

Springwell Solar Farm

Consultation Report

Appendix L-1.2

EN010149/APP/5.2
November 2024
Springwell Energyfarm Ltd

APFP Regulation 5(2)(q)
Planning Act 2008
Infrastructure Planning
(Applications: Prescribed Forms
and Procedure) Regulations 2009



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Springwell Solar Farm

Preliminary Environmental Information Report

Volume 3
Supporting Reports

Phase 2 consultation
Springwell Energyfarm Ltd



Appendix 1.1

Glossary and Abbreviations



Glossary

Term	Definition
Abnormal Indivisible Load (AIL)	Any load which cannot be broken down into smaller loads for the purposes of transportation, without undue expense or risk of damage.
Above-Ground Heritage Asset	An above ground building, monument, site, place, area or Landscape identified as having a degree of significance meriting consideration in planning decisions, because of its Heritage interest. Heritage Assets include Designated Heritage Assets and Non-Designated Heritage Assets.
Above Ground Level (AGL)	Defines that the height of the infrastructure will be above the existing ground level of the Proposed Development.
Agricultural Land Classification (ALC)	A framework for determining the physical quality of the land at national, regional, and local levels. This is based on the long-term physical limitations of land for agricultural use. There are a number of factors that affect the grade, and the main ones are climate, site and soil characteristics, and the interactions between them.
Air Quality Management Area (AQMA)	Air Quality Management Areas (AQMAs) are areas that are likely to exceed the national air quality objective for a specific pollutant. They are determined by Local Authorities .
Ambient Sound	The total sound at a given place, usually a composite of sounds from many sources near and far.
Ancient Woodland	Ancient Woodland is defined as an area that has been wooded continuously since at least 1600 AD. Ancient Woodland is divided into ancient semi-natural woodland and plantations on Ancient Woodland sites. Both types are classed as ancient woods.
Applicant	The organisation (Springwell Energyfarm Ltd) preparing and submitting the DCO Application.

Term	Definition
Application	The application for a Development Consent Order submitted by the Applicant.
Aquifer	Underground layer of water-bearing permeable rock, rock fractures or unconsolidated materials (gravel, sand, or silt).
Archaeological Interest	There will be archaeological interest in a Heritage Asset if it holds, or potentially may hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.
Authorised Development	The development that will be described in the draft Development Consent Order (DCO) . This is also referred to as the Proposed Development .
Background Sound	A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval.
Balance of Solar System (BoSS)	The components and equipment that convert the direct current (DC) electricity collected by the solar PV modules into alternating current (AC) comprised of inverters, transformers, and switchgear associated cables, monitoring and control equipment and structures.
Baseline	A reference level of existing Environmental Conditions against which a project is measured and controlled.
Baseline Studies	Work done to determine and describe the Environmental Conditions against which any future changes can be measured or predicted and assessed.
Battery Safety Commitments (BSC)	This will detail the guidance to ensure that all safety concerns around the ESS element of the Proposed Development are addressed in so far as is reasonably practicable.
Battery Energy Storage System (ESS)	This will comprise batteries, inverters, transformers and switchgear, distribution cables, primary access tracks, fencing and other associated works. This equipment

Term	Definition
	allows for the storage, importation and exportation of energy to the National Grid.
Below-Ground Heritage Asset	Below-ground heritage assets include both known and hitherto unknown buried archaeological remains.
Best and Most Versatile Agricultural Land (BMV)	Defined as Grades 1, 2 and 3a in the Agricultural Land Classification by the revised National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG) . This is the land, which is determined to be most flexible, productive, and efficient in response to inputs and which can best deliver future crops for food and non-food uses such as biomass, fibres, and pharmaceuticals. Grades 3b, 4, and 5 are used to classify land that is of moderate quality to very poor quality.
Best Available Techniques (BAT)	The available techniques which are the best for preventing or minimising Emissions and Impacts on the environment
Bifacial Photovoltaic Cells	The Solar Photovoltaic (PV) Modules comprise of these cells capable of producing electrical energy when illuminated on both its surfaces, front or rear.
Biodiversity	The biological diversity of the earth's living resources. The total range of variability among systems and organisms at the following levels of organisation: bioregional, Landscape , ecosystem, Habitats , communities, Species , populations, individuals, genes, and the structural and functional relationships within and between these different levels.
Biodiversity Net Gain (BNG)	Biodiversity Net Gain is an approach to development that leaves biodiversity in a better state than before.
Book of Reference	A list of all of the land over which compulsory acquisition powers will be sought for the Proposed Development , as well as the owners and occupiers of the affected land and those with an interest in it.
Cables	The cables, which transmit electricity from different components on the Site.
Catchment	The total area which drains to a specific point on a watercourse.

Term	Definition
Circuit Breaker	These are automatically operated electrical switches that protect electrical circuits from overloading or short circuiting.
Circular Economy	Maximising the sustainable use and value of resources, eliminating waste from all stages of the resource lifecycle, whilst benefiting both the economy and the environment.
Climate Change	Large scale, long term shift in the Earth's weather patterns or average temperature.
Collector Compounds	System comprising of switchgear and transformers and associated infrastructure, which will collect electricity via the buried MV cables from the inverter and transformer stations (ITS) and transmit via further cables to the Project Substation.
Combined Effects	The interaction and combination of different residual (post mitigation) environmental effects of the Proposed Development affecting the same Receptor . For example, visual and noise effects during construction affecting the same residential dwelling.
Competent Authority	The relevant Secretary of State is the Competent Authority for the purposes of the Habitats Directive and the Habitats Regulation in relation to applications for Nationally Significant Infrastructure Projects (NSIPs) .
Construction Stage	The stage during which construction works for the Proposed Development will take place.
Consultation Documents	The documents submitted to support the formal preapplication consultation under the PA2008 . They included " <i>plans and maps showing the nature and location of the proposed development</i> " as stated in subsection (4) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009.
Construction Compound	A secure area from which construction activities are managed and resourced, including but not limited to temporary offices, workshops, parking and storage.
Construction Contractor	The person or organisation appointed by the Applicant to undertake the construction of the Proposed

Term	Definition
	Development , including the management of the construction process and health and safety on Site .
Construction Environmental Management Plan (CEMP)	Plan that will detail management methods to ensures that the Proposed Development will mitigate its potential impacts on the environment during construction.
Construction Traffic Management Plan	To be developed as part of the EIA and will propose measures to control the delivery of materials and staff onto the Site during the construction phase.
Consultation Zone	The Health & Safety Executive (HSE) sets a Consultation Distance around major hazard sites and major accident hazard pipelines after assessing the risks and likely effects of major accidents at the major hazard site/pipeline. The area enclosed within the Consultation Distance is referred to as the consultation zone. The Local Planning Authority is notified of this Consultation Distance and has a statutory duty to consult HSE on certain proposed developments within the zone the Consultation Distance forms.
Contaminated Land	Land where substances are causing or have a significant possibility to cause significant harm to people, property or protected species; or, where significant pollution is being caused or has a significant possibility of being caused to controlled waters.
Corrosion	Corrosion is the deterioration and loss of a material and its critical properties due to chemical, electrochemical and other reactions of the exposed material surface with the surrounding environment. Corrosion of metals takes place due to the gradual environmental interaction on the material surface.
Cumulative Effects	The effects of the Proposed Development in cumulation with other existing development and/or approved development.
Decommissioning	The process of shutting down, and where relevant, removing the infrastructure comprised in the Proposed Development when it is no longer required once it has reached end of life.

Term	Definition
Decommissioning Environmental Management Plan (DEMP)	Plan that will detail management methods to ensures that the Proposed Development will mitigate its potential impacts on the environment during decommissioning.
DCO Application	The Application for a Development Consent Order (DCO) that is submitted by the Applicant to the Secretary of State (SoS) for Business, Energy, and Industrial Strategy (BEIS).
Development Consent Order (DCO)	A Development Consent Order (DCO) is a Statutory Instrument (SI) made by the Secretary of State (SoS) pursuant to the Planning Act 2008 (as amended) (PA2008).
DCO Requirement	The conditions which govern how the project is to be delivered. These will form part of the Schedule of Requirements.
Dewatering	The removal of surface or ground water to dry and/or solidify a Construction Compound to enable construction activity.
Direct Effect	An effect that is directly attributable to the Proposed Development .
Direct Employment	An increase in local employment arising from further economic activity (jobs, expenditure, or income) associated with additional local income and local supplier purchases.
Disaster	In the context of the Proposed Development , a naturally occurring phenomenon such as an extreme weather event (e.g. storm, flood, temperature) or ground-related hazard events (e.g. subsidence, landslide, earthquake) with the potential to cause an event or situation that meets the definition of a Major Accident .
Earthing Device	An earthing device connects specific parts of an electric power system with the ground, typically the Earth's conductive surface, for safety and functional purposes.
Enhancement	Measures to improve the environment, such as landscape resource and the visual amenity of the

Term	Definition
	Proposed Development and its wider setting, over and above its Baseline condition.
Effect	The consequence of an action (impact) upon the environment such as the decline of a breeding bird population as a result of the removal of hedgerows and trees.
Impact	The change in the environment from a development, such as the removal of a hedgerow.
Environmental Impact Assessment (EIA)	A systematic means of assessing the significance of effects from the Proposed Development , undertaken in accordance with The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (DCO EIA Regulations).
EIA Directive	Directive 85/337/EEC (as amended). The initial Directive of 1985 and its three amendments have been codified by Directive 2011/92/EU of 13 December 2011. Directive 2011/92/EU has been amended in 2014 by Directive 2014/52/EU.
EIA Regulations	For the purpose of the DCO Application , the EIA Regulations are the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.
Environmental Statement (ES)	A statement prepared in accordance with the EIA Regulations that includes the information that is reasonably required to assess the likely effects of a development and which the applicant can, having regard in particular to current knowledge and methods of assessment, reasonably be required to compile.
European Designated Site	An area of land subject to protection through European legislation, including Special Area of Conservation (SAC) , Special Protection Area (SPA) and Ramsar.
Examining Authority (ExA)	Planning Inspector(s) responsible for conducting the examination and recommending a decision on a DCO application to the Secretary of State (SoS) .
Exceedance	A period of time where the concentrations of a pollutant is greater than the appropriate quality standard.

Term	Definition
Expansive Study Area	The Expansive Study Area extends to the availability of construction materials and the capacity of waste management facilities within the UK and the regions where the Proposed Development is located.
External Influencing Factor	A factor which occurs beyond the limits of the Proposed Development that may present a risk to the Proposed Development, e.g. if an external disaster occurred (e.g. earthquake, COMAH site major accident) it would increase the risk of serious damage to an environmental receptor associated with the Proposed Development.
Flood Map for Planning	Defines Flood Zones based on annual probability of flooding from Fluvial and tidal sources to inform development planning and flood risk assessment. Nationally consistent delineation of 'high', 'medium' and 'low' flood risk updated by the Environment Agency as deemed appropriate, typically on a quarterly basis.
Flood Risk Assessment (FRA)	An assessment of the risk of flooding. A document that reviews a development in its proposal form to assess it against the risk of flooding, whether that be from groundwater, river (fluvial), surface water (pluvial), estuary / coastal (tidal), or from sewer sources.
Flood Zones	Zones based on the annual probability of flooding from Fluvial and tidal sources, as defined in the Flood Map for Planning . Areas are categorised into one of the following: Flood Zone 1, Flood Zone 2, Flood Zone 3a or Flood Zone 3b.
Flood Zone 1	This zone comprises land assessed as having less than a 1 in 1,000 (0.1%) annual probability of flooding from rivers or the sea in any year.
Flood Zone 2	This zone comprises land assessed as having between a 1 in 100 (1%) and 1 in 1000 (0.1%) annual probability of flooding from rivers, or between a 1 in 200 (0.5%) and 1 in 1,000 (0.1%) annual probability of flooding from the sea in any year.
Flood Zone 3a	This zone comprises land assessed as having a 1 in 100 (1%) or greater annual probability of flooding from rivers or a 1 in 200 (0.5%) or greater annual probability of flooding from the sea in any year.

Term	Definition
Flood Zone 3b	This zone comprises land where water has to flow or be stored in times of flood.
Fluvial	Processes associated with rivers and streams and the deposits and landforms created by them.
Frequency	The repetition rate of a sound wave. The subjective equivalent in music is pitch. The unit of frequency is the Hertz (Hz), which is identical to cycles per second. A thousand hertz is often denoted as kHz, e.g. 2 kHz = 2000 Hz. Human hearing ranges approximately from 20 Hz to 20kHz.
Future Baseline	The likely evolution of the baseline without implementation of the Proposed Development .
Gantries	Steel apparatus that are required for the stringing of overhead bus conductors from the transmission line to form a bus bar inside a substation.
Geographical Information System (GIS)	A system that captures, stores, analyses, manages, and presents data linked to location. It links spatial information to a digital database.
Geomorphology	Study of landforms, their processes, form, and sediments at the surface of the Earth.
Geophysical Survey	Geophysical survey is a non-intrusive pre-construction archaeological evaluation technique that exploits a variety of physical or chemical characteristics of rocks and soils etc, in an attempt to locate underground features of archaeological interest. Types of geophysical survey include magnetometer survey, magnetic susceptibility survey and resistivity survey.
Geotechnical Survey	An investigation to determine the nature and engineering properties of the soil and other materials and to determine soil profiles and property assignments for the purpose of design and construction.
Glare	a continuous source of bright light typically received by static receptors or from large reflective surfaces.

Term	Definition
Glint	a momentary flash of bright light typically received by moving receptors or from moving reflectors.
Greenfield Runoff Rate	The peak rate of runoff for a specific return period due to rainfall falling on a given area of vegetated land (predevelopment).
Greenhouse Gas (GHG)	Gases that absorb and emit reflected solar radiation which result in the warming of the Earth's atmosphere. It is absorbed and emitted at specific wavelengths within the spectrum of infrared radiation emitted by the earth's surface, the atmosphere, and clouds. The six main GHGs whose emissions are human caused are: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbon, and sulphur hexafluoride. In combination, these GHG emissions are commonly expressed in terms of 'carbon dioxide equivalents' (CO ₂ e) according to their relative global warming potential. For this reason, the shorthand 'carbon' may be used to refer to GHGs.
Grid Connection	The export and import of electricity to the National Grid from the National Grid Navenby Substation which will tie into the existing 400kV overhead transmission line.
Grid Connection Corridor	The siting zone for the Grid Connection between the National Grid Navenby Substation and the Springwell Substation.
Ground Investigation (GI)	The physical investigation stage of the Geotechnical Survey of which Geophysical Surveys may be one element. Comprised of targeted investigations including both intrusive and non-intrusive techniques to prove ground conditions, determine soil / rock parameters and identify hazards associated with the ground conditions to inform the construction of the proposed development.
Ground Mounted solar PV generating station	This comprises the Solar PV Modules and Mounting Structure.
GI Contractor	The contractor tasked with undertaking the Ground Investigation , including all associated activities and consents.

Term	Definition
Groundwater	Groundwater is the store of water present beneath Earth's surface in rock and soil pore spaces and in the fractures of rock formations.
Groundwater Dependent Terrestrial Ecosystems (GWDTE)	Wetlands such as springs, flushes and fens which are fed by groundwater rather than rainfall or surface runoff. They are particularly sensitive to hydrological and ecological changes caused by development.
Groundwater Source Protection Zone (SPZ)	Also, Source Protection Zone (SPZ) , defined for 2,000 groundwater sources such as wells, boreholes and springs used for public drinking water supply, show the risk of contamination from any activities that might cause pollution in the area. The closer the activity, the greater the risk. The SPZ maps show three main zones (inner, outer, and total catchment) and a fourth zone of special interest, which the Environment Agency occasionally apply to a groundwater source.
Habitat	The environment in which populations or individual species live or grow.
Habitats Directive	Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna.
Habitats Regulations	The Conservation of Habitats and Species Regulations 2017 (as amended) which covers the terrestrial environment.
Habitats Regulations Assessment (HRA)	A Habitats Regulations Assessment (HRA) refers to the stages of assessment carried out by the competent authority in accordance with Habitats Regulations and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) to determine if a project may affect the protected features of a European site and European offshore marine site, before deciding whether to undertake, permit or authorise it.
Habitats Site	Any site which would be included within the definition at regulation 8 of the Conservation of Habitats and Species Regulations 2017 for the purpose of those regulations, including candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation, Special Protection Areas and any relevant Marine Sites.

Term	Definition
Haul Road	Haul roads are temporary roads to allow for the movement of construction materials, construction machinery and/or construction labour around the Site .
Hazard	Anything with the potential to cause harm, including ill-health and injury, damage to property or the environment; or a combination of these.
Hazardous Waste	Waste that by legal definition may cause particular harm to human health or the environment.
Heavy Goods Vehicle (HGV)	Vehicles with 3 axles (articulated) or 4 or more axles (rigid and articulated).
Heritage	The historic environment and especially valued assets and qualities such as historic buildings and cultural traditions.
Heritage Asset	A building, monument, site, place, area, or Landscape identified as having a degree of significance meriting consideration in planning decisions, because of its Heritage interest. Heritage Assets include Designated Heritage Assets and Non-Designated Heritage Assets.
Historic Environment Record (HER)	The record of archaeological and built heritage features in a county or district, usually held and maintained by the relevant County Council.
Indirect Effect	An effect that results indirectly from the Proposed Development , as a consequence of a ' Direct Effect ', often occurring away from the Site , or as a result of a sequence of interrelationships or a complex pathway. They may be separated by distance or in time from the Source of the Environmental Effect .
Indirect Employment	Employment growth arising locally through manufacturing services and suppliers to the construction process (indirect or supply linkage multipliers).
Induced Employment	Employment associated with local expenditure as a result of those who derive incomes from the direct and supply linkage impacts of the Proposed Development .

Term	Definition
Interface Cables	Buried high-voltage cables linking the on-site electrical infrastructure to the National Grid via the National Grid Substation.
Internal Drainage Board (IDB)	Each internal drainage board is a public body that manage water levels in an area, known as an internal drainage district, where there is a special need for drainage. They undertake works to reduce flood risk to people and property and manage water levels for agricultural and environmental needs within their district.
Internal Influencing Factor	A factor which occurs within the limits of the Proposed Development that may present a risk to the Proposed Development .
Inverter	Inverters convert the direct current (DC) electricity collected by the PV modules into alternating current (AC), which allows the electricity generated to be exported to the National Grid. BESS also use inverters to convert between DC and AC. The batteries function in DC and electricity must be converted to/from AC to pass into or from the grid.
Inverter and Transformer Station (ITS)	Enclosed facility that hosts the inverters and transformer within one combined container.
Jointing Pit	Underground structures constructed at regular intervals along the cable route to join sections of cable and facilitate installation of the cables into the buried ducts.
L_{Aeq,T}	Equivalent Continuous Level. When a noise varies over time, the L _{Aeq,T} is the equivalent continuous sound which would contain the same sound energy as the time varying sound.
Land Cover	The surface cover of the land usually expressed in terms of vegetation cover or lack of it. Related to, but not the same as, Land Use .
Land Drainage	The disposal of rainwater, achieved by a combination of watercourses of various types.
Land Use	The purpose for which land is used, based on broad categories of functional land cover, such as urban and

Term	Definition
	infrastructure use and the different types of agricultural and forestry.
Landfill	A facility designed to receive disposed waste. Usually involves the infill of pre-existing voids.
Landform	The shape and form of the land surface which has resulted from combinations of geology, geomorphology, slope, elevation, and physical processes.
Landscape	An area, as perceived by people, the character of which is a result of the action and interaction of natural and/or human factors.
Landscape and Ecological Management Plan	A document to set out the principles for how the land will be managed throughout the operational phase, following the completion of the construction phase.
Landscape and Visual Impact Assessment (LVIA)	A tool used to identify and assess the likely significant effect of change resulting from development both on the Landscape as an environmental resource in its own right and on people's views and Visual Amenity .
Landscape Character	A distinct, recognisable and consistent pattern of Elements in the Landscape that makes one Landscape different from another.
L_{A,max}	L _{A,max} is the maximum A - weighted sound pressure level recorded over the period stated. L _{A,max} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall L _{Aeq,T} noise level but will still affect the noise environment.
Lead Local Flood Authority (LLFA)	The local authority responsible for taking the lead on local flood risk management as defined within the Flood and Water Management Act 2010.
Limit of Land to Be Acquired Or Used	The limits of land to be acquired or used, as shown on the Land Plans .
Listed Building	A building which is considered to be of special architectural or historic interest and listed in accordance with the Town and Country Planning (Listed Buildings and Conservation Areas) Act 1990.

Term	Definition
Local Development Plan (LDP)	The set of documents and plans that sets out the Local Planning Authority's policies and proposals for the development and use of land in their area.
Local Wildlife Site (LWS)	A site of local importance that has been identified and selected for its wildlife value.
Local Planning Authority (LPA)	The function of a local authority that is empowered by law to exercise statutory town planning functions for a particular area of the UK.
Lowest Observed Adverse Effect Level (LOAEL)	The level above which adverse effects on health and quality of life can be detected as a result of noise or vibration.
Main River	A watercourse shown as such on the Flood Map for Planning and can include any structure or appliance for controlling or regulating the flow of water in, into or out of a main river. Main Rivers are usually larger streams and rivers, but also include smaller watercourses of strategic drainage importance. Main Rivers are under the jurisdiction of the Environment Agency who have powers to carry out flood defence works to Main Rivers.
Major Accident	In the context of the Proposed Development , an event that threatens immediate or delayed serious damage to human health, welfare and/or the environment and requires the use of resources beyond those of the Applicant or its contractors to respond to the event. Serious damage includes the loss of life or permanent injury and/or permanent or long-lasting damage to an environmental receptor that cannot be restored through minor clean-up and restoration efforts. The significance of this effect will take into account the extent, severity and duration of harm and the sensitivity of the receptor.
Magnitude	A combination of the scale, extent and duration of an effect.
Mitigation Measures	Actions proposed to avoid, prevent, reduce and where possible, offset significant adverse effects arising from the whole or specific elements of the Proposed Development on the environment.

Term	Definition
National Grid Navenby Substation	New 400kV National Grid Substation which will be owned and operated by National Grid Electricity Transmission. The substation does not form part of the Proposed Development.
National Planning Policy Framework (NPPF)	The document that sets out Government's planning policies for England and how these are expected to be applied. The NPPF was last revised in July 2021.
National Policy Statement (NPS)	Policy designated under the Planning Act 2008 (as amended) (PA2008) concerning the planning and consenting of Nationally Significant Infrastructure Projects (NSIPs) in the UK. Where applicable, they form the primary policy framework for the consenting of NSIPs.
National Trail	Designated long-distance paths.
Nationally Significant Infrastructure Project (NSIP)	Projects which fall under one of the categories in Part 3 of the Planning Act 2008 (as amended) (PA2008).
Nationally Designated Ecological Site	Areas of land subject to project through UK legislation, including Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR).
Noise Sensitive Receptor	Any identified Receptor likely to be affected by noise. These are generally human Receptors, and may include residential dwellings, work places, schools, hospitals, community facilities, places of worship, recreational spaces and ecological Receptors.
No Observed Effect Level (NOEL)	The level below which no effect from noise or vibration can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.
Non-Statutory Consultation	Consultation with stakeholders on the Proposed Development which occurs in addition to the Statutory Consultation .
Non-Statutory Consultees	Consultees who – whilst not designated in law – are likely to have an interest in the Proposed Development and which the Applicant has therefore decided to consult with.

Term	Definition
Operational Environmental Management Plan	This document will set out the principles and key measures that will be employed during the operation of the Proposed Development to control and minimise the impacts on the environment, including best practice guidelines on waste and water management.
Operational Stage	The stage after which the Proposed Development is handed over by the relevant construction contractors and approved for operation. It will remain in its Operational Stage until operations cease.
Ordinary Watercourse	Any river, stream, ditch, drain, cut, dyke, sluice, sewer (other than a public sewer) and passage through which water flows that does not form part of a Main River . The Lead Local Flood Authority (LLFA) or Internal Drainage Board (IDB) where relevant, has powers for Ordinary Watercourses that are similar to those held by the Environment Agency for Main Rivers .
Parameters	A limit or boundary which defines the maximum or minimum height/width/length/depth parameters of infrastructure, which will be shown on parameter plans and secured through the DCO .
Phase 1 Habitat Survey	An ecological survey technique that provides a standardised system to record vegetation and wildlife Habitat . It enables a basic assessment of Habitat type and its potential importance for nature conservation.
Planning Inspectorate (PINS)	The Government agency responsible for administering applications for development consent under the Planning Act 2008 (as amended) (PA2008) on behalf of the Secretary of State (SoS).
Planning Practice Guidance (PPG)	The Planning Practice Guidance (PPG) provides context and guidance to the National Planning Policy Framework (NPPF). The PPG has been updated to reflect changes to the revised NPPF.
Potential Area for Solar Development	The proposed maximum area of solar infrastructure, including Solar PV modules and Balance of Solar System .
Pollution	The introduction of harmful materials into an environment.

Term	Definition
Preliminary Ecological Appraisal (PEA)	Preliminary ecological surveys have a range of purposes; one key use is to gather data on existing conditions, often with the intention of conducting a preliminary assessment of likely impacts of proposed developments or establishing the baseline for future monitoring. As a precursor to a proposed project, some evaluation is usually made within these appraisals of the ecological features present, as well as scoping for notable Species or Habitats , identification of potential constraints to the Proposed Development and recommendations for Mitigation Measures .
Preliminary Environmental Information (PEI)	Information which has been compiled by the Applicant and is reasonably required for the consultation bodies to develop an informed view of the Likely Significant Effect of the Proposed Development .
Preliminary Environmental Information Report (PEIR)	The Preliminary Environmental Information Report (PEIR) is the report prepared by the Applicant, containing Preliminary Environmental Information (PEI) .
Primary Mitigation	Modifications to the location or design of the development made during the pre-application phase that are an inherent part of the project, and do not require additional action to be taken.
Principal Aquifer	Layers of rock or drift deposits that have high intergranular and / or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, Principal Aquifers are aquifers previously designated as major aquifers.
Proposed Development	The development for which a Development Consent Order (DCO) is sought. In this instance, this includes the following: <ul style="list-style-type: none"> • Solar PV development comprising; <ul style="list-style-type: none"> ○ Ground mounted Solar PV generating station. The generating station will include Solar PV modules and mounting structures; ○ Balance of Solar System (BoSS) which comprises; inverters, transformers, switchgear;

Term	Definition
	<ul style="list-style-type: none"> • Collector Compounds comprising; switchgear, transformers and an operation, maintenance and welfare unit; • A project substation ('Springwell Substation') compound, which will include; substation, switching and control equipment, office/control/welfare buildings, storage areas, and provisions for vehicular parking and material laydown; • Battery Energy Storage System (BESS) compound(s) including batteries and associated inverters, transformers, switchgear and ancillary equipment and their containers, enclosures, monitoring systems, air conditioning, electrical cables, fire safety infrastructure and welfare facilities; • 400kV Grid Connection Corridor to connect the Springwell Substation and future National Grid Navenby Substation; • Underground cabling to connect the Solar PV modules to the BoSS, Collector Compounds and to the Springwell Substation. • Ancillary infrastructure works including; boundary treatments, security equipment, earthing devices, fencing, lighting, earthworks, surface water management, and any other works identified as necessary to enable the development; • Landscaping, habitat management, biodiversity enhancement and amenity improvements; and • Works to facilitate vehicular access to the Site.
<p>Preliminary Risk Assessment</p>	<p>Report that presents a summary of readily-available information on the geotechnical and/or geo-environmental characteristics of the site and provides a qualitative assessment of geo-environmental and/or geotechnical risks in relation to the proposed development.</p>
<p>Q95</p>	<p>The flow in cubic metres per second which is equalled or exceeded for 95% of the time. The Q95 flow is a significant low flow parameter particularly relevant in the assessment of river water quality consent conditions.</p>
<p>Ramsar Site</p>	<p>Wetlands of international importance designated under the Ramsar Convention 1971.</p>

Term	Definition
Rating Level	Specific sound level of a source plus any adjustment for the characteristic features of the sound.
Receptor	A component of the natural, created or built environment such as a human being, water, air, a building, or a plant that has the potential to be affected by the Proposed Development .
Recovery	Processing waste to prevent it being disposed of to landfill. Recovery processes include incineration with energy recovery, advanced thermal treatment, anaerobic digestion, and composting.
Recycle	Any recovery operation where waste is reprocessed into products, materials or substances whether for its original or other purposes. Recycling includes the reprocessing of organic material but excludes energy recovery and the reprocessing of waste into materials to be used as fuels or for backfilling operations.
Remediation	The removal of pollution or contaminants from the environment (usually soil, groundwater, sediment, or surface water).
Residual Effects	Effects arising from the Proposed Development that cannot be mitigated following implementation of Mitigation Measures .
Residual Sound	Ambient sound remaining at the assessment location when the specific sound source is suppressed to such a degree that it does not contribute to the ambient sound.
Resilience (climate change)	The vulnerability of the Proposed Development to climate change.
Reuse	Any operation by which products or components that are not waste are used again for the same purpose for which they were conceived; reuse presumes that significant reprocessing is not required.
Riparian	Relating to or living or located on the bank of a natural watercourse (such as a river) or sometimes of a lake or a tidewater

Term	Definition
Risk	The likelihood of an impact occurring, combined with the effect or consequence(s) of the impact on a receptor if it does occur.
Risk Event	An identified, unplanned event, which is considered relevant to the Proposed Development and has the potential to be a Major Accident and/or Disaster subject to assessment of its potential to result in a significant adverse effect on an environmental Receptor .
Rochdale Envelope	The Rochdale Envelope is an acknowledged way of dealing with an application where details of a project have not been fully resolved by the time the application is submitted. The term is used to describe those elements of a scheme that have not yet been finalised, but yet can be accommodated within certain limits and parameters allowing the likely significant effects of a project to be presented in the Environmental Statement as a reasonable worst case. It also provides the opportunity to assess aspects of a development where the detailed design is to be developed post grant of a DCO and approved by the Local Planning Authority under a DCO Requirement .
Scoping	An exercise undertaken pursuant to the EIA Regulations , to determine the environmental topics and environmental elements to be addressed within the Environmental Statement (ES) .
Scoping Boundary	The boundary considered to be the limits of the Proposed Development , as studied as part of the Scoping Report .
Scoping Opinion	The Scoping Opinion is the Secretary of State's written opinion as to the scope, and level of detail, of the information to be provided in the Environmental Statement.
Scoping Report	The Scoping Report is a report prepared by an applicant to provide the information required under the EIA Regulations to request a Scoping Opinion from the Secretary of State .
Secondary Aquifer	These include a wide range of rock layers or drift deposits with an equally wide range of water permeability and

Term	Definition
	<p>storage. Secondary Aquifers are subdivided into two types:</p> <ul style="list-style-type: none"> • Secondary A - permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers. • Secondary B - predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons, and weathering. These are generally the water bearing parts of the former non-aquifers. <p>The term ‘Secondary Undifferentiated’ is also used in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.</p>
Secondary Mitigation	Actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent, or through inclusion in the Environmental Statement .
Secretary of State (SoS)	In the case of the Proposed Development , the Secretary of State for Business, Energy, and Industrial Strategy (BEIS).
Setting	The surroundings within which a heritage asset is experienced and any element, which contributes to the understanding of its significance.
Significance	A measure of the importance of the effect defined by significance criteria specific to the environmental topic.
Significant effects	<p>It is a requirement of the EIA Regulations to determine the likely significant effects of development on the environment and where possible, should be mitigated.</p> <p>The significance of an effect gives an indication as to the degree of importance (based on the magnitude of the effect and sensitivity of the receptor) that should be</p>

Term	Definition
	attached to the impact described. Whether an effect should be considered significant is not absolute and requires the application of professional judgement.
Significant Observed Adverse Effect Level (SOAEL)	The level above which significant adverse effects on health and quality of life occur as a result of noise or vibration. (see also: Significance).
Site	The boundary for the Proposed Development .
Site boundary	The maximum extent of land potentially required temporarily and/or permanently for the construction, operation and decommissioning of the Proposed Development .
Site of Importance for Nature Conservation (SINC)	Sites of Importance for Nature Conservation are usually selected within a local authority area and support both locally and nationally threatened Habitats and Species that are priorities under the county or UK Biodiversity Action Plan (BAP).
Site of Special Scientific Interest (SSSI)	A site statutorily notified under the Wildlife and Countryside Act 1981 (as amended) as being of special nature conservation or geological interest. Site of Special Scientific Interest (SSSIs) include Habitats , geological features, and landforms.
Site Waste Management Plan (SWMP)	A system or document for implementing, monitoring, and reviewing waste prevention measures.
Solar Farm	Proposed generating station including solar PV modules mounted on racks and connected via associated infrastructure to the National Grid.
Solar Photovoltaic (PV) Array	Linked collection of Solar PV Modules
Solar Photovoltaic (PV) Development	This comprises the Ground Mounted Solar PV generating station, Balance of Solar System (BoSS) and distribution cables, access tracks and ancillary works.
Solar Photovoltaic (PV) Generating Station	Comprised of Solar PV Modules and Solar PV Mounting Structures

Term	Definition
Solar Photovoltaic (PV) Modules	Panels comprised of photovoltaic cells beneath a layer of toughened glass that convert sunlight into electrical current
Soils Management Plan	Detail measures for soil management and follow the principles of best practice to maintain the physical properties of the soil
Source Protection Zone (SPZ)	Areas which show the level of risk to the source of groundwater from contamination. SPZ 1 (Inner zone) is based on a 50 day travel time of pollutant to source with a 50 metres default minimum radius. SPZ2 (outer zone) is based on a 400 day travel time of pollutant to source with 250 or 500 metres minimum radius around the source depending on the amount of water abstracted. SPZ 3 (total catchment) area around a source within which all the groundwater ends up at the abstraction point.
Special Area of Conservation (SAC)	Areas of protected habitats and species as defined in the Habitats Directive .
Special Crossing	The crossing of a pipeline of features such as watercourse, rail or road which require particular consideration with regards to the construction methods.
Special Protection Area (SPA)	Sites classified in accordance with Article 4 of the EC Birds Directive (79/409/EEC) which came into force in April 1979. They are classified for rare and vulnerable birds (as listed on Annex 1 of the Directive), and for regularly occurring migratory Species .
Species	A group of interbreeding organisms that seldom or never interbreed with individuals in other such groups, under natural conditions; most species are made up of subspecies or populations.
Specific Sound	Sound pressure level produced by the source being assessed at the assessment location.
Springwell Substation	A compound containing electrical equipment to enable connection to the National Grid Navenby Substation.

Term	Definition
Study Area	The area around the Scoping Boundary within which impacts could occur and therefore within which specialist assessment is undertaken.
Statutory Consultation	The Planning Act 2008 (as amended) (PA 2008) requires an applicant to undertake public consultation in advance of submitting a Development Consent Order (DCO) application to the Secretary of State (SoS).
Statutory Consultees	Planning law prescribes circumstances where the Secretary of State is required to consult specified bodies prior to a decision being made on an application. Includes bodies such as: Environment Agency, Highways England, Historic England, Natural England, Parish Councils, among others.
Statutory Undertaker	The various companies and agencies who are given general licence to carry out certain development and highways works. Generally these are utilities and telecoms companies or nationalised companies.
Statement of Community Consultation	The Planning Act 2008 (as amended) (PA2008) requires an applicant to undertake public consultation in advance of submitting a Development Consent Order (DCO) application to the Secretary of State (SoS). A Statement of Community Consultation (SoCC) must be prepared, setting out how the Applicant proposes to consult people living in the vicinity of the Proposed Development .
Strings	Group of Solar PV modules which are fixed to a mounting structure.
Survey Area	The area within which an environmental survey is undertaken.
Sustainable Drainage System (SUDS)	A collection of water management practices that aim to align modern drainage systems with natural water processes.
Switchgear	Combination of electrical disconnect switches, fuses or circuit breakers to control, protect and isolate electrical equipment.
Table	Solar PV modules once they have been fixed to a mounting structure

Term	Definition
Temporary Works	Those parts of the works that allow or enable construction of the Proposed Development and which do not remain in place at the completion of the works.
Temporary Construction Laydown Area	Temporary secure storage area that is associated with the construction works of the Proposed Development.
Tertiary Mitigation	Actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental Effects .
Transect	Survey technique for surveying birds, wintering birds and breeding birds, with surveyors walking pre-defined routes.
Transformer	A static piece of apparatus with two or more windings which, by electromagnetic induction, transforms a system of alternating voltage and current into another system of voltage and current usually of different values and at the same frequency for the purpose of transmitting electrical power.
Tributaries	Smaller watercourses which drain to a large watercourse.
Visual Amenity	Overall enjoyment of a particular area, surroundings, or views in terms of people's activities - living, recreating, travelling through, visiting, or working.
Visual Effect	An effect on specific views and on the general visual amenity experienced by people.
Visual Receptor	Heritage assets, individuals and / or defined groups of people, that have the potential to be affected by the Proposed Development .
Vulnerability	In the context of the 2014 EU Directive, the term refers to the 'exposure and resilience' of the Proposed Development to the risk of a major accident and/or disaster. Vulnerability is influenced by sensitivity, adaptive capacity, and magnitude of impact.

Term	Definition
Waste	Any substance or object which the holder discards or intends or is required to discard.
Waste Hierarchy	<p>A guiding theme for waste policy at all levels. Establishes an order of preference for the management of waste, to maximise the prevention of waste, whilst minimising disposal. The Waste (Management) Hierarchy is established in the Waste Framework Directive (Directive 2008/98/EC), and prescribes the following:</p> <ul style="list-style-type: none"> • Prevention (Most preferred option) • Preparing for reuse • Recycling • Recovery • Disposal (Least preferred option)
Water Abstractions	The process of taking water from any source, either temporarily or permanently, for flood control or to obtain water for, for example, irrigation.
Water Framework Directive (WFD)	European directive which commits member states to achieve good qualitative status of all water bodies.
Water Quality	The chemical, physical, and biological characteristics of water based on the standards of its usage
Wetlands	Areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres.
Wildlife and Countryside Act 1981 (as amended)	The principal piece of UK legislation relating to the protection of wildlife.
Zone of Influence (ZOI)	The areas / resources that may be affected by the changes caused by activities associated with the Proposed Development .
Zone of Theoretical Visibility (ZTV)	A map, digitally produced, showing areas of land within which, the Proposed Development is theoretically visible.

Abbreviations

Abbreviations	Definition
AADT	Annual Average Daily Traffic
AC	Alternating Current
ADMS	Advances Dispersion Modelling Software
AEGLs	Acute Exposure Guideline Levels
AGI	Above Ground Installation
AGL	Above Ground Level
AGLV	Area of Great Landscape Value
AIL	Abnormal Indivisible Load
ALC	Agricultural Land Classification
AOD	Above Ordnance Datum
AONB	Area of Outstanding Natural Beauty
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQO	Air Quality Objective
AQSS	Air Quality Standards
ASR	Air Quality Annual Status Report
ASSI	Area of Special Scientific Interest
ATC	Automatic Traffic Count
BAP	Biodiversity Action Plan
BAT	Best Available Techniques
BDS	Background Desk Study
BES	Building Research Establishment Environmental Sustainability Standard
BGS	British Geological Society
BMV	Best and Most Versatile agricultural land
BOAT	Byways Open to All Traffic
BoSS	Balance of Solar System
BPM	Best Practicable Means

Abbreviations	Definition
BSC	Battery Safety Commitments
BSI	British Standards Institution
BGS	British Geological Survey
BTO	British Trust for Ornithology
CA	Conservation Area
CCC	Committee on Climate Change
CCS	Carbon Capture and Storage
CD	Consultation Distance
CDE	Construction, Demolition and Excavation
CDM	Construction, Design, Management
CEA	Cumulative Effects Assessment
CEMP	Construction Environmental Management Plan
CIEEM	Chartered Institute of Ecology and Environmental Management
CifA	Chartered Institute for Archaeologists
CIRIA	Construction Industry Research and Information Association
CL:AIRE	Contaminated Land: Applications in Real Environments
COMAH	Control of Major Accidents and Hazards
COPA	Control of Pollution Act 1974
CoSHH	Control of Substances Hazardous to Health
CRTN	Calculation of Road Traffic Noise
CSM	Conceptual Site Model
CUCAP	Cambridge University Collection of Aerial Photography
CWTP	Construction Workers Travel Plan
DAS	Discretionary Advice Service
dB	Decibel. Scale for expressing sound pressure level. It is defined as 20 times the logarithm of the ratio between the root mean square pressure of the sound field and a reference pressure i.e. 2×10^{-5} Pascal.
dB(A)	A-weighted decibel. This provides a measure of the overall level of sound across the audible spectrum with a frequency weighting to compensate for the varying sensitivity of the human ear to sound at different frequencies. Example sound levels include: 140 dB(A) Threshold of pain

Abbreviations	Definition
	120 dB(A) Threshold of feeling 100 dB(A) Loud nightclub 80 dB(A) Traffic at busy roadside 60 dB(A) Normal speech level at 1m 40 dB(A) Quiet office 20 dB(A) Broadcasting studio 0 dB(A) Median hearing threshold (1000 Hz)
DBA	Desk Based Assessment
DCLG	Department of Communities and Local Government
DCO	Development Consent Order
DECC	Department for Energy and Climate Change
Defra	Department for Environment, Food and Rural Affairs
DEMP	Decommissioning Environmental Management Plan
DEPZ	Detailed Emergency Planning Zone
DfT	Department for Transport
DHRA	Development in a High Risk Area (Coal Mining)
DLL	District Level Licensing
DMP	Dust Management Plan
DMRB	Design Manual for Roads and Bridges
DoS	Degree of Saturation
DTM	Digital Terrain Model
EA	Environment Agency
EC	European Commission
EclA	Ecological Impact Assessment
eDNA	Environmental DNA
Efw	Energy from Waste
EIA	Environmental Impact Assessment
END	Environmental Noise Directive
EPC	Engineering, Procurement and Construction
EPD	Environmental Product Declarations
EPUK	Environmental Protection UK
ERP	Emergency Response Plan

Abbreviations	Definition
ES	Environmental Statement
ESG	Environmental, social and governance
ESS	Energy Storage System
EU	European Union
ExA	Examining Authority
FCA	Flood Consequence Assessment
FRA	Flood Risk Assessment
FTE	Full time equivalent
GCN	Great Crested Newt
GCR	Geological Conservation Review
GIS	Geographic Information Systems
GHG	Greenhouse Gas
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GPS	Global Positioning System
GVA	Gross Value Added
GWDTE	Ground Water Dependent Terrestrial Ecosystem
GWP	Global Warming Potential
H&S	Health and Safety
H&SP	Health and Safety Plan
Ha	Hectare
HASWA	Health and Safety at Work Act
HAZID	Hazard Identification Studies
HDD	Horizontal Directional Drill / Drilling
HDV	Heavy Duty Vehicle
HEDBA	Heritage Environmental Desk Based Assessment
HER	Historic Environment Record
HGV	Heavy Goods Vehicle
HIA	Health Impact Assessment
HM	His Majesty's
HMG	His Majesty's Government
HMWB	Heavily Modified Waterbody

Abbreviations	Definition
HPI	Habitats of Principle Importance
HRA	Habitat Regulations Assessment
HSE	Health and Safety Executive
HSI	Habitat Suitability Index
HVAC	Heating, Ventilation and Cooling
IA	Noise Important Areas
IAQM	Institute of Air Quality Management
ICCI	In-Combination Climate Change Impact
ICE	Inventory of Carbon and Energy
ICSS	Integrated Control and Safety Systems
IEMA	Institute of Environmental Management and Assessment
IHBC	The Institute Of Historic Building Conservation
IMD	Index of Multiple Deprivation
INNS	Invasive Non-Native Species
IPC	Infrastructure Planning Commission
JSNA	Joint Strategic Needs Assessment
ktCO2	Total greenhouse gas emissions
kV	Kilovolt
LA_{90,T}	A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval.
LA_{eq,T}	Equivalent Continuous Sound Level, the total sound at a given place, usually a composite of sounds from many sources near and far.
LAQM	Local Air Quality Management
LCA	Landscape Character Area
LCC	Lincolnshire County Council
LCRM	Land Contamination: Risk Management
LCT	Landscape Character Type
LDP	Local Development Plan
LDV	Light Duty Vehicle
LEMP	Landscape and Ecological Management Plan
LGV	Light Goods Vehicle

Abbreviations	Definition
LI	Landscape Institute
LIDAR	Light Detection and Ranging
LLFA	Lead Local Flood Authority
Lmax	Highest Measured Sound Pressure Level
Lmin	Lowest Measured Sound Pressure Level
LNR	Local Nature Reserve
LOAEL	Lowest Observed Adverse Effect Level
LPA	Local Planning Authority
LRN	Local Road Network
LSOA	Lower Layer Super Output Area
LTP	Local Transport Plan
LVIA	Landscape and Visual Impact Assessment
LWS	Local Wildlife Site
MA&D	Major Accidents and Disasters
MAFF	Ministry of Agriculture, Fisheries and Food
MAGIC	Multi Agency Geographic Information for the Countryside
MAH	Major Accident Hazard
MCZ	Marine Conservation Zone
MMP	Materials Management Plan
MRA	Mineral Resource Assessment
MSA	Mineral Safeguarding Area
MS	Method Statement
MW	Megawatts
MWp	Mega Watt Peak
N/A	Not Applicable
NAPPA	Noise Action Plan Priority Areas
NCA	National Character Area
NCN	National Cycle Network
NE	Natural England
NERC	Natural Environment Research Council
NGESO	National Grid Electricity System Operator

Abbreviations	Definition
NHLE	National Heritage List for England
NKDC	North Kesteven District Council
NMP	National Mapping Programme
NMUs	Non-Motorised Users
NNR	National Nature Reserve
NO₂	Nitrogen dioxide
NOEL	No Observed Effect Level
NO_x	Nitrogen oxides
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
NPS	National Policy Statement
NPSE	Noise Policy Statement for England
NSIP	Nationally Significant Infrastructure Project
NTS	Non-Technical Summary
NVQ	National Vocational Qualification
oCTMP	Outline Construction Traffic Management Plan
OCZ	Outer Consultation Zone
OHL	Over-Head Lines
ONS	Office for National Statistics
oOEMP	Outline Operational Environmental Management Plan
OS	Ordnance Survey
oSMP	Outline Soils Management Plan
PAS	Portable Antiquities Scheme
PEA	Preliminary Ecological Appraisal
PEI	Preliminary Environmental Information
PEIR	Preliminary Environmental Information Report
PHE	Public Health England
PIA	Personal injury accident data
PINS	Planning Inspectorate
PM	Particulate Matter
PM₁₀	Particulate Matter with an aerodynamic diameter of less than 10

Abbreviations	Definition
	micrometres
PM2.5	Particulate Matter with an aerodynamic diameter of less than 2.5 micrometres
PPE	Personal Protective Equipment
PPG	Pollution Prevention Guidance
PRA	Preliminary Risk Assessment
PRoW	Public Right of Way
PV	Photovoltaic
PWS	Private Water Supplies
RBMP	River Basin Management Plan
RCN	Regional Cycle Network
RCP	Representative Concentration Pathway
REAC	Register of Environmental Actions and Commitments
RICS	Royal Institute of Chartered Surveyors
RIGS	Regionally Important Geological Site
RSPB	Royal Society for the Protection of Birds
SAB	SuDS Approving Body
SAC	Special Area of Conservation
SAM	Scheduled Ancient Monument
SFRA	Strategic Flood Risk Assessment
SINC	Site of Importance for Nature Conservation
SOAEL	Significant Observed Adverse Effect Level
SoCC	Statement of Community Consultation
SoS	Secretary of State
SPA	Special Protection Area
SPD	Supplementary Planning Document
SPZ	Source Protection Zone
SRN	Strategic Road Network
SSSI	Site of Special Scientific Interest
SWMP	Site Waste Management Plan
SuDS	Sustainable Drainage System

Abbreviations	Definition
TAN	Technical Advice Note
TCO2e	Tonnes of Carbon Dioxide Equivalent
TEMPro	Trip End Model Presentation Program
TGN	Technical Guidance Note
TMP	Traffic Management Plan
TPO	Tree Preservation Order
UK	United Kingdom
UKBAP	UK Biodiversity Action Plan
UKCP	UK Climate Projections
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UXO	Unexploded Ordnance
W	Watts
WEEE	Waste from Electrical and Electronic Equipment
WEL	Workplace Exposure Limit
WFD	Water Framework Directive
WFDa	Water Framework Directive Assessment
WFDUKTAG	Water Framework Directive – United Kingdom Technical Advisory Group
WHO	World Health Organisation
WSI	Written Scheme of Investigation
WTN	Waste Transfer Note
ZOI	Zone of Influence
ZTV	Zone of Theoretical Visibility

Appendix 4.1

EIA Scoping Report



Springwell Solar Farm

Scoping Report

21st March 2023
Springwell Energyfarm Ltd

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1. Introduction

1.1. Background

- 1.1.1. Springwell Energy Farm Limited (hereafter, the 'Applicant') has commissioned RSK Environment Limited (hereafter, 'RSK') to prepare an Environmental Impact Assessment (EIA) Scoping Report to accompany a request for a Scoping Opinion from the Planning Inspectorate (prepared on behalf of the Secretary of State) for the proposed Springwell Solar Farm (hereafter, the 'Proposed Development').
- 1.1.2. The Proposed Development comprises the installation of solar photovoltaic (PV) generating modules, battery storage facilities, and grid connection infrastructure, across a proposed site in North Kesteven, Lincolnshire (hereafter, the 'Site').
- 1.1.3. The Proposed Development is classified as a Nationally Significant Infrastructure Project (NSIP) and will require a Development Consent Order (DCO) under the Planning Act 2008 (hereafter, 'PA2008') [Ref. 1-1]. The Proposed Development also falls under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (hereafter, 'EIA Regulations') [Ref. 1-2], which require that, before consent is granted for certain types of development, an EIA must be undertaken.

1.2. Definition of an EIA

- 1.2.1. The term EIA describes a procedure that must be followed for certain types of project before it can be given 'consent'. The procedure is a means of drawing together, in a systematic way, an assessment of a project's likely significant environmental effects. This helps to ensure that the importance of the predicted effects and the scope for avoiding, preventing, reducing or, if possible, offsetting them are properly understood by the public and the authority granting consent (the 'determining authority') before it makes its decision.

1.3. Requirement for an EIA

- 1.3.1. The EIA Regulations set out the types of development which must be subject to an EIA (referred to as Schedule 1 development) and other developments, which may be subject to an EIA depending on certain parameters and / or their potential to give rise to significant environmental effects (referred to as Schedule 2 development).
- 1.3.2. The Proposed Development does not fall under any of the types of development set out in Schedule 1 of the EIA Regulations. However, the Proposed Development is of a type and scale described in Schedule 2 (a) of the EIA Regulations, and potentially (b) of that Schedule, as follows:

“Energy industry

- a) industrial installations for the production of electricity, steam and hot water (projects not included in Schedule 1 to these Regulations);*
- b) industrial installations for carrying gas, steam and hot water; transmission of electrical energy by overhead cables (projects not included in Schedule 1 to these Regulations);”*

1.4. Requirement for a DCO

- 1.4.1. The Proposed Development is defined as an NSIP under Sections 14(1)(a) and 15(2) of the PA2008 as an onshore generating station in England, exceeding 50MW.
- 1.4.2. Regulation 8(1) of the EIA Regulations requires the Applicant to do one of the following before carrying out statutory consultation under Section 42 of the PA2008:
 - a) “ask the Secretary of State to adopt a screening opinion in respect of the development to which the application relates; or*
 - b) notify the Secretary of State in writing that the person proposes to provide an environmental statement in respect of that development.”*
- 1.4.3. As the Applicant has concluded that the Proposed Development does require an EIA, this Scoping Report represents under Regulation 8 (1)(b) a notification that the Applicant will prepare and submit an Environmental Statement (ES) in support of the DCO Application without prior request for a Screening Opinion.
- 1.4.4. Following the completion of the surveys, assessments, and consultation processes outlined in this EIA Scoping Report, an application for a DCO will be made to the Secretary of State for determination in accordance with the PA2008. The DCO Application will be accompanied by an ES, in accordance with Regulation 5(2)(a) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (‘APFP Regulations’) [Ref. 1-3]. The ES will set out the methods and findings of a comprehensive EIA undertaken in line with the EIA Regulations.

1.5. Purpose of the report

- 1.5.1. Regulation 10(1) of the EIA Regulations sets out that *“a person who is minded to make an application for an order granting development consent may ask the Secretary of State to state in writing their opinion as to the scope, and level of detail, of the information to be provided in the environmental statement”*.

- 1.5.2. In accordance with Regulation 10(3) of the EIA Regulations and the Planning Inspectorate’s Advice Note Seven [Ref. 1-4], this EIA Scoping Report has been prepared with the purpose of ensuring that the subsequent EIA is focused on the key impacts likely to give rise to significant environmental effects, and to obtain agreement on the EIA approach and scope.
- 1.5.3. As well as identifying matters to be considered in the EIA, this EIA Scoping Report also identifies those matters that are not considered necessary to assess further and are proposed to be scoped out. This approach is in line with the general aim to undertake proportionate EIA, as advocated by industry best practice.
- 1.5.4. Whilst this EIA Scoping Report seeks to establish the overall framework for the EIA in relation to the environmental factors and associated effects, the exact scope of the EIA will be influenced by the Scoping Opinion received, the on-going design evolution of the Proposed Development, and through on-going baseline data collection (e.g. field surveys etc.). In this regard, a list of ‘scoping questions’ is presented within **Chapter 6** of this EIA Scoping Report, the aim of which is to assist the determining authority and its consultees in forming the Scoping Opinion.
- 1.5.5. **Table 1-1** sets out what information the EIA Regulations (Regulation 10(3)) state that a request for a scoping opinion must include and where this information can be found in this EIA Scoping Report.
- 1.5.6. **Table 1-2** sets out what information the Planning Inspectorate’s Advice Note Seven recommends that a request for a scoping opinion should include and where this information can be found in this EIA Scoping Report.

Table Error! No text of specified style in document.-1 Information required by the EIA Regulations to accompany a request for a scoping opinion

Information Required	Location within this report
A plan sufficient to identify the land	Appendix A
A description of the proposed development, including its location and technical capacity	Chapter 2
An explanation of the likely significant effects of the development on the environment	Chapters 6
Such other information or representations as the person making the request may wish to provide or make	Chapters 2 to 7

Table 1-2 Information required by the Planning Inspectorate’s Advice Note Seven to accompany a request for a scoping opinion

Suggested Information Requirements	Location within this report
The Proposed Development	
An explanation of the approach to addressing uncertainty where it remains in relation to elements of the Proposed Development e.g. design parameters.	Chapters 2 and 3
Referenced plans presented at an appropriate scale to clearly convey the information and all known features associated with the Proposed Development.	Appendix C
EIA Approach and Topic Areas	
An outline of the reasonable alternatives considered and the reasons for selecting the preferred option.	Chapters 3 and 4
A summary table depicting each of the aspects and matters that are requested to be scoped out allowing for a quick identification of issues.	Chapter 5
A detailed description of the aspects and matters proposed to be scoped out of further assessment with justification provided.	Chapter 5
Results of desktop and baseline studies where available and where relevant to the decision to scope in or out aspects or matters.	Chapters 5 and 6
Details of method to be used to assess impacts and to determine significance of effects e.g. criteria for determining sensitivity and magnitude.	Chapter 4, Chapter 6 and Appendix D
Any avoidance or mitigation measures proposed, how they may be secured and the anticipated residual effects.	Chapter 4 and 6
Information Sources and Guidance	
Reference to any guidance and best practice to be relied upon.	Chapters 6 and 7
Evidence of agreements reached with consultation bodies.	Chapter 6
The proposed structure and format of the ES which will comprise four main parts:	Appendix E

Volume I: Main Text; Volume II: Supporting Technical Appendices; Volume III: Supporting Figures and Plans; and Non-Technical Summary (NTS)	
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1.5.7. In accordance with the EIA Regulations, the ES will be based on the Scoping Opinion received.

1.5.8. The outputs of the EIA will comprise:

- A Preliminary Environmental Information Report (PEIR), produced in connection with the formal statutory consultation on the Proposed Development. The PEIR will present the current understanding of the potential likely significant effects at the time of the consultation and its purpose will be to provide information that enables interested parties, including members of the public, local authorities and statutory bodies, to understand the likely significant environmental effects of the Proposed Development so that they can provide meaningful feedback; and
- The PEIR will be followed by the ES, which will be produced in support of the DCO Application. The ES will report on a detailed assessment of the likely significant effects resulting from the Proposed Development and the proposed mitigation measures.

1.6. References

- **Ref. 1-1:** The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. Available online: <https://www.legislation.gov.uk/ukxi/2017/572/contents/made>.
- **Ref. 1-2:** Planning Act 2008. Available online: <https://www.legislation.gov.uk/ukpga/2008/29/contents>
- **Ref. 1-3:** Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009. Available online: <https://www.legislation.gov.uk/ukxi/2009/2264/contents/made>
- **Ref. 1-4:** Planning Inspectorate (June 2020) Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environment Information and Environmental Statements (Version 7). Available online: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-seven-environmental-impact-assessment-process-preliminary-environmental-information-and-environmental-statements/>.

2. Description of the Proposed Development

2.1. Introduction

- 2.1.1. This chapter provides a description of the Proposed Development for the purposes of identifying and reporting the potential environmental impact and likely significant effects in this EIA Scoping Report. In addition, this chapter draws attention to the need for flexibility in the design process and provides a description of the Site.
- 2.1.2. The description of the Proposed Development represents the current understanding of the design parameters. However, as part of an ongoing design process, the detail provided in this chapter will be further refined for the PEIR. Following statutory consultation, further refinement to the description of the Proposed Development will be included in the ES which will confirm details for which development consent will be sought. This will include the final design parameters and any limits of deviation.
- 2.1.3. The installation, construction and decommissioning methods to be utilised, will, eventually, be determined by the appointed contractor(s). However, all works will be required to be undertaken within the parameters assessed for the Proposed Development. With this in mind, the EIA will represent a 'worst case', ensuring a robust assessment of the likely significant effects.

2.2. Approach to assessing uncertainty

- 2.2.1. In order to define the Proposed Development and determine where detail is to be included at DCO Application stage and where it may be deferred until after consent is granted, the Applicant will identify the level of flexibility required; e.g. in relation to the number of solar PV modules or construction methods.
- 2.2.2. Many promoters of NSIPs seek to maximise flexibility in their consents, given the long lead in times to consent and subsequent engagement of EPC (engineering, procurement, and construction) contractors. It is typical for a DCO to contain the ability to finalise the design of a scheme post-consent within set "limits of deviation" and / or parameters.
- 2.2.3. In order to maintain flexibility in the design, it is the Applicant's intention to use the 'Rochdale Envelope' approach within parameter ranges. The Planning Inspectorate's Advice Note Nine 'Rochdale Envelope' [Ref 2-1] provides specific guidance to applicants on the degree of flexibility that could be considered appropriate under the PA2008 regime.

- 2.2.4. The Rochdale Envelope is an acknowledged way of dealing with an application comprising EIA development where details of a project have not been fully resolved by the time the application is submitted. The term is used to describe those elements of a scheme that have not yet been finalised, but can be accommodated within certain limits and parameters, allowing the likely significant effects of a project to be presented in the ES as a 'worst case'. It also provides the opportunity to assess aspects of a development where the detailed design is to be developed by the Applicant and approved by the determining authority under a DCO Requirement, subsequent to the DCO being made.
- 2.2.5. Furthermore, such flexibility may be useful where a slight change in the design or capacity of the Proposed Development is anticipated, but not yet certain. Therefore it may be possible that a particular element of the design will be subject to on-going technological advancements. It will be important that a lack of flexibility in the DCO Application does not unduly hinder the Applicant's ability to consider and adopt such future technological advancements. This is of particular importance to maintaining flexibility due to the rapid pace of change in solar PV and battery storage technologies.
- 2.2.6. It is therefore necessary for the EIA to assess an 'envelope' within which the works will take place. To remain in accordance with the EIA Regulations, it will be essential that the parameters are defined to ensure that 'likely significant effects' are identified, rather than unrealistically amplified effects, which could be deemed unlikely. These parameters will be considered in detail by the technical authors in the PEIR and ES to ensure the realistic 'worst case' effects of the Proposed Development are assessed for each potential receptor.
- 2.2.7. Further detail on draft design approach that is being used to inform the EIA is presented in **Section 2.4**. Design parameters will be further developed for statutory consultation and presented in the PEIR. Final parameters and limits of deviation will be presented in the ES, draft order and works plans. A series of design principles will be developed and will be secured in a document entitled Design Commitments.

2.3. Description of the Site

Site Location and Boundary

- 2.3.1. The Site is located within the administrative boundary of North Kesteven District Council, in the county of Lincolnshire. The Site measures approximately 1,702 hectares (ha) and extends across three distinct parcels (referred to as Springwell West, Springwell

Central and Springwell East). The Site boundary and three land parcels are presented in **Appendix A**.

- 2.3.2. The expected area of land potentially required for the construction, operation maintenance and decommissioning of the Proposed Development, which includes land required for permanent and temporary purposes, is shown at **Appendix A**. It is important to note that this will be subject to change as the design and EIA progress; however, **Appendix A** shows the envisaged current maximum extent of temporary and permanent land take for the Proposed Development.
- 2.3.3. Together with the description of the Proposed Development set out in **Section 2.4, Appendix A** represents the current maximum land expected to be required for the full range of possible development options which could form part of the Proposed Development. This allows for consideration of the potential environmental effects of the full range of options under consideration, to ensure that the likely significant effects of each of the component options has been scoped into the assessment.
- 2.3.4. At this stage of the process, there is no known existing infrastructure within the Site that will need to be removed as part of the Proposed Development.

Site and Surrounding Area

Site location

- 2.3.5. The Site lies in close proximity to the settlements of Blankney, Scopwick, Kirkby Green, and Ashby de la Launde. The settlements of Metheringham, Ruskington, and Digby are also located within 3 km of the Site.
- 2.3.6. The Royal Air Force (RAF) Digby Station is located adjacent to the Site. The station is home to the tri-service Joint Service Signals Organisation, part of the Joint Forces Intelligence Group of Joint Forces Command. Flying at RAF Digby ceased in 1953.
- 2.3.7. The land within the Site boundary predominantly consists of agricultural fields, interspersed with hedgerows, small woodland blocks and farm access tracks. The hedgerows within the Site range between lengths of dense tall vegetation (shrub and tree species) and thin lines of vegetation with sporadic shrubs and trees present.
- 2.3.8. There is variation in the features immediately surrounding each of the distinct land parcels within the Site, as presented below:
 - **Springwell West:** Springwell West forms the southernmost part of the Site and is intersected by the A15. This area is characterised by relatively open agricultural landscape and

lies adjacent to the Bloxham Wood Nature Reserve in the south east corner of the Site.

- **Springwell Central:** Springwell Central is located in the centre of the Site, providing connectivity between Springwell West and Springwell East. The parcel lies adjacent to RAF Digby and B1191 to the west, Ashby de la Launde to the south and relatively open agricultural fields to the east.
- **Springwell East:** Springwell East is bounded by the settlements of Scopwick to the south, Kirkby Green to the south east, Blankney in the north and the B1188 and a railway line to the west. The parcel is interspersed with small woodland plantations and hedgerows.

Water Resources

- 2.3.9. There are two Main Rivers that are located in close proximity to the Site, Springwell Brook / Digby Beck and New Cut Drain, alongside several small field drains and drainage ditches. Springwell Brook is located within and to the east of Springwell West and is shown as a main river on the Environment Agency Mapping extending from Bloxham in an easterly direction until it reaches Dorrington Dike. New Cut Drain, located south of Springwell East, is located to the west of Kirkby Green. The majority of the Site is predominantly within Flood Zone 1, though some fields, particularly at the north eastern extent of Springwell East are located in Flood Zone 2 and 3.
- 2.3.10. The Site largely falls outside of any Source Protection Zone (SPZ), except for a small area to the west of Scopwick. This area falls within a localised inner zone (SPZ 1) which provides protection around a groundwater abstraction source located to the west of Scopwick, adjacent to Springwell Central. There are no outer catchments associated with this SPZ 1. There is also a total catchment zone (SPZ 3) located across the southern extent of Springwell West.

Access and Recreation

- 2.3.11. The Site is intersected by the A15 Sleaford Road, which heads in a north to south direction within Springwell West. The adjoining B1191 lies west of Springwell Central and south of Springwell East providing direct access to RAF Digby and Scopwick and the surrounding villages.
- 2.3.12. There is an extensive network of public rights of way (PRoW) within the Site which link with the surrounding settlements. In Springwell East, there are four promoted walks which form part of the 'Stepping

Out' series developed by North Kesteven District Council which are detailed below:

- Spires and Steeples Trail;
- Scopwick Loop;
- Kirkby Green Loop; and
- Blankney Circuit.

2.3.13. The following PRoW identified below and displayed in **Appendix C** lie within the Site or intersect the Site boundary.

- Public Footpath (AshL/11/1) - Bloxham;
- Public Footpath (Rows/5/1) - RAF Digby;
- Public Footpath (AshL/3/1) - South of Ashby de la Launde;
- Public Footpath (AshL/4/1) - adjacent to the A15, south of Gorse Hill Lane;
- Restricted Byway (Scop/12/1) - West of Scopwick;
- Public Footpath (Scop/3/1) - North of Scopwick;
- Public Bridleway (Scop/1135/1, Scop/1135/2, Scop/1135/3, Scop/1136/1) - North of Scopwick (part of the Scopwick Loop);
- Restricted Byway (Scop/11/1, Scop/11/3, Scop/11/4) - North of Scopwick (part of the Scopwick Loop);
- Restricted Byway (Scop/10/2) - North of Scopwick (Trundle Lane);
- Public Footpath (Blan/737/1) - Scopwick / Blankney (part of the Spires and Steeples Trail);
- Public Footpath (Scop/7/1, Scop/7/2) - North of Kirkby Green (part of the Kirby Green Loop);
- Public Footpath (Blan/4a/1, Blan/4/2, Scop/7/3) - South of Blankney (part of the Blankney Circuit);
- Public Footpath (Scop/1134/1) - South of Blankney;
- Public Footpath (Blan/4/3) - East of Blankney;
- Public Footpath (Blan/5/1) - East of Blankney;
- Public Footpath (Scop/738/1, Scop/739/1) - North of Kirkby Green;
- Public Footpath (Scop/8/1) - North of Kirkby Green; and
- Public Footpath (Scop/8/2) - North of Kirby Green.

- 2.3.14. The Site is currently accessible from several existing field accesses capable of accommodating large agricultural machinery.
- 2.3.15. The Site is not covered by any statutory landscape designations. The Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB) is the closest statutory landscape designation to the Site, located approximately 23 km north-east of the Site.

Ecology and Biodiversity

- 2.3.16. The Site is not covered by any statutory ecological designations.
- 2.3.17. The Wash and North Norfolk Coast Special Area of Conservation (SAC), designated for its sublittoral sandbanks, coastal lagoons, mudflats and sandflats, large shallow inlets, reefs, saltmarsh, Atlantic salt meadows, Mediterranean and hermos-Atlantic scrubs, otters and harbour seal is the closest Natura 2000 Site¹, located approximately 35 km east of the Site.
- 2.3.18. There are four Local Wildlife Sites (LWS) located within the Site boundary; Blankney Brick Pit located in the north-east corner of Springwell East; and three A15 road verge LWSs located within Springwell West (Temple Road Verges, Welbourn to Brauncewell, A15 Slate House Farm to Dunsby Pit Plantation and A15 Green Man Road to Cuckoo Lane). Bloxham Wood LWS is located adjacent to the Site boundary at the southern extent of Springwell West.
- 2.3.19. There is no ancient woodland within the Site boundary. The Long Wood ancient woodland is located adjacent to Longwood Quarry, approximately 500m to the west of the Site (Springwell East). There are several small woodland plantations within the Site boundary including Keeper's Covert, Toll Bar Plantation, Brickyard Plantation, Ash Holt and Catton's Holt.

Geology

- 2.3.20. The geological sequence is varied across the Site, with superficial Tidal Flat deposits localised to the north of the Site within Springwell East and thin bands of Head Deposits and Sleaford Sand and Gravel present directly over the bedrock in Springwell Central and Springwell West.
- 2.3.21. The Site bedrock comprises Oxford Clay, Kellaways Formation (clays and mudstones), Cornbrash Formation (limestone), Blisworth Clay (clays and mudstones), Blisworth Limestone, Rutland Formation (mudstone with limestone beds) and the Lincolnshire Limestone Formation.

¹ Network of nature protection areas that are made up of Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and RAMSAR sites.

- 2.3.22. The Metheringham Heath Quarry Geological Site of Specific Scientific Interest (SSSI) designated for it being the lower part of the Lincolnshire Limestone, is the closest statutory geological designation, located 2 km north of the Site.
- 2.3.23. There is one local geological site (LGS), Longwood Quarry, Blankney (LGS491) located to the west of Springwell East, south of Blankney.

Cultural Heritage

- 2.3.24. There is one Grade II listed building, Mile Post (20 m south of Ashby Farm Lodge), located within the Site boundary. There are a number of designated heritage assets within 5 km of the Site boundary, comprising
- 11 Grade I listed buildings;
 - 11 Grade II* listed buildings;
 - 207 Grade II listed buildings; and
 - 17 scheduled monuments including Brauncewell Medieval Village (located approximately 500m to the south of Springwell West).
- 2.3.25. The Scopwick Conservation Area and Blankney Conservation Area are located directly adjacent to the Site boundary. There are three other Conservation Areas located within 3 km of the Site boundary; Bloxham, Metheringham, and Martin.
- 2.3.26. There are no Registered Parks and Gardens within 5 km of the site boundary.
- 2.3.27. There are no Registered Battlefields or World Heritage Sites within 3 km of the Site boundary.

Existing Infrastructure

- 2.3.28. Overhead power lines (400kV transmission line) carried by pylon structures run adjacent to the westernmost parcel of land (Springwell West) and cross the southern fields in Springwell West, which will form an option for the location of the proposed grid connection.
- 2.3.29. A 132kV distribution line also crosses the Site at the easternmost parcel of land (Springwell East). Several overhead lines supported on wooden poles also intersect Springwell East, crossing the western side of Scopwick running north to south and criss-crossing a separate line running west to east, north of Kirby Green.
- 2.3.30. Utilities searches are ongoing and will help inform the design of the Proposed Development.

2.4. Operational design of the Proposed Development

Introduction

2.4.1. This section describes the main features of the Proposed Development which will consist of the following:

- Ground mounted solar PV generating station with a gross electrical output capacity to the National Grid network in the region of 800MW. The generating station will include solar PV modules and mounting structures;
- Balance of Solar System (BoSS) which comprises; inverters, transformers, switchgear;
- Collector Compounds comprising; switchgear, transformers and an operation, maintenance and welfare unit;
- A Project Substation compound, which will include; substation, switching and control equipment, office / control / welfare buildings, storage areas, and provisions for vehicular parking and material laydown;
- Battery Energy Storage System (BESS) compound(s) and associated inverters, transformers, switchgear and ancillary equipment and their containers, enclosures, monitoring systems, air conditioning, electrical cables and fire safety infrastructure;
- A National Grid Substation compound, which will include; switchgear, High Voltage (HV) transformers, circuit breakers, disconnectors, earthing devices, control building and plant, lighting, perimeter fencing, and infrastructure for access and egress (roads). The compound will also include steel gantries to facilitate the electrical connection of the National Grid Substation to the existing 400kV transmission line;
- Up to two new 400kV transmission towers to facilitate the electrical connection of the National Grid Substation to the existing 400kV transmission line;
- Ancillary infrastructure works including; underground cables, boundary treatments, security equipment, lighting, landscaping, access tracks, earthworks, surface water management, and any other works identified as necessary to enable the development;
- Landscaping, habitat management, biodiversity enhancement and amenity improvements; and
- Works to facilitate vehicular access to the Site.

Potential Design Parameters

- 2.4.2. Each of the components outlined above and their associated key features are set out in the following sections.

Ground Mounted Solar PV Generating Station

Potential Areas for Solar PV Generating Station

- 2.4.3. Based on the site selection work completed by the Project Team (further detail provided in **Chapter 3**), the potential areas within the Site considered suitable for the solar PV generating station are presented in **Appendix B**.

Solar PV modules

- 2.4.4. Solar PV modules convert sunlight into electrical current (as direct current (DC)). Solar PV modules are made up of individual solar cells. They are typically 2m long and up to 1m wide and consist of a series of photovoltaic cells beneath a layer of toughened glass. The frame is typically built from anodised aluminium or steel.
- 2.4.5. The solar PV modules are fixed to a mounting structure in groups known as 'strings'. Various factors will help inform the number and arrangement of the solar PV modules in each string, and it is likely some flexibility will be required to accommodate for future technology developments.

Mounting Structure

- 2.4.6. Each string of solar PV modules will be mounted on a metal rack, known as a mounting structure. The mounting structure are usually supported by galvanized steel poles, mounted into the ground. There is also an option for some structure legs to be supported by concrete footings to reduce piling depths, if required due to the ground conditions or to reduce impacts on areas of archaeological sensitivity.
- 2.4.7. The mounting structure carrying the solar PV modules will be designed to face southwards on a single-axis tracker or on a tracking platform. The solar PV modules would be angled at a slope of 10 to 30 degrees from horizontal to optimise daylight absorption.
- 2.4.8. Once attached to the mounting structure, the minimum height of the lowest part of the solar PV modules will be approximately 60cm above ground level (AGL) and the maximum height of the solar PV modules will be approximately 4m AGL. The height for each solar PV module can be influenced by several design factors including; flood risk (and associated historic flood levels), local topography,

visual receptors, land use practices, and the solar PV module type and configuration.

- 2.4.9. Archaeological investigation surveys (in the form of geophysical surveys and trial trenching surveys) and ground investigation surveys are being undertaken as part of the Proposed Development. Both sets of surveys will help inform the mounting structure design and construction method.

Balance of Solar System

- 2.4.10. The Balance of Solar System (BoSS) refers to the components and equipment that convert the direct current (DC) electricity collected by the solar PV modules into alternating current (AC). Primarily, this includes; inverters, transformers, and switchgear.
- 2.4.11. As the design of the Proposed Development evolves, the configuration of the BoSS will be defined. This section also sets out the different configuration options available for the Proposed Development, including the use of Collector Compounds.

Inverters

- 2.4.12. Inverters are required to convert the DC electricity collected by the PV modules into AC, which allows the electricity generated to be exported to the National Grid. Inverters are sized to cope with the characteristics of the DC electricity that is output from the solar PV modules.
- 2.4.13. It is currently expected that either string or central inverters would be used. String inverters are small enough to be mounted underneath the modules, as shown indicatively on **Figure 2-1**.

Figure 2-1: Typical String Inverter



- 2.4.14. Alternatively, centralised inverters may be used, which would be sited at regular intervals amongst the solar PV modules. Centralised inverters would be housed indoors (i.e. enclosed in a container).

Transformers

- 2.4.15. Transformers are required to step up the voltage of the electricity generated across the Site before it reaches the Project Substation or Collector Compound. Transformers could be located outdoors or housed indoors, alongside the inverters and switchgear within a container.

Switchgears

- 2.4.16. Switchgears are the combination of electrical disconnect switches, fuses or circuit breakers to control, protect and isolate electrical equipment. Switchgear is used both to de-energise equipment to allow work to be done and to clear faults downstream. Switchgears are typically housed indoors within a container or can be located independently outdoors, adjacent to the outdoor transformer.

Configuration options for BoSS

- 2.4.17. There are two options under consideration; independent outdoor equipment and inverter and transformer station (ITS). Both options would be located within fields identified as suitable for the ground mounted solar PV generating station.
- 2.4.18. As the design develops, the configuration of the BoSS will be determined post-consent based upon environmental and technical factors. A reasonable worst case scenario will be assessed and presented in the PEIR and ES.

Independent outdoor equipment

- 2.4.19. As presented in **Figure 2-2**, with the independent outdoor equipment option, the inverter, transformer and switchgear are placed outdoors and are independent of each other. The approximate footprint for this option is up to 20m x 4m in plan, and up to approximately 3.5m in height.

Figure 2-2: Example of independent outdoor equipment



Inverter and Transformer Station (ITS)

- 2.4.20. As shown indicatively in **Figure 2-3**, with the ITS option, equipment (inverter, transformer and switchgear) is enclosed within a container. Typically, within a field containing approximately 20MW of solar PV modules, there would be a requirement for approximately 4-8 ITS.
- 2.4.21. The ITS are typically the size of a shipping container, approximately 6m x 3m in plan, and up to approximately 3m in height. The ITS would be painted in a colour in keeping with the prevailing surrounding environment, often with a green painted finish.

Figure 2-3: Contained indoor equipment



Collector compounds

- 2.4.22. Consideration has been given to the potential use of Collector Compounds to reduce the underground cabling across the Site. It is anticipated that Collector Compounds would be located in each of the three land parcels. The Collector Compounds would receive the medium voltage (33kV) underground cables from the independent outdoor equipment and/or ITSs within the surrounding solar fields, depending on the final configuration. Underground cabling would then connect the Collector Compounds to the Project Substation.
- 2.4.23. If required, the Collector Compounds would include switchgear and transformers to step up the voltage to 66kV. The switchgear and transformers would be housed within a contained indoor unit or within an independent outdoor fenced area. The Collector Compounds would also include an operation, maintenance and welfare building, expected to be single storey.
- 2.4.24. The Collector Compounds are anticipated to be up to approximately 50m x 30m in plan, with the maximum height of the equipment within each compound approximately 6m in height.

Project Substation Compound

Potential areas for Project Substation

- 2.4.25. Based on the early site selection work completed by the Project Team (further detail provided in **Chapter 3**), the potential areas considered suitable for the Project Substation are presented in **Appendix B**.

Description

- 2.4.26. The Proposed Development has secured a grid connection agreement to allow export and import of electricity to and from the National Grid by 2030. The Project Substation will facilitate the export and import of electricity from the Proposed Development to the National Grid.
- 2.4.27. The Project Substation will consist of electrical infrastructure such as the transformers, switchgear and metering equipment. The Project Substation compound will include a control building, which would be approximately 20 x 20m in plan, and up to approximately 6m in height. This will include office space, material storage and welfare facilities, as well as operational monitoring and maintenance equipment. The control building would be a painted block building or of prefabricated construction with external colours and finishes sensitive to the context to be confirmed prior to construction.

2.4.28. It is considered likely that the Consolidated BESS (see below) will be located within the same compound as the Project Substation.

Battery Energy Storage System (BESS)

Description

2.4.29. The BESS is designed to provide peak generation and grid balancing services to the electricity grid. It will do this primarily by allowing excess electricity generated from the solar PV generating station to be stored in batteries and dispatched when required. As a secondary function, it may also import surplus energy from the electricity grid when energy available to the grid exceeds demand.

2.4.30. The BESS units each comprise of an enclosure for BESS electro-chemical components and associated equipment including transformers, inverters, switchgear, power conversion systems, monitoring and control system, Heating, Ventilation and Air Conditioning (HVAC) systems, electrical cables and fire infrastructure including water storage tanks and a shut off valve. An example of a BESS facility is shown in **Figure 2-4**.

Figure 2-4: Example BESS facility



2.4.31. The BESS typically comprises a number of shipping container units, although they could be either individual enclosures or housed within a large building, that are usually single stacked.

- 2.4.32. The BESS may comprise DC/DC converters to control the charge of the batteries from the PV energy output and/or AC/DC inverters to control their charge using energy drawn from the National Grid.
- 2.4.33. Each BESS will require a heating, ventilation and cooling (HVAC) system to ensure the efficiency of the batteries, which are integrated into the containers. This may involve a HVAC system that is external to the containerised unit located either on the top of the unit or attached to the side of the unit. If this uses air to heat and cool, it will have a fan built into it that is powered by auxiliary power.
- 2.4.35. A switchgear / control room operates, isolates and controls the exported power from the BESS. This would comprise a building of similar dimensions to one of the containers and would be located adjacent to the BESS within the same compound.

Configuration options for BESS

- 2.4.34. There are two options under consideration, Consolidated BESS and Distributed BESS.
- 2.4.35. Based on the early site selection work completed by the Project Team (further detail provided in **Chapter 3**), the potential areas considered suitable for the Consolidated BESS and Distributed BESS options are presented in **Appendix B**.
- 2.4.36. As the design develops, the configuration of the BESS will be determined based upon environmental and technical factors. A reasonable worst case scenario will be assessed and presented in the PEIR and ES.

Consolidated BESS

- 2.4.37. The Consolidated BESS option would involve locating all of the BESS infrastructure within one compound on the Site. If this option is taken forward, it is anticipated that the Consolidated BESS infrastructure will be located within the same compound as the Project Substation. The combined footprint of the Project Substation and BESS would have an approximate footprint of 500m x 250m in plan, with a height of up to 6m.

Distributed BESS

- 2.4.38. The Distributed BESS option would involve locating several separate BESS compounds on the Site. If this option is taken forward, it is anticipated that each Distributed BESS compound would be located next to the Collector Compound. The approximate footprint for each Distributed BESS compound would be 212m x 100m in plan, with a height of up to 6m.

National Grid Substation

Potential areas for National Grid Substation

- 2.4.39. The electricity generated by the Proposed Development is expected to be imported and exported via interface cables to the National Grid. The Applicant is actively engaging with National Grid and has assumed for the purpose of this EIA Scoping Report that this will be via a new substation (the 'National Grid Substation'), within the Site itself, which will tie into the existing 400kV overhead transmission line which crosses Springwell West.
- 2.4.40. Based on the early site selection work completed by the Project Team (further detail provided in **Chapter 3**), the potential areas considered suitable for the National Grid Substation, Project Substation and BESS within the Site boundary are presented in **Appendix B**.

Description

- 2.4.41. The National Grid Substation compound is expected to include the following; switchgear, transformers, circuit breakers, disconnectors, earthing devices, control building and plant, lighting, perimeter fencing, and infrastructure for access and egress (roads). The control building is assumed to include drainage.
- 2.4.42. The National Grid Substation compound is expected to include infrastructure to facilitate the electrical connection to the existing 400kV transmission line, including; steel gantries and two new 400kV transmission towers.
- 2.4.43. The National Grid Substation compound would have an approximate footprint of 500m x 500m in plan, and up to 15m in height. The majority of the infrastructure would be up to 6m in height, however, the steel gantries are assumed to be up to 15m in height.
- 2.4.44. The National Grid Substation is likely to sit on concrete foundations, which may require piling to be undertaken, depending on the ground conditions.
- 2.4.45. The National Grid Substation is likely to require a combination of concrete prefabricated trenches and buried plastic ducts for routing of cables from the control building to individual equipment within the compound. The cables will then be routed to individual equipment within the compound in buried plastic ducts.
- 2.4.46. In the event that the National Grid Substation is not located directly adjacent to the existing 400kV overhead transmission line, a maximum of two sealing end compounds, dependent on the configuration of the connection, would be located next to the

existing 400kV overhead transmission line which would be connected by buried 400kV cables. The sealing end compound would include gantries to receive the downleads, sealing ends to connect to the underground cables, internal access road and minor equipment such as earth switches. The sealing end compound would have an approximate footprint of 35m x 45m in plan.

New 400kV Transmission Towers

- 2.4.47. Up to two 400kV transmission towers will be constructed as part of the Proposed Development to facilitate the connection of the National Grid Substation to the existing National Grid network.
- 2.4.48. The towers would be located within 50m of the existing 400kV overhead transmission line which crosses Springwell West. The towers would be up to 60m in height and the tower base would be approximately 16m x 16m in plan.

Works to facilitate vehicular access to the Site

- 2.4.49. The primary point of operational access to the Site is assumed to be directly from or via the A15 Sleaford Road, utilising the existing B1191. Operational access will be confirmed as the Proposed Development design progresses and in consultation with National Highways and the County Highways Authorities.
- 2.4.50. The HV transformers can weigh up to approximately 100 tons; therefore, it is assumed that concrete or tarmac roads will be installed from the main site entrance to the National Grid Substation.
- 2.4.51. It is assumed that tarmac roads will also be required for access to the Project Substation, depending on the weight and characteristics of the infrastructure loads.
- 2.4.52. It is assumed that the access tracks within the Site boundaries for internal access and transportation will follow the alignment of existing agricultural tracks, where possible. The access tracks will typically be constructed of permeable materials such as gravel and will have a maximum running width of up to approximately 6m.

Landscaping, Habitat Management and Biodiversity Enhancement

- 2.4.53. The Proposed Development will include landscaping, habitat management, biodiversity enhancement, and amenity improvements, which will be explored as the design progresses. This will be sensitivity designed to retain and enhance ecological and recreational connectivity.
- 2.4.54. Where possible, existing trees, hedgerows, public rights of way and Local Wildlife Sites would be retained.

Ancillary Infrastructure Works

On site cabling

- 2.4.55. Low voltage on-site electrical cabling is required to connect the solar PV modules and BESS units to inverters (typically via 1.5/1.8kV cables), and the inverters to the transformers on-site (typically via 0.6/1kV cables). Higher rated cables (around 33kV) are then required between the transformers and the switchgears and from switchgears (Collector Compounds) to the on-site electrical infrastructure (typically via 66kV cables).
- 2.4.56. Where possible, on-site cabling will be laid underground. The dimensions of the trenches will vary depending on the number of ducts they contain and are assumed to be up to approximately 3m in width and up to approximately 2m in depth. Cabling between solar PV modules and the inverters will typically be required to be above ground level (along a row of racks), fixed to the mounting structure, and then underground (between racks and the inverter input).
- 2.4.57. Open-cut trenching methods would be used for a majority of the cable routing. However, subject to on-going engagement with utility providers and other stakeholders, there may be a requirement for specialist trenchless techniques (e.g. Horizontal Directional Drilling) for crossings of roads, environmental receptors, and other existing infrastructure.

Fencing and security

- 2.4.58. Security fencing will enclose the operational areas of the Proposed Development. The fields encompassing the solar PV modules and supporting infrastructure will likely be fenced using 'deer fence' with wooden post supports which would typically have a maximum height of 2.5m.
- 2.4.59. Pole mounted facing close circuit television (CCTV) systems which typically have a maximum height of 5m, are assumed to be deployed around the perimeter of the operational areas of the Site, including the Project Substation compound and National Grid Substation compound.
- 2.4.60. Permanent palisade steel fencing (up to 3m high) will be installed around the perimeter of the Project Substation compound, National Grid Substation compound, BESS and Collector Compounds
- 2.4.61. The National Grid Substation compound, Project Substation compound, BESS compounds, and Collector Compounds would include lighting, in accordance with relevant standards, but will not be permanently lit.

Drainage

- 2.4.62. A detailed operational drainage design will be carried out pre-construction with the objective of ensuring that drainage of the land to the present level is maintained. It will follow either the design of a new drainage system taking into account the proposed new infrastructure (access tracks, cable trenches, structure foundations) to be constructed, or, if during the construction of any of the infrastructure, there is any interruption to existing schemes of land drainage, then new sections of drainage will be constructed.
- 2.4.63. The design of new drainage systems will be based on the Flood Risk Assessment (FRA) and hydrological assessment to be undertaken in support of the DCO Application.
- 2.4.64. Infiltration drainage design will be in accordance with Building Research Establishment (BRE) Digest 365: Soakaway Design and Sewers for Adoption [Ref. 2-2].
- 2.4.65. Drainage and sewage systems are likely to be required at the Project Substation compound, National Grid Substation compound and BESS compound. Field drainage or ditches are assumed to be required in some areas of the solar PV generating station, depending on the topography and hydrology.

2.5. Construction phase

Construction Programme

- 2.5.1. It is anticipated that the construction of the Proposed Development will be completed in two phases, which will be defined as the design progresses.
- 2.5.2. Subject to obtaining development consent and following a final investment decision, construction is indicatively scheduled to commence in 2026 and last for approximately 48 months across two phases, followed by a commissioning period of approximately 6 months.

Construction Activities

- 2.5.3. The PEIR and ES will provide further details of the proposed construction activities, their assumed duration, along with an indicative programme of each phase of works. The types of construction activities that may be required include:
- Site preparation;
 - Import of construction materials, plant and equipment to Site;
 - Establishment of Site construction compounds and welfare facilities;

- Upgrading existing tracks and construction of new access roads within the Site;
- The upgrade or construction of crossing points (bridges / culverts) at drainage ditches within the Site;
- Marking out the location of infrastructure;
- Erection of module mounting structures and mounting of modules;
- Installation of electric cabling, inverters, transformer cabins, and battery storage units;
- Construction of Project Substation and National Grid Substation compounds, BESS compound, Collector Compounds and installation of equipment;
- Cable installation;
- Temporary construction compounds;
- Trenching in sections;
- Appropriate storage and capping of soil;
- Appropriate construction drainage;
- Sectionalised approach of duct installation;
- Excavation and installation of jointing pits;
- Cable pulling;
- Testing and commissioning; and
- Site reinstatement (i.e. returning any land used during construction, for temporary purposes, back to its previous condition).

Construction Site Compounds and Access

- 2.5.4. Temporary compounds would be established before commencement of the main construction works for the storage of materials, plant and equipment. The compounds would also include staff welfare facilities, waste storage, and wheel washing areas.
- 2.5.5. The temporary compounds would include hardstanding areas, with apron and haul road areas comprising stone laid on a geotextile membrane. The construction compounds may require lighting to ensure safety and security, especially in the winter months.
- 2.5.6. It is likely that the main construction access to the Site will be via the A15 Sleaford Road and onto the B1191. The construction accesses will be assessed and determined as the design progresses. The number and location of any site access points will

be discussed with National Highways and the County Highways Authorities as part of the design process and look to utilise existing accesses where possible. Temporary access tracks would be provided to link the temporary compounds to the Site access points. Where required, temporary access tracks would be constructed of stone laid on a geotextile membrane.

- 2.5.7. Further work will be undertaken to identify the land that is likely to be required for the temporary construction compounds (including laydown / storage areas), and access / haul routes connecting to construction site from the local highway.
- 2.5.8. As a result of further work on likely traffic impacts associated with the construction of the Proposed Development, it may be that street works are required to the public highway outside of the Site in order to facilitate construction access. This is expected to be confirmed for the PEIR, and in the DCO Application.

Use of borrow pits

- 2.5.9. The use of borrow pits during construction of the Proposed Development will be considered as the design develops. The potential benefit of including borrow pits as part of the Proposed Development include:
 - Allows extracted aggregate to be transported to construction locations (largely via site access tracks) within the Site.
 - Generates significantly lower levels of Heavy Goods Vehicle (HGV) movements on the local highway network than importation of aggregate from commercial quarries.
 - Reduces cost risks arising from double handling, importation from commercial quarries and landfill disposal.
- 2.5.10. The benefit of using borrow pits will be carefully considered against any potential environmental impacts. Further detail on the approach to identifying suitable borrow pit locations and justification for their inclusions as part of the Proposed Development will be provided as part of the PEIR and ES.

Abnormal load deliveries

- 2.5.11. It is proposed that any Abnormal Indivisible Loads (AIL) would access the Site via the A15 Sleaford Road and onto the B1191. Swept path analysis will be undertaken to determine whether third party land or land under the ownership of National Highways and / or the County Highways Authorities is required in order to support delivery of any AIL movements and whether any street works to the public highway (or adjoining land) are required. It is anticipated that

ALLs will be required for the transformers for the on-site electrical infrastructure.

Construction Environmental Management

- 2.5.12. An Outline Construction Environmental Management Plan (oCEMP) will be submitted in support of the DCO Application and will set out the key measures to be employed during construction to control and minimise the impacts on the environment.
- 2.5.13. The details and implementation of this will be secured by a DCO requirement. The purpose of the oCEMP is:
- To ensure nuisance levels as a result of construction and operation activities are kept to a minimum.
 - To comply with relevant regulatory requirements and environmental commitments.
 - To ensure procedures are put into place to minimise environmental effects during construction.

Construction Traffic Management

- 2.5.14. An Outline Construction Traffic Management Plan (oCTMP) will be developed as part of the EIA which will propose measures to control the delivery of materials and staff onto the Site during the construction phase.
- 2.5.15. The principles of the oCTMP will be available for comment as part of the statutory consultation process to ensure that the comments of local residents and stakeholders are taken into account in its development.

Construction Reinstatement and Habitat Creation

- 2.5.16. A programme of construction reinstatement and habitat creation will commence during the construction phase.

2.6. Operational phase

- 2.6.1. Minor maintenance works are expected to occur throughout the operating life of the Proposed Development. It is assumed that routine inspections will be carried out and access will use the previously built construction roads. Maintenance activities are likely to include:
- Regular visual inspection of all infrastructure;
 - Regular scheduled inspections and testing of equipment;
 - Replacement of consumable items (e.g. inverter filters);

- Cleaning of solar PV modules, if required;
- Repair or replacement of panels or other components, if damaged;
- Delivery of spare parts, replacement equipment items and consumables;
- Water management (e.g. clearing of drainage ditches); and
- Vegetation management (e.g. cut back of grass, hedges, trees).

Operational Environmental Management

- 2.6.2. It is anticipated that an Outline Operational Environmental Management Plan (oOEMP) will be submitted in support of the DCO Application and this document will set out the principles and key measures that will be employed during the operation of the Proposed Development to control and minimise the impacts on the environment.

Landscape and Ecology Establishment

- 2.6.3. A programme of landscape and ecology establishment will be carried out. An Outline Landscape and Ecological Management Plan (oLEMP) will be submitted in support of the DCO Application, and this document will set out the principles for how the land will be managed throughout the operational phase, following the completion of construction.
- 2.6.4. A detailed LEMP will be produced following consent and prior to the start of construction, which will be secured by a DCO requirement.

Public Rights of Way

- 2.6.5. In accordance with Section 55 Acceptance of Applications Checklist (version October 2019), the DCO Application will be supported by a plan identifying any new or altered means of access, stopping up of streets or roads or any diversions, extinguishments or creation of rights of way or public rights of navigation. A management plan setting out the Public Rights of Way Commitments (PRWC) will also be provided.
- 2.6.6. The PRWC will include a schedule of public rights of way within the Site and outline the proposed measures to manage any requirements to temporarily 'stop up' public rights of way within the Site during construction with a suitable diversion in place.
- 2.6.7. Existing public rights of way within the Site would be retained during the operation of the Proposed Development.

Battery Safety

- 2.6.8. A management plan for battery safety will be prepared and submitted with the DCO Application in a document entitled Battery Safety Commitments (BSC). The BSC will detail the regulatory guidance reviewed to ensure that all safety concerns around the BESS element of the Proposed Development are addressed in so far as is reasonably practicable.

Soils Management

- 2.6.9. An Outline Soils Management Plan (oSMP) will be prepared and submitted with the DCO Application. The oSMP will follow the principles of best practice to maintain the physical properties of the soil, with the aim of restoring the land to its pre-construction condition at the end of the lifetime of the solar farm.

2.7. Decommissioning Phase

Ground Mounted Solar PV Generating Station, Project Substation and BESS

- 2.7.1. For the purposes of the EIA, the decommissioning assessment will be based on a 40-year operational life span for the ground mounted solar PV generating stations, BoSS, Project Substation compound, Collector Compounds, Distributed BESS compounds, and related access tracks and ancillary infrastructure.
- 2.7.2. At the end of the operational phase, any above ground infrastructure would be dismantled and removed in accordance with industry best practice at the time. The use of decommissioned materials would follow the waste hierarchy such that they would be reused where possible before recycling and disposal were considered.
- 2.7.3. At the time that decommissioning would take place, the regulatory framework, good industry practices and the future baseline could have altered. The Applicant would consider and implement a Decommissioning Environmental Management Plan (DEMP) taking account of good industry practice, its obligations to landowners under the relevant agreements and all relevant statutory requirements. An Outline DEMP (oDEMP) will be submitted in support of the DCO Application, which will be secured by a DCO requirement.

National Grid Substation

- 2.7.4. The National Grid substation is assumed to be a permanent development.

2.8. References

- **Ref. 2-1:** Planning Inspectorate (July 2018) Advice Note Nine: Rochdale Envelope (Version 3). Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-nine-rochdale-envelope/>.
- **Ref. 2-2:** Building Research Establishment (BRE) (2012), 'Digest 365: Soakaway Design and Sewers for Adoption' (7th Edition). Watford: BRE.

3. Reasonable Alternatives

3.1. Introduction and approach

- 3.1.1. Regulation 14(2)(d) of the EIA Regulations states that an ES should include:

'a description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment'.

- 3.1.2. Section 9.3 of the Planning Inspectorate's Advice Note Seven [**Ref. 3-1**] states that a good ES is one that *'explains the reasonable alternatives considered and the reasons for the chosen option taking into account the effects of the Proposed Development on the environment'*. The ES will include a description of the reasonable alternatives that have been considered, including a clear narrative on the main reasons for selecting the chosen option, including a comparison of the environmental effects. The reasonable alternatives assessment will focus on; the site selection process, design layouts / opportunities within the Site, the sizing and scale of infrastructure, and alternative technologies.
- 3.1.3. A 'no development' alternative would not deliver the additional electricity generation capacity associated with the Proposed Development and will therefore not be considered further.
- 3.1.4. The consideration of alternatives and design evolution will be undertaken with the aim of avoiding and / or reducing significant adverse environmental effects, maintaining operational efficiency and cost-effective design solutions, and with consideration of other relevant matters such as available land and planning policy. This will be aided by the implementation of project design principles which will help guide the design of the Proposed Development.

3.2. Constraints Analysis

- 3.2.1. The design work completed to date for the Proposed Development has focussed on identifying constraints / key receptors at the Site (and in close proximity to the Site) which are relevant to the type of infrastructure being proposed, as presented in **Appendix C**. Constraints analysis is an invaluable tool in decision making and can help 'avoid' and 'reduce' potential impacts on environmental, engineering, and technical receptors from the outset of the design process.
- 3.2.2. Information has been drawn from publicly accessible datasets, site surveys, desk-based research, consultation with the landowner and

tenants, and consultation with utility providers. This early design work has been used to inform the scope of the EIA by identifying fields within each land parcel (i.e. Springwell West) which are considered to be 'less constrained' and potentially suitable for development.

3.2.3. The size, scale, and preferred location for key features (permanent and temporary) of the Proposed Development will require careful consideration as the design process evolves. The early constraints work has focussed on identifying potentially suitable fields for the following design elements:

- Ground mounted solar PV generating station;
- Balance of Solar System (BoSS);
- Collector Compounds;
- Project Substation compound;
- BESS compound(s); and
- National Grid Substation compound.

3.2.4. To help guide this process, specific themes have been identified which will continue to inform the design (and parameters) of the Proposed Development. These include:

- Operational impact: Including consideration of operational assets and maintenance.
- Ecology: Including consideration of statutory / non-statutory designations, protected habitats and protected species.
- Landscape and visual: Including consideration of landscape character and visual amenity.
- Cultural heritage: Including consideration of known statutory / non-statutory designations and potential archaeological assets.
- Residential properties and sensitive activities: Including consideration of amenity impacts from construction activities and operation.
- Transport and access: Including consideration of linkages to the existing highway network and public rights of way (PRoW).
- Construction impacts: Including consideration of high level costs and logistic requirements.
- Hydrology and flood risk: Including proximity to watercourses, flood zones, and private water supply.

