakes Site will provide occupants with a high quality and sustainable development, incorporating measures which protect the environment and respond to the challenge of climate change.

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1. INTRODUCTION

Instructions

1.1 BWB Consulting (BWB) was instructed by Hargreaves Land Limited (the Client) to carry out a Sustainability Statement for the Planning Application 1 at Lincolnshire Lakes (North).

Proposed Development

1.2 The Proposed Development comprises a hybrid planning application as detailed below:

> "*Full planning application for the construction of a new vehicular access off the M181/A1077(M) roundabout, a pedestrian and cycle link to Scotter Road, a foul pumping station, earthworks and 'off-plot' drainage, ecological and associated landscaping and infrastructure works.*
>
> *Outline planning application, with all matters reserved, for the development of up to 550 residential dwellings (Use Class C3), a local centre (Use Class E) and associated 'on-plot' landscaping, drainage and other infrastructure works.*"

Site Description

1.3 The Planning Application 1 Site currently comprises agricultural land. The northern boundary is bound by existing woodland. The eastern boundary is bounded by existing open fields with woodland further east and the town of Scunthorpe. The southern boundary of the site is bounded by agricultural land. The western boundary is bounded by the M181 / A1077 Motorway and a roundabout that has recently been constructed with vehicular access provided into the Planning Application 1 Site. The Site Location plan is detailed in **Appendix 1**.

Purpose of the document

1.4 The purpose of this Sustainability Statement is to demonstrate that climate change mitigation measures will be integrated into the Proposed Development's design and that the proposed measures are appropriate to the Site environment and energy demands of the development.

1.5 This document will describe the policy context to which the Sustainability Statement responds, before demonstrating how it is proposed to reduce the site's energy demand and carbon dioxide (CO_2) emissions through a: lean energy efficient design (Be Lean); clean energy supply (Be Clean); and green on-site renewable energy generation (Be Green).

1.6 Additionally, a summary of sustainable design measures demonstrating how the Proposed Development will holistically incorporate sustainable design principles to reduce energy demand and associated CO_2 emissions will be provided, including but not limited to water and flooding, pollution, waste and recycling, material usage, responsible sourcing, air quality, and best practice management of the Planning Application 1 Site etc.

2. POLICY BACKGROUND

Introduction

2.1 This section of the Sustainability Statement reviews relevant policies at the international, national, regional, and local levels in relation to energy efficiency, renewable energy generation and sustainable development and discusses key issues for this Statement.

Climate Change

2.2 Climate change is a long-term change in the average weather patterns that have come to define Earth's local, regional, and global climates. These changes have a broad range of observed effects that are synonymous with the term.

Figure 2.1: Climate Change (Fossil Fuel Combustion)

2.3 Changes observed in Earth's climate since the early 20th century are primarily driven by human activities, particularly fossil fuel burning, which increases heat-trapping greenhouse gas levels in Earth's atmosphere, raising Earth's average surface temperature. These human-produced temperature increases are commonly referred to as global warming. Natural processes can also contribute to climate change, including internal variability (e.g., cyclical ocean patterns like El Niño, La Niña, and the Pacific Decadal Oscillation) and external forcing (e.g., volcanic activity, changes in the Sun's energy output, variations in Earth's orbit).

2.4 Scientists use observations from the ground, air, and space, along with theoretical models, to monitor and study past, present and future climate change. Climate data records provide evidence of climate change key indicators, such as global land and ocean temperature increases; rising sea levels; ice loss at Earth's poles and in mountain glaciers; frequency and severity changes in extreme weather such as hurricanes, heatwaves, wildfires, droughts, floods, and precipitation; and cloud and vegetation cover changes, to name but a few (**Figure 2.1**).

United Nations Framework Convention on Climate Change

2.5 The international mechanism for addressing climate change is the United Nations Framework Convention on Climate Change (UNFCCC). Signed in 1992 at the United Nations Conference on Environment and Development, the Convention constitutes the foundational climate agreement that has provided the platform for most subsequent international climate agreements. The Kyoto Protocol, which was signed in 1997 and which entered into force in 2005, was the first implementation of measures under the UNFCCC until 31 December 2020. The protocol was superseded by the Paris Agreement. Its supreme decision-making body, the Conference of the Parties (COP), meets annually to assess progress in dealing with climate change.

The Paris Agreement

2.6 The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at the 2015 United Nations Climate Change Conference in 2015 and entered into force in 2016 (**Figure 2.2**). The 196 Parties to the UNFCCC reached a landmark agreement to combat climate change and to accelerate and intensify the actions and investments needed for a sustainable low carbon future.

Figure 2.2: United Nations Framework Convention on Climate Change (UN)

2.7 The Paris Agreement builds upon the Convention and for the first time brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort. Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.

2.8 To achieve this long-term temperature goal, countries aim to reach global peaking of greenhouse gas emissions as soon as possible to achieve a climate neutral world by mid-century. The Paris Agreement works on a 5-year cycle of increasingly ambitious climate action carried out by countries. Countries are required to submit their plans for climate action known as nationally determined contributions (NDCs).

The Paris Agreement and Nationally Determined Contributions

2.9 Through the Paris Agreement, Parties also agreed to a long-term goal for adaptation – to increase the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production. Nationally determined contributions (NDCs) are at the heart of the Paris Agreement and the achievement of these long-term goals.

2.10 NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change. The Paris Agreement (Article 4, paragraph 2) requires each Party to prepare, communicate and maintain successive NDCs that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.

United Kingdom's (UK's) Nationally Determined Contributions

2.11 The UK's initial target under the Paris Agreement of 2015, when it shared a common plan on emissions with the EU, was a 53% cut by 2030. However, this was considered insufficient, and the UK also had a domestic carbon budget under the Climate Change Act, requiring a 57% reduction on average from 2028 to 2032.

Figure 2.3: United Kingdom's Nationally Determined Contribution (UK Gov)

2.12 In December 2020, the UK announced a significant increase in its carbon emissions reduction target, aiming for a 68% cut compared to 1990 levels before 2030. This represents the UK's nationally determined contribution towards meeting the Paris Agreement.

2.13 The UK had already committed to reducing carbon emissions to zero by 2050, with an interim target of 53%. In April 2021, at the climate summit, the U.K. government confirmed its plan to put the U.K. on course to meet its target of reaching net zero carbon emissions by 2050. This commitment demonstrates the UK's dedication to addressing climate change and reducing greenhouse gas emissions.

Climate Change Act

2.14 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, responsible for setting binding interim carbon budgets for the Government over successive five-year periods.

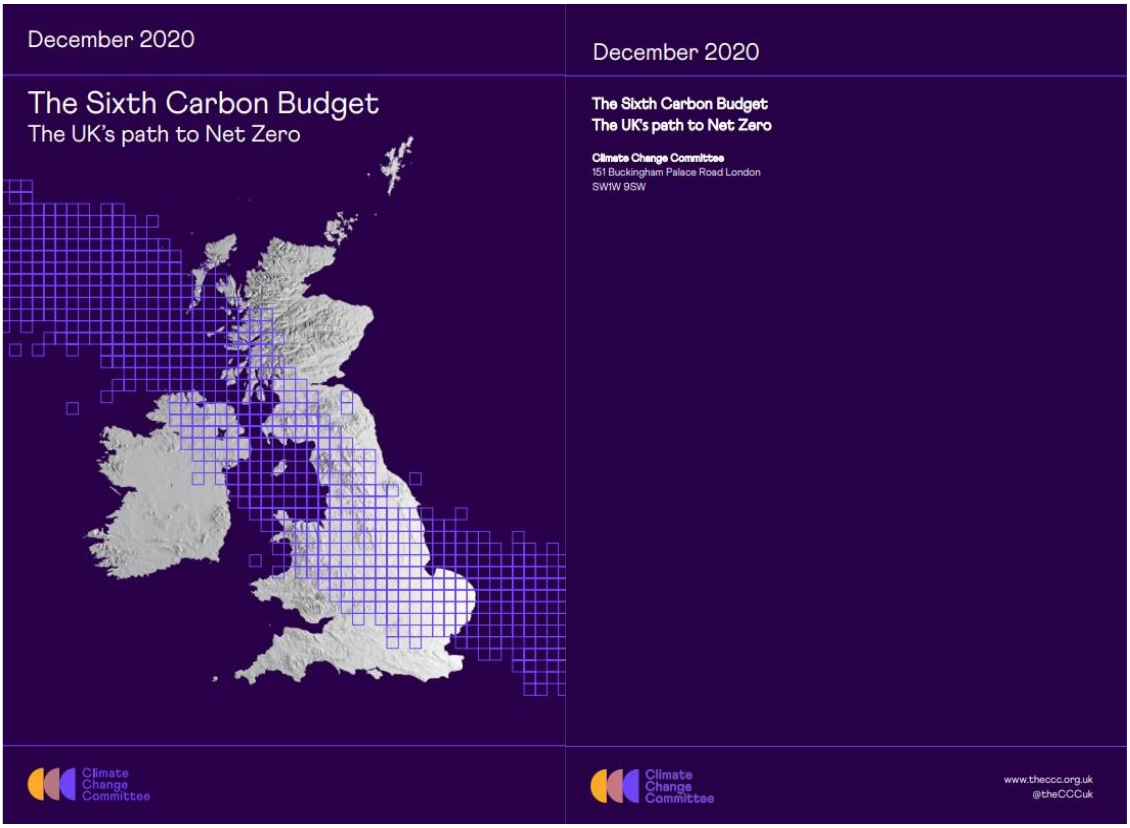


Figure 2.4: The Sixth Carbon Budget (UK Gov)

2.15 To meet these targets, the government has set five-yearly carbon budgets, which currently run until 2032. The carbon budgets restrict the amount of greenhouse gas the UK can legally emit in a five-year period. The UK is currently in the fifth carbon budget period (2028 to 2032).

2.16 The Climate Change Committee (CCC) published its recommendation on the level of the Sixth Carbon Budget in December 2020 (**Figure 2.4**).

Planning and Energy Act

2.17 The Planning and Energy Act (2008) allows local planning authorities' policies to impose reasonable requirements for a proportion of energy used in developments to be from renewable and low carbon sources in the locality of the development. This means local planning authorities have the power to set local energy efficiency standards for new homes that go beyond the minimum standards set through the Building Regulations.

UK Sustainable Development Strategy

2.18 The UK is committed to the delivery of the Sustainable Development Goals (SDGs). The 2030 Agenda for Sustainable Development is a historic global agreement to eradicate extreme poverty, fight inequality and injustice and leave no one behind. Agreed by world leaders at the UN in 2015, the 17 SDGs succeed the Millennium Development Goals (MDGs).

Figure 2.5: The Sustainable Development Goals (UN)

2.19 It provides an ambitious, globally agreed, shared blueprint for the world to see by 2030 and is centred around the 17 SDGs – **Figure 2.5**.

2.20 The UK Sustainable Development strategy acts as an overarching document from which a range of specific policies and legislation was derived.

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

Building Regulations

2.22 Whilst not planning policy, the Building Regulations and specifically Approved Document Part L: Conservation of Fuel and Power has relevance to the requirements for energy efficiency and carbon emissions of new buildings. The primary mechanism for reducing carbon emissions in new residential and commercial development is progressive changes to Part L aiming to deliver zero carbon buildings.

2.23 On this basis, a minimum requirement for the reduction in carbon emissions to be delivered by new buildings' is set within the Building Regulations, with each update requiring lower carbon emissions than the previous version to achieve compliance.

2.24 The update in June 2022 required new residential and buildings other than dwellings to achieve 31% and 27% reduction in carbon emissions over the 2013 (with 2016 amendments) Regulations respectively. This uplift is regarded as a first step towards making all buildings 'net zero ready' from 2025 when the Future Buildings Standard comes into effect, mandating a 75% reduction in emissions.

Approved Document 2021 Part L Volume 1 and Volume 2

2.25 This approved document took effect on 15 June 2022 for use in England. Part L amendments introduce a new principal performance metric measuring energy efficiency. 'Primary energy' will be used in combination with CO_2 metrics to assess compliance with Part L. Primary energy calculations take into account factors such as the efficiency of the building's heating system; power station efficiency for electricity; and energy used to produce fuel and deliver it to the building.

Figure 2.6: Approved Document 2021 Part L Volume 1 and Volume 2 (UK Gov)

The Future Homes/Buildings Standard

2.26 The Future Homes/Buildings Standard: 2021 Consultation on changes to Part L is a document published by the UK government in January 2021, outlining proposed changes to Part L (Conservation of fuel and power) and Part F (Ventilation) of the Building Regulations. The main goal is to improve the energy efficiency of buildings and reduce carbon emissions.

2.27 The consultation sought feedback from industry professionals, architects, engineers, and other stakeholders to refine the proposed changes before implementing them as part of the 2025 Future Homes/Buildings Standard.

Clean Growth Strategy

2.28 The UK's Clean Growth Strategy is a government plan published in 2017, aimed at cutting greenhouse gas emissions while driving economic growth. The strategy outlines a comprehensive approach to decarbonize all sectors of the UK economy, including power, transport, and buildings, while ensuring a secure and affordable energy supply for businesses and consumers.

2.29 The Clean Growth Strategy is a critical component of the UK's efforts to meet its legally binding climate change targets, grow the low-carbon economy, and create new economic opportunities for businesses and workers across the country.

National Design Guide

2.30 The UK's National Design Guide is a government document published in 2019 and updated January 2021, which sets out the principles and standards for creating well-designed, sustainable, and beautiful places across the country. The guide aims to promote good design practices in the planning and development process, addressing various aspects of the built environment.

National Planning Policy Framework

2.31 The National Planning Policy Framework (NPPF) is a key document in England's planning system, first published in 2012 and updated several times since. It sets out the government's planning policies and provides guidance on how these should be applied in England. The NPPF covers various aspects of planning, including housing, the economy, transport, and the environment. Its core principles include: a presumption in favour of sustainable development, encouraging local authorities to plan for and approve new development where possible.

2.32 The NPPF was last updated on December 12, 2024, with revisions aimed at meeting the growing demand for housing, promoting economic growth, and enhancing environmental protections.

Planning Policy Guidance (The Guidance)

2.33 The UK's Planning Policy Guidance (PPG) is a collection of documents that provide detailed guidance on various aspects of the planning system in England. These

documents support the NPPF and offer practical advice on implementing planning policies.