- Agricultural Land Classification: Where possible, avoidance of areas of Best and Most Versatile (BMV) land based on information available.
 - Land and property: Including consideration of any restrictions associated with landowner agreements.
 - Land use: Including proximity to existing infrastructure, local planning allocations, and known planning applications.
 - Community and social economic: Including consideration of community facilities and accessibility.
- 3.2.5. A collaborative and multidisciplinary approach to the evaluation of each land parcel has led to the development of broad zones of potential development, as presented in **Appendix B**.
- 3.2.6. The evolving design of the Proposed Development will consider feedback from the non-statutory consultation process, continued engagement with land owners, engagement with statutory consultees and further environmental and technical surveys. Further detail on the design process will be provided within the PEIR and ES.

4. Approach to EIA

4.1. Introduction

- 4.1.1. This chapter sets out the overall approach that will be taken to the EIA for the Proposed Development. The ES will contain the information specified in Schedule 4 of the EIA Regulations. The approach to the assessment has been informed by current best practice guidance.
- 4.1.2. An overview of the guidance and methodology adopted for each environmental factor is provided within the respective environmental factor chapters of this EIA Scoping Report.
- 4.1.3. The environmental factors listed under Regulation 5(2) of the EIA Regulations are presented below.
- Air quality.
 - Biodiversity.
 - Climate.
 - Cultural heritage.
 - Population.
 - Human health.
 - Land and soil (factors combined for the purposes of reporting).
 - Landscape and visual.
 - Material assets and waste.
 - Water.
- 4.1.4. It should be noted that although not listed as specific environmental 'factors' under Regulation 5(2) of the EIA Regulations, the following are also considered within this EIA Scoping Report:
- Glint and glare.
 - Heat and radiation.
 - Major accidents and disasters.
 - Noise and vibration.
 - Utilities.
 - Traffic and transport.
 - Electric, magnetic and electromagnetic fields.
- 4.1.5. The proposed structure of the ES is set out in **Appendix E**.

4.2. Consultation

- 4.2.1. Consultation alongside the EIA process is critical to the development of a comprehensive and proportionate ES. The views of statutory and non-statutory consultees are important to ensure that the EIA from the outset focuses on specific issues where significant environmental effects are likely, and where further investigation is required.
- 4.2.2. The consultation, as an ongoing process, enables embedded and additional mitigation measures to be incorporated into the Proposed Development to limit adverse environmental effects and optimise environmental benefits.
- 4.2.3. Early and ongoing engagement with consultees will be important to influence the design process of the Proposed Development by seeking an appropriate level of feedback from consultees, to ensure that comments are considered in the evolving design. The consultation responses will be recorded in a Consultation Report which will be submitted in support of the DCO Application.
- 4.2.4. Non-statutory consultation was held in January – March 2023. The aims of non-statutory consultation are to:
- Outline the broad parameters of the Proposed Development;
 - Gather feedback on key issues and options;
 - Understand and develop responses to key community and stakeholder concerns;
 - Reassure concerned stakeholders; and
 - Continue to build advocacy for the Proposed Development.
- 4.2.5. Statutory consultation is expected to be held in Q3 / Q4 2023. The aims of statutory consultation are to:
- Set out current proposals, demonstrating how issues identified during earlier consultation have been accounted for and considered within the Proposed Development design;
 - Take formal feedback to ensure that regard has been had to the views of local community;
 - Finalise and illustrate the position on key issues and with key stakeholders.
- 4.2.6. As part of the EIA process, consultation will be undertaken with a range of statutory and non-statutory consultees. It is anticipated at this stage that consultees will include (but is not limited to):
- Lincolnshire County Council;

- North Kesteven District Council;
- Blankney Parish Council;
- Scopwick and Kirkby Green Parish Council;
- Ashby de la Launde with Bloxham and Temple Bruer with Temple High Grange Parish Council;
- Metheringham Parish Council;
- Historic England;
- Natural England;
- Environment Agency;
- National Highways;
- Lincolnshire Wildlife Trust;
- Canal and River Trust;
- Sustrans;
- Ramblers Society;
- RAF Digby;
- Royal Society For The Protection of Birds; and
- Lincolnshire Fire and Rescue.

4.2.7. The consultation undertaken for each of the environmental disciplines is provided in further detail in the **Chapter 6** of this EIA Scoping Report.

4.3. General difficulties and uncertainties

4.3.1. Factor-specific difficulties and uncertainties are set out in **Chapter 6** of this EIA Scoping Report. The following key general difficulties and uncertainties apply to a number of factors:

- The detailed design of the Proposed Development is still emerging, as are the environmental surveys and assessments required to support the planning and EIA process. This EIA Scoping Report is provided based on the information available at the time of writing. Where relevant, the proposed scope will be reviewed and updated to reflect developments in the Proposed Development design that may occur post-scoping and agreed with relevant statutory consultees. Any changes to the scope of the EIA will be reported in the ES.
- As the location and area of the components that the Proposed Development comprises are not yet defined or fixed, there is potential for uncertainty regarding the scope of assessment

for each factor. However, the description of the Proposed Development presented in **Chapter 2** of this EIA Scoping Report details the maximum parameters of the Proposed Development components as they are currently known, therefore outlining the 'worst case scenario'. This 'worst case scenario' is the scenario that will be assessed within the PEIR and ES and therefore whatever location or footprint is decided and applied, the PEIR and ES will ensure that the maximum level of significant effects is considered.

- Data from third parties relied upon for the baseline against which any effects will be assessed could potentially be out of date or inaccurate. However, any such data will be procured from reputational and industry standard sources. It will be reviewed and used by competent and experienced professional experts. The combination of appropriate data sources being used by competent and experienced experts should ensure that the data is suitable for its purpose, and will therefore provide an appropriate evidence base from which the existing environmental baseline will be informed.

4.4. Defining the study area

- 4.4.1. Study areas have been defined individually for each environmental factor, taking into account the geographic scope of the potential impacts relevant to that factor and the information required to assess those impacts. The proposed study areas are described within **Chapter 6** of this EIA Scoping Report.

4.5. Establishing baseline conditions

- 4.5.1. Environmental effects of the Proposed Development will be described in the PEIR and ES in relation to the extent of changes to the existing baseline environment as a result of the construction, operation, and decommissioning of the Proposed Development.
- 4.5.2. The baseline environment will comprise the existing environmental characteristics and conditions, based upon desk-top studies and field surveys undertaken and information available at the time of the assessment.
- 4.5.3. Baseline conditions will be established by:
 - Site visits and surveys;
 - Desk based studies; and
 - Modelling.
- 4.5.4. The baseline conditions for each environmental factor will be set out within the respective assessment chapters.

- 4.5.5. As stated above in **Section 4.3**, there is potential that data obtained from third parties is not up to date. The origin of all third-party data used will be clearly identified, alongside any difficulties, uncertainties and assumptions.

4.6. Establishing future baseline conditions

- 4.6.1. Schedule 4(3) of the EIA Regulations requires consideration of the likely evolution of the current state of the environment (baseline scenario) in the absence of the Proposed Development, as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge (the 'future baseline'). Whilst there are considerable limitations to the predictions that can be made about natural baseline conditions at a future point in time, reasonable effort will be made to characterise the future baseline in the absence of the Proposed Development in each topic assessment. In addition, some assessments require projections to account for future change, such as traffic growth within the assessment of likely significant effects associated with the Proposed Development.

4.7. Assessment Scenarios

- 4.7.1. The assessment scenarios that are being considered for the purposes of the EIA are as follows:
- Existing baseline (without Proposed Development) - Reported at the time that the baseline data has been collected.
 - Future baseline (without the Proposed Development) – For comparison with the construction phase, operational phase, and decommissioning phase.
 - Construction of the Proposed Development - As presented in Chapter 2, construction is indicatively scheduled to commence in 2026 and last for approximately 48 months across two phases, followed by a commissioning period of approximately 6 months. The technical chapters will assess the relevant 'worst case' construction scenario and where necessary, the relevant period or 'peak' of activity within the construction programme.
 - Operation of the Proposed Development - The technical chapters will assess the relevant 'worst case' scenario where necessary. Consideration will need to be given to the phased approach to construction of the Proposed Development.
 - Decommissioning of the Proposed Development.

4.8. Approach to mitigation

- 4.8.1. Mitigation can be relied on to reduce any potential significant effects from the Proposed Development. The sequential steps of the mitigation hierarchy are as follows:
- **Avoidance:** Take measures to avoid creating impacts from the outset;
 - **Minimisation:** Measure taken to reduce the duration, intensity and extent of the impact if they cannot be avoided;
 - **Restoration:** Measures taken to improve ecosystems following exposure to unavoidable impacts; and
 - **Offset:** Measure taken to compensate for any residual impacts.
- 4.8.2. The Institute of Environmental Management and Assessment's (IEMA) 'Environmental Impact Assessment Guide to Shaping Quality Development' [Ref. 4-1] refers to three distinct forms of mitigation:
- **Primary:** An intrinsic part of the project design
 - **Secondary:** Typically described within the factor chapters of the ES, but often are secured through planning conditions and/or management plans.
 - **Tertiary:** Required regardless of any EIA, as it is imposed, for example, as a result of legislative requirements and / or standard sectoral practices.
- 4.8.3. For the purposes of this EIA Scoping Report, the PEIR and the ES, embedded 'primary' mitigation measures will form part of the Proposed Development for which consent is sought. **Table 4.1** describes the currently known embedded (primary) environmental mitigation measures that are considered to be an inherent part of the Proposed Development i.e. the project design principles adopted to avoid or prevent adverse environmental effects, based on the design of the Proposed Development to date. It should be noted that these will likely evolve over the course of the design evolution, up to submission of the DCO Application.
- 4.8.4. These embedded (primary) environmental mitigation measures should not be confused with additional (secondary and tertiary) mitigation measures proposed in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment, which are described under the 'Additional (Secondary and Tertiary) Mitigation Measures' section within each environmental factor assessment section [**Chapter 6**].

Table 4-1 Embedded (primary) environmental mitigation measures

Environmental Factor to which the Embedded (Primary) Mitigation Measure Relates	Embedded (Primary) Mitigation Measure
Biodiversity	The design of the Proposed Development will incorporate a minimum offset distance of 10m from any existing hedgerows.
Biodiversity	The design of the Proposed Development will incorporate a minimum offset distance of 15m to locally designated wildlife sites.
Biodiversity	The Proposed Development will avoid any development on areas of important habitat (calcareous grassland).
Biodiversity	The design of the Proposed Development will incorporate a minimum offset of 30m to active badger setts.
Biodiversity Water	The design of the Proposed Development will incorporate a minimum offset distance of 10m from all watercourses and ditches.
Biodiversity Landscape and Visual	The design of the Proposed Development will incorporate a minimum offset distance of 10m either side from any infrastructure to public rights of way.
Population Landscape and Visual	The existing public rights of way (PRoW) that cross the Site will be retained. Subject to the construction phasing and methodology, there may be a requirement to temporarily divert a PRoW during the construction phase, the details of which will be sought to be agreed with relevant key stakeholders, with an appropriate temporary alternative provided.
Biodiversity Landscape and Visual	Where possible, any existing hedgerows, woodlands, ditches and field margins will be retained. Where possible, any breaks or crossings (associated new tracks, security fencing and/or cable routes) will be designed to use existing agricultural tracks between fields and the width of any new breaks will be kept to a minimum.
Land and Soils	The design of the Proposed Development will seek to retain fields comprising majority Grade 1 or Grade 2 agricultural land within arable production where possible.

Water	The design of the Proposed Development will avoid locating any built structures (including inverters, collector compounds etc.) within Flood Zones 2 and 3.
Noise	The design of the Proposed Development will incorporate a minimum 250m offset from central inverters to residential properties.

4.9. Assessment of likely significant effects

- 4.9.1. The PEIR and ES will report on the likely significant environmental effects for the site preparation, earthworks and construction (hereafter referred to as ‘construction’), operational (i.e. once completed and open to use, and including maintenance) and decommissioning phases of the Proposed Development.
- 4.9.2. The following criteria will be taken into account when determining significance:
- The receptors/resources (natural and human) which would be affected and the pathways for such effects;
 - The geographic importance, sensitivity or value of receptors / resources;
 - The duration (short-term, medium-term or long-term); permanence (permanent or temporary) and changes in significance (increase or decrease);
 - Reversibility - e.g. is the change reversible or irreversible, permanent or temporary;
 - Environmental and health standards (e.g. local air quality standards) being threatened; and
 - Feasibility and mechanisms for delivering mitigating measures, e.g. Is there evidence of the ability to legally deliver the environmental assumptions which are the basis for the assessment?
- 4.9.3. The method for assessing significance of effects varies between environmental factors but, in principle, will be based on the environmental sensitivity (or value/importance) of a receptor/resource and the magnitude of change from the baseline conditions. The approach to assessing the significance of effects for each individual factor is outlined within **Chapter 6** and **Appendix E** of this EIA Scoping Report.
- 4.9.4. Summary of effect tables that summarise the likely significant effects associated with each of the environmental factors will be provided in the ES at the end of each factor assessment chapter.

These tables will outline sensitive receptors, additional mitigation measures and residual effects. A distinction will be made between direct, indirect, secondary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects. Cumulative effects will be considered as a single coordinated assessment.

4.10. Opportunities for enhancing the environment

- 4.10.1. Where possible, there will be a commitment to identifying opportunities for enhancement within the relevant environmental factor assessments. Enhancement is defined as '*a measure that is over and above what is required to mitigate the adverse effects of a project*' [Ref. 4-2]. Therefore, any identified enhancement measures will not be taken into account when determining the significance of effects.
- 4.10.2. Enhancement measures will be assessed in accordance with steps set out in the National Planning Policy Framework.

4.11. References

- **Ref. 4-1:** IEMA (2015), 'Environmental Impact Assessment Guide to Shaping Quality Development', Available at: <https://www.iaia.org/pdf/wab/IEMA%20Guidance%20Documents%20EIA%20Guide%20to%20Shaping%20Quality%20Development%20V6.pdf>
- **Ref. 4-2:** Ministry of Housing, Communities and Local Government (2021), 'National Planning Policy Framework', Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf

5. Environmental factors proposed to be scoped out

5.1. Introduction

- 5.1.1. As part of the EIA process and based on the information available to date, there are a number of environmental factors, as listed under **Section 4.1** above, for which it is considered an assessment as part of the EIA is not justified, and therefore a standalone chapter is not proposed to be presented in either the PEIR or ES.

5.2. Glint and glare

- 5.2.1. Solar PV modules are specifically designed to absorb light rather than reflect it. Light reflecting from solar PV modules results in the loss of energy output. Solar PV modules are dark in colour due to their anti-reflective coatings and are manufactured with low-iron, ultra-clear glass with specialised coatings and textures to enable maximum absorption. The combination of these factors significantly increases electrical energy production of the panels and at the same time significantly reduces reflected rays.
- 5.2.2. There are no guidelines setting out a particular methodological approach to delivering a glint and glare assessment. The draft National Policy Statement EN-3 [Ref. 5-1] states in Section 2.52.4: *“Solar PV panels are designed to absorb, not reflect, irradiation. However, the Secretary of State should assess the potential impact on glint and glare on nearby homes and motorists”*.
- 5.2.3. It is therefore proposed to exclude glint and glare from the scope of the EIA. However, a detailed stand-alone glint and glare assessment will be undertaken and submitted in support of the DCO Application, considering ground-based (residential dwellings, road, and rail) and airborne (airfields, Air Traffic Control Towers, and approaching aircrafts) receptors. Detailed geometric analysis will be undertaken using a bespoke glint and glare model for all receptors potentially affected by the Proposed Development.
- 5.2.4. A description of any relevant mitigation measures and safety considerations of the Proposed Development will be included within the Proposed Development description chapter of the ES.

5.3. Heat and radiation

- 5.3.1. The requirement to consider heat and radiation in UK EIA practice was introduced via the 2017 update to the EIA Regulations. Schedule 4(5)(c) of the EIA Regulations requires that an ES includes:

'A description of the likely significant effects of the development on the environment resulting from, inter alia:

(c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste.'

- 5.3.2. Due to the scale and nature of the Proposed Development, it is not anticipated that there will be any significant sources of heat or radiation during either construction, operation or decommissioning. It is therefore proposed to exclude heat and radiation from the scope of the EIA.

5.4. Major accidents and disasters

- 5.4.1. The requirement to consider major accidents and disasters in UK EIA practice was introduced via the 2017 update to the EIA Regulations. Schedule 4(8) of the EIA Regulations requires that an ES includes:

'A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to EU legislation such as Directive 2012/18/EU of the European Parliament and of the Council(c) or Council Directive 2009/71/Euratom(d) or UK environmental assessments may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.'

- 5.4.2. Further guidance is provided by 'Major Accidents and Disasters in EIA: An IEMA Primer' (IEMA, 2020b) [Ref. 5-2]. This focuses on the consideration of low likelihood / high consequence events which would result in serious harm or damage to environmental receptors, and which could encompass risks exacerbated by climate change. This includes accidents or disasters originating from a proposed development as well as external events (man-made or natural).
- 5.4.3. In considering the potential for significant effects from the vulnerability of the Proposed Development to risks of accidents and disasters, it is important to note that the UK already has a structured framework of risk management legislation in place. Vulnerability to major accidents and / or disasters for infrastructure and other built environment developments is covered by a wide range of other safety and non-safety-related legislation, as detailed below:

- Health and Safety at Work Act 1974 [Ref. 5-3];

- Construction (Design and Management) Regulations 2015 [Ref. 5-4];
 - The Construction (Health, Safety and Welfare) Regulations 1996 [Ref. 5-5]; and
 - Electricity Safety, Quality and Continuity Regulations 2002 [Ref. 5-6].
- 5.4.4. The risk of major accidents and disasters will be considered throughout the design process of the Proposed Development. This will include siting the potentially hazardous equipment, such as the BESS and grid infrastructure, at a suitable distance from sensitive receptors.
- 5.4.5. The construction, operation and decommissioning phases of the Proposed Development have the potential for limited interactions which may give rise to major accidents and / or disaster. **Table 5-1** presents a list of possible major accidents and disasters that will require consideration.

Table 5-1 Possible major accidents and disasters

Major Accident and / or Disaster	Potential Receptor	Comments
Flooding	Properties Local residents	<p>The majority of the Site is located within Flood Zone 1 (less than a 1 in 1000 AEP of flooding) and is at low risk of surface water flooding. Therefore, the Site is considered to not be at significant risk of river flooding or surface water flooding.</p> <p>The vulnerability of the Proposed Development to flooding and its potential to exacerbate flooding, will be covered in the Flood Risk Assessment, which will be appended to the ES.</p>
Fire	Properties Local residents Local habitats and species	<p>There is a potential fire risk associated with the BESS. This will be managed by a cooling system, which will form part of the BESS, which is designed to regulate temperatures to safe conditions to minimise the risk of fire.</p> <p>The BESS and associated grid infrastructure will be sited a suitable distance from sensitive receptors in accordance with BESS standards (UL9540).</p>

		<p>Lincolnshire Fire and Rescue service will be consulted as part of the DCO process.</p> <p>Battery Safety Commitments will be produced and submitted in support of the DCO Application to account for the potential safety risks and the relevant mitigation and management procedures.</p>
Aircraft disasters	Pilots	<p>The potential for glint and glare to affect aircraft will be considered within the Glint and Glare assessment which will form a technical appendix to the ES. It is also noted in draft National Policy Statement EN-3 [Ref. 5-1], Section 2.52.5, that:</p> <p><i>“There is no evidence that glint and glare from solar farms interferes in any way with aviation navigation or pilot and aircraft visibility or safety. Therefore, the Secretary of State is unlikely to have to give any weight to claims of aviation interference as a result of glint and glare from solar farms”.</i></p>
Rail accidents	Rail Users	<p>The potential for glint and glare to affect rail users will be considered within the Glint and Glare assessment which will form a technical appendix to the ES.</p>
Plant disease	Habitats and species	<p>New planting may be susceptible to biosecurity issues, such as increased prevalence of pests and disease, due to source of provenance and climate change. The planting design and Outline Landscape and Ecological Management Plan (oLEMP) will take account and manage biosecurity risks.</p>

5.4.6. Those major accidents and disasters that are not considered within the scope of the existing technical assessment will continue to be reviewed and addressed as part of the design process. The construction, operation and decommissioning of the Proposed Development are not considered to have a risk of major accidents or disasters that could affect existing or future receptors, which are not considered through existing design mitigation and regulatory regimes.

5.4.7. The mitigation in place is generally sufficient to manage vulnerabilities to major accidents and / or disasters without the need for additional mitigation in most circumstances. It is not expected

that inclusion of major accidents and disasters in the EIA scope would add any greater level of safety performance to that already established process. By implementing recognised and approved safety legislation and regulation, no significant effects in relation to major accidents and disasters are anticipated during the construction, operation and decommissioning phases. It is therefore proposed to exclude major accidents and disasters from the scope of the EIA.

5.5. Utilities

- 5.5.1. The Proposed Development has the potential to affect existing utility infrastructure located at the Site. Given the nature of the Proposed Development, potential impacts on existing utility assets would be limited to the construction phase. To identify any existing infrastructure constraints, a utility search (including consultation with the utility provider) covering the Site (and 2 km from the Site boundary) has been undertaken.
- 5.5.2. The utility search identified several assets within the Site boundary that will require careful consideration as the design of the Proposed Development evolves, including:
 - National Grid extra high voltage transmission lines.
 - Electricity distribution high voltage transmission lines.
 - Anglian Water pipeline (clean).
 - Cadent gas pipeline.
 - Exolum pipeline (military).
- 5.5.3. Further consultation will be carried out with the relevant utility companies to confirm the information drawn from the utility search is accurate and up to date. In addition, consideration and advice will be sought regarding separation distances and methods of construction in close proximity to each utility to avoid any risk of impact during construction of the Proposed Development. This information will be used to inform the layout of the Proposed Development and reported within the ES as embedded (primary) mitigation.
- 5.5.4. The oCEMP will include any additional mitigation measures to protect against interference with below ground utilities during construction. The Applicant would also expect to agree protective provisions with each utility owner, in order to ensure the DCO includes appropriate protections and restrictions on the Applicant's exercise of its powers, for the protection of utilities.
- 5.5.5. Taking the above into account, it is not proposed to prepare a separate utilities chapter as part of either the PEIR or ES.

5.6. Human Health

- 5.6.1. It is proposed that consideration of the potential effects to human health as a result of the Proposed Development will be covered through the findings of other assessments undertaken as part of the EIA process, as follows:
- Air quality;
 - Landscape and visual;
 - Noise and vibration; and
 - Traffic and transport.
- 5.6.2. Each of these chapters within the EIA Scoping Report and subsequent PEIR and ES will consider the potential effects to human health within their own assessments. Outside of the EIA process, a glint and glare assessment will be undertaken (see **Section 5.2** above), which will consider the potential human health effects from glint and glare.
- 5.6.3. There are a number of PRoW crossing the Site which might be used for recreational purposes. Any temporary diversions will be detailed in the Public Rights of Way Commitments, which will be submitted in support of the DCO Application.
- 5.6.4. Any changes to PRoW will be agreed in consultation with North Kesteven District Council and Lincolnshire County Council in order to ensure there are suitable diversions or replacements in place. Impacts to users of PRoW are therefore expected to be minimised and where they do occur they will be short term and temporary. As such, it is not expected that changes to the PRoW will significantly impact recreational use of the Site and therefore it is proposed to scope this matter out of further assessment.
- 5.6.5. As any potential human health impacts will be captured by the aforementioned assessments and there are not expected to be any significant human health impacts outside of these assessments, it is proposed that human health is not subject to dedicated assessment and therefore excluded from the scope of the EIA.

5.7. Material assets and waste

- 5.7.1. Material assets can be defined as “*substances used in each lifecycle stage of a development, with particular focus on the construction, operation and maintenance, and decommissioning or ‘end of first life’ (deconstruction, demounting, demolition and disposal) phases*” [Ref. 5-7]. Material assets can include ‘material’ (i.e. physical resources that are used across the lifecycle of a development) and ‘excavated arisings’ (i.e. soil, rock, or similar resource generated by excavations).

- 5.7.2. Waste is defined as ‘any substance or object which the holder discards or intends or is required to discard’ [Ref. 5-7]. The Waste Framework Directive [Ref. 5-8] definition includes any substance or object that is discarded for disposal or that has not been subject to acceptable recovery (including reuse and recycling).
- 5.7.3. The main impacts (changes) and effects (consequences) of materials consumption and waste disposal are presented in **Table 5-2**.

Table 5-2 Material Assets (from IEMA guide to Materials and Waste in Environmental Impact Assessment)

Matter	Direct Impacts	Adverse Effects	Applicable Development Phase
Materials	Consumption of resources	Depletion of resources, resulting in the temporary or permanent degradation of the natural environment	Construction, decommissioning
Waste	Generation and disposal of waste	Reduction in landfill capacity Unsustainable use or loss of resources to landfill that results in the temporary or permanent degradation of the natural environment	Construction, decommissioning

- 5.7.4. The indirect impacts associated with materials consumption and waste disposal (e.g. release of greenhouse gas emissions, water consumption, amenity impacts, ecological impacts, etc) will be assessed elsewhere within the EIA. Similarly, the indirect impacts of any off-site waste management facilities and material production facilities are expected to be assessed (and where necessary, mitigated) under the planning and permitting regime for those sites and thus do not form part of an EIA for a development that uses such facilities for material supply or waste management.
- 5.7.5. A description of the potential streams and volumes of construction materials and waste disposal will be described within the proposed development chapter within the ES. In addition to this, the oCEMP, will set out how construction materials and waste will be managed on-site, and opportunities to recycle waste will be explored. Where possible, development-specific commitments for sustainable resource management will be presented within the ES. As part of the detailed CEMP, prepared by the Contractor following the making of the DCO, there would be a requirement to develop and

implement a Site Waste Management Plan (SWMP) and Materials Management Plan (MMP) in advance of the construction works. An Outline Decommissioning Environmental Management Plan (oDEMP) will be submitted in support of the DCO Application, which will set out how the waste will be managed and detail opportunities for re-use and recycling.

- 5.7.6. It is also not intended to remove significant quantities of excavated arisings from the Site during construction (there are currently no demolition works proposed, for example). There may, however, be a need to remove some soils from the Site for treatment or disposal, if found to be contaminated, and it is not practical to treat this on-Site. However, where possible, soil arisings will be balanced through a cut and fill exercise to retain volumes on Site.
- 5.7.7. For the operational phase, the potential streams and volumes of construction materials and waste disposal will be described within the proposed development chapter within the ES. There will be relatively little waste produced during the operation phase and the requirement for material assets will be limited to maintenance and replacement parts, as required.
- 5.7.8. During decommissioning, the removal of any material assets and waste will be recycled or disposed of in accordance with good practice and market conditions at that time. If items can be recycled, this will be the first-choice option.
- 5.7.9. Taking the above into account, it is not proposed to prepare a separate material assets and waste chapter as part of either the PEIR or ES.

5.8. Population

- 5.8.1. The requirement to consider population in UK EIA practice was introduced via the 2017 update to the EIA Regulations, with impacts to population taken to refer to socio-economic impacts.
- 5.8.2. There is no statutory guidance when assessing potential impacts to population. However, Design Manual for Roads and Bridges (DMRB) LA 112 Population and Human Health (hereafter LA 112) [Ref. 5-9] gives direction when assessing the impacts of a project in relation to population and human health, including at the scoping stage. Whilst it is recognised that DMRB is primarily for use when assessing transport-related developments, in the absence of other guidance, the LA 112 scoping methodology has been adopted for this EIA Scoping Report.
- 5.8.3. In accordance with LA 112, a population scoping assessment should consider the potential for significant effects to occur on the following receptor groups:

- private property and housing;
- community land and assets;
- development land and businesses;
- agricultural land holdings; and
- Walkers, cyclists and horse riders.

5.8.4. In line with LA 112, each of these matters is considered below.

Private property and housing

- 5.8.5. There are no properties or houses at risk of demolition to construct/operate the Proposed Development.
- 5.8.6. None of the land to be used is allocated for residential development and no new planning applications have been submitted for housing development within the Site boundary. Therefore, there will be no effects to property or housing.
- 5.8.7. As no significant effects are expected in relation to private property and housing, it is proposed that these matters be scoped out of further assessment.

Community land and assets

- 5.8.8. The Proposed Development will cover a large area of agricultural land which is therefore land not used as community land. There are no community assets located within the Site boundary. Therefore no impacts are expected to community land and assets. Impacts to public rights of way (PRoW) are discussed below under 'walkers, cyclists and horse riders'.
- 5.8.9. As no significant effects are expected in relation to community land and assets, it is proposed that these matters be scoped out of further assessment.

Agricultural land holdings, development land and businesses

- 5.8.10. The nature of the agricultural holdings across the Site boundary varies and there will inevitably be land taken out of agricultural production. There may be businesses / tenants / occupiers currently undertaking agricultural operations across the Site boundary who may cease to do so for the duration of the operational phase of the development. The loss of these agricultural operations is not expected to lead to a significant effect in relation to employment in the local area.
- 5.8.11. There are no other businesses present within the Site boundary. There is no land allocated for employment use, nor are there any

planning applications yet to be determined that will generate employment opportunities at the Site.

- 5.8.12. The construction period is indicatively scheduled to commence in 2026 and last for approximately 48 months across two phases, followed by a commissioning period of approximately 6 months. The number of construction staff to be used is not yet unknown. However, it is expected that the construction of the Proposed Development will result in a large number of construction staff being on Site across the construction phase which is a short term beneficial socio-economic change. An increase in the number of people in the area would also likely lead to an increase in the level of spending in the local area through shops and local services.
- 5.8.13. The number of jobs expected to be available during the operational phase is expected to be predominantly related to ad-hoc maintenance.
- 5.8.14. As no significant effects are expected in relation to agricultural land holdings, development land and businesses, it is proposed that these matters be scoped out of further assessment.

Walkers, cyclists and horse riders

- 5.8.15. There are a number of PRoW within the Site boundary that allow movement across the Site for walkers, cyclists and horse riders. Some of these paths are routes that are actively promoted to encourage use of these paths for leisure opportunities.
- 5.8.16. It is anticipated that some of these PRoW will be temporarily diverted as a result of the Proposed Development during the construction phase. Therefore, Public Rights of Way Commitments (PRWC) will be prepared outside of the EIA process and submitted in support of the DCO Application. The PRWC will identify PRoW that will be temporarily affected by the Proposed Development and will detail relevant mitigation measures that will minimise the effects of these changes. The PRWC will also detail how PRoW will be managed during the construction phase to ensure as many PRoW are kept open for users, therefore minimising impacts.
- 5.8.17. The relevant mitigation measures identified in the PRWC will be reflected in the project description section of the subsequent ES. In line with the requirements of the Section 55 Acceptance of Applications Checklist (version October 2019), the PRWC will be submitted in support of the DCO Application.
- 5.8.18. As the PRWC will minimise any potential impacts to walkers, cyclists and horse riders during the construction phase and no significant permanent effects are expected in relation to walkers, cyclists and horse riders during the operational phase of the

Proposed Development, it is proposed that these matters be scoped out of further assessment.

Conclusion

- 5.8.19. As no significant effects to population are expected across any of the five matters detailed in LA 112, it is proposed to exclude population from the scope of the EIA. However, socio-economic benefits as a result of the Proposed Development are expected with regards to:
- Increase in the level of temporary employment;
 - The subsequent gross value added to the economy;
 - Uptake in the occupancy rate for beds in local hospitality venues; and
 - A small number of long term employment opportunities during operation.
- 5.8.20. Therefore, a Socio-Economic Benefits Statement will be submitted in support of the DCO Application, highlighting the positive socio-economic impacts of the Proposed Development on the local and regional area. This statement will be produced outside of the EIA process and thus to avoid any potential for confusion or repetition, the Applicant does not consider it necessary to consider socio-economic impacts in an EIA context as well.

5.9. Water

- 5.9.1. According to the Environment Agency flood map for planning, the Site is predominantly located within Flood Zone 1, though areas of Flood Zones 2 and 3 do extend into some of the fields particularly in the north east of the Site within Springwell East as presented in Appendix C. Similarly, the Site is typically at a low or very low risk of surface water flooding, though some fields in the east / north east do have a greater extent of areas of low to high surface water flood risk. Elsewhere, some fields have localised areas of surface water flood risk, generally attributable to localised topographical depressions or flow paths.
- 5.9.2. Many of the fields within the Site are delineated by small field boundary drains / drainage ditches. The majority of these watercourses are unnamed.
- 5.9.3. From the Environment Agency's mapping there are no Main Rivers within the Site. There are two Main Rivers in close proximity to the Site. Springwell Brook / Digby Beck is shown as a main river extending from Bloxholm in an easterly direction until it reaches

Dorrington Dike. A second main river (New Cut Drain) is located to the west of Kirkby Green.

- 5.9.4. The remaining ditches and watercourses in the region would be under the jurisdiction of the Lincolnshire County Council (Lead Local Flood Authority) or the Witham First Internal Drainage Board.
- 5.9.5. Metheringham Beck (ordinary watercourse) is designated with a moderate ecological status under the Water Framework Directive / River Basin Management Plan (Cycle 3 – 2019) along its reach to the north of Martin Road. The watercourse flows through the northernmost fields of the Site, though is not designated within the Site.
- 5.9.6. Dorrington Dike (Main River), located to the east of the Site boundary, is fed by Springwell Brook / Digby Beck and is designated with a poor ecological status under the Water Framework Directive / River Basin Management Plan (Cycle 3 – 2019).
- 5.9.7. Ruskington Beck (ordinary watercourse), located to the south east of the Site boundary, is designated with a moderate ecological status under the Water Framework Directive / River Basin Management Plan (Cycle 3 – 2019).
- 5.9.8. A Source Protection Zone (SPZ) 1 is centred around western Scopwick and encroaches within the Site boundary. Areas of SPZ 3 are located to the north west of Blankney (outwith the Site) and to the south of Bloxholm which encroaches into the south west boundary of the Site.
- 5.9.9. The Site is not shown to lie within a Drinking Water Safeguard Zone for surface or ground water, nor is it located within a Drinking Water Protected Area.
- 5.9.10. There are no designated sites (Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Ramsar, Special Protection Area (SPA)) located within the Site. The closest designated site to the Site is Metheringham Heath Quarry SSSI, approximately 2 km away.
- 5.9.11. Appropriate mitigation will be secured through the production of an Outline Construction Environmental Management Plan (oCEMP) which will identify good working practices in line with appropriate standards. It is anticipated that the oCEMP will be agreed with Lincolnshire County Council and North Kesteven District Council. This will include the use of appropriate measures, as outlined in the Environment Agency's Pollution Prevention Guidelines. Whilst it is noted that these Guidelines were withdrawn in 2015, they still contain detailed information on good working practices and principles. The following example mitigation measures are proposed:

On-site working

- Site access points will be regularly cleaned to prevent build-up of dust and mud;
- Earth movement will be controlled to reduce the risk of silt combining with the Site run-off;
- Properly contained wheel wash facilities will be used (where required) to isolate sediment rich run-off;
- Cut-off ditches and / or geotextile silt-fences will be installed around excavations and exposed ground, stockpiles to prevent the uncontrolled release of sediments from the Site;
- Collect surface water run-off from hard standing area in a sump;
- Installation of sediment traps on all surface water drains within the Site boundary; and
- Ensure that any vehicle or plant washing is carried out on designated areas of hardstanding at least 10m from any watercourse or surface water body.

Safe storage and use of concrete and cement, concrete and cement mixing and washing areas

- Where possible the concrete used will be pre-mixed and delivered from an off-site source, thereby negating the need to mix concrete on-site and thus reducing the creation of alkaline wastewater on-site;
- Wherever possible, any mixing and handling of wet concrete that is required on-site will be undertaken in designated areas;
- A designated area will be used for any washing down or equipment cleaning associated with concrete or cementing processes and facilities provided to remove sediment prior to disposal;
- The designated area will be sited 10m from any watercourse / waterbody or surface water drain to minimise the risk of runoff entering a watercourse;
- Have settlement and re-circulation systems for water re-use, to minimise the risk of pollution and reduce water usage, and
- Dispose of contained water to either foul sewer if possible, or tanker off-site.

Safe storage and use of oils and chemicals

- Wherever possible, plant and machinery will have drip trays beneath oil tanks / engines / gearboxes / hydraulics, which will be checked and emptied regularly, and the contents of the trays will be correctly disposed of via a licensed waste disposal operator;
- Oils and hydrocarbons will be stored in designated locations with specific measures to prevent leakage and release of their contents, including the siting of the storage area away from the drainage system on an impermeable base, with an impermeable bund that has no outflow and is of adequate capacity to contain 110% of the contents. Valves and trigger guns will be protected from vandalism and kept locked when not in use; and
- To deal with the accidental spillage of oils and fuels, an emergency spillage action plan will be produced, which Site staff will have read and understood. On-site provisions will be made to contain a serious spill or leak through the use of booms, bunding and absorbent material.

Vehicle and wheel washing on Site

- Vehicle washing and cleaning will be carried out in areas that are clearly marked and isolated from surface water drainage systems, unmade ground and porous surfaces (designated washing bays); and
- A designated washing bay will be designed so that runoff is isolated using channels, gullies, gradients, directed to a silt trap or sediment tank to remove larger particles, and either collected in a sealed system for reuse or authorised disposal or discharged to public foul sewer (subject to approval).

Uncontrolled (and particulate) runoff from construction areas and access tracks

- Any compounds should, where possible, utilise a wide strip of geotextile laid on the ground covered by a nominal layer of stone to form the compound. Areas of the construction compound such as portacabins, storage systems etc, would result in the potential increase in surface water runoff;
- Generally the compounds will maintain a permeable nature; however as there would be an increase in hard standing, a form of attenuation will be required on Site to maintain flow rates at the pre-development level;

- Any excess flows will be stored in an attenuation feature and would not impact upon on land outside of the Site. The specifications of the attenuation features would be determined at the detailed design stage; and
- Where stone is used as a capping layer, the content of the stone should not include a high percentage of fines so as to not increase the risk of sediment contamination of the adjacent area and watercourses.

Potential effects during construction

- 5.9.12. Construction activities have the potential to result in increased localised flood risk due to earthworks and excavation activities, which are likely to change overland run-off routes. Flooding events, if significant enough, have the potential to harm construction workers on-site, particularly if they are working in excavations which have the potential to fill with water, causing temporary or permanent health and safety risks (e.g. injuries). In addition, changes in surface water flood risk have the potential to affect existing residents surrounding the Site and existing and future site users.
- 5.9.13. The flood risk to the Site typically ranges from low to high with respect to fluvial and surface water risk (as outlined above) and it is anticipated that any significant areas of development will be located outside of these zones. Where less vulnerable aspects of the Proposed Development are sought within the mapped flood zones, the impacts would be assessed within a Flood Risk Assessment which will be submitted in support of the DCO Application (see below). Therefore, the primary sources of flood risk at the Site are associated with fluvial and surface water / pluvial flooding.
- 5.9.14. Changes in flood risk from the construction of the Proposed Development will be managed by the good practice principles which will be outlined in an oCEMP, which will include a Construction Surface Water Management Plan and awareness training / talks for construction workers so that they are aware of the risks and how to mitigate them through working practices. It is also anticipated that a temporary drainage system will be implemented during construction (as outlined above).
- 5.9.15. When considering the design of the Proposed Development and the additional (secondary and tertiary) mitigation measures proposed, increases in flood risk to and from the Proposed Development during construction is not considered to be a potentially significant environmental effect and therefore it is proposed to exclude flood risk during construction from the scope of the EIA.
- 5.9.16. Construction activities (e.g. soil stripping activities / trench excavations for cables on-site) have the potential to result in silt

laden runoff, resulting in the sedimentation and pollution of local watercourses. Silt / soil laden runoff produced during construction activities will be controlled through the implementation of an oCEMP and the provision of a Construction Drainage Management Plan. This oCEMP will be informed by the Environment Agency's Pollution Prevention Guidelines and will include the prevention measures stated above. Therefore, watercourse pollution as a result of silt laden runoff from construction activities is not considered to be a potentially significant environmental effect and therefore it is proposed to exclude it from the scope of the EIA.

- 5.9.17. Construction activities have the potential to result in chemical spillages, resulting in the pollution of local watercourses. Spillages which could occur during construction activities will be controlled through the implementation of an oCEMP. The oCEMP will be informed by the Environment Agency's Pollution Prevention Guidelines and will include the prevention measures stated above. Therefore, water pollution as a result of chemical spillages used during construction activities is not considered to be a potentially significant environmental effect and therefore it is proposed to exclude it from the scope of the EIA.
- 5.9.18. Construction activities have the potential to result in cement and concrete dusts being mobilised in surface water runoff, resulting in the pollution of local watercourses. Particle laden runoff which could occur during construction activities will be controlled through the implementation of an oCEMP. The oCEMP will be informed by the Environment Agency's Pollution Prevention Guidelines and will include the prevention measures stated above. Therefore watercourse pollution as a result of cements and concretes being mobilised in surface water runoff as a result of construction activities is not considered to be a potentially significant environmental effect and therefore it is proposed to exclude it from the scope of the EIA.
- 5.9.19. The development and utilisation of the Site has the potential to result in marginal increased localised flood risk due to increases in impermeable area associated with the BoSS, Collector Compounds, BESS, Project Substation and National Grid substation and an associated reduction in the natural infiltration of water into the ground. The siting of solar PV generating station will only have a negligible impact on the overall permeability of the Site. There will also likely be alterations to the surface water regime and overland flow routes due to the placement of built development and landscaping, which could potentially result in increased surface water runoff. Due to increased surface water runoff rates, existing residents and future users (e.g. residents and workers) either within the Site (workers) or off-site (residents) may be subjected to risks associated with flooding. The temporal risk associated with flooding is greater during the operational phase than the construction phase

with the anticipated lifetime of the Proposed Development (40 years).

- 5.9.20. Through the application of mitigation, and in accordance with the detailed Flood Risk Assessment, the construction of the Proposed Development is unlikely to create any significant environmental effects on the surface water environment and therefore it is proposed to exclude it from the scope of the EIA.

Potential effects during operation

- 5.9.21. The flood risk to the Site typically ranges from low to high with respect to fluvial and surface water risk (as outlined above) and it is anticipated that any significant areas of development will be located outside of these zones. Where less vulnerable aspects of the Proposed Development are sought within the mapped flood zones, the impacts would be assessed within the Flood Risk Assessment to be submitted in support of the DCO Application (see below). Therefore, the primary sources of flood risk at the Site are associated with fluvial and surface water / pluvial flooding.
- 5.9.22. The Proposed Development will (where relevant) include surface water drainage features which will be designed in line with local and national policy (e.g. National Planning Policy Framework, Planning Practice Guidance and Lincolnshire County Council policy) and in agreement with relevant stakeholders (i.e. the Lead Local Flood Authority and Witham First Internal Drainage Board, where relevant). The network where possible, will seek to reduce the surface water runoff from the Site to agreed rates, though the utilisation of the existing drainage network at the Site may be sought, which will ensure there is no increase in flood risk downstream as a result of the Proposed Development.
- 5.9.23. The solar panels will not result in a direct increase in impermeable area of the Site as they will be raised above the ground level. This means that the panel areas will maintain their existing permeability, with concentrations of runoff managed through relevant grass and planting management as evidenced by Cook and McCuen (2013) [Ref. 5-10].
- 5.9.24. When considering the design of the Proposed Development and the additional (secondary and tertiary) mitigation measures proposed, increases in flood risk to and from the Proposed Development during operation is not considered to be a potentially significant environmental effect and therefore it is proposed to exclude it from the scope of the EIA.
- 5.9.25. Activities at the Site during operation have the potential to result in accidental spillages and potential contaminants (diffuse highway pollution i.e. hydrocarbons) entering the surface water runoff from

the Site, resulting in the pollution of local watercourses. The Proposed Development will (where relevant) include a surface water drainage network which will be designed in line with local and national policy whilst considering the existing drainage network at the Site. Appropriate surface water treatment will be inherent in the drainage design through the incorporation of SuDS features and pollution prevention measures (e.g. interceptors), where possible. The potential magnitude of accidental spillages is also very low, with failsafe measures inherent within the design of the Proposed Development and health and safety protocol standard practice within the operational working structure of the Proposed Development. Therefore, water pollution as a result of general pollution / diffuse pollution entering local watercourses / water features as a result of the operation of the Proposed Development is not considered to be a potentially significant environmental effect and therefore it is proposed to exclude it from the scope of the EIA.

- 5.9.26. The Proposed Development is expected to have an impact on the public foul water sewers in the vicinity of the Site due to the increase in foul flows arising from the Proposed Development. In addition, any downstream treatment facilities will see their peak incoming flows increase. If not managed adequately, the increase in peak flows may put both the public network and treatment facilities under pressure, ultimately leading to discharges of raw effluent into watercourses.
- 5.9.27. As part of a pre-development enquiry, the local sewerage supply undertaker will assess the capacity available in the conveyance / treatment infrastructure downstream of the Site. Should any upgrades to the existing public foul water network be required, these will be undertaken by Anglian Water in accordance with the standards and specifications set out in Design and Construction Guidance, part of the Sewerage Sector Guidance. These mitigation measures would be considered an integral part of the Proposed Development and would avoid any raw effluent discharge into watercourse.
- 5.9.28. The environmental effects of any increase in foul flows will be controlled through the discharge consent(s) or permit(s) associated with / available to Anglian Water, where consent(s) or permit(s) are only issued where environmental effects are suitably controlled. Therefore, increased foul flows to the foul sewers network during operation is not considered to be a potentially significant environmental effect and therefore it is proposed to exclude it from the scope of the EIA.
- 5.9.29. The Battery Safety Commitments, as detailed in **Table 5-1**, will outline and manage the disposal of contaminated water in the event of a BESS fire.

5.9.30. The operational Proposed Development will result in the increased demand for potable water. An increase in the permanent workforce population at the Site could increase the demand on potable water supplies. However, with the Site unlikely to be fully manned 24 hours a day, this is unlikely to be significant. Therefore, increased demand for drinking water supplies during operation is not considered to be a potentially significant environmental effect and therefore it is proposed to exclude it from the scope of the EIA.

Potential effects during decommissioning

5.9.31. The potential effects during decommissioning will be similar to those expected during the construction phase. As a result, it is anticipated that there will not be any significant effects to flood risk or water quality as a result of the decommissioning works. As such, the impact of the decommissioning works on flood risk and water quality is proposed to be excluded from the scope of the EIA.

Flood Risk Assessment

5.9.32. In light of the above, it is proposed to exclude water from the scope of the EIA, subject to ensuring no deterioration of water quality or increase in flood risk and agreeing design and mitigation measures with the Environment Agency, Lincolnshire County Council (the Lead Local Flood Authority) and the Witham First Internal Drainage Board. However, flood risk will be considered separately within a Flood Risk Assessment to be submitted in support of the DCO Application, which will focus on the following:

- Obtaining and reviewing relevant data and background information from the Environment Agency and other relevant authorities, including modelled flood level and flow data for any nearby watercourses, details of historical flood events and any other pertinent information;
- Contacting Lincolnshire County Council to obtain the findings of any Strategic Flood Risk Assessment, Preliminary Flood Risk Assessment and Surface Water Management Plan commissioned by them;
- Contacting Anglian Water for details of any existing drainage apparatus in the Site area;
- Providing general advice on the feasibility of SuDS that could potentially be incorporated into the Proposed Development and the drainage design;
- Providing an assessment of the flood risk to the Proposed Development and any flood risk impacts arising from the

Proposed Development, and identifying any mitigation requirements to reduce these risks to an acceptable level; and

- Preparing a Flood Risk Assessment report and outlining surface water drainage strategy principles (where relevant) to address the management of surface water run-off from the Proposed Development, such that flood risk to the surrounding area is not increased and with due consideration of flows to the local drainage system.

5.10. Electric, magnetic and electromagnetic fields

- 5.10.1. Electric fields are produced by voltage, which is the pressure behind the flow of electricity, which depends on the operating voltage of the equipment. Magnetic fields are produced by current, which is a measure of the flow of electricity and depends on the electrical current.
- 5.10.2. Electrical fields can be blocked by fences, shrubs and buildings and the intensity of the electric and magnetic fields decreases from the source.
- 5.10.3. The Department for Business, Energy and Industrial Strategy (BEIS) guidance alongside the 1998 guidelines published by International Commission on Non – Ionizing Radiation Protection (ICNIRP) [**Ref. 5-11**] states that underground cables and overhead power lines at voltages up to and including 132 kV are not capable of exceeding the ICNIRP exposure guidelines. The operation of the Proposed Development will use up to 132kV underground cables.
- 5.10.4. Ongoing consultation will be held with RAF Digby throughout the design of the Proposed Development to avoid any interference with their operations.
- 5.10.5. It is therefore proposed to exclude electric, magnetic and electromagnetic fields from the scope of the EIA.

5.11. Transboundary effects

- 5.11.1. Regulation 32 of the EIA Regulations requires the consideration of any likely significant effects on the environment of another European Economic Association (EEA) State. The consideration of transboundary effects is also detailed within the Planning Inspectorate's Advice Note Seven [**Ref. 5-12**].
- 5.11.2. Due to the nature and location of Proposed Development, it is not anticipated that the Proposed Development will lead to potential for any likely significant effects on the environment of another European Economic Association (EEA) State. Therefore, a transboundary screening matrix has not been included within this EIA Scoping Report.

5.12. References

- **Ref. 5-1:** Draft National Policy Statement for Renewable Energy Infrastructure (EN 3), Department for Business, Energy and Industrial Strategy, September 2021. Available online:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015236/en-3-draft-for-consultation.pdf
- **Ref. 5-2:** IEMA (2020b), 'Major Accidents and Disasters in EIA: A Primer', Available online
<https://www.iema.net/resources/reading-room/2020/09/28/major-accidents-and-disasters-in-eia-an-iema-primer>
- **Ref. 5-3:** HMSO (1974), 'Health and Safety at Work Act 1974'. Available online
https://www.legislation.gov.uk/ukpga/1974/37/pdfs/ukpga_19740037_en.pdf
- **Ref. 5-4:** HMSO (2015), 'The Construction (Design and Management) Regulations 2015'. Available online
http://www.legislation.gov.uk/uksi/2015/51/pdfs/uksi_20150051_en.pdf
- **Ref. 5-5:** HMSO (1992), 'The Workplace (Health, Safety and Welfare) Regulations 1992'. Available online
<http://www.legislation.gov.uk/uksi/1992/3004/made/data.pdf>
- **Ref. 5-6:** HMSO (2002), 'The Electricity Safety, Quality and Continuity Regulations 2002'. Available online
<https://www.legislation.gov.uk/uksi/2002/2665/contents/made>
- **Ref. 5-7:** IEMA (2020a), 'IEMA guide to Materials and Waste in Environmental Impact Assessment', Available online
<https://www.iema.net/resources/reading-room/2020/03/30/materials-and-waste-in-environmental-impact-assessment>
- **Ref. 5-8:** European Parliament and of the Council (2008), Waste Framework Directive, Available online Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (Text with EEA relevance) (legislation.gov.uk)
- **Ref. 5-9:** Design Manual for Roads and Bridges (2019), available online Standards For Highways | Design Manual for Roads and Bridges (DMRB)
- **Ref. 5-10:** Cook and McCuen (2013), Hydrologic Response of Solar Farms, Available online <https://usesusa.org/wp->

content/uploads/2020/02/Hydrologic-Response-of-Solar-Farms.pdf

- **Ref. 5-11:** International Commission on Non-Ionizing Radiation Protection (ICNIRP) (1998) ICNIRP Guidelines: For limiting exposure to time-varying electric, magnetic and electromagnetic field (up to 300GHz), Health Physics 74 (4): 494-522. Available online <https://www.icnirp.org/cms/upload/publications/ICNIRPemfgdI.pdf>
- **Ref. 5-12:** Planning Inspectorate (June 2020) Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environment Information and Environmental Statements (Version 7). Available online <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-seven-environmental-impact-assessment-process-preliminary-environmental-information-and-environmental-statements/>.

6. Environmental factors proposed to be scoped in

6.1. Air Quality

6.1.1 Consultation

No consultation to inform the air quality assessment has been undertaken to date. Consultation with North Kesteven District Council will be carried out to agree the following:

- The appropriate data for baseline characterisation;
- Receptor locations to be assessed (such as human receptors and ecologically sensitive sites); and
- Assessment methodology.

6.1.2 Study area

Construction and Decommissioning Phases

Based on the Institute of Air Quality Management (IAQM) construction dust guidance (IAQM, 2015), the study area for sensitive human receptors for demolition, earthworks and general construction activities will be up to 350m from the Site boundary. For trackout activities, the study area will be up to 50m from the edge of the roads likely to be affected by trackout.

The study area for sensitive ecological receptors for demolition, earthworks and general construction activities will be up to 50m from the Site boundary. For trackout activities, the study area will be up to 50m from the edge of the roads likely to be affected by trackout.

6.1.3. Data sources to inform the EIA baseline characterisation

A desk-based baseline air quality review will be carried out to establish existing air quality conditions within the study area. Information on air quality will be gathered from the monitoring stations that form a part of the national and/or local networks and from the estimated background air quality maps published by Defra.

6.1.4. Surveys to inform the EIA baseline characterisation

Considering the nature (i.e. clean, sustainable source of energy) and location (i.e. rural area where air quality is generally good), no on-site air quality monitoring to inform the assessment is proposed.

6.1.5. Baseline conditions

The Proposed Development is located within the administrative area of North Kesteven District Council. There are currently no Air Quality Management Areas declared within the district.

According to the North Kesteven District Council 2022 Air Quality Annual Status Report, North Kesteven District Council undertook non-automatic nitrogen dioxide (NO₂) diffusion tube monitoring at 22No. locations during 2021. There was no automatic air quality monitoring station within North Kesteven District Council area in 2021.

The nearest monitoring location is a NO₂ diffusion tube location (North Kesteven District Council ref: Ruskington) situated approximately 4.3 km from the Proposed Development. The measured annual average NO₂ concentrations at this diffusion tube site, for years 2017 - 2021, ranged between 10.6µg/m³ and 14.7µg/m³, which were well below the annual mean NO₂ Air Quality Objective.

Estimated background air quality data are available from the UK-AIR website operated by Defra. The website provides estimated annual average background concentrations of NO₂, PM₁₀ and PM_{2.5} on a 1 km² grid basis from LAQM background maps. It is noted that estimated 2022 annual average background NO₂, PM₁₀ and PM_{2.5} concentrations at the Site are well below the relevant air quality objectives.

Overall, air quality is considered to be good in the local area.

There are several isolated farmhouses and residences in the area around the Site. More densely populated areas include the village of Ashby de la Launde, the village of Scopwick, the village of Metherringham, the village of Blankney and RAF Digby. There are no statutory ecological designations with the Site. There are 22 non-statutory designated sites (Local Wildlife Sites (LWS)) either within the Site or within 2 km. Those within or adjacent to the Site are:

- Blankney Brick Pit LWS (within Site boundary)
- Temple Road Verges, Welbourn to Brauncewell 2 LWS (within Site boundary)
- A15, Slate House Farm to Dunsby Pit Plantation 1 LWS (within Site boundary)
- A15, Green Man Road to Cuckoo Lane 2 LWS (within Site boundary)
- Bloxholm Wood LWS/Lincolnshire Wildlife Trust reserve (adjacent to Site boundary).

6.1.6. Additional (secondary and tertiary) mitigation

Construction and Decommissioning Phases

Construction phase site-specific dust mitigation measures will be based on the results of pre-mitigation dust impacts assessment, which will also be applied in decommissioning phase where relevant.

6.1.7. Description of likely significant effects

Construction and Decommissioning

Construction and decommissioning works have the potential to release dust including fine particulate matter, and impact on nearby sensitive human and ecological receptors. Appropriate dust control measures can be highly effective for controlling emissions from potentially dust generating activities, and adverse effects can be greatly reduced or eliminated. With suitable dust mitigation measures in place, the effect of dust and particulate matter emissions during construction phase is unlikely to be significant. The operation of site construction equipment and machinery will result in emissions to atmosphere of exhaust gases, but with suitable controls and site management, impacts of such emissions are unlikely to be significant.

Construction and decommissioning traffic will comprise haulage/construction vehicles and vehicles used for workers' trips to and from the Site. The greatest impact on air quality due to emissions from construction phase vehicles will be in

areas adjacent to the Site access and nearby road network. Based on the temporary nature of the construction and decommissioning activities, it is considered unlikely that significant numbers of vehicle movements associated with staff commuting to and from the site will be generated.

6.1.8. Receptors / matters to be scoped into the assessment

Receptor / Matter	Phase	Justification
Dust and particulate matter emissions resulting from the Site activities, including the operation of the equipment	Construction and decommissioning	Sensitive receptors are located within 350m of the Site. A qualitative, desk-based assessment of site activities is proposed to identify the type of mitigation required. Similarly, operation of the site equipment and machinery during construction will result in emissions to atmosphere of exhaust gases. A qualitative, desk-based assessment is proposed to identify the type of mitigation required.
Traffic exhaust emissions	Construction and decommissioning	Traffic data is required to undertake a qualitative assessment, which is not yet available. A screening level qualitative assessment is proposed.

6.1.9. Receptors / matters to be scoped out of the assessment

Receptor / Matter	Phase	Justification
Site activities and road traffic exhaust emissions	Operation	Given the nature of the Proposed Development, no site activities resulting in significant emissions to air are anticipated during operation and there will only be limited movement of vehicles to the Site for maintenance.

6.1.10. Opportunities for enhancing the environment

The Proposed Development will produce energy from the sun, which is a clean, sustainable source of energy. It will help to reduce the energy requirements from fossil fuels, which will emit harmful air emissions, such as carbon dioxide, nitrogen dioxide, sulphur dioxide, and particulate matters.

6.1.11. Proposed assessment methodology

Construction and Decommissioning Phases

The potential construction and decommissioning activities will be separately assessed and reported within the PEIR and ES.

Dust and Particulate Matter Emissions

An assessment of the likely significant effects of construction phase dust and particulate matter at sensitive receptors will be undertaken following the IAQM's

guidance note ‘*Assessment of dust from demolition and construction 2014*’, using the available information from the project team and professional judgement.

The assessment will consider the risk of potential dust and particulate matter effects from the following four sources: earthworks; general site activities; and trackout. It will take into account the nature and scale of the activities undertaken for each source and the sensitivity of the area to increases in dust and particulate matter levels to assign a level of risk. Dust risks will be described in terms of low, medium or high. Once the level of risk has been ascertained, the site-specific mitigation proportionate to the level of risk will be identified, and the significance of residual effects determined.

Traffic Exhaust Emissions

A screening level qualitative assessment will be undertaken with reference to the Environmental Protection (UK) and IAQM guidance entitled “Land-Use Planning & Development Control: Planning for Air Quality” (Moorcroft et al., 2017), using professional judgement and by considering the following information, where available:

The number and type of road traffic and site equipment likely to be generated;

The number and proximity of sensitive receptors to the Site and along the likely routes to be used by construction vehicles; and

The likely duration and the nature of the construction/decommissioning activities undertaken.

6.1.12. Difficulties and uncertainties

No difficulties or uncertainties with regards the air quality assessment have been identified at this stage. It is assumed that development traffic flows during construction phase will be below the relevant criteria at this stage. The Applicant will be able to confirm whether a detailed construction phase traffic emissions modelling assessment is required following a review of the relevant traffic data at a later stage.

6.1.13. References

- Institute of Air Quality Management (2014), ‘Guidance of the Assessment of dust from demolition and construction, v1.1’ [pdf] Available at: <http://iaqm.co.uk/text/guidance/construction-dust-2014.pdf>
- Department of Environment, Food and Rural Affairs. UK-AIR Air Information Resource. [online] Available at: <http://uk-air.defra.gov.uk>
- Department of Environment, Food and Rural Affairs (2022), Part IV of the Environment Act 1995 as amended by the Environment Act 2021: Local Air Quality Management: Technical Guidance LAQM.TG(22), London: Crown
- Moorcroft et al., (2017), Land-Use Planning & Development Control: Planning for Air Quality v1.2, Environmental Protection and Institute of Air Quality Management, London

6.1.14. Scoping questions

- Do you agree with the proposed list of consultees?

- Do you agree with the proposed study areas?
- Do you agree that the data sources listed to inform the EIA baseline characterisation are appropriate?
- Are any receptors/assets/resources not identified that you would like to see included in the EIA?
- Do you agree with the proposed additional (secondary and tertiary) mitigation measures and is this mitigation appropriate?
- Do you agree with the receptors/matters that are proposed to be scoped in and out of the EIA?
- Do you agree with the proposed factor-specific assessment approach?

6.2. Biodiversity

6.2.1 Consultation

No consultation to inform the biodiversity assessment has been undertaken to date. Consultation will be undertaken with North Kesteven District Council to seek to agree the assessment methodology and biodiversity assets of sufficient importance to be considered in the EIA.

We will also consult with Natural England and Lincolnshire Wildlife Trust.

6.2.2 Study area

The survey / assessment study area includes the Site and appropriate buffer zones, which varies per receptor as discussed below:

- Background data searches for statutory and non-statutory designated sites and protected species records will focus on the Site and a 2 km buffer, extended to 10 km for Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites. Therefore, the Site and 2 km surrounding is considered to be the Zone of Influence.
- The survey study area for preliminary ecological appraisal (PEA) is the entire Site.
- The survey study area for great crested newts (GCN) is the entire Site plus any ponds within 500m of the Site boundary.
- The survey study area for bat activity surveys is the entire Site.
- The survey study area for breeding bird surveys is the entire Site, due to the need to assess the overall significance of the breeding bird assemblage present and inform potential enhancement measures.
- The survey study area for preliminary bat roost assessments is all trees and structures (barns) within the Site.
- If the design of the Proposed Development determines that any small sections of watercourse will be impacted, e.g. culverted to allow for cable installation, then water vole and otter surveys will be carried out in, and adjacent to, the works area, for up to 100 m upstream and downstream,

where accessible. Adjacent waterbodies would be included to account for any effects that may extend beyond the Site boundary. A distance of 100 m upstream and downstream has been proposed as although no works are planned that would directly impact any watercourses, this distance would account for any local water vole populations that could commute further along the watercourse, into the Site boundary (Dean et al., 2016).

- The survey study area for considering reptile suitability will be the entire Site.
- The survey study area for hedgerows and invasive species will comprise all the proposed works areas within the Site, including those where ancillary works will occur, as only direct impacts to these habitats/species need to be considered.
- The survey study area for badgers will comprise the entire Site.

6.2.3. Data sources to inform the EIA baseline characterisation

The proposed assessment scope has been based on:

- A background data search from Greater Lincolnshire Nature Partnership, which included a search for designated sites and protected species records within 2 km of the Site, extended to 10 km for SPAs, SACs and Ramsar sites.
- Previous ecology reports prepared for a solar planning application in 2014, which covers part of the north-west of the Site (Springwell East) 14/0937/FUL (ESL, 2014).

The assessment to be presented in the PEIR and ES will also be informed by surveys undertaken in 2023 (see **Section 6.2.4** below for more details).

6.2.4. Surveys to inform the EIA baseline characterisation

The following surveys of the Site have been undertaken in 2022, noting that these currently exclude two fields at northern edge of Springwell West (just south of Gorse Hill Lane) and approximately five fields at southern edges of Springwell West. These have not been surveyed to date as they have recently been added into the Site boundary but will be included / considered in future surveys (see below).

- A PEA walkover survey of the Site, carried out in April and May 2022.
- A badger survey of the Site, undertaken during the PEA survey in April and May 2022.
- A reptile habitat suitability survey of the Site, undertaken during the PEA survey in April 2022.
- Preliminary bat roost assessments of trees and structures (barns) within the Site, undertaken during the PEA survey in April and May 2022.
- Habitat Suitability Index (HSI) and GCN eDNA survey of ponds on Site, undertaken in May 2022.
- Bat activity surveys (static monitoring), undertaken in August 2022 and October 2022. This involved deployment of static bat detectors in various habitat types across the Site and Site boundaries.

The following surveys are due to be undertaken in 2023:

- For the land recently added into the Site boundary, a PEA survey, including badger survey, reptile habitat suitability, preliminary bat roost assessment and GCN eDNA survey of ponds.
- Breeding bird surveys of entire Site (spring and summer).
- Water vole and otter surveys (if required).
- Hedgerow, priority grassland and invasive species survey.
- Further bat activity surveys (static monitoring) in April / May 2023.
- Bat roost surveys (if required) – hibernation surveys, internal building inspections (if access facilitated), endoscope inspections, tree climbing and emergence surveys. These will only occur if any trees and structures could potentially be directly or indirectly impacted by the construction of the Proposed Development, although it is currently envisaged this will not occur.

It is envisaged that any badger setts present within the Site will be retained within the design of the Proposed Development. Should this not be possible, additional badger surveys may be required.

6.2.5. Baseline conditions

The existing ecological baseline is based on both desk and field-based studies undertaken to date (see Sections 6.2.3 and 6.2.4 above).

The Site predominantly consists of agricultural fields (mostly arable with some grassland) interspersed with hedgerows, small woodland blocks and farm access tracks. The hedgerows within the Site range between dense tall vegetation (shrub and tree species) and thin lines of vegetation with sporadic shrubs and trees present.

Several minor watercourses run adjacent to the Site, including the Springwell Brook and Scopwick Beck, alongside small field drains and ditches that run parallel to numerous field boundaries.

A more detailed description of the Site is provided in the project description within **Chapter 2**.

The following habitat types were recorded as present on and adjacent to the Site during the PEA survey undertaken in April and May 2022:

- Other neutral grassland (g3c)
- Modified grassland (g4)
- Lowland mixed deciduous woodland (Lincolnshire BAP habitat)
- Other woodland; mixed; mainly broadleaved (w1h5)
- Line of trees (w1g6)
- Other woodland; mixed; mainly conifer (w1h6)
- Hedgerow (h2a) (Lincolnshire BAP habitat)
- Other blackthorn scrub (h3a6)
- Hawthorn scrub (h3f)

- Mixed scrub (m3h)
- Arable field margins (c1a) (Lincolnshire BAP habitat)
- Cereal crops (c1c)
- Non-cereal crops (c1d)
- Winter stubble (c1c5)
- Developed land; sealed surface (u1b)
- Buildings (u1b5)
- Artificial unvegetated, unsealed surface (u1c)
- Built linear features (u1e)
- Standing open water (r1) – ponds (Lincolnshire BAP habitat)
- Other rivers and streams (r2b) (Lincolnshire BAP habitat)

Designated sites

There are no internationally protected nature conservation sites within 10 km of the Site boundary. There are no nationally protected statutory designated nature conservation sites within 2 km.

There are 22 non-statutory designated sites (Local Wildlife Sites (LWS)) either within the Site or within 2 km. Those within or adjacent to the Site are:

- Blankney Brick Pit LWS (within Site boundary)
- Temple Road Verges, Welbourn to Brauncewell 2 LWS (within Site boundary)
- A15, Slate House Farm to Dunsby Pit Plantation 1 LWS (within Site boundary)
- A15, Green Man Road to Cuckoo Lane 2 LWS (within Site boundary)
- Bloxholm Wood LWS/Lincolnshire Wildlife Trust reserve (adjacent to Site boundary).

Other notable sites

There is one area of ancient woodland within 2 km of the Site boundary, namely Long Wood which is approximately 475 m to the west of the Site.

Protected and noteworthy species records

The background data search returned 927 records of 143 species recorded between 2000 and 2021 within 2 km of the Site. Noteworthy species include species of principal importance that are listed under Section 41 of The Natural Environment and Rural Communities (NERC) Act 2006.

Of these, 38 species are birds, one is fish, five are invertebrates (lepidoptera only), 10 are mammals (of these, six are bats), one is plants, and one is reptiles.

Protected and notable species

Invertebrates

The background data search returned records of four notable invertebrate species, including the Section 41 species small heath (*Coenonympha pamphilus*), cinnabar (*Tyria jacobaeae*), grayling (*Hipparchia semele*), and small blue (*Cupido minimus*).

Habitats present within the Site were considered likely to support only a common assemblage of invertebrate species, typical of hedgerows, scrub, plantation woodlands, and species-poor grasslands. It is therefore not considered that further invertebrate surveys will be required.

Fish

The background data search returned one record of European eel (*Anguilla anguilla*).

The ponds and watercourses within the Site are small and of relatively poor quality, though they connect with watercourses that are tributaries of the River Witham.

Great crested newts

The background data search revealed no records of great crested newts within 2 km of the Site.

The Site is mostly arable with occasional parcels of improved or species-poor semi-improved grassland, which is generally poor suitability terrestrial habitat for GCN.

For the ponds within the Site surveyed in May 2022, it was determined that GCN are likely absent. Out of the 12No. ponds which were eDNA analysed, 10No. were negative and 2No. were indeterminate. The 2No. ponds with indeterminate results were immediately adjacent to negative testing ponds, which GCN could easily disperse to, so the indeterminate results were also considered likely negative.

Reptiles

The background data search returned five records of reptiles within 2 km of the Site, recorded between 2015 and 2020. All records were of common lizard (*Zootoca vivipara*) and were located within RAF Digby – no other reptile species were recorded within 2 km.

Most of the Site is unsuitable for reptiles, comprising large areas of monoculture arable land. However, connecting areas of woodland, scrub, hedgerow bases, rough grassland and spoil heaps/log piles could support low numbers of common reptiles. In particular, there were two areas of tussocky grassland that are likely to be suitable for reptiles. It is considered likely that these areas could be avoided in the design, thus removing the need for further reptile surveys.

Birds

The background data search returned records of 38 bird species within 2 km of the Site, of which 86% were recorded in RAF Digby.

Eight species are listed on Annex 1 of the Birds Directive: red kite (*Milvus milvus*), marsh harrier (*Circus aeruginosus*), hen harrier (*Circus cyaneus*), Montagu's harrier (*Circus pygargus*), kingfisher (*Alcedo atthis*), merlin (*Falco columbarius*), peregrine (*Falco peregrinus*), and woodlark (*Lullula arborea*).

Fifteen species are included in Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) (some species are included on more than one list): quail (*Coturnix coturnix*), red kite, hen harrier, Montagu's harrier, marsh harrier, barn owl (*Tyto alba*), kingfisher, hoopoe (*Upupa epops*), merlin, hobby (*Falco subbuteo*), peregrine, firecrest (*Regulus ignicapilla*), woodlark, fieldfare (*Turdus pilaris*), and redwing (*Turdus iliacus*).

Nineteen are listed in Section 41 of the NERC Act 2006: grey partridge (*Perdix perdix*), hen harrier, Montagu's harrier, lapwing (*Vanellus vanellus*), curlew (*Numenius arquata*), turtle dove (*Streptopelia turtur*), cuckoo (*Cuculus canorus*), woodlark, grasshopper warbler (*Locustella naevia*), starling (*Sturnus vulgaris*), song thrush (*Turdus philomelos*), spotted flycatcher (*Muscicapa striata*), house sparrow (*Passer domesticus*), tree sparrow (*Passer montanus*), yellow wagtail (*Motacilla flava*), bullfinch (*Pyrrhula pyrrhula*), yellow hammer (*Emberiza citronella*), reed bunting (*Emberiza schoeniclus*), and corn bunting (*Emberiza calandra*).

Twenty-one species are included on the red list of birds of conservation concern: grey partridge, hen harrier, Montagu's harrier, lapwing, curlew, turtle dove, cuckoo, swift (*Apus apus*), merlin, skylark (*Alauda arvensis*), grasshopper warbler, starling, fieldfare, spotted flycatcher, house sparrow, tree sparrow, yellow wagtail, linnet (*Linaria cannabina*), lesser redpoll (*Acanthis cabaret*), yellow hammer, and corn bunting.

Nine are included on the amber list of birds of conservation concern: graylag goose (*Anser anser*), quail, marsh harrier, redshank (*Tringa totanus*), snipe (*Gallinago gallinago*), kingfisher, song thrush, redwing, bullfinch, and reed bunting.

The Site contains suitable habitat for ground-nesting birds. Lapwings with chicks and displaying lapwings were observed in several of the ploughed fields within the Site, and an oystercatcher (*Haematopus ostralegus*) was seen in a ploughed field close to the railway. A field adjacent to the Site held 27 lapwings and chicks. Singing skylarks were also observed in the majority of the modified grassland and cereal crop fields. Of the species identified through the background data search, the arable and grassland fields within the Site may support species including quail, grey partridge curlew, turtle dove, yellow wagtail, yellowhammer, and snipe.

Red kite was observed commuting over the Site, though no nests or nesting behavior was observed in any of the woodlands or trees within the Site.

A barn owl was flushed from a tree in the woodland adjacent to the railway line. The barn close to the railway line had a barn owl box inside it with suitable access points. Though the barn was not entered during the survey, pellets could be seen on the floor.

Marsh harrier was seen hunting at the western edge of Springwell Central (near Digby).

A corn bunting was heard singing in a field to the south of Cuckoo Lane. Corn bunting is a Section 41 species and Lincolnshire BAP species, as is lapwing which was confirmed to be breeding in several ploughed fields. Other likely breeding Section 41 and Lincolnshire BAP species observed included starling, song thrush, dunnock (*Prunella modularis*), house sparrow, yellow hammer and reed bunting.

Greenfinch (*Chloris chloris*) and linnet were observed within the Site. They appear on the red list of birds of conservation concern.

Mallard (*Anas platyrhynchos*), sparrowhawk (*Accipiter nisus*), moorhen (*Gallinula chloropus*), oystercatcher, stock dove (*Columba oenas*), woodpigeon (*Columba palumbus*), kestrel (*Falco tinnunculus*), whitethroat (*Sylvia communis*), wren (*Troglodytes troglodytes*), and pied wagtail (*Motacilla alba ssp. yarellii*) were

observed during the PEA survey. These species appear on the amber list of birds of conservation concern.

The woodlands, hedgerows, and fields provide suitable nesting habitat for a range of bird species.

Bats

The background data search returned records of the following bat species within 2 km of the Site:

- 14 records of unidentified bats;
- Six records of brown long-eared bat (*Plecotus auratus*) including a record of a roost approximately 1.2 km from the Site;
- Two records of common pipistrelle (*Pipistrellus pipistrellus*);
- Two records of soprano pipistrelle (*Pipistrellus pygmaeus*);
- Four records of unidentified pipistrelles; and
- Two records of Barbastelle (*Barbastella barbastellus*) including a record of a roost approximately 1.9 km from the Site.

Fifty-six individuals and groups of trees were identified with moderate (29 trees) to high (27 trees) suitability for supporting roosting bats.

The woodlands and hedgerows throughout the Site provided moderate suitability habitat for foraging and commuting bats.

The barn in the northeast of the Site, to the south-west of Brickyard Farm, could not be surveyed internally. The barn in the north of the Site was constructed of corrugated metal and breezeblocks, with open sides. It was considered suitable to be used as a night roost, though is unlikely to be used by large numbers of roosting bats. The barn in the centre of the Site was also open-sided and unlikely to be used by roosting bats, though may be used as a night roost.

Hazel dormice

Hedgerows within the Site were considered to provide some suitability for hazel dormice, although many were species-poor, and woodland was generally sparse so foraging opportunities were limited. However, there are no known records of hazel dormice within 2 km of the Site. Hazel dormice are mostly absent in Lincolnshire (only known record is near Wragby which is over 20 km from the Site). Therefore, hazel dormice are considered to be absent and will not be considered further in the assessment.

Water voles and otters

The background data search returned no records of water vole or otter within 2 km of the Site.

Several of the streams and ditches within the Site provide suitable habitat for water voles. The watercourses and waterbodies are likely to be too small for otter, though they may be used by foraging and individuals commuting as part of a much larger territory or home range.

Badgers

The background data search returned no records of badger within 2 km of the Site.

A five-hole badger sett, likely to be a main sett, was identified within Springwell West but there were no signs to indicate badgers present at the time of the survey. An annex sett with two holes was found approximately 740 m to the north of the main sett. An outlier sett with a single hole was also found in the hedgerow of a field within Springwell West.

No other signs of active badger presence (i.e. latrines, prints, hairs etc.) were found within the Site.

Other species

The background data search returned 42 records of brown hare (*Lepus europaeus*), a priority species, within 2 km of the Site, recorded between 2006 and 2019.

Brown hare were seen in the majority of the fields within the Site, with a peak count of 14 individuals recorded in a field to the south of Cuckoo Lane.

The background data search returned 14 records of hedgehog (*Erinaceus europaeus*), a priority species, within 2 km of the Site, recorded between 2006 and 2019.

The PEA did not record the presence of hedgehog, however, habitats within the Site, including log piles, scrub, woodland, and grassland, were considered to be suitable for hedgehog.

One or two individuals of roe deer (*Capreolus capreolus*) and fallow deer (*Dama dama*) were seen grazing within the Site during the PEA surveys.

6.2.6. Additional (secondary and tertiary) mitigation

Construction

- Production and implementation of an Outline Landscape and Ecological Management Plan (oLEMP)
- Production and implementation of an Outline Construction Environmental Management Plan (oCEMP) to include measures to safeguard ecological receptors during construction.
- Pre-construction badger survey
- Bat licence (if required)

Operation

- Continued adherence to, and implementation of, the oLEMP and Operational Environmental Management Plan.

Decommissioning

- The impacts from decommissioning (removal of solar panels) will be similar to construction impacts. The Outline Decommissioning Environmental Management Plan (oDEMP) will reference decommissioning impacts and include measures to safeguard ecological receptors during decommissioning
- Pre-decommission badger survey

6.2.7. Description of likely significant effects

Habitat loss/degradation

Although construction of the Project Substation, National Grid substation, BESS and associated compounds would result in loss of habitat during the construction and operational phase and the installation of solar panels could cause habitat degradation of species-rich grassland during the operational phase, i.e. by creating dominance of shade tolerant species, mitigation is proposed so that significant effects would not occur (refer to Section 6.2.9 below). However, potential impacts on the land yet to be surveyed (refer to Section 6.2.4 above) are currently unknown.

Ground nesting birds

Much of the Site, being large open arable and grassland fields, is suitable for ground nesting birds. Open fields, with good long-range visibility, are important for ground nesting birds as they do not provide cover for predators. The construction and operation of the Proposed Development would cause loss of the 'openness' of fields which would directly impact upon ground nesting birds. There could be significant long term impact (40 years) if significant numbers of ground nesting birds are found to use the Site.

Great crested newts

Although construction of the Project Substation, National Grid substation, BESS and associated compounds would result in loss of habitat during the construction and operational phase, most of the Site, being arable, provides unsuitable terrestrial habitat for GCN. Ponds, hedgerows, field margins and woodlands, which are highly suitable newt habitat, are not expected to be affected by the Proposed Development. Therefore, the installation of solar panels is not considered likely to cause significant loss of suitable GCN terrestrial habitat (and could in fact provide opportunities to enhance habitat for amphibians e.g. by sowing more species-rich grassland or crop diversity underneath solar panels).

GCN are considered likely to be absent over the majority of the Site as most of the ponds on Site have been surveyed (in 2022) and evidence of GCN was not found. However, the additional fields on the southern edges of Springwell West have mapped ponds which have not yet been surveyed.

6.2.8. Receptors / matters to be scoped into the assessment

Receptor / Matter	Phase	Justification
Grassland	Construction, operation and decommissioning	The fields which have not yet been surveyed (to the north and south of Springwell West) support grassland which has not yet been assessed. These areas of grassland need to be surveyed in summer 2023 to assess their conservation importance.
Ground nesting birds	Construction	Much of the Site, being large open fields, is suitable for ground nesting birds. Construction would cause loss

		of breeding habitat and directly impact upon these species. Surveys in 2023 will determine the importance of the breeding bird assemblage present and inform the design of the Proposed Development and any mitigation to provide continued availability for open space for ground nesting birds and food supply during breeding and wintering periods.
Great crested newts (GCN)	Construction, operation and decommissioning	GCN are considered likely absent for the area surveyed to date. The additional field on the southern edges of Springwell West supports mapped ponds and grassland, which could provide suitable GCN terrestrial habitat, which has not been assessed. If GCN are confirmed present, then construction activity would directly impact upon GCN terrestrial habitat, with potential for significant effects to occur.

6.2.9. Receptors / matters to be scoped out of the assessment

Receptor / Matter	Phase	Justification
Statutory designated sites	Construction, operation and decommissioning	There are no internationally protected nature conservation sites within 10 km of the Site. There are no nationally protected statutory designated nature conservation sites within 2 km of the Site.
Blankney Brick Pit LWS	Construction, operation and decommissioning	These sites are avoided by the current Proposed Development design. As stated in Table 4-1, the design will incorporate a minimum offset distance of 15m from Local Wildlife Sites. They will also be protected by the oCEMP.
Temple Road Verges, Welbourn to Brauncewell 2 LWS		
A15, Slate House Farm to Dunsby Pit Plantation 1 LWS		
A15, Green Man Road to Cuckoo Lane 2 LWS		

Bloxholm Wood LWS / Lincolnshire Wildlife Trust reserve		
Other 17 LWS within 2 km of Site.	Construction, operation and decommissioning	Their distance from the Site and a lack of relevant links or impact pathways.
Lowland Meadow Priority Habitat	Construction, operation and decommissioning	Two grassland parcels were assessed as potential priority habitat Lowland meadow (adjacent to Scopwick). However, these grasslands are avoided by the current Proposed Development design and will be protected by the oCEMP.
Hedgerows and hedgerow trees	Construction, operation and decommissioning	The Proposed Development will be designed to include a buffer from panels to boundary features including hedgerows and trees and measures in the oCEMP will safeguard their protection. Mitigation for any habitat loss will be included in the oLEMP.
Ponds	Construction, operation and decommissioning	No ponds will be lost to the Proposed Development. The implementation of the oCEMP will include standard practice pollution prevention measures.
Semi-improved grassland	Construction, operation and decommissioning	The oLEMP will include measures to sufficiently compensate for habitat loss and to protect any retained areas of this habitat during construction.
Invasive species	Construction, operation and decommissioning	No invasive species were identified during PEA survey. If any are found during further survey, then an invasive species method statement will be implemented to prevent the spread of this species during construction.

Invertebrates	Construction, operation and decommissioning	Due to a lack of records of Schedule 5 species and a lack of high-quality habitat within the Site that could support an important invertebrate assemblage.
Reptiles	Construction, operation and decommissioning	The Site, being mostly arable and improved pasture, is largely unsuitable for reptiles. Precautionary measures detailed in a oCEMP will safeguard low numbers of reptiles that may be present in semi-improved grassland areas.
Non-ground nesting birds	Construction, operation and decommissioning	Retention of boundary hedgerows and trees and implementation of precautionary measures detailed in a oCEMP will sufficiently safeguard nests during construction. No effects anticipated during operation.
Wintering birds	Construction, operation and decommissioning	The Site is not considered of importance for overwintering waders and wildfowl due to distance from coast and any significant wetland areas (i.e. it is more than 35 km from the Wash SPA).
Barn owl	Construction, operation and decommissioning	If nesting barn owl are present in trees or barns adjacent to works, they may be disturbed by construction and decommissioning. However, this will be mitigated by buffer zones between the solar panels and boundary features. There is not expected to be loss of foraging habitat as boundary features will be enhanced and other habitat creation and enhancement works secured through the oLEMP is likely to benefit foraging barn owls. There are not expected to be any significant effects during operation.
Marsh harrier	Construction, operation and decommissioning	If marsh harrier are nesting in wetland vegetation, or field margins, they may be disturbed by construction and decommissioning. However, this will

		<p>be mitigated by buffer zones and measures detailed within the oCEMP and oLEMP. There is not expected to be a loss of foraging habitat as marsh harriers mostly hunt along field margins. Boundary features will be enhanced and other habitat creation and enhancement works secured through the oLEMP is likely to benefit foraging marsh harrier.</p> <p>There are not expected to be any significant effects during operation.</p>
<p>Bats (foraging/commuting and roosting)</p>	<p>Construction, operation and decommission</p>	<p>If bats are roosting in trees or barns adjacent to works, then they may be disturbed by construction and decommissioning. However, this will be mitigated by retention of such features, buffer zones (works buffer from hedgerows and trees) and measures detailed within the oCEMP and oLEMP. There is not expected to be significant loss of foraging habitat due to construction of solar panels as bats mostly forage and commute along hedgerows and watercourses rather than over monoculture arable and improved grassland.</p> <p>There is potential to enhance foraging habitat by sowing species-rich grassland or diversity of herbs under and between solar panels which would enhance invertebrate populations (a recognised food source of bats).</p> <p>There are not expected to be any significant effects during operation.</p>
<p>Water vole</p>	<p>Construction, operation and decommission</p>	<p>No ponds or watercourses will be lost to the Proposed Development. If small sections of watercourses are affected (e.g. culverted to allow for installation of cables), then standard mitigation measures will be implemented. The implementation of the oCEMP will include standard</p>

		practice pollution prevention measures.
Otter	Construction, operation and decommission	No ponds or watercourses will be lost to the Proposed Development. If small sections of watercourses are affected (e.g. culverted to allow for installation of cables), then standard mitigation measures will be implemented. The implementation of the oCEMP will include standard practice pollution prevention measures.
European eel	Construction, operation and decommission	No ponds or watercourses will be lost to the Proposed Development. If small sections of watercourses are affected (e.g. culverted to allow for installation of cables), then standard mitigation measures will be implemented. The implementation of the oCEMP will include standard practice pollution prevention measures.
Badger	Construction, operation and decommission	All known setts will be retained with an appropriate buffer. Implementation of precautionary measures detailed in a oCEMP will mitigate for any residual risk.
Deer and other mammals	Construction, operation and decommission	Deer and other mammals such as foxes are not priority species nor LBAP species of conservation concern. However they are likely to use the site and fencing preventing foraging and dispersal may be a welfare issue. This has been scoped out as fencing will be designed to be 'semi-permeable' allowing movement across the site for deer and other mammals through connecting pathways.

6.2.10. Opportunities for enhancing the environment

Opportunities for ecological enhancement within the Site are diverse due to the number of different habitats present and their generally low biodiversity value, being intensively farmed. No specific enhancement measures have yet been agreed; however, a detailed biodiversity design will be produced and implemented outlining how a substantial net gain in biodiversity will be achieved. The biodiversity design will be cognisant of local biodiversity priorities already identified and priorities emerging from the developing Lincolnshire Nature Recovery Partnership.

These measures will focus on compensating for adverse effects on habitats and species already known to be on the Site, and to improve the Site for species that could feasibly colonise in the future given the surrounding landscape. Therefore, enhancement measures are likely to include some of the following:

- Creation and enhancement of calcareous grassland – new calcareous grassland will buffer and extend the area of species-rich grassland (the LWSs) whilst providing nesting and foraging habitat for ground nesting birds and other species.
- Creation of wetland areas in low lying areas of the Site, providing increased habitat for biodiversity, run-off capture and improved water quality, flood alleviation in wider catchment and which will provide additional foraging and nesting habitat for bird species.
- Extend and restore dry stone walls.
- Creation of herbal ‘ley’ habitat or similar underneath solar panels to restore soil health and create a nectar source for invertebrates - in particular pollinators.
- Woodland planting (primarily for screening) and creation of ‘small stepping stone’ woodland habitats within the Scopwick Valley to connect woodlands to the north and south. To increase woodland habitat and enhance wildlife corridors.
- Enhancement of field boundaries and footpaths to provide greater habitat connectivity and increased habitat for invertebrates.
- Winter food for farmland birds – leaving over winter stubbles and or provision of specific seed source within buffer strip margins between panels and boundary features.
- Ensuring any fencing is permeable to mammal species such as badger, brown hare and hedgehog. Allowing the movement of deer across the wider landscape will also be considered.

6.2.11. Proposed assessment methodology

The ecological impact assessment (EclA) will follow the Chartered Institute of Ecology and Environmental Management’s (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland, referred to here as ‘the CIEEM Guidelines’ (CIEEM, 2018).

The significance criteria proposed for the biodiversity assessment is presented in **Appendix D**.

6.2.12. Difficulties and uncertainties

To ensure transparency within the EIA process, the following difficulties and uncertainties have been identified:

- The fields at northern and southern edges of Springwell West have not been surveyed. As outlined in **Section 6.2.4** above, these areas will be subject to survey in 2023.
- Some species-specific surveys have not yet been completed or undertaken. As stated in **Section 6.2.4** above, these will be completed/undertaken in 2023.
- The bat sound analysis undertaken to date has been used to inform this EIA Scoping Report. Recordings of Barbastelle bat have been identified in the August 2022 survey analysis and is one of species afforded the highest conservation status in the UK. Six other species have been identified and these are most of the species expected in the area. If any additional species are identified in the outstanding analysis, they would not change the assessment scope or mitigation requirements. Sound analysis will be completed prior to further stages of the assessment. For these reasons, this uncertainty will not affect the ability to undertake the assessment, nor its conclusions.

6.2.13. References

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- The British Standards Institution (2013), 'BS 42020:2013 Biodiversity – Code of practice for planning and development', BSI Standards Limited.

6.2.14. Scoping questions

- Do you agree with the proposed list of consultees?
- Do you agree with the proposed study areas?
- Do you agree that the data sources listed to inform the EIA baseline characterisation are appropriate?
- Do you agree that the surveys proposed to inform the EIA baseline characterisation are appropriate?
- Are any receptors/assets/resources not identified that you would like to see included in the EIA?
- Do you agree with the proposed additional (secondary and tertiary) mitigation measures and is this mitigation appropriate?
- Do you agree with the receptors/matters that are proposed to be scoped in and out of the EIA?
- Do you agree with the proposed factor-specific assessment approach?

6.3. Climate

6.3.1 Consultation

No consultation to inform the climate assessment has been undertaken to date and no specific consultation in relation to climate is envisaged, over and above the consideration of comments received to this EIA Scoping Report.

6.3.2 Study area

The study area is defined as the area within the Site boundary for climate change mitigation (i.e., assessment of greenhouse gas (GHG) emissions from the Proposed Development). Within the GHG assessment, scope 1 emissions will include those emitted directly from all facilities and infrastructure under the operational control of the Proposed Development, and likely within the Site boundary. However, scope 2 and any relevant scope 3 emissions will occur outside the proposed Site boundary. These emissions will be estimated based upon project-specific data that may relate to activities outside the Site boundary (e.g., water provision and wastewater treatment outside of the Site boundary, or the embodied carbon within construction materials and solar PV modules as a result of the energy used for production).

6.3.3. Data sources to inform the EIA baseline characterisation

Standard emission factors will be applied, sourced from reputable agencies, such as Defra UK Government GHG Conversion Factors for Company Reporting (2022). The assessment will consider the North Kesteven District Council's most recent GHG inventory from 'UK local authority and regional greenhouse gas emissions national statistics: 2005-2020', and relevant GHG emissions policies from the North Kesteven District Council Climate Emergency Strategy and Action Plan.

Data pertaining to the expected construction and operational activities will be sourced from the Applicant. This includes construction energy consumption, expected maintenance requirements, product specification (e.g., solar PV modules and BESS), and details on construction workforce.

6.3.4. Surveys to inform the EIA baseline characterisation

No surveys have been undertaken to date, and none are expected to be undertaken to inform the climate assessment.

6.3.5. Baseline conditions

The baseline conditions describe the conditions of a business-as-usual scenario whereby the Proposed Development is not undertaken. In the case of GHG emissions, the sensitive receptor is the stability of the global climate.

The current land use within the Site consists of agricultural land, predominantly fields interspersed with hedgerows, small woodland blocks and farm access tracks. There is no known existing infrastructure. It is possible that, given the considerable vegetation within the Site, the Site currently sequesters carbon. However, dependant on agricultural activities (e.g. application of fertilizers), there may also be GHG emissions associated with the Site.

6.3.6. Additional (secondary and tertiary) mitigation

Construction

The generation of GHG emissions is inevitable due to construction activities. Embodied GHG emissions will also be present due to production of solar panels and associated infrastructure. An Outline Construction Environmental Management Plan (oCEMP) will be implemented to identify good working practices in line with appropriate standards, including low carbon practices. Some mitigation measures that are anticipated to be taken account are:

- Embed carbon reduction practices as a core principle for the design team. Where reduction ideas are suggested, they should be recorded and the potential impact quantified. Earlier engagement with carbon reduction allows for the greatest returns.
- Where technical specifications allow, maximise the recycled content of construction materials such as concrete and steel.
- Maximise the specification of materials with an environmental product declaration with the aim of reducing embodied carbon emissions.
- Incentivise use of local suppliers with a view to shorten project supply chains and environmental footprint.
- Onsite mobile and non-mobile plant should conform to the latest emissions standards, with mobile vehicles conforming to EURO 6 standards as a minimum. All plant should investigate the option of using HVO fuels or electric versions where possible.
- Require main contractors to report on energy data, water usage and waste disposal and their GHG emissions as part of the oCEMP.

Operation

The operation of the Proposed Development is anticipated to have a positive effect on the climate. Nonetheless, there is scope to further improve the Site in terms of ecological enhancements and habitat creation, which can have a positive effect in terms of carbon sequestration. These will be documented by, managed and secured within the Outline Landscape and Ecology Management Plan (oLEMP).

Decommissioning

The decommissioning process is likely to result in GHG emissions, particularly from waste disposal of solar PV modules and any BESS. Additional mitigation can be employed that aligns with the hierarchy for managing project-related emissions (avoid, reduce, substitute and compensate).

6.3.7. Description of likely significant effects

Construction

With regards to GHG emissions, the global climate is the sensitive receptor. During construction, there will be unavoidable GHG emissions that result in a negative effect on the stability of the global climate. These are unlikely to be significant but

must be scoped in to understand the full life-cycle GHG effects of the Proposed Development.

Operation

During operation, renewable energy will be generated, replacing fossil-based energy in the National Grid. This has the net effect of reducing GHG emissions generated elsewhere in the national energy supply chain. Given the proposed operational life of 40 years, the cumulative effect of these GHG reductions will likely provide significantly beneficial effects on the stability of the climate.

Decommissioning

Decommissioning activities will result in unavoidable GHG emissions, predominantly from transport and waste disposal activities. As with construction-related emissions, these are unlikely to be significant but must be scoped in to understand the full life-cycle GHG effects of the Proposed Development.

6.3.8. Receptors / matters to be scoped into the assessment

Receptor / Matter	Phase	Justification
GHG emissions	Construction	Embodied carbon of solar PV modules can be relatively high when comparing against other renewable technologies. It is important to include these construction-related emissions when considering the overall lifecycle emissions of the Proposed Development, to determine an accurate 'carbon-payback' time of the Proposed Development.
GHG emissions	Operation	Given the proposed operational life of 40 years, the cumulative effect of GHG reductions associated with the operation of the Proposed Development will likely provide significantly beneficial effects.
GHG emissions	Decommissioning	The decommissioning process is likely to result in GHG emissions, particularly from waste disposal of solar PV modules and BESS. It is important to include all emissions when considering the overall lifecycle emissions of the Proposed Development, to determine an accurate 'carbon-payback' time of the Proposed Development.

6.3.9. Receptor / matters to be scoped out of the assessment

Receptor / Matter	Phase	Justification
Climate resilience	Construction, operation and decommissioning	UKCP18 projections suggest that climate change will lead to hotter drier summers, warmer wetter winters, increased likelihood of extreme weather events (e.g., heat waves, high rainfall events) and sea-level rise of up to 1.15 m (by 2070 in London, assuming a high-emissions scenario). Due to the embedded resilience of solar PV modules to high heat and wind speeds, low risk of flooding at the Site and the distance of the Site from coastline, these factors are not expected to significantly impact on the construction, operation or decommissioning of the Proposed Development.

6.3.10. Opportunities for enhancing the environment

The operational Proposed Development is expected to have a net beneficial impact on the climate, in that it will reduce GHG emissions associated with electricity consumption on a national scale. Opportunities exist to further increase the environmental benefit of the Proposed Development by ensuring that emissions associated with the construction and decommissioning process are kept to a minimum. This can be ensured by the adoption of various mitigation measures, as detailed in **Section 6.3.6**.

6.3.11. Proposed assessment methodology

The assessment of the effects of GHG emissions arising from the Proposed Development will be carried out in accordance with:

- The Institute of Environmental Management and Assessment Environmental Impact Assessment (IEMA) Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance (2022 edition);
- PAS 2080:2016 Carbon Management in Infrastructure; and
- Royal Institute of Chartered Surveys (RICS) Whole life carbon assessment for the built environment (2017).

The assessment will quantify applicable Kyoto Protocol GHGs as measured in tonnes of carbon dioxide equivalence (tCO₂e), where equivalence means having the same warming effect as CO₂ over 100 years.

The GHG baseline characterisation will be conducted using a desk-based assessment of current land use, existing carbon stock and any activities that could cause GHG emissions. However, in line with the IEMA guide, any agricultural land

can generally be considered to have zero baseline emissions to ensure reasonable worst-case approach to establishing net GHG effect.

Data associated with the activities contributing to the construction, operation and decommissioning of the Proposed Development will be provided by the Applicant. Where it is not possible to collect these data, as this assessment represents a forecast of emissions and some information may not yet be known, secondary data (such as estimates, extrapolations, benchmarks and proxy data such as distance travelled) will be used. Emissions will then be quantified by applying the most relevant and up-to date emission factors.

The significance criteria proposed for the climate assessment is presented in **Appendix D**.

6.3.12. Difficulties and uncertainties

To ensure transparency within the EIA process, the following difficulties and uncertainties have been identified:

- The accuracy of a GHG assessment depends on the quality of the data provided. Primary data should always be used where available. Where it is not possible to collect these data, as this assessment represents a forecast of emissions and some information may not yet be known, secondary data (such as estimates, extrapolations, benchmarks and proxy data such as distance travelled) will be used. Assessments such as this, based largely on secondary data should only be viewed as an estimate of GHG emissions impact, and actual emissions may vary significantly.

An emission factor is a representative value that relates the quantity of a pollutant released into the atmosphere with an activity associated with the release of that pollutant. Emission factors are typically available from government publications, independent agencies, and scientific research journals; however, the quality and accuracy of such factors can vary significantly. Factors can differ depending on the research body and/or underlying methodologies applied. Emission factors will therefore only be sourced from reputable sources, such as Defra / BEIS (2022).

6.3.13. References

- BEIS (2022), UK local authority and regional greenhouse gas emissions national statistics: 2005-2020
- Defra and BEIS (2022), UK Government GHG Conversion Factors for Company Reporting
- IEMA (2022), Environmental Impact Assessment Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance
- North Kesteven District Council (2020), Climate Emergency Strategy and Action Plan: Roadmap to net zero emissions for North Kesteven District Council and the district of North Kesteven https://www.n-kesteven.gov.uk/_resources/assets/attachment/full/0/106230.pdf
- PAS 2080:2016 (2016), Carbon Management in Infrastructure

- Royal Institute of Chartered Surveys (2017), Whole life carbon assessment for the built environment
- The Greenhouse Gas Protocol, A Corporate Accounting and Reporting Standard (Revised Edition)
<https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf> Accessed November 2022

6.3.14. Scoping questions

- Do you agree with the components proposed to be scoped in (GHG emissions of construction and operation) of the EIA?

6.4. Cultural heritage

6.4.1 Consultation

The Lincolnshire Historic Environment Record (HER) has been consulted in the preparation of this EIA Scoping Report for data on known heritage assets.

Lincolnshire County Council has also approved a Written Scheme of Investigation (WSI) for geophysical survey of the Site.

Further consultation with Lincolnshire County Council will be carried out to confirm the scope of and timing of any intrusive evaluation following completion of the geophysical survey. Historic England will also be consulted regarding potential impacts on designated heritage assets as a result of changes in their setting, and the LPA's Conservation Officer will be consulted regarding potential impacts on Conservation Areas and Grade II Listed Buildings as these lie outside of the remit of Historic England.

6.4.2 Study area

Following the guidance² from Lincolnshire County Council, a 2 km study area from the Site boundary will be used for non-designated historic assets and a study area of up to 5 km from the Site boundary, informed by the Zone of Theoretical Visibility (ZTV), will be used for designated historic assets.

6.4.3. Data sources to inform the EIA baseline characterisation

The following sources of information have been used to inform this EIA Scoping Report:

- Guidance produced by Lincolnshire County Council for nationally significant infrastructure projects³;

² LCC "Guidance for large schemes including NSIPs and EIAs, General Scoping Opinion for the Historic Environment" supplied by Jan Allen via email 07/10/2022

³ ibid

- Information on designated heritage assets from the National Heritage List for England, downloaded on 01 October 2022;
- Data on heritage assets and previous archaeological investigations from the Lincolnshire HER, obtained as a digital data extract on 23 August 2022;
- Historical Ordnance Survey mapping; and
- Lidar data.

The following additional sources will be used to inform the EIA (post-scoping):

- Aerial photographs held by Historic England Archives, Lincolnshire HER, and Cambridge University Collection of Aerial Photography (CUCAP)
- Maps and other relevant primary and secondary sources held in Lincolnshire archives
- Portable Antiquities Scheme (PAS) data.

6.4.4. Surveys to inform the EIA baseline characterisation

The following additional surveys are proposed to inform the EIA:

- Full desk-based assessment including walkover and “aerial investigation and mapping” of Lidar data and aerial photographs as a standalone report
- Setting assessments of designated heritage assets in the site and surrounding area, following the methodology in Historic England Good Practice Note 3.
- Geophysical survey (a WSI for this has already been approved by Lincolnshire County Council)

The need for, scope, and timing of intrusive evaluation will be negotiated and agreed with the statutory consultees following completion of the desk-based assessments and geophysical survey.

6.4.5. Baseline conditions

The Lincolnshire HER contains 104 records within the Site, of which ten are find spots of artefacts. The records range from prehistoric features through to World War II structures. Historic mapping records a number of lost field boundaries within the Site which have not previously been recorded in the HER. One designated asset is located within the Site, this is a grade II listed milepost.

Beyond the Site boundary within the 5 km study area there are 17 scheduled monuments. These are mainly medieval in date – village crosses, deserted or shrunken villages, a ringwork (castle), a church and two priories – but also a Neolithic barrow and the Car Dyke which is thought to date to the Roman era. There are also a further 11 Grade I, 11 Grade II* and 207 Grade II listed buildings within the study area, these include churches, houses, farmhouses, agricultural buildings, as well as World War II buildings associated with the former RAF base, war memorials and a windmill.

6.4.6. Additional (secondary and tertiary) mitigation

Where archaeological remains within the Site do not require preservation in situ and cannot be avoided through primary mitigation (changes to the Proposed Development layout and / or construction methods), it is anticipated that additional mitigation to off-set adverse impacts will take the form of a programme of archaeological investigation and recording secured by a DCO Requirement. Such a programme may include pre-commencement phases of archaeological excavation and / or archaeological “watching brief” during construction. The need for and scope of such mitigation will be agreed with the Lincolnshire County Council archaeological advisor and Historic England where necessary. The scope and methodology of the mitigation will be set out in a WSI.

No additional mitigation during the operation phase is currently proposed.

6.4.7. Description of likely significant effects

The layout of the Proposed Development is still being designed and surveys to establish the archaeological resource of the Site are ongoing, and as such there remains uncertainty regarding both the direct physical impacts on heritage assets as a result of construction, and the extent of visual change within the setting of heritage assets within the wider area. This has therefore resulted in assets being “scoped in” (see **Section 6.4.8** below) which may, following detailed design, be scoped out of the Environmental Statement as effects will have been avoided.

The list of receptors outlined in **Section 6.4.8** below is therefore a “long list” of the heritage assets which will be considered during the assessment but by no means all are likely to experience significant effects. Assets that have been scoped out at this stage (see **Section 6.4.9** below) are those where their particular characteristics and the contribution made by setting to their significance will be unaffected by the Proposed Development regardless of its final layout.

6.4.8. Receptors / matters to be scoped into the assessment

Receptor / Matter	Phase	Justification
Milepost 20 metres south of Ashby Lodge Farm, Grade II Listed Building (NHLE Ref: 1061824)	Construction	The mile post is located within the Site. Construction activity will therefore directly impact on this asset, with potential for significant effects to occur.
Avro Lancaster crash site (LCC HER Ref: MLI25416)	Construction	Although a non-designated heritage asset, military crash sites are protected by legislation. The crash site is recorded within the Site. Construction activity would directly impact on this asset, with potential for significant effects to occur.

Hawker Hurricane crash site (LCC HER Ref: MLI25417)	Construction	Although a non-designated heritage asset, military crash sites are protected by legislation. The crash site is recorded within the Site. Construction activity would directly impact on this asset, with potential for significant effects to occur.
Buildings and monuments recorded in the HER within the Site except those scoped out below	Construction and operation	Construction activity has the potential to directly impact on these assets and the operation of the Proposed Development may impact on the contribution that setting makes to their significance, with potential for significant effects to occur.
17 Scheduled Monuments within 5km	Operation	Depending on the layout of the Proposed Development, these assets may experience visual change in their setting during operation which could result in significant adverse effects.
Listed Buildings within 5 km not scoped out below	Operation	Depending on the layout of the Proposed Development, these may experience visual change in their setting during operation which could result in significant adverse effects.
Currently unknown heritage assets within the Site	Construction and operation	There remains uncertainty about the extent and significance of heritage assets within the Site and therefore the potential for significant effects is unknown.

6.4.9. Receptors / matters to be scoped out of the assessment

Receptor / Matter	Phase	Justification
Setting effects on all heritage assets within the study area	Construction	Construction phase effects resulting from changes in the setting of heritage assets will be temporary and no worse than the operational phase effects. Therefore, it is not considered necessary to repeat the settings assessment for the construction phase.
Listed dwellings within settlements	Operation	The positive contribution made by setting to the significance of residential listed buildings within

<p>over 1 km from the Site</p>		<p>settlements is typically confined to their immediate street scene and does not draw on views of the wider surroundings. No significant effects are therefore predicted.</p>
<p>Listed K6 telephone kiosks</p>	<p>Operation</p>	<p>The K6 telephone kiosks are listed for their architectural interest which is appreciated in close proximity. Their surroundings make a neutral contribution to their significance as they are found in a variety of contexts throughout the UK. No significant effects are predicted as a result of visual change within their wider surroundings.</p>
<p>Findspots recorded by LCC HER: Palaeolithic hand axe (LCC HER Ref: MLI60508); Late Neolithic polished stone axehead (LCC HER Ref: MLI60579); Roman oil lamp (LCC HER Ref: MLI84530); Romano-British finds (LCC HER Ref: MLI86164); Brass jetton found south of Blankney Hall (LCC HER Ref: MLI82650); Roman coin from near Brickyard Farm; (LCC HER Ref: MLI82653); Roman coin from near Brickyard Farm (LCC HER Ref: MLI82653); Middle Bronze Age socketed spearhead, near Ermine Street, Temple Bruer with Temple High Grange</p>	<p>Construction and operation</p>	<p>As findspots, these have been removed from the Site and the heritage significance of their former locations will not be harmed by the Proposed Development.</p>

<p>(LCC HER Ref: MLI86690); A few Romano-British pot sherds, north of Kirkby Green, Scopwick (LCC HER Ref: MLI87384); Bronze pendant from west of Dunsby Pit Plantation, Brauncewell (LCC HER Ref: MLI86162)</p>		
<p>Milepost 20 metres south of Ashby Lodge Farm, Grade II Listed Building (NHLE Ref: 1061824)</p>	<p>Operation</p>	<p>The positive contribution made by setting to the significance of the milepost derives from its relationship with the road network, and this will not be altered by the Proposed Development during operation.</p>
<p>Avro Lancaster crash site (LCC HER Ref: MLI25416)</p>	<p>Operation</p>	<p>The significance of this asset does not draw on its wider surroundings.</p>
<p>Hawker Hurricane crash site (LCC HER Ref: MLI25417)</p>	<p>Operation</p>	<p>The significance of this asset does not draw on its wider surroundings.</p>
<p>Sites of former extractive pits, Ashby de la Launde and Bloxholm (LCC HER Ref: MLI89157, MLI89158, MLI89203 and MLI89204) and Site of former extractive pit, Rowston (LCC HER Ref: MLI89163)</p>	<p>Construction and operation</p>	<p>These assets have negligible importance and significant effects upon them are therefore unlikely.</p>
<p>All heritage assets within the study area</p>	<p>Decommissioning</p>	<p>Decommissioning will not result in impacts to any additional heritage assets not affected during construction and operation.</p> <p>Decommissioning phase effects resulting from changes in the setting of heritage assets in the surrounding</p>

		<p>area will be no worse than the construction or operational phase effects. Decommissioning will reverse any adverse effects resulting from changes to the setting of heritage assets during operation.</p>
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6.4.10. Opportunities for enhancing the environment

Potential enhancement opportunities include replanting of lost hedgerow boundaries and reinstatement or repair of historic walled boundaries within the Site. Where residual effects remain during operation, measures to enhance the significance of heritage assets not affected by the Proposed Development would provide additional beneficial effects to be counted in the planning balance.

6.4.11. Proposed assessment methodology

The Proposed Development would result in a change to the existing baseline, and change might be considered as impacts according to the degree of change in relation to heritage significance. In accordance with EIA Regulations, the assessment would identify impacts and effects as direct or indirect, adverse or beneficial, and short-term, long-term or permanent.

Direct impacts are those which physically alter an asset and therefore its heritage significance. Impacts upon setting are those which affect the heritage significance of an asset by causing visual or sensory change within its setting. The assessment of effects resulting from change within the setting of heritage assets will follow the four-stage process set out in *Historic England’s Good Practice Advice Note 2: The Setting of Heritage Assets*.

The assessment of effects will follow the significance criteria in **Appendix D**.

The residual effect is a product of the importance of the heritage asset and the magnitude of impact following mitigation. The importance of a heritage asset reflects any statutory or non-statutory designation or in the case of undesignated assets the professional judgement of the assessor with reference to regional research frameworks. Conclusions of the assessed magnitude of impacts is a product of the consideration of the elements of an asset and its setting that contribute to its cultural significance and the degree to which the Proposed Development would change these contributing elements. The assessment therefore reflects the varying degrees of sensitivity of different assets to change brought about by different types of development.

6.4.12. Difficulties and uncertainties

To ensure transparency within the EIA process, the following difficulties and uncertainties have been identified:

- Existing records for the historic environment do not record all heritage assets. This will be addressed through the desk-based assessment and aerial investigation and mapping survey to identify previously unrecorded assets and assess the potential for below ground archaeological remains.

The geophysical survey will also further investigate the potential for below ground archaeological remains.

6.4.13. References

- Ministry of Housing, Communities and Local Government (2021) *National Planning Policy Framework*
- Historic England (2017) *Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (Second Edition)* Historic England: Swindon

6.4.14. Scoping questions

- Do you agree with the proposed list of consultees?
- Do you agree with the proposed study areas?
- Do you agree that the data sources listed to inform the EIA baseline characterisation are appropriate?
- Do you agree that the surveys proposed to inform the EIA baseline characterisation are appropriate?
- Are any receptors / assets / resources not identified that you would like to see included in the EIA?
- Do you agree with the proposed additional (secondary and tertiary) mitigation measures and is this mitigation appropriate?
- Do you agree with the receptors / matters that are proposed to be scoped in and out of the EIA?
- Do you agree with the proposed factor-specific assessment approach?

6.5. Landscape and visual

6.5.1 Consultation

No consultation to inform the Landscape and Visual Impact Assessment (LVIA) has been undertaken to date.

Following submission of this EIA Scoping Report, discussions will be held with Natural England, Lincolnshire County Council and North Kesteven District Council to agree the finer detail of the LVIA. Agreement will be sought on a selection of assessment viewpoints to be used in the LVIA, including the illustrative techniques to be used for any visualisations of the Proposed Development.

6.5.2 Study area

Best practice guidance for the assessment of landscape and visual effects (Guidelines for Landscape and Visual Impact Assessment - GLVIA 3) states:

'Scoping should ... identify the area of landscape that needs to be covered in assessing landscape effects. This should be agreed with the competent authority, but it should also be recognised that it may change as the work progresses, for example as a result of fieldwork, or changes to the proposal. The study area should

include the site itself and the full extent of the wider landscape around it which the proposed development may influence in a significant manner.'

and:

'Scoping should identify the area that needs to be covered in assessing visual effect, the range of people who may be affected by these effects and the related viewpoints in the study area that will need to be examined. The study area should be agreed with the competent authority at the outset and should consider the area from which the proposed development will potentially be visible. The emphasis must be on a reasonable approach which is proportional to the scale and nature of the proposed development.'

To assist in the determination of an appropriate and proportionate study area for the LVIA, a series of preliminary Zone of Theoretical Visibility (ZTV) plans have been prepared and these are presented in **Appendix F Figures 1-5**. The ZTVs illustrate the 'worst case scenario' of visibility for various structures of the Proposed Development based on the maximum parameters set out in Chapter 2. The purpose of the ZTVs at this scoping stage is simply to identify the maximum possible extents of visibility and to help identify potential visual receptors.

It should be noted that the ZTVs presented in **Figures 1-5** take account of the screening effect of significant blocks of woodland and also buildings but do not take account of walls, hedgerows, tree lines, or smaller tree groups. As is typical for all such ZTVs, the visibility shown on the plans is exaggerated and the actual extent of visibility of any development on the Site would be considerably more constrained than is indicated on these preliminary ZTVs.

The following ZTVs have been produced:

- Figure 1a – ZTV of the maximum extents of the solar array in Springwell West. This ZTV tests the theoretical visibility of just the solar arrays assuming 4 m high panels.
- Figure 1b – ZTV of the distributed collector compounds / BESS within Springwell West assuming a maximum height of 6 m.
- Figure 2a – ZTV of the maximum extents of the solar array in Springwell Central. This ZTV tests the theoretical visibility of just the solar arrays assuming 4 m high panels.
- Figure 2b – ZTV of the distributed collector compound / BESS within Springwell Central assuming a maximum height of 6m.
- Figure 3a – ZTV of the maximum extents of the solar array in Springwell East. This ZTV tests the theoretical visibility of just the solar arrays assuming 4 m high panels.
- Figure 3b – ZTV of the distributed collector compound/BESS within Springwell East assuming a maximum height of 6 m.
- Figure 4 – ZTV of the substation infrastructure and centralised BESS. The ZTV illustrates visibility of the tallest likely structure within the substation compound (i.e gantries) at 15 m in height but also visibility of other structures

within the substation/centralised BESS which would have a typical maximum height of 6 m.

- Figure 5 – ZTV illustrating a comparison between the visibility of existing pylons across Springwell West and the potential visibility of new national grid connecting towers (up to 60 m in height) within a 100 m buffer either side of the existing overhead line.

In the case of the solar array ZTVs (**Figures 1a, 2a and 3a**), these test the visibility of each parcel assuming that the entire extent of the potential zone for solar arrays is filled with solar panels.

In the case of the ZTVs for the distributed collector compounds / BESS (**Figures 1b, 2b and 3b**), the ZTVs assume that the full extent of the potential zones identified for these structures are filled with them. In reality, the collector compounds / BESS would occupy a fraction of the land area modelled and therefore visibility would be considerably less than implied by these ZTVs.

Similarly in the case of the ZTV for the National Grid and Project substation compounds (**Figure 4**), the ZTV assumes substations at each of the three potential locations. As only one of these three locations would go forward as the final selection, this ZTV again overemphasises the likely extent of actual visibility.

Based on analysis of the ZTVs (**Figures 1-3**) and field work undertaken to date, it is considered unlikely that there would be any view of the solar array or collector compounds / distributed BESS beyond 3 km of the Site boundary. In most locations, visibility would in reality be restricted to much closer than this. It is therefore proposed that a 3 km study area offset from the boundaries of the Site is more than adequate and proportionate for the consideration of landscape and visual effects arising as a result of the solar array and collector compounds / distributed BESS.

Figure 4 suggests any visibility of the National Grid and Project Substation would be limited to a maximum distance of 5 km from the Site. Beyond this distance, visibility of the National Grid and Project Substation would be barely discernible.

Figure 5 indicates that whilst a new connecting tower at a height of up to 60 m may be visible over 10 km away, the new tower would be no more visible than the existing pylons in Springwell West and any visual effects are likely to be localised where, for example, the new tower is closer to a receptor than the existing pylons. It is therefore proposed that a 5 km study area is adequate and proportionate for the consideration of landscape and visual effects arising as a result of the National Grid substation and National Grid connecting tower.

These above study areas are considered adequate to identify all non-negligible effects on landscape and visual receptors.

It is therefore proposed that the detailed study area and the main focus of the LVIA will be within 3 km of the Site boundary for all features of the Proposed Development, except the National Grid and Project Substation and National Grid connecting tower for which the study area will be extended to 5 km.

6.5.3. Data sources to inform the EIA baseline characterisation

The LVIA will draw upon information in the following published landscape character assessments:

- National Character Area (NCA) Profile 47 - Southern Lincolnshire Edge (Natural England, 2014); and
- North Kesteven Landscape Character Assessment (David Tyldesley and Associates, 2007)

The LVIA will consider relevant policy contained within:

- Central Lincolnshire Local Plan 2012-2036 (adopted, 2017);
- Scopwick and Kirkby Green Neighbourhood Plan 2021 – 2036 (Referendum Version, 2022)

The Central Lincolnshire authorities are preparing a new Local Plan to replace the Local Plan adopted in 2017. Consultation on a Proposed Submission Local Plan took place between 16 March 2022 and 9 May 2022 and on 8 July 2022 the Local Plan Review was submitted to the Planning Inspectorate in order for it to commence its examination. The Local Plan Review will be taken into account as it progresses through examination.

The LVIA will also consider the following sources of baseline information as appropriate:

- Green Infrastructure Study for Central Lincolnshire (CBA, 2011)
- Scopwick and Kirkby Green Design Codes, Final Report (Aecom, 2020)

Recreational walks and trails in North Kesteven including the Spires and Steeples Trail, the Ridge and Furrows Trail and a series of circular 'Stepping Out Walks' are promoted locally. The published description of these walks will be reviewed as appropriate and can be viewed at the following web address:

<https://www.hillholtwood.co.uk/stepping-out-walks>

6.5.4. Surveys to inform the EIA baseline characterisation

Several visits to the Site and the surrounding landscape have already been undertaken and all of the footpaths within the Site boundary have been walked.

Further site visits will be undertaken in winter 2022 / 2023 and again in summer 2023 to photograph the baseline views from a range of locations (viewpoints) within and surrounding the Site to represent a range of views and visual receptors of the Site. The location of the viewpoints will be agreed through further consultation with statutory consultees.

Where possible and access to private property can be arranged, visits will also be made to selected residential properties within 200 m of the Site to assess the potential for visual effects on residential amenity.

6.5.5. Baseline conditions

Landscape Designations

No part of the Site or its immediate surrounding context falls within a statutory designated landscape. The nearest Area of Outstanding Natural Beauty (AONB) or National Park to the Site is the Lincolnshire Wolds AONB which is located more than 20 km to the northeast and would not be affected by any development within the Site.

There are no Registered Parks and Gardens within 5 km of any part of the Site; the nearest is located just over 6.5 km to the northwest. Again, there would be no visibility of the Proposed Development at this distance.

There are also no local landscape designations covering any part of the Site. The nearest local designation is the Lincolnshire Cliff Area of Great Landscape Value (AGLV); an escarpment west of and parallel to the A607 between Grantham and Lincoln. This AGLV is located approximately 3 km to the west of Springwell West. The ZTVs indicate that there would be no visibility of the Site from the AGLV and this has been confirmed through Site work.

Landscape Character

The three land parcels (Springwell West, Springwell Central and Springwell East) fall across a broad and undulating plateau and dip slope which falls gradually eastwards from the A607 between Grantham and Lincoln towards the Lincolnshire Fens. Landform across the plateau is relatively gentle and this would limit the distance over which any new structures may be visible. Vegetation structure and the degree of enclosure created by hedgerows, woodland blocks and tree groups across the Site is variable. The landscape is notably more open in the west near the A15 and more enclosed in the east around Scopwick, Blankney and Kirkby Green.

Part of the plateau has a history of use for airfields and RAF airbases (notably RAF Digby). Modern large scale arable farming now sits alongside an older, sparse settlement pattern of small scale hamlets and isolated farmsteads.

National Character Area Profile 47 defines this as the Southern Lincolnshire Edge. The North Kesteven Landscape Character Assessment (NKLCA) records that the full extent of the Site falls within the 'Central Plateau' landscape character type (LCT).

Figure 6 in **Appendix F** illustrates the boundaries of the identified Landscape Character Areas (LCAs) taken from the NKLCA.

Springwell West and Springwell Central fall within the Limestone Heath LCA. Springwell East falls within the Central Clays and Gravels LCA.

Initial field work has identified that there are notable differences in the landscape character across the three identified parcels of land. Notably, the landscape within Springwell West and Springwell Central is more open with limited mature vegetation structure whereas the landscape within Springwell East is more enclosed with more dense and established vegetation. It is proposed to further analyse and characterise the landscape across the Site as part of the LVIA.

Visual Receptors

A review of the Lincolnshire County Council Definitive Map shows that there are several public rights of way (PRoW) in the surrounding area and across the three parcels, including locally promoted routes.

The Spires and Steeples Trail (a regionally promoted recreation walk) runs north to south through Springwell East connecting Blankney and Scopwick. The Ridge and Furrow Trail (another regionally promoted recreation walk) passes approximately 1 km to the west of the Site but appears to have little visibility of the Site. A series of

locally promoted 'Stepping Out' walks pass through Springwell East and traverse the boundaries of the Site within Springwell Central and Springwell West.

Whilst there is a relatively high concentration of PRow in Springwell East, there is a relative sparsity within Springwell West and Springwell Central. Recreational users of PRow would however likely be the most sensitive visual receptors of any change in the landscape.

Areas of Springwell West and Springwell Central are also openly visible from the A15 trunk road and the B1191 (Heath Road) which runs between the A15 and Scopwick. Other minor roads and country lanes pass through Springwell West, but again these are sparse.

The villages/hamlets of Scopwick, Kirkby Green and Blankney lie just beyond the boundaries of Springwell East. Depending on the final design and layout of the Proposed Development, there is the potential for there to be views of the Proposed Development from the fringes of these villages but there is also potential through design and mitigation to minimise the view from properties and community infrastructure within these villages.

The residential quarters within the barracks at RAF Digby lie just beyond the boundaries of Springwell Central. Again, depending on the final design and layout of the Proposed Development, there is the potential for there to be views of the Proposed Development from the barracks but there is also potential through design and mitigation to minimise the view from these facilities.

Elsewhere there are isolated residential properties and farmsteads which will be considered as necessary in the LVIA.

There are no tourist attractions or recognised viewpoints from which the Proposed Development may be visible.

6.5.6. Additional (secondary and tertiary) mitigation

Construction

Consideration will be given to the site selection for compounds and equipment laydown areas to minimise landscape and visual effects as far as practicable. There is, however, limited potential for secondary mitigation of short term landscape and visual construction effects.

Lighting of any construction compounds will be designed to minimise visual intrusion.

Existing trees, woodlands and hedgerows would be protected in accordance with best practice for construction in proximity to trees and in accordance with relevant British Standards, principally BS5837.

Operation

A high quality design will be secured firstly through careful site selection for the various components of the Proposed Development, taking account of the potential landscape and visual effects. Removal or disruption to any existing landscape fabric (i.e trees, hedgerows) will be minimised to that which is absolutely necessary for the implementation of the Proposed Development.

Detailed landscape and habitat mitigation proposals will be developed in accordance with the project principles to integrate the Proposed Development into the landscape and mitigate visual effects as far as practicable. The landscape strategy will be complementary to any biodiversity and other environmental objectives. The landscape design will seek to deliver landscape enhancements over and above the requirement to simply mitigate adverse effects.

The landscape strategy will seek to manage and restore existing vegetation and habitats within the Site, as well as implement the planting of extensive areas of new native vegetation and creation of new biodiverse habitats.

An Outline Landscape and Ecological Management Plan (oLEMP) will be developed in consultation with relevant consultees to secure the long term management of the landscape and biodiversity strategy.

Decommissioning

This stage will be similar to the construction stage, albeit in reverse. Given the anticipated operational life time of the Proposed Development (40 years), mitigation landscaping will have reached maturity and short-term landscape and visual decommissioning effects will be more filtered and / or screened than at the construction stage. No secondary mitigation is envisaged during this phase.

6.5.7. Description of likely significant effects

At this stage, prior to any formal assessment and in the absence of fixed development proposals, it is acknowledged that there is the potential for significant landscape and visual effects to arise during construction, operation and decommissioning. It is also, however, noted that further assessment based on firm development proposals and taking account of mitigation may result in a finding of limited significant effects.

The LVIA will therefore consider the potential effects upon:

- landscape fabric;
- landscape character; and
- visual receptors including residential, transport and recreational receptors.

Whilst the ZTVs presented in **Figures 1-5** illustrate theoretical visibility out to 3 km (for the solar array and collector compounds / distributed BESS) and 10 km (for the National Grid and Project Substation and National Grid connecting towers), it is likely that any significant effects will only extend across a much narrower radius of the Site boundary than this.

Based on Site analysis to date and previous experience of assessing the significance of landscape and visual effects for solar farms in similar landscapes, it is considered likely that any significant landscape and visual effects arising from the solar array and the collector compounds / distributed BESS would be limited to within a distance of approximately 1 km. Significant effects associated with the National Grid and Project Substation and connecting towers may extend further to approximately 3 km.

6.5.8. Receptors / matters to be scoped into the assessment

Receptor / Matter	Phase	Justification
Landscape Character Area 7 (LCA 7): Limestone Heath (North Kesteven Landscape Character Assessment)	Construction, operation and decommissioning	Springwell West and Springwell Central fall within this LCA and there would be a large scale of change in localised parts of this LCA.
Landscape Character Area 11 (LCA 11): Central Clays and Gravels (North Kesteven Landscape Character Assessment)	Construction, operation and decommissioning	Springwell East falls within this LCA and there would be a large scale of change in localised parts of this LCA.
Users of the A15 and B1191	Construction, operation and decommissioning	A large volume of traffic passes along these two roads which have a largely open view across part of the Site. Receptors are generally not of high sensitivity but the views are likely to be experienced by large numbers of people from these two roads.
Users of the PRoWs and local road network which passes through and within 3 km of the Site (including the Spires and Steeples Trail and the Stepping Out walks)	Construction, operation and decommissioning	Higher sensitivity receptors which may have both direct and indirect views of the Proposed Development
Residents and visitors to the villages of Scopwick, Kirkby Green, Blankney and Ashby De La Launde	Construction, operation and decommissioning	Depending on the final layout and design of the Proposed Development, there may be views of the Proposed Development from these villages, although it is intended to minimise as far as possible visual intrusion

		on these receptor groups.
Residents of the barracks at RAF Digby	Construction, operation and decommissioning	Depending on the final layout and design of the Proposed Development, there may be views of the Proposed Development from the residential quarters of the barracks, although it is intended to minimise as far as possible visual intrusion on this receptor group.
Isolated farmsteads and residential properties within 1 km of the Site	Construction, operation and decommissioning	Higher sensitivity receptors – consideration will be required of residential visual amenity.

6.5.9. Receptors / matters to be scoped out of the assessment

Receptor / Matter	Phase	Justification
Lincolnshire Wolds AONB	Construction, operation and decommissioning.	This AONB is situated over 20 km from the Site and there would be no intervisibility at this distance.
Lincoln Cliff Area of Great Landscape Value (AGLV)	Construction, operation and decommissioning.	The AGLV is a west facing scarp slope, orientated north-south and located over 3 km to the west of the Site. Field work has already confirmed that there would be no visibility of the Proposed Development in views to or from the scarp slope.
Other LCAs in the North Kesteven Landscape Character Assessment	Construction, operation and decommissioning.	Despite the fact that the ZTVs indicate some distant visibility from other LCAs, field work

		has established that there would be no intervisibility between the Site and any other LCAs.
Villages/hamlets of Metheringham, Bloxham, Digby, Dorrington, Ruskington, Leasingham, Cranwell, RAF Cranwell, Wellingore and Navenby and other settlements along the A607	Construction, operation and decommissioning.	Despite the fact that the ZTVs indicate some distant visibility in some cases from the edges of these villages, once intervening hedgerows and other vegetation is taken into account, it is highly unlikely there would be any views of the Proposed Development from these settlements. Any glimpses would be distant, filtered and negligible.
PRoW and local roads beyond 3 km	Construction, operation and decommissioning.	It is unlikely that there would be any views of the Proposed Development at this distance, but any glimpses of the Site beyond this distance are not likely to result in effects which would reach the threshold of a significant effect.
Isolated residential properties over 1 km from the Site	Construction, operation and decommissioning.	Whilst there may be glimpses from individual properties beyond 1 km of the Site, this will be a matter of private visual amenity and under no circumstances would this give rise to an overbearing effect on residential amenity.

<p>Users of the rail network, specifically section between Metheringham and the level crossing on the B1191</p>	<p>Construction, operation and decommissioning.</p>	<p>Medium / Low sensitivity receptor which would have both direct and intermittent views of activity during construction, operation and decommissioning. The potential for significant effects to occur is considered low.</p>
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6.5.10. Opportunities for enhancing the environment

A comprehensive landscape mitigation strategy for the entire Site will be developed and this will seek to deliver significant landscape as well as biodiversity enhancement.

6.5.11. Proposed assessment methodology

The LVIA will be undertaken in accordance with published best practice, namely the Guidelines for Landscape and Visual Impact Assessment (Third Edition) (GLVIA3), (Landscape Institute and IEMA, 2013) and associated technical guidance notes published by the Landscape Institute, including:

- Technical Guidance Note 06 / 19: Visual Representation of Development Proposals, published by the Landscape Institute (2019)
- Technical Guidance Note 02 / 21: Assessing landscape value outside national designations
- Technical Guidance Note 02 / 19: Residential Visual Amenity Assessment
- Technical Guidance Note 04 / 20: Infrastructure.

Wherever possible, identified effects are quantified, but the nature of landscape and visual assessment requires interpretation using professional judgement. In order to provide a level of consistency to the assessment, the prediction of magnitude and assessment of significance of the residual landscape and visual effects will be based on pre-defined criteria.

GLVIA3 states that *‘professional judgement is a very important part of the LVIA’ (paragraph 2.23) and that ‘in all cases there is a need for the judgements that are made to be reasonable and based on clear and transparent methods so that the reasoning applied at different stages can be traced and examined by others.’ (paragraph 2.24).* It goes on at paragraph 3.32 to state that *‘there are no hard and fast rules about what effects should be deemed ‘significant’ but LVIAs should always distinguish clearly between what are considered to be the significant and non-significant effects.’*

The LVIA will define the existing landscape and visual baseline environment; assess its sensitivity to change; describes the key landscape and visual related

aspects of the Proposed Development; describes the nature of the anticipated changes and assess the effects arising during construction, operation and decommissioning.

Although linked, landscape and visual effects are considered separately. Landscape effects derive from changes in the landscape fabric, which may result in changes to the character, whereas visual effects are the effect of these changes as experienced by people (visual receptors).

The specific significance criteria to be used in the LVIA are set out in **Appendix D**. All above ground primary and secondary elements of the Proposed Development will be considered in the LVIA as visible features which either individually or collectively have the potential to give rise to significant landscape and visual effects. A selection of viewpoints, agreed with statutory consultees, will be used in the LVIA to consider effects on different receptor groups, at various distances from the Site and to illustrate any particularly sensitive views identified through scoping.

Annotated photographs (both winter and summer views) will be provided for each of the assessment viewpoints used in the LVIA. The annotated photographs will accord with guidance for 'Type 1' visualisations as defined in Landscape Institute Technical Guidance Note 06/19 (TGN 06 / 19).

A series of photomontages will be presented for key viewpoints (locations to be determined through further consultation). The photomontages will be produced using the same base photographs as the annotated photographs and accord with guidance for 'Type 3' or 'Type 4' visualisations as defined in TGN 06 / 19.

Mitigation measures will be developed as appropriate and taken into consideration in the assessment of effects.

The LVIA will conclude by summarising which if any effects are considered to be 'significant'.

As set out within LI Technical Guidance Note 02 / 19 'Residential Visual Amenity Assessment (RVAA)':

'Changes in views and visual amenity are considered in the planning process. In respect of private views and visual amenity, it is widely known that, no one has 'a right to a view.'

and:

'It is not uncommon for significant adverse effects on views and visual amenity to be experienced by people at their place of residence as a result of introducing a new development into the landscape. In itself this does not necessarily cause particular planning concern. However, there are situations where the effect on the outlook / visual amenity of a residential property is so great that it is not generally considered to be in the public interest to permit such conditions to occur where they did not exist before.'

The LVIA will present, as an appendix to the main assessment, a residential amenity assessment of visual effects on residential properties for any property where there is a possibility that the visual effects may approach the threshold described above.

At the time of writing, the Applicant is not aware of any other major developments within the vicinity of the Site which would require a cumulative LVIA.

However if other projects are identified during the EIA process, cumulative landscape and visual effects will be assessed as appropriate.

6.5.12. Difficulties and uncertainties

No difficulties or uncertainties with regards the LVIA have been identified at this stage.

6.5.13. References

- *Guidelines for Landscape and Visual Impact Assessment*, (2013), Third Edition, Landscape Institute and Institute of Environmental Management and Assessment
- *Landscape Institute Technical Guidance Note 06/19: (2019), Visual Representation of Development Proposals*, published by the Landscape Institute
- *Landscape Institute Technical Guidance Note 02/21: Assessing landscape value outside national designations*
- *Landscape Institute Technical Guidance Note 02/19: Residential Visual Amenity Assessment*
- *Landscape Institute Technical Guidance Note 04/20: Infrastructure*
- *National Character Area Profile (NCA) 47 - Southern Lincolnshire Edge*, Natural England, 2014. Available at: <http://publications.naturalengland.org.uk/publication/4991055606841344?category=587130>
- *North Kesteven Landscape Character Assessment*, David Tyldesley and Associates, 2007. Available at: <https://www.n-kesteven.gov.uk/residents/planning-and-building/planning/planning-applications/north-kesteven-landscape-character-assessment/>
- *Central Lincolnshire Local Plan 2012-2036 (adopted 2017)*. Available at: <https://www.n-kesteven.gov.uk/residents/planning-and-building/planning/planning-policy/central-lincolnshire-local-plan/>
- *Scopwick and Kirkby Green Neighbourhood Plan 2021 – 2036 (Referendum Version, 2022)*
- *Central Lincolnshire Local Plan Review (draft)*. Available at: <https://www.n-kesteven.gov.uk/central-lincolnshire/local-plan-review/>
- *Lincolnshire Public rights of Way Map (2022)*. Available at: <http://lincs.locationcentre.co.uk/internet/internet.aspx?articleid=L4h7HM4AmHM~&preview=true>
- *Green Infrastructure Study for Central Lincolnshire*, CBA, 2011
- *Scopwick and Kirkby Green Design Codes, Final Report*, Aecom, 2020
- *North Kesteven Stepping Out Walks* Available at: <https://www.hillholtwood.co.uk/stepping-out-walks>

6.5.14. Scoping questions

- Do you agree with the proposed list of consultees?
- Do you agree with the proposed study areas?
- Do you agree that the data sources listed to inform the EIA baseline characterisation are appropriate?
- Do you agree that the surveys proposed to inform the EIA baseline characterisation are appropriate?
- Are any receptors/assets/resources not identified that you would like to see included in the EIA?
- Do you agree with the proposed additional (secondary and tertiary) mitigation measures and is this mitigation appropriate?
- Do you agree with the receptors/matters that are proposed to be scoped in and out of the EIA?
- Do you agree with the proposed factor-specific assessment approach?
- Are there any specific viewpoints that you would like us to consider and/or illustrate as a photomontage?
- Are there any other developments which you consider it will be necessary for us to address in a cumulative landscape and visual impact assessment?

6.6. Land, soils and groundwater

6.6.1 Consultation

No consultation regarding land, soils and groundwater has been undertaken to date. A significant amount of site-specific information has been obtained from the Site Envirocheck Report (environmental database search), which incorporates records from bodies such as local authorities, the Environment Agency and the British Geological Survey.

6.6.2 Study area

For the purposes of this EIA Scoping Report, the Site and a 1 km buffer have been considered with regard to identifying land, soil and groundwater related receptors that could be impacted by the construction, operation and / or decommissioning of the Proposed Development.

A preliminary risk assessment (PRA) report has been prepared to provide a desk-based analysis of the Site with respect to land, soils and groundwater. This EIA Scoping Report has been prepared based on information provided in the PRA report.

6.6.3. Data sources to inform the EIA baseline characterisation

The baseline of the Site has been assessed with data obtained from a number of sources, with the findings provided in the PRA report, as referenced above. These sources included:

- Geological maps (bedrock and superficial geology);
- Hydrogeological and groundwater vulnerability maps;
- Soil survey maps;
- Historical site investigation and assessment reports, where available;
- Environment Agency surface water quality, abstraction and discharge records plus aquifer designation and source protection zones;
- Environment Agency, local authority and British Geological Survey data on the location of waste sites, pollution incidents and potentially contaminated sites;
- Mineral sterilisation and geological conservation review sites;
- Historical mapping for the Site; and
- An internet search for any other relevant issue in the public domain.

Some data has been accessed via gov.uk and other freely accessible databases and a Site Envirocheck Report has been obtained.

6.6.4. Surveys to inform the EIA baseline characterisation

- A walkover survey of the Site and surrounding area has been undertaken as part of the baseline assessment (20 - 21 October 2022, as reported in the PRA report). This included taking notes, annotating site plans and taking photographs.
- An Agricultural Land Classification (ALC) survey is underway to provide confirmation of ALC across all areas of the Site.
- Intrusive ground investigations are due to be undertaken in 2023.

6.6.5. Baseline conditions

Designated geological sites

There is a Site of Special Scientific Interest (SSSI) designated for geological reasons located approximately 2 km to the north of the Site. The distance from this SSSI to the Site is considered sufficient to ensure that there will be no adverse impacts on the SSSI as a result of the Proposed Development. There are no recorded geological conservation review sites close to the Site.

No designated geological sites therefore need to be considered as part of this assessment.

Mineral extraction sites and mineral safeguarding

Historical mineral extraction has been widespread across the area of the Proposed Development, with extraction of limestone bedrock from stone pits being

commonplace on historical maps. Some areas of sand and gravel excavation are also indicated to have been present.

No part of the Site is located within an adopted minerals site.

A large limestone Mineral Safeguarding Area (intended to protect valuable mineral resources from sterilisation by new development) is present within the Site boundary. Consultation with Lincolnshire County Council will be required in relation to this area. This area is also classified as a Mineral Consultation Area (requiring involvement of the Mineral Planning Authority in determination of development proposals that could impact upon identified mineral resources). The mapping shows the extent of the Mineral Safeguarding Area, which corresponds to the area where limestone bedrock is present across the Site. This incorporates the whole of Springwell West and the western sections of Springwell Central and Springwell East. There are also two Site-Specific Minerals Safeguarding areas located around Brauncewell Quarry, located to the south western corner of Springwell West and Longwood Quarry located on the western edge of Springwell East.

The Minerals Safeguarding Area and Site Specific Minerals Safeguarding Areas are displayed on the Environment Features Plan located in Appendix C.

It should be noted that for the Proposed Development, the majority of the land take is temporary (i.e. where the solar arrays are located). Even though the Site is partly within a mineral safeguarding area, future extraction of minerals will be possible after decommissioning of the Proposed Development.

Geology

The Site is primarily underlain by limestone bedrock with some areas of sandstone, mudstone and siltstone. Superficial deposits appear to be largely absent, with occasional deposits (including sand and gravel) being present along some watercourses. Further details are provided in the PRA report.

There are no mapped zones of artificial ground shown on the British Geological Survey mapping, but it remains likely that infilling of quarries and pits has occurred and there may be areas of made ground present in association with tracks or existing structures.

Geological faults are apparent within the Site, with no particular consistency to the orientation of these.

British Geological Survey borehole records have been assessed, and these primarily show the presence of shallow limestone bedrock, covered by thin deposits of topsoil and subsoil.

There may be geological hazards at the Site relating to the presence of shallow limestone, as this stratum can be prone to ground dissolution stability hazards. Some areas of the Site are classified in the Envirocheck Report as being at risk of moderate hazards due to bedrock dissolution and the presence of shrinking or swelling clay.

Soils

An ALC survey is currently being undertaken at the Site.

National level data shows that most of Springwell Central and the southern section of Springwell West is classified as Grade 2 agricultural land. Percentages of best

and most versatile (BMV) land across the Site calculated to date using the National Level Data show that 32.8% of the Site is Grade 2 land (497Ha) and 67.2% of the Site is classified as Grade 3 land (1,020Ha). Grade 2 is defined as very good quality agricultural land and Grade 3 is defined as good to moderate quality agricultural land.

Publicly available soils mapping shows the whole Site to be covered by soils within Soilscape 3, which are defined as shallow lime-rich soils over chalk or limestone. These are categorised as freely draining and are generally used as arable and grassland.

Hydrogeology

The bedrock deposits underlying the Site form a principal aquifer of high vulnerability. A principal aquifer is defined as groundwater that provides significant quantities of drinking water and water for business needs and it may also support rivers, lakes and wetlands. Depths to groundwater are variable across the Site, ranging from 2 m to 3 m in some weathered limestone and superficial deposits and at greater depth from 12m to 30 m in most limestone bedrock.

A Source Protection Zone (SPZ) is present close to Scopwick. This is an inner zone (SPZ 1), providing protection around a groundwater abstraction source located to the west of Scopwick.

There is also a total catchment zone (SPZ 3) located across the southern section of Springwell West.

The environmental database did not identify any other groundwater or surface water abstractions within the Site.

Discharge consents

There are a number of recorded discharge consents within the Site and in the surrounding area, as detailed in the PRA report. Within the Site, these are either for domestic properties (involving discharge to land) or the sewage treatment works located close to Scopwick Heath (RAF Digby).

Historical site usage

Historical mapping shows the Site has been in use for agricultural purposes since the earliest editions of the maps in the late 1800s. Maps show numerous locations where stone pits, quarries and sand and gravel pits have been present over the years. A sewage treatment works is located adjacent to the Site close to Scopwick Heath (RAF Digby). There do not appear to have been any other structures present within the Site, with the exception of some farm buildings and wind pumps. There are some electrical overhead cables passing over the Site. The proximity of RAF Digby suggests that there is the potential for unexploded ordnance to have been present at the Site.

Landfill sites and waste transfer sites

There are no recorded historical or current landfill sites or waste transfer sites within the Site. However, there are known to have been many quarries and pits within the Site and it is possible that some of these have been infilled with made ground and waste materials over time.

The closest recorded landfill is located just south of Long Wood, to the west of Springwell East. This site was known as Longwood Quarry and was a landfill and waste transfer site for the deposition of non-biodegradable waste and treatment of waste to produce soil. Brauncewell Quarry landfill site is located adjacent to the Site to the south east of Springwell West and accepted non-biodegradable waste from 2001. There was also a waste treatment facility at Brauncewell Quarries (over 450 m to the south east of Springwell West), for transfer and treatment of inert and excavation waste.

Land contamination

The Site history indicates that land use has been predominantly agricultural, although mineral extraction has also occurred in many locations. Contamination may be present associated with agriculture, and with the machinery used in excavating limestone, sand and gravel. Made ground is likely to be present within infilled pits and quarries, and along tracks and close to buildings or structures located within the Site. There is also potentially made ground and contamination associated with the railway that passes adjacent to the eastern boundary of Springwell East and the nearby sewage works and landfills.

The Envirocheck Report has been reviewed in relation to significant pollutions incidents on or close to the Site and none have been recorded in the last 20 years.

There are fuel filling stations located off-site to the south east (approximately 60 m from the boundary at Digby Aerodrome, now obsolete) and 100 m to the north west of Springwell Central.

There are no contaminated land register entries within or close to the Site.

Natural hazards and mining

There is the potential for low to moderate geological hazards within the Site due to ground dissolution stability hazards and risks from the presence of shrinking or swelling clay.

Mining related hazards are not expected to be relevant across this Site.

6.6.6. Additional (secondary and tertiary) mitigation

The majority of mitigation measures required to address potential effects relating to land, soil and groundwater are standard good practice for construction projects.

Construction

The following measures would also be expected to be incorporated into site good practice documents e.g. an Outline Construction Environmental Management Plan (oCEMP), to ensure that damage to ground, groundwater and surface water can be minimised during the construction phase:

- soil management during works will incorporate guidelines for soil handling, to include replacement of soil in temporary laydown areas;
- during construction works, surface water drains should be designed to carry only uncontaminated water. Foul drains should carry contaminated water to a sewage treatment works under suitable discharge consent; and

- concrete mixing would be undertaken in designated areas to minimise the potential for impact on watercourses.

Standard mitigation to be applied will be protective of all groundwater resources and this will mean that there are no negative effects on the groundwater within the abstraction zones. It is also intended that the collector compounds, battery energy storage system (BESS), Project Substation and National Grid Substation should be located away from the SPZs, where possible.

Operation

No further mitigation measures would be expected to be required during operation beyond the embedded mitigation incorporated into the design of the Proposed Development.

A desk-based PRA Report has been prepared, which assesses the potential risks on the existing land, soil and groundwater baseline, including contamination issues. The PRA report conclusions and intrusive ground investigations will determine necessary mitigation measures to ensure that the construction, operation and decommissioning of the Proposed Development do not result in significant effects on the receiving land and soil environment.

An Outline Soils Management Plan will be submitted in support of the DCO Application, and this document will set out the principles to prevent impacts on the soil resource.

6.6.7. Description of likely significant effects

Potential significant effects during construction include damage to soils due to compaction from plant. It is also anticipated that there will be a reduction in the availability of BMV land.

The majority of the land use will be short-term and temporary (during construction); however, some will be long-term but temporary (construction and operation) and some will be permanent (for example the National Grid substation).

The ground mounted solar PV generating stations, BoSS, Project Substation, Collector Compounds and BESS compound(s) will be removed from the Site during decommissioning; therefore, the loss of the ability to use the BMV land in these areas would not be permanent.

6.6.8. Receptors / matters to be scoped into the assessment

Receptor / Matter	Phase	Justification
Soils (soils and agricultural land)	Construction	The nature of the Proposed Development means that some areas of BMV land will not be available for agricultural production during construction. Although an Outline Soils Management Plan will be submitted in support of the DCO Application, which will set out the principles to prevent impacts on the soil resource, there may

		<p>also be adverse effects on the quality of topsoil if trafficking over soils results in compaction occurring.</p> <p>It should be acknowledged that changes to the hydrogeological regime as a result of the Proposed Development may also affect the quality of soils within the Site, with potential knock-on effects to off-site resources.</p> <p>Construction works also have the potential to impact on agricultural field drains (for example via piling or damage due to construction plant), which could result in negative impacts on soil quality or future agricultural yield.</p> <p>Construction activity will therefore directly impact on the soils within the Site, with the potential for significant effects to occur.</p>
Agricultural land	Operation	The operational Proposed Development will lead to a loss of agricultural and BMV land and will therefore directly impact on the availability of such land.
Agricultural land	Decommissioning	The solar panels and associated infrastructure will be removed during decommissioning and therefore that land will be returned to the landowner in a state suitable for continued agricultural use. The National Grid Substation will be permanent development which will lead to a continued loss of agricultural and (potentially) BMV land and will therefore directly impact on the availability of such land.
6.6.9. Receptors / matters to be scoped out of the assessment		
Receptor / Matter	Phase	Justification
Land	Construction, operation and decommissioning	Embedded mitigation measures are considered sufficiently effective to minimise impacts to land. There are not shown to be any significant sensitive receptors based on the findings of the

		<p>PRA, and industry best practice procedures will prevent damage to the land during construction, operation or decommissioning activities.</p> <p>Consultation will be undertaken with Lincolnshire County Council to ensure that any negative implications for Mineral Safeguarding Areas are minimised and considered as part of the Proposed Development design.</p>
Groundwater	Construction, operation and decommissioning	<p>The quality of groundwater in source protection zones will be appropriately protected by embedded mitigation measures. The project surface water strategy will mirror the existing surface water regime, so having minimal effect on the existing groundwater conditions.</p>
Soils	Operation	<p>Significant vehicle movements within the Site during operation are not anticipated and therefore the potential for such vehicle movements to cause compaction is considered limited.</p>
Soils	Decommissioning	<p>Any effects on soils during decommissioning would not be expected to be significant as the number of vehicle movements is anticipated to be less than during the construction phase, limiting the potential for compaction of soils to occur. Decommissioning works are also less likely than construction works to adversely impact on agricultural field drains as there would be no requirement for piling etc., so are less likely to result in deterioration of soil quality .</p>

6.6.10. Opportunities for enhancing the environment

If any contamination issues are identified within the Site, remediation may be necessary prior to construction commencing, which would qualify as an enhancement opportunity. Remediation work, if required, could result in improvement in existing soil or groundwater conditions.

6.6.11. Proposed assessment methodology

The following documents are relevant in preparation of the assessment:

- Part IIA, Environmental Protection Act, 1990 (relevant in terms of assessment of contaminated land)
- The Environmental Permitting Regulations (England & Wales) 2016 (last revised March 2020) (relevant with respect to environmental permits)
- The National Planning Policy Framework, July 2021 and relevant National Planning Guidance documents
- Land Contamination Risk Management (LCRM), October 2020
- Natural England Technical Information Note TIN049: Agricultural Land Classification: protecting the best and most versatile land, 2nd edition (2012)
- Minerals and waste development plans for local authorities.

The assessment will include review of the information obtained for the Site for the matters that are to be scoped in (as detailed in **Section 6.6** Error! Reference source not found.), and each will be considered using professional judgement to determine whether the level of available information is acceptable (for example a large landfill site that is off-site and separated by a physical barrier such as a valley or stream may not require additional consideration, but a smaller contamination incident closer to the Site may require further consideration).

Significance of potential impacts is assigned based on a set of definitions, as provided in **Appendix D**, and professional judgement will be used as appropriate to assess potential risks.

The assessment will consider the potential short-term environmental effects during construction and will also consider long-term environmental effects during operation. It is proposed to scope out most matters from the decommissioning phase, with the exception of agricultural land.

Additional mitigation measures will be detailed to ensure that damage to soils and agricultural land can be reduced and avoided as far as possible.

Consideration of cumulative effects will include a regional-scale assessment of impacts from the reduction in availability of BMV land.

6.6.12. Difficulties and uncertainties

To ensure transparency within the EIA process, the following difficulties and uncertainties have been identified:

- Data on site history have been obtained from historical maps, and there may be developments that occurred between map editions that are not evident.

6.6.13. References

- Environment Agency (2020), Land contamination risk management, <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>, April 2021.
- Geology, UXO, Mining and Ground Stability Envirocheck Report (2022)

6.6.14. Scoping questions

- Do you agree with the proposed study areas?
- Do you agree that the data sources listed to inform the EIA baseline characterisation are appropriate?
- Do you agree that the surveys proposed to inform the EIA baseline characterisation are appropriate?
- Are any receptors / assets / resources not identified that you would like to see included in the EIA?
- Do you agree with the proposed additional (secondary and tertiary) mitigation measures and is this mitigation appropriate?
- Do you agree with the receptors/matters that are proposed to be scoped in and out of the EIA?

6.7. Noise and vibration

6.7.1 Consultation

No consultation regarding noise and vibration has been undertaken to date.

The local Environmental Health department at North Kesteven District Council will be consulted regarding the methodology detailed below. Consultation would be sought in order to seek agreement on the following:

- Baseline noise survey locations and programme of monitoring;
- Guidance and standards pertinent to the assessment(s);
- Receptors for inclusion in the assessment(s) where necessary; and
- Agreement on relevant criteria.

6.7.2 Study area

The study area is not defined within the applicable noise and vibration standards and guidance proposed for the assessment(s). The study area shall therefore be defined based on the Applicant's experience of solar farm developments and proposed locations of operational equipment / structures and construction/decommissioning pathways. In this case, those receptors adjacent to the Site boundary shall be adopted. These shall include isolated receptors / properties or those indicative of a group of dwellings.

The extent of the study area and proposed assessment locations would be agreed with North Kesteven District Council as part of the initial consultation phase.

6.7.3. Data sources to inform the EIA baseline characterisation

The following sources of information have informed the scope of the baseline surveys:

- Site boundary – detailing extents of the Proposed Development location and proximity to nearby receptors;

Online aerial imagery – Determine locations of nearest receptors to inform both the baseline survey and future assessment(s).

6.7.4. Surveys to inform the EIA baseline characterisation

A comprehensive baseline noise survey is proposed to quantify and characterise the existing noise environment across the study area.

It is proposed that a baseline noise monitoring exercise will be undertaken in accordance with British Standard (BS) 7445-1:2003 *'Description of environmental noise – Guide to quantities and procedures'*, and the equipment used will conform to the requirements of BS EN 61672-1:2013 *'Electroacoustics. Sound level meters. Specifications'*.

Monitoring will be undertaken in the form of long-term noise measurements, typically of 1-week duration, in order to quantify the existing noise environment and sources of noise impacting the assessment receptors. Monitoring would encompass continuous periods throughout daytime and night, accounting for the likely operational times of the Proposed Development (i.e. 24 hours per day, 7 days per week). Baseline monitoring would be used to inform the criteria for both the construction and operational phases.

Monitoring would likely occur along the Site boundary and adjacent to public rights of way at positions representative of those nearest receptors. Where positions along the Site boundary are deemed to not be representative of nearby receptors, it is recommended that positions are within the receptors premises..

6.7.5. Baseline conditions

Baseline noise levels are expected to be of low order, considering the largely rural setting of the Site. Typically, those receptors positioned closest to the A15 would be expected to experience the highest baseline noise levels of the entire study area due to their proximity to road traffic from this source.

Review of aerial imagery indicates that the baseline environment may also be influenced by mineral extraction activity from Brauncewell Quarry (off A15) and Longwood Quarry (off Long Wood Lane); noise levels from these activities would be captured as part of the baseline noise survey. No further significant sources of noise are noted.

The receptors likely to be incorporated into the assessment are all residential in nature and therefore have the highest level of sensitivity.

6.7.6. Additional (secondary and tertiary) mitigation

Potential measures to mitigate levels of noise and vibration during the construction, operational and decommissioning phases are outlined below:

Construction

In developing the control measures during the construction phase, best practicable means (BPM), as defined in Section 72 of the Control of Pollution Act 1974 and Section 79 of the Environmental Protection Act 1990, would be applied during all construction works to minimise noise (including vibration) at neighbouring

residential properties and other sensitive receptors. In doing so, due consideration would be given to the recommendations contained within BS5228:2009+A1:2014. Measures to minimise levels of noise and vibration during the construction phase may include:

- The use of lower emitting noise level plant items
- Management of operations to more appropriate periods
- Use of noise barriers / temporary enclosures

Operation

When choosing attenuation measures or implementing an effective noise reduction program, there are two possible approaches for treatment:

- Mitigation at source – modify the source to radiate at a lower sound power level
- Mitigation through transmission – deflect or block the acoustic path of noise.

It should be noted that this list of additional mitigation is not exhaustive, the specifics of which (and the extent) would be determined as part of the assessment.

Decommissioning

Measures outlined as part of the construction phase would likely be applied during the decommissioning phase in accordance with BS5228:2009+A1:2014.

6.7.7. Description of likely significant effects

Construction

The construction phase would likely lead to an increase in existing noise levels at receptors as a result of the use of large earthmoving/lifting equipment, plus increase in vehicle/HGV numbers along the road network and new access tracks. Temporary significant effects may occur during this phase.

Operation

The operational phase will inevitably introduce new noise sources into the locality, with those sources having the potential to be tonal in nature. Given the likely low background noise levels, particularly during the night-time period, the impact of the Proposed Development may be significant and permanent at a number of existing receptors.

Decommissioning

The decommissioning phase would likely lead to an increase in existing noise levels at receptors as a result of the use of large earthmoving/lifting equipment, plus increase in vehicle/HGV numbers along the road network and new access tracks. Temporary significant effects may occur during this phase.

6.7.8. Receptors / matters to be scoped into the assessment

Receptor / Matter	Phase	Justification
Noise	Construction and decommissioning	Activities likely to involve large earthmoving / lifting plant items with the potential for significant effects to occur.

Road traffic	Construction and decommissioning	Potential increase in HGV / vehicle movements may cause significant effects in the short term.
Vibration	Construction and decommissioning	Activities likely to involve large earthmoving / lifting plant items with the potential for significant effects to occur.
Noise	Operation	Operational plant items are likely to have an impact on the existing noise environment and affect local amenity.

6.7.9. Receptors / matters to be scoped out of the assessment

Receptor / Matter	Phase	Justification
Vibration	Operation	Operational elements including fixed plant items / structures will not emit discernible levels of vibration.
Road traffic	Operation	The increase in road traffic during operation is likely to be negligible, with vehicles only likely to be required for routine maintenance.

6.7.10. Opportunities for enhancing the environment

No opportunities for enhancement in relation to noise and vibration have been identified at this stage.

6.7.11. Proposed assessment methodology

Noise and vibration will be quantified using a combination of spreadsheet calculations and / or computational noise modelling. Calculations will be based on algorithms set out in ISO 9613-2:1996 'Acoustics — Attenuation of sound during propagation outdoors — Part 2: General method of calculation', BS 5228-1:2009+A1:2014 '*Code of practice for noise and vibration control on construction and open sites. Noise*', BS 5228-2:2009+A1:2014 '*Code of practice for noise and vibration control on construction and open sites. Vibration*' and DMRB '*LA111 Noise and Vibration, 2020*'.

Those phases of assessment comprise:

- Construction - infrastructure including fixed plant and road traffic.
- Operational - infrastructure fixed plant.
- Decommissioning - infrastructure including fixed plant and road traffic.

Computational Noise Modelling

Noise modelling will be undertaken using nationally recognised modelling software (SoundPLAN v8.2) and widely accepted modelling algorithms (Calculation of Road Traffic Noise (CRTN) for road traffic, ISO 9613 for industrial and BS 5228 for construction). Data gathered during the baseline noise monitoring survey (see

Section 6.7.5 above) would be used in conjunction with local terrain data and masterplans plans to generate a model of the proposals. The computer noise model will take into account existing and future terrain data, any existing or proposed mitigation schemes and any existing or proposed structures.

The noise model would utilise the plant noise source data to predict likely noise levels at those closest receptors. Information such as construction areas and durations, would all feed into the model. Where information is not provided, datasheets from the plant manufacturer or in-house data, measured from similar plant items would be used for prediction purposes.

The computer noise model output will provide site wide noise contour plots and visually depict how the noise will likely attenuate across the Site. The model would allow for predictions at nearby receptors to determine compliance with the appropriate assessment criteria and assist, where applicable, with project specific mitigation measures.

Construction Assessment

The construction assessment would account for the following (primary) activities:

- Groundworks – cut and fill activities, access tracks, site establishment
- Cable trenching
- Vehicle / HGV movements
- Installation of infrastructure – to include PV system, BESS and Project Substation, National Grid Substation, grid connections, installation of new overhead line towers.

The contribution of the different construction activities would be assessed in line with the guidance in BS 5228-1:2009+A1:2014 '*Code of practice for noise and vibration control on construction and open sites – Noise*', plus any specific requirements of North Kesteven District Council. Where construction noise levels are considered to be excessive or intrusive, recommendations for noise control measures would be made.

The effect of construction traffic on the existing road network would be assessed in accordance with the requirements of Design Manual for Roads and Bridges (DMRB) 'LA 111 Noise and Vibration, 2020'. The assessment would determine the level of noise increase in the short term, due to the inclusion of construction traffic on the existing network.

In terms of vibration impacts, sensitive receptors and possible vibration generating construction activities would be identified. Activities which may have the potential to generate perceptible levels of vibration at sensitive receptors, or levels which may cause early signs of cosmetic or structural damage include, but are not limited to, piling, rolling and compaction. Where these activities are identified as occurring within the construction programme and within a short separation distance from a sensitive receptor, predictions of possible vibration levels would be made using guidance contained within BS 5228-2:2009+A1:2014 '*Code of practice for noise and vibration control on construction and open sites – Vibration*', and through empirical formulae. Predicted vibration levels would be assessed against appropriate criteria within BS 5228-2. Where the impact is predicted to be high or

significant as a result of construction induced vibration, control measures would be recommended, including the specification of minimum distances from construction.

Operational Assessment

The operational assessment would account for the following (primary) activities:

- Inverter / transformer stations
- Collector compounds (containing switchgear and transformer)
- Project Substation and BESS
- National Grid substation.

Operational impact will be assessed to the requirements of BS 4142:2014+A1:2019 '*Methods for rating and assessing industrial and commercial sound*'. Noise predictions of the Proposed Development, derived from the computer noise modelling, would be compared with the existing background noise level ($L_{A90, T}$) at the nearest receptors to determine the level of impact. The assessment would utilise information regarding the number, type and noise emission data for the proposed fixed plant operating on the Site, in addition to the proposed Site layout. Where the assessment identifies potential and unreasonable impacts, guidance on potential noise control methods for the fixed plant and machinery will be provided (typically noise barriers, enclosures etc.). This will ensure the final design of the proposed installations can be developed to incorporate the required noise mitigation.

Decommissioning Assessment

The impact of decommissioning would follow the assessment outlined as part of the construction phase. At this stage, it is assumed that activities would not be significantly different to those proposed during construction, merely in reverse order. Where appropriate, the contribution of decommissioning and the movement of vehicles/HGVs would be assessed in accordance with BS 5228-1:2009+A1:2014 and Design Manual for Roads and Bridges (DMRB) 'LA 111 Noise and Vibration, 2020',

The significance criteria proposed for the Noise and vibration assessment are set out in **Appendix D**.

6.7.12. Difficulties and uncertainties

The ability to undertake the assessment is dependent upon the following relevant information:

- Details of development phasing plans (where applicable).
- Construction methodologies
 - plant lists
 - on-times
 - work hours
 - haul routes
 - detailed work areas.

- Confirmation of manufacturer's data (technical specification) document (in 1:3 octave bands) for all operational plant items.
- HGV movements (numbers as 18hr Averaged Annual Weekday Traffic, traffic composition and speed) for the construction phase, including route layouts.

6.7.13. References

- British Standards Institution (2019), 'British Standard 4142: 2014+A1: 2019, Methods for rating and assessing industrial and commercial sound'.
- British Standards Institution (2014), 'British Standard 5228-1: 2009+A1: 2014, Code of practice for noise and vibration control on construction and open sites – Noise'.
- British Standards Institution (2014), British Standard 5228-2: 2009+A1: 2014, Code of practice for noise and vibration control on construction and open sites – Vibration.
- British Standards Institution (2003), British Standard 7445-1:2003, Description and measurement of environmental noise – Part 1: Guide to quantities and procedures.
- Design Manual for Roads and Bridges (2020), LA111 Noise and Vibration
- Welsh Office HMSO (1988), Department of Transport, 'Calculation of Road Traffic Noise'.

6.7.14. Scoping questions

- Do you agree with the proposed list of consultees?
- Do you agree with the proposed study areas?
- Do you agree that the data sources listed to inform the EIA baseline characterisation are appropriate?
- Do you agree that the surveys proposed to inform the EIA baseline characterisation are appropriate?
- Are any receptors / assets / resources not identified that you would like to see included in the EIA?
- Do you agree with the proposed additional (secondary and tertiary) mitigation measures and is this mitigation appropriate?
- Do you agree with the receptors / matters that are proposed to be scoped in and out of the EIA?
- Do you agree with the proposed factor-specific assessment approach?

6.8. Traffic and transport

6.8.1 Consultation

No consultation to inform the traffic and transport assessments has been undertaken to date.

The key consultees will be the local highway authority and planning authority which may be impacted during the construction phase of the Proposed Development, as well as National Highways. Anticipated consultees are:

- North Kesteven District Council
- Lincolnshire County Council
- National Highways

Agreement of a study area for construction traffic is required, along with traffic distribution. Additionally:

- Specify aspects of the environment and issues relating to those that should be considered and addressed in the Environmental Statement (with emphasis on any issues local to the Site);
- Comment on or recommend, where appropriate, assessment methodologies, particularly in relation to sensitive receptors; and
- Highlight other relevant bodies or organisations that may have a vested interest in the Proposed Development or be able to provide relevant information.

Once the scoping opinion has been received, the response will be reviewed, and the relevant points raised therein taken forward and used to inform the EIA process. The specific outputs to support the DCO Application will depend on the outcome of the agreed scope.

6.8.2 Study area

The study area, focussing on the construction phase impacts, will comprise the following links, at the proposed site access points. At this stage, the location of access points is not known and as such, the following links will comprise the study area (at the site access points along the Site boundary):

- B1189
- B1188
- B1191
- A15.

These study area links have been identified assuming that all construction traffic routes to the Proposed Development will follow these links for access.

The extent of the study area would be discussed and agreed with the local highway authorities prior to assessment following the agreement of the access locations and the anticipated construction traffic routeing.

6.8.3. Data sources to inform the EIA baseline characterisation

There are a number of Department for Transport (DfT) traffic count points across the study area links. It is proposed that these datasets will provide suitable baseline traffic data, classified by vehicle type, along with any relevant local highway authority datasets where available. Any data gaps in this information may be supplemented with specifically commissioned traffic surveys (see **Section 6.8.4** below).

Local imagery and Ordnance Survey mapping would be utilised in the assessment.

6.8.4. Surveys to inform the EIA baseline characterisation

Existing relevant DfT traffic count data is available along the following links, which would be reviewed in reference to construction traffic routing to each respective access and will be considered in line with traffic estimate data provided by the Applicant for the construction phase of the Proposed Development:

- B1189 (no DfT data available – supplementary traffic data to be used as required)
- B1188 2021 (data available for point North at Metheringam: 809565. Data for the following points is limited to 2008: North at Scopwick: 806250; South: 940400; East at Kirkby Green: 940394)
- B1191 (data is limited to 2008: 940402)
- A15 (2021 data available for points North: 16208 and South: 36224).

Where data is limited to 2008, and on any links within the study area which may be affected by construction traffic, then supplementary traffic data or new surveys may be required.

6.8.5. Baseline conditions

A preliminary review of the DfT online traffic data portal suggests that historic traffic counts are available for most of the main roads within the study area approaching the Proposed Development. Data for more local roads is less evident.

No information on land ownership/highways boundary is known at this stage but would be relevant based on the access location, if alterations are required.

The land use surrounding the Proposed Development is generally agricultural fields and local highway network with a number of existing local settlements. The Longwood Quarries site, which is located adjacent to the Site, would be considered in the assessment.

6.8.6. Additional (secondary and tertiary) mitigation

At this stage, the requirement for additional mitigation is not anticipated. However, this is subject to understanding the preferred construction traffic routes and upon definitive agreement of the study area with the Lincolnshire County Council as the local highway authority.

6.8.7. Description of likely significant effects

Construction and decommissioning works have the potential to impact sensitive receptors within the study area whereby increased traffic affects these receptors. Appropriate traffic control measures can be effective for minimising impacts by traffic generating activities associated with the construction and decommissioning phases with any adverse effects reduced or eliminated.

Construction and decommissioning traffic will comprise haulage / construction vehicles and vehicles used for workers' trips to and from the Site. The greatest impact will be in areas adjacent to the Site access and nearby local highway network. As the phases are temporary (construction and decommissioning), it is considered unlikely that significant numbers of vehicle movements associated with staff commuting to and from the site will be generated. Likewise, following the peak construction period, HGV vehicles are expected to be limited. The assessments proposed will determine this, with any significant impacts addressed within the EIA.

6.8.8. Receptors / matters to be scoped into the assessment

Receptor / Matter	Phase	Justification
B-Road B1189	Construction	<p>During the construction phase, traffic will be generated by a range of activities including:</p> <ul style="list-style-type: none"> • Construction workers arriving and leaving site areas/compounds; • Supply of construction materials and plant associated with the establishment of compounds and main construction works; • Movement of plant; • Removal of soil resources, spoil or waste; and • Service vehicles and visitors. <p>Construction traffic estimates are as yet unknown. As such, this phase of works has been scoped in to enable consideration of impacts on receptors within the study area against the Guidelines for the Environmental Assessment of Road Traffic (Institute of Environmental Assessment, 1993).</p>
B-Road B1188	Construction	
B-Road B1191	Construction	
A-Road A15	Construction	
Local (minor) roads	Construction	
B-Road B1189	Decommissioning	<p>As with the Construction phase, the movement of workers, materials and plant during decommissioning are</p>
B-Road B1188	Decommissioning	
B-Road B1191	Decommissioning	

A-Road A15	Decommissioning	likely to generate trips on the local highway network. At this stage, the number of anticipated trips is unknown and as such, consideration of the decommissioning phase has been scoped in.
Local (minor) roads	Decommissioning	

6.8.9. Receptors / matters to be scoped out of the assessment

Receptor / Matter	Phase	Justification
All	Operation	Once operational, the effect on the local road system is expected to be minimal. Access will be required from time to time for routine maintenance, and less frequently for major maintenance and upgrades. Therefore, it is not expected that the changes in traffic on the existing network will change by more than 30% for HGVs or all vehicle movements, these being defining thresholds for environmental effects on the local transport network.

6.8.10. Opportunities for enhancing the environment

With the exception of encouraging sustainable travel to and from the Site and use of sustainable vehicles where possible, it is not considered that there are opportunities for enhancement in relation to traffic and transport that can be identified at this stage.

6.8.11. Proposed assessment methodology

Assessment of the traffic and transport environmental impacts and their significance will be based on the Guidelines for the Environmental Assessment of Road Traffic (Institute of Environmental Assessment, 1993). This guidance provides two broad rules to be used as a screening process to identify the appropriate extent of the assessment area and likelihood of impacts. These are:

“Rule 1 - Include highway links where traffic flows would increase by more than 30% (or the number of HGVs would increase by more than 30%); and

Rule 2 - Include any other specifically sensitive areas where traffic flows would increase by 10% or more.”

Where the predicted increase in traffic flow is lower than the thresholds, the Guidelines suggest the significance of the effects can be stated to be low or insignificant and further detailed assessments are not warranted.

Where construction traffic flows do exceed these thresholds, the significance of traffic and transport effects (including cumulative) will be determined by assessing the sensitivity of receptors against the magnitude of change to categorise

significance as Major, Moderate, Minor or Negligible. The environmental effects that may be assessed are namely:

- Severance
- Driver delay
- Pedestrian delay
- Pedestrian amenity
- Fear and intimidation
- Accidents and safety

Given that the day-to-day variation of traffic on a road is frequently at least plus or minus 10%, the Guidelines consider that projected changes in traffic flows of less than 10% create no discernible environmental impact, hence the second threshold as set out in Rule 2.

The following criteria will be used to evaluate the magnitude of identified adverse effects that may result from the Proposed Development:

- Major – where total traffic flows and/or HGVs are predicted to increase by more than 30% or 10% in specifically sensitive areas
- Moderate – where total traffic flows and/or HGV traffic is predicted to increase between 10% and 30%
- Minor – where up to 10% increase in total traffic flows and/or HGV traffic is predicted
- Negligible – where there are no sensitive groups, locations or areas that would be affected by an increase in total traffic flows and HGV traffic.

The definitions of ‘major’, ‘moderate’, ‘minor’, and ‘negligible’ have been derived from the Guidelines. Effects of ‘major’ and ‘moderate’ are considered to be significant.

Significance of effect is a judgement about the combination of the magnitude of effect and the sensitivity of the receiving environment/receptor. The Environmental Statement will record judgements about the likely significance of effects arising from the Proposed Development.

6.8.12. Difficulties and uncertainties

To ensure transparency within the EIA process, the following difficulties and uncertainties have been identified:

- The overview of baseline conditions is based on desk-based studies only at scoping stage and is based on data available at the time of writing.
- The construction assessment will assume the use of standard construction techniques commensurate for the type of works being undertaken. The final techniques, plant selection and programme are expected to be determined by the appointed contractor, in consultation with relevant authorities prior to commencement of construction.

Traffic estimates for any stage of the Proposed Development are not confirmed at this time and may be subject to change but will be confirmed prior to assessment.

6.8.13. References

- Guidelines for the Environmental Assessment of Road Traffic (GEART)' (Institute of Environmental Assessment (1993)

6.8.14. Scoping questions

- Do you agree with the proposed list of consultees?
- Do you agree with the proposed study areas?
- Do you agree that the data sources listed to inform the EIA baseline characterisation are appropriate?
- Do you agree that the surveys proposed to inform the EIA baseline characterisation are appropriate?
- Are any receptors/assets/resources not identified that you would like to see included in the EIA?
- Do you agree with the proposed additional (secondary and tertiary) mitigation measures and is this mitigation appropriate?
- Do you agree with the receptors/matters that are proposed to be scoped in and out of the EIA?
- Do you agree with the proposed factor-specific assessment approach?

7. Cumulative Effects

7.1. Proposed assessment methodology

- 7.1.1. Schedule 4(5)(e) of the EIA Regulations states that the ES should include “a description of the likely significant effects of the development on the environment resulting from... the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources”.
- 7.1.2. Regulation 4(2) states that the EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors.....population and human health, biodiversity, land, soil, water, air and climate, material assets, cultural heritage and the landscape. Regulation 4(2)(e) refers to the need to assess “the interaction between those factors”.
- 7.1.3. There is no widely accepted methodology for assessing cumulative effects, although various best practice and guidance documents exist. However, relevant guidance has been considered, including from the Institute of Environmental Management and Assessment (IEMA) [Ref. 7-1]. and the assessment guidance set out in the Planning Inspectorate’s Advice Note: Cumulative Effects Assessment [Ref. 7-2].
- 7.1.4. The following approach will be adopted for the assessment of cumulative effects, based on previous experience, the types of receptors being assessed, the nature of the Proposed Development, the other developments under consideration and the information available to inform the assessment.
- 7.1.5. The following types of cumulative effects will be considered in accordance with the EIA Regulations and best practice guidance:
- Intra-project combined effects – the interaction and combination of different environmental residual (post-additional mitigation) effects from within the Proposed Development affecting a receptor; and
 - Inter-project cumulative effects – the combined residual (post-mitigation) effects of the Proposed Development and other projects on a single receptor/resource, considering the deviation from the baseline conditions at common sensitive receptors/resources as a result of changes brought about as a result of the Proposed Development in combination with one or more other existing development and/or approved developments.

Intra-project combined effects

- 7.1.6. The approach to the assessment of interactions of environmental effects will consider the changes in baseline conditions at common sensitive receptors (i.e. those receptors that have been identified as experiencing likely significant effects by more than one environmental factor) due to the Proposed Development. The assessment will be based upon residual (post-additional mitigation) effects of **'slight / minor'** or greater significance only. The study area for the assessment will be informed by the study areas for the individual factor assessments.
- 7.1.7. The assessment of the intra-project combined effects will be undertaken using a two-stage approach:

Stage 1 – Screening

- 7.1.8. Screening will be undertaken to determine whether a sensitive receptor is exposed to more than one type of residual (post-additional mitigation) effect during the construction, operation and decommissioning phases of the Proposed Development. Those common sensitive receptors exposed to two or more types of residual (post-additional mitigation) effects, with significance of **'slight / minor'** or greater, will be taken forward to Stage 2 of the assessment.
- 7.1.9. If there is only one type of effect on a sensitive receptor (i.e. only one technical chapter has identified effects on that sensitive receptor), then it will be considered that there are no potential intra-project combined effects and the sensitive receptor will not be taken forward to Stage 2 of the assessment.

Stage 2 – Assessment of intra-project combine effects

- 7.1.10. A quantitative assessment of the overall significance of the cumulative effects on common sensitive receptors identified at Stage 1 will be undertaken based on technical information provided in the technical chapters and supporting appendices as well as professional judgement. Given that the types of effects may be very different in some cases, a quantitative assessment may not be possible, and it may be necessary to apply professional judgement in determining the significance of each individual effect.
- 7.1.11. The evaluation at the receptor level will consider: the magnitude of change at the common receptor; previously identified sensitivity; duration and reversibility of interaction. The focus will be on determining a change in the level of effect likely to be experienced and whether this is significant or not.

Inter-project cumulative effects

- 7.1.12. The approach to the assessment of inter-project effects will consider the deviation from the baseline conditions at common sensitive receptors as a result of changes brought about as a result of the Proposed Development in combination with one or more other existing development and / or approved developments. The assessment of the inter-project effects will be based upon the residual (post-additional mitigation) effects that have been identified in the various factor assessments for the Proposed Development, as well as available environmental information for the other existing development and / or approved developments.
- 7.1.13. In accordance with Advice Note Seventeen, two clear stages will be taken in identifying the list of other existing development and / or approved developments which will be included within the inter-project cumulative effects assessment:
- Stage 1: establish a long list of other existing development and/or approved developments based on appropriate spatial and temporal limits.
 - Stage 2: apply a clear rationale to establish a short list of other existing development and / or approved developments which, in combination with the Proposed Development, have the potential to result in a significant cumulative effect for inclusion within the assessment.

Stage 1: Long list methodology

- 7.1.14. In accordance with the 'Tier 1' and 'Tier 2' descriptions in Table 2 of Advice Note Seventeen, the following criteria will be used to establish the 'long list' of other existing development and/or approved developments, as at the time of submitting the DCO Application for the Proposed Development:
- Projects that are under construction but that will not be completed prior to the Proposed Development commencing (N.B. in accordance with Table 2 of Advice Note Seventeen, other projects that are expected to be completed before construction of the Proposed Development, and the effects of those projects have been fully determined within their respective applications, will be considered as part of the baseline);

- Projects with planning permission within the last five years⁴ (whether under the PA2008 or other regimes), but not yet implemented;
- Submitted applications (whether under the PA2008 or other regimes), but not yet determined;
- Refusals subject to appeal procedures not yet determined; and
- Projects for which an application has not been submitted but have been the subject of an EIA scoping request.

7.1.15. It should be noted that with reference to ‘Tier 3’ descriptions in Table 2 of Advice Note Seventeen, the following will not be considered in the above criteria, as none of the below will have sufficient environmental assessment information freely and publicly available to inform the inter-project cumulative effects assessment, nor are any of the below considered by the Applicant to be ‘existing and/or approved development’:

- Projects that have not been the subject of an EIA scoping request;
- Projects that have been identified in the relevant Development Plan(s) (and emerging Development Plans);
- Projects identified in other plans and programmes (as appropriate) which set the framework for future development consents / approvals, where such development is reasonably likely to come forward.

7.1.16. Where an existing development and/or approved development meets one of the above criteria, it will be taken forward for further consideration against the following spatial limits to form the long list of other existing development and / or approved developments, as at the time of submitting the planning application for the Proposed Development:

- Employment developments: must lie within the Zone of Influence (Zoi) of the Proposed Development;
- Residential developments: must comprise 10+ dwellings and lie within the Zoi of the Proposed Development;
- Minerals and waste applications: must lie within the Zoi of the Proposed Development;

⁴ A five-year period is considered a reasonable time period to capture all other existing development and/or approved developments that still have the potential to be built. Developments with planning permission older than five years will likely have been built or will not likely be built at all

- NSIP or DNS developments⁵: must lie within the Zol of the Proposed Development;
- Transport infrastructure developments⁶: must lie within the Zol of the Proposed Development; and
- Approved energy infrastructure developments must lie within the Zol of the Proposed Development.

7.1.17. The Zol is defined here as the study area for each environmental factor considered in the EIA for the Proposed Development. The environmental factor-specific study areas, and appropriate justifications for these study areas, will be provided in the ES. The search area for forming the long list of other existing development and/or approved developments will be based on the greatest Zol in terms of distance.

7.1.18. A planning application search will be conducted to identify other existing development and/or approved developments using relevant planning portals. However, it is recognised that North Kesteven District Council, as the local planning authority, may be aware of additional proposals not yet fully in the public domain and hence comment is sought on any further developments that should, in the authority's opinion, be included in the cumulative effects assessment process.

7.1.19. Only if the other existing development and / or approved developments meet the Stage 1 criteria will they then be taken forward to Stage 2.

Stage 2: Short list methodology

7.1.20. Following the formation of the long list, the eligible other existing development and/or approved developments identified require further assessment (Stage 2) to establish a short list of other existing development and / or approved developments which, in combination with the Proposed Development, have the potential to result in significant cumulative effects.

7.1.21. The criteria used to determine whether to include or exclude an existing development and / or approved development on the short list will reflect the process established by Advice Note Seventeen and have regard to relevant policy and guidance documents and consultation with the appropriate statutory consultation bodies (particularly the local planning authority). Advice Note Seventeen states that the criteria should address the following:

⁵ As defined by the Planning Act 2008 (as amended) and the Planning (Wales) Act 2015 and the Developments of National Significance (Wales) Regulations 2016 (as amended).

⁶ Trunk roads or motorways only, as smaller transport infrastructure proposals would not likely have a significant cumulative effect.

- **“Temporal scope:** *The applicant may wish to consider the relative construction, operation and decommissioning programmes of the ‘other existing development and/or approved development’ identified in the ZOI together with the programme, to establish whether there is overlap and any potential for interaction.*
- **Scale and nature of development:** *The applicant may wish to consider whether the scale and nature of the ‘other existing development and/or approved development’ identified in the ZOI are likely to interact with the proposed development. Statutory definitions of major development and EIA screening thresholds may be of assistance when considering issues of scale.*
- **Other factors:** *The applicant should consider whether there are any other factors, such as the nature and/or capacity of the receiving environment that would make a significant cumulative effect with ‘other existing development and/or approved development’ more or less likely and may consider utilising a source-pathway-receptor approach to inform the assessment.*
- **Documentation:** *The CEA shortlisting process may be documented using Matrix 1 (Appendix 1). The reasons for excluding any development from further consideration should be clearly recorded. This will provide decision makers, consultation bodies and members of the public with a clear record of ‘other existing development and/or approved development’ considered and the applicant’s decision making process with respect to the need for further assessment.”*

7.1.22. Advice Note Seventeen suggests that professional judgement may also be used to supplement the threshold criteria and in order to avoid excluding ‘other existing development and / or approved development’ that is:

- *“Below the threshold criteria limits but has characteristics likely to give rise to a significant effect; or*
- *Below the threshold criteria limits but could give rise to a cumulative effect by virtue of its proximity to the proposed development.”*

7.1.23. Taking the above into consideration, the other existing development and/or approved developments on the long list will be reviewed against the following criteria to form the short list of other existing development and/or approved developments, as at the time of submitting the planning application for the Proposed Development:

- **Criteria 1:** The other existing development and / or approved development has a construction, operational and/or demolition phase that is concurrent with the Proposed Development;
- **Criteria 2:** The other existing development and/or approved development and the Proposed Development share common sensitive receptors / resources which are assessed and described in the supporting environmental documentation, and have the potential to be significantly affected by the combination of the other existing development and / or approved development and the Proposed Development; and
- **Criteria 3:** The other existing development and/or approved development has sufficient environmental assessment information freely and publicly available to inform the inter-project cumulative effects assessment. The assessment of each existing development and / or approved development on the short list will be proportionate to the environmental assessment information available (N.B: An attempt will not be made to assess the potential environmental effects of any other development to inform the inter-project cumulative effects assessment. If there is an existing development and/or approved development that it is known will be progressed but has insufficient environmental assessment information, it still may be prudent to consider it in the inter-project cumulative effects assessment. This might take the form of listing the project and why it hasn't been considered in detail, or the potential cumulative effect could be discussed at a high level (qualitatively) using professional judgement).
- Where an existing development and / or approved development meets all of the above criteria, it will be taken forward for further consideration in the assessment.

7.1.24. Where an existing development and/or approved development approved development meets all of the above criteria, it will be taken forward for further consideration in the assessment.

7.2. Determining significant cumulative effects

7.2.1. There is no formal guidance on the criteria for determining significance of cumulative effects. The following principles will be considered when assessing the significance of cumulative effects in relation to both intra-project and inter-project cumulative effects:

- Is there an intra-project and/or inter-project effect on any receptors / resources;

- The nature of the receptors/resources affected;
- How the impacts identified combine to affect the condition of the receptor / resource;
- The probabilities of the impacts occurring in relation to each other in such a way so as to produce a cumulative effect, considering the extent and duration of the impact change;
- The ability of the receptor / resource to absorb further impacts; and
- Is the level of effect different to that considered at the project level and is the in-combination effect significant or not.

7.3. Difficulties and uncertainties

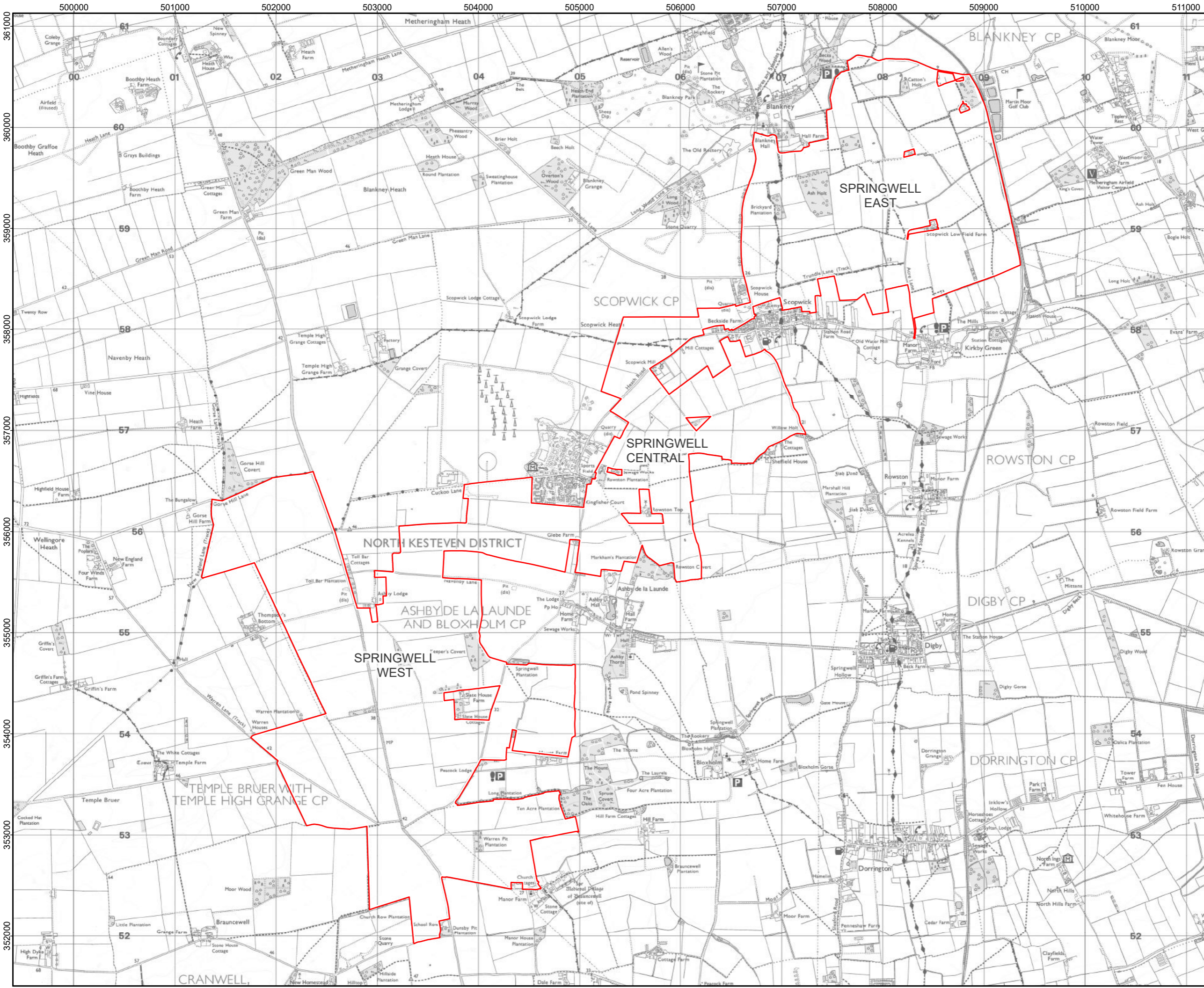
- 7.3.1. The assessment of inter-project cumulative effects will be limited to publicly available information obtained from the relevant planning applications on the Planning Inspectorate and North Kesteven District Council planning portal. For some of the identified other existing development and / or approved developments, relevant information for this assessment may not be available. Where this is the case, the inter-project cumulative effects assessment will be based upon assumptions and professional judgement, and some statements made would rely on the review of mitigation measures proposed as part of the other existing development and / or approved developments rather than the Proposed Development.