2.34 The PPG plays a crucial role in supporting the effective implementation of planning policies and promoting sustainable development in England.

Net Zero Strategy: Build Back Greener

2.35 The UK's Net Zero Strategy: Build Back Greener (**Figure 2.7**) is a comprehensive government plan published in 2021, outlining the country's pathway to achieve net zero emissions by 2050. The strategy focuses on decarbonising all sectors of the UK economy while promoting sustainable growth and job creation.

2.36 The Net Zero Strategy is a critical component of the UK's efforts to combat climate change and transition to a sustainable, low-carbon economy.

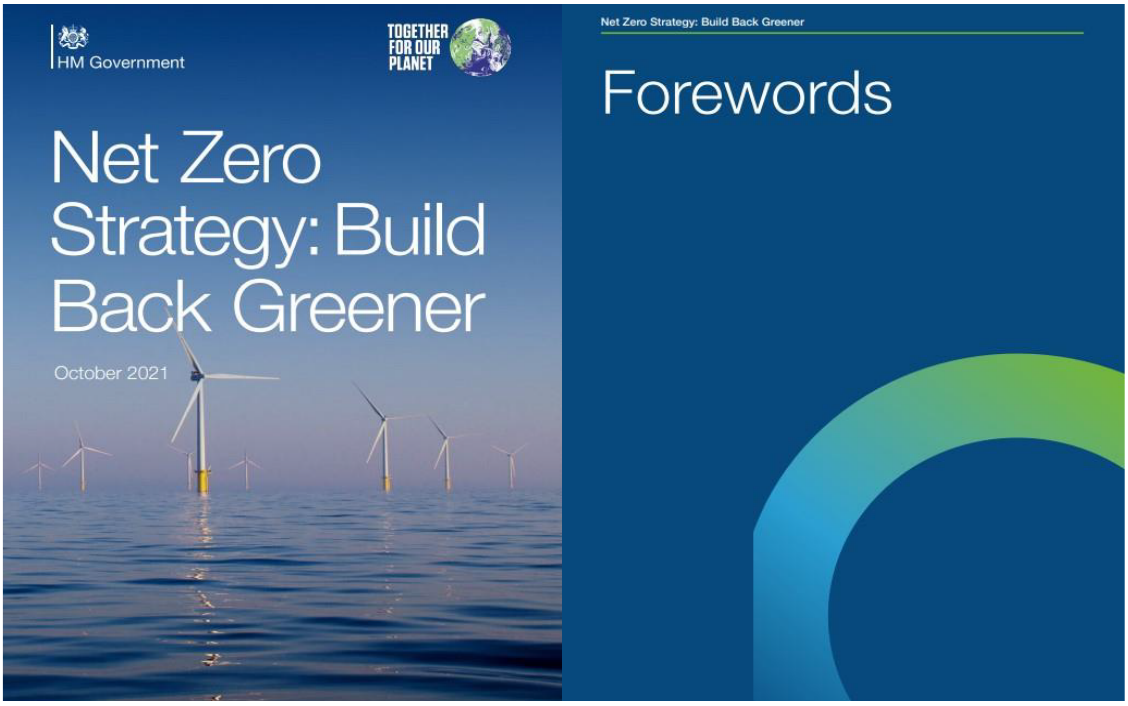


Figure 2.7: Net Zero Strategy: Build Back Greener (UK Gov)

Heat and Buildings Strategy

2.37 The UK's Heat and Buildings Strategy is a government plan published in 2021, outlining the country's approach to reducing emissions from homes and workplaces. The strategy focuses on improving energy efficiency and transitioning to low-carbon heating technologies.

North Lincolnshire Core Strategy Local Plan (2011)

2.38 Adopted in June 2011, North Lincolnshire Council's Adopted Core Strategy Local Plan (2011) (**Figure 2.8**) is a key planning document that outlines the long-term vision and strategic framework for development in North Lincolnshire up to the year 2026.

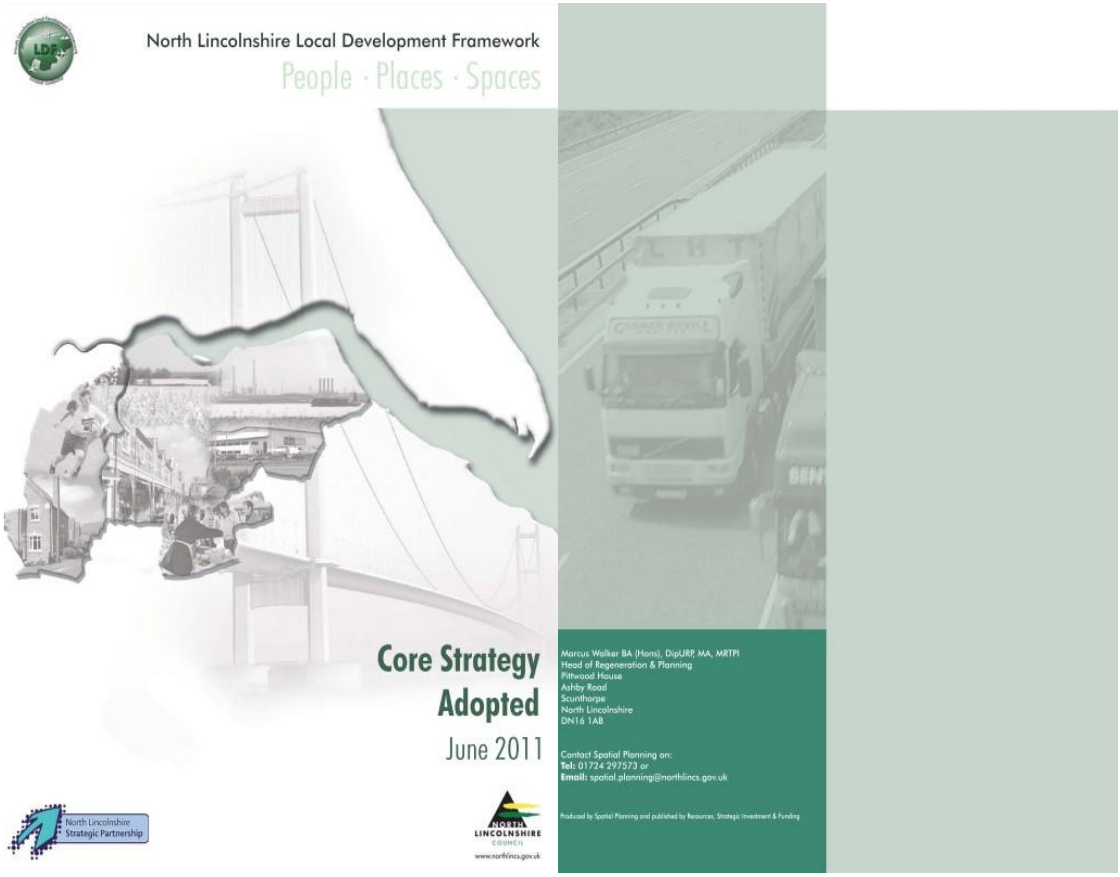


Figure 2.8: North Lincolnshire Core Strategy Local Plan (NLC)

2.39 It sets out policies to guide sustainable growth, housing, infrastructure, and environmental protection in the region, ensuring that development meets the needs of both current and future residents.