7.4. References

- **Ref. 7-1:** Institute of Environmental Management and Assessment (IEMA) (2011) 'The State of Environmental Impact Assessment in the UK'. Available at: <https://s3.eu-west-2.amazonaws.com/iema.net/documents/knowledge/policy/impact-assessment/2011-State-of-EIA-IEMA.pdf>
- **Ref. 7-2:** Planning Inspectorate (August 2019) Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects' (Version 2). Available online <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-17/>

Appendix A – Site Boundary Plan

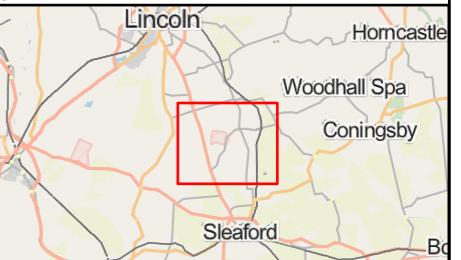




LEGEND:
 Site Boundary

NOTES:

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



05	16/03/2023	RLB & Fig No.	FA	JG	DP
04	04/01/2023	Updated RLB	FA	JG	DP
03	16/12/2022	Parcel names	FA	JG	DP
Rev	Date	Description	Drn	Chk	App

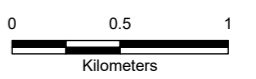
Springwell Solar Farm



DOCUMENT:
 P663620_siteBoundary_A3L

TITLE:
 Site Boundary Plan

FIGURE NUMBER:
 Appendix A – Figure 1



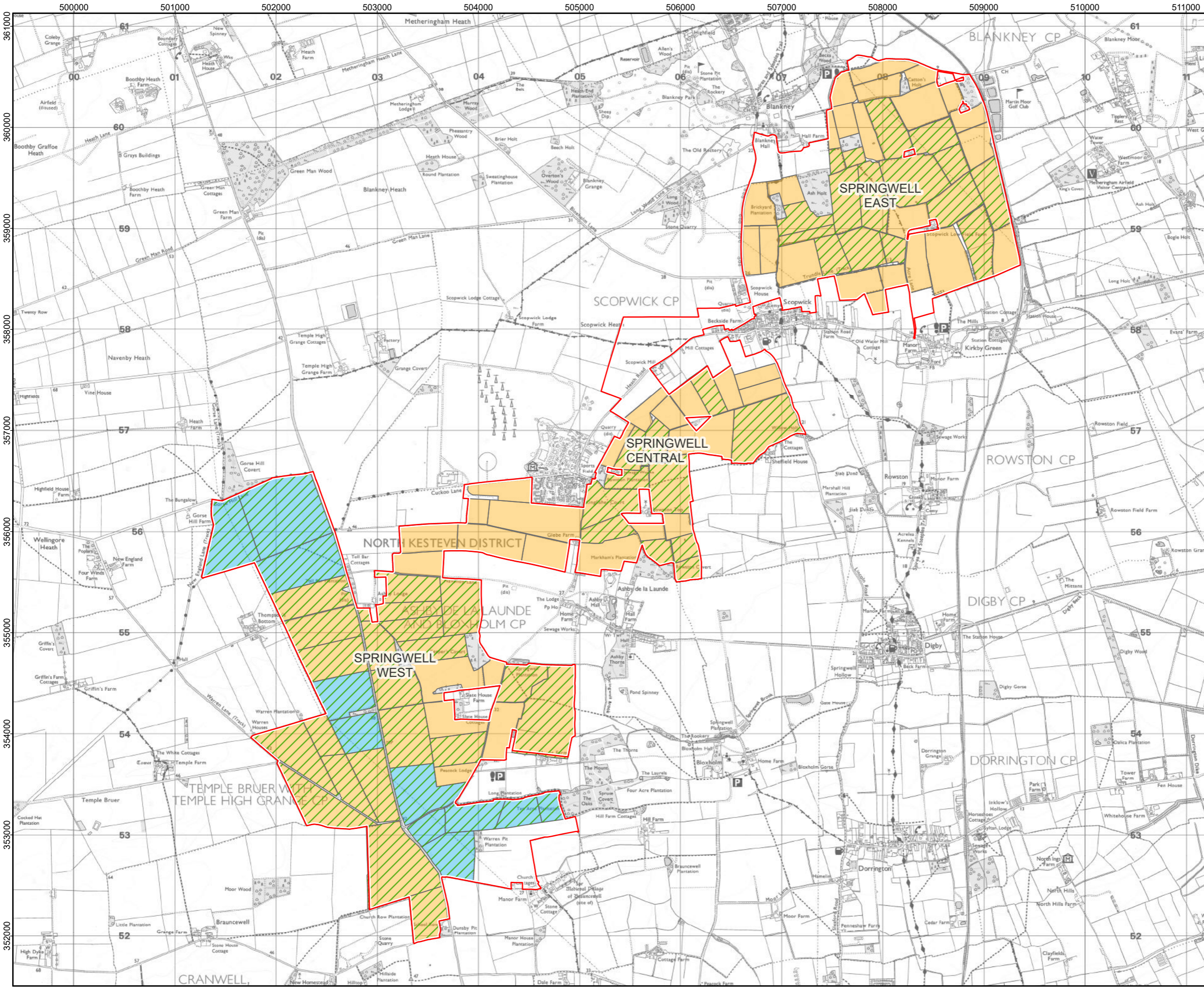
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REV 05

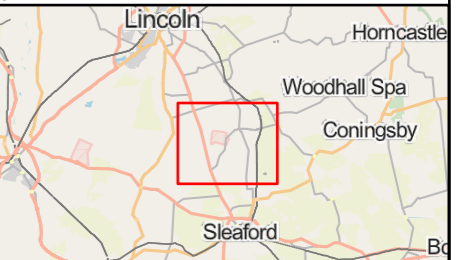
Appendix B – Zonal Masterplan





- LEGEND:**
- Site Boundary
 - Potential area suitable for collector compounds and distributed BESS
 - Potential area for solar PV generating station
 - Potential area for solar PV generating station, national grid substation, project substation, and/or consolidated BESS

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



Rev	Date	Description	Drn	Chk	App
10	16/03/2023	RLB & Fig No.	FA	JG	DP
09	13/02/2023	Updated RLB	FA	JG	DP
08	04/01/2023	Updated RLB	FA	JG	DP

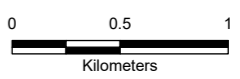
Springwell Solar Farm



DOCUMENT:
 P663620_fieldZonalMasterplan_A3L

TITLE:
 Zonal Masterplan

FIGURE NUMBER:
 Appendix B- Figure 1



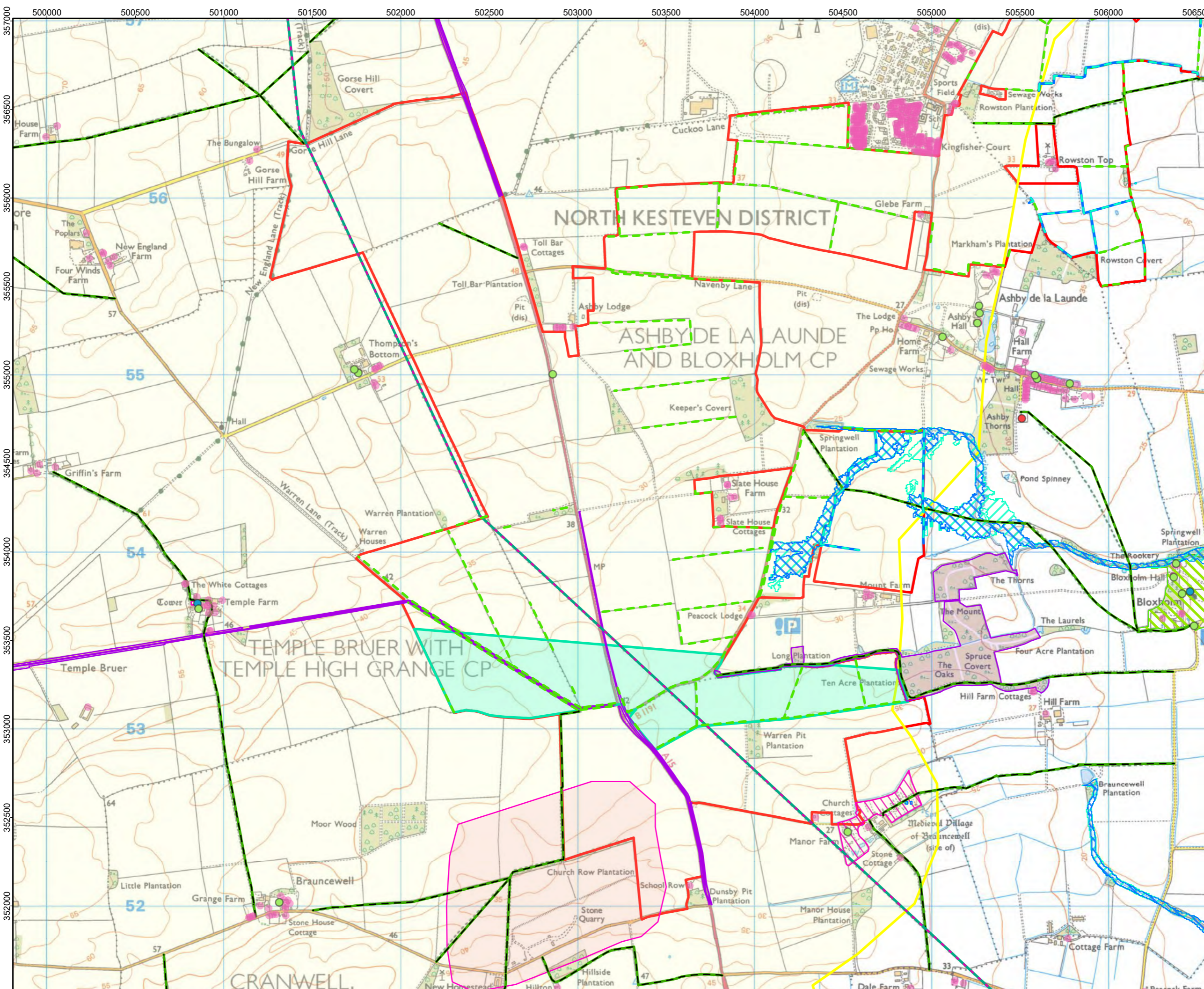
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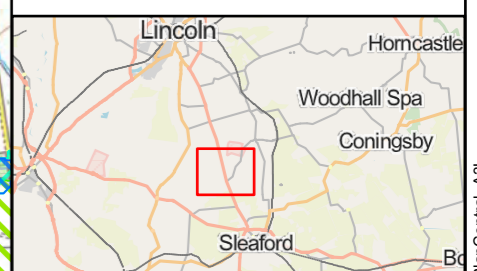
REV 10

Appendix C – Environmental Features Plan





- LEGEND:**
- Site Boundary
 - Residential Properties
 - Listed Buildings**
 - I
 - II
 - II*
 - Heritage Conservation Area
 - National Grid OHL (400kV)
 - Watercourse
 - Watercourses Suitable for Water Vole
 - Priority Hedgerow
 - Public Rights of Way
 - Scheduled Monuments
 - Local Wildlife Sites
 - Site Specific Minerals Safeguarding Area
 - Limestone Minerals Safeguarding Area
 - Flood Zone 3
 - Flood Zone 2
 - Source Protection Zone**
 - Zone III - Total Catchment



Rev	Date	Description	Drn	Chk	App
07	16/03/2023	RLB & Fig No.	FA	JG	DP
06	23/02/2023	Added ALC Blankney	FA	JG	DP
05	09/01/2023	Updated Symbology	FA	JG	DP

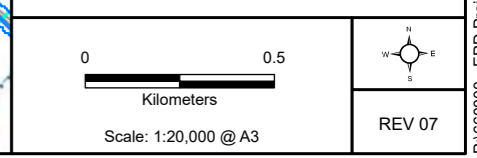
Springwell Solar Farm

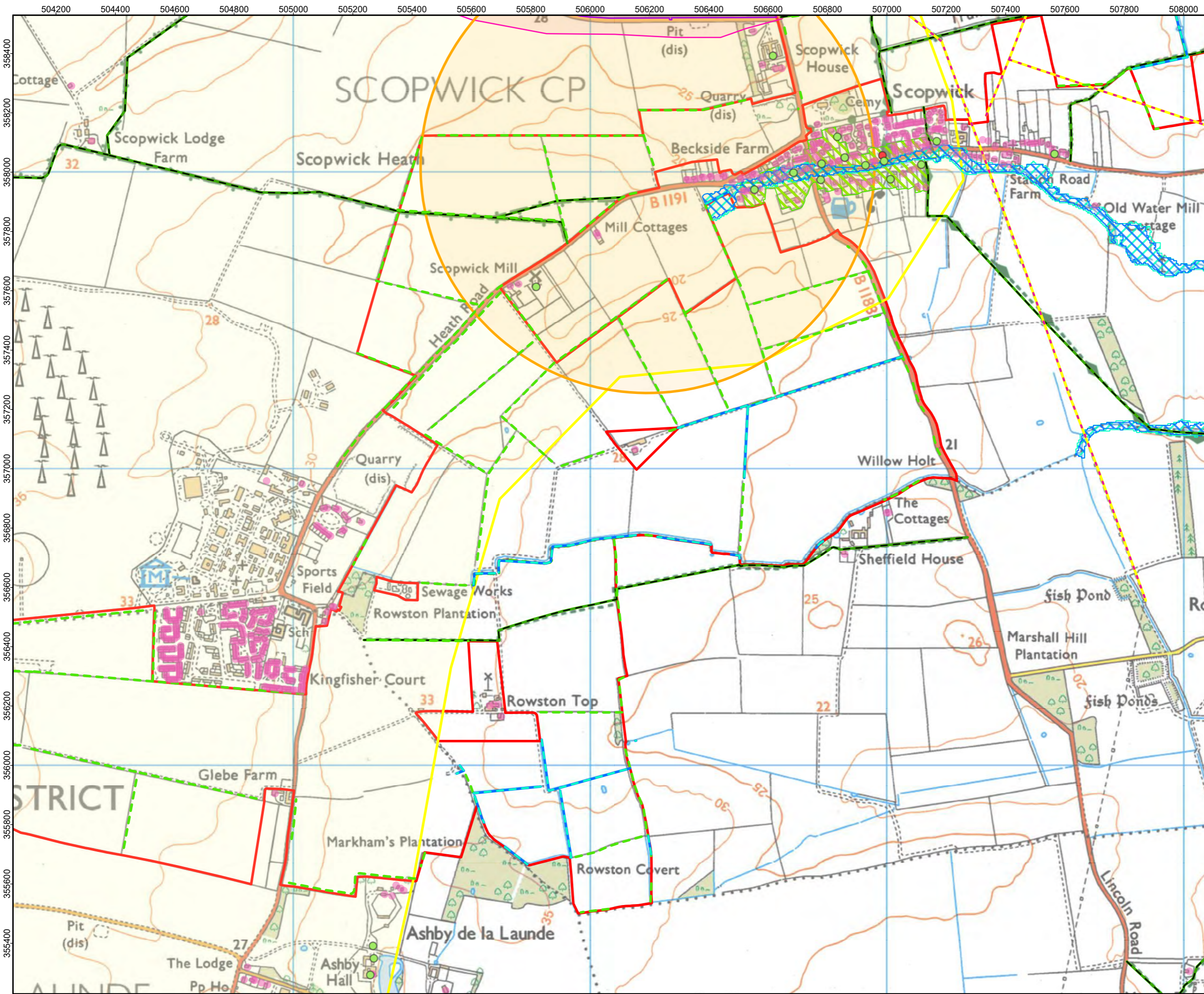


DOCUMENT:
P663620_envFeatPlanWest_A3L

TITLE:
Environment Features Plan

FIGURE NUMBER:
Appendix C- Figure 1





LEGEND:

- Site Boundary
- Residential Properties
- Listed Buildings
- II
- II*
- Heritage Conservation Area
- Overhead Lines (132kV)
- Watercourse
- Watercourses Suitable for Water Vole
- Priority Hedgerow
- Public Rights of Way
- Local Wildlife Sites
- Site Specific Minerals Safeguarding Area
- Limestone Minerals Safeguarding Area
- Flood Zone 3
- Flood Zone 2
- Source Protection Zone
- Zone I - Inner Protection Zone



Rev	Date	Description	Drn	Chk	App
06	16/03/2023	RLB & Fig No.	FA	JG	DP
05	09/01/2023	Updated Symbology	FA	JG	DP
04	05/01/2023	Updated Symbology	FA	JG	DP

Springwell Solar Farm

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter

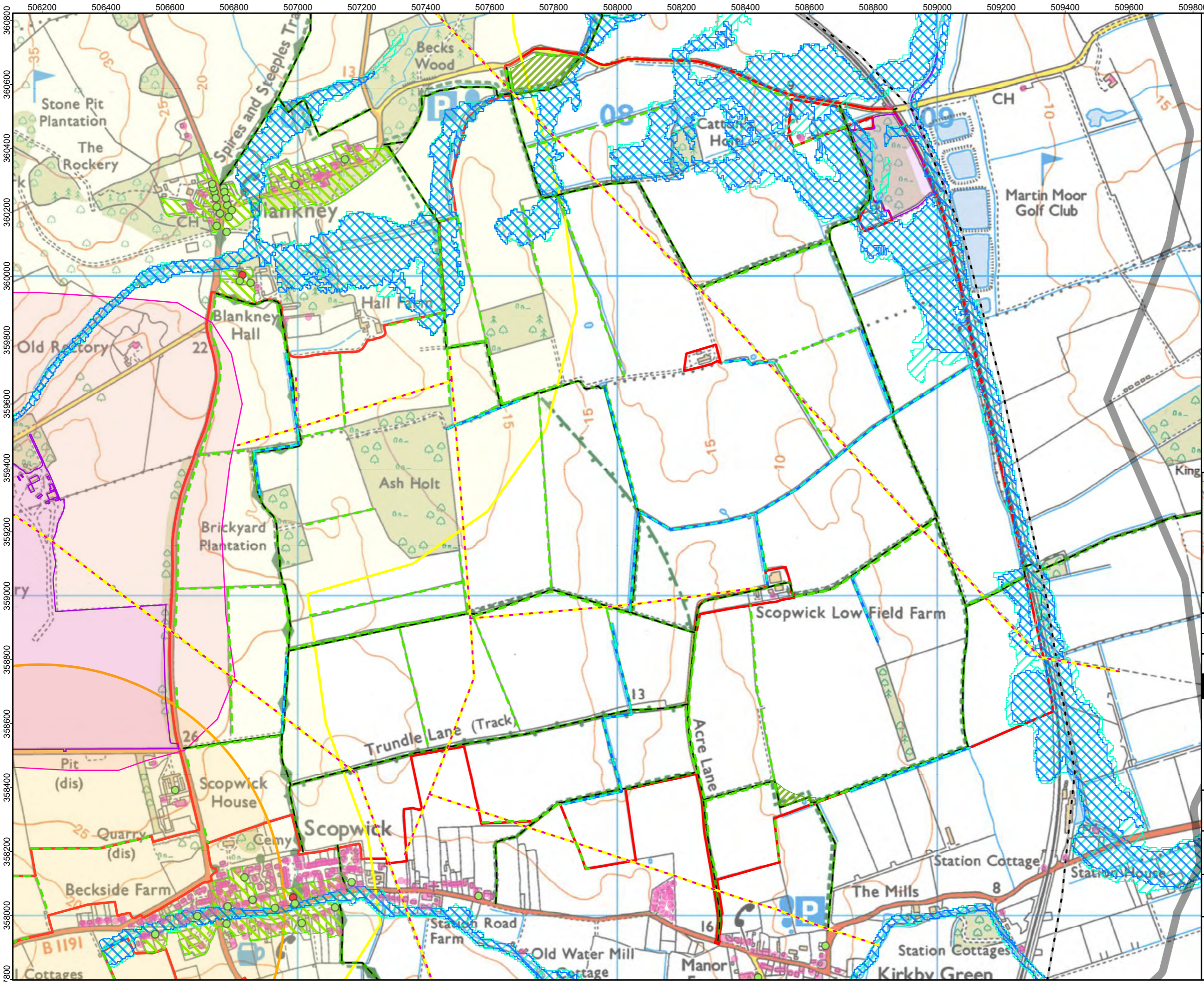
DOCUMENT:
P663620_envFeatPlanCentral_A3L

TITLE:
Environment Features Plan

FIGURE NUMBER:
Appendix C- Figure 2

Scale: 1:12,000 @ A3

REV 06



- LEGEND:**
- Site Boundary
 - Residential Properties
 - Listed Buildings
 - II
 - II*
 - Heritage Conservation Area
 - Railway
 - Overhead Lines (132kV)
 - Watercourse
 - Watercourses Suitable for Water Vole
 - Priority Hedgerow
 - Public Rights of Way
 - National Grid Gas Pipe
 - Grassland Suitable for Reptiles
 - Local Wildlife Sites
 - Site Specific Minerals Safeguarding Area
 - Limestone Minerals Safeguarding Area
 - Flood Zone 3
 - Flood Zone 2
 - Source Protection Zone
 - Zone I - Inner Protection Zone



06	16/03/2023	RLB & Fig No.	FA	JG	DP
05	09/01/2023	Updated Symbology	FA	JG	DP
04	05/01/2023	Updated Symbology	FA	JG	DP
Rev	Date	Description	Drn	Chk	App

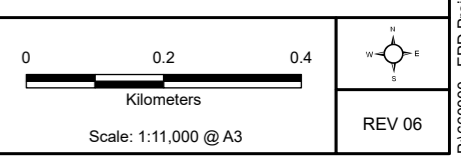
Springwell Solar Farm

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter

DOCUMENT:
P663620_envFeatPlanEast_A3L

TITLE:
Environment Features Plan

FIGURE NUMBER:
Appendix C- Figure 3



Appendix D – Significance Criteria



APPENDIX D – SIGNIFICANCE CRITERIA

Air Quality

The significance level attributed to each effect will be assessed based on the magnitude of change due to the Proposed Development and the sensitivity of the affected receptor.

Construction Phase: Dust and Particulate Matter Emissions Impact

The Institute of Air Quality Management (IAQM) ‘Guidance on the Assessment of Dust from Demolition and Construction’ criteria and methodology will be adopted to determine the sensitivity of the receptor and the magnitude of change.

Table D1.1 below sets out the general principles, along with professional judgement, that will be considered to determine the scale of sensitivity that will be applied to receptors identified and considered within the construction phase assessment.

Table D1.1 Scale of receptor sensitivity to be used in the construction phase assessment

Sensitivity of Area	Dust Soiling	Human Receptors	Ecological Receptors
High	<p>Users can reasonably expect an enjoyment of a high level of amenity.</p> <p>The appearance, aesthetics or value of their property would be diminished by soiling.</p> <p>The people or property would reasonably be expected to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the</p>	<p>Locations where members of the public are exposed over a time period relevant to the air quality objective for PM10 (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day)</p> <p>Examples include residential properties, hospitals, schools and residential care</p>	<p>Locations with an international or national designation and the designated features may be affected by dust soiling.</p> <p>Locations where there is a community of a particularly dust sensitive species such as vascular species included in the Red Data List for Great Britain.</p> <p>Examples include a Special Area of Conservation (SAC) designated for acid heathlands or a local</p>

Sensitivity of Area	Dust Soiling	Human Receptors	Ecological Receptors
	<p>land.</p> <p>Examples include dwellings, museums and other culturally important collections, medium and long term car parks and car showrooms.</p>	<p>homes should also be considered as having equal sensitivity to residential areas for the purposes of this assessment.</p>	<p>site designated for lichens adjacent to the demolition of a large site containing concrete (alkali) buildings.</p>
<p>Medium</p>	<p>Users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home.</p> <p>The appearance, aesthetics or value of their property could be diminished by soiling.</p> <p>The people or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land.</p> <p>Examples include parks and places of work.</p>	<p>Locations where the people exposed are workers and exposure is over a time period relevant to the air quality objective for PM10 (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day).</p> <p>Examples include office and shop workers, but will generally not include workers occupationally exposed to PM10, as protection is covered by Health and Safety at Work legislation.</p>	<p>Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown.</p> <p>Locations with a national designation where the features may be affected by dust deposition.</p> <p>Example is a Site of Special Scientific Interest (SSSI) with dust sensitive features.</p>

Sensitivity of Area	Dust Soiling	Human Receptors	Ecological Receptors
<p>Low</p>	<p>The enjoyment of amenity would not reasonably be expected.</p> <p>Property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling.</p> <p>There is transient exposure, where the people or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land.</p> <p>Examples include playing fields, farmland (unless commercially-sensitive horticultural), footpaths, short term car parks and roads.</p>	<p>Locations where human exposure is transient.</p> <p>Indicative examples include public footpaths, playing fields, parks and shopping streets.</p>	<p>Locations with a local designation where the features may be affected by dust deposition.</p> <p>Example is a local Nature Reserve with dust sensitive features.</p>

Table D1.2 below presents the potential magnitude of change for dust emissions that will be used in undertaking the construction phase assessment. The descriptors included in this table are based upon the IAQM ‘Guidance on the Assessment of Dust from Demolition and Construction’.

Table D1.2 Scale of magnitude for dust emission impacts to be used in the construction phase assessment

Activity	Magnitude	Description
Demolition	Large	Total building volume >50,000m ³ , potentially dusty construction material, on-site crushing and screening, demolition activities >20m above ground level.
	Medium	Total building volume 20,000m ³ – 50,000m ³ , potentially dusty construction material, demolition activities 10m – 20m above ground level.
	Small	Total building volume <20,000m ³ , construction material with low potential for dust release, demolition activities <10m above ground, demolition during wetter months.
Earthworks	Large	Total site area >10,000m ² , potentially dusty soil type (e.g. clay), >10 heavy earth moving vehicles active at any one time, formation of bunds >8m in height, total material moved >100,000 tonnes.
	Medium	Total site area 2,500 – 10,000m ² , moderately dusty soil type (e.g. silt), 5 – 10 heavy earth moving vehicles active at any one time, formation of bunds 4 – 8m in height, total material moved 20,000 – 100,000 tonnes.
	Small	Total site area < 2,500m ² , soil type with large grain size (e.g. sand), <5 heavy earth moving vehicles active at any one time, formation of bunds <4m in height, total material moved <10,000 tonnes, earthworks during wetter months.
Construction	Large	Total building volume >100,000m ³ , piling, on site concrete batching.

Activity	Magnitude	Description
	Medium	Total building volume 25,000 – 100,000m ³ , potentially dusty construction material (e.g. concrete), piling, on site concrete batching.
	Small	Total building volume <25,000m ³ , construction material with low potential for dust release (e.g. metal cladding or timber).
Trackout	Large	>50 HDV (>3.5t) trips in any one day, potentially dusty surface material (e.g. high clay content), unpaved road length >100m.
	Medium	10 – 50 HDV (>3.5t) trips in any one day, moderately dusty surface material (e.g. high clay content), unpaved road length 50 – 100m.
	Small	<10 HDV (>3.5t) trips in any one day, surface material with low potential for dust release, unpaved road length <50m.

The sensitivity of receptor and magnitude of change will then be combined using the significance matrix as detailed in **Table D1.3** below to determine the potential risks from emissions from unmitigated demolition, earthworks, construction and trackout activities, which will be used to recommend site-specific mitigation measures. The classification of risk is based upon the IAQM ‘Guidance on the Assessment of Dust from Demolition and Construction’.

Table D1.3 Classification of risk of unmitigated impacts

Sensitivity of Area		Dust Emission Magnitude		
		Large	Medium	Small
Demolition	High	High Risk	Medium Risk	Medium Risk
	Medium	High Risk	Medium Risk	Low Risk

	Low	Medium Risk	Low Risk	Negligible
Earthworks	High	High Risk	Medium Risk	Low Risk
	Medium	Medium Risk	Medium Risk	Low Risk
	Low	Low Risk	Low Risk	Negligible
Construction	High	High Risk	Medium Risk	Low Risk
	Medium	Medium Risk	Medium Risk	Low Risk
	Low	Low Risk	Low Risk	Negligible
Trackout	High	High Risk	Medium Risk	Low Risk
	Medium	Medium Risk	Low Risk	Negligible
	Low	Low Risk	Low Risk	Negligible

Construction Phase: Traffic Exhaust Emissions Impact

The significance of effects of exhaust emissions arising from construction vehicles will be evaluated qualitatively using professional judgement and the principles of the EPUK/IAQM 'Land-Use Planning & Development Control: Planning for Air Quality' significance criteria. **Table D1.4** presents the EPUK-IAQM guidance screening criteria for when an air quality assessment might be required. If none of the criteria are exceeded, it is considered unlikely that there will be any significant effects on air quality during the operational phase.

Table D1.4 Air quality screening criteria from EPUK-IAQM 2017 guidance

The Development will...	Indicative Criteria to Proceed to an Air Quality Assessment
Cause a significant change in Light Duty Vehicle (LDV)	A change of LDV flows of:

The Development will...	Indicative Criteria to Proceed to an Air Quality Assessment
<p>traffic slows on local roads with relevant receptors.</p>	<ul style="list-style-type: none"> - more than 100 AADT within or adjacent to an AQMA - more than 500 AADT elsewhere.
<p>Cause a significant change in Heavy Duty Vehicle (HDV) flows on local roads with relevant receptors.</p>	<p>A Change of HDV flows of:</p> <ul style="list-style-type: none"> - more than 25 AADT within or adjacent to an AQMA - more than 100AADT elsewhere.
<p>Realign roads, i.e. changing the proximity of receptors to traffic lanes.</p>	<p>Where the change is 5m or more and the road is within an AQMA</p>
<p>Introduce a new junction or remove an existing junction near to relevant receptors.</p>	<p>Where the change is 5m or more and the road is within an AQMA</p>
<p>Introduce a new junction or remove an existing junction near to relevant receptors.</p>	<p>Applies to junctions that cause traffic to significantly change vehicle accelerate/decelerate, e.g. traffic lights, or roundabouts.</p>
<p>Introduce or change a bus station.</p>	<p>Where bus flows will change by:</p> <ul style="list-style-type: none"> - more than 25 AADT within or adjacent to an AQMA - more than 100AADT elsewhere.
<p>Have an underground car park with extraction system.</p>	<p>The ventilation extract for the car park will be within 20m of a relevant receptor.</p> <p>Coupled with the car park having more than 100 movements per day (total in and out).</p>
<p>Have one or more substantial combustion processes, where there is a risk of impacts at relevant receptors.</p>	<p>Typically, any combustion plant where the single or combined NO_x emission rate is less than 5 mg/sec is unlikely to give rise to impacts, provided that the emissions are released from a vent or stack in a location and at a height that provides adequate dispersion.</p>

The Development will...	Indicative Criteria to Proceed to an Air Quality Assessment
	<p>In situations where the emissions are released close to buildings with relevant receptors, or where the dispersion of the plume may be adversely affected by the size and/or height of adjacent buildings (including situations where the stack height is lower than the receptor) then consideration will need to be given to potential impacts at much lower emission rates. Conversely, where existing nitrogen dioxide concentrations are low, and where the dispersion conditions are favourable, a much higher emission rate may be acceptable.</p>

Biodiversity

The determination of ecologically significant effects for ecological impact assessment (EclA), as discussed below, is taken from 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (Chartered Institute of Ecology and Environmental Management (CIEEM), 2018)

Significant Effects

For the purpose of EclA, a significant effect is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project. It is a positive or negative effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales, from international to local.

A significant effect does not necessarily equate to an effect so severe that consent for the project should be refused planning permission. For example, many projects with significant negative ecological effects have been lawfully permitted following EIA procedures. Significant effects should be qualified with reference to an appropriate geographic scale. For example, a significant effect on a Site of Special Scientific Interest is likely to be of national significance. European case law is specific regarding significance in relation to European sites and Annexed habitats. However, the scale of significance of an effect may not be the same as the geographic context in which the feature is considered important. For example, an effect on a species which is on a national list of species of principal importance for biodiversity may not have a significant effect on its national population. Examples of other relevant scales include regional and county. It should be noted that effects may be significant at the local scale, particularly in view of policies for no net loss of biodiversity.

When seeking mitigation and/or compensation solutions, efforts should be consistent with the geographical scale at which an effect is significant. For example, mitigation and/or compensation for effects on a species population significant at a county scale should ensure no net loss of the population at a county scale. The relative geographical scale at which the effect is significant will have a bearing on the required outcome which must be achieved.

Determining Ecologically Significant Effects

Designated/defined sites and ecosystems

Significant effects encompass impacts on the structure and function of defined sites and ecosystems. The following need to be determined:

- for designated sites – is the project and associated activities likely to undermine the conservation objectives of the site, or positively or negatively affect the conservation status of species or habitats for which the site is designated, or may it have positive or negative effects on the condition of the site or its interest/qualifying features?
- for ecosystems – is the project likely to result in a change in ecosystem structure and function?

Consideration should be given to whether:

- any processes or key characteristics will be removed or changed
- there will be an effect on the nature, extent, structure and function of component habitats
- there is an effect on the average population size and viability of component species.

Consideration of functions and processes acting outside the formal boundary of a designated site is required, particularly where a site falls within a wider ecosystem e.g. groundwater dependent terrestrial ecosystems can be damaged where the proposed activity impacts on the quantity or quality of groundwater that feeds these habitats. Predictions should always consider wider ecosystem processes.

Many ecosystems have a degree of resilience to perturbation that allows them to tolerate some biophysical change. Ecological effects should be considered in light of any information available or reasonably obtainable about the capacity of ecosystems to accommodate change.

Habitats and species

Consideration of conservation status is important for evaluating the effects of impacts on individual habitats and species and assessing their significance:

- habitats – conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area
 - species – conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.
-

In many cases (e.g. for species and habitats of principal importance for biodiversity), there may be an existing statement of the conservation status of a feature and objectives and targets against which the effect can be judged. However, not all species or habitats will be described in this way and the conservation status of each feature being assessed may need to be agreed with the relevant statutory nature conservation body and set out in the EclA. The conservation status of a habitat or species will vary depending on the geographical frame of reference.

When assessing potential effects on conservation status, the known or likely background trends and variations in status should be taken into account. The level of ecological resilience or likely level of ecological conditions that would allow the population of a species or area of habitat to continue to exist at a given level, or continue to increase along an existing trend or reduce a decreasing trend, should also be estimated.

Precautionary Principle

The evaluation of significant effects should always be based on the best available scientific evidence. If sufficient information is not available, further survey or additional research may be required. In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant effect, a significant effect should be assumed. Where uncertainty exists, it must be acknowledged in the EclA.

Climate

Given the international urgency of climate change, the sensitivity of the receptor (i.e. global climate) to fluctuations in greenhouse gas emissions is considered ‘Very High’. Thus, the level of the significance of effects is determined by the magnitude, and timing, of greenhouse gas emissions and the likelihood of avoiding severe climate change.

Aligned with IEMA’s Guide ‘Assessing Greenhouse Gas Emissions and Evaluating their Significance 2nd Edition’ (February 2022), any project that causes greenhouse gases to be avoided, or removed from the atmosphere, has a beneficial effect that is always significant (**Table D2.1**). In such a scenario, the project substantially exceeds the national net zero requirements and is thus aligned with the goal of the Paris Agreement to limit temperature rise to well below 2°C, aiming for 1.5°C.

Table D2.1 Framework for assessment of significant effects

Significance	Level	Criteria
Significant	Major adverse	Project adopts a business-as-usual approach, not compatible with the national Net Zero trajectory, or aligned with the goals of the Paris Agreement (i.e., a science-based 1.5°C trajectory). Greenhouse gas impacts are not

Significance	Level	Criteria
		mitigated or reduced in line with local or national policy for projects of this type.
	Moderate adverse	Project's greenhouse gas impacts are partially mitigated, and may partially meet up-to-date policy; however emissions are still not compatible with the national Net Zero trajectory, or aligned with the goals of the Paris Agreement.
Not significant	Minor adverse	Project may have residual emissions, but the project is compatible with the goals of the Paris Agreement, complying with up-to-date policy and good practice.
	Negligible	Project has minimal residual emissions and goes substantially beyond the goals of the Paris Agreement, complying with up-to-date policy and best practice.
Significant	Beneficial	Project causes greenhouse gas emissions to be avoided or removed from the atmosphere, substantially exceeding the goals of the Paris Agreement with a positive climate impact.

Cultural Heritage

Importance of Heritage Assets

The importance of a heritage asset is a measure of the degree to which the heritage significance of that asset is sought to be protected through legislation and planning policy. The level of importance will therefore reflect any statutory and non-statutory heritage designation or, in the case of undesignated assets, the professional judgement of the assessor as to the degree of importance that the asset has with reference to regional research frameworks.

The criteria presented in **Table D3.1** will be used to establish the importance of heritage assets. These criteria have been derived from the guidance produced by Scottish Natural Heritage and Historic Environment Scotland.

Table D3.1 Criteria for establishing importance of heritage assets

Importance	Description of receptors
Very High	World heritage sites; assets of acknowledged international importance; assets that can contribute significantly to acknowledged international research objectives; Historic landscapes of international value (designated or not) and extremely well preserved historic landscapes with exceptional coherence, time depth or other critical factor(s).
High	Scheduled monuments and non-designated assets of schedulable quality and importance; Grade I and II* listed buildings and Grade II listed buildings that can be shown to have exceptional qualities in their fabric or associations; Conservation Areas with exceptional qualities; non-designated structures of clear national importance; designated and non-designated historic landscapes of historic interest; assets that can contribute significantly to acknowledged national research objectives.
Medium	Grade II listed buildings; Non-designated assets that contribute to regional research objectives; Locally listed buildings and other historic unlisted buildings that have exceptional qualities; Conservation Areas.
Low	Non-designated assets of local importance including those compromised by poor preservation; assets of limited value but with the potential to contribute to local research objectives; robust non-designated historic landscapes.
Negligible	Assets with very little surviving archaeological interest; buildings of little architectural or historic note; landscapes with little historic interest

Magnitude of Impact

The magnitude of impact will reflect the scale of change which would be caused by the Proposed Development and the effect this would have on ability to interpret significance and appreciate the historic asset. Impacts can result either from physical changes to the fabric of a historic asset or through sensory changes within its setting.

An impact may be positive where for example, as part of the Proposed Development, an intrusive building or feature is removed or replaced with a more harmonious one; historic features are restored or revealed; a new feature is added which adds to public

appreciation; new views are introduced that add to public experience of an asset; or public interpretation or access is improved to an asset or its setting.

Impacts may impart major change, for example where groundworks completely destroy important archaeological remains, to minor change to part of a historic assets’ setting, leading to a limited impact on our ability to interpret it, or its context.

Utilising the key principles for assessing the implications of change outlined above, an assessment of the magnitude of impact will be implemented for each baseline heritage asset using the criteria presented in **Table D3.2** below. These criteria have been derived from the guidance produced by Scottish Natural Heritage and Historic Environment Scotland .

Conclusions of the assessed magnitude of impacts are a product of the consideration of the elements of an asset and its setting that contribute to its heritage significance and the degree to which the Proposed Development would change these contributing elements. The assessment therefore reflects the varying degrees of sensitivity of different assets to change brought about by different types of development.

Table D3.2 Criteria for classifying magnitude of impact

Impact Magnitude	Criteria
Major	Change to key historic building elements so that an asset is totally altered; OR change to most/all key archaeological materials such that the resource is totally altered; OR comprehensive change to the setting such that the significance of the asset is severely compromised
Moderate	Change to many key historic building elements, such that the asset is significantly modified; changes to many key archaeological materials such that the resource is clearly modified; changes to setting of an asset, such that the significance of the asset is compromised
Minor	Change to key historic building elements, such that the asset is slightly different; changes to key archaeological materials such that the asset is slightly altered; changes to setting of an historic building, such that its significance is slightly compromised
Negligible	Very minor changes to historic building elements, archaeological materials or setting that hardly affect them/it

Impact Magnitude	Criteria
No Change	No change to fabric, archaeological materials or setting

Significance of Effect

The assessment of effects will combine analysis of the data gathered during the desk-based assessment and site visit, photographs and any wireframe visualisations of the topography and Proposed Development.

These assessments will be carried out using professional judgement, taking into account designations and heritage significance as assessed against national standards. Significance of effect will be based on a combination of importance (in other disciplines sometimes referred to as sensitivity) of the asset (receptor) and the magnitude of impact upon that asset (receptor). The significance of effect matrix is presented in **Table D3.3** below and provides a guide to decision-making but is not a substitute for professional judgement and interpretation, particularly where the importance or impact magnitude levels are not clear or are borderline between categories. The significance of effect may be described on a continuous scale from ‘no effect’ to ‘major’. These criteria have been derived from the guidance produced by Scottish Natural Heritage and Historic Environment Scotland .

It is also common practice to identify effects as significant or not significant, and in this sense major and moderate effects are regarded as significant, while minor and negligible effects are not significant’.

Table D3.3 Criteria for assessing the significance of effect

Magnitude of Impact	Importance				
	Negligible	Low	Medium	High	Very High
Major	Minor	Moderate	Moderate	Major	Major
Moderate	Negligible	Minor	Moderate	Moderate	Major
Minor	Negligible	Negligible	Minor	Minor	Moderate
Negligible	Negligible	Negligible	Negligible	Minor	Minor

No Change	No effect	No effect	No effect	No effect	No effect
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Landscape and Visual

The 'Guidelines for Landscape and Visual Assessment (Third Edition)' (GLVIA3) state that "professional judgement is a very important part of the LVIA" (paragraph 2.23) and that "in all cases there is a need for the judgements that are made to be reasonable and based on clear and transparent methods so that the reasoning applied at different stages can be traced and examined by others." (paragraph 2.24). It goes on at paragraph 3.32 to state that "there are no hard and fast rules about what effects should be deemed 'significant' but LVIAs should always distinguish clearly between what are considered to be the significant and non-significant effects."

Landscape and visual assessments are separate, though linked processes which GLVIA3 notes are "related but very different considerations". The assessment of the potential effect on the landscape is carried out as an effect on the environmental resource (i.e. the landscape). Visual effects are assessed as an inter-related effect on people.

Landscape effects

The **sensitivity** (high, medium, low) of the landscape to a particular development is considered on a case by case basis and considers the susceptibility of the landscape, which varies depending on the type of development proposed and the particular site location, and the landscape value (identified as national, regional, or community). As stated in GLVIA3, 'LVIA sensitivity is similar to the concept of landscape sensitivity used in the wider arena of landscape planning, but is not the same'.

- **Landscape value:** The importance attached to a landscape, often used as a basis for designation or recognition which expresses national or local authority consensus, because of its special qualities/attributes. The factors which are considered in landscape include aesthetic or perceptual aspects such as scenic beauty, tranquillity or wildness or cultural associations as well as recreational/community value, conservation interests, landscape character and condition and representativeness/rarity.
- **Landscape susceptibility** according to GLVIA3 means "the ability of the landscape to accommodate the proposed Development without undue consequences for maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies". Judgements on landscape susceptibility (high, medium, low) include references to both the physical and aesthetic characteristics and the potential scope for mitigation.

The criteria and the detailed judgements regarding susceptibility and value of landscape receptors will be set out in the LVIA. Sensitivity is judged taking into account the component judgments about the value and susceptibility of the receptor as

illustrated by **Table D4.1** below. Where sensitivity is judged to lie between levels, an intermediate assessment will be adopted.

Table D4.1 Landscape sensitivity criteria

		Susceptibility		
		High	Medium	Low
Value	National	High	High/medium	Medium
	Regional	High/Medium	Medium	Medium/Low
	Community	Medium	Medium/Low	Low

The **magnitude of landscape change** arising from the Proposed Development at any particular location is assessed in terms of its size or scale, geographic extent of the area or receptor that is influenced and its duration and reversibility.

The **scale** of the change takes account of:

- Degree of loss or alteration to key landscape features/elements; characteristics; and for designated areas – special qualities and/or purposes of designation;
- Distance from the Proposed Development;
- Landscape context to the Proposed Development;

Having established the size/scale of change (large, medium, small, negligible) to the landscape baseline, the geographic **extent** of the change can be identified (wide, intermediate, localised or limited) and a judgement made as to the degree of change for each landscape receptor.

Duration and reversibility can be linked depending on the nature of the development. Reversibility is a judgement about the ability and practicality of the Proposed Development to be reversible (such as wind farms which are predominantly reversible) or a permanent change in the landscape (such as housing). Duration reflects how long the change will last. The duration of the change would be considered short term when

lasting less than 2-3 years; medium term when lasting between 2 and 10 years; or long term when lasting between 10 and 25 years, and permanent for more than 25 years.

Magnitude is considered taking into account the three contributory factors as illustrated by the diagrams presented in **Figure E4.1** below.

Visual effects

In order to identify the significance of a visual effect, it is necessary to establish the relative sensitivity of the viewers and the magnitude of the change they experience. In this case, sensitivity is a combination of both susceptibility of the viewer to the proposed change and the value of the views.

Those living within view of the Proposed Development are usually regarded as the highest susceptibility group as well as those engaged in outdoor pursuits for whom landscape experience is the primary objective. The susceptibility of potential visual receptors will also vary depending on the activity of the receptor. For visual receptors, susceptibility and value are closely linked - the most valued views are also likely to be those where viewer's expectations will be highest.

The **value** of public views, which is the focus of GLVIA3, is identified as national, regional or community and will vary depending on the nature, location and context of the view and the recognised importance of the view. Considerations include cultural associations; designation or policy protection; views of or from landmarks; and/or the scenic quality of the view. The value attributed relates to the value of the view, e.g. a National Trail is nationally valued for access, but not always for the available views from every section.

Visual receptor **susceptibility** is defined as in accordance with the criteria below.

- **High** - Local residents; users of outdoor recreation focussed on the appreciation of views including footpaths, beauty spots and picnic areas; people experiencing views to or from important features of physical, visual, cultural or historic interest.
- **Medium** - Local road users and travellers on trains. People engaged in outdoor recreation with some appreciation of the landscape e.g. road cycling, nature conservation, golf and water based recreation.
- **Low** - Workers, users of facilities and commercial buildings (indoors) experiencing views from buildings. Road and rail users on fast moving commuting or trunk routes. Visual receptors where views are incidental to the activity and/or location.

Sensitivity is judged taking into account the component judgments about the value and susceptibility of the receptor, as illustrated by **Table D4.2** below. Where sensitivity is judged to lie between levels, an intermediate assessment will be adopted.

Table D4.2 Visual sensitivity criteria

		Susceptibility		
		High	Medium	Low
Value	National	High	High/medium	Medium
	Regional	High/Medium	High/Medium	Medium/Low
	Community	High/Medium	Medium	Low

The **magnitude of visual change** arising from the Proposed Development at any particular location is assessed in terms of its size or scale (large, medium, small, negligible), geographic extent of the area or receptor that is influenced (wide, localised, limited) and its duration (short, medium, long, permanent). Effects are described in such a way as to identify where views towards the Proposed Development are likely to arise and what the scale and duration and extent (wide, intermediate, Localised, Limited) of those views are likely to be.

The **scale of effect** arising from the Proposed Development at any particular viewpoint reflects the degree to which the nature of the views from that location would be changed and is taking into account:

- The distance of the viewpoint from the Proposed Development;
- The degree to which the Proposed Development is visible or screened;
- The angle of view in relation to main receptor activity or main focus of the view;
- The horizontal and vertical field of view occupied by the Proposed Development;
and
- The extent and nature of other built development visible.

Duration reflects how long the change will last and are rated in the same way as described above for landscape effects. The effects as a result of the Proposed Development would be considered short term when lasting less than 2-3 years; medium term when lasting between 2 and 10 years; or long term when lasting between 10 and 25 years, and permanent for more than 25 years. For visual receptors moving through the landscape (e.g. road and rail users), the length of their journey during which they would see the Proposed Development is reflected in the judgement of the geographic extent of effects.

Magnitude is considered taking into account the three contributory factors as illustrated by the diagrams presented in **Figure D4.1** below.

Magnitude of landscape and visual change

Scale of effect is the first factor in determining magnitude; which may be higher if the effect is particularly widespread and/or long lasting, or lower if it is constrained in geographic extent and/or timescale. The diagrams below presented in **Figure D4.1** illustrate how this judgement is considered as a two-step process. Firstly, scale and extent are considered, for which the outcomes are illustrated by the first part of the diagram; the second part of the diagram illustrates the influence of duration on this initial judgement. Where magnitude is judged to lie between levels, an intermediate assessment will be adopted.

Figure E4.1 Scale of effect diagrams



Significance of landscape and visual effects

The significance of any identified landscape or visual effect is assessed as major, moderate, minor or negligible. These categories are based on the consideration of

sensitivity with the predicted magnitude of change. **Table D4.3** below is not used as a prescriptive tool and illustrates the typical outcomes, allowing for the exercise of professional judgement. In some instances, a particular parameter may be considered as having a determining effect on the analysis.

Table D4.3 Significance of effect criteria

		Magnitude of Change			
		Substantial	Moderate	Slight	Negligible
Receptor Sensitivity	High	Major	Major/ Moderate	Moderate	Minor
	Medium	Major/ Moderate	Moderate	Moderate/ Minor	Minor/Negligible
	Low	Moderate	Moderate/ Minor	Minor	Negligible

Where the effect has been classified as Major or Major/Moderate, this is considered to be equivalent to likely significant effects. Where ‘Moderate’ effects are predicted, professional judgement will be applied to ensure that the potential for significant effects arising has been thoroughly considered.

Landscape and visual effects can be beneficial or adverse and in some instances may be considered neutral. Neutral effects are those which overall are neither adverse nor positive but may incorporate a combination of both. Whether an effect is beneficial, neutral or adverse is identified based on professional judgement. GLVIA3 indicates at paragraph 2.15 that this is a “particularly challenging” aspect of assessment, especially in the context of a changing landscape.

Land, Soils and Groundwater

Receptor Sensitivity

Sensitivity criteria, derived from professional judgement, are defined in **Table D5.1**.

Table D5.1: Receptor sensitivity

Sensitivity	Definition
Very High	The receptor is highly sensitive and could be easily damaged by activities associated with the Proposed Development. The

Sensitivity	Definition
	receptor is likely to be of national significance. The recovery of the receptor is either impossible or very long term.
High	The receptor is of high sensitivity and is of importance at a local or regional level. The receptor is vulnerable to the effects of the Proposed Development and recovery would be slow and/or costly (e.g. remedial measures to groundwater may be required to prevent a wider impact).
Medium	The receptor is of medium value and is likely to be of local importance. The receptor is slightly vulnerable to impacts from the Proposed Development and would be expected to recover over a moderate timescale (e.g. up to 5 years for groundwater to return to its current or an improved condition).
Low	The receptor is of low value and has little contribution to local, regional or national resources. The receptor is not generally vulnerable to impacts that may arise from the Proposed Development and/or will recover over a short timescale (e.g. up to 1 year before groundwater returns to its current or improved condition).
Negligible	The receptor is of negligible positive value. The receptor is not vulnerable to impacts that may arise from the Proposed Development and/or will recover quickly.

Magnitude of Impact

Where an impact is considered to be present, the magnitude of the impact will be classified using the criteria presented in **Table D5.2** below, which are derived from professional judgement. Impacts can be beneficial or adverse.

Table D5.2 Magnitude of impact criteria

Magnitude of impact	Definition
Major	These impacts are likely to be important considerations at a regional or district scale, and if adverse, are potential concerns, depending upon the relative importance attached to the issue

Magnitude of impact	Definition
	<p>during the decision-making process. Mitigation measures and detailed design work are unlikely to remove all the impacts upon the affected communities or interests.</p> <p>Examples include short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA; short-term risk of pollution of sensitive water resources; catastrophic damage to buildings or property; and short-term risk to an ecosystem or part of an ecosystem.</p>
Moderate	<p>These impacts, if adverse, while important at a local scale, are not likely to be key decision-making issues. The cumulative effect of such issues may lead to an increase in the overall impacts on a particular area or on a particular resource. They represent issues where impacts will be experienced but mitigation measures and detailed design work may ameliorate/enhance some of the consequences upon affected communities or interests. Some residual impacts will still arise.</p> <p>Examples include chronic damage to human health ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000); pollution of sensitive water resources; and significant change in an ecosystem or organism forming part of that ecosystem.</p>
Minor	<p>These impacts may be raised as local issues but are unlikely to be of importance in the decision-making process. Nevertheless, they are of relevance in the detailed design of the Proposed Development and consideration of mitigation or compensation measures.</p> <p>Examples include pollution of non-sensitive water resources; significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000); and damage to sensitive buildings, structures or the environment.</p>
Negligible	<p>No change or a barely perceptible change from the baseline position. Examples include non-permanent human health impacts easily prevented by use of personal protective</p>

Magnitude of impact	Definition
	clothing; and easily repairable damage to buildings, structures and services.

Significance of Effect

The significance of effect will be based on the sensitivity of the receptor and the magnitude of impact, as outlined in **Table D5.3** below. The significance of effect can be adverse or beneficial.

Table D5.3: Significance of effect criteria

		Magnitude of Impact			
		Major	Moderate	Minor	Negligible
Sensitivity	Very High	Very High	High	Moderate	Moderate/Low
	High	High	Moderate	Moderate/ Low	Low
	Medium	Moderate	Moderate/ Low	Low	Very Low
	Low	Moderate/ Low	Low	Very Low	Very Low
	Negligible	Low	Very Low	Very Low	Very Low

Noise and Vibration

The method for assessing the significance of noise from construction activities are provided within Annex E of BS 5228. One such method of applying significance to noise effects is repeated in **Table D6.1**.

Table D6.1 Criteria for assessing potential significant effects

Assessment Category and Threshold Value Period, L_{Aeq}	Threshold Value in Decibels, dB		
	Category A ¹	Category B ²	Category C ³
Night-time (23.00–07.00)	45	50	55
Evenings and weekends ⁴	55	60	65
Daytime (07.00–19.00) and Saturdays (07.00–13.00)	65	70	75

¹ Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.

² Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values.

³ Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values.

⁴ 19.00–23.00 weekdays, 13.00–23.00 Saturdays and 07.00–23.00 Sundays.

A significant effect has been deemed to occur if the site noise level (construction only), exceeds the threshold level for the Category appropriate to the ambient noise level for a month or more. If the baseline ambient noise level exceeds the Category C values, then a significant effect is deemed to occur if the total noise level (construction + ambient noise) for the period increases by more than 3 dB.

Works for a shorter duration that might result in a significant effect are considered by using the trigger levels for sound insulation and time criteria from Annex E.4 of BS 5228-1.

BS 5228-2: 2009 +A1:2014 ‘Code of practice for noise and vibration control on construction and open sites. Vibration’

BS 5228-2:2009+A1:2014 ‘Code of practice for noise and vibration control on construction and open sites. Vibration’ (BS5228) provides guidance on vibration levels that can be used to assess the likely impacts of construction activities on buildings and on humans. Annex B of the standard gives guidance on the significance of vibration effects in terms of human response to vibration and structural response, as presented in **Table D6.2** and **Table D6.3** respectively below.

Table D6.2 Guidance on effects of vibration levels perceptible on humans

Vibration Level (PPV)	Effect
0.14 mms⁻¹	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration
0.3 mms⁻¹	Vibration might be just perceptible in residential environments
1.0 mms⁻¹	It is likely that vibration of this level in residential environments will cause complaint, but can be tolerated if prior warning and explanation has been given to residents
10 mms⁻¹	Vibration is likely to be intolerable for any more than a very brief exposure to this level

Table E6.3 Transient vibration guide values for cosmetic damage

Line	Type of Building	Peak component particle velocity in frequency range of predominant pulse	
		4 Hz to 15 Hz	15 Hz and above
1	Reinforced or framed structures/industrial and heavy commercial buildings	50 mms ⁻¹ at 4 Hz and above	
2	Unreinforced or light framed structures	15 mms ⁻¹ at 4 Hz increasing to 20 mms ⁻¹ at 15 Hz	20 mms ⁻¹ at 15 Hz increasing to 50 mms ⁻¹ at 40 Hz and above
	Residential or light commercial buildings		

Note 1 – values referred to are at the base of the building;

Note 2 – for line 2, at frequencies below 4 Hz, a maximum displacement of 0.6 mm (zero to peak) is not to be exceeded.

BS5228 states that the guide values in **Table D6.3** predominantly relate to transient vibration which does not give rise to resonant responses in structures, and to low-rise buildings. Where the dynamic loading caused by continuous vibration is such as to give rise to dynamic magnification due to resonance, especially at the lower frequencies where lower guide values apply, then the guide values in Table D6.3 might need to be reduced by up to 50%.

British Standard 4142: 2014 + A1: 2019 ‘Methods for rating and assessing industrial and commercial sound’

BS 4142: 2019 describes the methods for rating and assessing noise from industrial or commercial sources, including manufacturing processes, fixed installations and plant equipment, loading of goods and sound from mobile plant. The standard is applicable for the purpose of assessing sound at proposed new dwellings, through the determination of a rating level of an industrial or commercial noise source.

Where certain acoustic features are present at the assessment location, a character correction should be applied to the specific sound level to give the rating level to be used in the assessment.

- A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.
- A difference of around +5dB is likely to be an indication of adverse impact depending on the context.
- Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact depending on the context.

Where the initial estimate of the impact needs to be modified due to the context, all pertinent factors should be taken into account, including:

- The absolute level;
- The character and level of the residual sound;
- The sensitivity of the receptor and whether dwellings will already (or likely) to incorporate design measures that secure good internal and/or outdoor acoustic conditions, such as: i) façade insulation treatments, ii) ventilation and/or cooling, and iii) acoustic screening.

BS 4142 states that, “A correction of up to +9 dB can be applied for sound that is highly impulsive, considering both the rapidity of the change in sound level and the overall

change in sound level. Subjectively, this can be converted to a penalty of 3 dB for impulsivity which is just perceptible at the noise receptor; 6 dB where it is clearly perceptible, and 9 dB where it is highly perceptible”.

Design Manual for Roads and Bridges, LA111 Noise and Vibration, 2020

The assessment is based on the procedure set out in Design Manual for Roads and Bridges (DMRB). The assessment covers both the magnitude and significance of any change as a result of any new or amended highway scheme however is relevant for noise assessment of other project types. DMRB refers specifically to noise impacts and as such will be discussed in these terms for the purposes of this assessment.

A significant change is defined as an increase in the 18-hour traffic flow which is equal or greater than 25%, or a decrease which is equal or greater than 20%. Changes of this magnitude are equivalent to a change in noise level of at least 1 dB.

The magnitude of noise impact is therefore assessed by comparing the increase and decrease in noise levels between both short term and long-term scenarios. DMRB defines this impact both in the short term (immediate impact) and long term (future impact), as defined in **Table D6.4** below.

Table D6.4 DMRB magnitude of noise impact criteria

Magnitude of Change	Noise Change, dB LA10, 18hr	
	Short Term	Long Term
Major	Greater than or equal to 5.0	Greater than or equal to 10.0
Moderate	3.0 to 4.9	5.0 to 9.9
Minor	1.0 to 2.9	3.0 to 4.9
Negligible	Less than 1.0	Less than 3.0

Assessment Criteria

Based on the above, assessment criteria used to establish significance of effect from the Proposed Development will be developed and agreed with the Environmental Health Officer at Lincolnshire County Council.

Appendix E – Proposed Structure of the Environmental Statement



APPENDIX E – PROPOSED STRUCTURE OF THE ENVIRONMENTAL STATEMENT

The ES will form three volumes and a Non-Technical Summary (NTS) as detailed below, alongside the anticipated chapters that will form part of Volume 1.

Volume 1 – Non Technical Summary

Volume 2 – Main Report

Introductory Chapters

- Chapter 1: Introduction
- Chapter 2: Proposed Development
- Chapter 3: Alternatives and Design Evolution
- Chapter 4: Consultation
- Chapter 5: EIA Methodology

Technical Chapters

- Chapter 6: Air Quality
- Chapter 7: Biodiversity
- Chapter 8: Climate
- Chapter 9: Cultural Heritage
- Chapter 10: Landscape and Visual
- Chapter 11: Land, Soils and Groundwater
- Chapter 12: Noise and Vibration
- Chapter 13: Traffic and Transport
- Chapter 14: Cumulative Effects

Concluding Chapters

- Chapter 15: Summary of Effects

Volume 3 – Supporting Technical Appendices

Volume 4 – Supporting Figures and Plans

Non-Technical Summary (NTS)

Volume 1 will form the form the main report and body of the Environmental Statement. This will provide details about the proposed scheme, consultation, assessment scope and methodology, likely significant effects arising from the Proposed Development, and the proposed mitigation measures.

In accordance with the EIA Regulations, **Volume 1** will include a chapter detailing the main reasonable alternatives that have been considered by the Applicant and the process of the design evolution of the Proposed Development.

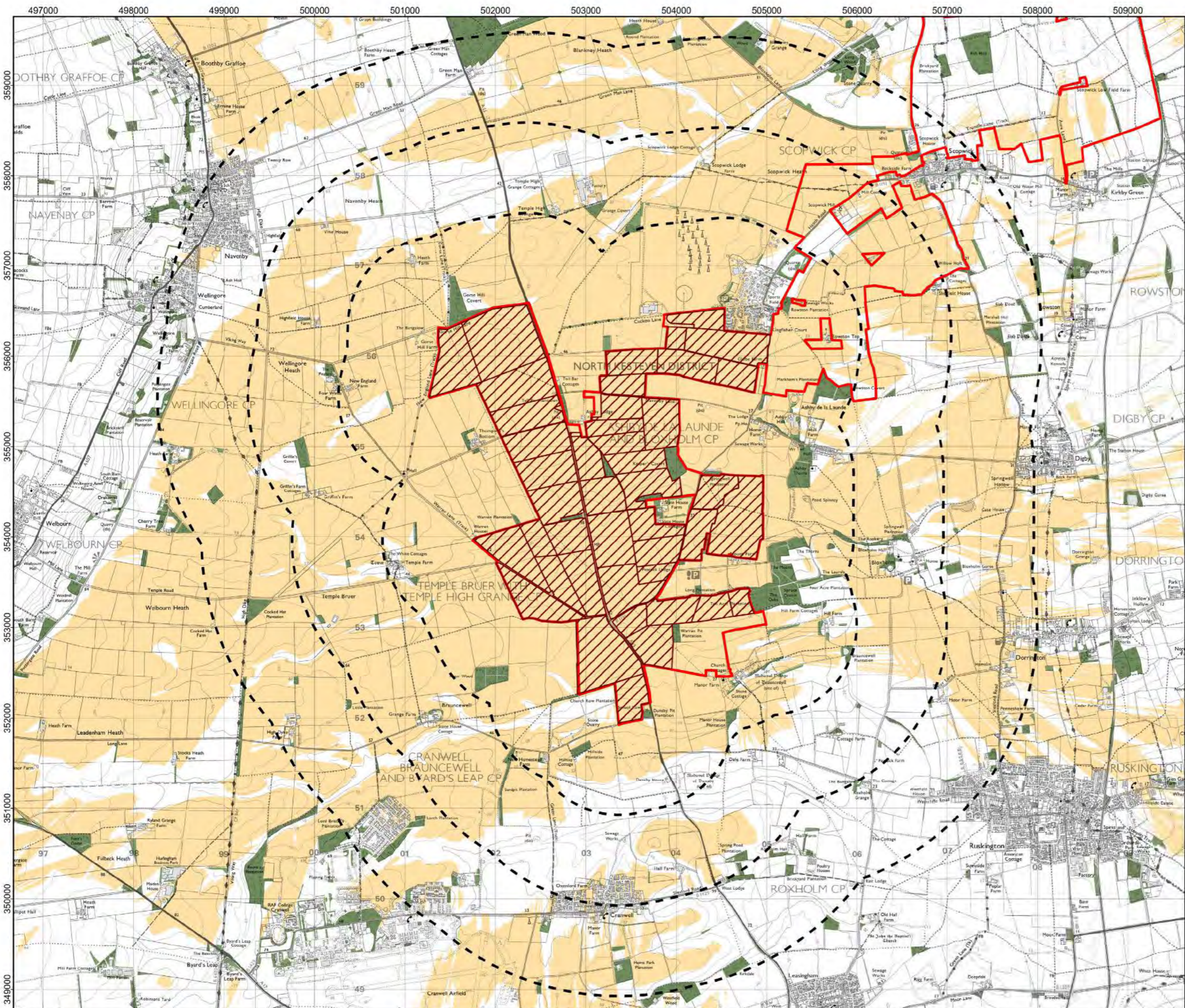
Volume 2 will comprise a set of technical appendices. These will include technical reports to support the assessments which will be detailed in **Volume 1**.

Volume 3 will include a set of figures to support the assessments which will be detailed in Volume 1.

The **Non-Technical Summary (NTS)** will form a separate document to the Main Report in **Volume 1**. The **NTS** will form a concise description of the scheme, alternatives, assessment methodology, potential environmental effects and mitigation measures. The **NTS** will be presented in an accessible format which can be easily understood by a wide audience.

Appendix F – Landscape and Visual Figures





- Legend:**
- Proposed Site Boundary
 - Potential Area of PV Generating Station
 - Distance Radii from Solar Array (1, 2, 3,km)
 - Existing Woodland
- Zone of Theoretical Visibility**
- 4m high panels may be visible

NOTES:
 Layout file: D002-obvs-panels3m-LIDAR5m-5km.shp; D002-obvs-panels4m-LIDAR5m-5km.shp
 Terrain data: DEFRA-LIDAR-2020-derivedDSM-5m.asc
 Viewer's eye height: 2m above ground level
 Calculation grid size: 5m
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS. The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings. A digital surface model (DSM) has been derived from DEFRA 2020 2m DTM height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Heights of buildings and woodland are taken from DEFRA 2020 2m DSM height data.
 The model does not take into account some localised features such as hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.
 The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m resolution.
 Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



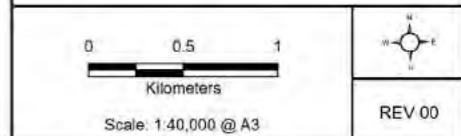
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01	14/12/2022	Second Draft	MP	JI	
00	06/12/2022	First Draft	MP	JI	

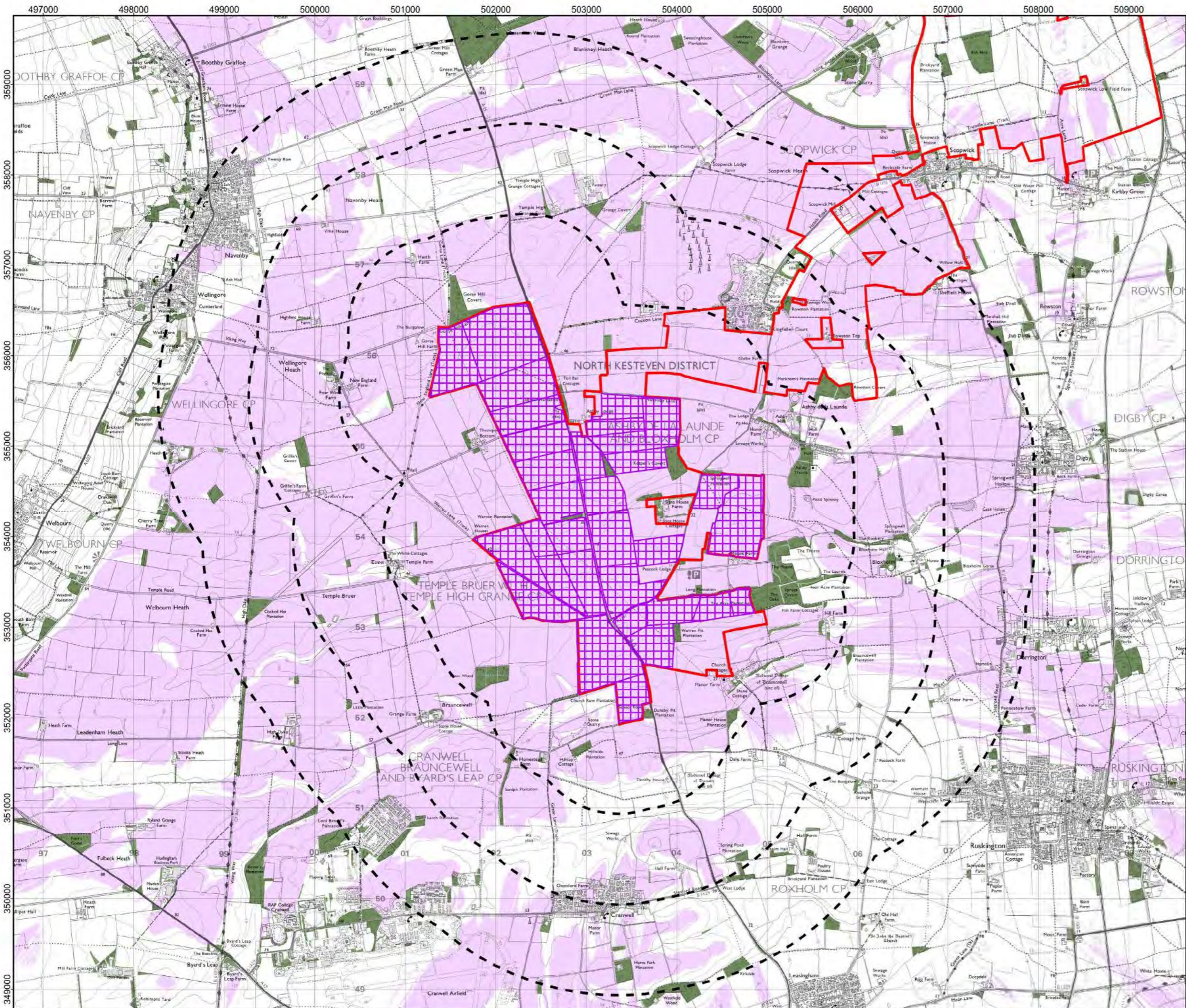


DOCUMENT:
Scoping

TITLE:
Screening ZTV - Springwell West Solar Array

FIGURE NUMBER:
1A





- Legend:**
- Proposed Site Boundary
 - Potential area suitable for Collector Compounds and Distributed BESS
 - Distance Radii from Collector Compounds and BESS (1, 2, 3km)
 - Existing Woodland
- Zone of Theoretical Visibility**
- 6m high collector compounds and/or BESS may be visible

NOTES:
 Layout file: D001-obvs-collectors6m-LIDAR5m-5km.shp
 Terrain data: DEFRA-LIDAR-2020-derivedDSM-5m.asc
 Viewer's eye height: 2m above ground level
 Calculation grid size: 5m
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS. The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings. A digital surface model (DSM) has been derived from DEFRA 2020 2m DTM height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Heights of buildings and woodland are taken from DEFRA 2020 2m DSM height data.
 The model does not take into account some localised features such as hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.
 The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m² resolution.
 Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



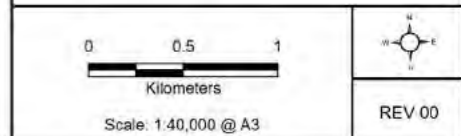
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01	14/12/2022	Second Draft	MP	JI	
00	30/11/2022	First Draft	MP	JI	



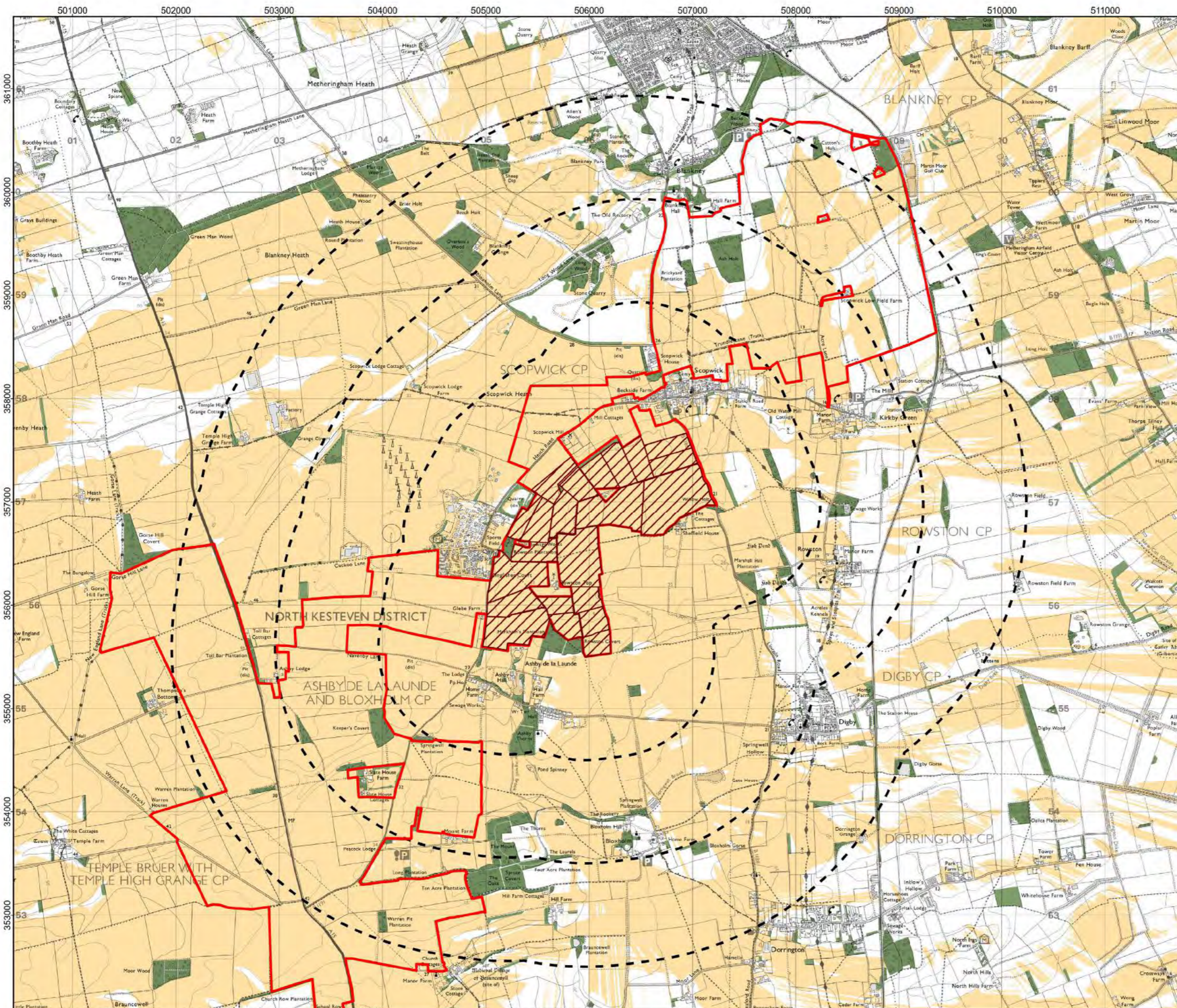
DOCUMENT:
 Scoping

TITLE:
 Screening ZTV - Springwell West Potential Collector Compounds and BESS

FIGURE NUMBER:
 1B



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Legend:

- Proposed Site Boundary
- Potential Area of PV Generating Station
- Distance Radii from Solar Array (1, 2, 3km)
- Existing Woodland

Zone of Theoretical Visibility

- 4m high panels may be visible

NOTES:
 Layout file: D002-obvs-panels3m-LIDAR5m-5km.shp; D002-obvs-panels4m-LIDAR5m-5km.shp
 Terrain data: DEFRA-LIDAR-2020-derivedDSM-5m.asc
 Viewer's eye height: 2m above ground level
 Calculation grid size: 5m
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS. The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings. A digital surface model (DSM) has been derived from DEFRA 2020 2m DTM height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Heights of buildings and woodland are taken from DEFRA 2020 2m DSM height data.
 The model does not take into account some localised features such as hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.
 The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m² resolution.
 Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



Rev	Date	Description	Drn	Chk	App
01	25/01/2023	Third Draft	MP	JI	
01	14/12/2022	Second Draft	MP	JI	
00	06/12/2022	First Draft	MP	JI	

Springwell Solar Farm

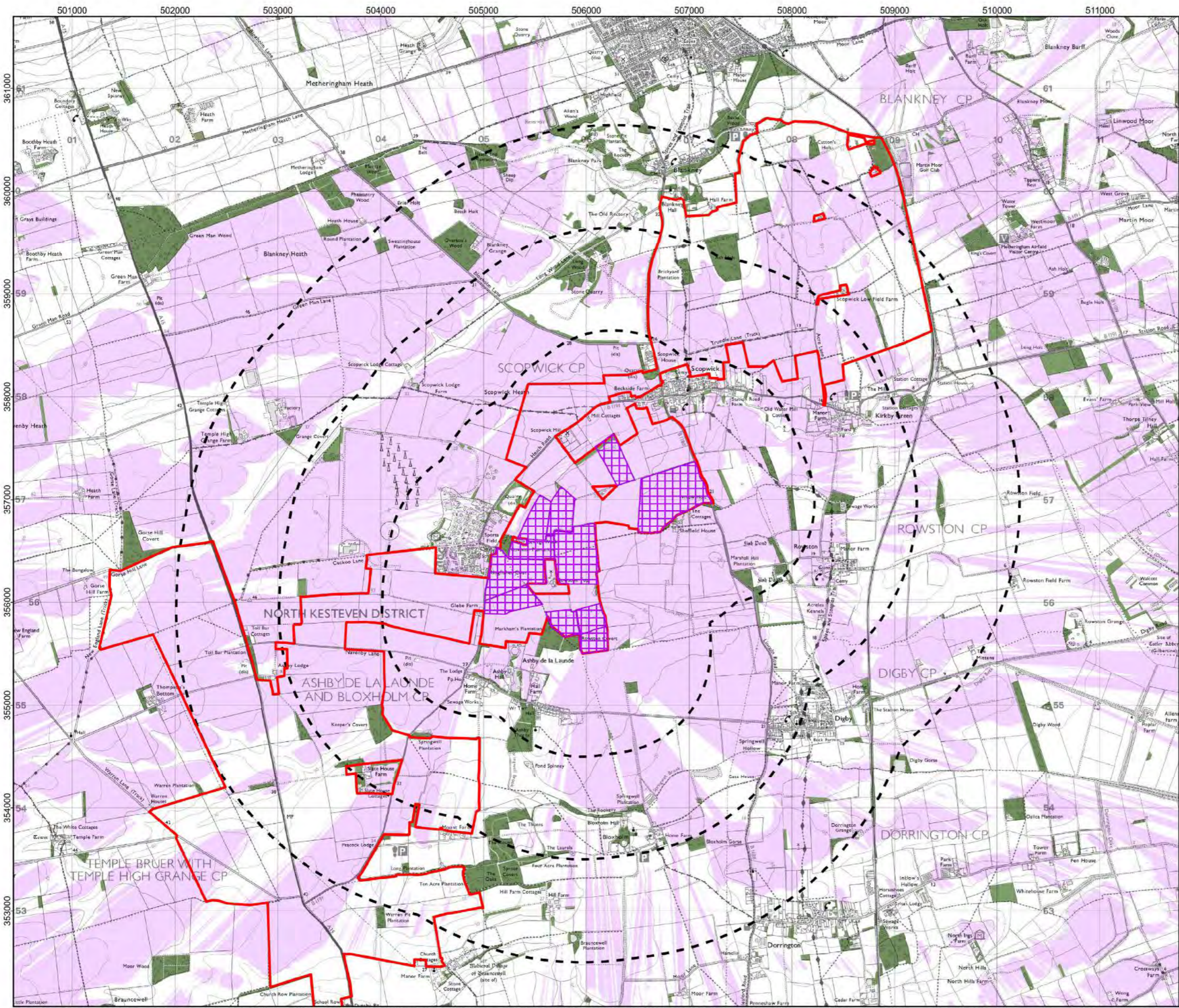
DOCUMENT:
Scoping

TITLE:
Screening ZTV - Springwell Central Solar Array

FIGURE NUMBER:
2A

Scale: 1:35,000 @ A3

REV 00



- Legend:**
- Proposed Site Boundary
 - Potential area suitable for Collector Compounds and Distributed BESS
 - Distance Radii from Collector Compounds and BESS (1, 2, 3km)
 - Existing Woodland
 - Zone of Theoretical Visibility
 - 6m high collector compounds and/or BESS may be visible

NOTES:
 Layout file: D001-obvs-collectors6m-LIDAR5m-5km.shp
 Terrain data: DEFRA-LIDAR-2020-derivedDSM-5m.asc
 Viewer's eye height: 2m above ground level
 Calculation grid size: 5m
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS. The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings. A digital surface model (DSM) has been derived from DEFRA 2020 2m DTM height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Heights of buildings and woodland are taken from DEFRA 2020 2m DSM height data.
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 The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m² resolution.
 Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



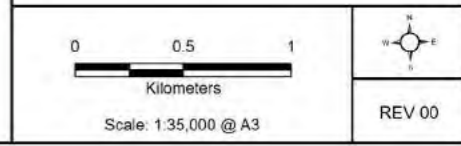
Rev	Date	Description	Drn	Chk	App
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01	14/12/2022	Second Draft	MP	JI	
00	30/11/2022	First Draft	MP	JI	



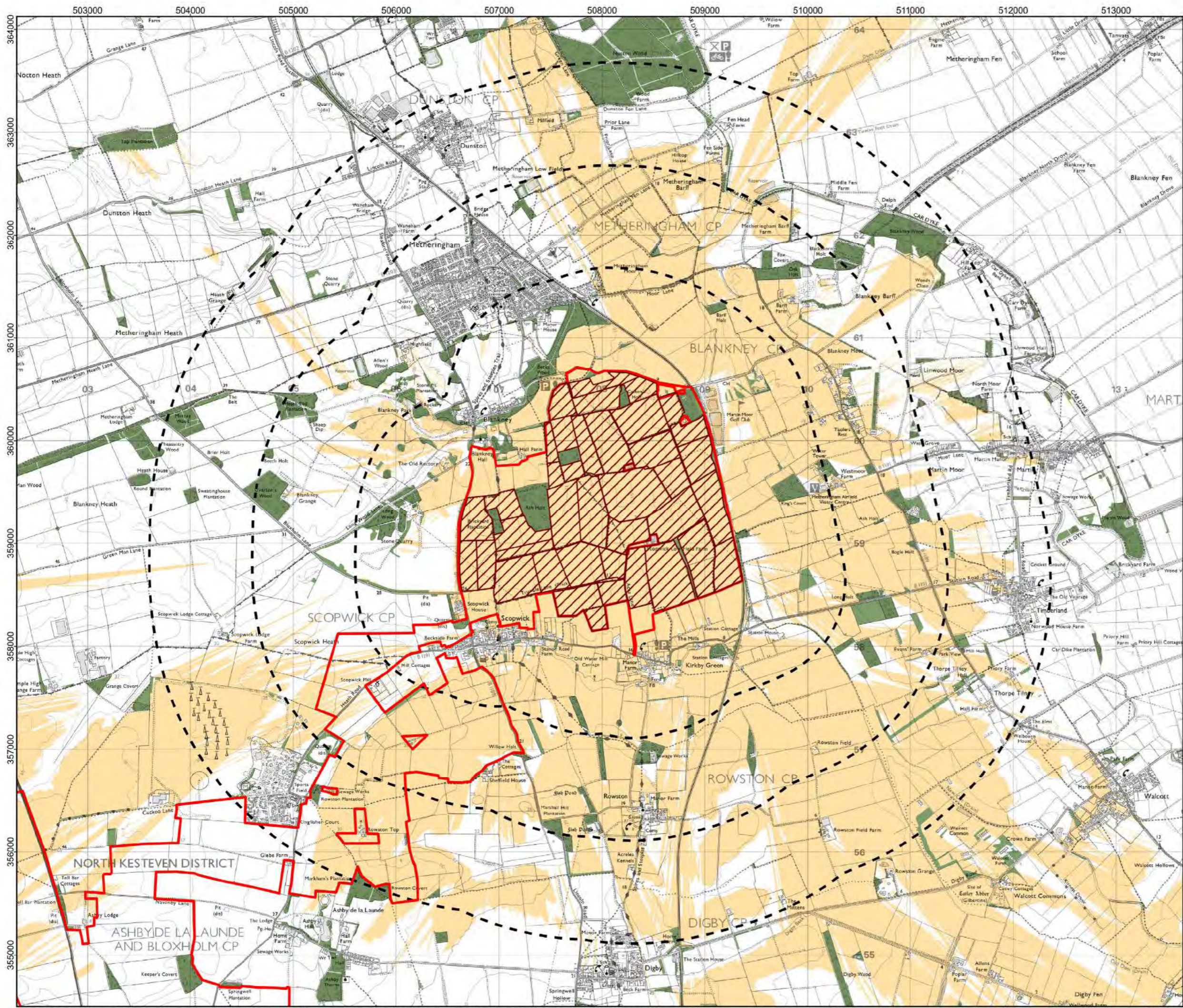
DOCUMENT:
Scoping

TITLE:
Screening ZTV - Springwell Central Potential Collector Compounds and BESS

FIGURE NUMBER:
2B



Path: C:\Users\mo.painlin\RSK\HLS\B\YRSK_Group\SH Projects 2200s - 0297 - Acre Lane Solar Farm\05 Working Files\02 GIS\IP663620.aprx\Scoping Collectors ZTVs



- Legend:**
- Proposed Site Boundary
 - Potential Area of PV Generating Station
 - Distance Radii from Solar Array (1, 2, 3km)
 - Existing Woodland
- Zone of Theoretical Visibility**
- 4m high panels may be visible

NOTES:
 Layout file: D002-obvs-panels3m-LIDAR5m-5km.shp; D002-obvs-panels4m-LIDAR5m-5km.shp
 Terrain data: DEFRA-LIDAR-2020-derivedDSM-5m.asc
 Viewer's eye height: 2m above ground level
 Calculation grid size: 5m
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS. The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings. A digital surface model (DSM) has been derived from DEFRA 2020 2m DTM height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Heights of buildings and woodland are taken from DEFRA 2020 2m DSM height data.
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 Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSG 1936
 Units: Meter



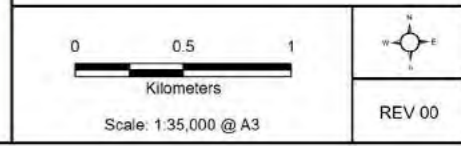
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00	06/12/2022	First Draft	MP	JI	

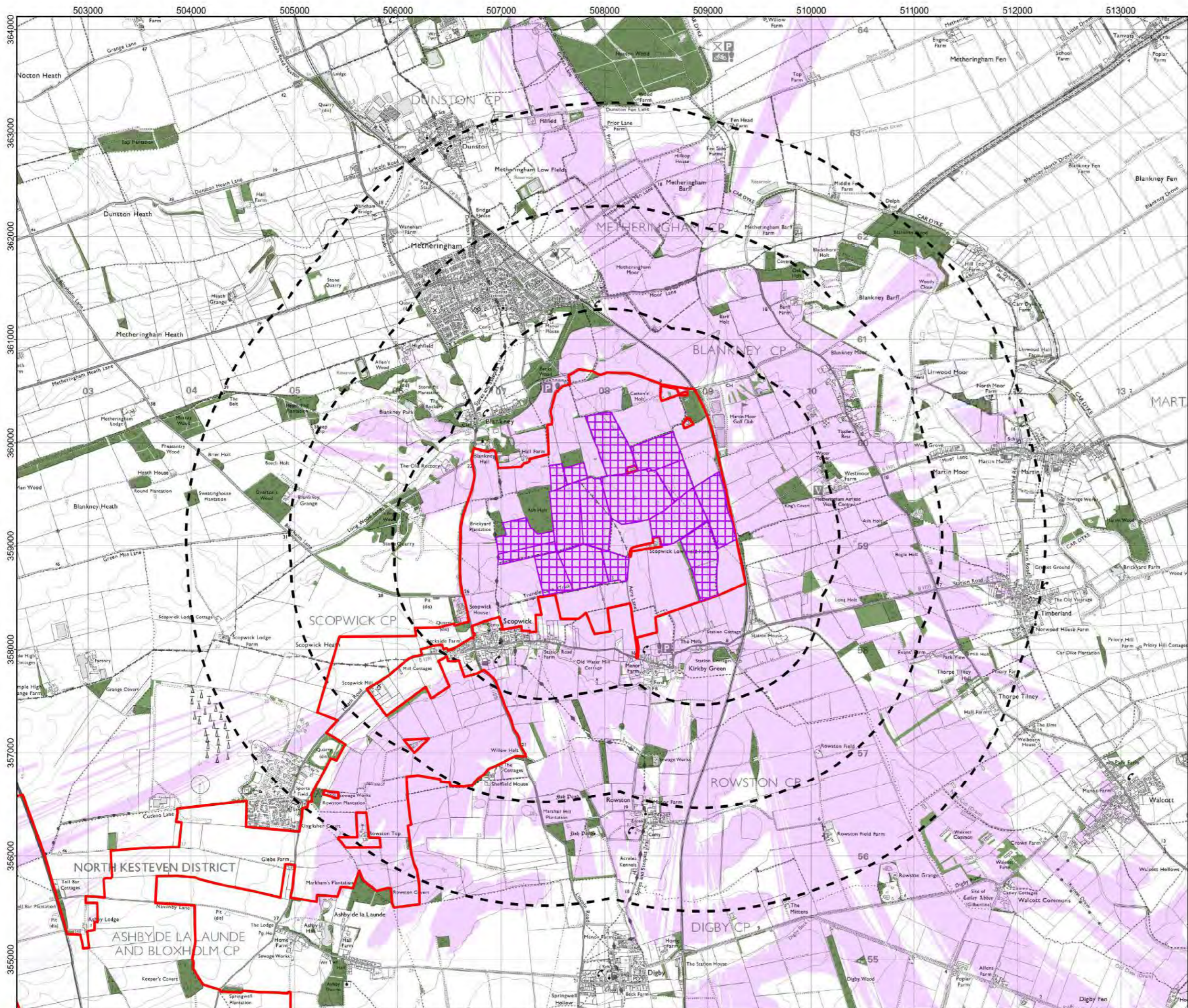


DOCUMENT:
Scoping

TITLE:
Screening ZTV - Springwell East Solar Array

FIGURE NUMBER:
3A





- Legend:**
- Proposed Site Boundary
 - Potential area suitable for Collector Compounds and Distributed BESS
 - Distance Radii from Collector Compounds and BESS (1, 2, 3km)
 - Existing Woodland
- Zone of Theoretical Visibility**
- 6m high collector compounds and/or BESS may be visible

NOTES:
 Layout file: D001-obvs-collectors6m-LIDAR5m-5km.shp
 Terrain data: DEFRA-LIDAR-2020-derivedDSM-5m.asc
 Viewer's eye height: 2m above ground level
 Calculation grid size: 5m
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS. The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings. A digital surface model (DSM) has been derived from DEFRA 2020 2m DTM height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Heights of buildings and woodland are taken from DEFRA 2020 2m DSM height data.
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 The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m² resolution.
 Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSG 1936
 Units: Meter



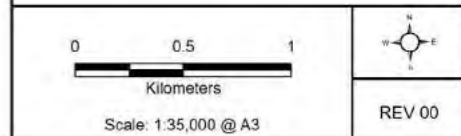
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01	25/01/2023	Third Draft	MP	JI	
01	14/12/2022	Second Draft	MP	JI	
00	30/11/2022	First Draft	MP	JI	

Springwell Solar Farm

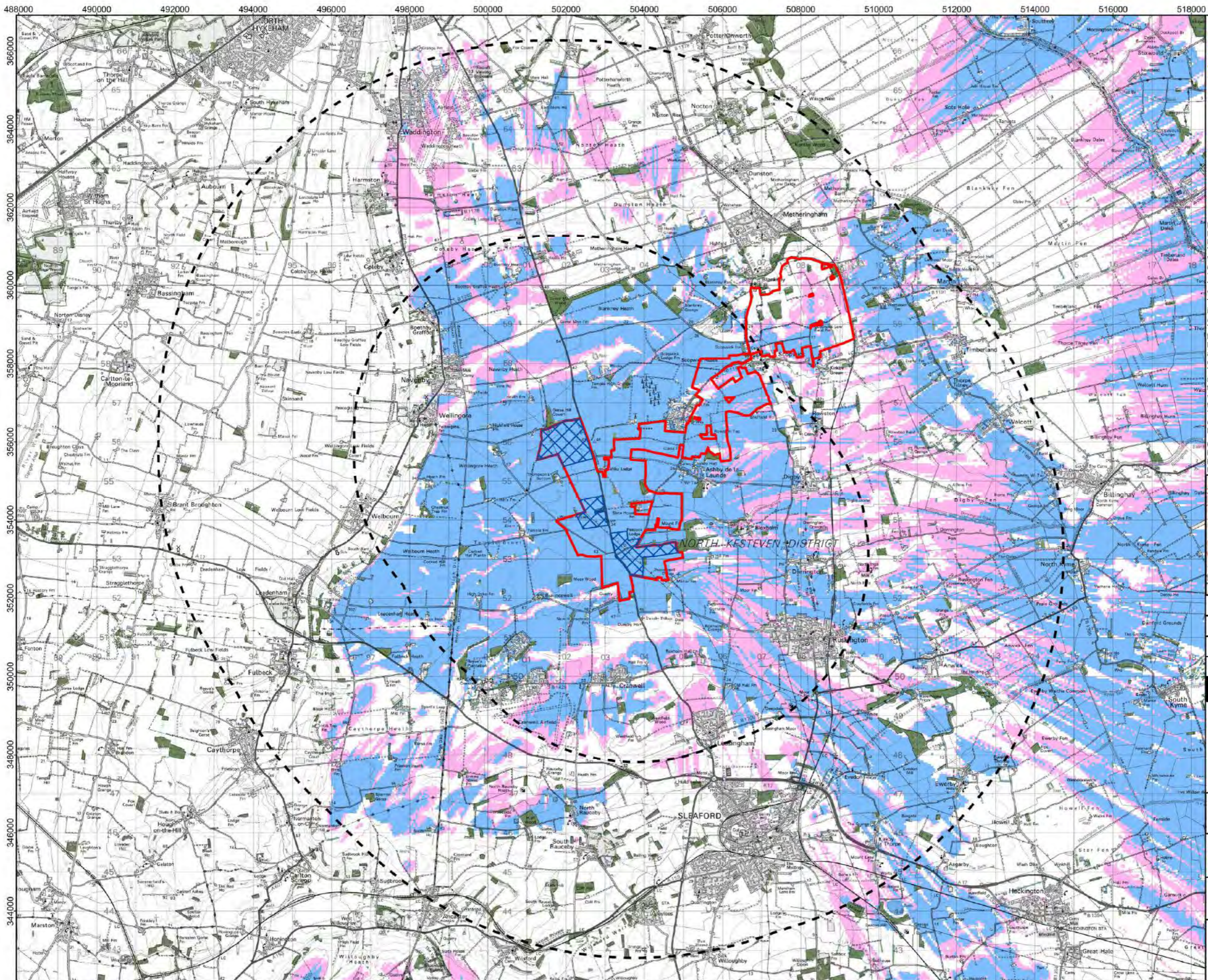
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Scoping

TITLE:
Screening ZTV - Springwell East Potential Collector Compounds and BESS

FIGURE NUMBER:
3B



Path: C:\Users\mo.painlin\RSK\HLS\B\YRSK_Group\SH Projects 200s - 0297 - Acre Lane Solar Farm\05 Working Files\02 GIS\P663620.aprx\Scoping Collectors ZTVs



- Legend:**
- Proposed Site Boundary
 - Potential Alternative Substation Locations
 - Distance Radii from Substations (5, 10km)
 - Existing Woodland
- Zone of Theoretical Visibility**
- Gantries up to 15m high may be visible
 - Features of the substation up to 6m high may be visible

NOTES:
 Layout file: D001-obvs-substations6m-LIDAR5m-15km.shp;
 D001-ZTV-screening-15mSubstations-T50-15km.tif
 Terrain data: T50-DSM.asc
 Viewer's eye height: 2m above ground level
 Calculation grid size: 50m
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS. The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings. A digital surface model (DSM) has been derived from OS Terrain50 height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Buildings have been modelled with an assumed height of 7.5m and woodland with an assumed height of 10m, representing a conservative estimate of average heights within the study area. The model does not take into account some localised features such as small copses, hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan. The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 50m resolution.

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



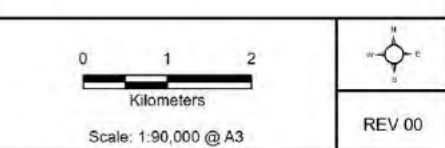
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00	09/11/2022	First Draft	MP	JI	

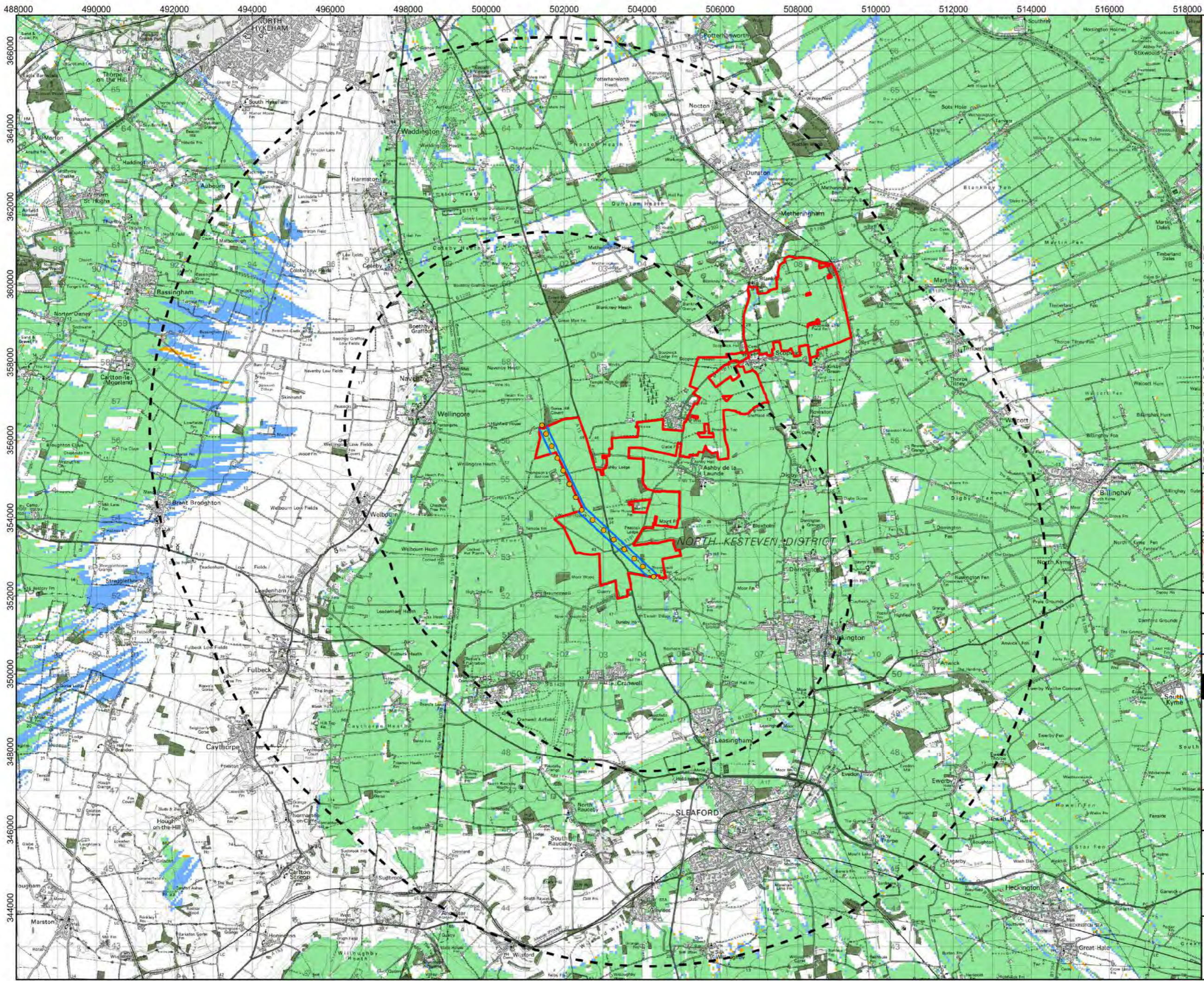


DOCUMENT:
 Scoping

TITLE:
 Screening ZTV - National Grid and Project Substation

FIGURE NUMBER:
 4





Legend:

- Proposed Site Boundary
- Existing Pylons
- Potential Zone for Additional Connecting Towers
- Distance Radii from Potential Additional Towers (5, 10km)
- Existing Woodland

Zone of Theoretical Visibility (54m high towers)

- Existing pylons may be visible
- Potential towers may be visible
- Both may be visible

NOTES:
 Layout file: obvys-pylons-60m-T50-10km.shp; obvys-pylons-offset-60m-T50-10km.shp
 Terrain data: T50-DSM.asc
 Viewer's eye height: 2m above ground level
 Calculation grid size: 50m
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS
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 The model does not take into account some localised features such as small copses, hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.
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Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



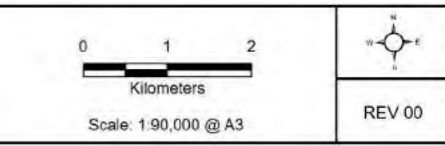
Rev	Date	Description	Drn	Chk	App
00	08/02/2023	Updated pylon heights	MP	JI	
00	09/11/2022	First Draft	MP	JI	



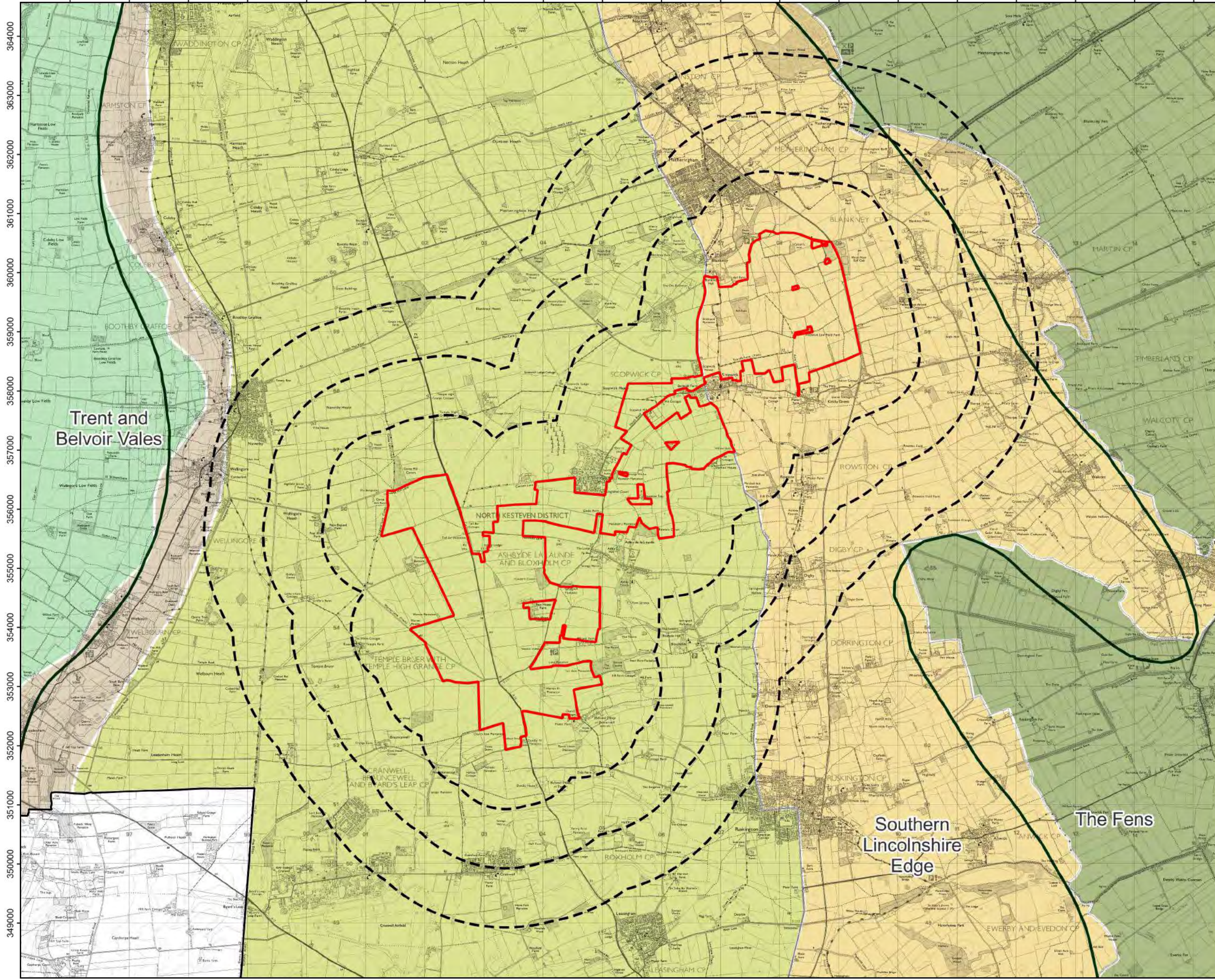
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 Scoping

TITLE:
 Screening ZTV - National Grid
 Connecting Tower ZTV

FIGURE NUMBER:
 5



496000 497000 498000 499000 500000 501000 502000 503000 504000 505000 506000 507000 508000 509000 510000 511000 512000 513000 514000 515000



- Legend:**
- Proposed Site Boundary
 - Distance Radii from Solar Array (1, 2, 3km)
 - National Character Areas Boundary
- North Kesteven Landscape Character**
- 5 Witham Brent Vales
 - 6 Lincoln Clif
 - 7 Limestone Heath
 - 11 Central Clays and Gravels
 - 13 Fenland



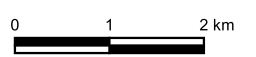
002/12/202	First draft	JM	JI	JI
Rev	Date	Description	Dr	Ch



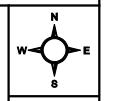
DOCUMENT:
Scoping

TITLE:
Landscape Character

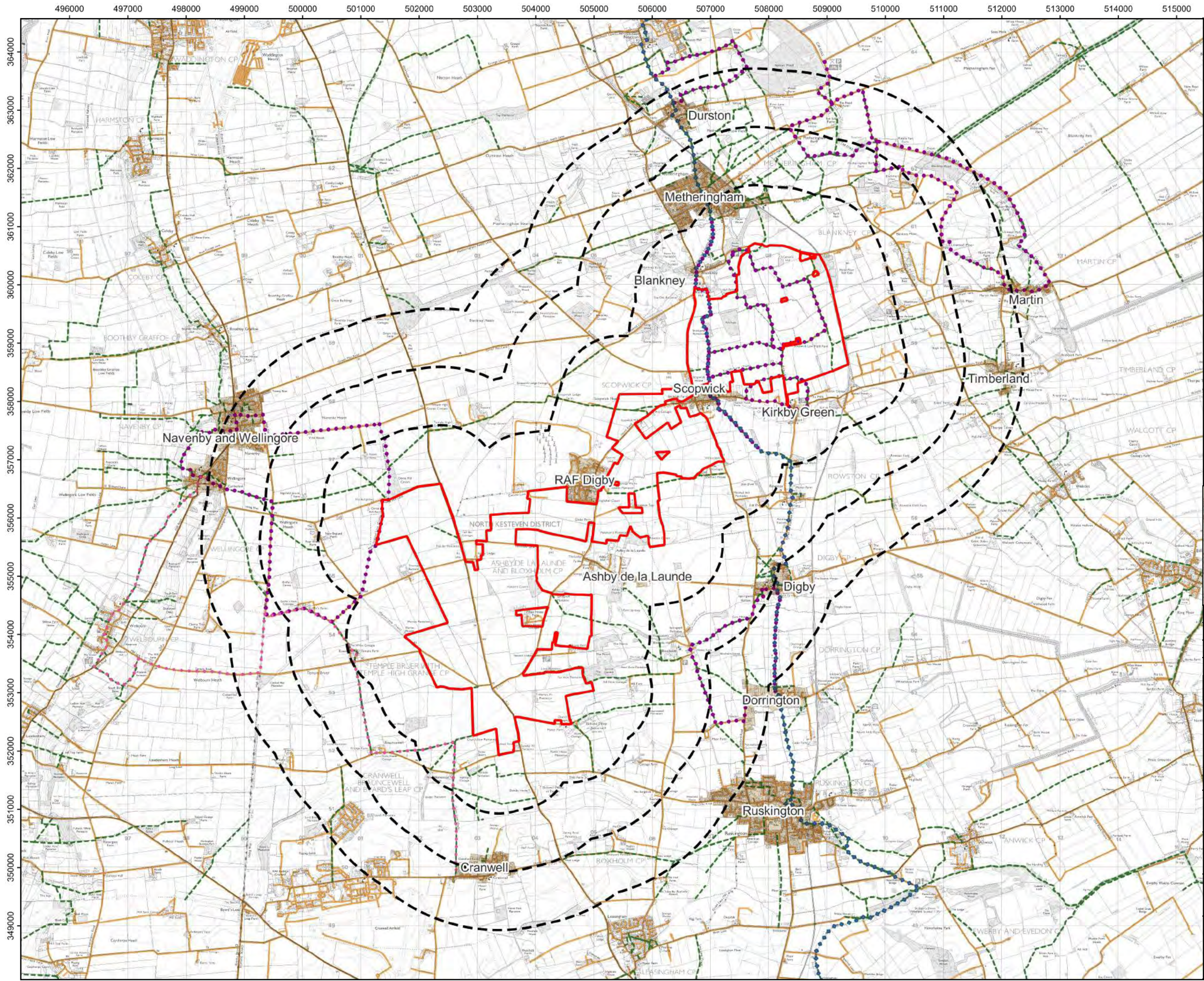
FIGURE NUMBER:
6



Scale: 1:60,000 @ A3



REV 00



- Legend:**
- Proposed Site Boundary
 - Distance Radii from Solar Array (1, 2, 3km)
 - Visual Receptors**
 - Lincolnshire Public Rights of Way
 - Stepping Out Routes
 - Spires and Steeples Long Distance Path
 - Ridge and Furrow Long Distance Path
 - Road
 - Settlement



Rev	Date	Description	Drn	Chk	App
00	05/12/2022	First draft	JM	JI	JI



DOCUMENT:
Scoping

TITLE:
Visual Receptors

FIGURE NUMBER:
7



Scale: 1:60,000 @ A3



REV 00

Appendix G – Glossary and Abbreviations



APPENDIX G – GLOSSARY AND ABBREVIATIONS

Term	Definition
Abnormal Indivisible Load (AIL)	Any load which cannot be broken down into smaller loads for the purposes of transportation, without undue expense or risk of damage.
Above-Ground Heritage Asset	An above ground building, monument, site, place, area or Landscape identified as having a degree of significance meriting consideration in planning decisions, because of its Heritage interest. Heritage Assets include Designated Heritage Assets and Non-Designated Heritage Assets.
Agricultural Land Classification (ALC)	A framework for determining the physical quality of the land at national, regional, and local levels. This is based on the long-term physical limitations of land for agricultural use. There are a number of factors that affect the grade, and the main ones are climate, site and soil characteristics, and the interactions between them.
Air Quality Management Area (AQMA)	Air Quality Management Areas (AQMAs) are areas that are likely to exceed the national air quality objective for a specific pollutant. They are determined by Local Authorities .
Ancient Woodland	Ancient Woodland is defined as an area that has been wooded continuously since at least 1600 AD. Ancient Woodland is divided into ancient semi-natural woodland and plantations on Ancient Woodland sites. Both types are classed as ancient woods.
Applicant	The organisation (Springwell Energy Farm Ltd) preparing and submitting the DCO Application.
Application	The application for a Development Consent Order submitted by the Applicant.
Aquifer	Underground layer of water-bearing permeable rock, rock fractures or unconsolidated materials (gravel, sand, or silt).

Archaeological Interest	There will be archaeological interest in a Heritage Asset if it holds, or potentially may hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.
Authorised Development	The development that will be described in the draft Development Consent Order (DCO) . This is also referred to as the Proposed Development .
Balance of Solar System (BoSS)	The components and equipment that convert the direct current (DC) electricity collected by the solar PV modules into alternating current (AC) comprised of inverters, transformers, and switchgear associated cables, monitoring and control equipment and structures.
Baseline	A reference level of existing Environmental Conditions against which a project is measured and controlled.
Baseline Studies	Work done to determine and describe the Environmental Conditions against which any future changes can be measured or predicted and assessed.
Battery Energy Storage System (BESS)	The area within the Solar Farm Site which will contain batteries, inverters, transformers and switchgear, Low Voltage Distribution Cables, some Primary Access Tracks, fencing and other associated works. This equipment allows for the storage, importation and exportation of energy to the National Grid.
Below-Ground Heritage Asset	Below-ground heritage assets include both known and hitherto unknown buried archaeological remains.
Best and Most Versatile Agricultural Land (BMV)	Defined as Grades 1, 2 and 3a in the Agricultural Land Classification by the revised National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG) . This is the land, which is determined to be most flexible, productive, and efficient in response to inputs

	and which can best deliver future crops for food and non-food uses such as biomass, fibres, and pharmaceuticals. Grades 3b, 4, and 5 are used to classify land that is of moderate quality to very poor quality.
Best Available Techniques (BAT)	The available techniques which are the best for preventing or minimising Emissions and Impacts on the environment
Biodiversity	The biological diversity of the earth's living resources. The total range of variability among systems and organisms at the following levels of organisation: bioregional, Landscape , ecosystem, Habitats , communities, Species , populations, individuals, genes, and the structural and functional relationships within and between these different levels.
Biodiversity Net Gain (BNG)	Biodiversity Net Gain is an approach to development that leaves biodiversity in a better state than before.
Book of Reference	A list of all of the land over which compulsory acquisition powers will be sought for the Proposed Development , as well as the owners and occupiers of the affected land and those with an interest in it.
Borrow Pits	Excavation in the ground to provide material for elsewhere on the site.
Cables	The cables, which transmit electricity from different components on the Site.
Cable Route Corridor	Corridor which represents the maximum extent of land within which the cable route would be located.
Catchment	The total area which drains to a specific point on a watercourse.
Circular Economy	Maximising the sustainable use and value of resources, eliminating waste from all stages of the resource lifecycle, whilst benefiting both the economy and the environment.

Climate Change	Large scale, long term shift in the Earth's weather patterns or average temperature.
Collector Compounds	System comprising of switchgear and transformers and associated infrastructure, which will collect electricity via the buried MV cables from the inverter and transformer stations (ITS) and transmit via further cables to the Project Substation.
Combined Effects	The interaction and combination of different residual (post mitigation) environmental effects of the Proposed Development affecting the same Receptor . For example, visual and noise effects during construction affecting the same residential dwelling.
Competent Authority	The relevant Secretary of State is the Competent Authority for the purposes of the Habitats Directive and the Habitats Regulation in relation to applications for Nationally Significant Infrastructure Projects (NSIPs) .
Code of Construction Practice	Document setting out methods to avoid, minimise and mitigate Impact on the environment and surrounding area and the protocols to be followed in implementing these measures in accordance with environmental commitments during the Construction Stage .
Construction Stage	The stage during which construction works for the Proposed Development will take place.
Consultation Documents	The documents submitted to support the formal preapplication consultation under the PA2008 . They included " <i>plans and maps showing the nature and location of the proposed development</i> " as stated in subsection (4) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009.
Construction Compound	A secure area from which construction activities are managed and resourced, including but not limited to temporary offices, workshops, parking and storage.

Construction Contractor	The person or organisation appointed by the Applicant to undertake the construction of the Proposed Development , including the management of the construction process and health and safety on Site .
Consultation Zone	The Health & Safety Executive (HSE) sets a Consultation Distance around major hazard sites and major accident hazard pipelines after assessing the risks and likely effects of major accidents at the major hazard site/pipeline. The area enclosed within the Consultation Distance is referred to as the consultation zone. The Local Planning Authority is notified of this Consultation Distance and has a statutory duty to consult HSE on certain proposed developments within the zone the Consultation Distance forms.
Contaminated Land	Land where substances are causing or have a significant possibility to cause significant harm to people, property or protected species; or, where significant pollution is being caused or has a significant possibility of being caused to controlled waters.
Corrosion	Corrosion is the deterioration and loss of a material and its critical properties due to chemical, electrochemical and other reactions of the exposed material surface with the surrounding environment. Corrosion of metals takes place due to the gradual environmental interaction on the material surface.
Cumulative Effects	The effects of the Proposed Development in cumulation with other existing development and/or approved development.
Decommissioning	The process of shutting down, and where relevant, removing the infrastructure comprised in the Proposed Development when it is no longer required once it has reached end of life.
DCO Application	The Application for a Development Consent Order (DCO) that is submitted by the Applicant to the

	Secretary of State (SoS) for Business, Energy, and Industrial Strategy (BEIS).
Development Consent Order (DCO)	A Development Consent Order (DCO) is a Statutory Instrument (SI) made by the Secretary of State (SoS) pursuant to the Planning Act 2008 (as amended) (PA2008).
DCO Requirement	The conditions which govern how the project is to be delivered. These will form part of the Schedule of Requirements.
Dewatering	The removal of surface or ground water to dry and/or solidify a Construction Compound to enable construction activity.
Direct Effect	An effect that is directly attributable to the Proposed Development .
Direct Employment	An increase in local employment arising from further economic activity (jobs, expenditure, or income) associated with additional local income and local supplier purchases.
Disaster	In the context of the Proposed Development , a naturally occurring phenomenon such as an extreme weather event (e.g. storm, flood, temperature) or ground-related hazard events (e.g. subsidence, landslide, earthquake) with the potential to cause an event or situation that meets the definition of a Major Accident .
Easement	An easement is a legal, propriety agreement that confers a right to cross/use someone else's land for a particular purpose e.g. installing a pipeline along with access rights to enter the land to undertake routine inspections or repairs. Once the agreement is legally completed, the easement is registered with the Land Registry and binds future successors in title.
Enhancement	Measures to improve the environment, such as landscape resource and the visual amenity of the

	Proposed Development and its wider setting, over and above its Baseline condition.
Environmental Effect	The consequence of an action (impact) upon the environment such as the decline of a breeding bird population as a result of the removal of hedgerows and trees.
Environmental Impact	The change in the environment from a development, such as the removal of a hedgerow.
Environmental Impact Assessment (EIA)	A systematic means of assessing the significance of effects from the Proposed Development , undertaken in accordance with The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (DCO EIA Regulations).
EIA Directive	Directive 85/337/EEC (as amended). The initial Directive of 1985 and its three amendments have been codified by Directive 2011/92/EU of 13 December 2011. Directive 2011/92/EU has been amended in 2014 by Directive 2014/52/EU.
EIA Regulations	For the purpose of the DCO Application , the EIA Regulations are the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.
Environmental Statement (ES)	A statement prepared in accordance with the EIA Regulations that includes the information that is reasonably required to assess the likely effects of a development and which the applicant can, having regard in particular to current knowledge and methods of assessment, reasonably be required to compile.
European Designated Site	An area of land subject to protection through European legislation, including Special Area of Conservation (SAC) , Special Protection Area (SPA) and Ramsar.
Examining Authority (ExA)	Planning Inspector(s) responsible for conducting the examination and recommending a decision on a DCO application to the Secretary of State (SoS) .

Exceedance	A period of time where the concentrations of a pollutant is greater than the appropriate quality standard.
Expansive Study Area	The Expansive Study Area extends to the availability of construction materials and the capacity of waste management facilities within the UK and the regions where the Proposed Development is located.
External Influencing Factor	A factor which occurs beyond the limits of the Proposed Development that may present a risk to the Proposed Development, e.g. if an external disaster occurred (e.g. earthquake, COMAH site major accident) it would increase the risk of serious damage to an environmental receptor associated with the Proposed Development.
Flood Map for Planning	Defines Flood Zones based on annual probability of flooding from Fluvial and tidal sources to inform development planning and flood risk assessment. Nationally consistent delineation of 'high', 'medium' and 'low' flood risk updated by the Environment Agency as deemed appropriate, typically on a quarterly basis.
Flood Risk Assessment (FRA)	An assessment of the risk of flooding. A document that reviews a development in its proposal form to assess it against the risk of flooding, whether that be from groundwater, river (fluvial), surface water (pluvial), estuary / coastal (tidal), or from sewer sources.
Flood Zones	Zones based on the annual probability of flooding from Fluvial and tidal sources, as defined in the Flood Map for Planning . Areas are categorised into one of the following: Flood Zone 1, Flood Zone 2, Flood Zone 3a or Flood Zone 3b.
Flood Zone 1	This zone comprises land assessed as having less than a 1 in 1,000 (0.1%) annual probability of flooding from rivers or the sea in any year.
Flood Zone 2	This zone comprises land assessed as having between a 1 in 100 (1%) and 1 in 1000 (0.1%) annual probability of flooding from rivers, or between a 1 in 200 (0.5%) and

	1 in 1,000 (0.1%) annual probability of flooding from the sea in any year.
Flood Zone 3a	This zone comprises land assessed as having a 1 in 100 (1%) or greater annual probability of flooding from rivers or a 1 in 200 (0.5%) or greater annual probability of flooding from the sea in any year.
Flood Zone 3b	This zone comprises land where water has to flow or be stored in times of flood.
Fluvial	Processes associated with rivers and streams and the deposits and landforms created by them.
Future Baseline	The likely evolution of the baseline without implementation of the Proposed Development .
Gantries	Steel apparatus that are required for the stringing of overhead bus conductors from the transmission line to form a bus bar inside a substation.
Geographical Information System (GIS)	A system that captures, stores, analyses, manages, and presents data linked to location. It links spatial information to a digital database.
Geomorphology	Study of landforms, their processes, form, and sediments at the surface of the Earth.
Geophysical Survey	Geophysical survey is a non-intrusive pre-construction archaeological evaluation technique that exploits a variety of physical or chemical characteristics of rocks and soils etc, in an attempt to locate underground features of archaeological interest. Types of geophysical survey include magnetometer survey, magnetic susceptibility survey and resistivity survey.
Geotechnical Survey	An investigation to determine the nature and engineering properties of the soil and other materials and to determine soil profiles and property assignments for the purpose of design and construction.

Greenfield Runoff Rate	The peak rate of runoff for a specific return period due to rainfall falling on a given area of vegetated land (predevelopment)
Greenhouse Gas (GHG)	Gases that absorb and emit reflected solar radiation which result in the warming of the Earth's atmosphere. It is absorbed and emitted at specific wavelengths within the spectrum of infrared radiation emitted by the earth's surface, the atmosphere, and clouds. The six main GHGs whose emissions are human caused are: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbon, and sulphur hexafluoride. In combination, these GHG emissions are commonly expressed in terms of 'carbon dioxide equivalents' (CO ₂ e) according to their relative global warming potential. For this reason, the shorthand 'carbon' may be used to refer to GHGs.
Grid Connection	The export and import of electricity to the National Grid from the National Grid Substation which will tie into the existing 400kV overhead transmission line.
Ground Investigation (GI)	The physical investigation stage of the Geotechnical Survey of which Geophysical Surveys may be one element. Comprised of targeted investigations including both intrusive and non-intrusive techniques to prove ground conditions, determine soil / rock parameters and identify hazards associated with the ground conditions to inform the construction of the proposed development.
GI Contractor	The contractor tasked with undertaking the Ground Investigation , including all associated activities and consents.
Groundwater	Groundwater is the store of water present beneath Earth's surface in rock and soil pore spaces and in the fractures of rock formations.
Groundwater Dependent Terrestrial Ecosystems (GWDTE)	Wetlands such as springs, flushes and fens which are fed by groundwater rather than rainfall or surface runoff.

	They are particularly sensitive to hydrological and ecological changes caused by development.
Groundwater Source Protection Zone (SPZ)	Also, Source Protection Zone (SPZ) , defined for 2,000 groundwater sources such as wells, boreholes and springs used for public drinking water supply, show the risk of contamination from any activities that might cause pollution in the area. The closer the activity, the greater the risk. The SPZ maps show three main zones (inner, outer, and total catchment) and a fourth zone of special interest, which the Environment Agency occasionally apply to a groundwater source.
Habitat	The environment in which populations or individual species live or grow.
Habitats Directive	Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna.
Habitats Regulations	The Conservation of Habitats and Species Regulations 2017 (as amended) which covers the terrestrial environment.
Habitats Regulations Assessment (HRA)	A Habitats Regulations Assessment (HRA) refers to the stages of assessment carried out by the competent authority in accordance with Habitats Regulations and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) to determine if a project may affect the protected features of a European site and European offshore marine site, before deciding whether to undertake, permit or authorise it.
Habitats Site	Any site which would be included within the definition at regulation 8 of the Conservation of Habitats and Species Regulations 2017 for the purpose of those regulations, including candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation, Special Protection Areas and any relevant Marine Sites.

Haul Road	Haul roads are temporary roads to allow for the movement of construction materials, construction machinery and/or construction labour around the Site .
Hazard	Anything with the potential to cause harm, including ill-health and injury, damage to property or the environment; or a combination of these.
Hazardous Waste	Waste that by legal definition may cause particular harm to human health or the environment.
Heavy Goods Vehicle (HGV)	Vehicles with 3 axles (articulated) or 4 or more axles (rigid and articulated).
Heritage	The historic environment and especially valued assets and qualities such as historic buildings and cultural traditions.
Heritage Asset	A building, monument, site, place, area, or Landscape identified as having a degree of significance meriting consideration in planning decisions, because of its Heritage interest. Heritage Assets include Designated Heritage Assets and Non-Designated Heritage Assets.
Historic Environment Record (HER)	The record of archaeological and built heritage features in a county or district, usually held and maintained by the relevant County Council.
Indirect Effect	An effect that results indirectly from the Proposed Development , as a consequence of a ' Direct Effect ', often occurring away from the Site , or as a result of a sequence of interrelationships or a complex pathway. They may be separated by distance or in time from the Source of the Environmental Effect .
Indirect Employment	Employment growth arising locally through manufacturing services and suppliers to the construction process (indirect or supply linkage multipliers).

Induced Employment	Employment associated with local expenditure as a result of those who derive incomes from the direct and supply linkage impacts of the Proposed Development .
Interface Cables	Buried high-voltage cables linking the on-site electrical infrastructure to the National Grid via the National Grid Substation.
Internal Drainage Board (IDB)	Each internal drainage board is a public body that manage water levels in an area, known as an internal drainage district, where there is a special need for drainage. They undertake works to reduce flood risk to people and property and manage water levels for agricultural and environmental needs within their district.
Internal Influencing Factor	A factor which occurs within the limits of the Proposed Development that may present a risk to the Proposed Development .
Inverter	Inverters convert the direct current (DC) electricity collected by the PV modules into alternating current (AC), which allows the electricity generated to be exported to the National Grid. BESS also use inverters to convert between DC and AC. The batteries function in DC and electricity must be converted to/from AC to pass into or from the grid.
Inverter and Transformer Station (ITS)	Enclosed facility that hosts the inverters and transformer within one combined container.
Jointing Pit	Underground structures constructed at regular intervals along the cable route to join sections of cable and facilitate installation of the cables into the buried ducts.
LAeq	Equivalent Continuous Level. When a noise varies over time, the LAeq is the equivalent continuous sound which would contain the same sound energy as the time varying sound.

Land Cover	The surface cover of the land usually expressed in terms of vegetation cover or lack of it. Related to, but not the same as, Land Use .
Land Drainage	The disposal of rainwater, achieved by a combination of watercourses of various types.
Land Use	The purpose for which land is used, based on broad categories of functional land cover, such as urban and infrastructure use and the different types of agricultural and forestry.
Landfill	A facility designed to receive disposed waste. Usually involves the infill of pre-existing voids.
Landform	The shape and form of the land surface which has resulted from combinations of geology, geomorphology, slope, elevation, and physical processes.
Landscape	An area, as perceived by people, the character of which is a result of the action and interaction of natural and/or human factors.
Landscape and Ecological Management Plan	A document to set out the principles for how the land will be managed throughout the operational phase, following the completion of the construction phase.
Landscape and Visual Impact Assessment (LVIA)	A tool used to identify and assess the likely significant effect of change resulting from development both on the Landscape as an environmental resource in its own right and on people's views and Visual Amenity .
Landscape Character	A distinct, recognisable and consistent pattern of Elements in the Landscape that makes one Landscape different from another.
LAm_{ax}	LAm _{ax} is the maximum A - weighted sound pressure level recorded over the period stated. LAm _{ax} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall LA _{eq} noise level but will still affect the noise environment.

Lead Local Flood Authority (LLFA)	The local authority responsible for taking the lead on local flood risk management as defined within the Flood and Water Management Act 2010.
Likely Significant Effect	<p>The significance of an environmental effect is typically a function of the 'value' or 'sensitivity' of the Receptor and the 'magnitude' or 'scale' of the Impact. Combining the environmental value of the resource or receptor with the magnitude of change produces a significance of effect category.</p> <p>The definition of a significant effect for each environmental topic will be contained within their respective chapters of the Environmental Statement.</p>
Limit of Deviation	These limits show the maximum area within which the Proposed Development could be installed. This flexibility is required in order to deal with unforeseen circumstances, such as ground conditions and local features.
Limit of Land to Be Acquired Or Used	The limits of land to be acquired or used, as shown on the Land Plans .
Local Development Plan (LDP)	The set of documents and plans that sets out the Local Planning Authority's policies and proposals for the development and use of land in their area.
Local Wildlife Site (LWS)	A site of importance that has been identified and selection locally for their wildlife value.
Local Planning Authority (LPA)	The function of a local authority that is empowered by law to exercise statutory town planning functions for a particular area of the UK.
Lowest Observed Adverse Effect Level (LOAEL)	The level above which adverse effects on health and quality of life can be detected as a result of noise or vibration.
Main River	A watercourse shown as such on the Flood Map for Planning and can include any structure or appliance for controlling or regulating the flow of water in, into or out of a main river. Main Rivers are usually larger streams

	and rivers, but also include smaller watercourses of strategic drainage importance. Main Rivers are under the jurisdiction of the Environment Agency who have powers to carry out flood defence works to Main Rivers.
Major Accident	In the context of the Proposed Development , an event that threatens immediate or delayed serious damage to human health, welfare and/or the environment and requires the use of resources beyond those of the Applicant or its contractors to respond to the event. Serious damage includes the loss of life or permanent injury and/or permanent or long-lasting damage to an environmental receptor that cannot be restored through minor clean-up and restoration efforts. The significance of this effect will take into account the extent, severity and duration of harm and the sensitivity of the receptor.
Magnitude	A combination of the scale, extent and duration of an effect.
Mitigation Measures	Actions proposed to avoid, prevent, reduce and where possible, offset significant adverse effects arising from the whole or specific elements of the Proposed Development on the environment.
National Grid Substation	A compound containing electrical equipment to enable connection, transmission and distribution of electricity to the grid.
National Planning Policy Framework (NPPF)	The document that sets out Government's planning policies for England and how these are expected to be applied. The NPPF was last revised in July 2021.
National Policy Statement (NPS)	Policy designated under the Planning Act 2008 (as amended) (PA2008) concerning the planning and consenting of Nationally Significant Infrastructure Projects (NSIPs) in the UK. Where applicable, they form the primary policy framework for the consenting of NSIPs.
National Trail	Designated long-distance paths.

Nationally Significant Infrastructure Project (NSIP)	Projects which fall under one of the categories in Part 3 of the Planning Act 2008 (as amended) (PA2008).
Nationally Designated Ecological Site	Areas of land subject to project through UK legislation, including Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR) .
Noise Sensitive Receptor	Any identified Receptor likely to be affected by noise. These are generally human Receptors, and may include residential dwellings, work places, schools, hospitals, community facilities, places of worship, recreational spaces and ecological Receptors.
Nomis	Nomis is a service hosted by the Office for National Statistics (ONS) which provides access to the most detailed and up-to date UK labour market statistics from official sources.
No Observed Effect Level (NOEL)	The level below which no effect from noise or vibration can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.
Non-Statutory Consultation	Consultation with stakeholders on the Proposed Development which occurs in addition to the Statutory Consultation .
Non-Statutory Consultees	Consultees who – whilst not designated in law – are likely to have an interest in the Proposed Development and which the Applicant has therefore decided to consult with.
Operational Stage	The stage after which the Proposed Development is handed over by the relevant construction contractors and approved for operation. It will remain in its Operational Stage until operations cease.
Ordinary Watercourse	Any river, stream, ditch, drain, cut, dyke, sluice, sewer (other than a public sewer) and passage through which water flows that does not form part of a Main River . The Lead Local Flood Authority (LLFA) or Internal

	Drainage Board (IDB) where relevant, has powers for Ordinary Watercourses that are similar to those held by the Environment Agency for Main Rivers .
Parameters	A limit or boundary which defines the maximum or minimum height/width/length/depth parameters of infrastructure, which will be shown on parameter plans and secured through the DCO .
Phase 1 Habitat Survey	An ecological survey technique that provides a standardised system to record vegetation and wildlife Habitat . It enables a basic assessment of Habitat type and its potential importance for nature conservation.
Planform	The shape or outline of a watercourse when viewed from above.
Planning Inspectorate (PINS)	The Government agency responsible for administering applications for development consent under the Planning Act 2008 (as amended) (PA2008) on behalf of the Secretary of State (SoS).
Planning Practice Guidance (PPG)	The Planning Practice Guidance (PPG) provides context and guidance to the National Planning Policy Framework (NPPF). The PPG has been updated to reflect changes to the revised NPPF.
Potential Area for Solar Development	The proposed maximum area of solar infrastructure, including Solar PV modules and Balance of Solar System .
Pollution	The introduction of harmful materials into an environment.
Preliminary Ecological Appraisal (PEA)	Preliminary ecological surveys have a range of purposes; one key use is to gather data on existing conditions, often with the intention of conducting a preliminary assessment of likely impacts of proposed developments or establishing the baseline for future monitoring. As a precursor to a proposed project, some evaluation is usually made within these appraisals of the ecological features present, as well as scoping for

	notable Species or Habitats , identification of potential constraints to the Proposed Development and recommendations for Mitigation Measures .
Preliminary Environmental Information (PEI)	Information which has been compiled by the Applicant and is reasonably required for the consultation bodies to develop an informed view of the Likely Significant Effect of the Proposed Development .
Preliminary Environmental Information Report (PEIR)	The Preliminary Environmental Information Report (PEIR) is the report prepared by the Applicant, containing Preliminary Environmental Information (PEI) .
Primary Mitigation	Modifications to the location or design of the development made during the pre-application phase that are an inherent part of the project, and do not require additional action to be taken.
Principal Aquifer	Layers of rock or drift deposits that have high intergranular and / or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, Principal Aquifers are aquifers previously designated as major aquifers.
Project Substation	A compound containing electrical equipment to enable connection to the National Grid Substation.
Proposed Development	The development for which a Development Consent Order (DCO) is sought. In this instance, this includes the following: <ul style="list-style-type: none"> • Ground mounted solar PV generating station with a gross electrical output capacity to the National Grid network in the region of 800MW. The generating station will include solar PV modules and mounting structures. • Balance of Solar System (BoSS) which comprises; inverters, transformers, switchgear, and the use of Collector Compounds.

	<ul style="list-style-type: none"> • An onsite Project Substation compound, which will include; substation, switching and control equipment, office / control / welfare buildings, storage areas, and provisions for vehicular parking and material laydown. • Battery Energy Storage System (BESS) compound(s) and associated inverters, transformers, switchgear and ancillary equipment and their containers, enclosures, monitoring systems, air conditioning, electrical cables and fire safety infrastructure. • National Grid Substation • Works to facilitate vehicular access to the Site. • Ancillary infrastructure works including; underground cables, boundary treatments, security equipment, lighting, landscaping, access tracks, earthworks, surface water management, and any other works identified as necessary to enable the development. • Equipment facilitating electrical connection to the proposed National Grid Substation. • New public footpaths and amenity improvements. • Areas for habitat management and biodiversity enhancement.
Preliminary Risk Assessment	Report that presents a summary of readily-available information on the geotechnical and/or geo-environmental characteristics of the site and provides a qualitative assessment of geo-environmental and/or geotechnical risks in relation to the proposed development.
Q95	The flow in cubic metres per second which is equalled or exceeded for 95% of the time. The Q95 flow is a significant low flow parameter particularly relevant in the assessment of river water quality consent conditions.
Ramsar Site	Wetlands of international importance designated under the Ramsar Convention 1971.

Receptor	A component of the natural, created or built environment such as a human being, water, air, a building, or a plant that has the potential to be affected by the Proposed Development .
Recovery	Processing waste to prevent it being disposed of to landfill. Recovery processes include incineration with energy recovery, advanced thermal treatment, anaerobic digestion, and composting.
Recycle	Any recovery operation where waste is reprocessed into products, materials or substances whether for its original or other purposes. Recycling includes the reprocessing of organic material but excludes energy recovery and the reprocessing of waste into materials to be used as fuels or for backfilling operations.
Remediation	The removal of pollution or contaminants from the environment (usually soil, groundwater, sediment, or surface water).
Residual Effects	Effects arising from the Proposed Development that cannot be mitigated following implementation of Mitigation Measures .
Resilience (climate change)	The vulnerability of the Proposed Development to climate change.
Reuse	Any operation by which products or components that are not waste are used again for the same purpose for which they were conceived; reuse presumes that significant reprocessing is not required.
Riparian	Relating to or living or located on the bank of a natural watercourse (such as a river) or sometimes of a lake or a tidewater
Risk	The likelihood of an impact occurring, combined with the effect or consequence(s) of the impact on a receptor if it does occur.

Risk Event	An identified, unplanned event, which is considered relevant to the Proposed Development and has the potential to be a Major Accident and/or Disaster subject to assessment of its potential to result in a significant adverse effect on an environmental Receptor .
Rochdale Envelope	The Rochdale Envelope is an acknowledged way of dealing with an application where details of a project have not been fully resolved by the time the application is submitted. The term is used to describe those elements of a scheme that have not yet been finalised, but yet can be accommodated within certain limits and parameters allowing the likely significant effects of a project to be presented in the Environmental Statement as a reasonable worst case. It also provides the opportunity to assess aspects of a development where the detailed design is to be developed post grant of a DCO and approved by the Local Planning Authority under a DCO Requirement .
Scoping	An exercise undertaken pursuant to the EIA Regulations , to determine the environmental topics and environmental elements to be addressed within the Environmental Statement (ES) .
Scoping Boundary	The boundary considered to be the limits of the Proposed Development , as studied as part of the Scoping Report .
Scoping Opinion	The Scoping Opinion is the Secretary of State's written opinion as to the scope, and level of detail, of the information to be provided in the Environmental Statement.
Scoping Report	The Scoping Report is a report prepared by an applicant to provide the information required under the EIA Regulations to request a Scoping Opinion from the Secretary of State .
Secondary Aquifer	These include a wide range of rock layers or drift deposits with an equally wide range of water

	<p>permeability and storage. Secondary Aquifers are subdivided into two types:</p> <ul style="list-style-type: none"> • Secondary A - permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers. • Secondary B - predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons, and weathering. These are generally the water bearing parts of the former non-aquifers. <p>The term ‘Secondary Undifferentiated’ is also used in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.</p>
Secondary Mitigation	<p>Actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent, or through inclusion in the Environmental Statement.</p>
Secretary of State (SoS)	<p>In the case of the Proposed Development, the Secretary of State for Business, Energy, and Industrial Strategy (BEIS).</p>
Setting	<p>The surroundings within which a heritage asset is experienced and any element, which contributes to the understanding of its significance.</p>
Significance	<p>A measure of the importance or gravity of the effect defined by significance criteria specific to the environmental topic.</p>

Significant Observed Adverse Effect Level (SOAEL)	The level above which significant adverse effects on health and quality of life occur as a result of noise or vibration. (see also: Significance).
Site	For the DCO Application , this is the land within the Order Limits that will be shown on the Works Plans .
Site Boundary	The maximum extent of land potentially required temporarily and/or permanently for the construction, operation and maintenance of the Proposed Development .
Site of Importance for Nature Conservation (SINC)	Sites of Importance for Nature Conservation are usually selected within a local authority area and support both locally and nationally threatened Habitats and Species that are priorities under the county or UK Biodiversity Action Plan (BAP).
Site of Special Scientific Interest (SSSI)	A site statutorily notified under the Wildlife and Countryside Act 1981 (as amended) as being of special nature conservation or geological interest. Site of Special Scientific Interest (SSSIs) include Habitats , geological features, and landforms.
Site Waste Management Plan (SWMP)	A system or document for implementing, monitoring, and reviewing waste prevention measures.
Solar Farm	Proposed generating station including solar PV modules mounted on racks and connected via associated infrastructure to the National Grid.
Solar Photovoltaic (PV) Array	Linked collection of Solar PV Modules
Solar Photovoltaic (PV) Generating Station	Comprised of Solar PV Modules and Solar PV Mounting Structures
Solar Photovoltaic (PV) Modules	Panels comprised of photovoltaic cells beneath a layer of toughened glass that convert sunlight into electrical current.

Source Protection Zone (SPZ)	Areas which show the level of risk to the source of groundwater from contamination. SPZ 1 (Inner zone) is based on a 50 day travel time of pollutant to source with a 50 metres default minimum radius. SPZ2 (outer zone) is based on a 400 day travel time of pollutant to source with 250 or 500 metres minimum radius around the source depending on the amount of water abstracted. SPZ 3 (total catchment) area around a source within which all the groundwater ends up at the abstraction point.
Special Area of Conservation (SAC)	Areas of protected habitats and species as defined in the Habitats Directive .
Special Crossing	The crossing of a pipeline of features such as watercourse, rail or road which require particular consideration with regards to the construction methods.
Special Protection Area (SPA)	Sites classified in accordance with Article 4 of the EC Birds Directive (79/409/EEC) which came into force in April 1979. They are classified for rare and vulnerable birds (as listed on Annex 1 of the Directive), and for regularly occurring migratory Species .
Species	A group of interbreeding organisms that seldom or never interbreed with individuals in other such groups, under natural conditions; most species are made up of subspecies or populations.
Study Area	The area around the Scoping Boundary within which impacts could occur and therefore within which specialist assessment is undertaken.
Statutory Consultation	The Planning Act 2008 (as amended) (PA 2008) requires an applicant to undertake public consultation in advance of submitting a Development Consent Order (DCO) application to the Secretary of State (SoS).
Statutory Consultees	Planning law prescribes circumstances where the Secretary of State is required to consult specified bodies prior to a decision being made on an application.

	Includes bodies such as: Environment Agency, Highways England, Historic England, Natural England, Parish Councils, among others.
Statutory Undertaker	The various companies and agencies who are given general licence to carry out certain development and highways works. Generally these are utilities and telecoms companies or nationalised companies.
Statement of Community Consultation	The Planning Act 2008 (as amended) (PA2008) requires an applicant to undertake public consultation in advance of submitting a Development Consent Order (DCO) application to the Secretary of State (SoS). A Statement of Community Consultation (SoCC) must be prepared, setting out how the Applicant proposes to consult people living in the vicinity of the Proposed Development .
Strings	Group of solar PV modules which are fixed to a mounting structure.
Survey Area	The area within which an environmental survey is undertaken.
Sustainable Drainage System (SUDS)	A collection of water management practices that aim to align modern drainage systems with natural water processes.
Switchgear	Combination of electrical disconnect switches, fuses or circuit breakers to control, protect and isolate electrical equipment.
Temporary Works	Those parts of the works that allow or enable construction of the Proposed Development and which do not remain in place at the completion of the works.
Temporary Construction Laydown Area	Temporary secure storage area that is associated with the construction works of the Proposed Development.
Tertiary Mitigation	Actions that would occur with or without input from the EIA feeding into the design process. These include

	actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental Effects .
Transect	Survey technique for surveying birds, wintering birds and breeding birds, with surveyors walking pre-defined routes.
Transformer	A static piece of apparatus with two or more windings which, by electromagnetic induction, transforms a system of alternating voltage and current into another system of voltage and current usually of different values and at the same frequency for the purpose of transmitting electrical power.
Tributaries	Smaller watercourses which drain to a large watercourse.
Visual Amenity	Overall enjoyment of a particular area, surroundings, or views in terms of people's activities - living, recreating, travelling through, visiting, or working.
Visual Effect	An effect on specific views and on the general visual amenity experienced by people.
Visual Receptor	Heritage assets, individuals and / or defined groups of people, that have the potential to be affected by the Proposed Development .
Vulnerability	In the context of the 2014 EU Directive, the term refers to the 'exposure and resilience' of the Proposed Development to the risk of a major accident and/or disaster. Vulnerability is influenced by sensitivity, adaptive capacity, and magnitude of impact.
Waste	Any substance or object which the holder discards or intends or is required to discard.
Waste Hierarchy	A guiding theme for waste policy at all levels. Establishes an order of preference for the management of waste, to maximise the prevention of waste, whilst

	<p>minimising disposal. The Waste (Management) Hierarchy is established in the Waste Framework Directive (Directive 2008/98/EC), and prescribes the following:</p> <ul style="list-style-type: none"> • Prevention (Most preferred option) • Preparing for reuse • Recycling • Recovery • Disposal (Least preferred option)
Water Abstractions	The process of taking water from any source, either temporarily or permanently, for flood control or to obtain water for, for example, irrigation.
Water Framework Directive (WFD)	European directive which commits member states to achieve good qualitative status of all water bodies.
Water Quality	The chemical, physical, and biological characteristics of water based on the standards of its usage
Wetlands	Areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres.
Wildlife and Countryside Act 1981 (as amended)	The principal piece of UK legislation relating to the protection of wildlife.
Zone of Influence (ZOI)	The areas / resources that may be affected by the changes caused by activities associated with the Proposed Development .
Zone of Theoretical Visibility (ZTV)	A map, digitally produced, showing areas of land within which, the Proposed Development is theoretically visible.

Abbreviations

Abbreviations	Definition
AADT	Annual Average Daily Traffic
AC	Alternating Current
ADMS	Advances Dispersion Modelling Software
AEGLs	Acute Exposure Guideline Levels
AGI	Above Ground Installation
AIL	Abnormal Indivisible Load
ALC	Agricultural Land Classification
AOD	Above Ordnance Datum
AONB	Area of Outstanding Natural Beauty
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
ASSI	Area of Special Scientific Interest
ATC	Automatic Traffic Count
BAP	Biodiversity Action Plan
BAT	Best Available Techniques
BES	Building Research Establishment Environmental Sustainability Standard
BESS	Battery Energy Storage System
BGS	British Geological Society
BMV	Best and Most Versatile agricultural land
BOAT	Byways Open to All Traffic
BoSS	Balance of Solar System
BPM	Best Practicable Means
BSI	British Standards Institution
BGS	British Geological Survey
BTO	British Trust for Ornithology

CA	Conservation Area
CCC	Committee on Climate Change
CCS	Carbon Capture and Storage
CD	Consultation Distance
CDE	Construction, Demolition and Excavation
CDM	Construction, Design, Management
CEMP	Construction Environmental Management Plan
CIEEM	Chartered Institute of Ecology and Environmental Management
CifA	Chartered Institute for Archaeologists
CIRIA	Construction Industry Research and Information Association
CL:AIRE	Contaminated Land: Applications in Real Environments
COMAH	Control of Major Accidents and Hazards
COPA	Control of Pollution Act 1974
CoSHH	Control of Substances Hazardous to Health
CSM	Conceptual Site Model
CWTP	Construction Workers Travel Plan
dB	Decibel
DCO	Development Consent Order
DECC	Department for Energy and Climate Change
Defra	Department for Environment, Food and Rural Affairs
DEPZ	Detailed Emergency Planning Zone
DfT	Department for Transport
DHRA	Development in a High Risk Area (Coal Mining)
DLL	District Level Licensing
DMP	Dust Management Plan
DMRB	Design Manual for Roads and Bridges
DoS	Degree of Saturation
DTM	Digital Terrain Model
EA	Environment Agency

EC	European Commission
EclA	Ecological Impact Assessment
eDNA	Environmental DNA
Efw	Energy from Waste
EIA	Environmental Impact Assessment
END	Environmental Noise Directive
EPC	Engineering, Procurement and Construction
EPD	Environmental Product Declarations
EPUK	Environmental Protection UK
ERP	Emergency Response Plan
ES	Environmental Statement
ESG	Environmental, social and governance
EU	European Union
ExA	Examining Authority
FCA	Flood Consequence Assessment
FRA	Flood Risk Assessment
FTE	Full time equivalent
GCN	Great Crested Newt
GCR	Geological Conservation Review
GIS	Geographic Information Systems
GHG	Greenhouse Gas
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GPS	Global Positioning System
GVA	Gross Value Added
GWDTE	Ground Water Dependent Terrestrial Ecosystem
H&S	Health and Safety
H&SP	Health and Safety Plan
Ha	Hectare
HASWA	Health and Safety at Work Act

HAZID	Hazard Identification Studies
HDD	Horizontal Directional Drill / Drilling
HEDBA	Heritage Environmental Desk Based Assessment
HER	Historic Environment Record
HGV	Heavy Goods Vehicle
HIA	Health Impact Assessment
HM	His Majesty's
HMG	His Majesty's Government
HMWB	Heavily Modified Waterbody
HPI	Habitats of Principle Importance
HRA	Habitat Regulations Assessment
HSE	Health and Safety Executive
HSI	Habitat Suitability Index
HVAC	Heating, Ventilation and Cooling
IA	Noise Important Areas
IAQM	Institute of Air Quality Management
ICE	Inventory of Carbon and Energy
ICSS	Integrated Control and Safety Systems
IEMA	Institute of Environmental Management and Assessment
IMD	Index of Multiple Deprivation
INNS	Invasive Non-Native Species
JSNA	Joint Strategic Needs Assessment
ktCO2	Total greenhouse gas emissions
kV	Kilovolt
LA90 dB	Background Sound
LAeq, T dB	Equivalent Continuous Sound Level
LAQM	Local Air Quality Management
LCA	Landscape Character Area
LCC	Lincolnshire County Council

LCRM	Land Contamination: Risk Management
LDP	Local Development Plan
LGV	Light Goods Vehicle
LI	Landscape Institute
LIDAR	Light Detection and Ranging
LLFA	Lead Local Flood Authority
Lmax	Highest Measured Sound Pressure Level
Lmin	Lowest Measured Sound Pressure Level
LNR	Local Nature Reserve
LOAEL	Lowest Observed Adverse Effect Level
LPA	Local Planning Authority
LRN	Local Road Network
LSOA	Lower Layer Super Output Area
LVIA	Landscape and Visual Impact Assessment
LWS	Local Wildlife Site
MA&D	Major Accidents and Disasters
MAGIC	Multi Agency Geographic Information for the Countryside
MAH	Major Accident Hazard
MCZ	Marine Conservation Zone
MPP	Materials Management Plan
MRA	Mineral Resource Assessment
MSA	Mineral Safeguarding Area
MS	Method Statement
MW	Megawatts
MWp	Mega Watt Peak
N/A	Not Applicable
NAPPA	Noise Action Plan Priority Areas
NCA	National Character Area
NCN	National Cycle Network

NE	Natural England
NERC	Natural Environment Research Council
NKDC	North Kesteven District Council
NNR	National Nature Reserve
NO2	Nitrogen dioxide
NOEL	No Observed Effect Level
NOx	Nitrogen oxides
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
NPS	National Policy Statement
NPSE	Noise Policy Statement for England
NSIP	Nationally Significant Infrastructure Project
NTS	Non-Technical Summary
NVQ	National Vocational Qualification
OCZ	Outer Consultation Zone
ONS	Office for National Statistics
OS	Ordnance Survey
PEA	Preliminary Ecological Appraisal
PEI	Preliminary Environmental Information
PEIR	Preliminary Environmental Information Report
PHE	Public Health England
PIA	Personal injury accident data
PINS	Planning Inspectorate
PM	Particulate Matter
PM10	Particulate Matter with an aerodynamic diameter of less than 10 micrometres
PM2.5	Particulate Matter with an aerodynamic diameter of less than 2.5 micrometres
PPE	Personal Protective Equipment

PPG	Pollution Prevention Guidance
PRA	Preliminary Risk Assessment
PRoW	Public Right of Way
PV	Photovoltaic
PWS	Private Water Supplies
RBMP	River Basin Management Plan
RCN	Regional Cycle Network
RCP	Representative Concentration Pathway
REAC	Register of Environmental Actions and Commitments
RICS	Royal Institute of Chartered Surveyors
RIGS	Regionally Important Geological Site
RSPB	Royal Society for the Protection of Birds
SAB	SuDS Approving Body
SAC	Special Area of Conservation
SFRA	Strategic Flood Risk Assessment
SINC	Site of Importance for Nature Conservation
SOAEL	Significant Observed Adverse Effect Level
SoCC	Statement of Community Consultation
SoS	Secretary of State
SPA	Special Protection Area
SPD	Supplementary Planning Document
SPZ	Source Protection Zone
SRN	Strategic Road Network
SSSI	Site of Special Scientific Interest
SWMP	Site Waste Management Plan
SuDS	Sustainable Drainage System
TAN	Technical Advice Note
TCO_{2e}	Tonnes of Carbon Dioxide Equivalent
TGN	Technical Guidance Note

TMP	Traffic Management Plan
TPO	Tree Preservation Order
UK	United Kingdom
UKBAP	UK Biodiversity Action Plan
UKCP	UK Climate Projections
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UXO	Unexploded Ordnance
W	Watts
WEL	Workplace Exposure Limit
WFD	Water Framework Directive
WFDa	Water Framework Directive Assessment
WFDUKTAG	Water Framework Directive – United Kingdom Technical Advisory Group
WHO	World Health Organisation
WSI	Written Scheme of Investigation
WTN	Waste Transfer Note
ZOI	Zone of Influence
ZTV	Zone of Theoretical Visibility

Appendix 4.2

Scoping Opinion





SCOPING OPINION:

Springwell Solar Farm

Case Reference: EN010149

Adopted by the Planning Inspectorate (on behalf of the Secretary of State) pursuant to Regulation 10 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

02 May 2023

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1. INTRODUCTION

- 1.0.1 On 22 March 2023, the Planning Inspectorate (the Inspectorate) received an application for a Scoping Opinion from Springwell Energyfarm Ltd (the Applicant) under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) for the proposed Springwell Solar Farm (the Proposed Development). The Applicant notified the Secretary of State (SoS) under Regulation 8(1)(b) of those regulations that they propose to provide an Environmental Statement (ES) in respect of the Proposed Development and by virtue of Regulation 6(2)(a), the Proposed Development is 'EIA development'.
- 1.0.2 The Applicant provided the necessary information to inform a request under EIA Regulation 10(3) in the form of a Scoping Report, available from:

<http://infrastructure.planninginspectorate.gov.uk/document/EN010149-000006>
- 1.0.3 This document is the Scoping Opinion (the Opinion) adopted by the Inspectorate on behalf of the SoS. This Opinion is made on the basis of the information provided in the Scoping Report, reflecting the Proposed Development as currently described by the Applicant. This Opinion should be read in conjunction with the Applicant's Scoping Report.
- 1.0.4 The Inspectorate has set out in the following sections of this Opinion where it has / has not agreed to scope out certain aspects / matters on the basis of the information provided as part of the Scoping Report. The Inspectorate is content that the receipt of this Scoping Opinion should not prevent the Applicant from subsequently agreeing with the relevant consultation bodies to scope such aspects / matters out of the ES, where further evidence has been provided to justify this approach. However, in order to demonstrate that the aspects / matters have been appropriately addressed, the ES should explain the reasoning for scoping them out and justify the approach taken.
- 1.0.5 Before adopting this Opinion, the Inspectorate has consulted the 'consultation bodies' listed in Appendix 1 in accordance with EIA Regulation 10(6). A list of those consultation bodies who replied within the statutory timeframe (along with copies of their comments) is provided in Appendix 2. These comments have been taken into account in the preparation of this Opinion.
- 1.0.6 The Inspectorate has published a series of advice notes on the National Infrastructure Planning website, including [Advice Note 7: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping \(AN7\)](#). AN7 and its annexes provide guidance on EIA processes during the pre-application stages and advice to support applicants in the preparation of their ES.
- 1.0.7 Applicants should have particular regard to the standing advice in AN7, alongside other advice notes on the Planning Act 2008 (PA2008) process, available from:

<https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>

- 1.0.8 This Opinion should not be construed as implying that the Inspectorate agrees with the information or comments provided by the Applicant in their request for an opinion from the Inspectorate. In particular, comments from the Inspectorate in this Opinion are without prejudice to any later decisions taken (e.g. on formal submission of the application) that any development identified by the Applicant is necessarily to be treated as part of a Nationally Significant Infrastructure Project (NSIP) or Associated Development or development that does not require development consent.

2. OVERARCHING COMMENTS

2.1 Description of the Proposed Development

(Scoping Report Chapter 2 and 3)

ID	Ref	Description	Inspectorate's comments
2.1.1	Paragraph 2.1.2	Installation, construction and decommissioning methods	The Scoping Report states that the installation, construction and decommissioning methods to be utilised will be determined by the appointed contractor(s) while the EIA will represent a 'worst case'. The ES should set out the construction and design parameters and the works that will be involved for each of the three sites comprising the Proposed Development to ensure a clear understanding of assumptions and cumulative construction impacts to ensure that the worst-case construction scenarios are understood.
2.1.2	Section 2.2	Flexibility	<p>The Inspectorate notes the Applicant's intention to apply a 'Rochdale Envelope' approach to maintain flexibility within the design of the Proposed Development, namely relating to the number of solar PV modules or construction methods. Scoping Report paragraph 2.2.7 also states that the design parameters will be further developed during statutory consultation.</p> <p>The Inspectorate expects that at the point an application is made, the description of the Proposed Development will be sufficiently detailed to include the design, size, capacity, technology, and locations of the different elements of the Proposed Development or where details are not yet known, will set out the assumptions applied to the assessment in relation to these aspects. This should include the footprint and heights of the structures (relevant to existing ground levels), as well as land-use requirements for all elements and phases of the development. The description should be supported (as necessary) by figures, cross-sections, and drawings which should be</p>

ID	Ref	Description	Inspectorate's comments
			clearly and appropriately referenced. The Inspectorate considers that early refinement of options will support a more robust assessment of likely significant effects and provide certainty to those likely to be affected. Where flexibility is sought, the ES should clearly set out and justify the maximum design parameters that would apply for each option assessed and how these have been used to inform an adequate assessment in the ES. The Inspectorate advises that each aspect chapter includes a section that outlines the relevant parameters / commitments that have informed the assessment.
2.1.3	Paragraphs 2.5.9 and 2.5.10	Use of borrow pits	The ES should provide details regarding the consideration of the proposed borrow pit locations. The potential environmental impacts should be considered, including cumulative effects arising from the working and restoration and where significant effects are likely to occur.
2.1.4	Paragraph 2.5.16	Habitat creation	Scoping Report paragraph 2.5.16 states that a programme of construction reinstatement and habitat creation will commence during the construction phase. The Inspectorate expects that these are included in the Outline Construction Environmental Management Plan (oCEMP). The description of habitat creation measures should include the location, extent, type of habitat creation, timeframe for establishment, ongoing maintenance requirements and any accompanying plans. Should habitat creation be included off-site, the area should be included in the red line boundary of the Proposed Development.
2.1.5	Section 2.7	Decommissioning	The ES should provide a description of the activities and works which are likely to be required during decommissioning of the Proposed Development, including the anticipated duration. Where significant effects are likely to occur as a result of decommissioning the Proposed Development, these should be described and assessed in

ID	Ref	Description	Inspectorate's comments
			the ES. Any proposals for restoration of the site to agricultural or other use should also be described.

2.2 EIA Methodology and Scope of Assessment

(Scoping Report Chapter 4)

ID	Ref	Description	Inspectorate's comments
2.2.1	Section 4.5	Baseline conditions	It is noted that a number of surveys have been undertaken which have informed the Scoping Report however these have not been included or appended. Any information relied upon for the assessments in the ES should be appended to the ES in order for the Inspectorate to gain a full understanding of issues. The Applicant should ensure that surveys are up to date and adhere to current good practice.
2.2.2	Section 4.8	Mitigation and monitoring	The Scoping Report refers to several mitigation plans which will be provided with the application documents. The draft mitigation plans provided with the application should be sufficiently detailed to demonstrate how significant effects will be avoided or minimised and the ES should clearly demonstrate how the implementation of these plans will be secured. Any measures identified to minimise likely significant effects should be consulted on with relevant consultation bodies. Mitigation measures should be clearly identified and justified in the ES with an explanation provided on how this mitigation would be secured through the Development Consent Order (DCO) process.
2.2.3	Paragraph 2.4.61	Lighting	The Report states that the National Grid Substation (NGS) compound, Project Substation compound, Battery Energy Storage System (BESS) compounds, and Collector Compounds would include lighting, in

ID	Ref	Description	Inspectorate's comments
			<p>accordance with relevant standards, but will not be permanently lit. External lighting should be assessed in a lighting assessment, for all elements and phases of the Proposed Development. It should be explained what measures are proposed to minimise light spill into the surrounding area and minimise impacts on sensitive human and ecological receptors.</p>
2.24	Section 5.11	Transboundary	<p>The Inspectorate on behalf of the Secretary of State (SoS) has considered the Proposed Development and concludes that the Proposed Development is unlikely to have a significant effect either alone or cumulatively on the environment in a European Economic Area State. In reaching this conclusion the Inspectorate has identified and considered the Proposed Development's likely impacts including consideration of potential pathways and the extent, magnitude, probability, duration, frequency and reversibility of the impacts.</p> <p>The Inspectorate considers that the likelihood of transboundary effects resulting from the Proposed Development is so low that it does not warrant the issue of a detailed transboundary screening. However, this position will remain under review and will have regard to any new or materially different information coming to light which may alter that decision.</p> <p>Note: The SoS' duty under Regulation 32 of the 2017 EIA Regulations continues throughout the application process.</p> <p>The Inspectorate's screening of transboundary issues is based on the relevant considerations specified in the Annex to its Advice Note Twelve, available on our website at http://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/</p>

2.3 Environmental aspects proposed to be scoped out

(Scoping Report Chapter 5)

ID	Ref	Applicant's proposed aspects to scope out	Inspectorate's comments
2.3.1	Section 5.2	Glint and glare	<p>The Scoping Report proposes to scope out a Glint and Glare ES aspect chapter, however a detailed stand-alone glint and glare assessment is proposed to be submitted in support of the DCO application. A description of any relevant mitigation measures and safety considerations will be included in the Proposed Development Chapter in the ES. The Inspectorate is content with this approach, however the stand-alone glint and glare assessment should be included as a technical appendix to the ES as well. The stand-alone glint and glare assessment should assess the worse-case scenario. In the event that glint and glare effects are identified, it should be used to inform the relevant chapters in the ES, in particular for the Landscape and Visual Impact Assessment (LVIA) aspect Chapter.</p>
2.3.2	Section 5.3	Heat and radiation	<p>The Scoping Report proposes to scope out an assessment of impacts from heat and radiation during construction, operation and decommissioning as no significant sources are anticipated. The Inspectorate draws the Applicant's attention to the response from Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council (Appendix 2) regarding heat and micro-climatic impacts. The agrees that this matter may be scoped out from further consideration, on the basis that the ES clearly signposts any identified sources of heat (and radiation), and how this has been considered with respect to site-selection, site layout, and mitigation design.</p>
2.3.3	Section 5.4	Major accidents and disasters	<p>A standalone Chapter for major accidents and disasters is not proposed on the basis that the nature, scale, and location of the Proposed Development is not considered to be vulnerable to or to</p>

ID	Ref	Applicant's proposed aspects to scope out	Inspectorate's comments
			<p>give rise to significant impacts in relation to the risk of accidents and major disasters.</p> <p>Scoping Report Table 5-1 presents a list of possible major accidents and disasters that will require consideration including flooding, fire risk, aircraft disasters, rail accidents and plant disease. The Report states that the above potential major accidents and disasters will be considered in the design of the Proposed Development and covered in the flood risk assessment, Battery Safety Commitments, glint and glare assessment and planting design and Outline Landscape and Ecological Management Plan (oLEMP).</p> <p>The Inspectorate has considered the characteristics of the Proposed Development and agrees with this approach. However, the ES should clearly signpost where these impacts are assessed in other relevant chapters and where any relevant mitigation measures are secured, if required.</p>
2.3.4	Section 5.5	Utilities	<p>The Scoping Report suggests that existing infrastructure will be identified through consultation and a desk-based study and will inform the design and protective provisions to avoid impacts on receptors. The oCEMP will include any additional mitigation measures to protect against interference with below ground utilities during construction. The Inspectorate is content that a standalone ES Chapter for utilities is not required. However, the ES should explain the findings of the desk-based study and signpost to where any required mitigation measures are secured.</p>
2.3.5	Section 5.6	Human Health	<p>The Scoping Report proposes that impacts to human health will be considered in other relevant Chapters including Air quality; Landscape and visual; Noise and vibration; Traffic and transport. Potential human health effects from glint and glare will be considered in the glint and glare assessment. The Inspectorate is content with this</p>

ID	Ref	Applicant's proposed aspects to scope out	Inspectorate's comments
			<p>approach, however the ES should clearly set out potential impacts to human health from the Proposed Development during construction, operation and decommissioning and cross-reference where impacts are assessed within the ES; this may extend beyond the chapters proposed above, e.g. Land Contamination.</p>
2.3.6	Section 5.7	Material assets	<p>The Scoping Report proposes to include a description of the potential streams and volumes of construction and operation materials within the Project Description chapter of the ES, in lieu of a standalone chapter. The Report proposes to manage impacts through a Materials Management Plan required through an oCEMP.</p> <p>Scoping Report paragraph 5.7.6 states that it is not intended to remove significant quantities of excavated arisings from the site during construction and that where possible, soil arisings will be balanced through a cut and fill exercise to retain volumes on site. However, there is no reference to the potential use of borrow pits. The Inspectorate agrees that this can be scoped out as a specific chapter of the ES; however borrow pits should be considered within the ES Chapter on Land, soils and groundwater, and the ES Project Description should confirm the cut and fill balance.</p>
2.3.7	Section 5.7	Waste	<p>The Scoping Report proposes to include a description of the potential streams and volumes of construction and operational waste disposal within the ES Project Description chapter and manage impacts through an outline Decommissioning Environmental Management Plan, and a Site Waste Management Plan required through the oCEMP.</p> <p>There is no commitment to recycle solar panels at decommissioning. The ES should include an assessment of waste impacts for the decommissioning phase and include and outline what measures, if any, are in place to ensure that components (e.g. batteries and</p>

ID	Ref	Applicant's proposed aspects to scope out	Inspectorate's comments
			<p>panels) are able to be diverted from the waste chain and managed in line with the waste hierarchy based on available technology at the time. The ES should also consider the requirement for cumulative impacts to be assessed at decommissioning due to a number of solar farms in the local area also likely to be decommissioning in a similar timescale.</p>
2.3.8	Section 5.8	Population - private property and housing, community land and assets, and development land and businesses	<p>The Inspectorate agrees with the proposal to scope out an assessment of impacts on private property and housing, community land and assets, and development land and businesses as the Scoping Report states there are none of these types of assets located within the site boundary.</p> <p>The ES should ensure however that the socio-economic effect of amenity impacts (e.g. visual impacts on tourism/ recreational receptors, disruption/ diversion of Public Rights of Way (PRoW)) is clearly addressed in other relevant chapters and mitigated through management plans.</p>
2.3.9	Section 5.8	Population - agricultural land holdings/ socio-economic benefits	<p>The Scoping Report proposes to scope out impacts to agricultural land holdings, considering that the loss of these agricultural operations is not expected to lead to a significant effect in relation to employment in the local area. Paragraph 5.8.19 of the Report anticipates various socio-economic benefits as a result of the Proposed Development and proposes to submit a Socio-Economic Benefits Statement with the DCO Application, separate from the ES, to highlight the positive impacts on the local and regional area.</p> <p>The Inspectorate considers that such an assessment should form part of a specific chapter of the ES which considers both the positive and negative socio-economic impacts of the development, including the cumulative loss of agricultural operations within the region.</p>

ID	Ref	Applicant's proposed aspects to scope out	Inspectorate's comments
2.3.10	Section 5.8	Population - walkers, cyclists and horse riders	<p>There are a number of PRow within the Site boundary some which would be temporarily diverted during the construction phase. The Applicant proposes to present these and detail relevant mitigation measures in a Public Rights of Way Commitments document, separate from the EIA process.</p> <p>The Inspectorate considers that surveys should be undertaken to provide baseline data in relation to the use of the PRow's affected by the Proposed Development and the ES should provide a figure clearly depicting the location of said PRow's. The ES should assess impacts to PRow and on walkers, cyclists and horse riders from the Proposed Development (and cumulatively with other developments) such as the need for temporary closures or diversions, or reduction in amenity, where significant effects are likely to occur.</p>
2.3.11	Section 5.9	Water – flood risk	<p>The Scoping Report proposes to scope out increases in flood risk during construction (paragraph 5.9.14), operation (paragraph 5.9.24) and decommissioning (paragraph 5.9.31). However, a Flood Risk Assessment would be submitted with the application. Given the nature of the site and the development, and subject to ensuring no increase in flood risk and agreeing design and mitigation measures with Environment Agency, Lincolnshire County Council (the Lead Local Flood Authority) and the Witham First Internal Drainage Board, the Inspectorate is content to scope these matters out of the ES.</p>
2.3.12	Section 5.9	Water	<p>The Scoping Report proposes to scope out the following from the ES, on the basis of drainage design and mitigation measures controlled through an oCEMP:</p> <ul style="list-style-type: none"> • sedimentation and pollution of watercourses as a result of silt laden runoff arising from construction (paragraph 5.9.16);

ID	Ref	Applicant's proposed aspects to scope out	Inspectorate's comments
			<ul style="list-style-type: none"> • water pollution as a result of chemical spillages during construction (paragraph 5.9.17) and operation (paragraph 5.9.25); • watercourse pollution as a result of cements and concretes being mobilised in surface water runoff (paragraph 5.9.18); • alterations in the surface water regime during construction; • increased foul flows to the foul sewers network during operation (paragraph 5.9.28); • disposal of contaminated water in the event of a BESS fire (paragraph 5.9.29); • increased demand for drinking water during operation (paragraph 5.9.30); and • impact of the decommissioning works on water quality (paragraph 5.9.31). <p>The Inspectorate notes that impacts from herbicide and pesticide mobilisation have not been discussed in the Scoping Report and that horizontal directional drilling may be required but a breakout plan is not proposed. The Inspectorate does not consider enough evidence regarding the final design and control measures has been provided to scope impacts to water quality out during construction or decommissioning. The ES should identify relevant receptors and pathways of effect, the likely mitigation required to mitigate such effects and any monitoring required; this should include a drilling fluid breakout plan which should also be submitted with the Application if trenchless techniques are employed.</p>
2.3.13	Section 5.9	Water resources	The Scoping Report does not consider water resources although the site is located within an area of 'serious water stress' designated by

ID	Ref	Applicant's proposed aspects to scope out	Inspectorate's comments
			<p>the Environment Agency. The ES should provide details relating to water supply and demand requirements during construction and operation (including in the context of BESS fire risk) and water resources should be assessed in the ES where significant effects are likely to occur.</p>
2.3.14	Section 5.9	Water Framework Directive	<p>The Scoping Report identifies the potential for contamination of surface water and groundwater bodies. Given the geographic location of the Proposed Development, the ES should consider the potential impacts on Water Framework Directive (WFD) water bodies. The Applicant's attention is drawn to the Inspectorate's Advice Note Eighteen: The WFD in this regard. The ES should explain the relationship between the Proposed Development and any relevant water bodies in relation to the current relevant River Basin Management Plan.</p>
2.3.15	Section 5.10	Electric, magnetic and electromagnetic fields (EMF)	<p>The Applicant proposes to scope out EMF on the basis that the Proposed Development would not require cables and infrastructure exceeding 132kV; a threshold set out by Department for Energy and Climate Change (DECC) Power Lines: Demonstrating compliance with EMF public exposure guidelines, A Voluntary Code of Practice 2012 guidance. However, the project description at paragraph 2.4.1 of the Scoping Report includes "up to two new 400kV transmission towers to facilitate the electrical connection of the National Grid Substation to the existing 400kV transmission line". It is also noted that the location of the proposed 400kV National Grid Substation compound has not yet been determined.</p> <p>Given the uncertainty surrounding the location of the substation and proximity to receptors, the ES should address the risks to human health arising from EMF to the extent that it is relevant to the nature of the development, taking into account relevant technical guidance,</p>

ID	Ref	Applicant's proposed aspects to scope out	Inspectorate's comments
			and where significant effects are likely to occur. The Inspectorate considers that the ES should demonstrate the design measures taken to avoid the potential for EMF effects on receptors from the substation infrastructure.

3. ENVIRONMENTAL ASPECT COMMENTS

3.1 Air Quality

(Scoping Report Section 6.1)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.1.1	Paragraph 6.1.9	Site activities and road traffic exhaust emissions during operation	The Scoping Report proposes to scope out these matters given that the site activities and movement of vehicles during operation are expected to be minimal. On this basis, the Inspectorate agrees that these matters can be scoped out. The ES must however provide information on the nature of vehicle movements during the operational phases (alone and cumulatively) and confirm these projections fall below the relevant thresholds set out in guidance. The ES project description should also confirm that there are no emissions from operational plant that require further assessment.

ID	Ref	Description	Inspectorate's comments
3.1.2	Paragraph 6.1.2	Study area	The Scoping Report states that the study area for sensitive ecological receptors will be up to 50m from the Site boundary or 50m from the edge of the roads. The ES should provide justification with reference to the relevant guidance for the study area for ecological receptors and agree with relevant consultation bodies.
3.1.3	Paragraph 6.1.11	Demolition	Scoping Report paragraph 6.1.11 refers to four sources of potential dust and particulate matter effects but only lists three: earthworks; general site activities; and trackout. Demolition is not scoped in. Given that there are no demolition works proposed during construction, the Inspectorate agrees that this can be scoped out during construction, however should the decommissioning phase

ID	Ref	Description	Inspectorate's comments
			entail demolition works then these should be assessed, where significant effects are likely to occur.
3.14	n/a	Plan	The ES should be accompanied by a plan showing the location of sensitive air quality receptors within the vicinity of the Proposed Development to aid understanding of the extent of effects.

3.2 Biodiversity

(Scoping Report Section 6.2)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.2.1	Paragraph 6.2.9	Internationally and nationally statutory designated sites (all phases)	The Scoping Report seeks to scope out these receptors on the grounds that there are no internationally protected nature conservation sites within 10 km of the Site and no nationally protected statutory designated nature conservation sites within 2 km of the Site. The Inspectorate agrees that the proposal is unlikely to adversely impact any European or internationally designated nature conservation sites or nationally designated sites and this matter can be scoped out of the ES.
3.2.2	Paragraph 6.2.9	Blankney Brick Pit Local Wildlife site (LWS); Temple Road Verges, Welbourn to Brauncewell 2 LWS; A15, Slate House Farm to Dunsby Pit Plantation 1 LWS; A15, Green Man Road to Cuckoo Lane 2 LWS; Bloxholm Wood LWS / Lincolnshire Wildlife Trust reserve (all phases)	The Scoping Report states that these sites would be avoided by the current Proposed Development design minimum offset distance of 15m from LWSs and they would also be protected by the oCEMP. It is not possible to locate these LWSs on the Environmental Features Plan in Appendix C of the Scoping Report as it is not accompanied with a schedule of sites. No site layout options have been presented and as such it is not confirmed that impacts have been avoided. The ES should consider any impacts upon local wildlife and geological sites, including local nature reserves with reference to the reasons for designation, and the findings of other impact assessment disciplines (noise, air quality, water resources). The ES should clearly present the location of LWSs and how they interact with the Proposed Development. The assessment of potential direct and indirect effects on LWSs needs to be made.
3.2.3	Paragraph 6.2.9	Other 17 LWS within 2 km of Site (all phases)	The Scoping Report seeks to scope these receptors out due to the distance from the Site and a lack of relevant links or impact pathways. The Scoping Report has not supported this with evidence

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			regarding the sites and impact pathways, in light of this the Inspectorate is unable to scope these receptors out at this stage.
3.2.4	Paragraph 6.2.9	Lowland Meadow Priority Habitat (all phases)	<p>The Scoping Report proposes to avoid the grassland parcels assessed as priority habitat Lowland meadow by design, and protect them through the oCEMP.</p> <p>No site layout options have been presented and as such it is not confirmed that impacts have been avoided. The Inspectorate is unable to agree to scope this receptor out at this stage.</p>
3.2.5	Paragraph 6.2.9	Hedgerows and hedgerow trees (all phases)	<p>The Scoping Report states that the Proposed Development would be designed to include a buffer from panels to boundary features including hedgerows and trees and measures in the oCEMP would safeguard their protection. It also states that mitigation for any habitat loss will be included in the oLEMP.</p> <p>A commitment to provide habitat mitigation/compensation cannot be relied upon to scope habitats out. An assessment should identify the relative nature conservation value of receptors, any impact pathways, the extent and significance of effects, and should demonstrate that the mitigation hierarchy has been applied. The Inspectorate is unable to agree to scope this receptor out at this stage.</p>
3.2.6	Paragraph 6.2.9	Ponds (all phases)	<p>The Scoping Report states that no ponds would be lost to the Proposed Development and the implementation of the oCEMP would include standard practice pollution prevention measures.</p> <p>No site layout options have been presented and as such it is not confirmed that impacts have been avoided. No detail has been provided regarding the proposed mitigation measures. Insufficient information has been provided to enable the Inspectorate to scope out ponds at this stage.</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.2.7	Paragraph 6.2.9	Semi-improved grassland (all phases)	<p>The Scoping Report states that the oLEMP would include measures to sufficiently compensate for habitat loss and to protect any retained areas of this habitat during construction.</p> <p>A commitment to provide habitat mitigation/compensation cannot be relied upon to scope habitats out. An assessment should identify the relative nature conservation value and apply the mitigation hierarchy. The Inspectorate is unable to agree to scope this receptor out at this stage.</p>
3.2.8	Paragraph 6.2.9	Invasive species (all phases)	<p>The Scoping Report seeks to scope out this receptor as no invasive species were identified during the Preliminary Ecological survey and that if any are found during further survey, then an invasive species method statement would be implemented to prevent the spread of this species during construction.</p> <p>The Inspectorate agrees that this matter can be scoped out if no invasive species are identified. Should invasive species be identified during further survey work, an assessment of the effects arising from the spread of invasive species during construction and decommissioning should be included within the ES and biosecurity measures incorporated into the oCEMP where necessary.</p>
3.2.9	Paragraph 6.2.9	Invertebrates (all phases)	<p>The Scoping Report proposes to scope out invertebrates due to a lack of records of protected species and a lack of high-quality habitat within the Site that could support an important invertebrate assemblage. The Inspectorate notes that the fields at the northern and southern edges of Springwell West have not been surveyed. This matter can be scoped out if the Applicant can demonstrate that no protected species or high-quality habitat are observed following completion of the surveys, with agreement from the relevant consultees.</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.2.10	Paragraph 6.2.9	Reptiles (all phases)	<p>The Scoping Report argues that the majority of the site is unsuitable for reptiles and seeks to scope them out on this basis. It suggests that precautionary measures would be detailed in the oCEMP to safeguard low numbers of reptiles that may be present in semi-improved grassland areas.</p> <p>The Inspectorate considers that further reptile surveys should be undertaken but restricted to the areas of suitable habitat identified in the PEA.</p>
3.2.11	Paragraph 6.2.9	Non-ground nesting birds (all phases)	<p>The Scoping Report argues that through the retention of boundary hedgerows and trees and implementation of precautionary measures detailed in an oCEMP, nests would be safeguarded during construction. The Scoping Report does not anticipate any effects during operation and does not mention decommissioning.</p> <p>No site layout options have been presented and as such it is not confirmed that habitats will be retained. No detail has been provided regarding the proposed precautionary mitigation measures. Insufficient information has been provided at this stage to enable the Inspectorate to scope out this matter.</p>
3.2.12	Paragraph 6.2.9	Wintering birds (all phases)	<p>The Scoping Report states that the site is not considered of importance for overwintering waders and wildfowl due to distance from coast and any significant wetland areas (i.e. it is more than 35 km from the Wash Special Protection Area).</p> <p>The Inspectorate agrees that the site is not likely to represent functionally linked habitat to any European sites, nevertheless the site could still have value for wintering birds and impacts could arise from the substantive land use change for the proposed development; therefore this matter should be scoped in.</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.2.13	Paragraph 6.2.9	Barn owl (all phases) Marsh harrier (all phases) Bats (foraging/commuting and roosting) (all phases)	<p>The Scoping Report states that disturbance arising from construction and decommissioning to these species would be mitigated by buffer zones and measures detailed within the oCEMP and oLEMP, and any loss of foraging habitat would be mitigated through habitat creation and enhancement secured through the oLEMP. The Scoping Report does not anticipate any significant effects to these species during operation.</p> <p>A commitment to provide habitat mitigation/compensation cannot be relied upon to scope habitats out. The ES should assess impacts on these species during construction and decommissioning as well as operation and this should include impacts from habitat loss, disturbance and lighting.</p>
3.2.14	Paragraph 6.2.9	Water vole (all phases) Otter (all phases) European eel (all phases)	<p>The Scoping Report states that no ponds or watercourses will be lost to the Proposed Development but where small sections of watercourses may be affected, 'standard mitigation' and pollution prevention measures (secured with the oCEMP) would be implemented.</p> <p>Given the potential for watercourses to be affected, and the lack of detail regarding the proposed mitigation measures, the Inspectorate is unable to scope these species out at this time.</p>
3.2.15	Paragraph 6.2.9	Badger (all phases)	<p>The Scoping Report states that all known setts would be retained with an appropriate buffer and implementation of precautionary measures detailed in an oCEMP would mitigate for any residual risk.</p> <p>No site layout options have been presented and as such it is not confirmed that habitats will be retained. No detail has been provided regarding the proposed precautionary mitigation measures.</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			Insufficient information has been provided at this stage to enable the Inspectorate to scope out this matter.
3.2.16	Paragraph 6.2.9	Deer and other mammals (all phases)	<p>The Scoping Report proposes to scope out the impact of fencing on foraging and dispersal for deer and other unspecified mammals on the grounds that the fencing will be designed to be 'semi-permeable' allowing movement across the site.</p> <p>The Inspectorate agrees that no likely significant effects are anticipated for deer and therefore an assessment can be scoped out of the ES. The application should provide further details regarding fencing design.</p>

ID	Ref	Description	Inspectorate's comments
3.2.17	Paragraph 6.2.7	Impact pathways	<p>Scoping Report paragraph 6.2.7 refers to habitat loss/ degradation but fails to describe any other impact pathways (e.g. disturbance, lighting, habitat fragmentation/ severance, collision risk). The Proposed Development would entail a range of activities with the potential to generate ecological impacts.</p> <p>The ES Ecology chapter should consider all potential impact pathways and assess any impacts arising from the Proposed Development which are likely to result in significant effects on ecological receptors. Justification for scoping out any ecological impact should be provided.</p>
3.2.18	n/a	Plants, veteran and ancient trees	<p>Notable flora is not specifically addressed within the survey scope. Consideration should be given to scarce arable flora that could occur in arable fields and be adversely affected by changes in land use. There is no information on veteran and ancient trees in the Scoping Report. The ES should identify any veteran trees and assess any</p>

ID	Ref	Description	Inspectorate's comments
			significant effects on these receptors where they are likely to occur and propose adequate mitigation where identified.
3.2.19	n/a	Brown hare, hedgehog	Scoping Report paragraph 6.2.5 notes the presence of brown hare and hedgehog in the study area but these have not been proposed to be scoped into the assessment. The ES should consider effects on these species and be supported by robust survey data, unless otherwise agreed with relevant consultation bodies.

3.3 Climate

(Scoping Report Section 6.3)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.3.1	Paragraph 6.3.9	Climate resilience during construction, operation and decommissioning – flooding	<p>Scoping Report Table 5-1 states that the majority of the site is located within Flood Zone 1 and the vulnerability of the Proposed Development to flooding will be covered in the Flood Risk Assessment appended to the ES. On this basis, the Inspectorate agrees that significant effects are not likely to occur and an assessment of resilience to flooding can be scoped out of the Climate chapter of the ES.</p> <p>The Inspectorate agrees that given the distance of the site to the coastline, sea-level rise is not a relevant consideration.</p>
3.3.2	Paragraph 6.3.9	Climate resilience during construction, operation and decommissioning – high heat, wind speeds	<p>The Inspectorate agrees that this can be scoped out of the assessment on the basis of embedded resilience of solar PV modules to high heat and wind speeds. However, the ES project description should explain how the development has been designed to be resilient to such effects.</p>
3.3.3	n/a	In-combination Climate Change Impact (ICCI) Assessment	<p>The Scoping Report has not proposed to scope in/out an ICCI assessment. Solar panels have potential to alter precipitation runoff rates and patterns. In light of this, and in the absence of more detailed information regarding drainage design and controls, the Inspectorate considers that the ES should consider effects arising from a change in precipitation as a result of climate change in-combination with the scheme, where significant effects are likely to occur.</p>

ID	Ref	Description	Inspectorate's comments
3.3.4	n/a	n/a	n/a

3.4 Cultural heritage

(Scoping Report Section 6.4)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.4.1	Paragraph 6.4.9	Setting effects on all heritage assets within the study area (construction)	The Scoping Report argues that the construction phase effects resulting from changes in the setting of heritage assets will be temporary and no worse than the operational phase effects, therefore, it is not considered necessary to repeat the settings assessment for the construction phase. Given that setting can be negatively affected through more than simply visual effects (e.g. noise, dust) the Inspectorate does not agree with the assumption that the construction phase effects would be no worse than the operational phase effects and therefore does not agree to scope out this phase.
3.4.2	Paragraph 6.4.9	Impacts on the setting of listed dwellings within settlements over 1 km from the Site (operation)	The impacts on setting to these receptors are proposed to be scoped out on the basis that the positive contribution made by setting to the significance of residential listed buildings within settlements is typically confined to their immediate street scene. The Scoping Report does not justify why and how the 1km reference has been derived. The Inspectorate considers there is insufficient evidence provided to scope out this matter at this stage.
3.4.3	Paragraph 6.4.9	Listed K6 telephone kiosks (operation)	These receptors are proposed to be scoped out on the grounds that their surroundings make a neutral contribution to their significance as they are found in a variety of contexts throughout the UK. The Inspectorate agrees that significant effects on such assets are unlikely to arise and this matter can therefore be scoped out of the ES.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.4.4	Paragraph 6.4.9	Various findspots recorded by LCC HER (listed in Scoping Report) (construction and operation)	The Scoping Report explains that as findspots, these have been removed from the Site and the heritage significance of their former locations would not be harmed by the Proposed Development. The Inspectorate agrees that the findspots can be scoped out of the ES.
3.4.5	Paragraph 6.4.9	Milepost 20 metres south of Ashby Lodge Farm (Grade II Listed) (operation)	The Scoping Report argues that the positive contribution made by setting to the significance of the milepost derives from its relationship with the road network, and this would not be altered by the Proposed Development during operation. The Inspectorate agrees on this basis that this asset can be scoped out of this phase.
3.4.6	Paragraph 6.4.9	Avro Lancaster crash site (operation)	This receptor is proposed to be scoped out on the basis that its significance does not draw on its wider surroundings. The Inspectorate agrees this asset can be scoped of the operational assessment.
3.4.7	Paragraph 6.4.9	Hawker Hurricane crash site (operation)	This receptor is proposed to be scoped out on the basis that its significance does not draw on its wider surroundings. The Inspectorate agrees this asset can be scoped of the operational assessment.
3.4.8	Paragraph 6.4.9	Sites of former extractive pits in Ashby de la Launde and Bloxholm, and Rowston (construction and operation)	These receptors are proposed to be scoped out on the grounds that they have negligible importance and significant effects upon them are therefore unlikely. The Scoping Report has provided no justification/evidence to support its assessment of 'negligible importance' and therefore the Inspectorate is unable to scope this matter out at this stage.
3.4.9	Paragraph 6.4.9	All heritage assets within the study area during decommissioning	The Scoping Report seeks to scope out the decommissioning phase on the basis that it would not result in impacts to any additional heritage assets not affected during construction and operation, and changes in

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>the setting of heritage assets in the surrounding area will be no worse than the construction or operational phase effects.</p> <p>The Inspectorate considers that there is potential for decommissioning stage effects on buried archaeological resource, such as the potential for harm due to compaction, removal of piles, and subsequent potential changes in drainage patterns. In addition, given that the potential effects on setting during decommissioning are likely to be similar to those experienced during construction the Inspectorate is of the opinion that this matter cannot be scoped out at this stage. Cultural heritage should be a consideration as part of any outline decommissioning plans.</p>

ID	Ref	Description	Inspectorate's comments
3.4.10	Paragraph 6.4.1	Consultation	The Applicant is also advised to liaise with the Heritage Trust of Lincolnshire who act on behalf of North Kesteven District Council, especially in relation to the scope of and timing of any intrusive evaluation following completion of the geophysical survey.
3.4.11	Paragraph 6.4.2	Study area	The Scoping Report proposes a 2 km study area for non-designated assets. For the assessment of setting, the study area should be agreed with the relevant stakeholders and informed by the visual analysis.
3.4.12	Paragraph 6.4.3	Data sources	The Applicant is advised to also consider the North Kesteven District Council's local list of non-designated heritage assets and the Scopwick and Kirkby Green Neighbourhood Plan which contains schedules and descriptions of heritage assets within the Plan area.

ID	Ref	Description	Inspectorate's comments
3.4.13	Paragraphs 6.4.4 and 6.4.6	Intrusive evaluation	<p>The Scoping Report proposes a programme of archaeological investigation and recording secured by a DCO Requirement. Measures to mitigate risk to buried archaeological remains such as exclusion zones/ avoidance routes and concrete shoes rather than piles require a robust understanding of archaeological risk to be effective. These considerations should be factored into the programme and scope of intrusive evaluation (if required), to be agreed with the statutory consultees.</p> <p>Noting the responses from North Kesteven District Council and Lincolnshire County Council indicating the potential need for intrusive field evaluation to understand the full extent of any potential impact, and inform a fuller programme of archaeological investigation and ultimately the scheme design, the Inspectorate advises that further discussions are held with the relevant consultation bodies to discuss the detailed findings of desk studies and geophysical surveys, and whether these are adequate to inform design, assess the effects of the scheme and demonstrate that any potential significant effects can be adequately mitigated. Pending the results of the non-intrusive surveys the Inspectorate is not in a position to agree that a programme of intrusive archaeological investigation is not required to inform the ES.</p>
3.4.14	Paragraph 6.4.8	Receptors to be scoped in	<p>The ES should assess the effects on the Conservation Areas at Scopwick, Blankney and Bloxholm where significant effects are likely to occur.</p>

3.5 Landscape and visual

(Scoping Report Section 6.5)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.5.1	Paragraph 6.5.9	Assessment of impacts to Lincolnshire Wolds Area of Outstanding National Beauty (AONB) during construction, operation and decommissioning	The Scoping Report states that the Lincolnshire Wolds AONB is located over 20km away from the Proposed Development. Due to the distance and intervisibility, an assessment of impacts on the AONB is proposed to be scoped out of the LVIA. Considering the nature and characteristics of the Proposed Development and the distances involved, the Inspectorate agrees that an assessment of impacts on the AONB can be scoped out of the ES.
3.5.2	Paragraph 6.5.9	Assessment of impacts to Lincoln Cliff Area of Great Landscape Value (AGLV) during construction, operation and decommissioning	The Scoping Report states that the Lincoln Cliff AGLV is located over 3km to the west of the Proposed Development and it is proposed to be scoped out due to no intervisibility confirmed through field work. On this basis, the Inspectorate agrees that an assessment of impacts on the AGLV can be scoped out of the ES. The ES should demonstrate there is no intervisibility with reference to photos from field work or other appropriate evidence.
3.5.3	Paragraph 6.5.9	Other Landscape Character Areas (LCAs) in the North Kesteven Landscape Character Assessment during construction, operation and decommissioning	Although some distant visibility is indicated by the Zone of Theoretical Visibility (ZTV), the Scoping Report proposes to scope out this matter on the basis that the field work has established that there would be no intervisibility between the site and any other LCAs. The Inspectorate is content for these receptors to be scoped out, however the ZTV should be reviewed with the final scheme and presented in the ES to demonstrate that there is no intervisibility.
3.5.4	Paragraph 6.5.9	View from Villages/ hamlets of Metherringham, Bloxham, Digby, Dorrington, Ruskington,	The Scoping Report proposes to scope out this matter on the basis that it is highly unlikely there would be any views of the Proposed Development from these settlements when taking into account of

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		Leasingham, Cranwell, Royal Air Force (RAF) Cranwell, Wellingore and Navenby and other settlements along the A607 during construction, operation and decommissioning	intervening hedgerows and other vegetation, stating that any glimpses would be distant, filtered and negligible. The ES should demonstrate there is no intervisibility, otherwise the potential effects on views and visual amenity within the ZTV where significant effects are likely to occur should be assessed.
3.5.5	Paragraph 6.5.9	Assessment of impacts to PRow and local roads beyond 3km from the site during construction, operation and decommissioning	The Scoping Report proposes to scope out these receptors in the LVIA due to the distance and intervisibility. The Inspectorate considers that these matters may be scoped out on the basis of the relatively short duration of any potential effect.
3.5.6	Paragraph 6.5.9	Assessment of impacts to isolated residential properties over 1km from the site during construction, operation and decommissioning	The Scoping Report proposes to scope out this matter on the basis that it is a matter of private visual amenity which would not give rise to an overbearing effect on residential amenity. Insufficient information has been provided regarding the nature of these receptors and extent of visibility, therefore the Inspectorate is unable to scope out this matter out at this stage.
3.5.7	Paragraph 6.5.9	Assessment of impacts to users of the rail network, specifically the section between Metheringham and the level crossing on the B1191 during construction, operation and decommissioning	The Scoping Report proposes to scope out these receptors in the LVIA due to their sensitivity being medium/ low. The Inspectorate considers that these matters may be scoped out on the basis of the relatively short duration and intermittent nature of any potential effect.

ID	Ref	Description	Inspectorate's comments
3.5.8	Paragraphs 6.5.2 and 6.5.7	Study area	<p>The Scoping Report paragraph 6.5.2 proposes that the LVIA study area will be within 3km of the site boundary of the Proposed Development and extended to 5km for the National Grid and Project Substation and National Grid connecting towers. However, the full extent of potential visibility of the Proposed Development is not yet fully known and the ZTV mapping contained within Appendix F identified potential visibility beyond these extents.</p> <p>The ES should justify the extent of the study area/s with reference to recognised professional guidance and the extent of the likely impacts, informed by fieldwork and relevant models or approaches such as the ZTV. The Applicant should agree the study areas with relevant consultation bodies.</p>
3.5.9	Paragraph 6.5.6	Mitigation	<p>The Scoping Report states that an oLEMP will be developed to secure the long-term management of the landscape and biodiversity strategy. The ES should cover the establishment period of any Landscape Scheme. The Inspectorate draws the Applicant's attention to the comments of Lincolnshire County Council regarding the establishment period and content of the management plan (see Appendix 2 of this Opinion).</p>

3.6 Land, soils and groundwater

(Scoping Report Section 6.6)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.6.1	Paragraph 6.6.9	Land contamination and minerals (all phases)	<p>The Scoping Report justifies scoping out impacts to land based on the findings of a Preliminary Risk Assessment (PRA), embedded mitigation measures and industry best practice procedures. The Scoping Report states that any negative implications for the Mineral Safeguarding Areas would be minimised and considered as part of the Proposed Development design.</p> <p>The findings of the PRA have not been presented in detail within the Scoping Report and paragraph 6.6.5 seems to suggest some risk of contamination. In light of this, there is insufficient evidence to scope this matter out at this stage. The ES should be supported by the findings of a PRA and where land contamination is identified, the ES should assess significant effects where they are likely to occur. Potential risks of soil and water contamination from leaks, improper storage, or spills during the construction phase, should be mitigated through implementation of standard best practice measures secured via the oCEMP.</p> <p>The Inspectorate considers that a Minerals Assessment should be undertaken to inform and influence the design and layout of the development and demonstrate how impacts to Mineral Safeguarding Areas have been minimised. The ES should also confirm if borrow pits are proposed, assess the impacts, and identify the location of these within the Order Limits. The ES should demonstrate that the Minerals Planning Authority has been consulted in respect of all of the proposals and that the proposed development does not impact on future ambitions for minerals extraction within the region.</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.6.2	Paragraph 6.6.9	Groundwater (all phases)	<p>The Scoping Report argues that the quality of groundwater in Source Protection Zones (SPZs) would be appropriately protected by embedded mitigation measures, and the project surface water strategy would mirror the existing surface water regime, so having minimal effect on the existing groundwater conditions.</p> <p>The site overlies an SPZ and a Principal Aquifer of high vulnerability and construction activities may lead to a creation of contamination pathways e.g. piling, trenching, borrow pits. The ES should assess impacts from all phases of the development to groundwater where significant effects are likely to occur. Best practice measures should be employed and secured via the DCO to ensure any potential pollution impacts are minimised.</p>
3.6.3	Paragraph 6.6.9	Soils (operation)	<p>The Scoping Report proposes to scope out operational impacts to soils as significant vehicle movements within the Site during operation are not anticipated and therefore the potential for compaction is considered limited. The Inspectorate agrees that impacts from compaction could be scoped out of the operational phase.</p> <p>However, there is no reference in the Scoping Report as to whether or how agricultural land use would be continued across the site alongside the operation of the solar farm. Changes to the hydrogeological regime as a result of the Proposed Development may also affect the quality of soils within the Site and this should be assessed within the ES.</p>
3.6.4	Paragraph 6.6.9	Soils (decommissioning)	<p>The Scoping Report argues that any effects on soils during decommissioning would not be expected to be significant as the number of vehicle movements is anticipated to be less than during the construction phase, limiting the potential for compaction of soils to occur. Decommissioning works are also less likely than</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			construction works to adversely impact on agricultural field drains as there would be no requirement for piling etc., so are less likely to result in deterioration of soil quality. The Inspectorate agrees with the rationale for scoping this matter out.

ID	Ref	Description	Inspectorate's comments
3.6.5	Paragraph 6.6.5	Agricultural Land Classification (ALC)	The Scoping Report explains that an ALC survey is currently underway. The scope of the survey should align with the Natural England 'Technical Information Note TIN049: Agricultural Land Classification: protecting the best and most versatile land, 2nd edition (2012)'.
3.6.6	Paragraph 6.6.5	Unexploded Ordnance (UXO)	The Scoping Report notes that the proximity of RAF Digby suggests that there is the potential for unexploded ordnance to have been present at the Site. The ES should assess the risk of disturbing UXO through piling and other works.
3.6.7	Paragraph 6.6.8	Agricultural land (operation)	The Report proposes to scope in the operational impacts of the proposed development in terms of the loss of agricultural and BMV land because of the removal of this land from productive use. The assessment should also include and detail mitigation measures to remove, reduce or minimise such impacts.

3.7 Noise and vibration

(Scoping Report Section 6.7)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.7.1	Paragraph 6.7.9	Operational vibration	The Scoping Report proposes to scope out this matter on the basis that fixed plant items or structures would not emit discernible levels of vibration during the operational phase. Based on the nature and characteristics of the Proposed Development, the Inspectorate agrees that operational vibration may be scoped out from further assessment. The ES project description should demonstrate that operational plant and equipment is of a type and to be used in locations unlikely to result in significant vibration impacts on sensitive receptors.
3.7.2	Paragraph 6.7.9	Operational road traffic noise	The Scoping Report proposes to scope out an assessment of noise associated with operational traffic on the basis that once operational the Proposed Development would generate minimal traffic. Considering the characteristics of the Proposed Development, the Inspectorate is content that this matter can be scoped out. The ES project description should confirm the anticipated trip generation (including number and type of vehicles) required for routine maintenance during operation to justify this.

ID	Ref	Description	Inspectorate's comments
3.7.3	Paragraph 6.7.2	Study area and sensitive receptors	Scoping Report paragraph 6.7.2 states that the study area will be defined based on the Applicant's experience of solar farm developments and proposed locations of operation equipment/ structures and construction/decommissioning pathways. The ES should explain how the study area and sensitive receptors have been

ID	Ref	Description	Inspectorate's comments
			selected with reference to relevant supporting evidence, such as noise modelling/ noise contour mapping.
3.7.4	Paragraph 6.7.4	Baseline survey	The Scoping Report proposes the baseline noise monitoring to be undertaken along the site boundary. The ES should explain how the baseline noise monitoring locations were chosen and how they are deemed to be representative of nearby receptors.
3.7.5	Paragraph 6.7.5	Sensitive receptors	The Scoping Report states that the receptors likely to be incorporated into the assessment are all residential in nature. The ES should also consider if there are any ecological receptors that require consideration in respect of noise related impacts.
3.7.6	n/a	Plans	The ES should provide a plan showing the location of all sensitive receptors identified for assessment overlaid with noise contour mapping to aid understanding of the potential for significant effects relating to noise.

3.8 Traffic and transport

(Scoping Report Section 6.8)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.8.1	Paragraph 6.8.9	Operational traffic	The Scoping Report states that the effect of operational traffic is likely to be minimal. The Inspectorate has considered the characteristics of the operational phase of the Proposed Development and based on the low levels of anticipated traffic generation is content that this matter can be scoped out. The ES description of development should clearly set out the operational vehicle types and numbers (with reference to thresholds within guidance) to justify this position.

ID	Ref	Description	Inspectorate's comments
3.8.2	Paragraph 6.8.2	Study area	The scoping report suggests a study area to include the B1189, B1188, B1191, and A15. The ES should also describe how the Proposed Development is likely to affect the Strategic Road Network; significant effects should be assessed where they are likely to occur.
3.8.3	Paragraph 6.8.6	Mitigation - highway improvements	If highways works/improvements are required as part of the mitigation for significant effects arising from construction transport, these should be fully explained within the ES and an assessment of any likely significant effects as a result of these works should also be presented, as relevant. This should include consideration of any potential impacts to railway assets, such as bridges and level crossings, located on HGV routes.
3.8.4	Paragraph 6.8.11	Impact assessment methodology	The impact assessment is proposed to be based on the methodology outlined in the Guidelines for the Environmental Assessment of Road Traffic (1993). The Inspectorate understands that this guidance is

ID	Ref	Description	Inspectorate's comments
			planned to be updated by the Institute of Environmental Management and Assessment (IEMA). The ES should take account of future updates where relevant.

3.9 Cumulative Effects

(Scoping Report Chapter 7)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.9.1	n/a	n/a	No matters have been proposed to be scoped out of the assessment.

ID	Ref	Description	Inspectorate's comments
3.9.2	n/a	Other projects	The study areas, methodologies (including other projects included in the assessment) particularly with respect to impacts on 'best and most versatile' agricultural land and landscape, should be agreed with the statutory consultation bodies and any exclusions should be clearly justified and explained with reference to PINS Advice Note 17: Cumulative effects assessment.

APPENDIX 1: CONSULTATION BODIES FORMALLY CONSULTED

TABLE A1: PRESCRIBED CONSULTATION BODIES¹

SCHEDULE 1 DESCRIPTION	ORGANISATION
The Health and Safety Executive	Health and Safety Executive
The National Health Service Commissioning Board	NHS England
The relevant Integrated Care Board	NHS Lincolnshire Integrated Care Board
Natural England	Natural England
The Historic Buildings and Monuments Commission for England	Historic England
The relevant fire and rescue authority	Lincolnshire Fire and Rescue services
The relevant police and crime commissioner	Lincolnshire Police and Crime Commissioner
The relevant parish council(s) or, where the application relates to land [in] Wales or Scotland, the relevant community council	Blankley Parish Council
	Wellingore Parish Council
	Temple Bruer with Temple High Grange Parish Council
	Cranwell, Brauncewell and Byard's Leap Parish Council
	Scopwick and Kirkby Green Parish Council
	Rowston Parish Council
	Martin Parish Council
	Ashby De La Launde and Bloxholm Parish Council
The Environment Agency	Environment Agency (Lincolnshire and Northamptonshire and East Midlands)

¹ Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (the 'APFP Regulations')

SCHEDULE 1 DESCRIPTION	ORGANISATION
The Civil Aviation Authority	Civil Aviation Authority
The Relevant Highways Authority	Lincolnshire County Council
The relevant strategic highways company	National Highways
The relevant internal drainage board	Black Sluice Internal Drainage Board
	Upper Witham Internal Drainage Board
	Witham First Internal Drainage Board
	Witham Third Internal Drainage Board
The Canal and River Trust	Canal and River Trust
The Crown Estate Commissioners	The Crown Estate
The Forestry Commission	Forestry Commission (East and East Midlands)
The Secretary of State for Defence	Ministry of Defence

TABLE A2: RELEVANT STATUTORY UNDERTAKERS²

STATUTORY UNDERTAKER	ORGANISATION
The relevant Integrated Care Board	NHS Lincolnshire Integrated Care Board
The National Health Service Commissioning Board	NHS England
The relevant NHS Trust	East Midlands Ambulance Service NHS Trust
Railways	Network Rail Infrastructure Ltd
	National Highways Historical Railways Estate
Civil Aviation Authority	Civil Aviation Authority

² 'Statutory Undertaker' is defined in the APFP Regulations as having the same meaning as in Section 127 of the Planning Act 2008 (PA2008)

STATUTORY UNDERTAKER	ORGANISATION
Licence Holder (Chapter 1 Of Part 1 Of Transport Act 2000)	NATS En-route Safeguarding
Universal Service Provider	Royal Mail Group
The relevant Environment Agency	The Environment Agency (Lincolnshire and Northamptonshire and East Midlands)
The relevant water and sewage undertaker	Anglian Water
	Severn Trent
The relevant public gas transporter	Cadent Gas Limited
	Northern Gas Networks Limited
	Scotland Gas Networks Plc
	Southern Gas Networks Plc
	Wales and West Utilities Ltd
	Energy Assets Pipelines Limited
	ES Pipelines Ltd
	ESP Connections Ltd
	ESP Networks Ltd
	ESP Pipelines Ltd
	Fulcrum Pipelines Limited
	GTC Pipelines Limited
	Harlaxton Gas Networks Limited
	Independent Pipelines Limited
	Indigo Pipelines Limited
	Last Mile Gas Ltd
Leep Gas Networks Limited	
Quadrant Pipelines Limited	

STATUTORY UNDERTAKER	ORGANISATION
	Squire Energy Limited
	National Grid Gas Plc
The relevant electricity distributor with CPO Powers	Eclipse Power Network Limited
	Energy Assets Networks Limited
	ESP Electricity Limited
	Fulcrum Electricity Assets Limited
	Harlaxton Energy Networks Limited
	Independent Power Networks Limited
	Indigo Power Limited
	Last Mile Electricity Ltd
	Leep Electricity Networks Limited
	London Power Networks Plc
	Mua Electricity Limited
	Optimal Power Networks Limited
	The Electricity Network Company Limited
	UK Power Distribution Limited
	Utility Assets Limited
	Vattenfall Networks Limited
	Utility Assets Limited
	National Grid Electricity Distribution Midlands Limited
The relevant electricity transmitter with CPO Powers	National Grid Electricity Transmission Plc
	National Grid Electricity System Operator Limited

TABLE A3: SECTION 43 LOCAL AUTHORITIES (FOR THE PURPOSES OF SECTION 42(1)(B))³

LOCAL AUTHORITY⁴
Boston District Council
Cambridgeshire County Council
City of Lincoln Council
East Lindsey District Council
Leicestershire County Council
Lincolnshire County Council
Newark and Sherwood District Council
Norfolk County Council
North East Lincolnshire Council
North Kesteven District Council
North Lincolnshire Council
North Northamptonshire Council
Nottinghamshire County Council
Peterborough City Council
Rutland Council
South Holland District Council
South Kesteven District Council
West Lindsey District Council

³ Sections 43 and 42(B) of the PA2008

⁴ As defined in Section 43(3) of the PA2008

APPENDIX 2: RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES

CONSULTATION BODIES WHO REPLIED BY THE STATUTORY DEADLINE:
Anglian Water
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council
Boston Borough Council
Canal and River Trust
City of Lincoln Council
East Lindsey District Council
Environmental Agency
Forestry Commission (East and East Midlands)
Health and Safety Executive
Historic England
Lincolnshire County Council
Lincolnshire Fire and Rescue Service
National Grid Gas Plc (National Gas Transmission) – two responses received (05 April and 18 April 2023)
National Grid Electricity Transmission Plc
National Highways
NATS En-route Safeguarding
Natural England
Newark and Sherwood District Council
NHS Lincolnshire Integrated Care Board
Norfolk County Council
North East Lincolnshire Council

North Kesteven District Council
Nottinghamshire County Council
Peterborough City Council
Severn Trent
South Holland District Council
Scopwick and Kirkby Green Parish Council
West Lindsey District Council

Appendix 4.3

Scoping Opinion Response Matrix



EIA Scoping Opinion Response Matrix - PINS

Description of the Proposed Development				
ID	Ref	Description	Inspectorate's Comments	Response
2.1.1	Paragraph 2.1.2	Installation, construction and decommissioning methods	The Scoping Report states that the installation, construction and decommissioning methods to be utilised will be determined by the appointed contractor(s) while the EIA will represent a 'worst case'. The ES should set out the construction and design parameters and the works that will be involved for each of the three sites comprising the Proposed Development to ensure a clear understanding of assumptions and cumulative construction impacts to ensure that the worst-case construction scenarios are understood.	The PEIR sets out indicative design principles and construction parameters for the Proposed Development. The PEIR assessment has been based on a reasonable worst-case scenario. The final design and construction parameters will be presented and assessed within the ES.
2.1.2	Section 2.2	Flexibility	The Inspectorate notes the Applicant's intention to apply a 'Rochdale Envelope' approach to maintain flexibility within the design of the Proposed Development, namely relating to the number of solar PV modules or construction methods. Scoping Report paragraph 2.2.7 also states that the design parameters will be further developed during statutory consultation. The Inspectorate expects that at the point an application is made, the description of the Proposed Development will be sufficiently detailed to include the design, size, capacity, technology, and locations of the different elements of the Proposed Development or where details are not yet known, will set out the assumptions applied to the assessment in relation to these aspects. This should include the footprint and heights of the structures (relevant to existing ground levels), as well as land-use requirements for all elements and phases of the development. The description should be supported (as	The PEIR sets out indicative design principles and construction parameters for the Proposed Development., including optionality within the current design. The ES will provide a full description of the Proposed Development, alongside the design, size, capacity, technology and locations of the different elements of the Proposed Development. In cases where the location of the element is not defined, the ES will clearly set out the assumptions and the relevant parameters that have informed the worst-case assessment.