2.40 The primary requirements for ensuring a high standard of sustainable design and exploring innovative approaches to energy and waste solutions are outlined in the Core Strategy Policies CS2: Delivering More Sustainable Development, CS18: Sustainable Resource Use & Climate Change, and CS20: Sustainable Waste Management. These policies establish the framework for delivering sustainable design and construction.

2.41 The North Lincolnshire Local Plan places significant importance on promoting sustainable energy developments as part of its broader vision for growth and environmental protection. It also includes measures to mitigate climate change impacts, such as sustainable building practices. Additionally, it encourages integrating renewable energy systems into housing and commercial projects. Several relevant policies related to a holistic approach to sustainability are outlined in **Figure 2.9** below, including but not limited to policies CS19: Flood Risk, CS17 Biodiversity, and CS25: Promoting Sustainable Transport etc.

North Lincolnshire Council Adopted Local Plan (2011)
Sustainable Development Principles

CS5: Delivering Quality Design in North Lincs'

- Emphasises high-quality design in all developments, ensuring they are visually appealing, sustainable, and respect the local character.

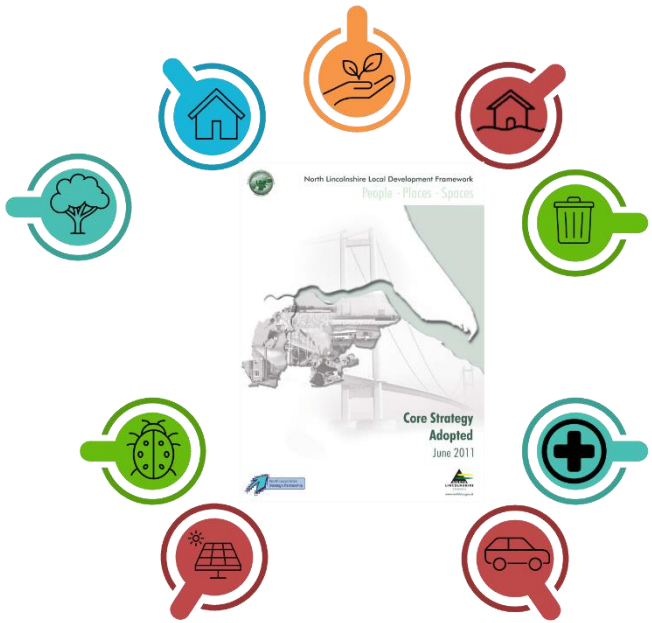
CS2: Delivering more Sustainable Development

CS19: Flood Risk

- Requires development to be designed and managed to be resilient to flood risk.
- Promotes sustainable drainage systems and flood prevention measures.

CS16: North Lincolnshire's Landscape, Greenspace and Waterscape

- Protects and enhances the natural beauty of North Lincolnshire's landscape, including its green spaces and water bodies.
- Promotes the creation of new green spaces and recreational opportunities.



CS20: Sustainable Waste Management

- Encourages waste reduction, recycling, and reuse.
- Supports the development of waste management facilities that minimise environmental impact.

CS17: Biodiversity

- Protects and enhances biodiversity within North Lincolnshire, including its habitats and ecosystems.
- Promotes sustainable development practices that minimize harm to biodiversity.

CS24: Health Care Provision

- Supports the development of accessible and high-quality healthcare facilities to meet the needs of the population.

CS18: Sustainable Resource Use and Climate Change

- Promotes sustainable resource use and energy efficiency in development and infrastructure projects.
- Encourages the use of renewable energy sources.

CS25: Promotion Sustainable Transport

- Encourages sustainable transport options, such as walking, cycling, and public transport.
- Aims to reduce reliance on private car use.

Figure 2.9: North Lincolnshire Adopted Local Plan Sustainability Policies

Lincolnshire Lakes Area Action Plan (2016)

2.42 Adopted in May 2016, the purpose of The Lincolnshire Lakes Area Action Plan (AAP) (**Figure 2.10**) is to establish a policy and delivery framework which provides clear and firm guidance to ensure that the Council's aims set out for the Lincolnshire Lakes are achieved and that the AAP is consistent with the established approach in the adopted Core Strategy. It does this by providing planning policy guidance on several important issues that go to the heart of good place-making.

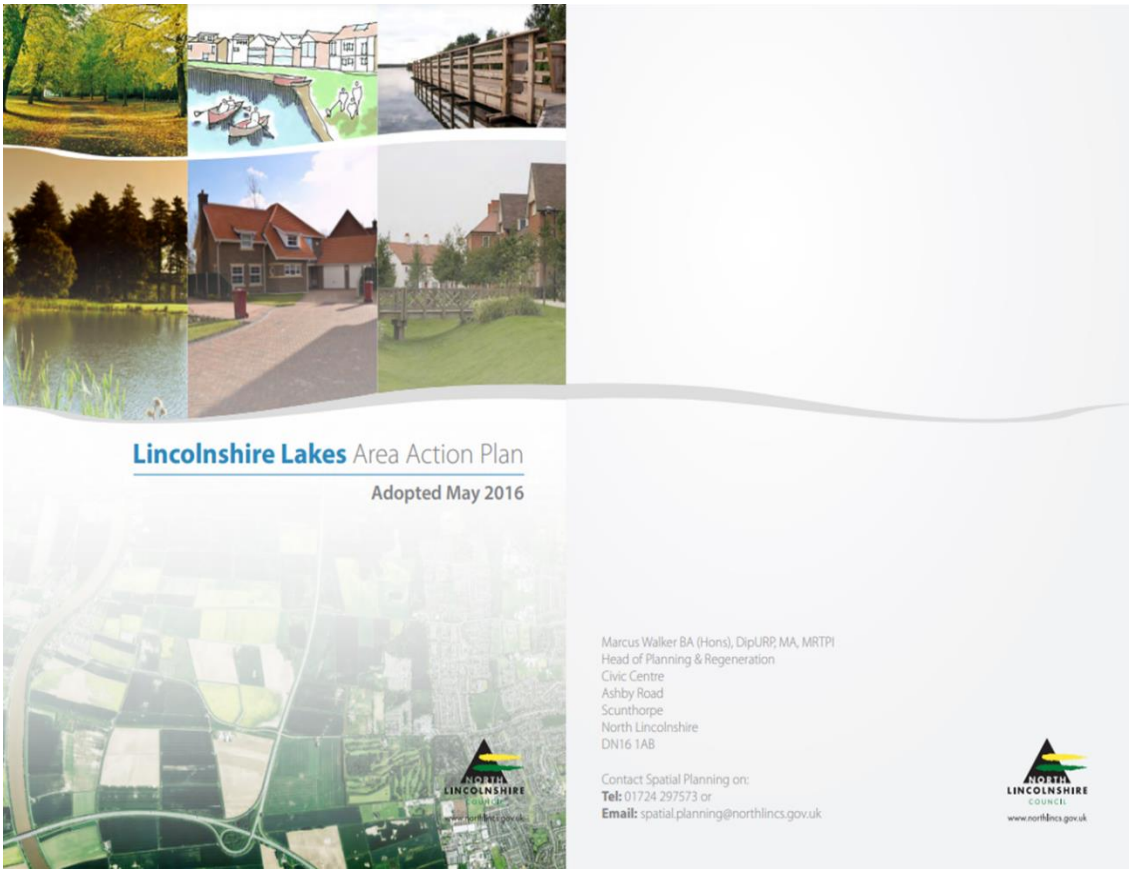


Figure 2.10: Lincolnshire Lakes Area Action Plan (NLC)

2.43 Core Strategy Policies CS2: Delivering More Sustainable Development, CS18: Sustainable Resource Use and Climate Change, and CS20: Sustainable Waste Management set out the framework for delivering sustainable design and construction and therefore form the basic standards required for the AAP.