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
			<p>necessary) by figures, cross-sections, and drawings which should be clearly and appropriately referenced. The Inspectorate considers that early refinement of options will support a more robust assessment of likely significant effects and provide certainty to those likely to be affected. Where flexibility is sought, the ES should clearly set out and justify the maximum design parameters that would apply for each option assessed and how these have been used to inform an adequate assessment in the ES. The Inspectorate advises that each aspect chapter includes a section that outlines the relevant parameters / commitments that have informed the assessment</p>	
2.1.3	Paragraphs 2.5.9 and 2.5.10	Use of borrow pits	<p>The ES should provide details regarding the consideration of the proposed borrow pit locations. The potential environmental impacts should be considered, including cumulative effects arising from the working and restoration and where significant effects are likely to occur.</p>	<p>The Proposed Development has discounted the consideration for the use of borrow pits.</p>
2.1.4	Paragraph 2.5.16	Habitat creation	<p>Scoping Report paragraph 2.5.16 states that a programme of construction reinstatement and habitat creation will commence during the construction phase. The Inspectorate expects that these are included in the Outline Construction Environmental Management Plan (oCEMP). The description of habitat creation measures should include the location, extent, type of habitat creation, timeframe for establishment, ongoing maintenance requirements and any accompanying plans. Should habitat creation be included off-site, the area should be included in the red line boundary of the Proposed Development.</p>	<p>The programme of construction reinstatement and habitat creation will be included in the Outline Construction Environmental Management Plan (oCEMP) and Outline Landscape and Ecology Management Plan (oLEMP) which will be submitted in support of the DCO.</p>

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
2.1.5	Section 2.7	Decommissioning	The ES should provide a description of the activities and works which are likely to be required during decommissioning of the Proposed Development, including the anticipated duration. Where significant effects are likely to occur as a result of decommissioning the Proposed Development, these should be described and assessed in the ES. Any proposals for restoration of the site to agricultural or other use should also be described.	The PEIR provides details on the activities and works which are likely to be required during decommissioning. The ES will provide further details on these activities, as well as the findings of the assessment of decommissioning activities.

EIA Methodology and Scope of Assessment

2.2.1	Section 4.5	Baseline conditions	It is noted that a number of surveys have been undertaken which have informed the Scoping Report however these have not been included or appended. Any information relied upon for the assessments in the ES should be appended to the ES in order for the Inspectorate to gain a full understanding of issues. The Applicant should ensure that surveys are up to date and adhere to current good practice	The PEIR is supported by a number of figures and reports which have relied and informed the assessment. All technical reports and figures relied upon for the assessments in the ES will be appended to the ES. All surveys that will inform the ES will be up to date and carried out in line with current best practice.
2.2.2	Section 4.8	Mitigation and monitoring	The Scoping Report refers to several mitigation plans which will be provided with the application documents. The draft mitigation plans provided with the application should be sufficiently detailed to demonstrate how significant effects will be avoided or minimised and the ES should clearly	The outline mitigation plans which will be submitted as part of the DCO will include sufficient detail to outline how any significant effects will be avoided and minimised. The ES will clearly outline how these plans are intended to be secured as part of the DCO.

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
			demonstrate how the implementation of these plans will be secured. Any measures identified to minimise likely significant effects should be consulted on with relevant consultation bodies. Mitigation measures should be clearly identified and justified in the ES with an explanation provided on how this mitigation would be secured through the Development Consent Order (DCO) process.	Mitigation measures identified to mitigate any likely significant effects will be consulted on with the relevant consultation body. Details of consultation held to date are included within the PEIR.
2.2.3	Paragraph 2.4.61	Lighting	The Report states that the National Grid Substation (NGS) compound, Project Substation compound, Battery Energy Storage System (BESS) compounds, and Collector Compounds would include lighting, in accordance with relevant standards, but will not be permanently lit. External lighting should be assessed in a lighting assessment, for all elements and phases of the Proposed Development. It should be explained what measures are proposed to minimise light spill into the surrounding area and minimise impacts on sensitive human and ecological receptors.	A lighting scheme will be designed to reduce light spill and any effects to human and ecological receptors.
2.2.4	Section 5.11	Transboundary	The Inspectorate on behalf of the Secretary of State (SoS) has considered the Proposed Development and concludes that the Proposed Development is unlikely to have a significant effect either alone or cumulatively on the environment in a European Economic Area State. In reaching this conclusion the Inspectorate has identified and considered the Proposed Development's likely impacts including consideration of potential pathways and the extent, magnitude, probability, duration, frequency and reversibility of the impacts. The Inspectorate considers that the likelihood of transboundary effects resulting from the Proposed Development is so low that it does not warrant the	Noted

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
			issue of a detailed transboundary screening. However, this position will remain under review and will have regard to any new or materially different information coming to light which may alter that decision.	

Environmental aspects to be scoped out

2.3.1	Section 5.2	Glint and glare	The Scoping Report proposes to scope out a Glint and Glare ES aspect chapter, however a detailed stand-alone glint and glare assessment is proposed to be submitted in support of the DCO application. A description of any relevant mitigation measures and safety considerations will be included in the Proposed Development Chapter in the ES. The Inspectorate is content with this approach, however the stand-alone glint and glare assessment should be included as a technical appendix to the ES as well. The stand-alone glint and glare assessment should assess the worse-case scenario. In the event that glint and glare effects are identified, it should be used to inform the relevant chapters in the ES, in particular for the Landscape and Visual Impact Assessment (LVIA) aspect Chapter.	A preliminary assessment of glint and glare has been undertaken to inform the design of the Proposed Development and is included within PEIR. A glint and glare assessment will be included as a technical appendix to the ES and will inform the assessment of relevant topics.
2.3.2	Section 5.3	Heat and radiation	The Scoping Report proposes to scope out an assessment of impacts from heat and radiation during construction, operation and decommissioning as no significant sources are anticipated. The Inspectorate draws the Applicant's attention to the response from Ashby de la Launde, Bloxholm with Temple Bruer and Temple High	The ES will include a brief outline and signposting to any known identified sources of heat (and radiation) and detail how this has been considered in the design of the Proposed Development.

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
			<p>Grange Parish Council (Appendix 2) regarding heat and micro-climatic impacts. The agrees that this matter may be scoped out from further consideration, on the basis that the ES clearly signposts any identified sources of heat (and radiation), and how this has been considered with respect to site-selection, site layout, and mitigation design.</p>	
2.3.3	Section 5.4	Major accidents and disasters	<p>A standalone Chapter for major accidents and disasters is not proposed on the basis that the nature, scale, and location of the Proposed Development is not considered to be vulnerable to or to give rise to significant impacts in relation to the risk of accidents and major disasters. Scoping Report Table 5-1 presents a list of possible major accidents and disasters that will require consideration including flooding, fire risk, aircraft disasters, rail accidents and plant disease. The Report states that the above potential major accidents and disasters will be considered in the design of the Proposed Development and covered in the flood risk assessment, Battery Safety Commitments, glint and glare assessment and planting design and Outline Landscape and Ecological Management Plan (oLEMP). The Inspectorate has considered the characteristics of the Proposed Development and agrees with this approach. However, the ES should clearly signpost where these impacts are assessed in other relevant chapters and where any relevant mitigation measures are secured, if required.</p>	<p>The ES will signpost to the location of where this matter has been assessed within the other relevant chapters and where any relevant mitigation measures are secured, if required. A Battery Safety Commitments Plan will be submitted in support of the DCO application.</p>

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
2.3.4	Section 5.5	Utilities	<p>The Scoping Report suggests that existing infrastructure will be identified through consultation and a desk-based study and will inform the design and protective provisions to avoid impacts on receptors. The oCEMP will include any additional mitigation measures to protect against interference with below ground utilities during construction. The Inspectorate is content that a standalone ES Chapter for utilities is not required. However, the ES should explain the findings of the desk-based study and signpost to where any required mitigation measures are secured.</p>	<p>The ES will outline the findings from the utility desk-based study and detail how this has informed the design of the Proposed Development. The ES will also signpost to any required measures, if required.</p>
2.3.5	Section 5.6	Human Health	<p>The Scoping Report proposes that impacts to human health will be considered in other relevant Chapters including Air quality; Landscape and visual; Noise and vibration; Traffic and transport. Potential human health effects from glint and glare will be considered in the glint and glare assessment. The Inspectorate is content with this approach, however the ES should clearly set out potential impacts to human health from the Proposed Development during construction, operation and decommissioning and cross-reference where impacts are assessed within the ES; this may extend beyond the chapters proposed above, e.g. Land Contamination.</p>	<p>The ES will clearly cross reference to those chapters where human health impacts (e.g. dust, noise) are assessed.</p>
2.3.6	Section 5.7	Material assets	<p>The Scoping Report proposes to include a description of the potential streams and volumes of construction and operation materials within the Project Description chapter of the ES, in lieu of a standalone chapter. The Report proposes to manage impacts through a Materials Management</p>	<p>Borrow Pits are no longer being considered as part of the Proposed Development. The ES will detail the proposed waste arisings and will confirm the cut and fill balance.</p>

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
2.3.7	Section 5.7	Waste	<p>Plan required through an oCEMP. Scoping Report paragraph 5.7.6 states that it is not intended to remove significant quantities of excavated arisings from the site during construction and that where possible, soil arisings will be balanced through a cut and fill exercise to retain volumes on site. However, there is no reference to the potential use of borrow pits. The Inspectorate agrees that this can be scoped out as a specific chapter of the ES; however borrow pits should be considered within the ES Chapter on Land, soils and groundwater, and the ES Project Description should confirm the cut and fill balance.</p>	<p>The ES will include further detail on the waste impacts for the decommissioning phase and outline how any impacts will be mitigated and managed through the implementation of an Outline Decommissioning Environmental Management Plan and an Outline Site Waste Management Plan.</p>
			<p>The Scoping Report proposes to include a description of the potential streams and volumes of construction and operational waste disposal within the ES Project Description chapter and manage impacts through an outline Decommissioning Environmental Management Plan, and a Site Waste Management Plan required through the oCEMP.</p> <p>There is no commitment to recycle solar panels at decommissioning. The ES should include an assessment of waste impacts for the decommissioning phase and include and outline what measures, if any, are in place to ensure that components (e.g. batteries and panels) are able to be diverted from the waste chain and managed in line with the waste hierarchy based on available technology at the time. The ES should also consider the requirement for cumulative impacts to be assessed at decommissioning due to a number of solar farms in the local area also likely to be decommissioning in a similar timescale.</p>	

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
2.3.8	Section 5.8	Population - private property and housing, community land and assets, and development land and businesses	<p>The Inspectorate agrees with the proposal to scope out an assessment of impacts on private property and housing, community land and assets, and development land and businesses as the Scoping Report states there are none of these types of assets located within the site boundary.</p> <p>The ES should ensure however that the socio-economic effect of amenity impacts (e.g. visual impacts on tourism/ recreational receptors, disruption/ diversion of Public Rights of Way (PRoW)) is clearly addressed in other relevant chapters and mitigated through management plans.</p>	<p>The ES will consider the socio-economic effects of the amenity impacts, for example, visual impacts on recreational receptors, which will be clearly detailed within the relevant technical chapter. Any required mitigation will be detailed in the ES and included within the relevant management plan.</p>
2.3.9	Section 5.8	Population - agricultural land holdings/ socio-economic benefits	<p>The Scoping Report proposes to scope out impacts to agricultural land holdings, considering that the loss of these agricultural operations is not expected to lead to a significant effect in relation to employment in the local area. Paragraph 5.8.19 of the Report anticipates various socio-economic benefits as a result of the Proposed Development and proposes to submit a Socio-Economic Benefits Statement with the DCO Application, separate from the ES, to highlight the positive impacts on the local and regional area.</p> <p>The Inspectorate considers that such an assessment should form part of a specific chapter of the ES which considers both the positive and negative socio-economic impacts of the development, including the cumulative loss of agricultural operations within the region.</p>	<p>Farmers will be reasonably compensated for any substantiated losses as a direct result of the Proposed Development. Any claims regarding compensation would be addressed outside of the EIA process. Preliminary assessment of impacts on best and most versatile agricultural land has been presented within the PEIR, with the final assessment to be reported in the ES.</p>

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
2.3.10	Section 5.8	Population - walkers, cyclists and horse riders	<p>There are a number of PRow within the Site boundary some which would be temporarily diverted during the construction phase. The Applicant proposes to present these and detail relevant mitigation measures in a Public Rights of Way Commitments document, separate from the EIA process.</p> <p>The Inspectorate considers that surveys should be undertaken to provide baseline data in relation to the use of the PRowS affected by the Proposed Development and the ES should provide a figure clearly depicting the location of said PRowS. The ES should assess impacts to PRow and on walkers, cyclists and horse riders from the Proposed Development (and cumulatively with other developments) such as the need for temporary closures or diversions, or reduction in amenity, where significant effects are likely to occur.</p>	<p>.</p> <p>As set out in the PEIR, the Proposed Development is exploring several Rights of Way improvements and permissive paths within the Site.</p> <p>Figure 2-3 depicts the location of the Public Rights of Way network within and adjacent to the Site, alongside, proposed permissive paths.</p> <p>A management plan setting out the Public Rights of Way Commitments (PRWC) will be provided in support of the DCO application. The PRWC will include a schedule of public rights of way within the Site and outline the proposed measures to manage any requirements to temporarily close public rights of way within the Site during construction.</p>
2.3.11	Section 5.9	Water - flood risk	<p>The Scoping Report proposes to scope out increases in flood risk during construction (paragraph 5.9.14), operation (paragraph 5.9.24) and decommissioning (paragraph 5.9.31). However, a Flood Risk Assessment would be submitted with the application. Given the nature of the site and the development, and subject to ensuring no increase in flood risk and agreeing design and mitigation measures with Environment Agency, Lincolnshire County Council (the Lead Local Flood Authority) and the Witham First Internal Drainage Board, the Inspectorate is content to scope these matters out of the ES.</p>	<p>The drainage design and any associated mitigation measures will be agreed with the Environment Agency, Lincolnshire County Council and the Witham First Internal Drainage Board.</p> <p>A Flood Risk Assessment will be submitted as part of the DCO application.</p>

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
2.3.12	Section 5.9	Water	<p>The Scoping Report proposes to scope out the following from the ES, on the basis of drainage design and mitigation measures controlled through an oCEMP:</p> <ul style="list-style-type: none"> - sedimentation and pollution of watercourses as a result of silt laden runoff arising from construction (paragraph 5.9.16) - water pollution as a result of chemical spillages during construction (paragraph 5.9.17) and operation (paragraph 5.9.25); - watercourse pollution as a result of cements and concretes being mobilised in surface water runoff (paragraph 5.9.18); - alterations in the surface water regime during construction; - increased foul flows to the foul sewers network during operation (paragraph 5.9.28); - disposal of contaminated water in the event of a BESS fire (paragraph 5.9.29); - increased demand for drinking water during operation (paragraph 5.9.30); and - impact of the decommissioning works on water quality (paragraph 5.9.31). <p>The Inspectorate notes that impacts from herbicide and pesticide mobilisation have not been discussed in the Scoping Report and that horizontal directional drilling may be required but a breakout plan is not proposed. The Inspectorate does not consider enough evidence regarding the final design and control measures has been provided to scope impacts to water quality out during construction or decommissioning. The ES should identify relevant receptors and pathways of effect, the likely mitigation required to mitigate such effects and any monitoring required; this should</p>	<p>. Following further consideration, impacts on water quality have been considered as part of the preliminary assessment.</p>

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
			<p>include a drilling fluid breakout plan which should also be submitted with the Application if trenchless techniques are employed.</p>	
2.3.13	Section 5.9	Water resources	<p>The Scoping Report does not consider water resources although the site is located within an area of 'serious water stress' designated by the Environment Agency. The ES should provide details relating to water supply and demand requirements during construction and operation (including in the context of BESS fire risk) and water resources should be assessed in the ES where significant effects are likely to occur.</p>	<p>Following further consideration, impacts on water resources have been considered as part of the preliminary assessment.</p>
2.3.14	Section 5.9	Water Framework Directive	<p>The Scoping Report identifies the potential for contamination of surface water and groundwater bodies. Given the geographic location of the Proposed Development, the ES should consider the potential impacts on Water Framework Directive (WFD) water bodies. The Applicant's attention is drawn to the Inspectorate's Advice Note Eighteen: The WFD in this regard. The ES should explain the relationship between the Proposed Development and any relevant water bodies in relation to the current relevant River Basin Management Plan.</p>	<p>Following further consideration, impacts on water framework directive water bodies have been considered as part of the preliminary assessment.</p>
2.3.15	Section 5.10	Electric, magnetic and electromagnetic fields (EMF)	<p>The Applicant proposes to scope out EMF on the basis that the Proposed Development would not require cables and infrastructure exceeding 132kV; a threshold set out by Department for Energy and Climate Change (DECC) Power Lines: Demonstrating compliance with EMF public exposure guidelines, A Voluntary Code of Practice</p>	<p>The Proposed Development is not anticipated to exceed the International Commission on Non-Ionizing Radiation Protection exposure guidelines, and the design of the Proposed Development will consider any infrastructure constraints and the location of the 400kVGrid</p>

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
			<p>2012 guidance. However, the project description at paragraph 2.4.1 of the Scoping Report includes “up to two new 400kV transmission towers to facilitate the electrical connection of the National Grid Substation to the existing 400kV transmission line”. It is also noted that the location of the proposed 400kV National Grid Substation compound has not yet been determined. Given the uncertainty surrounding the location of the substation and proximity to receptors, the ES should address the risks to human health arising from EMF to the extent that it is relevant to the nature of the development, taking into account relevant technical guidance, and where significant effects are likely to occur. The Inspectorate considers that the ES should demonstrate the design measures taken to avoid the potential for EMF effects on receptors from the substation infrastructure.</p>	<p>Connection cable route, in relation to sensitive receptors.</p>

Air Quality

3.1.1	Paragraph 6.1.9	Site activities and road traffic exhaust emissions during operation	<p>The Scoping Report proposes to scope out these matters given that the site activities and movement of vehicles during operation are expected to be minimal. On this basis, the Inspectorate agrees that these matters can be scoped out. The ES must however provide information on the nature of vehicle movements during the operational phases (alone and cumulatively) and confirm these projections fall below the relevant thresholds set out in guidance. The ES project description should also confirm that there are no emissions from operational plant that require further assessment.</p>	<p>Operational phase traffic counts will be compared with the EPUK-IAQM 2017 guidance screening criteria in the ES to confirm that the traffic projections fall below the relevant thresholds. The ES project description will confirm that there are no emissions from operational plant that require further assessment.</p>
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Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
3.1.2	Paragraph 6.1.2	Study area - air quality	The Scoping Report states that the study area for sensitive ecological receptors will be up to 50m from the Site boundary or 50m from the edge of the roads. The ES should provide justification with reference to the relevant guidance for the study area for ecological receptors and agree with relevant consultation bodies.	Study area will be confirmed with North Kesteven District Council and Lincolnshire County Council.. Relevant guidance for the study area will be referenced in the ES.
3.1.3	Paragraph 6.1.11	Demolition	Scoping Report paragraph 6.1.11 refers to four sources of potential dust and particulate matter effects but only lists three: earthworks; general site activities; and trackout. Demolition is not scoped in. Given that there are no demolition works proposed during construction, the Inspectorate agrees that this can be scoped out during construction, however should the decommissioning phase entail demolition works then these should be assessed, where significant effects are likely to occur.	There is no demolition proposed during the construction phase, hence the assessment for demolition will not be included in the ES. A qualitative impact assessment of the potential dust emission for demolition during the decommissioning phase will be undertaken. Mitigation measures will be proposed, where appropriate.
3.1.4	n/a	Air quality - plan	The ES should be accompanied by a plan showing the location of sensitive air quality receptors within the vicinity of the Proposed Development to aid understanding of the extent of effects.	A figure showing the air quality study area will be included in the ES.

Biodiversity

3.2.1	Paragraph 6.2.9	Internationally and nationally statutory designated sites (all phases)	The Scoping Report seeks to scope out these receptors on the grounds that there are no internationally protected nature conservation sites within 10 km of the Site and no nationally protected statutory designated nature conservation sites within 2 km of the Site. The Inspectorate agrees that the proposal is unlikely to adversely impact any European or internationally designated nature	Noted.
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Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
3.2.2	Paragraph 6.2.9	Local wildlife sites	<p>conservation sites or nationally designated sites and this matter can be scoped out of the ES.</p> <p>The Scoping Report states that these sites would be avoided by the current Proposed Development design minimum offset distance of 15m from LWSs and they would also be protected by the oCEMP. It is not possible to locate these LWSs on the Environmental Features Plan in Appendix C of the Scoping Report as it is not accompanied with a schedule of sites. No site layout options have been presented and as such it is not confirmed that impacts have been avoided. The ES should consider any impacts upon local wildlife and geological sites, including local nature reserves with reference to the reasons for designation, and the findings of other impact assessment disciplines (noise, air quality, water resources). The ES should clearly present the location of LWSs and how they interact with the Proposed Development. The assessment of potential direct and indirect effects on LWSs needs to be made.</p>	<p>The site layout plan and LWS locations will be presented in the ES showing the location of LWSs and how they interact with the Proposed Development. The assessment of potential direct and indirect effects on LWSs will be presented in the ES.</p>
3.2.3	Paragraph 6.2.9	Local wildlife sites	<p>The Scoping Report seeks to scope these receptors out due to the distance from the Site and a lack of relevant links or impact pathways. The Scoping Report has not supported this with evidence regarding the sites and impact pathways, in light of this the Inspectorate is unable to scope these receptors out at this stage.</p>	<p>The assessment of potential direct and indirect effects on LWSs (including evidence regarding the sites and impact pathways) will be presented in the ES.</p>

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
3.2.4	Paragraph 6.2.9	Lowland Meadow Priority Habitat (all phases)	<p>The Scoping Report proposes to avoid the grassland parcels assessed as priority habitat. Lowland meadow by design, and protect them through the oCEMP. No site layout options have been presented and as such it is not confirmed that impacts have been avoided. The Inspectorate is unable to agree to scope this receptor out at this stage.</p>	<p>The site layout plan will be presented in the ES - showing that the areas of good quality grassland will be avoided by the Proposed Development.</p>
3.2.5	Paragraph 6.2.9	Hedgerows and hedgerow trees (all phases)	<p>The Scoping Report states that the Proposed Development would be designed to include a buffer from panels to boundary features including hedgerows and trees and measures in the oCEMP would safeguard their protection. It also states that mitigation for any habitat loss will be included in the oLEMP.</p> <p>A commitment to provide habitat mitigation/compensation cannot be relied upon to scope habitats out. An assessment should identify the relative nature conservation value of receptors, any impact pathways, the extent and significance of effects, and should demonstrate that the mitigation hierarchy has been applied. The Inspectorate is unable to agree to scope this receptor out at this stage.</p>	<p>Hedgerow surveys have been carried out in August 2023, (of those hedgerows which may be impacted by the development), to assess their value using the ecological criteria for 'Important Hedgerows'. The hedgerows, where sections may need to be removed for cable installation, will be replanted after works and any hedgerow loss is not anticipated to have a likely significant effect as it will be mitigated or compensated. However as it is currently unknown what quantity of hedgerow will need to be removed for internal access tracks an assessment of the likely effect of this cannot be determined at present until the access design details are confirmed. Therefore sections of hedgerows which may need to be removed for internal access tracks have been scoped in, at present, until a quantifiable assessment can be made.</p>
3.2.6	Paragraph 6.2.9	Ponds (all phases)	<p>The Scoping Report states that no ponds would be lost to the Proposed Development and the implementation of the oCEMP would include standard practice pollution prevention measures. No site layout options have been presented and as such it is not confirmed that impacts have been avoided. No detail has been provided regarding the</p>	<p>Plans will be presented in the ES to show how ponds will be avoided by the Proposed Development. Detail regarding the proposed mitigation measures will be presented in the oCEMP.</p>

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
			<p>proposed mitigation measures. Insufficient information has been provided to enable the Inspectorate to scope out ponds at this stage.</p>	
3.2.7	Paragraph 6.2.9	Semi-improved grassland (all phases)	<p>The Scoping Report states that the oLEMP would include measures to sufficiently compensate for habitat loss and to protect any retained areas of this habitat during construction. A commitment to provide habitat mitigation/compensation cannot be relied upon to scope habitats out. An assessment should identify the relative nature conservation value and apply the mitigation hierarchy. The Inspectorate is unable to agree to scope this receptor out at this stage.</p>	<p>Plans will be presented in the ES to show how all identified good quality semi-improved grassland will be avoided by the Proposed Development. Detail regarding the proposed mitigation measures will be presented in the Outline Construction Environmental Management Plan (OCEMP).</p>
3.2.8	Paragraph 6.2.9	Invasive species (all phases)	<p>"The Scoping Report seeks to scope out this receptor as no invasive species were identified during the Preliminary Ecological survey and that if any are found during further survey, then an invasive species method statement would be implemented to prevent the spread of this species during construction.</p> <p>The Inspectorate agrees that this matter can be scoped out if no invasive species are identified. Should invasive species be identified during further survey work, an assessment of the effects arising from the spread of invasive species during construction and decommissioning should be included within the ES and biosecurity measures incorporated into the oCEMP where necessary."</p>	<p>No invasive species have been found on Site during surveys. If any are identified during further survey work, an assessment of the effects arising from the spread of invasive species during construction and decommissioning will be included within the ES and biosecurity measures incorporated into the oCEMP where necessary.</p>

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
3.2.9	Paragraph 6.2.9	Invertebrates (all phases)	The Scoping Report proposes to scope out invertebrates due to a lack of records of protected species and a lack of high-quality habitat within the Site that could support an important invertebrate assemblage. The Inspectorate notes that the fields at the northern and southern edges of Springwell West have not been surveyed. This matter can be scoped out if the Applicant can demonstrate that no protected species or high-quality habitat are observed following completion of the surveys, with agreement from the relevant consultees.	No high-quality invertebrate habitat has been observed following completion of the PEA surveys (of fields at the northern and southern edges of Springwell West). Therefore invertebrates remain scoped out.
3.2.10	Paragraph 6.2.9	Reptiles (all phases)	"The Scoping Report argues that the majority of the site is unsuitable for reptiles and seeks to scope them out on this basis. It suggests that precautionary measures would be detailed in the oCEMP to safeguard low numbers of reptiles that may be present in semi-improved grassland areas. The Inspectorate considers that further reptile surveys should be undertaken but restricted to the areas of suitable habitat identified in the PEA."	As the areas considered potentially suitable for reptiles will be excluded from development no reptile surveys are proposed. A plan will be presented in the ES showing how areas identified as suitable for reptiles will be avoided.
3.2.11	Paragraph 6.2.9	Non-ground nesting birds (all phases)	"The Scoping Report argues that through the retention of boundary hedgerows and trees and implementation of precautionary measures detailed in an oCEMP, nests would be safeguarded during construction. The Scoping Report does not anticipate any effects during operation and does not mention decommissioning. No site layout options have been presented and as such it is not confirmed that habitats will be retained. No detail has been provided regarding the proposed precautionary mitigation measures. Insufficient information has been provided at this stage to enable the Inspectorate to scope out this matter."	Plans will be presented in the ES to show buffer zones between hedgerows and trees and the Proposed Development. For the construction phase, detail regarding the mitigation measures will be presented in the oCEMP and for the operational phase habitat enhancement measures for nesting and foraging birds will be detailed in the oLEMP.

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ID	Ref	Description	Inspectorate's Comments	Response
3.2.12	Paragraph 6.2.9	Wintering birds (all phases)	<p>"The Scoping Report states that the site is not considered of importance for overwintering waders and wildfowl due to distance from coast and any significant wetland areas (i.e. it is more than 35 km from the Wash Special Protection Area).</p> <p>The Inspectorate agrees that the site is not likely to represent functionally linked habitat to any European sites, nevertheless the site could still have value for wintering birds and impacts could arise from the substantive land use change for the proposed development; therefore this matter should be scoped in."</p>	<p>The Site was not considered of importance for overwintering waders and wildfowl due to distance from coast and any significant wetland areas. However, following consultation with North Kesteven District Council and Lincolnshire County Council, wintering bird surveys will be carried out to determine presence or likely absence. If wintering birds are present, construction would cause temporary loss of foraging habitat. Construction and decommissioning could also cause noise and visual disturbance. However, mitigation measures will be documented within and secured by the oCEMP.</p>
3.2.13	Paragraph 6.2.9	"Barn owl (all phases) Marsh harrier (all phases)	<p>"The Scoping Report states that disturbance arising from construction and decommissioning to these species would be mitigated by buffer zones and measures detailed within the oCEMP and oLEMP, and any loss of foraging habitat would be mitigated through habitat creation and enhancement secured through the oLEMP. The Scoping Report does not anticipate any significant effects to these species during operation.</p> <p>A commitment to provide habitat mitigation/compensation cannot be relied upon to scope habitats out. The ES should assess impacts on these species during construction and decommissioning as well as operation and this should include impacts from habitat loss, disturbance and lighting."</p>	<p>There is not anticipated to be any significant impacts from habitat loss, disturbance or lighting. The assessment for justification will be detailed within the ES and mitigation measures will be detailed within the oCEMP.</p>

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ID	Ref	Description	Inspectorate's Comments	Response
3.2.14	Paragraph 6.2.9	Water vole (all phases) Otter (all phases) European eel (all phases)	"The Scoping Report states that no ponds or watercourses will be lost to the Proposed Development but where small sections of watercourses may be affected, 'standard mitigation' and pollution prevention measures (secured with the oCEMP) would be implemented. Given the potential for watercourses to be affected, and the lack of detail regarding the proposed mitigation measures, the Inspectorate is unable to scope these species out at this time."	No direct or indirect impacts on waterbodies are anticipated so these species, if present, should not be significantly affected. Mitigation measures will be implemented and detailed in the oCEMP.
3.2.15	Paragraph 6.2.9	Badger (all phases)	The Scoping Report states that all known setts would be retained with an appropriate buffer and implementation of precautionary measures detailed in an oCEMP would mitigate for any residual risk. No site layout options have been presented and as such it is not confirmed that habitats will be retained. No detail has been provided regarding the proposed precautionary mitigation measures. Insufficient information has been provided at this stage to enable the Inspectorate to scope out this matter.	Plans are presented in Figure 2-3 of the PEIR and will be presented in the ES. Detail regarding the proposed mitigation measures will be presented in the oCEMP. As badgers are highly mobile update badger surveys will be carried out within 6 months prior to any works.
3.2.16	Paragraph 6.2.9	Deer and other mammals (all phases)	The Scoping Report proposes to scope out the impact of fencing on foraging and dispersal for deer and other unspecified mammals on the grounds that the fencing will be designed to be 'semi-permeable' allowing movement across the site. The Inspectorate agrees that no likely significant effects are anticipated for deer and therefore an assessment can be scoped out of the ES. The application should provide further details regarding fencing design.	Further details regarding fencing design will be presented in the ES and mitigation measures will be detailed in the oCEMP.

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ID	Ref	Description	Inspectorate's Comments	Response
3.2.17	Paragraph 6.2.7	Impact pathways	Scoping Report paragraph 6.2.7 refers to habitat loss/ degradation but fails to describe any other impact pathways (e.g. disturbance, lighting, habitat fragmentation/ severance, collision risk). The Proposed Development would entail a range of activities with the potential to generate ecological impacts. The ES Ecology chapter should consider all potential impact pathways and assess any impacts arising from the Proposed Development which are likely to result in significant effects on ecological receptors. Justification for scoping out any ecological impact should be provided.	The ES Biodiversity chapter will consider all potential impact pathways and assess any impacts arising from the Proposed Development which are likely to result in significant effects on ecological receptors. Full justification for scoping out any ecological impact will be provided in the ES.
3.2.18	n/a	Plants, veteran and ancient trees	Notable flora is not specifically addressed within the survey scope. Consideration should be given to scarce arable flora that could occur in arable fields and be adversely affected by changes in land use. There is no information on veteran and ancient trees in the Scoping Report. The ES should identify any veteran trees and assess any significant effects on these receptors where they are likely to occur and propose adequate mitigation where identified.	No veteran trees have been identified on Site. The Site being mostly intensively farmed arable and improved pasture is considered of low suitability for notable arable plants. Rare or notable arable (non-crop) plant surveys are proposed to be carried out in 2024.
3.2.19	n/a	Brown hare, hedgehog	Scoping Report paragraph 6.2.5 notes the presence of brown hare and hedgehog in the study area but these have not been proposed to be scoped into the assessment. The ES should consider effects on these species and be supported by robust survey data, unless otherwise agreed with relevant consultation bodies.	Numbers of hares seen were noted during surveys. There is not anticipated to be any significant effect on hedgehog and hares. Justification will be presented in the ES and mitigation will be detailed in the oCEMP. Habitat enhancement measures will be detailed in the oLEMP.

Climate

3.3.1	Paragraph 6.3.9	Climate resilience during construction,	Scoping Report Table 5-1 states that the majority of the site is located within Flood Zone 1 and the	Noted.
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ID	Ref	Description	Inspectorate's Comments	Response
		operation and decommissioning – flooding	vulnerability of the Proposed Development to flooding will be covered in the Flood Risk Assessment appended to the ES. On this basis, the Inspectorate agrees that significant effects are not likely to occur and an assessment of resilience to flooding can be scoped out of the Climate chapter of the ES. The Inspectorate agrees that given the distance of the site to the coastline, sea-level rise is not a relevant consideration.	
3.3.2	Paragraph 6.3.9	Climate resilience during construction, operation and decommissioning – high heat, wind speeds	The Inspectorate agrees that this can be scoped out of the assessment on the basis of embedded resilience of solar PV modules to high heat and wind speeds. However, the ES project description should explain how the development has been designed to be resilient to such effects.	Noted.
3.3.3	n/a	In-combination Climate Change Impact (ICCI) Assessment	The Scoping Report has not proposed to scope in/out an ICCI assessment. Solar panels have potential to alter precipitation runoff rates and patterns. In light of this, and in the absence of more detailed information regarding drainage design and controls, the Inspectorate considers that the ES should consider effects arising from a change in precipitation as a result of climate change in-combination with the scheme, where significant effects are likely to occur.	A preliminary in-combination assessment has been undertaken to assess the impact of precipitation change on run off rates and patterns as part of the Climate Chapter presented within the PEIR, with the final assessment to be presented within the ES

Cultural Heritage

3.4.1	Paragraph 6.4.9	Setting effects on all heritage assets within the study area (construction)	The Scoping Report argues that the construction phase effects resulting from changes in the setting of heritage assets will be temporary and no worse than the operational phase effects, therefore, it is not considered necessary to repeat the settings assessment for the construction phase. Given that setting can be negatively affected through more	The DBA and Stage 1 Setting Assessment that has informed the PEIR has not found any heritage assets that would be adversely affected by noise, dust etc. and these effects therefore remain scoped out for the construction phase.
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Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
			than simply visual effects (e.g. noise, dust) the Inspectorate does not agree with the assumption that the construction phase effects would be no worse than the operational phase effects and therefore does not agree to scope out this phase.	
3.4.2	Paragraph 6.4.9	Impacts on the setting of listed dwellings within settlements over 1 km from the Site (operation)	The impacts on setting to these receptors are proposed to be scoped out on the basis that the positive contribution made by setting to the significance of residential listed buildings within settlements is typically confined to their immediate street scene. The Scoping Report does not justify why and how the 1km reference has been derived. The Inspectorate considers there is insufficient evidence provided to scope out this matter at this stage.	The DBA and Stage 1 Setting assessment which has informed the PEIR provides the justification for scoping out these assets.
3.4.3	Paragraph 6.4.9	Listed K6 telephone kiosks (operation)	These receptors are proposed to be scoped out on the grounds that their surroundings make a neutral contribution to their significance as they are found in a variety of contexts throughout the UK. The Inspectorate agrees that significant effects on such assets are unlikely to arise and this matter can therefore be scoped out of the ES.	Noted.
3.4.4	Paragraph 6.4.9	Various findspots recorded by LCC HER (listed in Scoping Report) (construction and operation)	The Scoping Report explains that as findspots, these have been removed from the Site and the heritage significance of their former locations would not be harmed by the Proposed Development. The Inspectorate agrees that the findspots can be scoped out of the ES.	Noted.
3.4.5	Paragraph 6.4.9	Milepost 20 metres south of Ashby Lodge Farm (Grade II Listed) (operation)	The Scoping Report argues that the positive contribution made by setting to the significance of the milepost derives from its relationship with the road network, and this would not be altered by the Proposed Development during operation. The	Noted.

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ID	Ref	Description	Inspectorate's Comments	Response
			Inspectorate agrees on this basis that this asset can be scoped out of this phase.	
3.4.6	Paragraph 6.4.9	Avro Lancaster crash site (operation)	This receptor is proposed to be scoped out on the basis that its significance does not draw on its wider surroundings. The Inspectorate agrees this asset can be scoped of the operational assessment.	Noted.
3.4.7	Paragraph 6.4.9	Hawker Hurricane crash site (operation)	This receptor is proposed to be scoped out on the basis that its significance does not draw on its wider surroundings. The Inspectorate agrees this asset can be scoped of the operational assessment.	Noted.
3.4.8	Paragraph 6.4.9	Sites of former extractive pits in Ashby de la Launde and Bloxholm, and Rowston (construction and operation)	These receptors are proposed to be scoped out on the grounds that they have negligible importance and significant effects upon them are therefore unlikely. The Scoping Report has provided no justification/evidence to support its assessment of 'negligible importance' and therefore the Inspectorate is unable to scope this matter out at this stage.	The DBA and Stage 1 Setting assessment which has informed the PEIR provides the justification for scoping out these assets.
3.4.9	Paragraph 6.4.9	All heritage assets within the study area during decommissioning	"The Scoping Report seeks to scope out the decommissioning phase on the basis that it would not result in impacts to any additional heritage assets not affected during construction and operation, and changes in the setting of heritage assets in the surrounding area will be no worse than the construction or operational phase effects. The Inspectorate considers that there is potential for decommissioning stage effects on buried archaeological resource, such as the potential for harm due to compaction, removal of piles, and subsequent potential changes in drainage patterns. In addition, given that the potential effects	The DBA and Stage 1 Setting Assessment that has informed the PEIR has not found any heritage assets that would be adversely affected by noise, dust etc. and these effects therefore remain scoped out. Decommissioning would not result in compaction of archaeological remains. Removal of piles will not cause materially more disturbance than their insertion and solar arrays have avoided areas of known archaeological sensitivity.

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ID	Ref	Description	Inspectorate's Comments	Response
			<p>on setting during decommissioning are likely to be similar to those experienced during construction the Inspectorate is of the opinion that this matter cannot be scoped out at this stage. Cultural heritage should be a consideration as part of any outline decommissioning plans."</p>	
3.4.10	Paragraph 6.4.1	Consultation	<p>The Applicant is also advised to liaise with the Heritage Trust of Lincolnshire who act on behalf of North Kesteven District Council, especially in relation to the scope of and timing of any intrusive evaluation following completion of the geophysical survey.</p>	<p>Consultation with these bodies regarding further evaluation is ongoing.</p>
3.4.11	Paragraph 6.4.2	Study area - cultural heritage	<p>The Scoping Report proposes a 2 km study area for non-designated assets. For the assessment of setting, the study area should be agreed with the relevant stakeholders and informed by the visual analysis.</p>	<p>Study area for setting has been informed by the ZTV.</p>
3.4.12	Paragraph 6.4.3	Data sources	<p>The Applicant is advised to also consider the North Kesteven District Council's local list of non-designated heritage assets and the Scopwick and Kirkby Green Neighbourhood Plan which contains schedules and descriptions of heritage assets within the Plan area.</p>	<p>This information has been reviewed for the DBA.</p>
3.4.13	Paragraphs 6.4.4 and 6.4.6	Intrusive evaluation	<p>The Scoping Report proposes a programme of archaeological investigation and recording secured by a DCO Requirement. Measures to mitigate risk to buried archaeological remains such as exclusion zones/ avoidance routes and concrete shoes rather than piles require a robust understanding of archaeological risk to be effective. These considerations should be factored into the programme and scope of intrusive evaluation (if required), to be agreed with the statutory</p>	<p>The layout has been informed by geophysical survey to avoid impacts to areas of archaeological sensitivity. The scope of further evaluation is still being discussed with North Kesteven District Council and Lincolnshire County Council.</p>

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ID	Ref	Description	Inspectorate's Comments	Response
3.4.14	Paragraph 6.4.8	Receptors to be scoped in	<p>consultees. Noting the responses from North Kesteven District Council and Lincolnshire County Council indicating the potential need for intrusive field evaluation to understand the full extent of any potential impact, and inform a fuller programme of archaeological investigation and ultimately the scheme design, the Inspectorate advises that further discussions are held with the relevant consultation bodies to discuss the detailed findings of desk studies and geophysical surveys, and whether these area adequate to inform design, assess the effects of the scheme and demonstrate that any potential significant effects can be adequately mitigated. Pending the results of the non-intrusive surveys the Inspectorate is not in a position to agree that a programme of intrusive archaeological investigation is not required to inform the ES.</p>	<p>The DBA and Stage 1 Setting Assessment has considered the effects on these conservation areas, the layout has been designed to minimize effects and the PEIR concludes that significant effect are unlikely.</p>
Landscape and Visual				
3.5.1	Paragraph 6.5.9	Assessment of impacts to Lincolnshire Wolds Area of Outstanding National Beauty (AONB) during construction,	<p>The Scoping Report states that the Lincolnshire Wolds AONB is located over 20km away from the Proposed Development. Due to the distance and intervisibility, an assessment of impacts on the AONB is proposed to be scoped out of the LVIA. Considering the nature and characteristics of the Proposed Development and the distances</p>	<p>An assessment of impacts on the AONB has been scoped out of the ES.</p>

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ID	Ref	Description	Inspectorate's Comments	Response
3.5.2	Paragraph 6.5.9	Assessment of impacts to Lincoln Cliff Area of Great Landscape Value (AGLV) during construction, operation and decommissioning	involved, the Inspectorate agrees that an assessment of impacts on the AONB can be scoped out of the ES.	An assessment of impacts on the Lincoln Cliff Area of Great Landscape Value has been scoped out of the ES. The ZTVs presented in Figures 9.5 to 9.8 of the PEIR demonstrate that visibility of the Proposed Development would not extend to the AGLV. At the request of Lincolnshire County Council /North Kesteven District Council a number of potential viewpoints were visited and photographed during field work but having established that there would be no view of the development from these locations it was agreed in a meeting with Lincolnshire County Council /North Kesteven District Council on 3 rd July 2023 that it was not necessary to include a viewpoint in the LVIA from within the AGLV. Lincolnshire County Council /North Kesteven District Council confirmed in a letter dated 15 th August 2023 that the viewpoint selection was 'proportional to the project and extent of potential visual receptors.'
3.5.3	Paragraph 6.5.9	Other Landscape Character Areas (LCAs) in the North Kesteven Landscape Character Assessment during construction, operation and decommissioning	Although some distant visibility is indicated by the Zone of Theoretical Visibility (ZTV), the Scoping Report proposes to scope out this matter on the basis that the field work has established that there would be no intervisibility between the site and any other LCAs. The Inspectorate is content for these receptors to be scoped out, however the ZTV should be reviewed with the final scheme and presented in the ES to demonstrate that there is no intervisibility.	Landscape Character Areas (LCAs) other than the two host LCAs in which the Proposed Development is located have been scoped out of the ES. The ZTVs presented in Figures 9.5 to 9.8 of the PEIR demonstrate that there would be negligible visibility of the Proposed Development from within any other LCA. Lincolnshire County Council /North Kesteven District Council confirmed in a letter dated 15 th August 2023 that ' <i>LCA 6 Lincoln Cliff and LCA 13 Fenland sit to the fringes of the proposed study areas, and are unlikely to experience significant effects and</i>

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ID	Ref	Description	Inspectorate's Comments	Response
3.5.4	Paragraph 6.5.9	"View from Villages/ hamlets of Bloxham [sic], Digby, Dorrington, Ruskington, Leasingham, Cranwell, RAF Cranwell, Wellingore and Navenby and other settlements along the A607 during construction, operation and decommissioning	The Scoping Report proposes to scope out this matter on the basis that it is highly unlikely there would be any views of the Proposed Development from these settlements when taking into account intervening hedgerows and other vegetation, stating that any glimpses would be distant, filtered and negligible. The ES should demonstrate there is no intervisibility, otherwise the potential effects on views and visual amenity within the ZTV where significant effects are likely to occur should be assessed.	<i>subsequently are acceptable to be scoped out, however we would recommend these LCAs are identified in the LVIA, and if scoped out a brief statement is provided that recognises their proximity to the red line boundary and the rationale as to why they have been scoped out.'</i> Chapter 9 provides a brief statement to this effect.
3.5.5	Paragraph 6.5.9	Assessment of impacts to PRoW and local roads beyond 3km from the site during construction.	The Scoping Report proposes to scope out these receptors in the LVIA due to the distance and intervisibility. The Inspectorate considers that these matters may be scoped out on the basis of the relatively short duration of any potential effect.	An assessment of impacts on PRoW and local roads beyond 3km from the site during construction has been scoped out of the ES.
3.5.6	Paragraph 6.5.9	Assessment of impacts to isolated residential properties over 1km from the	The Scoping Report proposes to scope out this matter on the basis that it is a matter of private visual amenity which would not give rise to an overbearing effect on residential amenity.	Appendix 9.5 of the PEIR presents the analysis undertaken to date on residential visual amenity. A detailed RVAA will be provided in the ES once final details of the Proposed Development have

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ID	Ref	Description	Inspectorate's Comments	Response
		site during construction, operation and decommissioning	Insufficient information has been provided regarding the nature of these receptors and extent of visibility, therefore the Inspectorate is unable to scope out this matter out at this stage.	been established; including any mitigation measures adopted as appropriate. The study area for the RVAA is fully justified in Appendix 9.5. For the avoidance of doubt, visual effects on residential properties not included in the RVAA including those beyond 1km are considered in the LVIA; the RVAA goes one step beyond this to consider whether the effect at any individual dwelling is so great that the impacts are more than a matter of just private visual amenity.
3.5.7	Paragraph 6.5.9	Assessment of impacts to users of the rail network, specifically the section between Metheringham and the level crossing on the B1191 during construction, operation and decommissioning	The Scoping Report proposes to scope out these receptors in the LVIA due to their sensitivity being medium/ low. The Inspectorate considers that these matters may be scoped out on the basis of the relatively short duration and intermittent nature of any potential effect.	An assessment of impacts on the rail network, specifically the section between Metheringham and the level crossing on the B1191 has been scoped out of the ES.
3.5.8	Paragraphs 6.5.2 and 6.5.7	Study area - landscape and visual impact	The Scoping Report paragraph 6.5.2 proposes that the LVIA study area will be within 3km of the site boundary of the Proposed Development and extended to 5km for the National Grid and Project Substation and National Grid connecting towers. However, the full extent of potential visibility of the Proposed Development is not yet fully known and the ZTV mapping contained within Appendix F identified potential visibility beyond these extents. The ES should justify the extent of the study area/s with reference to recognised professional guidance and the extent of the likely impacts, informed by fieldwork and relevant models or approaches such	Updated ZTVs are presented in Figures 9.5 – 9.8 based on the 'worst case scenario' of visibility which could occur in accordance with the height parameters plan shown in Figure 2.4. The study area has been discussed with LCC/NKDC and on 15 th August 2023 they confirmed that <i>'The proposed 3km study area is appropriate from the solar PV development and 5km from the National Grid and Project Substation and National Grid connecting towers. However, the LVIA should clearly state the justification for these study areas, and thoroughly assess and confirm no significant views are available from beyond the</i>

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ID	Ref	Description	Inspectorate's Comments	Response
			<p>as the ZTV. The Applicant should agree the study areas with relevant consultation bodies.</p>	<p><i>study area. Also, as it is not confirmed as to whether the National Grid Substation and National Grid connecting towers are to be included within the redline boundary, and if so both the final location and design of these elements, and the Project Substation, is yet to be confirmed, therefore while every effort has been made to accommodate this with the viewpoint selection, additional viewpoints and extension of the 5km study area may be required subject to confirmation of these aspects.'</i></p> <p>The ZTVs demonstrate that in the worst case scenario there would be negligible visibility of the Proposed Development beyond the study area proposed above. Any landscape or visual effects beyond this distance would not be significant. For the purposes of the PEIR the above study area has been adopted but will be reviewed again once the final layout is fixed before completion of the ES.</p>
3.5.9	Paragraph 6.5.6	Mitigation	<p>The Scoping Report states that an oLEMP will be developed to secure the long-term management of the landscape and biodiversity strategy. The ES should cover the establishment period of any Landscape Scheme. The Inspectorate draws the Applicant's attention to the comments of Lincolnshire County Council regarding the establishment period and content of the management plan (see Appendix 2 of this Opinion).</p>	<p>The comments are noted and will be taken into consideration when the oLEMP is prepared at ES stage.</p>

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ID	Ref	Description	Inspectorate's Comments	Response
Land, soils and groundwater				
3.6.1	Paragraph 6.6.9	Land contamination and minerals (all phases)	<p>"The Scoping Report justifies scoping out impacts to land based on the findings of a Preliminary Risk Assessment (PRA), embedded mitigation measures and industry best practice procedures. The Scoping Report states that any negative implications for the Mineral Safeguarding Areas would be minimised and considered as part of the Proposed Development design.</p> <p>The findings of the PRA have not been presented in detail within the Scoping Report and paragraph 6.6.5 seems to suggest some risk of contamination. In light of this, there is insufficient evidence to scope this matter out at this stage. The ES should be supported by the findings of a PRA and where land contamination is identified, the ES should assess significant effects where they are likely to occur.</p> <p>Potential risks of soil and water contamination from leaks, improper storage, or spills during the construction phase, should be mitigated through implementation of standard best practice measures secured via the oCEMP.</p> <p>The Inspectorate considers that a Minerals Assessment should be undertaken to inform and influence the design and layout of the development and demonstrate how impacts to Mineral Safeguarding Areas have been minimised. The ES should also confirm if borrow pits are proposed, assess the impacts, and identify the location of these within the Order Limits. The ES should demonstrate that the Minerals Planning Authority has been consulted in respect of all of the proposals and that the proposed development</p>	<p>A Preliminary Risk Assessment has been undertaken to assess potential land contamination sources and geotechnical constraints to the Proposed Development. The Preliminary Risk Assessment report is presented as part of the PEIR.</p> <p>A Mineral Safeguarding Assessment, to demonstrate how impacts to Mineral Safeguarding Areas have been addressed will be reported within the ES once further baseline information has been obtained and further consultation with Lincolnshire County Council has been undertaken.</p> <p>The Proposed Development has discounted the consideration for the use of borrow pits due to the environmental impacts.</p>

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ID	Ref	Description	Inspectorate's Comments	Response
3.6.2	Paragraph 6.6.9	Groundwater (all phases)	<p>does not impact on future ambitions for minerals extraction within the region."</p> <p>"The Scoping Report argues that the quality of groundwater in Source Protection Zones (SPZs) would be appropriately protected by embedded mitigation measures, and the project surface water strategy would mirror the existing surface water regime, so having minimal effect on the existing groundwater conditions.</p> <p>The site overlies an SPZ and a Principal Aquifer of high vulnerability and construction activities may lead to a creation of contamination pathways e.g. piling, trenching, borrow pits. The ES should assess impacts from all phases of the development to groundwater where significant effects are likely to occur. Best practice measures should be employed and secured via the DCO to ensure any potential pollution impacts are minimised."</p>	<p>Following further consideration, impacts on groundwater have been considered as part of the preliminary assessment.</p>
3.6.3	Paragraph 6.6.9	Soils (operation)	<p>"The Scoping Report proposes to scope out operational impacts to soils as significant vehicle movements within the Site during operation are not anticipated and therefore the potential for compaction is considered limited. The Inspectorate agrees that impacts from compaction could be scoped out of the operational phase.</p> <p>However, there is no reference in the Scoping Report as to whether or how agricultural land use would be continued across the site alongside the operation of the solar farm. Changes to the hydrogeological regime as a result of the Proposed Development may also affect the quality of soils within the Site and this should be assessed within the ES."</p>	<p>An Outline Soil Management Plan will be submitted in support of and secured by the DCO to manage any potential impacts to the soil (and agricultural land) during and on completion of the construction phase. The Outline Soil Management Plan will identify those areas within the Site which may be more susceptible to damage, for example, the temporary access tracks, construction compounds and steep slopes and qualities of the soil, for example when it is wet or after periods of heavy rainfall or high winds and it will advise on when soils are suitable for being handled or trafficked. The Plan will also detail measures for soil management and follow the principles of best practice to maintain the physical properties of the soil, with the aim of restoring the</p>

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ID	Ref	Description	Inspectorate's Comments	Response
				land to its pre-construction condition following the temporary construction use and at the end of the lifetime of the Proposed Development.
3.6.4	Paragraph 6.6.9	Soils (decommissioning)	"The Scoping Report argues that any effects on soils during decommissioning would not be expected to be significant as the number of vehicle movements is anticipated to be less than during the construction phase, limiting the potential for compaction of soils to occur. Decommissioning works are also less likely than construction works to adversely impact on agricultural field drains as there would be no requirement for piling etc., so are less likely to result in deterioration of soil quality. The Inspectorate agrees with the rationale for scoping this matter out."	Noted.
3.6.5	Paragraph 6.6.5	Agricultural Land Classification (ALC)	The Scoping Report explains that an ALC survey is currently underway. The scope of the survey should align with the Natural England 'Technical Information Note TIN049: Agricultural Land Classification: protecting the best and most versatile land, 2nd edition (2012)'.	The ALC survey was undertaken in line with the Natural England 'Technical Information Note TIN049: Agricultural Land Classification: protecting the best and most versatile land', 2nd edition (2012).
3.6.6	Paragraph 6.6.5	Unexploded Ordnance (UXO)	The Scoping Report notes that the proximity of RAF Digby suggests that there is the potential for unexploded ordnance to have been present at the Site. The ES should assess the risk of disturbing UXO through piling and other works.	Detailed Unexploded Ordnance (UXO) Risk Assessment has been undertaken for the Site and deemed the majority of the Site as being at a Low Risk from items of allied UXO. The risk of UXO will be managed by the implementation of a UXO Risk Management Plan for intrusive works and site specific awareness briefings, alongside, attendance by a UXO specialist on-site support for intrusive works in areas of medium risk.

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ID	Ref	Description	Inspectorate's Comments	Response
3.6.7	Paragraph 6.6.8	Agricultural land (operation)	The Report proposes to scope in the operational impacts of the proposed development in terms of the loss of agricultural and BMV land because of the removal of this land from productive use. The assessment should also include and detail mitigation measures to remove, reduce or minimise such impacts.	Preliminary assessment of impacts on BMV land has been undertaken and is presented within the PEIR, with full assessment to be presented within the ES.

Noise and Vibration

3.7.1	Paragraph 6.7.9	Operational vibration	The Scoping Report proposes to scope out this matter on the basis that fixed plant items or structures would not emit discernible levels of vibration during the operational phase. Based on the nature and characteristics of the Proposed Development, the Inspectorate agrees that operational vibration may be scoped out from further assessment. The ES project description should demonstrate that operational plant and equipment is of a type and to be used in locations unlikely to result in significant vibration impacts on sensitive receptors.	The ES will provide a full description of the operational sources, their locations and whether they are vibration inducing.
3.7.2	Paragraph 6.7.9	Operational road traffic noise	"The Scoping Report proposes to scope out an assessment of noise associated with operational traffic on the basis that once operational the Proposed Development would generate minimal traffic. Considering the characteristics of the Proposed Development, the Inspectorate is content that this matter can be scoped out. The ES project description should confirm the anticipated trip generation (including number and type of vehicles) required for routine maintenance during operation to justify this."	The ES will provide an assessment of likely vehicle movements during routine maintenance activities. This is however expected to be undertaken by isolated vehicles on a periodic basis.

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
3.7.3	Paragraph 6.7.2	Study area and sensitive receptors - noise and vibration	Scoping Report paragraph 6.7.2 states that the study area will be defined based on the Applicant's experience of solar farm developments and proposed locations of operation equipment/ structures and construction/decommissioning pathways. The ES should explain how the study area and sensitive receptors have been selected with reference to relevant supporting evidence, such as noise modelling/ noise contour mapping.	<p>The study area for the construction and decommissioning phase assessments will consider noise and vibration sensitive receptors that are located within 300 metres of the site boundary. This has been determined based on the guidance set out in BS 5228-1: 2009+A1: 2014, BS 5228-2: 2009+A1: 2014 and DMRB document ref. 'LA 111 - Noise and Vibration'.</p> <p>For the assessment of operational phase noise levels, the Study Area will extend out to the nearest or most exposed noise sensitive receptors to the site boundary.</p>
3.7.4	Paragraph 6.7.4	Baseline survey	The Scoping Report proposes the baseline noise monitoring to be undertaken along the site boundary. The ES should explain how the baseline noise monitoring locations were chosen and how they are deemed to be representative of nearby receptors.	The ES will provide a full narrative of the baseline monitoring locations, the nearest sensitive receptors which the baseline monitoring represents and full details of the measured levels and their impact on the derived design targets (to be applied at receptor locations) in noise terms.
3.7.5	Paragraph 6.7.5	Sensitive receptors	The Scoping Report states that the receptors likely to be incorporated into the assessment are all residential in nature. The ES should also consider if there are any ecological receptors that require consideration in respect of noise related impacts.	The nearest sensitive receptors are within close proximity or adjacent to the site boundary; SSSI's are no nearer to the Project Development and would have a higher design target (in comparison to those residential receptors) applied to them. Further description will be provided in the ES.
3.7.6	n/a	Plans - noise and vibration	The ES should provide a plan showing the location of all sensitive receptors identified for assessment overlaid with noise contour mapping to aid understanding of the potential for significant effects relating to noise.	Plans and contour mapping will be provided in the ES.

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
Traffic and transport				
3.8.1	Paragraph 6.8.9	Operational traffic	The Scoping Report states that the effect of operational traffic is likely to be minimal. The Inspectorate has considered the characteristics of the operational phase of the Proposed Development and based on the low levels of anticipated traffic generation is content that this matter can be scoped out. The ES description of development should clearly set out the operational vehicle types and numbers (with reference to thresholds within guidance) to justify this position.	The ES will describe and quantify the operational traffic requirements, justifying their exclusion from the assessment.
3.8.2	Paragraph 6.8.2	Study area	The scoping report suggests a study area to include the B1189, B1188, B1191, and A15. The ES should also describe how the Proposed Development is likely to affect the Strategic Road Network; significant effects should be assessed where they are likely to occur.	The nearest part of the Strategic Road Network to the Site is the A1. It is anticipated that construction traffic volumes will have substantially dispersed by the time it reaches the A1. However, the ES will consider the likely volumes of traffic that will be travelling along the Strategic Road Network to confirm.
3.8.3	Paragraph 6.8.6	Mitigation - highway improvements	If highways works/improvements are required as part of the mitigation for significant effects arising from construction transport, these should be fully explained within the ES and an assessment of any likely significant effects as a result of these works should also be presented, as relevant. This should include consideration of any potential impacts to railway assets, such as bridges and level crossings, located on HGV routes.	The ES will consider the need for mitigation, such as off-site highway works, for all routes carrying construction traffic. This will include approach routes from the Strategic Road Network and will encompass sensitive and/or restrictive assets such as structures and level crossings. Full details of mitigation proposals will be set out within the ES including an assessment of their impacts.
3.8.4	Paragraph 6.8.11	Impact assessment methodology	The impact assessment is proposed to be based on the methodology outlined in the Guidelines for the Environmental Assessment of Road Traffic (1993). The Inspectorate understands that this guidance is planned to be updated by the Institute of Environmental Management and Assessment	Given the publication of the revised IEMA guidelines in July 2023, the ES will now be assessed using this revised methodology.

Description of the Proposed Development

ID	Ref	Description	Inspectorate's Comments	Response
			(IEMA). The ES should take account of future updates where relevant.	
Cumulative effects				
3.9.2	n/a	Other projects	The study areas, methodologies (including other projects included in the assessment) particularly with respect to impacts on 'best and most versatile' agricultural land and landscape, should be agreed with the statutory consultation bodies and any exclusions should be clearly justified and explained with reference to PINS Advice Note 17: Cumulative effects assessment.	The study area, methodologies and the short-list of developments will be agreed with the statutory consultation bodies prior to undertaking the assessment of cumulative effects which will form part of the ES.

EIA Scoping Opinion Response Matrix – Statutory Consultees

Statutory Consultee	Description	Statutory Consultee Comments	Response
Anglian Water			
Anglian Water	Water	<p>Anglian Water notes that at 5.5.2 (page 51) the promoter identifies Anglian Water pipeline (clean) from the utility search. We would support efforts to minimise and potentially remove impacts on water and water recycling assets through project layout, design and construction approaches. At 5.9.26 (page 64) the promoter indicates that sewerage supply and capacity will be assessed with Anglian Water. The statement that ‘The Proposed Development is expected to have an impact on the public foul water sewers in the vicinity of the Site due to the increase in foul flows arising from the Proposed Development’ means we do not agree that the impact of foul flows can be scoped out (para 5.9.28, page 64). It may be possible to scope out the impact once that assessment work has been undertaken and following consultation by the promoter with the Environment Agency.</p>	<p>Water has been assessed and further detail is provided within Chapter 13 of this PEIR.</p>
Anglian Water	Water	<p>Anglian Water also does not agree (para. 5.9.32) with the promoter scoping out water from the EIA. Anglian Water is progressing its Water Resources Management Plan and as a water scarce area designated by the Environment Agency and following detailed assessment work, we are now advising that new non household water supply requests (construction and operational phases) may be declined as these could compromise our regulatory priority</p>	<p>Water has been assessed and further detail is provided within Chapter 13 of this PEIR.</p> <p>Consultation with Anglian Water is ongoing to determine the feasibility of a supply.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>of supplying existing and planned domestic growth. The flows needed to fill water storage tanks – in the event that the promoter decides not to use rain water harvesting on site to meet this non potable demand – will need to be assessed by Anglian Water to advise whether a supply is feasible with jeopardising domestic supply or at a significant financial or environmental cost. Our new position on non- household supply is due to our joint aim with the Environment Agency of reducing abstraction to protect habitats and the wider environment. The promoter will need to submit a request for water supply setting out the new daily demand for each stage of the project.</p>	
Anglian Water	Water	<p>The open position at para 5.9.11 on water use during construction means that the promoter will need to establish whether concrete production, for example, would be offsite or would need an on-site supply in order to assess the water supply options with Anglian Water. Further advice on water and wastewater capacity and options can be obtained by contacting Anglian Water’s PreDevelopment Team at: planningliasion@anglianwater.co.uk</p>	<p>Concrete production is anticipated to be off-site.</p> <p>Consultation with Anglian Water is ongoing and will help inform the development of the design.</p>
Anglian Water	Flood Risk	<p>On the question of Flood Risk Assessment (para. 5.9.32) we would welcome engagement on Anglian Water’s existing drainage apparatus. However, we would advise that in accordance with the drainage hierarchy, surface water should first look to be managed by Sustainable Drainage Systems (SuDS). Only if the promoter could demonstrably prove that infiltration rates for example</p>	<p>Sustainable Drainage Systems will be used at the Springwell Substation to manage surface water.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		precluded SuDS in a specific location would Anglian Water consider surface water connections to the public sewer. We consider that SuDS should be used at the Substation compound (para. 2.4.65) and Anglian Water would currently resist a provision providing for a surface water connection to the public sewer in the draft DCO Order.	
Anglian Water	water supply, water resources and water recycling	In view of the guidance in the National Policy Statements we would have anticipated that the scoping would have included and then considered the approach to water supply, water resources and water recycling assets. Anglian Water requests that these points are assessed early in the EIA to set out how the project will be supplied with water, its wastewater managed, how water assets serving residents and business will be protected and how design has been altered to reduce the need for new water infrastructure or the diversion of existing assets.	Water resources have been 'Scoped in' for further assessment and have been assessed in Chapter 13 of the PEIR. Engagement with Anglian Water on the supply and management of water is ongoing and will be detailed within the ES.
Anglian Water	Inclusion of water	We support the inclusion of water (5.9.16 onwards) in a Construction Environment Management Plan (CEMP). The CEMP and a Surface Water Management Plan should include steps to remove the risk of damage to Anglian Water assets from plant and machinery including haul roads. Further advice on minimising and then relocating Anglian Water existing assets can be obtained from: connections@anglianwater.co.uk	Noted. An Outline Construction Environmental Management Plan (OCEMP) will be provided in support of the DCO.

Statutory Consultee		Description	Statutory Consultee Comments	Response
Anglian Water	Water Resources	The site is in the Central Lincolnshire Water Resource Zone (WRZ), which supplies water to area from the Humber and Scunthorpe to Grantham and Sleaford including Lincoln. We have flagged above the new position on water resources and note that whilst the scoping considers water environment impacts it does not look at water resources. As the site is within an area of 'serious water stress' designated by the Environment Agency and water is used in the project construction and operation this indicates that water resources should be assessed in the EIA.		Water resources have been 'Scoped in' for further assessment and have been assessed in Chapter 13 of the PEIR.
Anglian Water	Engagement	Anglian Water would welcome the instigation of discussions with Springwell Energy Farm Limited as the prospective applicant, in line with the requirements of the 2008 Planning Act and guidance. Experience has shown that early engagement and agreement is required between NSIP applicants and statutory undertakers during design and assessment and well before submission of the draft DCO for examination. Consultation at the statutory PEIR stage would in our view be too late to inform design and may result in delays to the project. We would recommend discussion on the following issues: 1. Requirement for potable and raw water supplies if rainwater harvesting and other resources within the site are not used 2. Impact of development on Anglian Water's assets including abstraction 3. Requirement for water recycling (sewer) connections 4. The design of the project to minimise interaction with Anglian Water assets and specifically to		Engagement is ongoing with Anglian Water and will inform the iterative design.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>avoid the need for diversions which have carbon costs 5. Confirmation of the project's cumulative impacts (if any) with Anglian Water projects 6. Draft Protective Provisions A set of draft Protective Provisions will be sent to the promoter to include in the draft DCO.</p>	
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council			
<p>Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council</p>	<p>Inappropriate use of agricultural land</p>	<p>Food security is of paramount importance and protected via government policy. • Research by Campaign for Rural England reveals that almost 14,500 hectares of the country's best agricultural land, which could grow at least 250,000 tons of vegetables a year based on typical yields, has been permanently lost to development since 2010. This research highlights the following consequences of the reduced use of land for agriculture as follows:</p> <ul style="list-style-type: none"> • Two million fewer people can be fed 'five a day' from vegetables homegrown in England, as prime farmland is lost to development. • Food security concerns are increasing, with 60% of England's finest agricultural land at the highest risk of flooding from climate change. • Nearly 300,000 homes have been built on prime farmland, with an extra 1,400 hectares used for renewable energy projects; despite the availability of previously developed brownfield land waiting for regeneration. • The East of England has lost 3,232 ha of Best, Most Versatile (BMV) land since 2010 — the greatest absolute loss within a single region. 	<p>A preliminary assessment of Agricultural Land and Land Use is presented in Chapter 10 of the PEIR. A detailed assessment will be presented in the ES and the Planning Statement at the time of submission.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<ul style="list-style-type: none"> • The National Planning Policy Framework makes the protection of BMV land a priority; the need clearly evidenced by the increase in food poverty within the UK, and the food shortages experienced during the recent pandemic. 	
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council	Agricultural Land	<p>Agricultural Land Classification (ALC) is a system used in England and Wales to grade the quality of land for agricultural use; aiding planning decisions affecting greenfield sites, in-order to protect good quality land from development. The system classifies land into five grades, with grade 1 being the best quality. Planning policies state that the 1 valuable grades 1, 2 & 3a should be protected from development not associated with agriculture or forestry.</p> <ul style="list-style-type: none"> ❖ The negative impact of the Springwell proposal on English food security is massive. The whole development is on grade 2 and 3 land (primarily grade 2), highly productive agricultural land. If this land is developed, more food imports will be inevitable, with increased costs and uncertainty regarding food availability. ❖ The development would result in the loss of agricultural land for 40 years, with little hope of the land ever being returned to agricultural use. The location of the proposed solar farm strikes at the heart of Lincolnshire’s stunning and highly productive agricultural land – this must be protected 	A preliminary assessment of Agricultural Land Clarification data is presented in Chapter 10 of the PEIR. A detailed assessment will be presented in the ES and the Planning Statement at the time of submission.

Statutory Consultee	Description	Statutory Consultee Comments	Response
<p>Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council</p>	<p>Flooding</p>	<p>Research into global warming and climate change has predicted that vast areas of UK land will be lost to the sea over the next 30 to 40 years; Lincolnshire being most at risk of all UK counties. (Reference Coastal Climate Central). In addition, the UK will see a significant increase in flooding. This data analysis provides further evidence of the importance of protecting prime agricultural land.</p>	<p>A preliminary assessment of flooding and climate change effects is presented in Chapter 13 of the PEIR. A detailed assessment, including a Flood Risk Assessment in line with DEFRA guidance, will be presented in the ES and relevant policy tests will be presented in the Planning Statement at the time of submission.</p>
<p>Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council</p>		<p>In response to a petition titled ‘Ban development on agricultural land to increase food self-sufficiency’ DEFRA made the following statement:</p> <p>“This Government has committed to broadly maintaining current levels of food production in the Food Strategy, to ensure our continued levels of food security.</p> <p>There will always be multiple pressures on land which require individual landowners, managers and Government to make decisions about trade-offs. DEFRA and DLUHC are working on striking the right balance. The National Planning Policy Framework aims to protect the best and most versatile agricultural land from significant, inappropriate or unsustainable development proposals; recognising the economic and other benefits of this land. It</p>	<p>Noted. Relevant policy tests will be presented in the Planning Statement at the time of submission.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>sets out a clear presumption away from the use of high-quality agricultural land for development where possible.</p> <p>DEFRA are committed to making the most of brownfield land and existing policy for protecting greenfield remains firmly in place.</p> <p>Recognising the importance of food security, in the Agriculture Act 2020 the Government made a commitment to produce an assessment of our food security at least once every three years. The first UK Food Security Report was published in December 2021. The report recognises the contribution made by British agriculture to our resilience, and the importance of strong domestic production to our food security. It considers the UK's food supply sources overall, noting that domestic production and diversity of supply are both important to our food security”</p>	
<p>Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council</p>	<p>Soil Testing</p>	<p>A recent leaflet produced by Springwell, informed local residents of imminent soil testing within the proposed site, over a 6-week period. It is imperative that an independent, government appointed organisation, confirms the findings</p>	<p>Noted - There is ongoing engagement with the Local Authorities and Statutory Bodies to discuss methodology and assessments. The Agricultural Land Clarification data is presented in Chapter 10 of the PEIR.</p>
<p>Ashby de la Launde, Bloxholm with Temple Bruer and Temple</p>	<p>Wildlife</p>	<p>Regardless of mitigation, there is no doubt the project will have a detrimental effect on wildlife and habitats. The site area is heavily populated with wildlife, including deer, muntjac, hares, rabbits, foxes, badgers and birds of prey.</p>	<p>Preliminary Assessment and Ecology surveys are presented in Chapter 6 of the PEIR. A detailed assessment will be present in the ES, and mitigation will be</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
High Grange Parish Council			secured through requirements within the Development Consent Order.
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council	Landscape	The scale of harm in this location is such that, it would not be outweighed by the wider benefits of the renewable energy provision.	A preliminary assessment of landscape and visual effects is presented in the PEIR. A detailed assessment will be presented in the ES. The relevant policy tests will be presented in the Statement of Need and Planning Statement at the time of submission.
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council	Landscape	The Secretary of State, Planning Inspectors and Planning Officers have identified that solar farm developments do invariably detract from the unspoiled character and appearance of the landscape	A preliminary assessment of landscape and visual effects is presented in the PEIR. A detailed assessment will be presented in the ES.
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council	Landscape	The solid structures of the proposed solar arrays would form a strong physical presence of industrial appearance which would change the character of the rural fields in which they are located and be significantly out of proportion	A preliminary assessment of landscape and visual effects is presented in the PEIR. A detailed assessment will be presented in the ES.
Ashby de la Launde, Bloxholm with Temple Bruer	Landscape	The proposed development would be an incongruous industrial and alien intrusion that would be harmful to the landscape character of the area, and a discordant feature	A preliminary assessment of landscape and visual effects is presented in the PEIR. A detailed assessment will be presented in the ES.

Statutory Consultee	Description	Statutory Consultee Comments	Response
and Temple High Grange Parish Council		within the pastoral setting. It would clearly cause harm to the visual enjoyment of those that live in, or visit the area	
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council	Landscape	The proposed development is out of keeping with rural character of the area. The solid structures of the arrays would form a strong physical presence of industrial appearance which would change the character of the rural fields in which they are located. The development would be visible in wider views, and would form an incongruous expanse of metal structures out of keeping with the intimate and rural character of the area, and would be disproportionate to the scale of other landscape features. The solar farm would significantly adversely impact the character and appearance of the landscape. The expansive tranquil landscape of open green fields with far reaching views would turn into a semi-industrial, utility-grade power complex, with fields of 3m high dark solar panels, shipping containers containing electrical equipment and security fencing. As such, we consider the proposed development contravenes Local Planning Policy, which requires that development proposals protect, enhance or restore the landscape character for its own intrinsic beauty, for future generations.	A preliminary assessment of landscape and visual effects is presented in the PEIR. A detailed assessment will be presented in the ES. The relevant policy tests will be presented in the Statement of Need and Planning Statement at the time of submission.
Ashby de la Launde, Bloxholm with Temple Bruer and Temple	Comments in relation to the Scoping Report	Springwell have commissioned RSK Environment Ltd to prepare the Environment Impact Assessment but they are not an independent body. They are owned by a major US private Equity firm called Ares who are directly involved in the Green Energy Market. The whole report would appear	Noted.

Statutory Consultee	Description	Statutory Consultee Comments	Response
High Grange Parish Council		to give the developers one sided viewpoint only, with little effort made to investigate negative impacts in any respect, which we find completely unacceptable	
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council	Description of the Proposed Development	Our research has highlighted that the land is highly unlikely to be returned to agricultural land, indeed, how can the land be 'returned to agricultural land' as stated in the original Springwell consultation booklet, when only the above ground infrastructure is proposed to be removed? More information needs to be provided detailing what exactly will remain subsurface and how will the developers a) return the land to be used again for agriculture, b) reinstate lost habitats and c) reintroduce lost species. 40 years cannot be viewed as temporary	As part of the Development Consent Order there will be legal requirements to ensure the site is returned to agricultural land and a decommissioning management plan is approved.
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council	Approach to EIA	<ul style="list-style-type: none"> • The mitigation claims that the development will avoid any wildlife site by 15m, however this does not allow for the impact of removing open space from adjacent woodland. • Regarding all mitigation in relation to bio diversity, how have all the distances been decided? We seek evidence relating to the effectiveness of the distances chosen. • The scale and variety of wildlife in the area has not been given adequate inclusion within the scoping document; nor has the impact and threat the development would pose on wildlife. The scoping document is dismissive, when in reality the impact on local wildlife is huge, warranting significant consideration and inclusion 	The potential effects in relation to Biodiversity are addressed within Chapter 6 of the PEIR.

Statutory Consultee	Description	Statutory Consultee Comments	Response
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council	Factors to be scoped out	Due to this development being unprecedented due to size (over 6 times bigger than any previous project), there is no available comparable data. As such, ALL factors should be considered and not scoped out. Mitigating factors should be thoroughly investigated to relate to the sheer size of this development and current data and guidelines should be regarded as irrelevant.	Noted. The scope of the PEIR and EIA has been determined by the EIA Scoping Opinion received from PINS.
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council	Glint and Glare	<ul style="list-style-type: none"> • This should not be scoped out. There are no guidelines setting out a particular methodological approach to delivering a glint and glare assessment. The paragraph says the Secretary of State should assess the potential impact on glint and glare on nearby homes and motorists. Clearly this should be included, with particular emphasis on the panels facing houses, horses and oncoming traffic. • There are operational military bases in close proximity to the development; RAF Cranwell, RAF Waddington, RAF Conningsby. In addition, the area also a number of private airfields, all of which should be consulted and considered. • The Lincs & Notts Air Ambulance is based at RAF Waddington. As such they would have to fly over the site for any emergencies to the south east of their headquarters. It is imperative that they are consulted to discuss the impact of glint and glare while flying over the area, and possible landing difficulties. • There are a number of isolated properties within the site that rely on the Air Ambulance as their fastest emergency response 	A preliminary assessment of Glint and Glare has been presented in Chapter 14 of the PEIR.

Statutory Consultee	Description	Statutory Consultee Comments	Response
<p>Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council</p>	<p>Heat and radiation</p>	<p>The scale of the solar farm is extensive and indeed unprecedented. The expansive volume of PV panel arrays with battery storage units and substations (also emitting heat from cooling systems) will inevitably create its own microclimate. The geographic extent of this must be determined. In combination with the free draining quality of the heathland soils, it has potential to cause failure of proposed mitigating landscaping measures due to heat stress and this could easily impact crops grown within adjacent land. Increased heat and change of environment might also prove harmful to local flora and fauna which could in turn be detrimental to pollinating insects and the life cycle of many species. In addition, the potential for localised temperature rises due to heat radiating from the installation, could also negatively affect local residents (health and amenity concerns). ‘ The impact of heat and radiation should therefore be ‘scoped in’ to the EIA. The potential impact also feeds into considerations of human health (section 5.6), the scope of which needs to be expanded accordingly and included within the EIA.</p> <ul style="list-style-type: none"> • While the black surfaces of solar panels absorb most of the sunlight that reaches them, only a fraction (around 15 percent) of that incoming energy gets converted to electricity. The rest is returned to the environment as heat. The panels are usually much darker than the ground they cover, so a vast expanse of solar cells will absorb a lot of additional energy and emit it as heat, affecting the climate. • In a recent study, Pavao-Zuckerman, lead author Greg Barron-Gafford of the University of Arizona School of 	<p>Noted.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>Geography and Development, and their research colleagues recently published their findings in the journal Nature Scientific Reports in a paper titled "The Photovoltaic Heat Island Effect: Larger solar power plants increase local temperatures." For this study, the team defined the heat island effect as the difference in ambient air temperature around the solar power plant compared to that of the surrounding landscape. Findings demonstrated that temperatures around a solar power plant were 5.4-7.2 °F (3-4 °C) warmer. The result demonstrates that there are potential heat costs to generating green power and should be investigated further.</p>	
<p>Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council</p>	<p>Major Accidents and Disasters (5.4</p>	<ul style="list-style-type: none"> • It is crucial that attention be brought to the recent battery explosion in Liverpool (supported by multiple sources including solarpowerportal.co.uk, energy-storage, News reports and many major media platforms). The explosion at the BESS facility at Carnegie Road, Liverpool was a result of a failure within one of the battery racks in one container which led to a thermal runaway which in turn produced gases within the container culminating in a large explosion with parts of the container being blown across the compound to a distance of 23m. The main fire took 6 hours to bring under control but the continual recycling of heat from the Li-ion batteries remained an issue and defensive fire-fighting continued on-site for a total of 59 hours. The fire and explosion were deemed to have been caused by the failure of one or more battery units, but the root cause of the battery failure remains unknown. The report stated there was a significant risk to emergency responders. 	<p>Battery Safety Commitment Plan will be produced and submitted in support of the DCO. This document will outline commitments to manage and mitigate this risk.</p> <p>Consultation with Lincolnshire Fire and Rescue is ongoing to help inform the design development.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>Battery safety is a serious consideration which should be thoroughly investigated before mitigating factors can be applied.</p> <ul style="list-style-type: none"> Lincolnshire Fire and Rescue need to be consulted regarding this factor to ensure they have both the manpower and resources to tackle any such emergency and to ensure an action plan is created / plausible 	
<p>Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council</p>	<p>Utilities (5.5)</p>	<p>There is a need to consult Connexin</p>	<p>Noted.</p>
<p>Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council</p>	<p>Human Health</p>	<ul style="list-style-type: none"> No mention of the well-being and mental health implications of any aspect of the project; noise, privacy, vibration, visual impact, traffic, air pollution and physical health. To be completely surrounded by an industrialised landscape can have nothing but a detrimental effect on residents' mental health. Whilst 'property value' is not usually classed as a material consideration, feedback from local residents has been significant in this respect. The implications of such should be considered within the scope of human health: 	<p>Noted.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<ul style="list-style-type: none"> ❖ The development will create huge stress for residents wishing to sell their property with property prices and potential buyers both likely to be significantly decreased. ❖ Worries associated with the consequences of decreased property value: less financial stability, less inheritance for children, owners less able to financially help children with first home/university etc. • The report must take into account the possible risk to health, both during construction and long term, from magnetic fields and radiation (such as childhood cancer risk) to the huge increase in traffic during construction (such as residents with existing cardio pulmonary conditions). • Reassurance and evidence are required to prove that the physical and mental health of local residents and visitors will not be impacted by the proposal. • A lack of data covering a 40-year period, plus the lack of a comparable sized solar farm, is extremely worrying in this regard. 	
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council	Public rights of way (ProW)	<ul style="list-style-type: none"> • The development will significantly reduce recreational use (not increase it, as insinuated in the proposal). Even if reinstated, it is very unlikely that anyone will want to use ProW between fields full of panels and deer fencing. • The Planning Inspectorate's report on the refusal of a solar Farm in Alfreton, Derbyshire included the buzzing created would distract from the enjoyment of walkers using the footpaths and possibly be heard at night by residents. 	A preliminary assessment of landscape and visual effects is presented in the PEIR. This Includes a consideration of effects on PROWs. A detailed assessment will be presented in the ES.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<ul style="list-style-type: none"> • Evidence is needed that people will continue to use footpaths, cycle and ride in an industrial landscape. Currently scoped out and justification and dismissed – inclusion needed. • Feedback from local residents supports the above unanimously. 	
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council	Impact on local businesses	<ul style="list-style-type: none"> • Using the term “within the site boundary” is an inaccurate way of deciding if businesses will be affected. The impact ‘outside of the site boundary’ has been ignored completely. Venues off all kinds for miles around, will undoubtedly see a reduction in business. • Tourism will be adversely affected. It is highly likely to be a reduction of occupancy in hospitality venues when construction is complete, which has not been mentioned. • People will venture out for the day to enjoy the countryside, not however a solar farm. • A development of the nature and scale will have a tangible socio-economic impact upon surrounding businesses and the propensity for people to visit/engage in countryside recreation. It is reasonable to anticipate that the visual impact will prove detrimental to the character of wider locality (land within the development’s anticipated zone of visual influence and surroundings), which will in turn prove damaging to local businesses that benefit from tourism/countryside recreation. Significant research and justification are needed in this area. • The suggested socio-economic benefits have not been properly investigated or justified; there are no shops to 	Socio-economic impacts will be detailed within a Socio-economic statement which will be submitted in support of the DCO.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>benefit. The area is agricultural and as such, the “temporary benefit to local economy” referred to in the document is inaccurate.</p> <ul style="list-style-type: none"> • The socio-economic consequences of the development should be examined more broadly 	
<p>Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council</p>	<p>Electric, Magnetic and Electromagnetic fields (5.10)</p>	<ul style="list-style-type: none"> • There is no data outlining the “power size/ output” of the panels, battery storage and inverters. • The guidelines referenced in the report (REF 5-11) also contain information about studies linking magnetic fields with cancer, specifically childhood cancer and leukaemia. These findings need to be thoroughly reported on. • The guidelines referenced are 25 years old and whilst may still be relevant regarding electrical power lines, there is no mention whatsoever of solar or pv panels. Due to the changes and advances in technology, these guidelines are not adequate to warrant scoping out E, M, EMF. More studies and investigations are needed to ensure the long term safety of residents and produce a safe and more accurate report. This should especially apply to fields in close proximity to residential properties where there will be almost constant exposure. • Are there any studies on the dangers of exposure for 40 years? What level of research and insurances have been taken to date to ensure health safety? What level of assurances can local residents expect? • If this factor is not deemed worthy of inclusion within the scoping document, why does the inclusion of plans to have “ongoing consultation with RAF Digby to avoid any 	<p>The Proposed Development is not anticipated to exceed the International Commission on Non-Ionizing Radiation Protection exposure guidelines, and the design of the Proposed Development will consider any infrastructure constraints and the location of the 400kV Grid Connection cable, in relation to sensitive receptors.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		interference with their operations” remain, especially considering there is a buffer zone around the camp	
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council	Air Pollution (6.1)	<ul style="list-style-type: none"> • 48 months of construction traffic whilst temporary could have an adverse effect on residents with cardio pulmonary conditions as well as a potential increased risk of childhood asthma and should be added to the report. • “Given the nature of the Proposed Development, no site activities resulting in significant emissions to air are anticipated during operation” Surely this is incorrect, more research is needed regarding the number of vehicles needed to build the site. • Accurate data needs to be provided in order to calculate the possible environmental impact of diesel emissions, dust, fumes etc. • Quoting The British Heart Foundation: ‘When you breathe in poor quality air, the air pollutants can travel deep into your bloodstream through your lungs, and to your heart. This can damage blood vessels by making them narrower and harder, increasing the risk of developing heart and circulatory diseases’. • Reassurances urgently required. 	Detail construction and operational phase traffic data will be available at the ES stage and traffic counts will be compared with the EPUK-IAQM 2017 guidance screening criteria in the ES to determine the significance of traffic exhaust impacts.
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council	Biodiversity (6.2)	<ul style="list-style-type: none"> • Data from the PEA must reflect monitoring location rather than being representative of populations on the whole site. There would likely have been a lot more recording if this project had been known about. If more widespread monitoring had commenced at the time of the PEA (April and May 2022) the results would be very different. 	Preliminary Assessment and Ecology surveys are presented in Chapter 6 of the PEIR. A detailed assessment will be present in the ES, and mitigation will be secured through requirements within the Development Consent Order.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<ul style="list-style-type: none"> • The development has the potential to result in the direct loss of habitat needs of protected and notable species. A significant number of extra surveys are required including a year-round ecological survey covering mating, nesting/breeding, migration and habitat at the very least. • Natural England recommends the avoidance of solar developments in or near to areas of high ecological value. The area proposed has numerous endangered species, for example; residents have reported multiple sightings of brown hares and many species of deer (including a white stag). In the same report it was stated that “the lack of evidence available relating to the ecological impact of solar farms is concerning”. • Government legislation for an EIA (legislation.gov.uk) requires a ‘description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment’ There is no mention of this in the scoping report; this needs to be included. 	<p>The surveys carried out to date follow best practice guidelines, are considered sufficient survey effort and without significant limitation. We have sought agreement with Natural England and the North Kesteven District Council ecologist regarding the scope of surveys and consultation will remain ongoing to ensure agreement on survey scope and method.</p> <p>The design principles are to avoid habitats of high ecological value and enhance/ or create habitats where possible to mitigate habitat loss and provide benefit to priority and notable species.</p> <p>Strategic fencing design, should enable access across the site for animals including deer, brown hares, hedgehogs and badgers for foraging and dispersal.</p>
Ashby de la Launde, Bloholm with Temple Bruer and Temple High Grange Parish Council	Areas requiring inclusion within the scoping document	Government legislation relating to scoping reports (legislation.gov.uk), requires the inclusion of the appraisal of alternative reasonable options, together with justification for the chosen option; taking into account the impact on the local environment. This requirement is lacking and needs to be included.	A detailed assessment will be presented in the ES. The relevant legislation and policy tests will be presented in the Statement of Need and Planning Statement at the time of submission.

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Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council	Financial Justification over alternatives	<ul style="list-style-type: none"> • There is no reference to cost v benefits analysis, nor justification in respect of the use of alternative Off Shore Wind Turbines (research highlights off shore wind turbines are a favoured alternative, due to increased productivity, lower costs per unit and reduced impact). <p>Ref. Regan Power ‘The wind is a more efficient power source than solar. Wind turbines release less CO2 to the atmosphere. A wind turbine produces 4.64 grams of CO2/1kWh while the solar panel produces 70 grams of CO2/1kWh. Wind power consumes less energy and produces more energy compared to solar panels. By comparison with off-shore wind, solar farms are hugely inefficient. • A 140-acre solar park is said to be capable of supplying electricity to about 9,000 homes. One wind turbine in the North Sea has the capacity to power 16,000 homes. • In terms of efficiency rating i.e., the amount of power exported to the grid, solar’s rating is between 11 and 15% whereas for off-shore wind the figure is 50%+. • On one day last year it has been reported that 78% of the UK’s electricity came from off-shore wind.</p> <ul style="list-style-type: none"> • All costs need to be incorporated, including the costs associated with importing additional food products, shielding, lighting, maintenance, security etc 	The DCO application will assess alternatives, which will be presented within the ES, the Statement of Need and Planning Statement as part of the DCO submission.
Ashby de la Launde, Bloxholm with	Impact on local residents	<ul style="list-style-type: none"> • The impact on local residents has been dismissed, alarmingly so. The impact will be huge, with an array of differing implications, including disruption, traffic, visual 	A detailed assessed of visual effects on residential amenity will be presented in the ES. Analysis undertaken to date on

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Temple Bruer and Temple High Grange Parish Council		<p>impact, noise, vibration, light pollution and health. Significant consideration of all impacts affecting local residents is required.</p> <ul style="list-style-type: none"> • Security implications – CCTV, lighting, fencing etc. How will this affect local residents? • The welfare of horses and livestock should be scoped into the document. • Affecting the quality of life for our serving RAF personnel in Digby, is unacceptable for many reasons, including mental health issues and the ability to recruit 		<p>residential visual amenity is presented in Appendix 9.5. TBC</p>
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council	<p>Wildlife</p>	<p>The impact on local wildlife is currently seriously under represented and needs further inclusion.</p>		<p>Preliminary Assessment and Ecology surveys are presented in Chapter 6 of the PEIR. A detailed assessment will be present in the ES.</p> <p>The design principles are to avoid habitats of high ecological value and enhance/ or create habitats where possible to mitigate habitat loss and provide benefit to priority and notable species.</p> <p>The surveys carried out to date are considered sufficient to provide baseline information on the importance of habitats and species on site to enable an informed assessment of impact. Further targeted surveys may need to be carried out once design details are confirmed to inform</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
			<p>impact and inform the design and mitigation in order to avoid significant adverse impact.</p>
<p>Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council</p>	<p>Ecological Impact</p>	<ul style="list-style-type: none"> • Natural England recommends the avoidance of solar developments in or near to areas of high ecological value. In the same report it was stated that “the lack of evidence available relating to the ecological impact of solar farms is concerning”. The rural nature of the proposed area, inevitably creates a high ecological value to both humans and nonhumans alike. Inclusion required. 	<p>Preliminary Assessment and Ecology surveys are presented in Chapter 6 of the PEIR. A detailed assessment will be present in the ES.</p> <p>As stated above - the design principles are to avoid habitats of high ecological value and enhance/ or create habitats where possible to mitigate habitat loss and provide benefit to priority and notable species.</p>
<p>Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council</p>	<p>Negative visual impact for users of the footpath and bridleway across the site</p>	<ul style="list-style-type: none"> • The proposed plans insinuate advantages will be generated by newly created footpaths; however, this is extremely misleading in our view. • Currently there are extensive open views of green fields and agricultural farmland. The development would create significant adverse visual impact along any footpath or bridleway within the area, with arrays of 3 m high dark coloured solar panels which would tower above walkers blocking those views. Any footpath or bridleway would be separated from the site by a high security fence. The solar panels and fencing would destroy the wide, open views and 	<p>A preliminary assessment of landscape and visual effects is presented in the PEIR. This Includes a consideration of effects on PROWs. A detailed assessed will be presented in the ES.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>create an unpleasant tunnel along the footpath and bridleway, degrading the amenity value.</p> <ul style="list-style-type: none"> • The solar farm development would turn a pleasant and rural area into an industrialised area, protected by CCTV cameras, lighting, high fencing and warning signs – a far cry from the current beauty of the area. • Detailed analysis of how the proposal meets current planning policy relating to the protection of rights of way, is required. 	
<p>Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council</p>	<p>Road networks</p>	<ul style="list-style-type: none"> • The current road networks are inadequate and would not cope with the increased heavy traffic during development (already overburdened and unsuitable for large vehicles). • Lincolnshire is the only county in the UK without a motorway. • The B1191 (we reiterate the 'B' classification), is already a busy road providing the majority of vehicular access to RAF Digby from the A15. • Lincolnshire County Council already struggle to find funds to repair the roads which become rife with potholes every year, consequently causing issues for motorists and cyclist with damaged tyres and road traffic accidents. Details of how these issues can be managed, if at all, need to be incorporated within the scoping report. • Recognition of the road network limitations, need to be included within the scoping 	<p>A preliminary assessment of the local road network has been undertaken and presented in Chapter 12 of the PEIR. A detailed assessment will be present in the ES.</p>
<p>Ashby de la Launde,</p>	<p>In relation to heritage, the</p>	<ul style="list-style-type: none"> • There is an outstanding collection of older buildings within the vicinity of the site area, many of which are one of a 	<p>All heritage assets within 2km and all designated historic assets within 5km have</p>

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Bloxholm with Temple Bruer and Temple High Grange Parish Council	development would harm the settings of many historic and listed buildings within the area	<p>kind, which need to be preserved and protected in their own right. Development of such buildings involve close scrutiny by Heritage England and local planning policies relating to the preservation of historic assets. Associated legislation is both numerous and extensive. The omission of detail in this area within the scoping report is unacceptable and inclusion essential.</p> <ul style="list-style-type: none"> • The lack of local knowledge in this respect is clearly evident and objectionable on many counts. • The scoping report states that ‘whilst there may be glimpse from individual properties over 1km from the site; this does not give rise to an overbearing effect on residential amenity’. We wholeheartedly disagree with this statement. Further research and inclusion required. 	<p>been included in the DBA and Stage 1 Setting Assessment.</p> <p>A detailed assessed of visual effects on residential amenity will be presented in the ES. Analysis undertaken to date on residential visual amenity is presented in Appendix 9.5.</p>
Ashby de la Launde, Bloxholm with Temple Bruer and Temple High Grange Parish Council	Size of development – VAST	<ul style="list-style-type: none"> • An unacceptable and unprecedented scale – generating overriding harm. • Inappropriate sizing; fundamentally changing the tranquil character of the area. • The unknown consequences of a development of this size, will need major government input and review – it cannot be viewed in the same light as smaller proposals - timescales need to be incorporated for this work to be completed. 	Noted.
Ashby de la Launde, Bloxholm with Temple Bruer and Temple	Conclusion	We do not believe that the scoping document describes accurately, or fully represents the views of the affected local community.	The DBA and Stage 1 Setting Assessment has informed the masterplan and the PEIR. The PEIR has also taken account of the aerial investigation and mapping report and the geophysical survey results.