2.44 Policy SD1 (Sustainable Building Design and Construction) of the AAP stipulates the requirement for a development to consider the opportunities and measures for delivering resource energy efficient sustainable development.

2.45 Achieving the Governments' national technical standards which is delivered through the progressive updates of the Approved Document Part L of the Building Regulations is the target standards required for residential development.

2.46 In relation to non-residential development, achieving BREEAM Very Good and/or an Energy Performance Certificate rating of 40 is the stipulated minimum requirement.

North Lincolnshire SuDS and Flooding Risk Guidance SPD

2.47 Adopted in July 2017, The North Lincolnshire Council SuDS and Flood Risk Guidance Document provides practical advice for developers to mitigate flood risks and implement Sustainable Drainage Systems (SuDS). It emphasises site-specific strategies, ensuring that new developments manage surface water sustainably, prevent flooding, and improve water quality.

North Lincolnshire Planning for Renewable Energy Development SPD

2.48 Adopted in November 2012, the North Lincolnshire Council's Planning for Renewable Energy Development SPD (**Figure 2.11**) outlines guidance to facilitate renewable energy projects while balancing environmental, social, and economic impacts. It aims to support local, regional, and national goals for renewable energy generation.

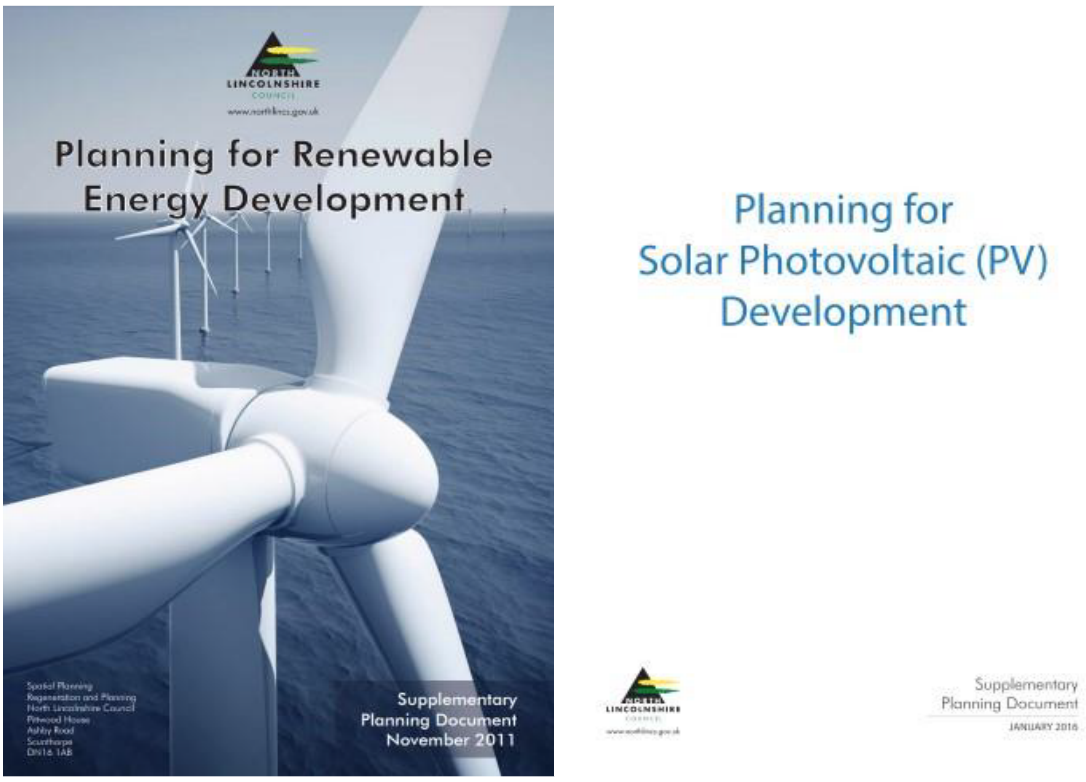


Figure 2.11: North Lincolnshire Renewable Energy Development and Solar PV SPD (NLC)

North Lincolnshire Planning for Solar Photovoltaic Development SPD

2.49 Adopted in January 2016, the Planning Solar Photovoltaic (PV) Development SPD (**Figure 2.11**) focuses specifically on facilitating the installation and development of solar PV systems within North Lincolnshire. It provides practical advice for developers and property owners, ensuring that solar projects align with local planning policies and environmental considerations.

2.50 This SPD highlights the need for careful site selection to avoid conflicts with sensitive landscapes, ecological habitats, and heritage sites. It also considers potential visual impacts, glint and glare issues, and impacts on agricultural land.

3. SUSTAINABLE DESIGN AND CONSTRUCTION MEASURES

Adapting to Climate Change

3.1 One of the critical challenges facing the UK and new development is the need to mitigate and adapt to a changing climate. The Government has demonstrated a commitment to tackling climate change, setting an ambitious long-term goal of achieving net-zero carbon emissions by 2050. This target aligns with the global efforts to limit global warming and its adverse effects on the environment and communities.

3.2 Climate change is projected to cause warmer temperatures in the UK, with wetter winters, drier summers, and increased frequency of extreme weather events. Adapting to this changing climate will significantly impact the design, construction, location, cost, and operation of all new buildings in the coming decades. The NPPF has recognised the importance of addressing climate change by including adaptation and mitigation as one of its core planning principles. Consequently, the planning process also proactively require measures to ensure that new developments are resilient and sustainable in the face of climate change.

3.3 The following section outlines the key sustainability measures (**Figure 3.1**), climate change mitigation and adaptation measures considered appropriate for the Proposed Development based on the latest national guidance that include but is not limited to:

Figure 3.1: Lincolnshire Lakes (North) Sustainability Measures

Energy and Carbon Emission Reduction

3.4 Developing energy efficient, low carbon buildings is a key objective of national/local policy, enforced through progressive changes to the Building Regulations which require the achievement of a target carbon performance for compliance.

3.5 The energy strategy for the Proposed Development will be established to achieve the baseline for energy consumption and CO_2 emissions. All options considered in preparation of the energy strategy and subsequent detailed development of the scheme will ensure that the baseline energy/CO_2 emissions are achieved.

3.6 The key energy/CO_2 target is for the Proposed Development to achieve Part L 2021 compliance. To achieve this, the development will adopt an energy hierarchy (**Figure 3.2)** approach to meet the North Lincolnshire Council's objectives for energy efficiency and CO_2 emissions reduction.

Figure 3.2: Energy Hierarchy

Be Lean Summary

3.7 The Proposed Development envelope and services will be specified in accordance with Part L (2021) of the Building Regulations to ensure energy consumption via space heating and cooling is reduced.