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<p>High Grange Parish Council</p>		<p>The scoping document is incomplete, dismissive of key impacts and inaccurate in some areas; this is completely unacceptable.</p> <p>There is a critical need to preserve agricultural land and UK food safety. The need to protect the site's productive agricultural land (a finite resource), is undoubtedly of prime importance. Lincolnshire has England's best food producing land – future food security has to be protected. 40 years is not temporary; the argument that the land can be returned to agriculture after decommissioning is misleading (the construction of a solar farm this size and the associated costs involved, make it very unlikely that the site will ever be returned to its' current agricultural use). There is no weight to any claims that the development is temporary and can be reversed.</p> <p>The Loss of productive arable land is disastrous long term, escalating inflation and causing an increased reliance on imported food.</p> <p>We believe there is a policy conflict (where government seeks to protect and enhance our domestic production to maintain food security, while also encouraging the growth of solar energy production). We recognise the need to balance both energy and food security, but solving one problem whilst affecting the other, is NOT the answer.</p> <p>The list of negative impacts is extensive (impact on local residents and wildlife, the industrialisation of the countryside, loss of key agricultural land, the need for increased food imports, lack of adequate road networks, lost opportunities to enjoy recreation in the area etc. etc.)</p>	<p>A preliminary assessment of landscape and visual effects is presented in the PEIR. A detailed assessed will be presented in the ES. TBC</p>

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		<p>The adverse effects would demonstrably outweigh any benefits from this scheme; whilst alternative options are available. The scoping document fails to address each and every impact adequately. Indeed, we feel the dismissive nature of key issues (suggesting they are unworthy of attention), denotes deception.</p> <p>Any solar farm developments should be limited to brownfield land and poorer quality unproductive land; located on already industrialised land, on roof tops or adjacent to motorways, not on productive agricultural land, or in an area which will cause significant visual impact to the residents and visitors.</p> <p>Off Shore Wind Turbines offer a favourable solution to energy generation, a view supported by many senior government ministers.</p> <p>All of the villages and hamlets affected, exude an abundance of quintessentially English charm; the cream stone buildings, a rare victorian walled garden, the open countryside and the abundance of wildlife. The area is popular with walkers, cyclist, pedestrians, and horse riders.</p> <p>This unique beauty represents history with an abundance of older properties, built using local materials, never to be replaced. The need to safeguard this English heritage for future generations is undeniable and absolutely essential. Placing a solar farm next to such valuable heritage assets is not only out of character, but incomprehensible and utterly damaging to the historic landscape. Feedback received to date from local residents, demonstrates the unanimous opposition to the proposal (further details are</p>	

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		available if required). All references included within this response, can be provided if required. As Parish Councillors, we feel we have a duty to do all we can to protect our community, agricultural land resource and historical assets	
Boston Borough Council			
Boston Borough Council	No Comment	I write to confirm that the Council has no comments to make on the Scoping Opinion at this time. However, as the scheme progresses the Council would wish to be further consulted. This advice is therefore based upon the information available at this time. Please note that the advice is given without prejudice to any future decision made by the Local Planning Authority upon the receipt of further information.	N/A
Canal and River Trust			
Canal and River Trust	No comment	Having reviewed the location of the project and the relationship of the proposed solar farm and its associated infrastructure with our network, we do not believe that the proposals as shown would cross land owned or operated by the Trust or impact our interests. Our closest waterway is the River Witham approximately 7 kilometres northeast of the site boundary. Should the scheme be amended to potentially affect the River Witham (or any other of our waterways named above), we would welcome further	N/A

Statutory Consultee		Description	Statutory Consultee Comments	Response
		consultation on the proposals, so that we can advise about any potential impact for our interests.		
City of Lincoln Council				
City of Lincoln Council	No comment	Thank you for your consultation on the above and I would confirm that the City of Lincoln Council has no comments to make regarding this proposal.	N/A	
East Lindsey District Council				
East Lindsey District Council	No comment	I can confirm that this authority has no comments to make at this time.	N/A	
The Planning Inspectorate Environmental Services				
The Planning Inspectorate Environmental Services	Water Flood Risk	<p>Most of the site boundary sits within Flood Zone 1 – land identified as having a low probability of flooding on the Environment Agency’s flood map for planning and the Report shows that essential infrastructure will be located here. There are no river crossings or interaction with embankments or assets.</p> <p>We therefore support the proposal to exclude flood risk from the scope of the Environmental Impact Assessment (EIA), subject to ensuring no increase in flood risk and agreeing design and mitigation measures with us.</p>	N/A	
The Planning Inspectorate Environmental Services	Land, soils and groundwater Quality	Based on the available information, the proposed development area is understood to be predominantly Greenfield in nature. We therefore consider the potential for significant or widespread contamination at the site to be	Desk based preliminary risk appraisal has been undertaken and is presented in Volume 3, Appendix 10.1 of this PEIR. An	

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>low. Nevertheless, areas of the site boundary are underlain by Principal and Secondary aquifers – geological strata that provide significant quantities of drinking water, water for business needs and support rivers, lakes and wetlands. In addition, a Source Protection Zone (SPZ) is present in the area of the site around Scopwick. This is an inner zone (SPZ1), providing protection around a groundwater abstraction source located to the west of Scopwick. There is also a total catchment zone (SPZ3) located across the southwest section of the site.</p> <p>We therefore support the proposal for land, soils and groundwater to be scoped into the EIA. We understood that a ‘desk-based PRA Report has been prepared, which assesses the potential risks on the existing land, soil and groundwater baseline, including contamination issue’ (Scoping Report Section 6.6.6) and that this will be used to inform intrusive ground investigations. We agree with this approach, and recommend that developers:</p> <ol style="list-style-type: none"> 1. Follow the risk management framework provided in 'Land contamination: risk management' when dealing with land affected by contamination 2. Refer to our Guiding principles for land contamination for the type of information that we require in order to assess risks to controlled waters from the site – the local authority can advise on risk to other receptors, such as human health. 3. Consider using the National Quality Mark Scheme for Land Contamination Management which involves the use of competent persons 	<p>assessment of land, soils and groundwater is presented in Chapter 10 of this PEIR.</p>

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		<p>to ensure that land contamination risks are appropriately managed</p> <p>4. Refer to the contaminated land pages on gov.uk for more information</p>	
<p>The Planning Inspectorate Environmental Services</p>	<p>Section: 6.2 Biodiversity</p>	<p>The site boundary sits in the catchment of the 'Bringing the Limestone Becks Back to Life' project. The project is a successful collaboration between East Mercia Rivers Trust, the Environment Agency, and the Wild Trout Trust and aims to improve and protect Lincolnshire's limestone becks from deterioration. Opportunities for biodiversity enhancement that support the ambition of the project should therefore be sought.</p>	<p>The 'Brining the Limestone Becks Back to Life' project has been discussed with the Environment Agency in our initial engagement. We will continue our engagement with the EA and seek to align our biodiversity enhancements where possible.</p>
<p>The Planning Inspectorate Environmental Services</p>	<p>Further pre-application consultation</p>	<p>Should the Applicant wish us to review any technical documents or want further advice to address the environmental issues, we can do this as part of our charged for service. Further engagement at the pre-application stage will speed up our formal response to their application and provide them with certainty as to what our response to the Development Consent Order application will be. It should also result in better quality and more environmentally sensitive development. As part of our charged for service, we will provide a dedicated project manager to act as a single point of contact to help resolve any problems. We currently charge £100 per hour, plus VAT. The terms and conditions of our charged for service are available at https://www.gov.uk/government/publications/planning-and-marine-licence-advice/standard-terms-for-our-charges</p>	<p>Noted.</p>

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Forestry Commission				
Forestry Commission	Forestry	<p>As the Governments forestry experts, we endeavour to provide as much relevant information to enable the project to reduce any impact on irreplaceable habitat such as Ancient Semi Natural woodland, as well as other woodland. We are satisfied there is no Ancient Woodland within the development area. However, there are numerous small fragmented woodlands within the development area. We note the scoping report suggests woodland creation will be undertaken to connect woodlands and enhance wildlife corridors and that there are no plans to remove any existing trees or woodlands.</p> <p>We would recommend that planting should be targeted to enhance existing woodland and ecological networks by buffering the existing woodland to create larger blocks of ideally at least 5ha. Species and provenance of new trees and woodland need to be considered to establish a more resilient treescape which can cope with the full implications of a changing climate. When planting new trees and woodland, ensure that biosecurity is robust to avoid the introduction of pests and diseases. Details should be provided of how the existing trees and woodlands will be protected during the construction phase, protection measures can include taking care not to cut tree roots or causing soil compaction around trees (e.g., through vehicle movements or stacking heavy equipment) or contamination from poisons. Access to the woodlands should also be considered for future management, as woodland management will improve and maintain biodiversity.</p>	<p>Noted. An Outline Landscape Ecological Management Plan (oLEMP) and Outline Construction Environmental Management Plan (oCEMP) will be produced and secured within the DCO. These will detail requirements to ensure the trees and hedgerows will be protected, biosecurity measures and outline the future management of the landscape and biodiversity enhancements.</p>	

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Health and Safety Executive (HSE)			
HSE	HSE's land use planning advice	<p>According to HSE's records, the proposed DCO application boundary for this Nationally Significant Infrastructure Project falls into a small part of the outer zone of a Major Accident Hazard Pipeline at a single location. This is based on the site boundary in Appendix A of "EN010149-000006-EN010149 - Scoping Report.pdf" downloaded from http://infrastructure.planninginspectorate.gov.uk/document/EN010149-000006.</p> <p>The major accident hazard pipeline is operated by National Grid Gas Plc and has the ref number 2704. The Applicant should make contact with the above operator, to inform an assessment of whether or not the proposed development is vulnerable to a possible major accident. There are three particular reasons for this:</p> <ol style="list-style-type: none"> 1. The pipeline operator may have a legal interest in developments in the vicinity of the pipeline. This may restrict developments within a certain proximity of the pipeline. 2. The standards to which the pipeline is designed and operated may restrict major traffic routes within a certain proximity of the pipeline. Consequently, there may be a need for the operator to modify the pipeline or its operation, if the development proceeds. 3. To establish the necessary measures required to alter/upgrade the pipeline to appropriate standards. <p>HSE's Land Use Planning advice is dependent on the location of areas where people may be present. Based on the information in the Scoping Report "EN010149-000006-</p>	Noted – The Application is having ongoing engagement with National Grid.

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		EN010149 - Scoping Report.pdf", it is unlikely that HSE would advise against the development	
HSE	Hazardous Substance Consent	Based on http://infrastructure.planninginspectorate.gov.uk/document/EN010149-000006 , it is not clear whether the applicant has considered the hazard classification of any chemicals that are proposed to be present at the development. Hazard classification is relevant to the potential for accidents. For example, hazardous substances planning consent is required to store or use any of the Categories of Substances or Named Hazardous Substances set out in Schedule 1 of The Planning (Hazardous Substances) Regulations 2015 as amended, if those hazardous substances will be present on, over or under the land at or above the controlled quantities. There is an addition rule in the Schedule for below-threshold substances. If hazardous substances planning consent is required, please consult HSE on the application.	Desk based preliminary risk appraisal has been undertaken and is presented in Volume 3, Appendix 10.1 of this PEIR. An assessment of land, soils and groundwater is presented in Chapter 10 of this PEIR.
HSE	Consideration of Risk Assessments	Regulation 5(4) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires the assessment of significant effects to include, where relevant, the expected significant effects arising from the proposed development's vulnerability to major accidents. HSE's role in NSIPs is summarised in Advice Note 11 'working with public bodies in the infrastructure planning process' Annex G on the Planning Inspectorate's website [Advice notes National Infrastructure Planning	Major accidents has been scoped out from further assessment as agreed by the Planning Inspectorate.

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		(planninginspectorate.gov.uk)] - Annex G – The Health and Safety Executive. This document includes consideration of risk assessments under the heading “Risk assessments”.		
HSE	Explosives sites	HSE has no comment to make as there are no licensed explosives sites in the vicinity.		N/A
HSE	Electrical Safety	No comment from a planning perspective.		N/A
Historic England Advice				
Historic England Advice		Numerous cropmark features plotted in the National Mapping Programme suggestive of quite busy late prehistoric – Romano British landscape		Noted. Archaeological Desk Based Assessment (DBA), Aerial Investigation Report and Geophysical survey have been undertaken and are provided in Volume 3, Appendix 8.1, 8.2 and 8.3.
Historic England Advice		Undesignated NHRE asset ref 349061 to NE of Kingfisher Court - Probable Prehistoric or Roman settlement consisting of enclosures and a trackway seen as cropmarks.		
Historic England Advice		Undesignated NHRE asset ref:1061192 - Mareham Lane Roman road running from Bourne to Lincoln via Sleaford, partly covered by modern road and part surviving as cropmarks and in parish boundaries – and associated features.		

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Historic England Advice		Undesignated NHRE asset ref: 1061215 - Probable Roman Road (and associated remains) between Sleaford and Lincoln on the line of the A15 + GII listed Milepost 1061824		Noted. Archaeological Desk Based Assessment (DBA), Aerial Investigation Report and Geophysical survey have been undertaken and are provided in Volume 3, Appendix 8.1, 8.2 and 8.3.
Historic England Advice		Undesignated remains associated with former RAF Digby aka RAF Scopwick		
Historic England Advice		Undesignated crop marks NHRE asset ref 1057715 – south of Ash Holt Probable Prehistoric or Roman rectangular and square enclosures seen as cropmarks		
Historic England Advice		Undesignated find spot NHRE ref 349439 – Four Cinerary Urns and late Roman Coin found near site of Brickyard Farm		
Historic England Advice		We welcome reference to geophysical survey and trial trenching		
Historic England Advice	We refer you to the detailed advice of our local government archaeological curator colleagues who can	Solar schemes present risk to buried archaeological remains through panel fixing, cabling, substations, fencing, biodiversity features etc, these impacts can be effectively managed through a sound process of archaeological assessment with a particular focus upon the identification areas of highest or uncertainty through desk-based assessment or HER, Portable Antiquities Scheme and cartographic data, aerial photography, lidar and geophysical survey and deposit modelling. Whilst large		The DBA and Stage 1 Setting Assessment has included consideration of Portable Antiquities Scheme, and cartographic data; the Aerial Investigation and Mapping report has reviewed aerial photography and LiDAR and a geophysical survey has been carried out. The PEIR has taken account of the results of all of these phases of non-intrusive survey and the

Statutory Consultee		Description	Statutory Consultee Comments	Response
	access their Historic Environment Record.	scale solar schemes have relatively high degrees of elasticity (when compared to say housing or quarry schemes) this potential to deploy open areas of grass (exclusion zones) or differential support schemes (concrete shoes rather than piles) or cable avoidance routes / sensitive location of substations / habitat ponds etc, all these are only effective where one has a robust understanding of archaeological risk. The sooner and better these understandings can be achieved the better risks will be managed. Whilst micro piling a ploughed flat iron-age field system might appear a low impact the same could not be said of an early medieval burial ground or Roman Villa, hence iterative process of investigation is necessary to characterise features revealed through non-intrusive survey and to test apparent blank areas. In the case of 20th century military remains you should contact the Ministry of Defence for advice and it is likely that specialist survey techniques and methodology and UXO survey may be needed.		masterplan has responded to the known assets. A phase of intrusive evaluation (trial trenching) is proposed for the areas of potential greatest impact from the scheme to inform the ES and we are in discussion with the MOD regarding the scope of work around the WWII crash sites.
Lincolnshire County Council				
Lincolnshire County Council	Mounting Structure	Two options are currently being considered for the mounting structure e.g. single axis tracker or tracker platform. This suggests that a fixed mounting system is not being proposed and the Inspectorate is invited to clarify this. In the event that a fixed mounting structure is proposed then the ES and all relevant assessments will need to also consider the impacts of this option. If not, the		As detailed in the Proposed Development description presented in Chapter 2 of PEIR, fixed mounting structure is the only option that is proposed. Tracking panels have since been discounted following further design development and environmental surveys.

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		ES will in any case need to assess both options and any potential impacts arising from each (e.g. noise, glint and glare, landscape and visual impacts, etc) until or unless a decision is taken on which option would be used in advance of completing the ES.	
Lincolnshire County Council	Balance of Solar System	Different configuration options currently being considered for the inverters, transformers and switchgears. The ES will need to assess all options being considered at this stage (e.g. string or centralised inverters; independent outdoor or contained indoor equipment) and any potential impacts arising from each of these (e.g. noise, landscape and visual impact, etc) until or unless a decision is taken on which option would be used in advance of completing the ES.	Noted. The optionality that has been assessed within the PEIR is detailed within Chapter 4 of this PEIR. Further detail will be presented in the ES.
Lincolnshire County Council	Battery Energy Storage System - BESS	Two options being considered at this stage which include consolidated or distributed BESS. The ES will need to assess all options being considered at this stage (e.g. string or centralised inverters; independent outdoor or contained indoor equipment) and any potential impacts arising from each of these (e.g. noise, landscape and visual impact, etc) until or unless a decision is taken on which option would be used in advance of completing the ES.	As detailed in the Proposed Development description presented in Chapter 2 of PEIR, the distributed BESS option has been discounted. The potential locations for the consolidated BESS are presented in Volume 2, Figure 2.3.
Lincolnshire County Council	National Grid Connection (NGC) and new 400kV Transmission Towers (TT))	Several potential locations identified and so all options will need to be assessed. The NGC and TT will be a permanent features and not decommissioned and removed at the end of the project period (40 years) like the 'temporary' PV solar park. Therefore the EIA and assessments will need to make a clear distinction between those impacts which it might view as temporary (e.g. the	It should be noted that the National Grid Navenby substation and National Grid connecting towers no longer form part of the Proposed Development.

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		PV park) and those which would be permanent (e.g. the NGC and TT)	
Lincolnshire County Council	Lighting	States that the NGC compound, Project Substation compound, BESS compounds, and Collector Compounds would include lighting, in accordance with relevant standards, but will not be permanently lit. Whether scoped in or out of the ES, external lighting should be assessed in a lighting assessment to include consideration of glare, glow, lux levels and consideration of Environmental Zone (ILE standards) source intensity levels relative to the countryside location of the site.	Noted. Further detail including a lighting assessment will be presented in the ES.
Lincolnshire County Council	Borrow Pits	The location of potential borrow pits will need to be identified and must be included within the proposed Order Limits of the development and an assessment of impacts, including cumulative effects, arising from the working and restoration of identified borrow pits included as part of the ES.	No borrow pits are proposed as part of the project.
Lincolnshire County Council	Reasonable Alternatives	The Council agrees that a consideration of alternatives should be presented. Reasonable alternatives include different layouts, scales, technologies adopted, design parameters as well as different sites. The ES should explain in detail what criteria have been used to identify the chosen option and explain what criteria have been applied as well as reasons why other alternatives have been dismissed.	Noted. A summary of reasonable alternatives has been included within Chapter 3 of this PEIR. Further detail will be presented in the ES, the Statement of Need and the Planning Statement.
Lincolnshire County Council	Reasonable Alternatives	In regard to alternative sites, this is particularly key as the proposal includes the creation of a new NGC in order to connect into the 400kV overhead powerline network. A new	Noted. A summary of alternatives has been included within Chapter 3 of this PEIR. Further detail will be presented in

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		<p>NGC could potentially be constructed to give access to any other 400kV powerline network and so the ES will need to explain and justify why this site has been chosen over potential alternative sites/locations. Alternative sites/locations could therefore include anywhere along the same 400kV powerline route/corridor and so include sites elsewhere within the District as well as within the County and even nationally given this is a 'national infrastructure project' and therefore locational need factors are not relevant and any other 400kV powerline network could potentially act as a connection point for a new NGC</p>	<p>the ES, the Statement of Need and the Planning Statement.</p>
<p>Lincolnshire County Council</p>	<p>Reasonable Alternatives</p>	<p>The assessment of alternative sites should also consider the scope for connection into existing National Grid connection points currently in existence (like those proposed by other registered NSIP solar projects currently being promoted within the County) and explain why connection or upgrade of these to facilitate connection has been dismissed.</p>	<p>Noted. A summary of alternatives has been included within Chapter 3 of this PEIR. Further detail will be presented in the ES, the Statement of Need and the Planning Statement.</p>
<p>Lincolnshire County Council</p>	<p>Consultees</p>	<p>It is accepted the list of consultees is not a definitive list however it is recommended that identified consultees include Navenby Parish Council, RAF Waddington, RAF Cranwell and Internal Drainage Boards.</p>	<p>Noted. These have added onto our list of consultees.</p>
<p>Lincolnshire County Council</p>	<p>Offset distances</p>	<p>It is unclear how the proposed minimum offset distances of 10m from hedgerows and 15m to locally designated wildlife sites have been identified and derived. The basis and justification for these distances needs to be explained.</p>	<p>The offset distances for the hedgerows are based on British Standard BS:5837:2012 Trees in Relation to Design, Demolition and Construction - Code of Practice. The offset from woodlands is based on Natural England, Ancient woodland, ancient trees</p>

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			<p>and veteran trees: advice for making planning decisions (https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions#ancient-woodland); and British Standard BS:5837:2012 Trees in Relation to Design, Demolition and Construction - Code of Practice. The distance from local wildlife sites is based on professional judgement.</p> <p>The offset distances will be refined as the EIA and DCO progresses.</p>
<p>Lincolnshire County Council</p>	<p>BMV Land</p>	<p>Under 'Land and soils' it is stated that the proposal will seek to retain fields that comprise majority Grade 1 and 2 within arable production where possible. This should however be extended to include Grade 3a land as this is still classed as 'best and most versatile'.</p>	<p>The design of the Proposed Development has been guided by the below principles to help reduce the use of higher grade agricultural land, where practicable. All fields comprising solely of Grade 1 or 2 land within the site will remain in arable production.</p> <p>Prioritise the use of BMV land for arable production where practicable.</p> <p>Prioritise the use on non-BMV land for the creation of legacy / permanent habitats where practicable.</p>
<p>Lincolnshire County Council</p>	<p>Glint and Glare</p>	<p>Disagree with the proposal to scope out this as a specific chapter of the ES and to instead be considered as part of a separate assessment. Whilst the Council accepts that each case must be considered on its merits, glint and glare</p>	<p>A preliminary assessment of Glint and Glare has been presented in Chapter 14 of the PEIR.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>impacts were scoped into the ES for the Heckington Fen Solar Farm (NSIP Ref: EN010123) although the Planning Inspectorate (PINS) agreed that aviation impacts could be excluded. In this case there are three RAF bases in and around the proposed development and so we recommend that PINS seek the advice of those bases in relation to potential glint and glare impacts, not least given that there is the potential for tracking panels to be used. Furthermore, there is the potential for cumulative and in-combination effects with other topics/chapters considered by ES (e.g. landscape and visual impact, impacts on residential amenity assessment) and so this should form part of the ES so that any cumulative and in-combination effects can be assessed together and not form part of a separate assessment that sits outside the ES.</p>	
Lincolnshire County Council	Human health	Agree this can be scoped out as a specific chapter in the ES and that considerations will form part of other topics/chapters	N/A
Lincolnshire County Council	Material assets and waste chapter	Agree that this can be scoped out as a specific chapter of the ES on the condition consideration of potential borrow pits is included within the chapter/section under Section 6.6 (Land, soils and groundwater). The location of potential borrow pits will need to be identified and must be included within the proposed Order Limits and an assessment of impacts, including cumulative effects, arising from the working and restoration of identified borrow pits included as part of the ES	No borrow pits are proposed as part of the project.

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Lincolnshire County Council	Population	Paragraph 5.8.1 states that the requirement to consider population in UK EIA practice was introduced via the 2017 update to the EIA Regulations, with impacts to population taken to refer to socio-economic impacts. There is no proposed ES chapter heading dealing solely with socio-economic impacts and instead the applicant suggests that a 'Socio-Economic Benefits Statement' will be submitted in support of the DCO Application.	Socio-Economic Statement will be submitted in support of the DCO.
Lincolnshire County Council	Water	Disagree with the proposal to scope out this as a specific chapter of the ES and to instead be considered as part separate assessments (e.g. Flood Risk Assessment and Construction Environmental Management Plan). There is too much uncertainty at this stage given the site area is significant, possible site layout and potential location of the BESS and NGC as well as drainage requirements, etc. Therefore we consider this should be included as specific chapter in the ES.	Water has been scoped in for further assessment and a preliminary assessment of potential effects is detailed within Chapter 13 of the PEIR.
Lincolnshire County Council	Electric, magnetic and electromagnetic fields	Note powerlines/cables up to 132kV are not expected to exceed ICNIRP exposure guidelines but there is no mention or reference to the NGC and new Transmission Towers (TT) and associated 400kV cables. RAF Digby is the HQ of the Joint Cyber and Electromagnetic Activities Group and is located immediately west of proposed Springwell Central. Given the potential impacts associated with the NGC, TT and 400kV an assessment is likely to be required however it is recommended that PINS takes into account the views of RAF Digby and relevant defence consultees before agreeing whether this topic should be scoped out of the ES.	Noted.

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Lincolnshire County Council	Air Quality	<ul style="list-style-type: none"> • The Council agrees this matter should be ‘scoped in’ and appropriate assessments included as part of the ES. • If borrow pits are proposed then the location of these will need to be confirmed along with any potential impacts associated with the working and restoration of those sites (e.g. dust and traffic emissions) on receptors close to those specific sites. • No specific comments regarding the proposed methodology of scope of the assessment at this stage. • Recommend that comments and advice provided by North Kesteven District Council be taken into account. 	No borrow pits are proposed as part of the project.
Lincolnshire County Council	Biodiversity	<ul style="list-style-type: none"> • The Council agrees this matter should be ‘scoped in’ and appropriate assessments included as part of the ES. • Unclear how embedded mitigation measures identified in Table 4.1 have been identified/derived. For example, it is proposed that a minimum offset distance of 10m from hedgerows and 15m to locally designated wildlife sites – how have these been identified? • No specific comments regarding the proposed methodology of scope of the assessment at this stage. • Recommend that comments and advice provided by NKDC, Lincolnshire Wildlife Trust and Natural England be taken into account. 	Noted. Appropriate assessments and clarification of design/embedded mitigation measures will be included in the ES.
Lincolnshire County Council	Climate	<ul style="list-style-type: none"> • The Council agrees this matter should be ‘scoped in’ and appropriate assessments included as part of the ES. • This chapter/section should: <ul style="list-style-type: none"> - take into account GHG emissions associated with the full life-cycle of the development and potential sources of GHG emissions. This includes emissions associated with the 	Noted. Further detail is provided in Chapter 7 – Climate of the PEIR.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>production of the PV panels and other supporting equipment as well as that associated with the transportation, construction and operation of the development, including replacements that may be necessary during the lifetime of the development; and</p> <ul style="list-style-type: none"> - identify the potential savings in GHG emissions associated with the operation of the development as a result of the consequent reduction in use of more carbon-emitting electricity generation methods; and - assess any increase in carbon emissions as a result of the need to transport/import food and crops from elsewhere which would have otherwise been grown on the arable farmland that would be lost or removed from production as a consequence of the development. Such an assessment would enable the full carbon gains or benefits of this proposal to be properly understood. <ul style="list-style-type: none"> • The Council requests that the Inspectorate therefore requires the applicant to include such an assessment within the ES. 	
Lincolnshire County Council	Cultural Heritage	<ul style="list-style-type: none"> • The Council agrees this matter should be ‘scoped in’ and appropriate assessments included as part of the ES. We would refer PINS and the applicant to the more general comments provided by the Council’s Historic Environment Team which are attached to this response – Appendix 1. The following points are however highlighted and we would request that PINS take these into account when issuing its decision and/or the applicant take these into account when preparing the PEIR/ES. 	N/A

Statutory Consultee		Description	Statutory Consultee Comments	Response
Lincolnshire County Council	Cultural Heritage	Whilst the applicant has discussed this proposal with the County Historic Environment Team they are also advised to liaise with the Heritage Trust of Lincolnshire who act on behalf of NKDC especially in relation to the scope of and timing of any intrusive evaluation following completion of the geophysical survey.		Liaison with Lincolnshire County Council Heritage Team, Heritage Trust of Lincolnshire and North Kesteven District Council regarding scope and timing of intrusive evaluation is ongoing.
Lincolnshire County Council	Cultural Heritage	We expect the desk based evaluation to be complete and the field evaluation to be well underway by the time the PEIR is produced. It's vital that a competent full desk based assessment (DBA) be completed at the earliest opportunity as desk based work provides the basis for initial understanding. This is informed by, and built upon, by a full air photo/LiDAR assessment and geophysical survey which in turn assists in the development of the trial trenching programme. The full suite of archaeological evaluation is required and must be completed in time to inform the mitigation strategy which will lay out how the developmental impact on archaeology will be dealt with. This needs to be submitted as part of the EIA (and not left as a DCO Requirement as suggested in paragraph 6.4.6 – see comments below).		The PEIR has taken account of the DBA and Stage 1 Setting Assessment, Aerial Investigation and Mapping assessment and geophysical survey. The scope and timing of intrusive evaluation is still being discussed.
Lincolnshire County Council	Cultural Heritage	Paragraph 6.4.2 references LCC's "General guidance on large schemes including NSIPs, EIAs...etc" and it is proposed that a study area of 2km from the site boundary be used for assessing non-designated assets and 5km, informed by the ZTV, for assessing designated assets. Given the uncertainty regarding extent and footprint of the site area, possible site layout and positioning of various elements at this stage, the proposal has the potential for		The DBA and Stage 1 Setting Assessment has used a study area of 2km from the Site for non-designated assets and 5km from the Site for designated assets in line with Lincolnshire County Council guidance. Assets identified in the stage 1 setting assessment as being sensitive to changes in their setting have been filtered

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		<p>both direct physical impacts on heritage assets as a result of construction and also on the setting of heritage assets due to the extent of possible visual change. It is therefore recommended that the study areas for both designated and non-designated assets be the same at 5km.</p>	<p>for detailed assessment based on a worst case ZTV for the proposed development.</p>
<p>Lincolnshire County Council</p>	<p>Cultural Heritage</p>	<p>Paragraph 6.4.3 – data sources need to also include reference to Scopwick and Kirkby Green Neighbourhood Plan which contains schedules and descriptions of heritage assets within the Plan area</p>	<p>The Neighbourhood Plan has informed the DBA</p>
<p>Lincolnshire County Council</p>	<p>Cultural Heritage</p>	<p>Paragraph 6.4.6 – indicates that additional mitigation to offset adverse impacts will take the form of a programme of archaeological investigation and recording secured by a DCO Requirement. As indicated above, the Council cannot agree to this approach and recommends that PINS makes clear that the full suite of archaeological evaluation presubmission/determination. We are aware that on-site geophysical survey work is anticipated to be completed by the end of April 2023 and until the results of those surveys are known the Council cannot agree to a programme of archaeological investigation being deferred to a post decision DCO Requirement. It is highly likely that trial trenching will be required not only across known or suspected archaeology but also across the ‘blank’ areas to obtain baseline evidence where previous evaluation techniques have not identified archaeological remains</p>	<p>The scope and timing of further evaluation following the geophysical survey is still being discussed with Lincolnshire and North Kesteven District Council.</p>
<p>Lincolnshire County Council</p>	<p>Cultural Heritage</p>	<p>Paragraph 6.4.7 – the significance of each asset must be assessed prior to scoping which assets would be affected. Modelling should particularly include any identified assets</p>	<p>The DBA and Stage 1 Setting Assessment has used a study area of 2km from the Site for non-designated assets and 5km</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		which have the potential to be visible or have their setting affected by the taller elements of the development	from the Site for designated assets in line with Lincolnshire County Council guidance. Assets identified in the stage 1 setting assessment as being sensitive to changes in their setting have been filtered for detailed assessment based on a worst case ZTV for the proposed development.
Lincolnshire County Council	Cultural Heritage	Paragraph 6.4.8 – receptors to be ‘scoped in’ need to also include reference to Conservation Areas at Scopwick, Blankney and Bloxholm.	These conservation areas have been considered in the DBA and Stage 1 Setting Assessment.
Lincolnshire County Council	Cultural Heritage	Paragraph 6.4.9 – proposes to scope out setting impacts on listed dwellings within settlements over 1km from the site. There is no assessment contained in the Scoping Report to support this and to justify why and how the 1km reference has been derived. The reference just to ‘dwellings’ rather than ‘buildings’ is also unclear and so needs to be clarified as to does the decision to single out K6 kiosks for consideration.	The DBA and Stage 1 Setting Assessment has used a study area of 2km from the Site for non-designated assets and 5km from the Site for designated assets in line with Lincolnshire County Council guidance. Assets identified in the stage 1 setting assessment as being sensitive to changes in their setting have been filtered for detailed assessment based on a worst case ZTV for the proposed development.
Lincolnshire County Council	Cultural Heritage	Paragraph 6.4.11 – the assessment of heritage assets and impacts within the landscape needs to begin from an understanding of the significance of each heritage asset in order to assess the potential impact of the development upon them and put forward any potential benefit or mitigation of proposed negative impact. It is not just	The DBA and Stage 1 Setting Assessment has used a study area of 2km from the Site for non-designated assets and 5km from the Site for designated assets in line with Lincolnshire County Council guidance. Assets identified in the stage 1

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		<p>potential visual impact with views to, from and across any other heritage asset which may be affected and how it can be viewed from any point which is publicly accessible, it's also how the heritage asset is experienced kinetically and within its landscape. Assessment of all this must start with an understanding of the significance of each heritage asset and any interrelationships it may have with other heritage assets as well as the landscape in which it sits, for example remnant field boundaries of the field system that surrounded and supported a Medieval village.</p>	<p>setting assessment as being sensitive to changes in their setting have been filtered for detailed assessment based on a worst case ZTV for the proposed development.</p>
<p>Lincolnshire County Council</p>	<p>Cultural Heritage</p>	<p>Assessments of significance should be undertaken for all designated and undesignated assets which may be affected to ensure any assets subject to proposed descoping has an evidence base.</p>	<p>The DBA and Stage 1 Setting Assessment has used a study area of 2km from the Site for non-designated assets and 5km from the Site for designated assets in line with Lincolnshire County Council guidance. Assets identified in the stage 1 setting assessment as being sensitive to changes in their setting have been filtered for detailed assessment based on a worst case ZTV for the proposed development. Those assets included for detailed assessment will include an assessment of significance within the ES.</p>
<p>Lincolnshire County Council</p>	<p>Landscape and Visual</p>	<p>The Council agrees this matter should be 'scoped in' and appropriate assessments included as part of the ES.</p>	<p>Landscape and Visual matters are addressed in Chapter 9.</p>

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Lincolnshire County Council	Landscape and Visual	We would refer PINS and the applicant to the jointly-procured detailed feedback provided by AAH on behalf of Lincolnshire County Council and NKDC contained in Appendix 2 of this response – ‘Technical Memorandum 1: AAH TM01’ and request that PINS incorporate this advice into their final opinion. The following points are however highlighted and we would request that PINS take these into account when issuing its decision and/or the applicant take these into account when preparing the PEIR/ES.		Noted. See responses to individual comments below.
Lincolnshire County Council	Landscape and Visual	<p>We would also expect the production of the Landscape and Visual chapter of the ES which would be in the form of a Landscape and Visual Impact Assessment (LVIA), and any supporting information (such as plans or figures) which reflect current best practice and guidance from, as a minimum, the following sources:</p> <ul style="list-style-type: none"> - ‘Guidelines for Landscape and Visual Impact Assessment’, (GLVIA3), April 2013 by the Landscape Institute (LI) and Institute of Environmental Management and Assessment (IEMA); - ‘An Approach to Landscape Character Assessment’, Natural England (2014); - ‘Technical Guidance Note (TGN) 06/19 Visual Representation of Development Proposals’, 17th September 2019 by the Landscape Institute (LI); - ‘Technical Guidance Note (TGN) 1/20 Reviewing Landscape and Visual Impact Assessments (LVIAs) and Landscape and Visual Appraisals (LVAs)’, 10th January 2020 by the Landscape Institute (LI) ; - ‘Technical Guidance Note (TGN) 04/20 Infrastructure’, April 2020 by the Landscape Institute (LI); and 		All relevant guidance documents are referenced as appropriate in Chapter 9. TGN 1/20 provides advice to determining authorities and stakeholders on reviewing LVIAs and as such is not a guidance document which concerns the production of LVIA work. This document is therefore not referenced in Chapter 9.

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		<p>- ‘Technical Guidance Note (TGN) 2/21 Assessing landscape value outside national designations’, May 2021 by the Landscape Institute (LI).</p>	
<p>Lincolnshire County Council</p>	<p>Landscape and Visual</p>	<p>At this initial stage, the content and level of information provided within Section 6.5 is generally considered satisfactory, however, we would expect to discuss this content and approach as part of the iterative process. Due to the scale and extent of the site and proposed development, we would be able to discuss and agree the Scoping questions within Section 6.5.14 as part of this ongoing process, as at this stage it is not possible to provide full answers to these questions.</p>	<p>Since Scoping, the applicant has engaged in further consultation with Lincolnshire County Council and its appointed landscape adviser – AAH Consultants. Details of further discussions regarding landscape and visual matters are set out in Chapter 9.</p>
<p>Lincolnshire County Council</p>	<p>Landscape and Visual</p>	<p>Viewpoints & Photomontages – the final locations of viewpoints are to be reviewed and agreed with LCC and other relevant stakeholders. The final viewpoint selection should also consider views of taller and more conspicuous elements, such as battery storage or sub-stations once the layout is more developed, as well as consider potential key, or sensitive, viewpoints. We would welcome an initial discussion and subsequent workshop (on site if appropriate) with the developer’s team in regards to proposed viewpoints. Photomontages/Accurate Visual Representations (AVRs) should be produced and the number, location and level/type of the these should be agreed with LCC and other relevant stakeholders. At this stage, it is deemed appropriate that these should be produced to illustrate the proposals at different phases: Existing Situation (baseline), Operational (year 1) and Residual with planting established (10 to 15 years).</p>	<p>Through ongoing consultation with Lincolnshire County Council and AAH Consultants, a selection of viewpoints have been agreed (subject to any subsequent amendments in the Proposed Development). Details of the further consultation and viewpoint selection are set out in Chapter 9. Further consultation will be undertaken before submission of the ES to agree what form of visualisation is appropriate for different viewpoints.</p>

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Lincolnshire County Council	Landscape and Visual	The methodology should clearly lay out the process of assessing temporary and permanent elements of the scheme, and the LVIA should clearly identify those elements that would not be decommissioned at the end of the life of the development. This is of particular importance in relation to the NGC which it is assumed will be a permanent feature.		The LVIA methodology is set out in Appendix 9.1. Once full details of the Proposed Development are known at ES stage, the LVIA will clearly state which elements would not be decommissioned at the end of the operational period.
Lincolnshire County Council	Landscape and Visual	Study Area – at this early stage, the proposed study area extents should be discussed and further reviewed as the full extent of potential visibility of the development is not yet fully known, and the ZTV mapping contained within Appendix F of the Scoping Report does identify potential visibility beyond these extents. The ZTV mapping would need to be updated once the proposals have developed (as stated within paragraph 13.5) and the study area should not be fixed until the full extents of visibility are known from both desktop and site work. It therefore seems appropriate to assume a (minimum – TBA) 5km study area across the scheme rather than a reduction to 3km for the solar array or collector compounds/distributed BESS.		The study area has been discussed with Lincolnshire County Council/North Kesteven District Council through further consultation and responding on their behalf on 15th August 2023 AAH Consultants confirmed that ‘The proposed 3km study area is appropriate from the solar PV development and 5km from the Springwell Substation. However, the LVIA should clearly state the justification for these study areas, and thoroughly assess and confirm no significant views are available from beyond the study area. The ZTVs demonstrate that in the worst case scenario there would be negligible visibility of the Proposed Development beyond the study area proposed above. Any landscape or visual effects beyond this distance would not be significant. For the purposes of the PEIR the above study area has been adopted but will be

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			reviewed again once the final layout is fixed before completion of the ES.
Lincolnshire County Council	Landscape and Visual	Sections 6.5.8. and 6.5.9 identify a range of potential landscape receptors to be scoped in or out of the LVIA, however at this early stage of the project we request these be reviewed and consulted upon further once proposals have been developed and we are not in a position to confirm their inclusion or omission. We therefore request that PINS makes it clear in its response that these matters have yet to be agreed.	The scope of the LVIA and the receptors/matters to be scoped in and out of the assessment are reviewed in Chapter 9 of the PEIR.
Lincolnshire County Council	Landscape and Visual	Cumulative Landscape and Visual effects should be assessed in regards to other major developments, and in particular commercial scale solar developments, as appropriate in regards to proximity and scale (also see comments under Section 7).	Potential cumulative effects are addressed in Chapter 15 of the PEIR. A more detailed assessment will be provided in the ES once further detail about the Proposed Development is available.
Lincolnshire County Council	Landscape and Visual	At this stage it is not relevant to comment on any potential mitigation or layout of the development. Best practice guidance, relevant published landscape character assessment's and Local and County Council Policy and Guidance should be referred to and implemented as appropriate.	Noted. Best practice guidance, baseline documents and relevant policy is set out in Chapter 9.
Lincolnshire County Council	Land, Soils and Groundwater	The Council agrees this matter should be 'scoped in' and appropriate assessments included as part of the ES.	Land, Soil and Groundwater matters are addressed in Chapter 10 of the PEIR.
Lincolnshire County Council	Land, Soils and Groundwater	The ES and ALC assessment should clearly identify how much of the site comprises of agricultural land and identify its ALC grade and current use. The ES should identify what	Land, Soil and Groundwater matters are addressed in Chapter 10 of the PEIR.

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		<p>(if any) measures would be taken to retain the agricultural land in productive use (i.e. sheep grazing, hay/silage production) and how this would be secured. The ES should also give consideration to the economic effects of the loss or change to the use of the agricultural land as well as a consideration of the potential carbon footprint created through the displacement or removal of this land from productive use. This needs to be properly calculated to ensure that the full carbon gains or benefits of this proposal are accurate.</p>	<p>A Socio-economic statement will be produced and submitted in support of the DCO which will give consideration to the economic effects of the change of land use.</p>
<p>Lincolnshire County Council</p>	<p>Section 6.6 – Land, Soils and Groundwater</p>	<p>Paragraph 6.6.8 suggests scoping in the operational impacts of the proposed development in terms of the loss of agricultural and BMV as a consequence of the removal of this land from productive use. The Council agrees with the inclusion of this however the assessment should also include and detail mitigation measures to remove, reduce or minimise such impacts. For example, the possibility of retaining some areas of land in productive use which also act as buffers and stand-offs; enabling some continuance of agricultural activity through sheep grazing or alternative forms of cropping among panelled areas, etc. As part of the ES the applicant should identify a mechanism by which any changes in agricultural activity and associated socio-economic effect can be secured through the DCO process and provide evidence of this (e.g. use of planning conditions, legal agreements, covenants, etc)</p>	<p>Noted. Consultation is ongoing with the landowners.</p>
<p>Lincolnshire County Council</p>	<p>Section 6.6 – Land, Soils</p>	<p>The ‘alternatives’ exercise needs to consider alternative site layouts and potentially a reduction in MW generating capacity in order to demonstrate avoidance or minimisation</p>	<p>Noted. A summary of alternatives has been included within Chapter 3 of this PEIR. Further detail will be presented in</p>

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	and Groundwater	of agricultural land impacts (as recommended by the Draft NPS EN-3 March 2023).		the ES, the Statement of Need and the Planning Statement
Lincolnshire County Council	Section 6.6 – Land, Soils and Groundwater	Reference is given to the proximity of Mineral Consultation and Mineral Safeguarding Areas within the current Minerals & Waste Local Plan. It is stated that as the majority of the land take would be temporary, future extraction would be possible after decommissioning. This would not apply in respect of the proposed NGC and so this needs to be taken into account.		A Mineral Safeguarding Assessment will be part of the Planning Statement submitted with the DCO application.
Lincolnshire County Council	Section 6.6 – Land, Soils and Groundwater	A Minerals Assessment will be required as part of the application. The findings of this assessment could inform and influence the design and layout of the development and potentially remove areas of land that lie close to existing quarries or which could potentially be worked in the future.		A Mineral Safeguarding Assessment will be part of the Planning Statement submitted with the DCO application.
Lincolnshire County Council	Section 6.6 – Land, Soils and Groundwater	Unless considered elsewhere within the ES, this chapter will need to also consider potential borrow pits that may be used as part of the development. The ES should confirm if borrow pits are proposed and identify the location of these which must be included within the proposed Order Limits. The ES will also need to contain an assessment of impacts, including cumulative effects, arising from the working and restoration of identified borrow pits and these included as part of the ES.		No borrow pits are proposed as part of the project.
Lincolnshire County Council	Section 6.7 – Noise and Vibration	The Council agrees this matter should be ‘scoped in’ and appropriate assessments included as part of the ES.		Noise and Vibration matters are addressed in Chapter 11 of the PEIR.

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Lincolnshire County Council	Section 6.7 – Noise and Vibration	No specific comments regarding the proposed methodology of scope of the assessment at this stage.		Noted.
Lincolnshire County Council	Section 6.7 – Noise and Vibration	Recommend that comments and advice provided by NKDC.		Noted.
Lincolnshire County Council	Section 6.8 – Traffic and Transport	The Council agrees this matter should be ‘scoped in’ and appropriate assessments included as part of the ES.		Traffic and Transport matters are addressed in Chapter 12 of the PEIR.
Lincolnshire County Council	Section 6.8 – Traffic and Transport	The Council is generally agreeable to the methodology and approach detailed within the Scoping Report but recommends that discussions with the Highway Authority continues in order to ensure that the scope of the assessments is agreed. A Transport Assessment for the construction period will be required and safety and capacity impacts will need to be assessed to ensure that the impact on the highway network is acceptable. The primary point of operational access is assumed to be directly from or via the A15 Sleaford Road and onto the B1191. Access points and locations will therefore also need to be identified and discussed with Highways.		Traffic and Transport matters are addressed in Chapter 12 of the PEIR. Full transport assessment will be undertaken and provided within the ES. Consultation is ongoing with Lincolnshire County Council Highways.
Lincolnshire County Council	Section 6.8 – Traffic and Transport	This chapter of the ES should also consider potential cumulative construction effects (and where relevant operational effects) associated with other large-scale and NSIP scale projects including Triton Knoll, Viking Link, Heckington Fen Solar park (including works to Bicker Fen Substation), Beacon Fen Energy Park, Temple Oaks Renewable Energy Park and the Lincolnshire Reservoir		Preliminary cumulative effects are detailed within Chapter 15 of the PEIR. Further engagement with Lincolnshire County Council. Will be undertaken to agree the list of cumulative developments to be assessed within the ES.

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		<p>depending on the timeframes of those projects. The assessment should also considered TCPA projects including the Sleaford West and potentially the Sleaford South SUEs (A17/A15 corridor), along with the Lincoln South East Quadrant (SEQ) SUE which sits alongside parts of the A15 and B1188.</p>	
<p>Lincolnshire County Council</p>	<p>Section 6.8 – Traffic and Transport</p>	<p>A Travel Plan would be required for a project of this scale to ensure that the significant numbers of construction workers are encouraged to use alternative modes to the private car.</p>	<p>An Outline Travel Plan which will form part of the Outline Construction Environmental Management Plan will be submitted in support of the DCO. This will set out strategies to encourage the use of sustainable transport for the construction workforce.</p>
<p>Lincolnshire County Council</p>	<p>Section 6.8 – Traffic and Transport</p>	<p>There is an extensive network of public rights of way (PRoW) within the site which link with the surrounding settlements. Opportunities to create new and expanded routes that would improve access and links between settlements should be considered with potential additional public footpaths and bridleways created as part of the development. Any such routes should not utilise routes used for construction or maintenance activities and be a minimum width of 4m for public footpaths and 5m for public bridleways. Any fencing alongside a public path should be open mesh construction and not close board timber fencing or metal palisade to avoid the creation of narrow claustrophobic. Any new routes to be created should look to be formally adopted as part of the Definitive Rights of Way network rather than permissive routes which could potentially be removed at any point during the life of the</p>	<p>Proposals for new permissive footpaths following feedback from the first stage of consultation are detailed within Chapter 2 of the PEIR and displayed within Volume2, Figure 2-6.</p> <p>Engagement is ongoing with the Public Rights of Way officer.</p>

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		project. If permissive routes are proposed then details of what mechanisms would be adopted to ensure these remain in place for the duration and life of the development is needed.	
Lincolnshire County Council	Section 7 – Cumulative Effects	The Council agrees this matter should be ‘scoped in’ and appropriate assessments included as part of the ES.	Cumulative Effects matters address in Chapter 15.
Lincolnshire County Council	Section 7 – Cumulative Effects	<p>The Council disagrees that NSIP projects must lie within the Zol of the development which is based on the study area for each environmental factor considered in the EIA. The County is currently subject of several other NSIP projects and these all need to be taken into account in terms of potential cumulative effects in particular in respect of LVIA and impacts on ‘best and most versatile’ agricultural land. Of particular relevance are the following:</p> <ul style="list-style-type: none"> - West Burton Solar Project - Cottam Solar Project - Gate Burton Energy Park - Heckington Fen Solar Park - Mallard Pass Solar Park - Temple Oaks Renewable Energy Park – Tillbridge Solar Project - Beacon Fen Energy Park - Lincolnshire Reservoir <p>We are aware that there may well be further NSIP projects coming forward in the not to distant future and therefore we reserve the right to highlight other projects as and when these become known and can advise how these might be treated with reference to Table 2 of Advice Note Seventeen</p>	<p>Chapter 15 of the PEIR sets out the Cumulative effects, methodology for carrying out the assessing and Zone of Influence for each Environmental Factor. This is a preliminary assessment is based on publicly available information at the time.</p> <p>Further consultation with North Kesteven District Council and Lincolnshire County Council to agree the final short list for inclusion in the ES will be undertaken.</p>

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		‘Cumulative effects assessment relevant to nationally significant infrastructure projects’.	
Lincolnshire County Council	Local Community Comments	Finally, in addition to the above comments, the Council has also been sent and received a copy of comments and views on the proposed Scoping Report prepared by a local Parish Council. Attached to this response is a copy of that response/comments which we have been asked be brought to the attention of the Inspectorate. The Council recognises that local residents and communities have the benefit of local knowledge and so is supportive of their involvement and comments at this stage and invites the Inspectorate to therefore take these comments into account and, where considered necessary, require appropriate assessments or information to be provided as part of the ES by stating this explicitly within its formal response	Noted. The Applicant has reponed to Local Parish feedback within the matrix, under individual names.
LCC Historic Environment			
LCC Historic Environment	DBA	It’s vital that a competent full desk based assessment (DBA) be completed at the earliest opportunity as desk based work provides the basis for initial understanding. This is informed by and built upon by a full air photo/LiDAR assessment and geophysical survey which in turn assists in the development of the trial trenching programme. The full suite of archaeological evaluation is required. The evaluation work must be completed in time to inform the mitigation strategy which will lay out how the developmental impact on archaeology will be dealt with, therefore this will need to be submitted as part of the EIA.	The PEIR has been informed by a DBA and Stage 1 Setting Assessment, Aerial Investigation and Mapping and geophysical survey. The scope and timing of further evaluation is still being discussed with Lincolnshire County Council and North Kesteven District Council.

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LCC Historic Environment	Trial Trenching	Section 6.4.1 of the scoping report states that “Further consultation with Lincolnshire County Council will be carried out to confirm the scope of and timing of any intrusive evaluation following completion of the geophysical survey.” Trial trenching is required not only across known or suspected archaeology but also across the ‘blank’ areas to obtain baseline evidence where previous evaluation techniques have not identified archaeological remains. Trenching results are essential to get a full understanding of the archaeology which will be impacted across the full impact zone and will inform an archaeological mitigation strategy which is reasonable, appropriate and fit for purpose.	The scope and timing of further evaluation is still being discussed with Lincolnshire County Council and North Kesteven District Council.
LCC Historic Environment	Trial Trenching	Trial trenching is part of the standard range of archaeological evaluation and full trenching results are essential for effective risk management and to inform programme scheduling and budget management. Failing to do so could lead to unnecessary destruction of heritage assets, potential programme delays and excessive cost increases that could otherwise be avoided. A programme of trial trenching is required to inform a robust mitigation strategy which will need to be agreed by the time the Environmental Statement is produced and submitted with the DCO application	The scope and timing of further evaluation is still being discussed with Lincolnshire County Council and North Kesteven District Council.
LCC Historic Environment	Study Area	Regarding the Study Area (section 6.4.2) and the EIA Baseline Information (sections 6.4.3 and 6.4.4), these are required for the main site boundary and any proposed	It is anticipated that the Proposed Development will connect to a future National Grid Navenby substation.. If this

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		connection route options. Until they are descoped all connector route options need to be properly assessed as part of the development and as part of the Environmental Statement (ES).	changes then further assessment of the potential grid connection would be carried out at that time.
LCC Historic Environment	Trial Trenching	Section 6.4.4 ends with the following statement: "The need for, scope, and timing of intrusive evaluation will be negotiated and agreed with the statutory consultees following completion of the desk-based assessments and geophysical survey." As stated above, a sufficient trenching programme across the impact zone is essential in understanding the character, depth and extent of surviving archaeology which would be impacted by the development.	The scope and timing of further evaluation is still being discussed with Lincolnshire County Council and North Kesteven District Council.
LCC Historic Environment	Mitigation	Section 6.4.6 is entitled 'Additional (secondary and tertiary) mitigation', what is the primary mitigation? The proposed mitigation options of Section 6.4.6 includes preservation in situ, excavation and 'watching brief'. Archaeological topsoil strip, map and record is also an essential part of the suite of archaeological mitigation techniques, and all of these will need to be informed by sufficient evaluation including trenching to determine where archaeologically sensitive areas are and their full extent to inform a competent reasonable mitigation strategy.	Primary mitigation comprises embedded mitigation through the design and layout of the proposed development. The scope and timing of further evaluation to inform a mitigation strategy is still being discussed with Lincolnshire County Council and North Kesteven District Council.
LCC Historic Environment	Likely significant effects	Regarding section 6.4.7 Description of likely significant effects, please be advised that the significance of each asset must be assessed prior to scoping which assets	The DBA and Stage 1 Setting Assessment has identified the significance of all non-designated assets within 2km and all

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>would be affected. Modelling should particularly include any identified assets which have the potential to be visible or have their setting affected by the taller elements of the development.</p>	<p>designated assets within 5km of the Site. Those sensitive to changes in their setting have then been filtered based on a worst case ZTV.</p>
<p>LCC Historic Environment</p>	<p>Methodology</p>	<p>Regarding section 6.4.11 Proposed assessment methodology, the assessment of heritage assets and impacts within the landscape needs to begin from an understanding of the significance of each heritage asset in order to assess the potential impact of the development upon them and put forward any potential benefit or mitigation of proposed negative impact.</p> <p>It is not just potential visual impact with views to, from and across any other heritage asset which may be affected and how it can be viewed from any point which is publicly accessible, it's also how the heritage asset is experienced kinetically and within its landscape. Assessment of all this must start with an understanding of the significance of each heritage asset and any interrelationships it may have with other heritage assets as well as the landscape in which it sits, for example remnant field boundaries of the field system that surrounded and supported a Medieval village. Assessments of significance should be undertaken for all designated and undesignated assets which may be affected to ensure any assets subject to proposed despoiling has an evidence base</p>	<p>The DBA and Stage 1 Setting Assessment has identified the significance of all non-designated assets within 2km and all designated assets within 5km of the Site. Those sensitive to changes in their setting have then been filtered based on a worst case ZTV. Assessments of significance will be included for those assets included in the ES.</p>
<p>LCC Historic Environment</p>	<p>In conclusion</p>	<p>The EIA will require the full suite of comprehensive desk-based research, non-intrusive surveys, and intrusive field</p>	<p>The PEIR has been informed by the DBA and Stage 1 Setting Assessment, Aerial</p>

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		<p>evaluation for the full extent of proposed impact. The results should be used to minimise the impact on the historic environment through informing the project design and an appropriate programme of archaeological mitigation. The provision of sufficient baseline information to identify and assess the impact on known and potential heritage assets is required by Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (Regulation 5 (2d)), National Planning Statement Policy EN1 (Section 5.8), and the National Planning Policy Framework. Sufficient information on the archaeological potential must include evidential information on the depth, extent and significance of the archaeological deposits which will be impacted by the development. The results will inform a fit for purpose mitigation strategy which will identify what measures are to be taken to minimise or adequately record the impact of the proposal on archaeological remains which must be submitted with the EIA.</p> <p>This is in accordance with The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 which states “The EIA must identify, describe and assess in an appropriate manner...the direct and indirect significant impacts of the proposed development on...material assets, cultural heritage and the landscape.” (Regulation 5 (2d))</p>	<p>Investigation and Mapping and geophysical survey. The scope and timing of further evaluation is still being discussed with Lincolnshire County Council and North Kesteven District Council.</p>
<p>AAH Consultants (Landscape and Visual consultant acting on behalf of North Kesteven District Council and Lincolnshire County Council)</p>			
<p>North Kesteven</p>	<p>Landscape and visual</p>	<p>Overall, we would expect that the assessment of potential Landscape and Visual matters and evolving proposals</p>	<p>Following scoping a series of meetings have taken place with AAH Consultants.</p>

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District Council and Lincolnshire County Council		<p>relating to the Springwell Solar Farm, as a Nationally Significant Infrastructure Project (NSIP), follow an iterative process of engagement and consultation to ensure the following are not fixed at this stage and are discussed, developed and agreed at subsequent technical meetings:</p> <ul style="list-style-type: none"> • Landscape and Visual Impact Assessment (LVIA) Methodology; • Development, and subsequent ZTV, parameters; • Study Area extents (distance); • Viewpoint quantity and locations; • Photomontage/Accurate Visual Representations (AVRs): <ul style="list-style-type: none"> - Quantity and location; - Phase depiction; - AVR Type and Level. • Mitigation Measures/Landscape Scheme/Site Layout; • Cumulative effects, including surrounding developments to be considered; and • The extent as to which a Residential Visual Amenity Assessment (RVAA) should be considered (based on the Landscape Institute TGN 2/19) if there are residential properties with receptors likely to experience significant effects to their visual amenity 		<p>This list of matters has been discussed and the outcome of meetings to date is summarised in Chapter 9. It is envisaged that further consultation will take place before submission of the ES. In particular, it is anticipated that the number, location and type of visualisations will be agreed and mitigation measures discussed.</p>
North Kesteven District Council and Lincolnshire	Landscape and visual	We would also expect the production of the Landscape and Visual chapter of the Environmental Statement (ES), which would be in the form of a Landscape and Visual Impact Assessment (LVIA), and any supporting information (such as plans or figures) reflect current best practice and guidance from, as a minimum, the following sources:		All relevant guidance documents are referenced as appropriate in Chapter 9. TGN 1/20 provides advice to determining authorities and stakeholders on reviewing LVIA's and as such is not a guidance document which concerns the production

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County Council		<ul style="list-style-type: none"> • ‘Guidelines for Landscape and Visual Impact Assessment’, (GLVIA3), April 2013 by the Landscape Institute (LI) and Institute of Environmental Management and Assessment (IEMA); • ‘An Approach to Landscape Character Assessment’, Natural England (2014); • ‘Technical Guidance Note (TGN) 06/19 Visual Representation of Development Proposals’, 17th September 2019 by the Landscape Institute (LI); • ‘Technical Guidance Note (TGN) 1/20 Reviewing Landscape and Visual Impact Assessments (LVIAs) and Landscape and Visual Appraisals (LVAs)’, 10th January 2020 by the Landscape Institute (LI) ; • ‘Technical Guidance Note (TGN) 04/20 Infrastructure’, April 2020 by the Landscape Institute (LI); and Landscape Technical Memo 1 April 2023 Lincolnshire County Council, Springwell Solar Farm • ‘Technical Guidance Note (TGN) 2/21 Assessing landscape value outside national designations’, May 2021 by the Landscape Institute (LI). 	<p>of LVIA work. This document is therefore not referenced in Chapter 9.</p>
North Kesteven District Council and Lincolnshire County Council	Landscape and Visual- 6.5	<p>While the focus of this review is on Landscape and Visual matters, other information provided within the report, and associated Appendices, has also been considered, providing background and context to the site. At this initial stage of the NSIP process, the content and level of information provided by the developer within Section 6.5 Landscape and visual are generally considered satisfactory, however, as stated previously, we would</p>	<p>Since Scoping, the applicant has engaged in further consultation with AAH Consultants. Details of further discussions regarding landscape and visual matters are set out in Chapter 9. See responses to individual comments below.</p>

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		<p>expect to discuss this content and approach as part of the iterative process. Due to the scale and extent of the site and proposed development, we would be able to discuss and agree the Scoping questions within Section 6.5.14 as part of this ongoing process, as at this stage it is not possible to provide full answers to these questions. The following should be considered in the evolving assessment and layout:</p>	
<p>North Kesteven District Council and Lincolnshire County Council</p>	<p>Viewpoints</p>	<p>The final locations of viewpoints are to be reviewed and agreed with LCC and other relevant stakeholders. The final viewpoint selection should also consider views of taller and more conspicuous elements, such as battery storage or sub-stations once the layout is more developed, as well as consider potential key, or sensitive, viewpoints. We would welcome an initial discussion and subsequent workshop (on site if appropriate) with the developer's team in regards to proposed viewpoints.</p>	<p>Further consultation on the viewpoints has been undertaken with AAH Consultants resulting in a letter dated 15th August 2023 confirming that the viewpoint selection was 'proportional to the project and extent of potential visual receptors.'</p>
<p>North Kesteven District Council and Lincolnshire County Council</p>	<p>Photomontages</p>	<p>To gain an understanding of the visibility of the development and how the panels and infrastructure would appear in the surrounding landscape, Photomontages/Accurate Visual Representations (AVRs) should be produced. The number and location of the agreed viewpoints to be developed as Photomontages/AVRs should be agreed with LCC and other relevant stakeholders and produced in accordance with TGN 06/19 Visual Representation of Development Proposals. At this stage, it is deemed appropriate that</p>	<p>As per the comment above, representative assessment viewpoints have been agreed with AAH Consultants and visualisations (eg photomontages) will be presented for a selection of these in the ES. The number, location and type of visualisation for each viewpoint will be agreed through ongoing consultation with AAH Consultants before submission of the ES. Visualisations will be prepared in accordance with the stated</p>

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		<p>these should be produced to illustrate the proposals at different phases: Existing Situation (baseline), Operational (year 1) and Residual with planting established (10 to 15 years). The Photomontage/AVR Level and Type is to be discussed and agreed.</p>	<p>guidance and illustrate effects in Year 1 and Year 10.</p>
<p>North Kesteven District Council and Lincolnshire County Council</p>	<p>Methodology</p>	<p>As stated previously, the LVIA should be carried out in accordance with the GLVIA3 and undertaken by suitably qualified personnel. The methodology provided at Section 6.5.11 and Appendix D is typical of those used for ES Chapters and standalone LVIA where potential significant effects can be considered and reflects the guidance in GLVIA3. We would request that the most up to date technical guidance be used and the methodology is further interrogated at the next phases of the project.</p> <p>The Landscape and Visual methodology within Appendix D identifies that Significant effects are identified as those that are “Major or Major/Moderate”, and that in the case of predicting Moderate effects professional judgement will be applied. This is fine and follows GLVIA3, however for full transparency, we would expect that a full explanation be provided in the assessment as to whether a Moderate effect on a receptor is assessed as being Significant or not, and not simply relying on stating that an effect is not significant “based on professional judgement”.</p> <p>The methodology should also clearly lay out the process of assessing temporary and permanent elements of the scheme, and the LVIA should clearly identify those elements that would not be decommissioned at the end of</p>	<p>The LVIA will be undertaken by Chartered Landscape Architects and in accordance with the most up to date published best practice guidance as set out in Chapter 9. In the PEIR, simple statements have been provided as to whether effects are likely to be significant or not but, in the ES, a full justification will be provided for each judgement including for any conclusions of ‘Moderate’ significance.</p> <p>A detailed methodology for the LVIA is set out in Appendix 9.1 and the ES will clearly identify those elements of the Proposed Development which would not be decommissioned at the end of the operational period.</p>

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		the life of the development, such as the National Grid substation, and assessed accordingly.	
North Kesteven District Council and Lincolnshire County Council	Scope of the Study Area:	<p>It is acknowledged in Section 6.5.2 that, based on desktop (ZTV mapping) and field study, an initial Study Area covering 3km has been allowed for the proposed development, and an extended Study Area covering 5km for the National Grid substation and National Grid connecting tower. At this early stage, we recommend these extents are discussed and further reviewed as the full extent of potential visibility of the development is not yet fully known, and the ZTV mapping within Appendix F does identify potential visibility beyond these extents. The ZTV mapping would be updated once the proposals have developed (as stated within paragraph 13.5) and the study area should not be fixed until the full extents of visibility are known from both desktop and site work. Once the study area has been defined, the LVIA should also provide a justification for the full extent/distance, which would be further refined as part of the iterative process.</p>	<p>The study area has been discussed through further consultation and on 15th August 2023 AAH Consultants confirmed that ‘The proposed 3km study area is appropriate from the solar PV development and 5km from the Springwell Substation . However, the LVIA should clearly state the justification for these study areas, and thoroughly assess and confirm no significant views are available from beyond the study area.</p> <p>It should be noted that the National Grid Substation and connecting towers no longer form part of the Proposed Development. The ZTVs demonstrate that in the worst-case scenario there would be negligible visibility of the Proposed Development beyond the study area proposed above. Any landscape or visual effects beyond this distance would not be significant. For the purposes of the PEIR the above study area has been adopted but will be reviewed again once the final layout is fixed before completion of the ES.</p>

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North Kesteven District Council and Lincolnshire County Council	Landscape	<p>Published landscape character areas have been identified, however to align with GLVIA3 the LVIA should include an assessment of landscape effects at a range of scales and likely need to include a finer grain landscape assessment that includes the Site and immediate area that also considers individual landscape elements or features that make up the character area. Sections 6.5.8. and 6.5.9. identify a range of potential landscape receptors to be scoped in or out of the LVIA, however at this early stage of the project we request these be reviewed and consulted upon further once proposals have been developed and we are not in a position to confirm their inclusion or omission.</p>	<p>Further analysis of landscape character is provided in Chapter 9 including Appendices 9.2 and 9.3. The scope of the LVIA and the receptors/matters to be scoped in and out of the assessment are reviewed in Chapter 9 of the PEIR.</p>
North Kesteven District Council and Lincolnshire County Council	Visual	<p>Several visual receptors are identified within Sections 6.5.5. and 6.5.8. We would expect that the visual assessment would include for identification of visual receptors, and not just an assessment of any agreed viewpoints, which should clearly cross reference viewpoints to associated receptors. Sections 6.5.8. and 6.5.9. identify a range of potential visual receptors to be scoped in or out of the LVIA, however at this early stage of the project we request these be reviewed and consulted upon further once proposals have been developed and we are not in a position to confirm their inclusion or omission. The visual assessment should take account of the 'worst case scenario' in terms of winter views, and effects associated with landscape mitigation at the Operational Phase (year 1), Residual Phase with planting having established (10 to 15 years), and at the Decommissioning</p>	<p>It is confirmed that the visual assessment will focus on assessing effects on visual receptors rather than viewpoints. Representative viewpoints will be provided to illustrate the nature and scale of effect at various locations but are a tool to assist in the assessment of effects. The scope of the LVIA and the receptors/matters to be scoped in and out of the assessment are reviewed in Chapter 9 of the PEIR. The assessment takes account of seasonal variations in visibility and operational phase effects will be assessed in Year 1 and Year 10. Construction and Decommissioning effects will be</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		Phase. The LVIA should ensure all elements associated with the development are considered and assessed, such as battery storage, sub-stations, CCTV poles and boundary fencing, which may be more visible than panels due to height, mass and extent	considered as well. The LVIA will take account of all new infrastructure.
North Kesteven District Council and Lincolnshire County Council	Cumulative impacts	Cumulative Landscape and Visual effects should be assessed in regards to other major developments, and in particular commercial scale solar developments, as appropriate in regards to proximity and scale.	The approach to cumulative effects is set out in Chapter 15. Cumulative landscape and visual effects will be assessed in detail in the ES.
North Kesteven District Council and Lincolnshire County Council	Mitigation and Layout	<p>As this is an iterative process, at this stage it is not relevant to comment on any potential mitigation or layout of the development. However, best practice guidance, relevant published landscape character assessment's and Local and County Council Policy and Guidance shall be referred to and implemented as appropriate.</p> <p>We would also expect the landscape and planting scheme is coordinated with other relevant disciplines, such as ecology, heritage or civils (e.g. SuDS features), to improve the value of the landscape and reflect appropriate local and regional aims and objectives. Any Landscape Scheme and associated Outline Landscape and Ecological Management Plan should accompany the ES which should cover the establishment period, which is assumed would be up to 15 years to cover the period up to the residual assessment.</p>	<p>Noted. Best practice guidance, baseline documents and relevant policy is set out in Chapter 9.</p> <p>Mitigation Proposals will be developed in detail before submission of the ES and will take account of other relevant disciplines. A landscape scheme and LEMP will be submitted with the ES. The LEMP will cover the establishment period as well as the long-term management of the site and will cover existing as well as new vegetation.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		The management plan should provide for both new planting and existing retained vegetation and how it will be managed and protected through all phases of the development	
John Woodward - Scopwick and Kirkby Green Parish Council			
Scopwick and Kirkby Green Parish Council	Scoping	<ol style="list-style-type: none"> 1. Is there an impact pathway from the Proposed Development to the aspect/matter? 2. Is the aspect/matter sensitive to the impact concerned? 3. Is the impact likely to be on a scale that may result in significant effects to the aspect/matter? 4. Could the impact contribute cumulatively with other impacts to result in significant effects to the aspect/ matter? 5. Is there a method of avoidance or mitigation that would reduce the impact on the aspect/matter to a level where significant effects would not occur? 6. Is there sufficient confidence in the avoidance or mitigation method in terms of deliverability and efficacy to support the request? 7. Is there empirical evidence available to support the request? 8. Do relevant statutory consultees agree with the request? 9. Have you had regard to (a) relevant National Policy Statement(s) (NPS) and specifically any requirement stated in the NPS(s) in respect of the assessment of this aspect/matter? <p>The subsequent comments and observations will demonstrate that factors proposed to be scoped out of the</p>	Noted.

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		EIA are not justified as they fail to follow the above Guidelines.	
Scopwick and Kirkby Green Parish Council	Footpaths	Temporary diversions potentially lasting two years will substantially impact the community's freedom of the community to walk the local countryside with adverse consequences to their health and well being	We will seek to reduce the number of temporary diversions of Public Rights of Way where practicable during the construction phase.
Scopwick and Kirkby Green Parish Council	Footpaths	It is not clear whether all the current footpaths and permitted paths are covered in the text since the facility to walk within the development site extends to more than just the PROWs found there. This entire facility is enjoyed and valued not only by the parish but also by the surrounding wider community in the District. A reduction to any of these will impact all communities' freedom of the community to walk the local countryside with adverse consequences to their health and well being. Comment. The proposal to scope out this factor is challenged.	Noted. The Public Rights of Ways and permissive paths are displayed in Volume2, Figure 2-6 of the PEIR.
Scopwick and Kirkby Green Parish Council	Human health	Observation. The above observation fundamentally challenge the Report's assertion that "human health is not subject to dedicated assessment and therefore excluded from the scope of the EIA.", since in each proposed example quite the opposite appears to be true. Comment. The proposal to scope out this factor is challenged.	Noted. Issues related to human health including dust, vibration etc. will be referenced within the ES and assessed within the Air Quality and Noise and Vibration chapters.

Statutory Consultee	Description	Statutory Consultee Comments	Response
Scopwick and Kirkby Green Parish Council	5.8.6	<p>Observation. Within the development's Site boundary work associated with the development is being planned to take place on land allocated for housing in the made Neighbourhood Plan.</p> <p>Comment. The proposal to scope out this factor is challenged</p>	Noted. This has been taken into consideration in the design.
Scopwick and Kirkby Green Parish Council	Socio-economic	<p>Observation. The changes to the local environment arising from the proposed development will very inevitably impact the value of public and private residential property and housing in the area contributing cumulatively to other social/economic impacts . This is a factor that should not be excluded from the EIA assessment</p> <p>Comment. The proposal to scope out this factor is challenged.</p>	A socio-economic statement will be produced and submitted in support of the DCO.
Scopwick and Kirkby Green Parish Council	Socio-economic	<p>Observation. The community benefits from its current environment as a rural agricultural area which the proposed development as a mega-sized industrial plant will fundamentally impact. Therefore this should not be scoped out of the EIA assessment</p> <p>Comment. The proposal to scope out this factor is challenged</p>	A socio-economic statement will be produced and submitted in support of the DCO.
Scopwick and Kirkby Green Parish Council	Socio-economic	<p>Observation. The development will impact on the numbers employed on land held by the landlord and as well have a significant effect on employment by the many peripheral trades and businesses associated with agriculture in that</p>	A socio-economic statement will be produced and submitted in support of the DCO.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>area during the operational phase and beyond it. While at present there are no other businesses, land allocated for business use, or planning applications for such within the Site, there nevertheless is the possibility that such, say as small cooperative agricultural holdings or business enterprises being generated any time in future as an alternative to the proposed development. Therefore these should not be scoped out of the EIA assessment Comment. The proposal to scope out this factor is challenged</p>	
<p>Scopwick and Kirkby Green Parish Council</p>	<p>Public Rights of Way</p>	<p>Observation. As with 5.63 and 64 it is not clear whether all the current footpaths and permitted paths are covered in the text. This facility is enjoyed and valued not only by the parish but also by the surrounding wider community in the District. A reduction to any of these will impact all communities' freedom of the community to walk the local countryside with adverse consequences to their health and well being. Comment. The proposal to scope out this factor is challenged</p>	<p>We will seek to reduce the number of temporary diversions of Public Rights of Way where practicable during the construction phase.</p>
<p>Scopwick and Kirkby Green Parish Council</p>	<p>Population</p>	<p>Observation. The suggested increase in benefits can at best only be in the short term. Meanwhile as stated above the value added to the local economy resulting from the development will be negative as will occupancy rates in hospitality venues. This inevitably has significant effect on the population. Comment. The proposal to scope out this factor is challenged</p>	<p>A socio-economic statement will be produced and submitted in support of the DCO.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
Scopwick and Kirkby Green Parish Council	Population	Observation. As the effects on population have been demonstrated as significant factors to the EIA as affecting the local and regional area it is justified that it should also be included in the EIA Report'FINAL VERSION OBS ON SPRINGWELL SOLAR FARM SCOPING REPORT Comment. The proposal to scope out this factor is challenged	A socio-economic statement will be produced and submitted in support of the DCO.
Scopwick and Kirkby Green Parish Council	Conclusion	The preceding observations demonstrate that the proposal to scope out from the EIA environmental factors of significance without suitable justification will invalidate its very purpose and is therefore to be challenged. These factors should be made to be part of this EIA process.	N/A
Scopwick and Kirkby Green Parish Council (received from NO2SPRINGWELLSOLAR)			
NO2SPRINGWELLSOLAR	Rochdale Envelope	<p>2.2.3 In order to maintain flexibility in the design, it is the Applicant's intention to use the 'Rochdale Envelope' approach within parameter ranges. The Planning Inspectorate's Advice Note Nine 'Rochdale Envelope' [Ref 2-1] provides specific guidance to applicants on the degree of flexibility that could be considered appropriate under the PA2008 regime.</p> <p>The Rochdale Envelope approach was developed to assist with the development of much large national infrastructure projects such as HS2 where at the start it is difficult to know what matters will be relevant as the project develops. This</p>	The level of flexibility assessed for the purposes of the PEIR are detailed within Chapter 2 and 4 of the PEIR. This will be refined and detailed within the ES.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		flexible approach is not appropriate for a development of this limited and static nature where the matters to be considered can be determined at the start. Its use in this context would be an abuse of the process allowing the Applicants to change their plans at will without proper scrutiny.	
NO2SPRINGW ELLSOLAR	Landscape, Habitat Management and Biodiversity Enhancement	2.4.53The Proposed Development will include landscaping, habitat management, biodiversity enhancement, and amenity improvements, which will be explored as the design progresses. This will be sensitivity designed to retain and enhance ecological and recreational connectivity. 2.4.54. Where possible, existing trees, hedgerows, public rights of way and Local Wildlife Sites would be retained. Comment Received: The words 'explored' and 'recreational connectivity' are not specific enough again the information in the ES needs to be more specific.	Noted.
NO2SPRINGW ELLSOLAR	Lighting	2.4.61The National Grid Substation compound, Project Substation compound, BESS compounds, and Collector Compounds would include lighting, in accordance with relevant standards, but will not be permanently lit. Comment Received: Just lit after dark? Needs to be specific.	The lighting will be manually operated for the Springwell Substation compound, BESS compounds, and Collector Compounds, therefore, it would not be permanently lit.
NO2SPRINGW ELLSOLAR	Use of Borrow Pits	2.5.9 The use of borrow pits during construction of the Proposed Development will be considered as the design	No borrow pits are proposed as part of the project.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>develops. The potential benefit of including borrow pits as part of the Proposed Development include:</p> <ul style="list-style-type: none"> • Allows extracted aggregate to be transported to construction locations (largely via site access tracks) within the Site. • Generates significantly lower levels of Heavy Goods Vehicle (HGV) movements on the local highway network than importation of aggregate from commercial quarries. • Reduces cost risks arising from double handling, importation from commercial quarries and landfill disposal. <p>2.5.10 The benefit of using borrow pits will be carefully considered against any potential environmental impacts. Further detail on the approach to identifying suitable borrow pit locations and justification for their inclusions as part of the Proposed Development will be provided as part of the PEIR and ES.</p> <p>Comment Received: This is a cost cutting exercise allowing the Developers to quarry their own aggregate out of the heath sub-soils to use to build temporary roads and hardstandings; further details and approval from the Environment Agency should be gained. The land where borrow pits are excavated will never be returned to proper agricultural use and this procedure should be prohibited as unnecessary and open to abuse. Unnecessary as there is a limestone quarry adjacent to the proposed site. Open to abuse as there is no monitoring of the 'rubbish' that may end up being dumped in a pit rather than properly (and more expensively) disposed of</p>	

Statutory Consultee		Description	Statutory Consultee Comments	Response
NO2SPRINGW ELLSOLAR	Construction Reinstatement	<p>2.5.16 A programme of construction reinstatement and habitat creation will commence during the construction phase.</p> <p>The above statement is a contradiction in terms, the construction machinery and the work being carried out will be disruptive and will have an adverse effect on wildlife, surely 'during' should be 'after' and further specific detail is required.</p>		An Outline Landscape and Ecological Management (OLEMP) will be produced and submitted in support of the DCO. This will detail the management requirements during construction and operation of the Proposed Development.
NO2SPRINGW ELLSOLAR	Soils Management	<p>2.6.9. An Outline Soils Management Plan (oSMP) will be prepared and submitted with the DCO Application. The oSMP will follow the principles of best practice to maintain the physical properties of the soil, with the aim of restoring the land to its pre-construction condition at the end of the lifetime of the solar farm.</p> <p>With regard to agricultural land remediation. The document states the land will return to agricultural use at the end of the 40 year period, will the ES confirm that if the development is approved all of the concrete bases, foundations, piles and all other sub-structure elements are grubbed up, crushed and recycled on site into aggregate and then removed for future construction use, also where necessary replacing any topsoils with a similar heathland soil where required? If this land is not properly restored it will not be able to be farmed in a conventional manner, unable to be cultivated or harvested due to the potential damage to farm machinery. Wild grasses and weeds will grow and it will look something like the old Butlins Filey holiday camp site does today. I like to see wildflowers</p>		<p>During the decommissioning phase, it is assumed that all concrete, hardstanding areas, foundations for the infrastructure and any internal tracks will be removed to a depth of up to 1m. It is assumed that all the below ground cables will be left in situ. Further detail is included within the PEIR Chapter 2.</p> <p>The landscape management plan will be developed with the Estate to ensure that the landscape design and long-term habitats align with the Estate long term strategy</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		growing but not 4,200 acres of them, when this best and most versatile land should be growing food crops	
NO2SPRINGWELLSOLAR	Above ground infrastructure decommissioning and DEMP	The ES should properly address this? At the moment solar panels at the end of their usable life are finding their way into landfill in Africa. As far as we know there is no recycling facility in the UK. The West's relationship going forward with China is uncertain. Springwell should fully address these matters at this pre-planning stage. The Lincoln Heath is a very fragile part of our county. The heathland soils are light in nature with an element of limestone particles within the growing medium, very free draining to the limestone brash subsoils which continue down to the water bearing strata which is the Central Lincolnshire aquifer which provides drinking water to many hundreds of thousands homes.	Climate Assessment which assesses the reasonable worst case is provided in Chapter 7 of the PEIR.
NO2SPRINGWELLSOLAR	Flood risk and management	The villages of Scopwick and Kirkby Green have been adversely effected by flooding particularly during periods of high rainfall with an increasing incidence in recent years. The problems created by old and poorly maintained surface water drainage and sewerage systems may be exacerbated by the hard landscaping and the solar panels themselves. This should be investigated at an early stage in assessing the suitability of the land for solar panels	The potential impacts to water and groundwater are detailed within Chapter 10 and 13 of the PEIR.
NO2SPRINGWELLSOLAR	Pollution	The natural aquifer which is a unique feature of the Lincolnshire Heath and feeds the many springs and streams which occur along the site of the proposed solar	The potential impacts to water and groundwater are detailed within Chapter 10 and 13 of the PEIR.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>development should be assessed and protected. The risks of pollution need to be assessed and monitored. In particular those associated with known risks of harmful chemicals from solar panels and battery installations.</p>	
<p>NO2SPRINGWELLSOLAR</p>	<p>Protected Species</p>	<p>The area is home to many protected species well adapted to the current landscape of open farmland and small woodlands. A full protected species survey should be carried out before construction begins and the habitats protected from development. The area is home to the wild brown hare whose numbers have declined rapidly in recent years due to habitat loss. They are protected under the Wildlife and Countryside Act 1981 and listed as a priority species under the UK post 2010 Biodiversity Framework. The area is also an important habitat for birds of prey including the red kite, buzzard and barn owl. The number of barn owls is declining and this native bird was placed on the Red List of Birds of Conservation Concern (2021). Similarly the area has important populations of ground nesting birds namely skylarks and lapwings, both species named on the Red List as numbers have been subject to recent dramatic decline. Other animals reported in the area and protected by law include bats, hazel dormice, slow-worms and badgers. The area is also home to several populations of deer, whose populations range over fields threatened with being fenced off and covered with solar panels. At a time when the UK has been assessed as one of the most ecologically impoverished countries in the</p>	<p>The design principles are to avoid habitats of high ecological value and enhance/ or create habitats where possible to mitigate habitat loss and provide benefit to priority and notable species.</p> <p>The surveys carried out to date are considered sufficient to provide baseline information on the importance of habitats and species on site to enable an informed assessment of impact. Further targeted surveys may need to be carried out once design details are confirmed to inform impact and inform the design and mitigation in order to avoid significant adverse impact.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		world, it is proposed to take large areas of open countryside and valuable wildlife habitat for industrial use.	
NO2SPRINGWELLSOLAR	Health	Of those living and working in the area should be considered particularly the effects on mental health. The pandemic highlighted the importance of being out in nature for our mental health. The considerable disruption of construction over many months together with the industrialisation of the landscape with high metal fencing, closely packed solar panels, lighting, cctv and 3.5m high solar stations housing transformers on this vast scale will necessarily have a negative impact on mental health in an area which is used for both residential and recreational purposes.	Noted. The CCTV system will be positioned away from any footpaths and sensitive receptors.
Scopwick and Kirkby Green Parish Council (Mr Marc Williams)			
Scopwick and Kirkby Green Parish Council	Commissioning RSK to prepare the EIA	RSK are not an independent body. They have a biased towards these projects as their ultimate parent company invest in these projects. We should be pushing for a truly independent body. This should be clearly highlighted as a major concern by the PC. RSK are own by a major US private Equity firm called Ares who are directly involved in the Green Energy Market.	Noted.
	Scope of the EIA	This seems to be a common strategy by solar factory developers. Similar strategy was deployed by Mallard Pass developers. We should strongly object. The following should not be taken out of scope - 5.2 (Glint & Glare), 5.3	Noted.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		(Heat & Radiation), 5.4 (Major accidents and disaster), 5.5 (Utilities), 5.6 (Human health), 5.7 (Material assets and waste), 5.8 (population) and 5.9 (Water)	
LA 112	LA 112 is not relevant they need to reconsider - LA112 is for transport projects this isn't a transport project (Design Manual for Roads & Bridges) There are major impacts to all the groups above as highlighted by the 95% who voted against this project in the last Parish meeting.	<ul style="list-style-type: none"> • 5.8.5- 5.8.7 Private Property & Houses - They see no impact on our properties • 5.8.8-5.8.9 Community Land & Assets - They want this out of scope, they miss the point we live in this area for the outstanding natural beauty. • 5.8.10-5.8.14 Agricultural & Development Land - I believe this contradicts much of what was published in the Neighbourhood plan. - How can they position this as out of scope when they are taking 4200 acres of Best Most Valuable farmland out of production. • 5.8.15-5.8.18 Walkers Cyclists & Horse Riders - They see no impact and indicate this should be out of scope. For all of these groups the significant change to the landscape will have a material impact. - We are meant to be promoting health and wellbeing and the countryside is a key element of this. 	<p>The potential visual effects on are addressed in Chapter 9 Landscape and Visual of the PEIR.</p> <p>Socio-economic statement will be produced and submitted in support of the DCO.</p> <p>The impact to Best and Most Versatile agricultural land is assessed within Chapter 10 of the PEIR.</p>
Decommissioning		They say that in 40 years the site will be decommissioned and returned to prior condition. However if we consider 2.4.6, 2.4.19, 2.4.20, 2.4.21, 2.4.24, 2.4.27, 2.4.37, 2.4.38,	During the decommissioning phase, it is assumed that all concrete, hardstanding areas, foundations for the infrastructure

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>2.4.43, 2.4.48 this is clearly not going to happen. These areas are going to be covered in concrete to create hard standing platforms. This along with piling to create footings for the panels this land will never be used again for farming. What cast iron assurances will there be that ever piece of concrete will be removed from the land? Soil management 2.6.9 totally contradicts what's stated in 2.7.2 which states only stuff above ground will be dealt with</p>	<p>and any internal tracks will be removed to a depth of up to 1m. It is assumed that all the below ground cables will be left in situ. Further detail is included within the PEIR Chapter 2.</p>
	Concrete	<p>Where does the significant amount of concrete required to convert this farmland into an industrial site meet any green credentials?</p> <ul style="list-style-type: none"> • Concrete pillars for the panels • Concrete under Independent Outdoor Equipment • Concrete under inverters & Transporter Stations • Concrete in Collection Compounds • Concrete in Substations Compounds • Concrete in Battery Storage Areas • Concrete in National Grid Substation Areas • Concrete in Transmission Tower 	<p>Climate Assessment which assesses the reasonable worst case is provided in Chapter 7 of the PEIR.</p>
	Human rights & privacy	<p>There is going to be fencing at a minimum height of 2.5 metres up to 3m high, with CCTV up to 5 metres high also lighting. The CCTV is a gross intrusion into our human rights with security tracking our right to roam freely in the countryside. We should object strongly on the ground of privacy and human rights.</p>	<p>The CCTV system will be positioned away from any footpaths and sensitive receptors.</p>

Statutory Consultee		Description	Statutory Consultee Comments	Response
	Rochdale Envelope	This seems like an opportunity for the develop to materially change critical elements after a potential consent is granted. We should strongly object. With the resources available to EDF they should be in a position to fully scope and list everything before consent is granted.		The Rochdale Envelope is a common approach employed where the nature of the Proposed Development means that some details of the whole project have not been confirmed when the application is submitted, and flexibility is sought to address uncertainty. It is important to maintain a degree of flexibility to ensure that the Project can use the most up-to-date technology and maximise any efficiencies such technology would enable.
	Extensive network of Public Rights of Way	These have been in place for many years and were originally scoped by MR Eric Parker, these included 4 promoted walks. These walks will be fundamentally changed and spoilt. At a time when we are focussed so much on people's mental wellbeing this will have a significant detrimental impact.		The potential visual effects on users of PROWs are addressed in Chapter 9: Landscape and Visual.
Scopwick and Kirkby Green Parish Council	Cultural Heritage	There are a significant number of Listed Heritage sites across the planned site. These sites will all have their outlooks spoilt by the development		All listed buildings within 5km of the Site have been considered within the DBA and Stage 1 Setting Assessment. The masterplan has taken account of the listed buildings to minimize effects on them. Those sensitive to changes in their setting have been filtered for further assessment based on a worst case ZTV.

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	Drainage	There is already increased risk of flooding in the Scopwick area. The document 5.9.23 references Cook & McQueen (2013) when discussing runoff and potential impacts on flooding. This was a modelled classroom study on a tiny scale. It did demonstrate a small increase. They cannot seriously be using a classroom-based study to take Water out of scope. The potential change to drainage on a site this large could be significant.	Flood Risk Assessment (FRA) will be undertaken as part of the EIA, which will inform the ongoing design of the Sustainable Drainage Systems. The FRA will be submitted in support of the DCO.
	Red Kites are protected by Wildlife & Countryside Act 1981	The protection of Red Kite is the longest continuous Conservation project in the World. There are several nesting in and around Scopwick house.	Noted.
	Use of borrow pits	Can the planning inspectorate guarantee that these sites won't be filled with construction contaminates and then back filled. Ref 5.7 materials, assets & waste	No borrow pits are proposed as part of the project.
	Reasonable alternatives	why has no alternative site or source of power generation been considered.	A summary of reasonable alternatives has been included within Chapter 3 of this PEIR. Further detail will be presented in the ES, the Statement of Need and the Planning Statement.
	Opportunity to enhance the environment	<p>WHERE POSSIBLE – there is zero commitment – the only part of the EIA that isn't concrete.</p> <ul style="list-style-type: none"> • Panels shipped from China • Concrete on the Land 	The design principles are to avoid habitats of high ecological value and enhance/ or create habitats where possible to mitigate

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<ul style="list-style-type: none"> • Alteration of Drainage • Removal of Best most valuable farmland out of production resulting in increase in import and the associated carbon footprint 	habitat loss and provide benefit to priority and notable species.
	Utilities	How can they look to make utilities out of SCOPE There is a significant risk with the Exolum Pipeline that crosses the Blankney estate. This pipeline is a critical piece of infrastructure and needs to be accessed at anytime.	We are aware of the Exolum Pipeline and are engaging with the relevant consultees to ensure that there is sufficient offset distances from any development.
	Socio Economic impact.	Whilst during the construction phase there may be a few extra hotel/B&B rooms rented out the longer-term cost will be much higher as potential tourist will avoid the areas and the impact on property could be devastating	Socio-economic impacts will be detailed within a Socio-economic Statement which will be submitted in support of the DCO.
Scopwick and Kirkby Green Parish Council	Cumulative Effect	There was an Environment and Scrutiny Committee meeting at the County Council where it was apparent that at least 5 NSIPs are going through at the moment and there is a real risk that the grid cannot take it (which will mean not just solar panels but ore pylons and overhead cables).	<p>Chapter 15 of the PEIR sets out the Cumulative effects, methodology for carrying out the assessing and Zone of Influence for each Environmental Factor. This is a preliminary assessment is based on publicly available information at the time.</p> <p>Further consultation with North Kesteven District Council and Lincolnshire County Council to agree the final short list for inclusion in the ES will be undertaken</p>

Statutory Consultee		Description	Statutory Consultee Comments	Response
	Alternatives	Regarding section 3.1.3 (Alternatives), I would like to propose that not just alternative sites but also alternative energy sources eg offshore wind farms are included. The chairman responded that this should be included in our response but it is highly likely that the Planning Inspectorate will say they are only considering that specific application.		Noted. A summary of alternatives has been included within Chapter 3 of this PEIR. Further detail will be presented in the ES, the Statement of Need and the Planning Statement.
	Lithium Battery Storage	An attendee stated he has done research on lithium battery storage which will be predominantly on A15 area. There is a relevant Oxford University paper which he will pass on for inclusion on the website. There is a high level of danger with these units and the fire service have no guidance on dealing with lithium battery fires.		Engagement with Lincolnshire Fire and Rescue is ongoing. The guidance published by the National Fire Chiefs Council in November 2022 will be considered.
Lincolnshire Fire and Rescue				
Lincolnshire Fire and Rescue	Fire risk	The developer should produce a risk reduction strategy (regulation 38 of the Building Regulations) as the responsible person for the scheme as stated in the regulatory Reform (Fire Safety) Order 2005. We would also expect that safety measure and risk mitigation is developed in collaboration with LFR. The strategy should cover the construction, operational and decommissioning phases of the project. During the construction phase the number of daily vehicle movements in the local area will significantly increase. The Service will want to view the transport strategy to minimise this impact and prevent increase in the number of potential road traffic incidents. Any development should not negatively impact on the Service's ability to respond to an incident in the local area.		Noted. Engagement with Lincolnshire Fire and Rescue is ongoing.

Statutory Consultee	Description	Statutory Consultee Comments	Response
Lincolnshire Fire and Rescue	Battery and energy storage	<p>LFR recognises the use of batteries (including lithium-ion) as Energy Storage Systems (ESS) is a new and emerging practice in the global renewable energy sector. As with all new and emerging practices within the UK industry the service would like to work with the developers to better understand any risks that may be posed and develop strategies and procedures to mitigate these risks.</p>	<p>Noted. Engagement with Lincolnshire Fire and Rescue in relation to the BESS is ongoing.</p>
Lincolnshire Fire and Rescue	Fire risk	<p>The developer must ensure the risk of fire is minimised by: Procuring components and using construction techniques which comply with all relevant legislation.</p> <p>The inclusion of Automatic Fire Detection systems in the development design.</p> <p>Including automatic fire suppression systems in the development design. Various types of suppression systems are available, but the Service's preferred system would be a water misting system as fires involving Lithium-ion batteries have the potential for thermal runaway. Other systems would be less effective in preventing re-ignition.</p> <p>Including redundancy in the design to provide multiple layers of protection.</p> <p>Designing the development to contain and restrict the spread of fire through the use of fire-resistant materials, and adequate separation between elements of the Battery Energy Storage System (BESS).</p> <p>Developing an emergency response plan with the LFR to minimise the impact of an incident during construction, operation and decommissioning of the facility.</p> <p>Ensuring the BESS is located away from residential areas.</p> <p>Prevailing wind directions should be factored into the</p>	<p>Noted. Engagement with Lincolnshire Fire and Rescue in relation to the BESS is ongoing.</p> <p>The potential impacts to water and groundwater are assessed within Chapter 10 and 13 of the PEIR.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>location of the BESS to minimise the impact of a fire involving lithium-ion batteries due to the toxic fumes produced.</p> <p>The emergency response plan should include details of the hazards associated with lithium-ion batteries, isolation of electrical sources to enable fire-fighting activities, measures to extinguish or cool batteries involved in fire, management of toxic or flammable gases, minimise the environmental impact of an incident, containment of fire water run-off, handling and responsibility for disposal of damaged batteries, establishment of regular onsite training exercises.</p> <p>The emergency response plan should be maintained and regularly reviewed by the occupier and any material changes notified to LFR.</p> <p>Environmental impact should include the prevention of ground contamination, water course pollution, and the release of toxic gases.</p>	
BESS		<p>The BESS facilities should be designed to provide:</p> <ul style="list-style-type: none"> - Adequate separation between containers. - Provide adequate thermal barriers between switch gear and batteries, - Install adequate ventilation or an air conditioning system to control the temperature. Ventilation is important since batteries will continue to generate flammable gas as long as they are hot. Also, carbon monoxide will be generated until the batteries are completely cooled through to their core. 	Noted. Engagement with Lincolnshire Fire and Rescue in relation to the BESS is ongoing.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<ul style="list-style-type: none"> - Install a very early warning fire detection system, such as aspirating smoke detection/air sampling. - Install suitable gas monitoring / detection that will support early detection of leaks/issues, within the BESS containers. Consider Volatile Organic Compound (VOC), sensors as they respond to droplets of organic solvent. - Consider the installation of internal suppression protection within BESS containers. Suitable systems/strategies should be installed / developed to ensure the fire does not propagate beyond a single cabinet. - Ensure that sufficient water is available for manual fire-fighting. An external fire hydrant should be located in close proximity of the BESS containers. – The water supply should be able to provide a minimum of 1,900 l/min for at least 120 minutes (2 hours). Further hydrants should be strategically located across the development. These should be tested and serviced at regular intervals by the operator. If the site is remote from a pressure feed water supply, then an Emergency Water Supply (EWS) meeting the above standard should be incorporated into the design of the site e.g. an open water source and/or tank(s). If above ground EWS tanks are installed, these should include facilities for the FRS to discharge (140/100mm RT outlet) and refill the tank. - The site design should include a safe access route for fire appliances to manoeuvre within the site (including turning circles). An alternative access point and approach route should be provided and maintained to enable appliances to approach from an up-wind direction. 	

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<ul style="list-style-type: none"> - As the majority of BESS are remotely monitored, consideration should include the fixing of an Information Box (IB) at the FRS access point. The purpose of the IB is to provide information for first responders e.g. Emergency Response Plan, to include water supplies for firefighting, drainage plans highlighting any Pollution Control Devices (PCDs) / Penstocks etc for the FRS. - Consideration of external visual indicator that allows effected area to be easily identified. <p>LFR are aware that large scale BESS is a fairly new technology, and as such risks may or may not be captured in current guidance in pursuance of the Building Regulations (as amended) and the Regulatory Reform (Fire Safety) Order 2005. This will highlight challenges the FRS have when responding to Building Regulations consultations. For this reason, we strongly recommend applying the National Fire Protection Association (NFPA) 855 Standard for the Installation of Stationary Energy Storage Systems</p>	
National Gas Transmission			
National Gas Transmission	Electrical interference	National Gas Transmission operates 3 high pressure gas pipelines in the vicinity of the proposed solar farm. The site boundary doesn't appear to encroach on the pipelines or easements, but there is a potential risk of electrical interference from the proposed solar farm and battery energy storage systems. The developer will need to provide an earthing report and electrical risk assessment to	Noted. Engagement with National Grid Transmission is ongoing.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>show that the potential transfer voltages to the pipelines are within safe levels, and pre and post energisation surveys may be required. I would be happy to arrange a meeting with the developer to discuss the project</p>	
<p>National Gas Transmission</p>		<p>National Gas Transmission exercises its right to place a Holding Objection to the above proposal which will cross our High-Pressure Gas Pipeline.</p> <ul style="list-style-type: none"> • We would draw your attention to the Planning (Hazardous Substances) Regulations 1992, the Land Use Planning rules and PADHI (Planning Advise for Developments near Hazardous Installations) guidance published by the HSE, which may affect this development. • To visit the Land Use Planning site, please use the link below: https://www.hse.gov.uk/landuseplanning/methodology.htm • No buildings should encroach within the Easement strip of the pipeline • No demolition shall be allowed within 150 metres of a pipeline without an assessment of the vibration levels at the pipeline. Expert advice may need to be sought which can be arranged through National Gas Transmission. • National Gas Transmission has a Deed of Easement for each pipeline which prevents change to existing ground levels, storage of materials. It also prevents the erection of permanent / temporary buildings, or structures. If necessary National grid will take action to legally enforce the terms of the easement. Internal to Wipro 	<p>Noted.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<ul style="list-style-type: none"> • You should be aware of the Health and Safety Executives guidance document HS(G) 47 "Avoiding Danger from Underground Services", and National Gas Transmission's specification for Safe Working in the Vicinity of National Gas Transmission High Pressure gas pipelines and associated installations - requirements for third parties T/SP/SSW22. You should already have received a link to download a copy of T/SP/SSW/22, from our Plant protection Team, which is also available to download from our website. • To view the SSW22 Document, please use the link below: https://www.nationalgrid.com/uk/gas-transmission/document/113921/download • A National Gas Transmission representative will be monitoring the works to comply with SSW22. • To download a copy of the HSE Guidance HS(G)47, please use the following link: • http://www.hse.gov.uk/pubns/books/hsg47.htm • National Gas Transmission will also need to ensure that our pipelines access is maintained during and after construction. • Our pipelines are normally buried to a depth cover of 1.1 metres however; actual depth and position must be confirmed on site by trial hole investigation under the supervision of a National Gas Transmission representative. Ground cover above our pipelines should not be reduced or increased. • If any excavations are planned within 3 metres of National Gas Transmission High Pressure Pipeline or, within 10 	

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>metres of an AGI (Above Ground Installation), or if any embankment or dredging works are proposed then the actual position and depth of the pipeline must be established on site in the presence of a National Gas Transmission representative. A safe working method must be agreed prior to any work taking place in order to minimise the risk of damage and ensure the final depth of cover does not affect the integrity of the pipeline.</p> <ul style="list-style-type: none"> • Excavation works may take place unsupervised no closer than 3 metres from the pipeline once the actual depth and position has been confirmed on site under the supervision of a National Gas Transmission representative. Similarly, excavation with hand held power tools is not permitted within 1.5 metres from our apparatus and the work is undertaken with NGT supervision and guidance. 	
<p>National Gas Transmission</p>	<p>Pipeline Crossings</p>	<ul style="list-style-type: none"> • Where existing roads cannot be used, construction traffic should ONLY cross the pipeline at locations agreed with a National Gas Transmission engineer. • All crossing points will be fenced on both sides with a post and wire fence and with the fence returned along the easement for a distance of 6 metres. • The pipeline shall be protected, at the crossing points, by temporary rafts constructed at ground level. No protective measures including the installation of concrete slab protection shall be installed over or near to the National Gas Transmission pipeline without the prior permission of National Gas Transmission. National Gas Transmission will need to agree the material, the dimensions and method of 	<p>Noted.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>installation of the proposed protective measure. The method of installation shall be confirmed through the submission of a formal written method statement from the contractor to National Gas Transmission.</p> <ul style="list-style-type: none"> • Please be aware that written permission from National Gas Transmission is required before any works commence within the National Gas Transmission easement strip. • A National Gas Transmission representative shall monitor any works within close proximity to the pipeline to comply with National Gas Transmission specification T/SP/SSW22. Internal to Wipro • A Deed of Indemnity is required for any crossing of the easement including cables 	
National Gas Transmission	Cables Crossing	<ul style="list-style-type: none"> • Cables may cross the pipeline at perpendicular angle to the pipeline i.e. 90 degrees. • A National Gas Transmission representative shall supervise any cable crossing of a pipeline. • An impact protection slab should be laid between the cable and pipeline if the cable crossing is above the pipeline. • Where a new service is to cross over the pipeline a clearance distance of 0.6 metres between the crown of the pipeline and underside of the service should be maintained. If this cannot be achieved the service must cross below the pipeline with a clearance distance of 0.6 metres. <p>All work should be carried out in accordance with British Standards policy</p> <ul style="list-style-type: none"> • BS EN 13509:2003 - Cathodic protection measurement techniques 	Noted.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<ul style="list-style-type: none"> • BS EN 12954:2001 - Cathodic protection of buried or immersed metallic structures – General principles and application for pipelines • BS 7361 Part 1 - Cathodic Protection Code of Practice for land and marine applications. 	
National Gas Transmission	National Gas Transmission – High Risk Response Letter	An assessment has been carried out with respect to National Gas Transmission plc's apparatus and the proposed work location. Based on the location entered into the system for assessment the area has been found to be within the High Risk zone from National Gas Transmission plc's apparatus and you MUST NOT PROCEED without further assessment from Asset Protection.	Noted.
National Gas Transmission	National High Pressure Gas Pipelines	<p>BEFORE carrying out any work you must:</p> <ul style="list-style-type: none"> - Ensure that no works are undertaken in the vicinity of our gas pipelines and that no heavy plant, machinery or vehicles cross the route of the pipeline until detailed consultation has taken place. - Carefully read these requirements including the attached guidance documents and maps showing the location of apparatus. - Contact the landowner and ensure any proposed works in private land do not infringe National Gas Transmission's legal rights (i.e. easements or wayleaves). If the works are in the road or footpath the relevant local authority should be contacted. - Ensure that all persons, including direct labour and contractors, working for you on or near National Gas Transmission's apparatus follow the requirements of the 	Noted.