3.8 Passive solar consideration will also form an integral part of the Proposed Development design to ensure excessive solar gains and cooling loads are reduced, hence providing a more comfortable internal environment for occupants. The final fabric specification, building services specification and provision of energy efficiency measures will be confirmed at the Reserved Matters stage and via Part L 2021 energy modelling.

Be Clean Summary

3.9 A feasibility study on connecting to a district heating network has been conducted for the Proposed Development site. The results show that there are no operational district heat networks within 500m of the Planning Application 1 Site. Consequently, connecting to an existing heat network is not a viable option for the Proposed Development.

3.10 However, establishing a new heating network, such as a Centralised Energy Centre, could be considered for the Planning Application 1 Site. The feasibility and suitability of this option will need to be further evaluated during the Reserved Matters stage. If this solution proves to be the most carbon-efficient, cost-effective, resilient, and technologically feasible method of providing heat to the development, the applicant may choose to propose and adopt it.

3.11 Additionally, the Proposed Development could incorporate spare valve connections, enabling a potential connection to the planned North Lincolnshire Green Energy Park heat network. The Proposed Development is located near Flixborough Wharf on the River Trent and could be an option should the applicant wish to pursue it.

Be Green Summary

3.12 The feasibility of renewable energy generation concluded that the most appropriate recognised on-site renewable energy technologies with high opportunities for the Proposed Development site are Solar Photovoltaic (PV), Solar Thermal, Wastewater Heat Recovery System, Air Source Heat Pump (**Figure 3.3**) and Ground Source Heat Pump.

Figure 3.3: Air Source Heat Pump External Condenser Example

3.13 Technologies with low to medium opportunities such as Wind Turbine, Biomass, Water Source Heat Pump, Small Scale Hydro Power, Geothermal, Transpired Solar Air Collector, Hydrogen Fuel and Wave/Tidal Power etc have been discounted at this stage based on a balanced consideration of the policy requirements, financial viability, and technical feasibility.

3.14 The specified technology/technologies in line with the recommendations of the feasibility study will be confirmed at the Reserved Matters stage and via Part L (2021) energy modelling of the proposal. The exact percentage reduction in terms of energy and/or CO_2 emissions will be in accordance with the National and the Local Authority (North Lincolnshire Council) policy requirement/target. Energy storage will also be considered as part of the renewable energy technologies for optimising system performance and balancing surplus electrical/thermal energy production.

3.15 The anticipated all-electric, combustion-free operational energy strategy for on-site regulated energy demand recommended for the Proposed Development will not only help to continuously reduce its operational emissions in line with the ongoing decarbonisation of the UK electricity grid but will also ensure that there will be no adverse effect on local air quality from local combustion.

Overheating

3.16 Increasing summer temperatures increase the risk of overheating in new development, particularly in development with high standards of fabric efficiency and glazing (**Figure 3.4**).

Figure 3.4: Overheating in Building (Elmhurst)

3.17 To minimise the risk of overheating, the Proposed Development will utilise appropriate overheating mitigation measures (including thermal mass, glazing with low g-value, etc) and if required mechanical ventilation with heat recovery (MVHR) system to supplement or assist natural ventilation.

3.18 Sufficient window opening area will also be provided in order to deliver additional means of ventilation when required to maintain the internal operative temperature. An overheating assessment in accordance with CIBSE TM52/TM59 will be carried out at the Reserved Matters stage to assess the risk of overheating and ensure this aligns with both Air Quality and Acoustic Report findings.

Materials

3.19 The use of materials is relevant to both the construction and operational phases of development. The aim of the Proposed Development is to minimise its overall environmental impact through the specification of sustainable materials that can be recycled at the end of their lifetime.

3.20 Using sustainable building materials and products promotes conservation of dwindling non-renewable resources. In addition, integrating sustainable building materials (including the use of recycled materials) into Proposed Development can help reduce the environmental impacts associated with the extraction, transport, processing, fabrication, installation, reuse, recycling, and disposal of these source materials.

3.21 All timber and timber-based products (**Figure 3.5**) used on the project shall be legally harvested and traded timber. The use of products with responsible sourcing certifications such as FSC and BES 6001 shall be actively encouraged.

3.22 All materials shall also be responsibly sourced and where practical and feasible, materials shall be sourced from local suppliers, reducing the environmental impacts and CO_2 emissions associated with transportation to the Site. Scope for increased recycling will be incorporated wherever feasible by specifying recycled materials and materials with a high recycled content

Figure 3.5: Building Material (Timber)

Water Efficiency

3.23 Potable water is an increasingly important natural resource and with majority of the UK classes being in an area of moderate or severe water stress, the conservation of water (**Figure 3.6**) is becoming a more significant sustainability metric.

3.24 Water usage on the Proposed Development construction site will be identified and where water is being wasted, behaviours and/or technologies will be introduced to reduce water wastage. The Proposed Development site will aim to reduce water consumption during occupation through a range of water efficiency measures such as:

- Water metering to enable the monitoring of water consumption; and
- Dual flush water closet (WC), low flow fittings, fixtures, and appliances (if applicable).

3.25 Water butt installation and the consideration of other rainwater harvesting measures will also be considered to further improve the overall water performance of the Proposed Development, as well as reduce surface run off. This will range from a simple rainwater collection/water butts for external use to rainwater collection for internal use such as WC flushing with details to be confirmed at the Reserved Matters stage if applicable. All water bylaws, testing and fitting regulations must be complied with to ensure that the water efficiency measure/techniques adopted is safe and does not pose a health risk.

Figure 3.6: Water Efficiency

Flooding

3.26 The Planning Application 1 Site is located across Flood Zones 1 to 3 according to the Environment Agency Flood Map for Planning. This is land at low to high probability of flooding from rivers/sea. The Planning Application 1 Site is also shown to be at reduced risk of flooding due to the presence of river/sea defences including walls and embankments on the River Trent.

3.27 The Environment Agency Tidal Trent (2023) modelling shows the Planning Application 1 Site is removed from the fluvial floodplain for modelled events up to, and including, the 1 in 100-year + 29% climate change design event.

3.28 The developable area for the upcoming planning application (east of the M181) is also removed from the tidal floodplain for modelled events up to, and including, the 1 in 200-year 2123 Upper End event.

3.29 The proposal for dealing with surface water runoff generated by the Proposed Development is to utilise a combination of SuDS features to mimic the rates of flow which would arise from the previous greenfield nature of the land. These SuDS will also provide a level of treatment to ensure water quality is appropriately protected.

Sustainable Transport

3.30 The layout of the Proposed Development is designed to encourage future site users to adopt sustainable travel options, including public transport and active travel. A dedicated 5m wide active travel corridor will traverse the Planning Application 1 Site, connecting with Scotter Road to the east, providing onward access

to Scunthorpe. The proposal also includes a signalised pedestrian and cycle crossing on Scotter Road, linking to the existing shared footway/cycleway on West Common Lane.

3.31 Discussions are currently taking place with NLC and Stagecoach East Midlands about the diversion of the no.35 bus route into the Site & making use of the proposed bus stops.

3.32 Within Scunthorpe, there is a North Lincolnshire Demand Responsive Transport (DRT) bus service, which is a flexible, on-demand public transport service and provides residents with the greater access to Scunthorpe from rural and less-connected areas.

3.33 Bookings for the service can be made via a dedicated app and provides real-time tracking and booking updates. The service also aims to provide transport for elderly residents who struggle to access conventional bus services or require assistance

3.34 To complement the active and sustainable travel infrastructure, a Travel Plan will be implemented. The plan includes various measures and initiatives, such as discounts on public transport tickets, promotion of car-sharing schemes, and hosting cycle related events.

3.35 A designated Travel Plan Coordinator will oversee its execution. Additionally, the plan includes monitoring requirements to ensure it achieves the desired mode shift toward sustainable travel.

3.36 Each residential dwelling will include EV charging (**Figure 3.7**) infrastructure in accordance with Part S 2021 of the Building Regulations, as well as secure and covered cycle storage.

Figure 3.7: Electric Vehicles (EV) Charging

Waste and Recycling

3.37 In accordance with commitments to sustainable development, the Proposed Development will prioritise waste minimisation and recycling throughout the construction and operational phases.

3.38 The aim is to establish a comprehensive waste management strategy that not only reduces the environmental impact of the proposal but also contributes to a circular economy by reusing and repurposing materials whenever possible.

Construction Waste Management

3.39 The Proposed Development will ensure consideration is given to sustainable waste management options in accordance with the principles of the waste hierarchy.

3.40 Prior to the construction phase a Construction Environmental Management Plan (CEMP) will be developed to ensure the use of measures to minimise waste during the construction phases of the Proposed Development, including the use of a scheme for recycling/disposing of waste arising from and construction works.

3.41 A Site Waste Management Plan (SWMP) could also be used to encourage reuse of materials, reduction of waste and recycling. The SWMP will include targets for resource efficiency and avoidance of materials for landfill, records shall be kept throughout construction to monitor progress against these targets.

3.42 The reduction, reuse and recycling of construction (**Figure 3.8**) 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 on site where feasible. In addition, it is intended that the Proposed Development will be registered with the Considerate Constructors Scheme (CCS) and achieve certification against the Code of Considerate Practice

Figure 3.8: Construction Waste Management

Operational Waste Management

3.43 In accordance with the principles of the waste hierarchy the Proposed Development will provide storage space for both non-recyclable and recyclable waste, encouraging recycling and promoting proper waste management practices (**Figure 3.9**).

Figure 3.9: Waste Recycling

3.44 Full consideration will be given to the Council's waste management infrastructure and services to ensure that occupants have the necessary infrastructure to participate in any kerbside recycling services. The proposed strategy is also expected to include designated bin areas as the future occupier see fit. Wheelie bins will be clearly marked to identify recyclable waste and general waste.

Pollution

3.45 The Proposed Development will not result in a significant increase in pollution (into the air, soil, noise, light or any water body) by virtue of the emissions of fumes, particles, effluent, smell, heat, light, noise, or noxious substances.

3.46 During the construction phase, all potential areas of concern will be managed including waste reduction strategies, noise and dust pollution, and construction traffic.

3.47 The impact of noise may be minimised by the inclusion of high-performance acoustic materials and acoustic ventilation, or similar inn order to reduce, manage and mitigate noise to improve health and quality of life. The developer will comply with the council's construction noise rules which states what hours of the day the site can work within.

3.48 All external lighting will be energy-efficient, with appropriate controls such as daylight sensors and time switches to minimise unnecessary usage and light pollution. To manage and mitigate potential adverse impacts, the Proposed Development will ensure that lighting is designed to reduce its effects on local amenity and nature conservation areas. The proposed energy strategy for the Proposed Development is also based on an all-electric, combustion-free operational energy strategy.

Responsible Construction

3.49 In the first instance, it is intended that the Principal Contractor shall register with the 'CCS and shall seek to achieve best practice measures in all 5 score categories and performance levels with a satisfactory score.

3.50 This shall ensure the Proposed Development construction sites shall be managed in an environmentally, socially considerate, responsible, and accountable manner (**Figure 3.10**). This is also a national scheme to raise standards in the industry and waste management is also a key consideration.

Figure 3.10: Responsible Construction

3.51 The Principal Contractor shall have an appropriate environmental management system (EMS) covering their main operations. The EMS could either third party certified to ISO 14001/EMAS or equivalent.

3.52 During the construction phase, all areas of concern will be managed, including waste reduction strategies, noise and dust pollution, construction traffic and protection of any and all ecology features identified on the site. Contractors will furthermore monitor and set targets for, and monitor, energy usage, water usage and construction waste related to the Planning Application 1 Site for the duration of the works stage to encourage transparency and accountability.

Air Quality

3.53 The Planning Application 1 Site is not located within an existing Air Quality Management Area. A qualitative construction phase dust assessment was undertaken, and measures were recommended to minimise emissions during construction activities. With the implementation of these mitigation measures the impact of construction phase dust emissions was considered to be 'not significant'.

3.54 A detailed operational phase road traffic emissions assessment was undertaken to consider the impact of development-generated road traffic on local air quality at identified existing receptor locations. Road traffic emissions were modelled and concentrations of nitrogen dioxide and particulate matter (PM_{10} and $PM_{2.5}$) were predicted at identified sensitive receptor locations.

3.55 The Proposed Development is not predicted to result in any new exceedances of the current relevant air quality objectives and the impact of the Proposed Development with regard to these objectives was predicted to be 'negligible' in accordance with guidance.

3.56 Pollutant concentrations were also predicted across the Site and the suitability of the Planning Application 1 Site for the proposed residential use was considered with regard to the current relevant air quality objectives. Pollutant concentrations were predicted to be below the current relevant air quality objectives and the Planning Application 1 Site was therefore considered suitable for the proposed use with regard to these objectives.

3.57 Based on the assessment results, the impact of the Proposed Development with regards to the current relevant air quality objectives was considered to be not significant. Measures included as part of the development which may be beneficial to air quality include a Travel Plan and Electric Vehicle Charging.

Biodiversity

3.58 The Proposed Development Site will incorporate measures to support and enhance the environment through consideration of the existing Site, including measures to mitigate the impact of the Proposed Development and enhance the Site's biodiversity net gain (**Figure 3.11**).

Figure 3.11: Biodiversity Field

Security

3.59 Appropriate consideration will be paid to best practice design guidelines for the Proposed Development site, ensuring that the site is appropriately lit and laid out in such a way as to discourage crime and vandalism.

Figure 3.12: External Lighting

3.60 A modern external lighting installation (**Figure 3.12**) shall be proposed for the development, enhancing safety for pedestrians, wayfinding for visitors, and deterring antisocial behaviour.

Digital and Green Infrastructure

3.61 The Proposed Development, encompassing both residential and commercial buildings, will be constructed with the necessary digital infrastructure to support modern connectivity needs. Utilities such as broadband capacity will be incorporated from the onset.

3.62 Green Infrastructure will be considered within the masterplan of the Site and can be used to reduce the Proposed Development's carbon footprint and mitigate increasing temperatures. This includes integrating landscape elements, biodiversity features and ecological connectivity features, to create multifunctional, interconnected spaces that offer opportunities for recreation and healthy activities such as walking and cycling.

BREEAM and EPC Rating

3.63 Compliance with the Lincolnshire Lakes AAP policy SD1 in relation to non-residential development, specifically in relation to achieving a BREEAM 'Very Good' and/or EPC (B 40) rating, cannot be fully assessed at this stage due to the outline nature of the Proposed Development. However, adherence to one of these standards will be ensured, once more detailed information on design and specifications becomes available during the reserved matters stage.

4. CONCLUSION

4.1 This Sustainability Statement has been prepared to support the Planning Application 1 at Lincolnshire Lakes (North). The Statement has been prepared in accordance with North Lincolnshire Council's Adopted Core Strategy (2011) Policies CS2, CS18, and CS20, as well as the Lincolnshire Lakes Area Action Plan Policy SD1 (Sustainable Building Design and Construction), following the guidance detailed in the Supplementary Planning Document (SPD), including the Planning for Renewable Energy Development SPD.

4.2 This Sustainability Statement sets a framework for the sustainability strategy for the Lincolnshire Lakes Site and outlines the approach to a sustainable development incorporating climate change resilience and carbon management measures. It summarises the key national regulations and local planning policies which is pertinent at the time of writing and is aimed at satisfying the sustainability related requirements.

SUSTAINABLE DESIGN AND CONSTRUCTION SUMMARY

4.3 The Proposed Development will adopt a holistic approach to sustainable design and construction, considering not just energy efficiency and renewable energy generation, but also factors such as water efficiency, flooding, pollution, waste and recycling, material usage, responsible sourcing, sustainable transport, and best practice management of the site etc.

4.4 A summary of some of the adopted approaches to these issues are summarised below:

i. Waste: The Proposed Development will ensure consideration is given to sustainable waste management practices. In accordance with the principles of the waste hierarchy, the Proposed Development will provide storage space for both non-recyclable and recyclable waste, encouraging recycling and promoting proper waste management practices.

ii. Material: The aim of the Proposed Development will be for its overall environmental impact to be minimised through the specification of sustainable materials. This will include using sustainable building materials and products and ensuring all timber and timber-based products used on the project are legally harvested and traded timber.

iii. Sustainable Transport: The Proposed Development will adhere to the principles of the sustainable transport hierarchy by prioritising sustainable modes of transport (walking/cycling/public transport. Additionally, the necessary infrastructure for EV charging points will be provided to support the adoption of EVs.

4.5 In addition to the significant environmental and economic benefits of energy efficiency and sustainable design and construction, there are a host of other areas of sustainability. These are considered in more detail within other discipline specific standalone reports.

4.6 Through these sustainable measures, it is considered that the Proposed Development at the Lincolnshire Lakes Site will provide occupants with a high quality and sustainable development, incorporating measures which protect the environment and respond to the challenge of climate change.

APPENDICES

APPENDIX 1: Site Location Plan

Rev	Description	Date	Drn	Ckd
P1	FIRST ISSUE	05.02.25	TD	CG

Status
PLANNING

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Project
LINCOLNSHIRE LAKES

Client
Hargreaves Land

Drawing Title
LINCOLNSHIRE LAKES PA#1 - ILLUSTRATIVE MASTERPLAN

Proj Ref	Origin	Zone	Level	Type	Role	Num	Status	Rev
7730	SMR	00	ZZ	DR	A	2030	S3	P1

SMR Job Ref	Sheet	Scale	Drawn
7730-00-2030	A0	1 : 1500	TD

BWB

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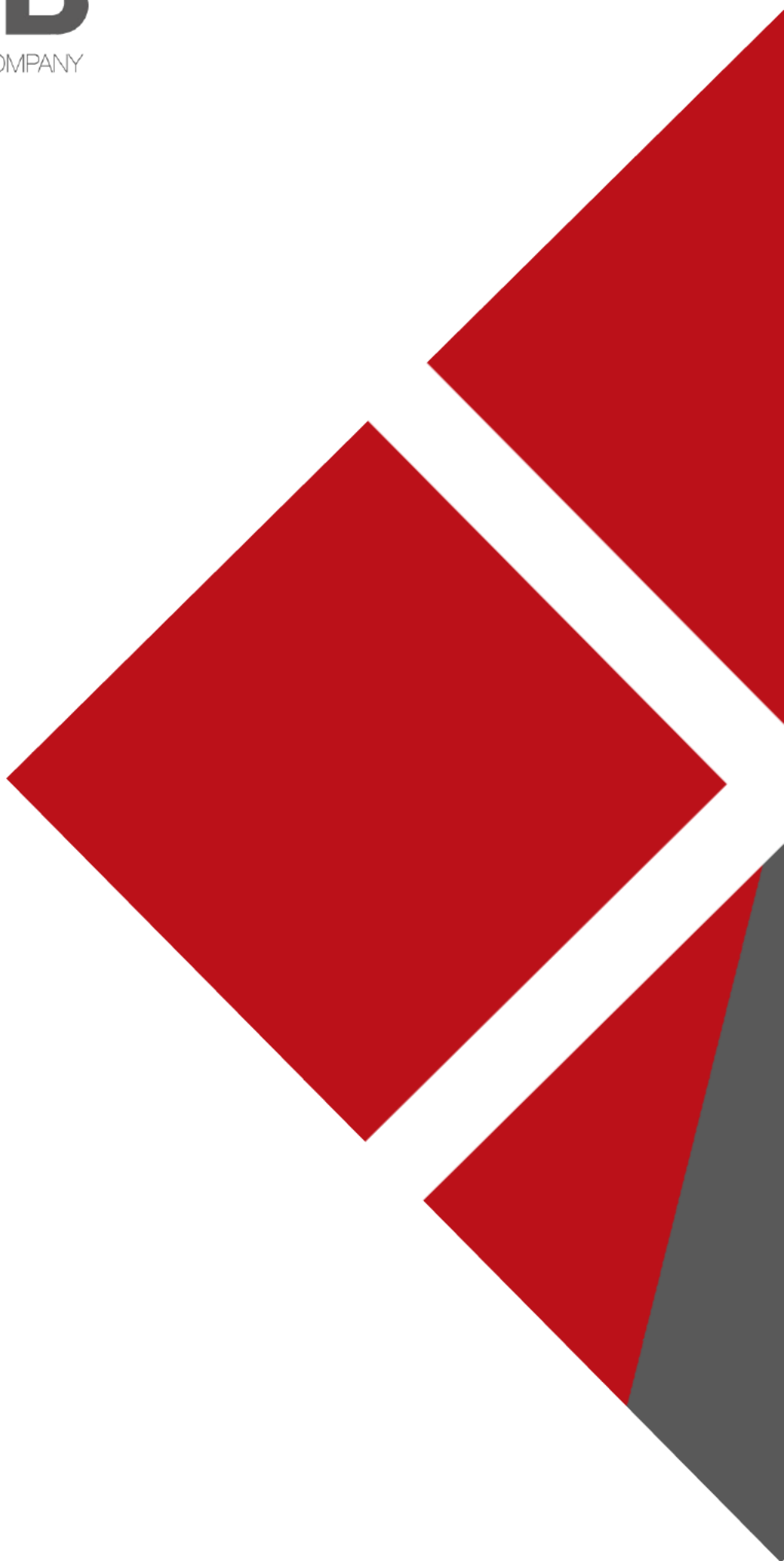

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