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		<p>HSE Guidance Notes HSG47 - 'Avoiding Danger from Underground Services' This guidance can be downloaded free of charge at http://www.hse.gov.uk</p> <ul style="list-style-type: none"> - In line with the above guidance, verify and establish the actual position of mains, pipes, cables, services and other apparatus on site before any activities are undertaken. 	
<p>National Gas Transmission</p>	<p>National High Pressure Gas Pipelines</p>	<p>DURING any work you must:</p> <ul style="list-style-type: none"> - Ensure that the National Gas Transmission requirements are followed for work in the vicinity of High pressure pipelines including the supervision of the digging of trial holes. - Comply with all guidance relating to general activities and any specific guidance for each asset type as specified in the Guidance Section below. - Ensure that access to National Gas Transmission apparatus is maintained at all times. - Prevent the placing of heavy construction plant, equipment, materials or the passage of heavy vehicles over National Gas Transmission apparatus unless specifically agreed with National Gas Transmission in advance. - Exercise extreme caution if slab (mass) concrete is encountered during excavation works as this may be protecting or supporting National Gas Transmission apparatus. - Maintain appropriate clearances between gas apparatus and the position of other buried plant. 	<p>Noted.</p>

Statutory Consultee		Description	Statutory Consultee Comments	Response
National Gas Transmission	Letter pages 153-157	<p>NGT has three feeder mains located within the vicinity of the Order limits near Scopwick and Kirkby Green however these are currently located to the East outside of the Order limits. The closest pipeline is:</p> <ul style="list-style-type: none"> ▪ Feeder Main 24 – Hatton to Silk Willoughby 		Noted.
National Grid				
National Grid	Electricity Infrastructure	<ul style="list-style-type: none"> ▪ NGET's Overhead Line/s is protected by a Deed of Easement/Wayleave Agreement which provides full right of access to retain, maintain, repair and inspect our asset ▪ Statutory electrical safety clearances must be maintained at all times. Any proposed buildings must not be closer than 5.3m to the lowest conductor. NGET recommends that no permanent structures are built directly beneath overhead lines. These distances are set out in EN 43 – 8 Technical Specification for "overhead line clearances Issue 3 (2004)". ▪ If any changes in ground levels are proposed either beneath or in close proximity to our existing overhead lines then this would serve to reduce the safety clearances for such overhead lines. Safe clearances for existing overhead lines must be maintained in all circumstances. ▪ The relevant guidance in relation to working safely near to existing overhead lines is contained within the Health and Safety Executive's (www.hse.gov.uk) Guidance Note GS 6 "Avoidance of Danger from Overhead Electric Lines" and all relevant site staff should make sure that they are both aware of and understand this guidance. 		Noted. This will be taken account of in the ongoing design and management plans.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<ul style="list-style-type: none"> ▪ Plant, machinery, equipment, buildings or scaffolding should not encroach within 5.3 metres of any of our high voltage conductors when those conductors are under their worse conditions of maximum “sag” and “swing” and overhead line profile (maximum “sag” and “swing”) drawings should be obtained using the contact details above. ▪ If a landscaping scheme is proposed as part of the proposal, we request that only slow and low growing species of trees and shrubs are planted beneath and adjacent to the existing overhead line to reduce the risk of growth to a height which compromises statutory safety clearances. ▪ Drilling or excavation works should not be undertaken if they have the potential to disturb or adversely affect the foundations or “pillars of support” of any existing tower. These foundations always extend beyond the base area of the existing tower and foundation (“pillar of support”) drawings can be obtained using the contact details above. ▪ NGET high voltage underground cables are protected by a Deed of Grant; Easement; Wayleave Agreement or the provisions of the New Roads and Street Works Act. These provisions provide NGET full right of access to retain, maintain, repair and inspect our assets. Hence we require that no permanent / temporary structures are to be built over our cables or within the easement strip. Any such proposals should be discussed and agreed with NGET prior to any works taking place. 	

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<ul style="list-style-type: none"> ▪ Ground levels above our cables must not be altered in any way. Any alterations to the depth of our cables will subsequently alter the rating of the circuit and can compromise the reliability, efficiency and safety of our electricity network and requires consultation with National Grid prior to any such changes in both level and construction being implemented. 	
National Highways			
National Highways	Site Access and Boundary	It is noted that the site will not be accessed directly from the SRN and is located far enough from the SRN that there should be no physical impacts to our network. Consequently, we would have no comments regarding site access or boundary matters.	N/A
	Operation - Traffic Impacts	It is anticipated that during normal operations vehicle trips to the site for maintenance purposes will be minimal. In view of this, we are unlikely to have any concerns relating to traffic impacts on our network once the site is operational, particularly considering the distance from our network.	N/A
	Construction - Traffic Impacts	According to the scoping document, construction is indicatively scheduled to commence in 2026 and last for approximately 48 months across two phases. This will be followed by a commissioning period of approximately six months. It is stated that a Preliminary Environmental Information Report (PEIR) and Environmental Statement	Consultation with National Highways is ongoing to determine the potential impact of construction traffic on the SRN

Statutory Consultee		Description	Statutory Consultee Comments	Response
		<p>(ES) will be produced to provide further details on the proposed construction activities.</p> <p>The Environmental Statement will include a Traffic & Transport chapter informed by a transport assessment. National Highways is appropriately listed as a key consultee in this regard. The scoping report however suggests a study area to include the B1189, B1188, B1191, and A15. Routes managed by National Highways are not mentioned. Whilst it may not be necessary to include the Strategic Road Network in the detailed study area, National Highways will require information on the number of HGVs that will be travelling on the SRN to transport materials and equipment to the site. We also require an understanding of the time of day they will likely be arriving and leaving. Information regarding the access and exit routes and arrival/departure times of workers during the construction period should also be provided to enable sufficient understanding and management of construction traffic and to minimise impacts on the SRN.</p> <p>The above information is necessary to understand the potential impact of construction traffic on the SRN and whether it will be necessary to include any parts of the SRN in the study area for the transport assessment.</p>		
NATS Safeguarding				
NATS	Technical safeguarding	The proposed development has been examined from a technical safeguarding aspect and does not conflict with our safeguarding criteria. Accordingly, NATS (En Route)		Noted.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>Public Limited Company (NERL) has no safeguarding objection to the proposal.</p> <p>However, please be aware that this response applies specifically to the above consultation and only reflects the position of NATS (that is responsible for the management of en route air traffic) based on the information supplied at the time of this application. This letter does not provide any indication of the position of any other party, whether they be an airport, airspace user or otherwise. It remains your responsibility to ensure that all the appropriate consultees are properly consulted.</p> <p>If any changes are proposed to the information supplied to NATS in regard to this application which become the basis of a revised, amended or further application for approval, then as a statutory consultee NERL requires that it be further consulted on any such changes prior to any planning permission or any consent being granted.</p>	
Natural England			
Natural England	Impact of the proposed development on designated sites:	The proposal is unlikely to adversely impact any European or internationally designated nature conservation sites or nationally designated sites and has not triggered a current Natural England Impact Risk Zone.	N/A
Natural England	In-Combination/ Cumulative impacts	The Environmental Statement should include in-combination/cumulative assessment of the whole development proposal. Section 7 of the EIA Scoping Report discusses the need for cumulative assessment, and	Noted. Further engagement will be held with Natural England to agree the developments to assess as part of the

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>the methodology to be used in this assessment. Natural England would like to note the significant number of Solar projects currently proposed in Lincolnshire and the East Midlands. These projects include Cottam Solar Project, West Burton Solar Project, Tillbridge Solar Project, Heckington Fen Solar Project, Gate Burton Solar Project, Mallard Pass Solar Project. As such, it is important that all possible cumulative impacts from these projects on the environment are considered within the ES.</p>	<p>cumulative assessment for the ES. Preliminary assessment of intra-project effects and inter- project effects are included within Chapter 6 and Chapter 15,</p>
<p>Natural England</p>	<p>Loss of Agricultural Land (BMV)</p>	<p>Section 6.6.5 indicates that national level data shows the site contains a high proportion of Best and Most Versatile (BMV) agricultural land. It is also noted that an ALC survey is currently underway across the site, which is welcomed. This should normally be at a detailed level, e.g. one auger boring per hectare, (or more detailed for a small site) supported by pits dug in each main soil type to confirm the physical characteristics of the full depth of the soil resource, i.e. 1.2 metres. The survey should cover the entire site, including any proposed cable routes.</p> <p>In order to both retain the long-term potential of this land and to safeguard all soil resources as part of the overall sustainability of the whole development, it is important that the soil is able to retain as many of its many important functions and services (ecosystem services) as possible. The following issues should be considered and included as part of the Environmental Statement (ES):</p> <ul style="list-style-type: none"> - The degree to which soils would be disturbed, damaged or lost as part of the development. This should include a 	<p>Agricultural land survey has been undertaken of the Site at one auger per hectare. Further detail is provided in Chapter 10 of the PEIR.</p> <p>Agricultural land classification survey will be undertaken of the cable route location once this has been refined to inform the ES.</p> <p>Agricultural land and soil will be managed through the construction and operational phase by the implementation of a soil management plan. An outline soil management plan will be submitted in support of the DCO.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>breakdown of temporary and permanent impacts to soils (including amounts and proportions of BMV land) from all parts of the development, including, but not necessarily limited to: Solar PV panel areas, substations and other associated infrastructure, cable routes and biodiversity enhancement areas.</p> <p>- The ES should set out details of how any adverse impacts on BMV agricultural land can be minimised through site design. The results of the ALC survey should be used to influence the site design; areas of BMV land should be avoided wherever possible. - The ES should also set out details of how any adverse impacts on soils can be avoided or minimised and demonstrate how soils will be sustainably used and managed, including consideration of areas for green infrastructure or biodiversity net gain. The aim will be to minimise soil handling and maximise the sustainable use and management of the available soil to achieve successful after-uses and minimise offsite impacts. A Soil Management Plan should be used to prevent unacceptable impacts to the soil resource on the site</p>	
<p>Natural England</p>	<p>Regionally and Locally Important Sites</p>	<p>The ES should consider any impacts upon local wildlife and geological sites, including local nature reserves. The ES should set out proposals for mitigation of any impacts and if appropriate, compensation measures and opportunities for enhancement and improved connectivity with wider ecological networks. Consultation should therefore take place with the Ecology Officers for Lincolnshire County Council. Non-statutory consultees such as the Wildlife</p>	<p>Noted. Consultation meetings have been undertaken with North Kesteven District Council, Lincolnshire County Council and Lincolnshire Wildlife Trust and will be ongoing to inform the design and ES.</p>

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		Trusts should also be approached; we note the stated intention to consult Lincolnshire Wildlife Trust.	
Natural England	Protected Species	The ES should assess the impact of all phases of the proposal on protected species. We note preliminary surveys have taken place and that the ES will provide details of any proposed mitigation measures required. Consideration should be given to the wider context of the site, for example in terms of habitat linkages and protected species populations in the wider area. Natural England's standing advice ¹ provides guidance on how protected species should be dealt with in the planning system. The Standing Advice should not be treated as giving any indication or providing any assurance in respect of European Protected Species (EPS) that the proposed development is unlikely to affect the EPS present on the site; nor should it be interpreted as meaning that Natural England has reached any views as to whether a licence may be granted.	<p>The design principles are to avoid habitats of high ecological value and enhance/ or create habitats and linkages/wildlife corridors to mitigate habitat loss and provide benefit to priority and notable species.</p> <p>The surveys have/and will follow best practice guidelines. Further targeted surveys may need to be carried out once design details are confirmed to inform impact and inform the design and mitigation in order to avoid adverse impact. Natural England's Discretionary Advice Service will be sought if any advice on survey methods and/or if any EPS licences are likely required.</p>
Natural England	Biodiversity Net Gain	<p>The ES should include a Biodiversity Net Gain Assessment and Habitat Management Plan. We note the intention to include a LEMP, which should encompass the information required to explain how the site will continue to be managed for the lifetime of the development. In Addition, the Habitat Management Plan (or LEMP) should also provide details on:</p> <ul style="list-style-type: none"> - Retention and enhancement of existing habitat features such as hedgerows, woodland and ponds; 	Noted: A Outline LEMP and BNG assessment will be produced and submitted in support of the DCO.

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		<ul style="list-style-type: none"> - ensuring created habitats establish and any remedial actions should they fail to establish initially; - proposed habitat connectivity to surrounding habitats which would contribute to the wider Nature Recovery Network. <p>The EIA Scoping Report notes that a substantial net gain in biodiversity will be achieved, however, no specific reference to Biodiversity Net Gain, or use of the DEFRA Metric, has been made. We recommend that a biodiversity Net Gain assessment is carried out, using the Defra Biodiversity Metric 4.0, to quantify the gains created for biodiversity. ¹ https://www.gov.uk/protected-species-and-sites-how-to-review-planning-proposals Although government intends to mandate measurable biodiversity net gain for all new development at present there is no mandatory requirement to do this for NSIPs until 2025. We therefore advise that taking the net gain approach would make this development exemplary and would be illustrative of the intent to work to benefit the environment through development. Natural England would be pleased to advise on any plan of action regarding BNG. Please be advised that the Defra metric should not be used to assess impacts and calculate compensation for habitat damage or loss in designated sites or irreplaceable habitats. Any impacts on such habitats and sites should be assessed in accordance with planning policy and via the environmental assessment.</p>	
Natural England	Impact on Protected and	The proposal is not located within or in the distinctive setting of the Lincolnshire Wolds Area of Outstanding Natural Beauty. Nonetheless, the ES should include an	Chapter 9 considers local landscape character with reference to National Character Areas and local landscape

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	Local Landscapes	<p>assessment of local landscape character through the consideration of the relevant National Character Areas and any local landscape character assessments. We would expect the following forms of guidance to be used.</p> <ul style="list-style-type: none"> • ‘Guidelines for Landscape and Visual Impact Assessment’ (3rd Edition) (GLVIA3), Landscape Institute and Institute of Environmental Management and Assessment, 2013; • ‘An Approach to Landscape Character Assessment’, Natural England, 2014: and • ‘Visual Representation of Development Proposals Technical Guidance Note’ 06/19, Landscape Institute, 2019. 	<p>character assessments. Relevant best practice guidance documents including those highlighted here are referenced as appropriate in Chapter 9 of the PEIR.</p>
Natural England	Connecting People with Nature	<p>Measures to help people to better access the countryside for quiet enjoyment and opportunities to connect with nature should be considered. Such measures could include reinstating existing footpaths or the creation of new footpaths, cycleways, and bridleways. Links to other green networks and, where appropriate, urban fringe areas should also be explored to help promote the creation of wider green infrastructure. Access to nature within the development site should also be considered, including the role that natural links have in connecting habitats and providing potential pathways for movements of species. Relevant aspects of local authority green infrastructure strategies should be incorporated where appropriate. We note there is an extensive network of public rights of way within the site which link with the surrounding settlements. We would expect access to these to be retained and</p>	<p>Existing Public Rights of Way within the Site will be retained.</p> <p>Based on feedback from non-statutory consultation, the Proposed Development is exploring several Rights of Way improvements and permissive paths within the Site to connect existing routes and settlements. Further information is detailed within Chapter 2 of the PEIR.</p>

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		temporary diversions placed as necessary. There may also be opportunities for new permissive paths and linkages to existing paths, as well as for improving the interpretation of the countryside, the solar project and the biodiversity enhancements that it may bring, via the use of measures such as interpretation boards.	
Natural England	Further Information	Annex A Provides Natural England's general advice on the scope of all Environmental Impact Assessments (EIA). Should the proposal be amended in a way which significantly affects its impact on the natural environment then, in accordance with Section 4 of the Natural Environment and Rural Communities Act 2006, Natural England should be consulted again. We would be happy to comment further should the need arise but if in the meantime you have any queries, please do not hesitate to contact us. For any queries relating to the specific advice in this letter please contact Robbie Clarey at @naturalengland.org.uk or on . Please send any new consultations or further information on this consultation to consultations@naturalengland.org.uk.	Noted. Engagement is ongoing with Natural England.
Newark & Sherwood District Council			
Newark & Sherwood District Council	No comment	I can advise that Newark & Sherwood District Council have no comments to make on the Environmental Impact Assessment Scoping Report (by RSK Environmental Limited Dated March 2023).	N/A

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NHS Lincolnshire Integrated Care Board			
NHS Lincolnshire Integrated Care Board	No comment	NHS Lincolnshire Integrated Care Board does not have any comments to make.	N/A
Norfolk County Council			
Norfolk County Council	No comment	Give then location of the development I can confirm that the County Council does not have any comments to make on this project	N/A
North East Lincolnshire Council			
North East Lincolnshire Council	No comment	I can confirm there are no comments to make.	N/A
North Kesteven District Council			
North Kesteven District Council	Consultation	Paragraph 5.8 of the advice note recommends that applicants undertake their own non statutory consultation with the consultation bodies, or others, prior to submission of a Scoping Request to allow for refinement of options ahead of the formal request. It notes that applicants may choose to consult on preferred sites or solutions.	Non-statutory consultation was undertaken in January – March 2023 prior to the submission of the EIA Scoping Report.
North Kesteven	Scoping	Paragraph 5.9 then cautions that applicants should consider carefully the best time to request a scoping opinion, and that “in order to gain the most benefit,	Noted. Further detail on the reasonable alternatives and design options are presented in the PEIR.

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District Council		<p>applicants should consider requesting the opinion once there is sufficient certainty about the design of the Proposed Development and the main design elements likely to have a significant environmental effect”</p> <p>Continuing, it advises that applicants “should avoid submitting requests with multiple and varied design and layout options” however that if this cannot be avoided and options remain under consideration (for example a number of route corridors associated with a proposed linear development) “applicants should be aware that this may affect the ability of the Planning Inspectorate and consultation bodies to provide detailed comments”. Finally, paragraph 5.9 notes that “should a high level of uncertainty remain around key design elements of the Proposed Development this is likely to limit the Planning Inspectorate’s ability to agree to scope out aspects/matters to enable the refinement of the ES”</p>	
North Kesteven District Council	Design Parameters	<p>Paragraph 2.2.7 notes that further detail on draft design approach that is being used to inform the EIA is presented in Section 2.4 and that design parameters will be further developed for statutory consultation and presented in the PEIR, with final parameters and limits of deviation presented in the ES, draft order and works plans. Whilst we accept that design parameters and layout will evolve as the scheme progresses, as above the Council’s view is that there is insufficient detail across the collective Scoping Report including its Appendices to provide any meaningful feedback even in relation to preliminary design considerations.</p>	Noted. Preliminary design parameters are detailed within this PEIR.

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North Kesteven District Council	National Grid Substation	<p>Paragraph 2.3.2 confirms that elements of the proposals will be permanent; notably the National Grid Substation. The NGS is confirmed as a component of the scheme at paragraph 2.4.1. The applicant will need to ensure that the respective sections of the ES dealing specifically with the NGS acknowledge and address this matter when applying significance criteria and the overall assessment of effects. In many cases the emerging overall assessment, where presented in the Scoping Report, highlights the temporary/reversible nature of the development when drawing those initial conclusions however clearly this will not be the case for the NGS.</p> <p>Mindful that the NGS is likely to be permanent operational development that is not decommissioned at/ahead of the 40-year lifetime of the solar park, the Council considers it likely that this will increase the prospect and probability that the solar park would seek repowering or partial repowering beyond 40 years. Whilst we appreciate that such a scheme is not before PINS and they are required to consider the Scoping Report as submitted we would request that this potential scenario is accounted for.</p>	<p>The National Grid Substation no longer forms part of the Proposed Development. The Solar PV development including the Springwell Substation and BESS are considered to be temporary with an operational life of 40 years.</p>
North Kesteven District Council	Solar PV Mounting Structure	<p>Paragraph 2.4.7 states that the mounting structure carrying the solar PV modules will be designed to face southwards on a single-axis tracker or on a tracking platform. Both options should be considered specifically in the context of LVIA, glint and glare and noise. Paragraphs 2.4.17, 23, 25,</p>	<p>As detailed in the Proposed Development description presented in Chapter 2 of PEIR, fixed mounting structure is the only option that is proposed. Tracking panels have since been discounted following</p>

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		34, 37, & 43 – as above there are significant unknowns in terms of the location, layout and composition of the BOSS, BESS and NGS. It is clear that different configuration options are currently being considered for the inverters, transformers and switchgears. 4 The ES will need to assess all options being considered at this stage (e.g. string or centralised inverters; independent outdoor or contained indoor equipment) and any potential impacts arising from each of these (e.g. noise, landscape and visual impact, etc) until or unless a decision is taken on which option would be used in advance of completing the ES.	further design development and environmental surveys.
North Kesteven District Council	Lighting	Paragraph 2.4.61 states that the NGS compound, Project Substation compound, BESS compounds, and Collector Compounds would include lighting, in accordance with relevant standards, but will not be permanently lit. Whether scoped in or out of the ES, external lighting should be assessed in a lighting assessment to include consideration of glare, glow, lux levels and consideration of Environmental Zone (ILE standards) source intensity levels relative to the countryside location of the site.	Further information on lighting will be included within the ES.
North Kesteven District Council	Borrow Pits	Paragraph 2.5.9 states that borrow pits might be used to source construction material. The relevant chapters of the ES must consider associated impacts, e.g. in relation to minerals impacts/potential sterilisation, groundwater/hydrology, noise/vibration, residential amenity, ecology and restoration of the pits. If proposed, the borrow	No borrow pits are proposed as part of the Proposed Development.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		pits must be included within the proposed Order Limits of the development.	
North Kesteven District Council	National Grid Substation	With reference to paragraph 2.7.4, as above the NGS is expected to be a permanent feature that needs to be factored into the overall assessment of impacts.	The National Grid Substation no longer forms part of the Proposed Development.
North Kesteven District Council	Alternatives	This section is focussed solely on alternative layouts and the 'no development' scenario; for example at paragraph 3.2.3 which states that 'the size, scale, and preferred location for key features (permanent and temporary) of the Proposed Development will require careful consideration as the design process evolves'. There is no specific reference to alternative sites, nor the degree to which the various environmental or other constraints will be factored into the search parameters in order to identify and potentially rule out (with evidence) what those alternatives are. It is accepted that the grid connection option is a key locational factor for solar farms however unlike the other known registered and pending NSIP solar schemes in Lincolnshire which have grid connection offers at existing substations via National Grid, in this case the export of energy requires a new NGS as part of the DCO. The Scoping Report states that up to two new 400kV transmission towers are needed to facilitate the electrical connection of the National Grid Substation to the existing 400kV transmission line and that the towers would be located within 50m of the existing 400kV overhead transmission line which crosses Springwell West. On this basis, in the absence of any other	Noted. A summary of alternatives has been included within Chapter 3 of this PEIR. Further detail will be presented in the ES, the Statement of Need and the Planning Statement as part of the DCO submission.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>discussion or supporting information in the Scoping Report the 'reasonable alternatives' site search area is theoretically anywhere in a linear corridor along the identified 400kV circuit; which therefore encompasses expansive areas of land not only within the District but also outside the District and potentially beyond the Lincolnshire county boundary (in theory, nationally given this is an NSIP project and therefore locational need factors are not relevant and any other 400kV powerline network could potentially act as a connection point for a new national grid connection). 5 The search area proposed by the Council in relation to Heckington Fen Solar Park was county-level (in the context of NSIP-scaled solar farms registered with PINS in the West Lindsey/Bassetlaw and South Kesteven/Rutland districts) and in consideration of the grid connection options associated with those schemes. We requested that evidence should be provided from the National Grid confirming whether and why alternative connections into existing substations (for example Bicker Fen, Cottam, Ryhall, Spalding) could not be secured. In the Council's view the approach to considering alternative sites should initially start with the applicant evidencing why grid connections into these substations cannot be made. This should not be on the basis of simply ruling those out on the basis of an excessive grid connection distance; but to provide written evidence from National Grid of an inability to offer a connection point on capacity or other infrastructure grounds and the earliest timescale, where applicable, that an offer might be made. If this can</p>	

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>evidenced, the second element of that exercise is to then consider alternatives on the 400Kv circuit (which passes through Springwell West) and which (as above) is in theory of considerable length. The assessment should have regard to environmental constraints including BMV land impacts and should not focus solely on land that is 'not BMV', but rather also areas that comprise lesser proportions of BMV. In terms of the 'site specific' consideration of alternatives (without prejudice to our comments in relation to alternative sites) we consider that the exercise also needs to consider alternative site layouts within Springwell east, central and west including potentially a reduction in MW generating capacity aligned with location of the respective Agricultural Land Classification Grades in order to demonstrate avoidance or minimisation of agricultural land impacts. As currently proposed we do not consider that the applicants proposed assessment of alternatives (in part by reference to Appendix B) is sufficient.</p>	
North Kesteven District Council	Consultation	Paragraph 4.2.6 states that as part of the EIA process, the applicant will consult with a range of statutory and non-statutory consultees. Whilst noting that the subsequent list is not exhaustive, it does not include the MOD/DE/DIO, Internal Drainage Board, and RAF Cranwell and Waddington	Noted.
North Kesteven	Design iterations	Paragraph 4.3.1 notes that as the detailed design of the Proposed Development is still emerging, as are the environmental surveys and assessments required to	Further detail on the study area for each environmental factor is included within the PEIR.

Statutory Consultee	Description	Statutory Consultee Comments	Response
District Council		<p>support the planning and EIA process, the Scoping Report is provided based on the information available at the time of writing. It then advises that any changes to the scope of the EIA will be reported in the ES to reflect design and layout iterations and changes to reflect ongoing engagement. Paragraph 4.4.1 then notes that the study areas for respective chapters have been defined individually for each environmental factor, taking into account the geographic scope of the potential impacts relevant to that factor and the information required to assess those impacts. The Council does not support this approach and we would refer you back to PINS Advice Note 7 as referred to above.</p> <p>Table 4.1 sets out a series of mitigation measures for example offset/buffer distances from ecological receptors and noise separation distances to residential property. However, it is unclear how these have been defined and as such justification should be presented in the ES. In addition, the 'Land and Soils' section of that table states that 'The design of the Proposed Development will seek to retain fields comprising majority Grade 1 or Grade 2 agricultural land within arable production where possible'. However, there is no reference to sub-grade 3a (which also comprises BMV agricultural land) or commitment to either retain or reduce impacts thereto (see also below)</p>	<p>Good design has been a fundamental consideration from the outset. The project principles have been identified to ensure good design outcomes are embedded within the Proposed Development from the very start. These will be tested and refined as part of the EIA and DCO process.</p> <p>The design of the Proposed Development has been guided by the below principles to help reduce the use of higher grade agricultural land, where practicable. All fields comprising solely of Grade 1 or 2 land within the site will remain in arable production. Prioritise the use of BMV land for arable production where practicable. Prioritise the use on non-BMV land for the creation of legacy / permanent habitats where practicable.</p>
North Kesteven	Local Plan and Neighbourhood Plan	Paragraph 4.10.2 states that 'Enhancement measures will be assessed in accordance with steps set out in the National Planning Policy Framework'. This should be	The Proposed Development will be assessed in accordance with the relevant policies and will be part of the individual

Statutory Consultee	Description	Statutory Consultee Comments	Response
District Council		expanded to the range of national and local policy and guidance statements including the Central Lincolnshire Local Plan (2023) (including associated evidence base reports) and the Scopwick and Kirkby Green Neighbourhood Plan.	ES chapters and assessed within the Planning Statement as part of the DCO application.
North Kesteven District Council	Glint and Glare	Paragraph 5.2.3 suggests that glint and glare can be excluded from the scope of the EIA, however, that a detailed stand-alone glint and glare assessment will be undertaken and submitted in support of the DCO Application, considering ground-based (residential dwellings, road, and rail) and airborne (airfields, Air Traffic Control Towers, and approaching aircrafts) receptors. Whilst each case must be considered on its merits, glint and glare impacts were scoped into the ES for the Heckington Fen Solar Farm however the Planning Inspectorate agreed that aviation impacts could be excluded. Mindful of the use of airspace above and around Springwell by the three RAF bases referred to, we recommend that PINS seek the advice of those bases in relation to potential glint and glare impacts, not least given that paragraph 2.4.7 references the potential use tracking panels. The March 2023 consultation draft 'National Policy Statement for Renewable Energy Infrastructure (EN-3)' states at paragraph 3.10.12 that 'Utility-scale solar farms are large sites that may have a significant zone of visual influence' and that 'the two main impact issues that determine distances to sensitive receptors are therefore likely to be visual amenity and glint and glare.' At this	A preliminary assessment of Glint and Glare has been presented in Chapter 14 of the PEIR.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>stage, in the absence of any detailed or indicative site layout options we would request that glint and glare is scoped into the ES. There are large concentrations of residential property as identified in the 'Appendix C – Environmental Features Plan' in particular around the northern edge of Scopwick, Kirkby Green, the southern and eastern edges of RAF Digby and at more scattered isolated dwelling and farmstead locations throughout the study area and where the suggested DCO/red line boundary immediate abuts those locations or is at least in very close proximity. 7 Whether or not PINS agree with this approach we would highlight paragraph 3.10.94 of the 2023 consultation draft EN-3 which states that 'Applicants should map receptors to qualitatively identify potential glint and glare issues and determine if a glint and glare assessment is necessary as part of the application'. Paragraph 3.10.95 then notes that 'When a quantitative glint and glare assessment is necessary, applicants are expected to consider the geometric possibility of glint and glare affecting nearby receptors and provide an assessment of potential impact and impairment based on the angle and duration of incidence and the intensity of the reflection'.</p>	
<p>North Kesteven District Council</p>	<p>Major Accidents and Disasters</p>	<p>With reference to paragraph 5.4.4, the applicant also proposes to scope out the risk of major accidents and disasters, which they state will be considered throughout the design process of the Proposed Development and will include siting the potentially hazardous equipment, such as the BESS and grid infrastructure, at a suitable distance</p>	<p>A management plan for battery safety will be prepared and submitted with the DCO application in a document entitled Battery Safety Commitments (BSC). The BSC will detail the regulatory guidance reviewed to ensure that all safety concerns around the</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>from sensitive receptors. Whilst PINS agreed to scope out a standalone Chapter for major accidents and disasters in consideration of the Heckington Fen Solar Farm, this was on the basis that ‘that the nature, scale, and location of the Proposed Development is not considered to be vulnerable to or give rise to significant impacts in relation to the risk of accidents and major disasters’. However, whilst not implicit in that Scoping Opinion, the BESS and grid infrastructure including probable composition and site area were identified on the indicative site plan with reasonable certainty at that time. In the case of Springwell, the Appendix B – Zonal Masterplan confirms significant unknowns and uncertainty in terms of the probable locations for the collector compounds and distributed BESS, the NGS and project substation across all three parcels. Some of these areas abut or are very close to concentrations of residential property or isolated dwellings and the A15. The degree of uncertainty and variability of layout at this stage suggests that the risk of accidents and disasters should be scoped in and where the applicant’s suggestion that this risk can be ‘designed out’ through subsequent design and layout iterations should be relied upon. A smoke plume assessment should also form part of this chapter.</p>	<p>BESS element of the Proposed Development are addressed in so far as is reasonably practicable. The BSC will be developed and agreed with Lincolnshire Fire Service, North Kesteven District Council and Lincolnshire County Council.</p>
<p>North Kesteven District Council</p>	<p>Human Health</p>	<p>Paragraph 5.6.1 states that consideration of the potential effects to human health as a result of the proposed development will be covered through the findings of other</p>	<p>N/A</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		assessments undertaken as part of the EIA process. The Council agrees with this suggestion.	
North Kesteven District Council	Material Assets	Paragraph 5.7.1 defines material assets as ‘substances used in each lifecycle stage of a development, with particular focus on the construction, operation and maintenance, and decommissioning or ‘end of first life’ (deconstruction, demounting, demolition and disposal) phases” [Ref. 5-7]. Material assets can include ‘material’ (i.e. physical resources that are used across the lifecycle of a development) and ‘excavated arisings’ (i.e. soil, rock, or similar resource generated by excavations)’	Noted.
North Kesteven District Council	Minerals and Waste	Paragraph 5.7.6 states that it is not intended to remove significant quantities of excavated arisings from the site during construction and that where possible, soil arisings will be balanced through a cut and fill exercise to retain volumes on site. However, there is no reference to the potential use of borrow pits, and relative to the Heckington Fen Solar Park the Springwell proposals are set across a significantly larger site area, with more variable topography and also comprise the NGS. Whilst the potential for minerals sterilisation is to be addressed in the ‘Land, soils and groundwater’ chapter, and other environmental effects associated with the potential use of borrow pits (for instance noise, historic environment, vibration, ecology/biodiversity) could be assessed elsewhere in other ES Chapters, the Planning Inspectorate should satisfy themselves that there is sufficient information available with	No borrow pits are proposed as part of the project. A Mineral Safeguarding Assessment will be part of the Planning Statement submitted with the DCO application.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		the Scoping Report including the Appendix B – Zonal Masterplan to scope out this topic area.	
North Kesteven District Council	Socio-economic	Paragraph 5.8.1 states that the requirement to consider population in UK EIA practice was introduced via the 2017 update to the EIA Regulations, with impacts to population taken to refer to socio-economic impacts. There is no proposed ES chapter heading dealing solely with socio-economic impacts (instead the applicant suggests that ‘Socio-Economic Benefits Statement’ will be submitted in support of the DCO Application), however the Council suggests that there should be.	A socio-economic statement detailing both the benefits and negatives will be submitted in support of the DCO.
North Kesteven District Council	Socio-economic	Paragraph 5.8.19 states that socio-economic benefits as a result of the Proposed Development are expected with regards to the increase in the level of temporary employment; the subsequent gross value added to the economy; the uptake in the occupancy rate for beds in local hospitality venues; and a small number of long term employment opportunities during operation. The Scoping Report identifies potentially negative effects associated with the inevitable removal of land from agricultural production and that there may be businesses/tenants/occupiers currently undertaking agricultural operations across the site boundary who may cease to do so for the duration of the operational phase of the development. However, there is no reference in the proposed scope to any socio-economic benefit enduring from continued agricultural use of part or all of the site	Agricultural operations, tourism and business will be addressed within a socio-economic statement detailing both the benefits and negatives will be submitted in support of the DCO.

Statutory Consultee	Description	Statutory Consultee Comments	Response
<p>North Kesteven District Council</p>	<p>Agricultural land</p>	<p>Paragraph 6.6.8 (see also below) suggests scoping in the operational impacts of the proposed development in relation to the loss of agricultural and BMV land owing to the direct impact on its availability of such land, however there is no outline of any suggested mitigation measures. For example this could include enabling some continuance of agricultural activity through sheep grazing or alternative forms of cropping among panelled areas.</p> <p>The applicant should therefore quantify whether and how there are socio-economic benefits stemming from a change from predominantly arable agricultural use of the site predevelopment to a solar and possibly pastoral use post-development. We suggest that the applicant should also identify a mechanism by which any changes in agricultural activity (and ergo any associated socio-economic effect) can be secured through the DCO process.</p>	<p>The design has included embedded mitigation to reduce the impact of loss of high quality agricultural land. Good design has been a fundamental consideration from the outset. The following Project Principles have been identified to ensure good design outcomes are embedded within the Proposed Development from the very start. These will be tested and refined as part of the EIA and DCO process.</p> <p>All fields comprising solely of Grade 1 or 2 land within the site will remain in arable production.</p> <p>8.2 Prioritise the use of BMV agricultural land for arable production where practicable.</p> <p>8.3 Prioritise the use on non-BMV agricultural land for the creation of legacy/permanent habitats where practicable.</p> <p>sought to reduce the extent of higher grade agricultural land, where practicable and to retain this for agricultural use.</p>

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			<p>Agricultural operations will be addressed within a socio-economic statement that will be submitted in support of the DCO.</p>
<p>North Kesteven District Council</p>	<p>Walking, cycling and horse riding</p>	<p>Furthermore, Figure 7 ‘Visual Receptors’ maps the location of the ‘Stepping Out’ and ‘Spires and Steeples’ walking routes through the study area. The lack of detail relating to site layout options means that there is a potential direct impact of these walking routes becoming surrounded by solar panels and associated infrastructure.</p> <p>Walking, cycling and horse riding is a key visitor attraction/promotion for this part of the District and therefore potential socioeconomic effects and mitigation should be discussed.</p>	<p>Following further assessment work, we have avoided placing solar panels in the fields alongside the B188 and the Spires and Steeples trail to retain the views between Scopwick and Blankey. The revised area of Solar PV development is displayed in Volume 2, Figure 2-3.</p> <p>Residential visual amenity effects will be assessed within the Landscape and Visual chapter as part of the ES. Preliminary assessment is detailed within Chapter 9 of this PEIR.</p> <p>Public Rights of Way are discussed in further detail within Chapter 9 – Landscape and Visual and Chapter 12 – Traffic and Transport of the PEIR.</p>
<p>North Kesteven District Council</p>	<p>Socio-economic</p>	<p>There is limited information in the Scoping Report in relation to direct, indirect, temporary and permanent employment jobs created through construction, operation, maintenance and decommissioning. This information should be presented along with identification of;</p> <p>➤ opportunities for using local businesses on various aspects of the construction phase;</p>	<p>Employment including direct, indirect, temporary and permanent jobs will be detailed within a socio-economic statement which will be submitted in support of the DCO.</p> <p>Residential visual amenity effects will be assessed within the Landscape and Visual chapter as part of the ES. Preliminary</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<ul style="list-style-type: none"> > how the applicant would go about supporting local business procurement; > financial estimates of economic benefits of the construction phase to the local economy including hotel spend etc; > opportunities to encourage apprenticeships; and > financial estimates and local opportunities associated with ongoing maintenance over the 40-year operational period <p>In terms of potential economic benefits, the Council notes that an established way of calculating the extra value generated by local spend on contractors and services would be by using LM3 multipliers which the applicant might wish to consider depending on the certainty of construction contracts etc at this stage. The multiplier can be found at https://www.lm3online.com/. Finally the Council only agrees that the sensitive receptor 'population' impacts can be scoped out as long as residential visual amenity effects are assessed in full in the LVIA chapter</p>	assessment is detailed within Chapter 9 of this PEIR.
North Kesteven District Council	Water	Paragraphs 5.9.19, 5.9.23 and 5.9.32 describe how the development and utilisation of the site has the potential to result in marginal increased localised flood risk due to increases in impermeable area associated mainly with the infrastructure elements, but that the solar panels themselves will not result in a direct increase in impermeable area of the site as they will be raised above the ground level. It is also noted that only very limited parts of the site are located in flood zones 2 or 3. The Scoping	Water has been scoped in for further assessment and a preliminary assessment in provided in Chapter 13 of the PEIR.

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		<p>Report states that in light of the above, it is proposed to exclude water from the scope of the EIA, subject to ensuring no deterioration of water quality or increase in flood risk and agreeing design and mitigation measures with the Environment Agency, Lincolnshire County Council (the Lead Local Flood Authority) and the Witham First Internal Drainage Board.</p> <p>Whilst the site is primarily underlain by limestone bedrock with some areas of sandstone, mudstone and siltstone, suggesting that infiltration methods might be appropriate, nevertheless the Council is aware that geotechnical and ground investigations have yet to be undertaken. On the basis of that uncertainty, and given the site area is significant with a number of possible site layout options not least the potential location of the BESS and NGC as well as their associated drainage requirements (impermeable surfacing), we consider that 'water' should be scoped in as a specific chapter in the ES. The Planning Inspectorate should therefore defer to the drainage consultees prior to scoping out this chapter, not least given the significant variability identified.</p>	
North Kesteven District Council	Electric, magnetic and electromagnetic fields	Section 5.10.3. quotes Department for Business, Energy and Industrial Strategy (BEIS) guidance, which alongside the 1998 guidelines published by International Commission on Non – Ionizing Radiation Protection (ICNIRP) states that underground cables and overhead power lines at voltages up to and including 132 kV are not capable of exceeding the ICNIRP exposure guidelines. However, there is no	Noted. Consultation with the MOD and RAF Digby is ongoing.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>reference to the proposed transmission towers and 400kv NGS connection.</p> <p>RAF Digby is the HQ of the Joint Cyber and Electromagnetic Activities Group and is located immediately west of Springwell Central. Paragraph 5.10.4 states that ongoing consultation will be held with RAF Digby throughout the design of the development to avoid any interference with their operations, and that it is proposed to exclude electric, magnetic and electromagnetic fields from the scope of the EIA.</p> <p>The Scoping Report contains no discussion or analysis of potential electric, magnetic and electromagnetic field effects on the operations of RAF Digby, whether and how avoidance or mitigation of effects is to be adopted, and where the Appendix B – Zonal Masterplan identifies potentially suitable areas for the collector compounds and distributed BESS on land close to MOD property to the east of RAF Digby. As above section 5.10.3 only references ICNIRP guidelines in relation to the 132kv circuit. The Planning Inspectorate should therefore be guided by the relevant defence consultees before agreeing whether this topic should be scoped out of the ES.</p>	
North Kesteven District Council	Air Quality	We have no objection to the issues to be scoped in to the Air Quality chapter at paragraph 6.1.8. There are no references to BESS and NG substation operational impacts however we note that operational air quality was not scoped into the ES for the Heckington Fen scheme.	Human receptors have been identified within 250 of the site boundary and non-statutory designated sites have been identified within or adjacent the site. An assessment of the dust emissions arising from construction and decommissioning

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		<p>IAQM guidance advises the need for a construction dust assessment if there are human receptors within 50m of the boundary of the site, or within 50m of construction vehicle trackout routes, and if there are ecological receptors within 50m of the site boundary or the trackout routes. Whilst the site DCO boundary is noted, the layout of development is still fluid and therefore the need for a dust assessment should be reserved until the location of trackout routes and access etc are confirmed</p>	<p>activities will be conducted with reference to the IAQM 2023 construction dust guidance and reported in the ES.</p>
<p>North Kesteven District Council</p>	<p>Ecology and Biodiversity</p>	<p>Please find attached detailed comments from the Council's consultant ecologist, AECOM (Appendix 1). In summary;</p> <ul style="list-style-type: none"> ➤ There is no reference to or commitment to deliver Biodiversity Net Gain (see below) ➤ We disagree that impacts on certain LWS's can be screened out (see below) ➤ We disagree with the conclusion that there are no Ancient Woodlands impacted. The Ancient Woodland Inventory is not definitive and generally omits woodlands smaller than 2ha, therefore, the applicant should ensure that all woodlands in the zone of influence are considered. The summary survey scope (Section 6.2.4) does not identify the methods to be applied or the survey timings. As a consequence, there is insufficient information to confirm that the survey work completed to date is appropriate and sufficient. <p>Reptile surveys will be needed if the habitats of relevance cannot be avoided as indicated and the great crested newt survey scope does not confirm that the off-site ponds located within 500m of the proposed development have</p>	<p>Response provided in full in the below section.</p>

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		<p>been surveyed for this species There is no reference to Wildlife and Countryside Act Schedule 1 bird species or notable flora and we disagree that the need for wintering bird surveys can be scoped out</p> <p>The reference to ‘barns’ at 6.2.2 (preliminary bat roost assessments) should be extended to ‘buildings’ given that these might also be used for roosting.</p> <p>Paragraph 6.2.9 states that impacts on LWS’s at Blankney Brick Pit LWS, Temple Road Verges, Welbourn to Braucewell 2 LWS, Slate House Farm to Dunsby Pit Plantation 1 LWS, Green Man Road to Cuckoo Lane 2 LWS and Bloxholm Wood LWS/Lincolnshire Wildlife Trust reserve are to be scoped out as they ‘are avoided by the current Proposed Development design’. However, as above no layout options have been presented and as such it is not confirmed that impacts have been avoided.</p> <p>Furthermore the paragraph states that the scheme will incorporate a minimum offset distance of 15m from Local Wildlife Sites however it is unclear how this 15m distance has been derived relative to the characteristics of each LWS. The Council therefore considers that they should be scoped into the assessment.</p> <p>Whilst paragraph 6.2.10 states that opportunities for ecological enhancement within the site are diverse, it also states that no specific enhancement measures have yet been agreed and that a detailed biodiversity design will be produced and implemented outlining how a substantial net gain in biodiversity will be achieved. Paragraph 3.10.119 of the 2023 draft EN-3 confirms that solar proposals should</p>	

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>aim to achieve environmental and biodiversity net gain in line with the ambition set out in the Environmental Improvement Plan and any relevant measures and targets, 'including statutory targets set under the Environment Act or elsewhere'. A minimum BNG of 10% is therefore required although it is anticipated that development of this scale will be able to deliver considerably in excess of this. The applicant is advised that Local Ecological Network, Biodiversity Opportunity and Green Infrastructure Mapping, along with the Local Nature Recovery Strategy has been prepared for Central Lincolnshire by the Greater Lincolnshire Nature Partnership. These maps and strategies identify the known existing areas of high biodiversity value and areas of local biodiversity priority where it is considered most important and feasible to target habitat creation, extension and restoration. The applicant should refer to these in the formulation of BNG proposals.</p>	
<p>North Kesteven District Council</p>	<p>Climate</p>	<p>Paragraph 6.3.2 states that GHG emissions 'will be estimated based upon project-specific data that may relate to activities outside the Site boundary (e.g., water provision and wastewater treatment outside of the Site boundary, or the embodied carbon within construction materials and solar PV modules as a result of the energy used for production). The Council requests that GHG emissions should also account for the replacement of panels and any other operational/infrastructure elements during the lifetime of operation, and the applicant should also address</p>	<p>Full life cycle assessment if GHG emissions has been undertaken. Further information is detailed within Chapter 7 of the PEIR.</p> <p>Methods to increase in-situ carbon sequestration will be considered within the ongoing design and detailed within the ES.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>'alternatives' in the context of GHG offset to reflect revised layouts or overall energy generation capacity in relation to BMV land considerations (see below). This must include manufacture, shipping etc.</p> <p>The approach to the assessment should consider the full life-cycle of the proposed development and potential sources of GHG emissions. GHG emissions offset through the production of lower carbon electricity compared to grid average emissions during the operational phase should also be accounted for within the GHG emissions calculations.</p> <p>The ES should incorporate sufficient detail on emissions calculations (estimated and actual) to cover pre-construction, construction phase, life time (including operational and maintenance) and decommissioning. Ideally this should include the expected payback period for all estimated emissions and ensure ongoing emissions are calculated during the lifetime of the proposal (est. 40 years).</p> <p>The Council also requests consideration of methods to increase in-situ carbon sequestration from effectively leaving the land fallow for the expected 40 years (in the absence of any details of agricultural land impact 'mitigation' at this stage). This could include low growing plants (e.g. sweet yellow clover and vetches) as part of a BNG strategy that could assist with increasing the organic content of the soil and locking carbon.</p>	

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North Kesteven District Council	Cultural Heritage	<p>With reference to paragraph 6.4.1 the applicant should also liaise with the Heritage Trust of Lincolnshire (on behalf of the Council) in relation to the scope of and timing of any intrusive evaluation following completion of the geophysical survey. The Scoping Report states that Lincolnshire County Council has also approved a Written Scheme of Investigation (WSI) for geophysical survey of the site. This was not discussed or agreed in advance with North Kesteven District Council and therefore we reserve the right to make representations on its scope.</p> <p>With reference to paragraph 6.4.2, we recommend that a 5km buffer from the site boundary should include both designated and non-designated heritage assets (NDHA).</p>	Scope and timing of further evaluation still being discussed with North Kesteven District Council and Lincolnshire County Council.
North Kesteven District Council	Local and neighbourhood plan	<p>Paragraph 6.4.3 'Data sources to inform the EIA baseline characterisation' makes no reference to the Council's local list of non-designated heritage assets and its criteria for assessment. A copy of the latest list can be provided on request. In addition there is no reference to the 'made' Scopwick and Kirkby Green Neighbourhood Plan which contains schedules and descriptions of heritage assets within the Plan area. Whilst there are no Conservation Area appraisals for Blankney and Scopwick there is a high level character summary contained at Appendix 9 of the archived 2007 NKDC Local Plan which whilst prepared some time ago still serves as a source of information.</p>	Neighbourhood Plan has informed the DBA and Stage 1 Setting assessment.
North Kesteven	Archaeology	Paragraph 6.4.6 notes that additional mitigation to off-set adverse impacts will take the form of a programme of	The scope and timing of further evaluation following the geophysical survey is still

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District Council		archaeological investigation and recording secured by a DCO Requirement. The Council is aware that on-site geophysical survey work is anticipated to be completed by the end of April. Pending the results of those surveys the Council cannot yet agree that a programme of archaeological investigation can be deferred to a DCO Requirement, and we caution that pre-submission trial trenching will likely be required in at least some parts of the site.	being discussed with Lincolnshire County Council and North Kesteven District Council.
North Kesteven District Council	Cultural Heritage	Paragraph 6.4.8 lists the receptors/matters to be scoped into the assessment however this does not include the Conservation Areas at Scopwick, Blankney or Bloxholm. Furthermore it does not reference or confirm NDHAs to be assessed – which as above should be within 5km and should ideally include proactive identification and assessment using adopted Council guidance – see Local List of Non-Designated Heritage Assets North Kesteven District Council (n-kesteven.gov.uk)	Conservation Areas included in the DBA and Stage 1 Setting Assessment. The DBA and Stage 1 Setting Assessment has used a 2km study area for non-designated assets and 5km for designated assets in line with Lincolnshire County Council guidance.
North Kesteven District Council	Cultural Heritage	Paragraph 6.4.9 proposes to scope out setting impacts on listed dwellings within settlements over 1km from the site. We disagree with this suggestion as there is no assessment contained in the Scoping Report to support this and to justify why and how the 1km reference has been derived. The reference just to ‘dwellings’ rather than ‘buildings’ is also unclear. It is also unclear why listed K6 kiosks have been singled out for consideration.	All heritage assets within 2km and all designated heritage assets within 5km have been included in the DBA and Stage 1 Setting Assessment. Those sensitive to change within their setting have been filtered for detailed assessment based on a worst case ZTV for the Proposed Development.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>In the absence of detailed layout options and a plan of the HER entries applicable to the site area (those entries referred to/summarised in paragraph 6.4.9), the Council is also unable to agree to the schedule of HER entries proposed to be scoped out. There is no spatial mapping of these entries contained within the Scoping Report and we will need to review this information in conjunction with Lincolnshire County Council before commenting further. The assets proposed to be scoped out of assessment at paragraph 6.4.9 are not supported by an evidence base and appear to be piecemeal and based largely on setting effects (rather than an assessment of the significance of the asset and the likely impact of the proposals) or on the type of record (for example findspots). Any proposal to 'descope' designated or relevant non-designated assets must be informed by an evidence base demonstrating the lack of direct or indirect impact upon the heritage asset and its significance.</p> <p>The Settings Assessment/Heritage Impact Assessment needs to demonstrate an understanding of the significance and context of each of those assets in order to assess the impact of the development upon them and propose any mitigation.</p> <p>In terms of archaeological considerations, detailed feedback is provided by the Council's archaeological consultant, the Heritage Trust of Lincolnshire (HTL) in the attached Appendix 2. In summary HTL comment that the proposals for construction of a solar farm will necessarily have an impact on any buried archaeological remains.</p>	<p>The scope and timing of further evaluation following the geophysical survey is still being discussed with Lincolnshire County Council and North Kesteven District Council.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>Piling, building foundations, cable trenching, access roads, building compounds and construction traffic are all known impacts and the cumulative effect will be significant; therefore, trial trenching is required to establish the baseline conditions and to understand the nature and extent of the impacts on the archaeological remains.</p>	
<p>North Kesteven District Council</p>	<p>Archaeology</p>	<p>Paragraph 6.4.4 suggests that trial trenching might not be required and 6.4.6 states instead that archaeological investigation and recording could be secured by a DCO Requirement. However, HTL comment that there is currently insufficient information on the presence, character, date and significance of any archaeological deposits and that the results of the full desk-based assessment including the aerial photographic and Lidar assessments together with the results of the geophysical survey will need to inform the programme of trial trench evaluation. Mitigation through archaeological excavation may be required. Without detailed information on the archaeological potential and the likely impact of the proposals, mitigation by means of a 'watching brief' during construction is not considered acceptable as a first response. The section entitled 'Opportunities for enhancing the environment' (6.4.10) has not considered the positive and / or beneficial effects of the programme of archaeological surveys and investigations to be undertaken during this process and the added value that a large development can make to archaeology and cultural heritage. The programme of archaeological works should</p>	<p>The scope and timing of further evaluation following the geophysical survey is still being discussed with Lincolnshire County Council and North Kesteven District Council.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		include proposals for community outreach, public engagement and dissemination of the results.	
North Kesteven District Council	Landscape and Visual Impact Assessment	<p>We would refer the applicant to the jointly-procured detailed feedback provided by AAH on behalf of Lincolnshire County Council and North Kesteven District Council contained in Appendix 4, 'Technical Memorandum 1: AAH TM01'. AAH generally agree with the approach advocated for the LVIA chapter but note that the final locations of viewpoints are still to be reviewed by the applicant and will need to be agreed with LCC, NKDC and other relevant stakeholders. The final viewpoint selection should also consider views of taller and more conspicuous elements, such as battery storage or sub-stations once the layout is more developed, as well as considering potential key, or sensitive, viewpoints. The relative prematurity of the submission and the large number of variables and options in terms of site layout mean that no illustrative viewpoints have been provided at scoping stage.</p> <p>AAH request that photomontages are produced to illustrate the proposals at different phases namely the existing situation (baseline), Operational (year 1) and Residual with planting established (10 to 15 years). AAH also advise that the methodology should also clearly lay out the process of assessing temporary and permanent elements of the scheme, and the LVIA should clearly identify those elements that would not be decommissioned at the end of the life of the development (such as the National Grid substation), and assessed accordingly</p>	<p>Comments provided by AAH Consultants have been addressed separately above. Further consultation on the viewpoints has been undertaken with AAH Consultants (on behalf of North Kesteven District Council/Lincolnshire County Council) resulting in a letter dated 15th August 2023 confirming that the viewpoint selection was 'proportional to the project and extent of potential visual receptors.' Photomontages will be presented for a selection of these in the ES. The number, location and type of visualisation for each viewpoint will be agreed through ongoing consultation with AAH Consultants before submission of the ES. Visualisations will be prepared in accordance with the stated guidance and illustrate effects in Year 1 and Year 10.</p> <p>A detailed methodology for the LVIA is set out in Appendix 9.1 and the ES will clearly identify those elements of the Proposed Development which would not be decommissioned at the end of the operational period.</p>

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<p>North Kesteven District Council</p>	<p>Landscape and Visual Impact</p>	<p>Paragraph 6.5.2 states that based on analysis of the ZTVs (Figures 1-3) and field work undertaken to date, 'it is considered unlikely that there would be any view of the solar array or collector compounds/distributed BESS beyond 3 km of the Site boundary'. It is therefore suggested that a 3 km study area offset from the boundaries of the site is adequate and proportionate for the consideration of landscape and visual effects. The same paragraph notes that any visibility of the National Grid and Project Substation would be limited to a maximum distance of 5 km from the site.</p> <p>We note though that, whilst each case must be assessed on its merits relevant to the surrounding topography, a 5km study area for the Landscape and Visual Impact Assessment (LVIA) was proposed in relation to the Heckington Fen solar farm and where in that case the maximum height of built infrastructure was markedly lower than the National Grid and Project Substation proposed at Springwell.</p> <p>AAH comment that at this early stage, the proposed study area extents should be discussed and further reviewed as the full extent of potential visibility of the development is not yet fully known, and the ZTV mapping contained within Appendix F of the Scoping Report does identify potential visibility beyond these extents. The ZTV mapping would need to be updated once the proposals have developed (as stated within paragraph 13.5) and the study area should</p>	<p>The study area has been discussed through further consultation and on 15th August 2023 AAH Consultants (on behalf of North Kesteven District Council/Lincolnshire County Council) confirmed that 'The proposed 3km study area is appropriate from the solar PV development and 5km from the National Grid and Project Substation and National Grid connecting towers. However, the LVIA should clearly state the justification for these study areas, and thoroughly assess and confirm no significant views are available from beyond the study area. Also, as it is not confirmed as to whether the National Grid Substation and National Grid connecting towers are to be included within the redline boundary, and if so both the final location and design of these elements, and the Project Substation, is yet to be confirmed, therefore while every effort has been made to accommodate this with the viewpoint selection, additional viewpoints and extension of the 5km study area may be required subject to confirmation of these aspects.'</p>

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		<p>not be fixed until the full extents of visibility are known from both desktop and site work. It therefore seems appropriate to assume a (minimum – TBA) 5km study area across the scheme rather than a reduction to 3km for the solar array or collector compounds/distributed BESS.</p> <p>The data sources and policy considerations referred to in paragraph 6.5.3 should be revised to the 2023 adopted CLLP and where Appendices B and D in particular of the Scopwick and Kirkby Green Neighbourhood Plan 2021 – 2036 should be referred to alongside the Design Code by way of considering any impacts on key views and green gaps.</p>	<p>The National Grid Substation and connecting towers no longer form part of the Proposed Development. The ZTVs demonstrate that in the worst case scenario there would be negligible visibility of the Proposed Development beyond the study area proposed above. Any landscape or visual effects beyond this distance would not be significant. For the purposes of the PEIR the above study area has been adopted but will be reviewed again once the final layout is fixed before completion of the ES. Updates to policy documents have been noted.</p>
<p>North Kesteven District Council</p>	<p>Landscape and Visual Impact</p>	<p>Paragraph 6.5.5 states that ‘There are no tourist attractions or recognised viewpoints from which the Proposed Development may be visible’, however these attractions and viewpoints are seemingly not defined or mapped. The ‘decommissioning’ references in paragraph 6.5.6 do not refer to the retention of the NGS and associated infrastructure as permanent development, and the degree to which additional (secondary and tertiary) mitigation will be formulated to reflect this.</p>	<p>Figure 9.3 in the PEIR identifies all relevant visual receptors in the study area. Once details of the National The National Grid Substation and connecting towers no longer form part of the Proposed Development. The ES will clearly identify those elements of the Proposed Development which would not be decommissioned at the end of the operational period.</p>
<p>North Kesteven District Council</p>	<p>Landscape and Visual Impact</p>	<p>Sections 6.5.8. and 6.5.9. identify a range of potential visual receptors to be scoped in or out of the LVIA, however at this early stage of the project we request these be reviewed and consulted upon further once proposals</p>	<p>The scope of the LVIA and the receptors/matters to be scoped in and out of the assessment are reviewed in Chapter 9 of the PEIR.</p>

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		<p>have been developed and we are not in a position to confirm their inclusion or omission. It is assumed that the reference at paragraph 6.5.8 to 'Residents of the barracks at RAF Digby' means all MOD residential property.</p> <p>As above, on the basis that no further information has been provided to date to justify that significant landscape and visual effects arising from the solar array/collector compounds/distributed BESS and NGS/PS would be limited to 1km and 3km respectively, we cannot yet agree that assessments of impacts on users of the PRowS/local road network and residential properties should be restricted to those distances.</p> <p>In addition it is not clear how the applicant will define a developed footprint or settlement curtilage by way of assessing impacts on residents and visitors to the villages of Scopwick, Kirkby Green, Blankney and Ashby De La Launde vs 'isolated' properties. As a minimum maps 2a and 2b contained in the Scopwick and Kirkby Green Neighbourhood Plan should be used however the Council would wish to agree the study area for all named settlements including Blankney and Ashby De La Launde.</p> <p>In terms of residential visual amenity, paragraph 6.5.11 quotes from Technical Guidance Note 02 / 19 'Residential Visual Amenity Assessment (RVAA) and states that the LVIA will present, as an appendix to the main assessment, a residential amenity assessment of visual effects on residential properties for any property where there is a possibility that the visual effects may approach the 'public interest' (harm) threshold referred to in the guidance.</p>	<p>All residents (including all MOD residential property) are considered in the LVIA where relevant.</p> <p>Refer to the response above regarding the LVIA study area.</p> <p>Hard boundaries around settlements are not defined – for the avoidance of doubt all residential receptors are considered in the LVIA where relevant.</p> <p>RVAA as defined in Technical Guidance Note 02 / 19 'Residential Visual Amenity Assessment (RVAA) is concerned with the circumstances of individual (or groups) of residential properties. However as noted above and for the avoidance of doubt all residential receptors are considered in the LVIA where relevant. For those properties included in the RVAA, the visual effects on the access/egress from the property is part of the consideration of overall visual amenity.</p> <p>The work undertaken to date on residential visual amenity is presented in Appendix 9.5 and this appendix also establishes the proposed methodology for the assessment to be presented in the ES.</p>

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		<p>The RVAA should not focus solely on individual or groups of properties however should consider the magnitude of change to residential amenity on a 'settlement scale' basis taking account not only of fixed address points but also the experiences of residents of those settlements when travelling into and around those areas. This is notwithstanding that the 2019 RVAA guidance (paragraph 4.8) states that 'Properties are normally assessed individually, but if their outlook and / or views are in all aspects the same (for example if a development is visible from the rear gardens only of a small row of houses) they could be assessed as one (group)'. This is particularly relevant to Scopwick, Kirkby Green and Ashby de la Launde where the suggested site area/Order Limits overlap with most of the roads and rights of way passing into and through those settlements meaning that (depending on buffer zones and detailed layouts) there may be limited visual relief and separation from extensive unbroken arrays of panels, experienced on a 'day to day' basis and a potentially overbearing or overwhelming residential amenity impact felt across the lifetime of the development.</p> <p>The absence of any detailed layouts prevents further feedback at this stage and we therefore wish to agree the scope of the assessment further. Paragraph 1.8 of the 2019 RVAA guidance states that 'Judgements formed in respect of Residential Visual Amenity should not be confused with the judgement regarding Residential Amenity because the latter is a planning matter'.</p>	

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		<p>The 2019 guidance focusses generally on ‘living conditions’ associated with views and impacts from fixed points/addresses. In addition paragraph 4.14 recommends describing and evaluating the predicted magnitude of visual change and related visual amenity effects for properties, rather than potentially settlement-wide ‘experiential’ residential impacts for residents who, whilst individually may not experience significant adverse affects associated with outlooks or changes of view from their property may be unable to disconnect with a sense of potential ‘enclosure’ by development in and around where they live, work or spent recreational time.</p> <p>Strict adherence to 2019 RVAA guidance to the detriment of residential amenity (as opposed to residential visual amenity) may therefore not be appropriate in this case.</p>	
<p>North Kesteven District Council</p>	<p>Agricultural Land</p>	<p>Appendix 3 contains advice from the Council’s agricultural consultant, Landscape. Paragraph 6.6.4 of the Scoping Report confirms that whilst a walkover survey of the site and surrounding area has been undertaken as part of the baseline assessment (20 - 21 October 2022), an Agricultural Land Classification (ALC) survey has not yet been concluded as is underway to provide confirmation of ALC across all areas of the site.</p>	<p>The outputs of the Agricultural Land Classification survey are detailed within Chapter 10 of the PEIR.</p>
<p>North Kesteven District Council</p>	<p>Agricultural Land</p>	<p>Paragraph 3.10.14 of the March 2023 consultation draft ‘National Policy Statement for Renewable Energy Infrastructure (EN-3)’ states that ‘Where the proposed use of any agricultural land has been shown to be necessary,</p>	<p>Agricultural land survey has been undertaken of the Site at one auger per hectare in line with Natural England ‘Technical Information Note TIN049:</p>

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		<p>poorer quality land should be preferred to higher quality land (avoiding the use of “Best and Most Versatile” agricultural land where possible). The confirmation that ALC surveying is still underway across the site reinforces the Council’s concerns regarding the prematurity of this scoping submission and the failure to align layout options (including the more permanent or semi-permanent infrastructure elements) to maximise the use of non-BMV land.</p> <p>The ALC survey has been commenced without reference to or agreement with the Council (in terms of its scope) and as such we reserve the right to request additional augering or analysis depending on the results presented in due course. We note that the percentages of BMV land across the site calculated to date using the National Level Data show that 32.8% of the Site is Grade 2 land (497Ha) and 67.2% of the Site is classified as Grade 3 land (1,020Ha). It is therefore probable that a further substantial hectareage is comprised of Grade 3a ‘good’ quality agricultural land pending the outcome of the ALC survey. The report notes that the Natural England ‘Technical Information Note TIN049: Agricultural Land Classification: protecting the best and most versatile land, 2nd edition (2012)’ will be used for the purposes of assessment, and mindful that ALC survey is underway without prior consultation with the Council we would highlight that TIN049 recommends a frequency of one boring per hectare for a detailed assessment. It is also important that the ALC survey is undertaken in line with the MAFF 1988 guidelines.</p>	<p>Agricultural Land Classification: protecting the best and most versatile land, 2nd edition (2012)’.</p> <p>Agricultural land classification survey will be undertaken of the cable route location to inform the ES.</p> <p>Further detail on Agricultural Land Classification results is provided in Chapter 10 – Land, Soils and Groundwater of the PEIR. Further information on the alternatives in relation to BMV land is provided in Chapter 3 of the PEIR.</p> <p>The design has included embedded mitigation to reduce the impact of loss of high quality agricultural land. Good design has been a fundamental consideration from the outset. The following Project Principles have been identified to ensure good design outcomes are embedded within the Proposed Development from the very start. These will be tested and refined as part of the EIA and DCO process.</p>

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		<p>Without prejudice, and mindful that the National Level Data mapping envisages a composition of Grade 2 and 3 land only, the Council considers that any information presented in the ALC assessment would not be representative if undertaken below the augering frequency suggested in Technical Advice note 49.</p> <p>According to available published data and local knowledge, the soils locally are mainly Marcham 343e and Aswarby 512a Soil Associations. Both of these soils are limestone based, with shallow well drained loamy soils, over limestone and deeper brown earths. Occasionally there are heavier clay soils present of the Curdridge 841a Association.</p> <p>Previous ALC surveys locally on these soils and similar have indicated a mixture of Grades 2, 3a and 3b land. It is likely that the shallower soils will be 3b, whilst deeper soils will be 3a or Grade 2, even with some areas of Grade 1.</p> <p>The ALC should identify where BMV land is and the scheme should seek to protect and minimise damage to higher grade land wherever possible in line with national planning policy.</p> <p>Without prejudice to the ALC survey the Council's view is that there is undoubtedly a large proportion of BMV land in this vicinity and only a full ALC will identify where it is and what the Grade and quality is. Laboratory analysis of representative samples should be used to determine textures.</p> <p>Either the 'Land, Soils and Groundwater' or the 'Ecology and Biodiversity' chapter of the ES should also consider the</p>	<p>All fields comprising solely of Grade 1 or 2 land within the site will remain in arable production.</p> <p>Prioritise the use of BMV land for arable production where practicable.</p> <p>Prioritise the use on non-BMV land for the creation of legacy / permanent habitats where practicable.</p>

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		<p>interplay between agricultural and ecological/BNG impacts – and therefore the degree to which effects are temporary/reversible. There is evidence that organic matter builds up in biodiversity areas at a faster rate than arable farmland and this may benefit the land, but it is not a factor in the assessment of ALC. Long term, where biodiverse land becomes ecologically important there is the possibility of land becoming assigned with environmental designations, such as SSSI status, though generally this has not so far occurred on other solar sites. If land remains uncultivated for longer than five years, then permission may be required from Natural England to bring the land back into arable cultivation.</p> <p>Any material enhancement in the botanical diversity of the sward (to the extent that the application site may then be considered to be of ecological value), will limit the capacity for the land to be returned to arable use after the solar farm has been decommissioned. The EIA (Agriculture) (England) (No.2) Regulations 2006 prohibit the physical or chemical cultivation of what are considered to be ‘semi-natural areas’. ‘Cultivation’ is not clearly defined and does not necessarily require land to have been ploughed and therefore there is a possibility that areas of environmentally ‘enhanced’ land within the site may not be permitted to return to arable farmland after the 40 year period.</p> <p>The ‘alternatives’ exercise also needs to consider alternative site layouts and potentially a reduction in MW generating capacity aligned with location of the respective ALC Grades once the report has been analysed, in order to</p>	

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		<p>demonstrate avoidance or minimisation of agricultural land impacts as recommended in paragraph 3.10.14 of the March 2023 draft EN3.</p>	
<p>North Kesteven District Council</p>	<p>Agricultural Land</p>	<p>Paragraph 6.6.6 makes no reference to the avoidance of BMV land in the scheme’s approach to additional (secondary and tertiary) mitigation. This is in conflict with the above draft EN-3 document. Paragraph 6.6.7 ‘description of likely significant effects’ simply sets out that it is ‘anticipated that there will be a reduction in the availability of BMV land’ without any commitment to minimise or avoid those effects through ongoing review of the scheme layout. The same paragraph suggests that the majority of the land use will be short-term and temporary, some will be long-term but temporary (construction and operation) and some will be permanent (for example the National Grid substation).</p> <p>Mindful that the NGS is likely to be permanent operational development that is not decommissioned at/ahead of the 40-year lifetime of the solar park, the Council considers it likely that this will increase the prospect and probability that the solar park would seek repowering or partial repowering beyond 40 years. Whilst we appreciate that such a scheme is not before PINS and they are required to consider the Scoping Report as submitted we would request that this potential scenario is accounted for not least with reference to whether any residual BMV impacts are able to be classed as temporary/reversible. There is no reference in the Scoping Report as to whether and how agricultural land</p>	<p>The design has included embedded mitigation to avoid the loss of high quality agricultural land. Good design has been a fundamental consideration from the outset. The following Project Principles have been identified to ensure good design outcomes are embedded within the Proposed Development from the very start. These will be tested and refined as part of the EIA and DCO process.</p> <p>All fields comprising solely of Grade 1 or 2 land within the site will remain in arable production.</p> <p>Prioritise the use of BMV land for arable production where practicable.</p> <p>Prioritise the use on non-BMV land for the creation of legacy / permanent habitats where practicable.</p> <p>Further detail is included in Chapter 10 of this PEIR. Further information will be included within the ES.</p>

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		<p>use continuance across the site is to be delivered alongside the operation of the solar farm. This should be addressed in the ES chapter and should include;</p> <ul style="list-style-type: none"> ➤ Acknowledging the proposed change from primarily arable farming to solar ➤ Whether any pastoral farming (for example sheep grazing) is proposed within the site, and if so where and how this is to be secured. This should include; <ul style="list-style-type: none"> • identifying whether contracts are in place for pastoral farming; • whether those contracts span the operational duration of the scheme (40 years minimum); and • whether and how the applicant considers that such contractual obligations, and more broadly, a change from one type of agricultural activity (pre-development) to another (post-development) could be legally secured, monitored and enforced through the DCO regime – for example through the use of Requirements/legal agreement ➤ For all other areas within the site whether or how those areas will remain in agricultural activity with the presence of solar panels and BNG habitat/landscaping implementation <p>In order to satisfy Schedule 4 (7) of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 the applicant must be able to identify and arguably secure any measures relied upon to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects; not least where this is partly relied upon by any proposed change in agricultural activity across the site.</p>	<p>Noted in relation to the structure of the Outline Soil Management Plan. This will be provided in support of the DCO.</p>

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		<p>As a general observation, this part of Lincolnshire/North Kesteven District is a mainly arable farming area with only limited sheep grazing operations. Whilst it is possible to graze the areas under and between the panels, it is unlikely to be very cost effective for a grazier. The difficulties of rounding up sheep and handling them, together with finding sick or wounded animals makes the grazier's workload harder and more complex. As such the economics of moving sheep to and from the site will be marginal. Grass does not tend to grow well under the panels themselves and there are often areas that are dry and barren or that only host weed species, due to heavy shading.</p> <p>Grazing management is also not easily compatible with standard biodiversity management practices at Solar Photovoltaic sites due to fundamental population biology principles. As the site is in arable production at present, currently it may have a relatively low level of biodiversity (although see the comments submitted by AECOM in Appendix 1). The grazing management plan may, therefore, lead to a modest increase in species richness at the site from current base levels, but it will not deliver the level of biodiversity that the site could potentially achieve if biodiversity gains were prioritised over agricultural production.</p> <p>By grazing land for agricultural livestock production, the level of disturbance is high. This prevents plant species with a slow establishment rate (which often are those which are ultimately strong competitors) from growing – and thus the invertebrates that feed on these species are also</p>	

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		<p>excluded from the area. Areas which promote high species diversity often use low intensity grazing as a means to promoting biodiversity.</p> <p>Grazing represents a form of disturbance to the area, thus preventing any one species becoming too dominant. It also helps manage the sward to provide an optimum habitat for invertebrates.</p> <p>Stock densities are generally monitored and adjusted to prevent either under and overgrazing and to ensure the sward contains a mix of long and short vegetation with some plants in flower. There is therefore some conflict between maintaining the land in agricultural production and improving biodiversity. Whilst not incompatible, site based issues, such as soil type(s) and local agricultural practices may therefore pose conflicts which the relevant ES chapter/s should assess.</p> <p>Landscape also advise that the ES contains a farm holdings impact statement with reference to the farm holdings affected by the proposal and which addresses viability, infrastructure and long term consequences on the individual holding. Finally, Landscape note that paragraph 2.6.9 commits to submitting an Outline Soils Management Plan (oSMP) with the DCO Application and they recommend that the oSMP is structured to include the headings contained in their Appendix 3 advice, not least to address soil structural issues and waterlogging that has occurred on solar farms elsewhere in the UK.</p>	

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North Kesteven District Council	UXO	With reference to paragraph 6.6.8 we would recommend seeking the advice of the defence consultees regarding the possible need to scope in the potential for UXO around RAF Digby.	Noted. UXO assessment has been undertaken. Further detail is included in Chapter 10 of the PEIR.
North Kesteven	Mineral Safeguarding	<p>Paragraph 6.6.9 suggests that impacts on the Minerals Safeguarding Area (MSA) could be scoped out through consultation with Lincolnshire County Council (LCC) to ensure that any negative implications for the MSA is minimised. Our view is that it would be premature to scope this issue out at this stage however we would defer to Planning Inspectorate and LCC assessment.</p> <p>The development design and layout in part relies upon and needs to be informed by the findings of the Minerals Assessment and on the basis of the Appendix B zonal masterplan there is significant uncertainty as to where and whether buffer or safeguarding zones around quarries have been considered; to include Longwood and Brauncewell Quarries.</p>	A Mineral Safeguarding Assessment will be part of the Planning Statement submitted with the DCO application.
North Kesteven District Council	Noise and Vibration	With reference to paragraph 6.7.4, the Planning Inspectorate are advised that the baseline approach adopted at Heckington Fen included reference to Professional Practice Guidance on Planning and Noise (ProPG, Association of Noise Consultants, Institute of Acoustics, Chartered Institute of Environmental Health, 2017)', BS 5228 Parts 1 and 2 (British Standard Institute, 2009, amended 2014) and BS 4142 (British Standard Institute, 2014 amended 2019). The same paragraph notes that monitoring will be undertaken in the form of long-term	Noise baseline methodology was agreed with North Kesteven District Council in advance of the survey work. Further detail is included in Chapter 11 of the PEIR.

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		<p>noise measurements, typically of 1-week duration, in order to quantify the existing noise environment and sources of noise impacting the assessment receptors and would encompass continuous periods throughout daytime and night, accounting for the likely operational times of the Proposed Development.</p> <p>The Council wishes to agree both the location and timing of background noise monitoring locations to take account of issues such as the seasonality of land use (harvest), traffic peaks/school holidays (road traffic noise) and whether there are any concentrations of airspace use for example by RAF Waddington, Cranwell and Coningsby. The applicant has recognised mineral extraction activity from Brauncwell Quarry (off A15) and Longwood Quarry (off Long Wood Lane) however should check with those operators whether there are any peaks or patterns of quarrying activity which might also influence baseline noise assessment.</p>	
North Kesteven District Council	Noise and Vibration	Paragraph 6.7.7 does not refer to any noise associated with possible use of tracking panels. This option has not yet been ruled out and therefore the noise chapter of the ES needs to consider operational noise associated with motors, plant and equipment associated with the pivoting and rotation of panels. Cumulative noise impacts may then need to be assessed stemming from the creation of variable 'corridors' down which noise could pass depending on the alignment of panels at different times of the day.	Tracker panels have since been discounted from the Proposed Development and therefore have not been assessed within the PEIR.

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		<p>This should also account for the operational noise generated by substations, inverters and other noise-emitting plant and equipment relative to those corridors and the off-site sensitive receptor locations. In addition the paragraph doesn't specifically refer to noise associated with borrow pits although this is inferred through reference to earthmoving.</p> <p>The 'Decommissioning Assessment' section of paragraph 6.7.11 doesn't refer to the permanent retention of the NGSS.</p>	
<p>North Kesteven District Council</p>	<p>Traffic and Transport</p>	<p>Paragraph 6.8.4 suggests referencing relevant DfT traffic count data for the B1188, B1189, B1191 and A15 links with regard to construction traffic routeing to each respective access. Solar panels and components will potentially arrive via east coast ports and therefore the ES should also factor in construction vehicle impacts along the A17 corridor unless otherwise scoped out in consultation with the Highway Authority.</p> <p>This should include cumulative construction (and where relevant operational) effects associated with Triton Knoll, Viking Link, Heckington Fen solar (including works to Bicker Fen Substation), Beacon Fen solar, Temple Oaks solar and the Lincolnshire Reservoir depending on the timeframes of those projects. TCPA (1990) projects requiring cumulative assessment of transport effects include the Sleaford West and potentially the Sleaford South SUEs (A17/A15 corridor), along with the Lincoln</p>	<p>Traffic and Transport matters are addressed in Chapter 12 of the PEIR.</p> <p>Full transport assessment will be undertaken and provided within the ES.</p> <p>Further consultation with North Kesteven District Council and Lincolnshire County Council to agree the final short list for inclusion in the ES.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>South East Quadrant (SEQ) SUE which sits alongside parts of the A15 and B1188.</p> <p>We agree that operational transport impacts can be scoped out of the ES as noted in paragraph 6.8.9.</p> <p>There is an extensive network of public rights of way (PRoW) within the site which link with the surrounding settlements. Opportunities to create new and expanded routes that would improve access and links between settlements should be considered with potential additional public footpaths and bridleways created as part of the development.</p> <p>Any such routes should not utilise routes used for construction or maintenance activities and be a minimum width of 4m for public footpaths and 5m for public bridleways. Any fencing alongside a public path should be open mesh construction and not close board timber fencing or metal palisade to avoid the creation of a narrow claustrophobic environment.</p> <p>Any new routes to be created should look to be formally adopted as part of the Definitive Rights of Way network rather than permissive routes which could potentially be removed at any point during the life of the project. If permissive routes are proposed then details should be provided of the mechanisms to be adopted to ensure these remain in place for the duration and life of the development.</p> <p>The applicant should also investigate the potential to deliver/accommodate the elements of the Scopwick/Kirkby Green to Metheringham Railway Station Community</p>	

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>Projects detailed in Appendix A of the SKGNP where these are located within the DCO boundary.</p>	
<p>North Kesteven District Council</p>	<p>Cumulative Effects</p>	<p>Paragraphs 7.1.16 and 7.1.17 of the Scoping Report state that in order to be taken forward for cumulative effects consideration, NSIP or DNS development, transport infrastructure developments, approved energy infrastructure developments and other forms of development must lie within the Zone of Influence of the Proposed Development. The Zol is then defined as the study area for each environmental factor considered in the EIA for the Proposed Development and that the environmental factor-specific study areas, and appropriate justifications for these study areas, will be provided in the ES. The Scoping Report states that the search area for forming the long list of other existing development and/or approved developments will be based on the greatest Zol in terms of distance.</p> <p>This approach is not accepted by cross reference to a number of the Zols expressed elsewhere in the Scoping Report. For the avoidance of doubt the Council suggests that cumulative effects associated with BMV agricultural land impacts (i.e. in relation to ‘Land, soils and groundwater’) should as a minimum include all of the NSIP solar projects in Lincolnshire at Heckington Fen, Beacon Fen, Tillbridge Solar, Temple Oaks, Cottam, West Burton, Gate Burton and Mallard Pass along with BMV agricultural land impacts associated with the Lincolnshire Reservoir. We reserve the right to highlight other projects as and when these become known and can advise how these</p>	<p>Chapter 15 of the PEIR sets out the Cumulative effects, methodology for carrying out the assessing and Zone of Influence for each Environmental Factor. This is a preliminary assessment is based on publicly available information at the time.</p> <p>Further consultation with North Kesteven District Council and Lincolnshire County Council to agree the final short list for inclusion in the ES.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>might be treated with reference to Table 2 of Advice Note Seventeen 'Cumulative effects assessment relevant to nationally significant infrastructure projects'. Depending on the LVIA ZTVs associated with the projects located within the North Kesteven District there are not anticipated to be any cumulative LVIA impacts however some cumulative transport impacts associated with construction phases might occur across the North Kesteven and South Kesteven/Rutland solar NSIP schemes depending on respective project timescales and construction traffic routing</p>	
<p>North Kesteven District Council</p>	<p>Other Issues/ Conclusion</p>	<p>The ES should be prepared with reference to the 2023 Central Lincolnshire Local Plan which was adopted on 13th April 2023, rather than the 2017 CLLP which has now been replaced. The applicant is also advised that the proposed DCO boundary includes the allocated residential development site 'Land North of Heath Road, Scopwick' subject to Policy 12a of the SKGNP which is identified for the development of around 14 dwellings. The DCO boundary should therefore exclude this site and on a precautionary basis will need to assume development within the SKGNP Plan period in terms of sensitive receptor locations and baseline assessment where relevant to the specific ES chapters.</p>	<p>Noted. Engagement is ongoing with North Kesteven District Council.</p>
<p>North Kesteven</p>	<p>Other Issues/ Conclusion</p>	<p>In addition as set out above the revised draft NPS EN-3 expressly considers Solar Photovoltaic Generation (page 82 onwards) and is subject to a period of consultation</p>	<p>Noted. This will be presented within the Planning Statement as part of the DCO Application.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
District Council		ending on 25 May 2023. Consequently depending on the point at which the DCO is applied for, and during consideration of the application, either s104 or s105 of the Act will be engaged. Even if still in draft, the March 2023 consultation versions of EN-1 and EN-3 will be a material consideration	
North Kesteven District Council	Other Issues/ Conclusion	<p>Finally we would reiterate that this Scoping Report, dated 21 March 2023, was submitted only 2 weeks following the end of the non-statutory consultation process and our position is that this significantly compresses and restricts the opportunity for the applicant to have meaningfully considered, reflected upon, and addressed representations made during this initial non-statutory consultation and to account for how those representations have informed the scale, layout and composition of the scheme.</p> <p>On that basis our view is that this submission does not comply with the guidance set out in Advice Note Seven 'Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements'. We are concerned that the timescales adopted unilaterally by the applicant – culminating in this Reg. 10 and 11 Scoping Opinion request to the Planning Inspectorate - has undermined the degree to which the information contained in the Scoping Report could be relied upon as a robust representation of the potential significant environmental effects of the proposed development.</p>	Noted.

AECOM (Ecological consultant acting on behalf of North Kesteven District Council and Lincolnshire County Council)

Statutory Consultee		Description	Statutory Consultee Comments	Response
North Kesteven District Council	Responses to the Applicant's Scoping Questions	Do you agree with the proposed list of consultees? I consider the identified list of ecology consultees to be appropriate. The consultation with Natural England will support the conclusions in relation to potential impacts on statutory sites and requirements for Habitats Regulations Assessment		Consultation with Natural England is ongoing
North Kesteven District Council	Responses to the Applicant's Scoping Questions	Do you agree with the proposed study areas? I am in general agreement with the study areas. However, I would query (given the very limited information provided) the restriction of badger surveys to the site only given the potential for impacts on habitat accessibility and commuting routes, and consequently inter-relationships between badger clans. The study areas for national and international designations should also consider the Impact Risk Zones identified by Natural England, rather than relying solely on fixed search distances.		<p>- Only three small main setts and associated outlier setts have been identified on Site (which is considered to be a relatively low level of badger activity for the size of the Site). Pre-construction badger surveys will be carried out. The impacts on badgers will be considered in the design - with badger gates installed in the fencing where required to ensure accessibility and allow commuting routes.</p> <p>- The only SSSI Impact Risk Zone which covers the western side of the Site is for High Dyke SSSI (3.6km SW of the Site). Planning applications which are considered potentially of concern for air pollution are listed as: aviation, livestock and poultry units, slurry lagoons and digestate stores and manure stores.</p>
North Kesteven	Responses to the Applicant's	Do you agree that the data sources listed to inform the EIA baseline characterisation are appropriate? I agree with the data sources identified		N/A

Statutory Consultee		Description	Statutory Consultee Comments	Response
District Council	Scoping Questions			
North Kesteven District Council	Responses to the Applicant's Scoping Questions	Do you agree that the surveys proposed to inform the EIA baseline characterisation are appropriate? I agree these are generally appropriate, but there are omissions. There is no specific mention of flora, but the arable landscape could support a number of scarce arable plant species of conservation concern and dependent on maintenance of cultivation regimes. As identified above there is a need for further clarity on the approach for badger. Similarly, insufficient information has been provided to agree that wintering birds can be scoped out. It is also not clear what approach is being taken in relation to the Schedule 1 bird species that could occur in the zone of influence	Consultation is ongoing with North Kesteven District Council. Arable weed survey and wintering bird surveys will be undertaken to inform the ES. See above for badger. The approach to avoid impact to Schedule 1 bird species will be detailed in the ES.	
North Kesteven District Council	Responses to the Applicant's Scoping Questions	Are any receptors/assets/resources not identified that you would like to see included in the EIA? See response to the above question. The information submitted with the Scoping Report is not sufficient to allow me to agree with the scoping assessment provided in Section 6.2.9. Supplementary information will be expected at PEIR stage.	Further information is included within Chapter 6 and within Volume 3 – Supporting reports of the PEIR.	
North Kesteven District Council	Responses to the Applicant's Scoping Questions	Do you agree with the proposed additional (secondary and tertiary) mitigation measures and is this mitigation appropriate? The identified measures seem reasonable as a starting point. It is not possible to provide a formal response to this question given the very limited information	Further information is included within Chapter 6 and within Volume 3 – Supporting reports of the PEIR.	

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>provided. No reports were provided for the surveys completed in 2022. I defer further advice on this until the PEIR stage, which I anticipate will provide more comprehensive and detailed information on the work completed, the constraints identified, and potential impact pathways</p>	
<p>North Kesteven District Council</p>	<p>Responses to the Applicant's Scoping Questions</p>	<p>Do you agree with the receptors/matters that are proposed to be scoped in and out of the EIA? With certain exceptions, insufficient information has been provided to transparently explain, and therefore support and agree, the scoping of relevant ecological receptors. Further information will be required at the PEIR stage.</p>	<p>Further information is included within Chapter 6 and within Volume 3 – Supporting reports of the PEIR.</p>
<p>North Kesteven District Council</p>	<p>Responses to the Applicant's Scoping Questions</p>	<p>Do you agree with the proposed factor-specific assessment approach? The impact assessment approach based on standard good practice CIEEM methods is acceptable. The applicant should confirm that the current iteration of this guidance has been utilised. This is dated 2022, not 2018 as stated. A biodiversity net gain (BNG) assessment should be provided to demonstrate no net loss of, and a minimum 10% net gain in, biodiversity in accordance with local planning policy and to ensure consistency with other recent solar farm applications in the district. The current iteration of the good practice method is Biodiversity Metric 4.0.</p>	<p>Biodiversity net gain assessment will be undertaken and submitted as part of the DCO.</p>

Statutory Consultee		Description	Statutory Consultee Comments	Response
North Kesteven District Council	Baseline Conditions	<p>I agree that the prevailing land use (intensive arable production) limits the scope for potential ecological impacts and offers good opportunities for biodiversity enhancement. The identified Local Wildlife Sites (LWS) of relevance are consistent with the sites identified in the online Local Plan Policies Map ('Aurora'). As the reasons for designation have not been defined in the Scoping Report it is not possible at present to agree that LWS can be screened out or that the proposed mitigation (including stand-off distances) is sufficient.</p> <p>The screening for statutory designation is likely correct but consideration should be given to the Impact Risk Zones defined by Natural England</p>		<p>The details of LWS designations are presented in the PEA reports. There are no internationally designated statutory nature conservation sites within 10km and no nationally designated nature conservation sites within 2km. As stated above, the Site is within the IRZ of High Dyke SSSI however the Proposed Development is not considered likely to impact the SSSI.</p>
North Kesteven District Council	Baseline Conditions	<p>The Scoping Report states (in Section 2.3.19) that there are no ancient woodlands (an irreplaceable habitat) in the zone of influence. This is not certain, and instead the conclusion should be (given the desk based resources utilised and the limitations of these) that there are no recorded ancient woodlands in the area. The Ancient Woodland Inventory is not definitive and generally omits woodlands smaller than 2ha. Therefore, the applicant should ensure that all woodlands in the zone of influence have been suitably assessed to demonstrate the absence of potential ancient woodland. Formal consultation with Natural England would be required if potential ancient woodlands are identified. In the absence of this, potential ancient woodlands should be protected in accordance with current Standing Advice1 .</p>		<p>Noted. Potential impacts on all woodlands in the zone of influence are suitably assessed. All woodlands on Site will be protected from development (including standard 15m works buffer zones).</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
North Kesteven District Council	Baseline Conditions	I found no information on veteran and ancient trees (irreplaceable habitat) in the Scoping Report. These could occur in areas of woodland, as free standing trees or in hedgerows. The presence/ absence of veteran and ancient trees should be clarified at PEIR stage. If present, such trees should be protected in accordance with current Standing Advice2 .	There have been no veteran trees identified on Site.
North Kesteven District Council	Baseline Conditions	The Scoping Report omits information on Green Infrastructure, which encompasses land identified as Biodiversity Opportunity Areas (BOAs). The online Local Plan Policies Map identifies BOAs in all three component parts of the proposed solar farm. BOAs are covered by specific planning policy (within both the current and emerging local plans) and have relevance to BNG assessment. Appendix 4 of the emerging local plan identifies the principles for development with BOAs. This should be considered and addressed by the Applicant. Further information in relation to this should be provided at PEIR stage.	Biodiversity Opportunity Areas (BOAs) will be considered in BNG assessment.
North Kesteven District Council	Baseline Conditions	The Scoping Report identifies the presence of priority hedgerows within the site. Further information should be provided on the approach taken to identifying these. I assume that Hedgerow Regulations methods have been employed to collect structured data on hedgerows, and to identify any 'important' hedgerows. I would encourage this	A hedgerow survey has been carried out in August of hedgerows which may be impacted by the Proposed Development – which includes identification of any ecologically Important Hedgerows.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>approach and would emphasise that all Hedgerow Regulations criteria should be addressed. These include heritage, landscape and wildlife criteria.</p>	
<p>North Kesteven District Council</p>	<p>Baseline Conditions</p>	<p>The Scoping Report identifies the presence of a number of priority habitats. These are priorities at the national level, as well as in terms of (as stated in Section 6.2.5) the Lincolnshire Biodiversity Action Plan. The Scoping Report identifies a suite of notable bird species of cultivated and farmed land. These bird species are likely to be affected by changes in land use and management arising from the Proposed Development. This will be a relevant consideration to address in the impact assessment and when developing the mitigation and habitat compensation strategy. In support of this, the applicant should refer to the relevant Standing Advice³</p>	<p>Noted.</p>
<p>North Kesteven District Council</p>	<p>Study Areas and Survey Scope</p>	<p>My understanding of the site and the approach to scoping is constrained by the lack of reports for the surveys completed in 2022, including the Preliminary Ecological Appraisal (PEA) report. The latter would have been a beneficial supplement to the Scoping Report. In most cases, the summary survey scope (Section 6.2.4) does not identify the methods to be applied or the survey timings. As a consequence, there is insufficient information to allow me to confirm that the survey work completed to date is appropriate and sufficient. This will need to be reviewed and agreed at PEIR stage. The approach to habitat survey does not include mention of specific</p>	<p>Details on survey methods are presented in the PEA, bird and bat reports. Condition assessment will follow Biodiversity Metric 4.04 or latest version.</p> <p>See above regarding hedgerow survey and that no veteran trees have been identified on Site.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>requirements for BNG assessment i.e. Site Condition Assessment. The current best practice method for this is set out in the guidance for Biodiversity Metric 4.04 . A MoRPH assessment is likely to be required to calculate baseline river units if watercourses (with the exception of ditches) are present in or adjacent to the red line boundary. Further information is needed on the approach to hedgerow survey. As stated above, a comprehensive Hedgerow Regulations assessment is encouraged. Similarly, further information is needed on the approach to veteran and ancient tree survey.</p>	
<p>North Kesteven District Council</p>	<p>Study Areas and Survey Scope</p>	<p>The survey approach for badger needs to deliver data suitable to assess the relevant impacts and to meet requirements of Standing Advice5 . This includes considerations around access to foraging and watering areas, habitat connectivity (given badgers can be faithful to specific movement routes), and implications for territorial boundaries (e.g. from the erection of an extensive network of security fencing). Given the absence of detailed survey information and an understanding of main sett locations, I am not certain that surveys should be restricted to the site boundary. This should be clarified further at PEIR stage.</p>	<p>See above regarding badgers (including badger gates to allow access across the site).</p>
<p>North Kesteven District Council</p>	<p>Study Areas and Survey Scope</p>	<p>Reptile survey will be needed if the habitats of relevance cannot be avoided as indicated.</p>	<p>The area suitable for reptiles has been avoided.</p>

Statutory Consultee		Description	Statutory Consultee Comments	Response
North Kesteven District Council	Study Areas and Survey Scope	The great crested newt survey scope does not confirm that the off-site ponds located within 500m of the proposed development have been surveyed for this species. This should be confirmed at PEIR stage.		All suitable ponds within the site have been eDNA surveyed and GCN are considered likely absent. Due to the negative results of ponds on Site and lack of records of GCN within 2km of the Site it is considered that GCN are unlikely to be present on Site.
North Kesteven District Council	Study Areas and Survey Scope	No specific mention is given to Wildlife and Countryside Act Schedule 1 bird species. A variety of such birds could occur, and not all can necessarily be encompassed within the scope of a standard breeding bird survey (e.g. due to the timing of their breeding activity). The PEIR should provide more detail on the approach to Schedule 1 birds. Relevant species will include but may not be restricted to barn owl (which may nest in trees as well as buildings), quail, red kite, hobby and marsh harrier		Noted. There will be consideration and assessment of Schedule 1 bird species within the ES.
North Kesteven District Council	Study Areas and Survey Scope	Notable flora is not specifically addressed within the survey scope. Plants are a relevant species consideration for purposes of PEA and impact assessment (e.g. refer to Box 2 in the PEA guidelines ⁶). I consider that specific consideration should be given to scarce arable flora that could occur in arable fields and be adversely affected by changes in land use. Botanical surveys may also be		Targeted surveys for notable (non-crop) arable plants will be carried out in May/June and August/Sept 2024.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		needed in support of evidence gathering to determine presence/absence of ancient woodland.	
North Kesteven District Council	Study Areas and Survey Scope	Given the limited information and rationale provided, I am not in a position to agree that wintering bird surveys can be scoped out. I agree that because relevant designations are located at great distance the site is not likely to represent functionally linked habitat. However, (as with breeding birds) wintering birds are not solely a consideration in relation to designations. The site could still have value for wintering birds, and impacts could arise from the substantive land use change for the proposed development (extensive losses of arable farmland and the enclosing of the landscape).	Wintering bird surveys will be undertaken between Nov 2023 and February 2024 to inform the ES.
North Kesteven District Council	Approach to Impact Assessment	As advised above with reference to the questions posed, I agree with the approach to ecological impact assessment. This should reference the CIEEM (2022) guidance, as the current iteration of the good practice approach. The assessment should identify and show regard to relevant planning policy and related guidance, including and particularly National Policy Statements (NPS) EN-1, EN-3 and Planning Inspectorate Advice Note Ten in relation to Habitats Regulations Assessment (HRA). NPS EN-4 is not likely to have direct relevance (as its remit is pipelines), but its requirements in relation to ecology could be translated to cable laying for grid connections e.g. requirements in relation to reinstatement of habitats, and avoidance of important hedgerows.	Preliminary assessment is included within Chapter 6 of the PEIR.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>Given the progress made to date on ecological surveys, I consider that it will be possible to submit a relatively comprehensive and complete ecological impact assessment with the PEIR (as opposed to a more high-level assessment). I encourage this approach as it will permit detailed review and advice in advance of submission of the DCO application.</p>	
<p>North Kesteven District Council</p>	<p>Likely Significant Effects and Scoping of Receptors for Impact Assessment</p>	<p>The assessment of potential direct and indirect effects on LWS needs to be made with reference to the reasons for designation, and the findings of other impact assessment disciplines (noise, air quality, water resources). Until this has been reported, I am not in a position to agree that there are no likely significant effects on LWS. I also cannot agree that the committed 15m stand-off distance is sufficient. Therefore, I do not agree that LWS can be scoped out</p>	<p>It is considered that impacts on LWS can be avoided by buffer zones and mitigation. Two LWS (Gorse Lane and Gorse Hill Lane) adjacent to the site have been scoped in (since the Scoping Opinion) as a precautionary measure as impacts cannot be fully assessed until the buffer zones and mitigation measures regarding these two LWS are confirmed. The 15m buffer zones from all other LWS are considered sufficient distance to avoid impacting the integrity of the LWS based on the LWS receptors and Proposed Development impacts. Details of the LWS are provided in the PEA reports and full assessment will be presented in the ES.</p>
<p>North Kesteven District Council</p>	<p>Likely Significant Effects and Scoping of Receptors for</p>	<p>I agree with the Scoping Report that impacts on birds will be an important consideration (see above) in terms of impact assessment and legislative/policy compliance.</p>	<p>Noted.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
	Impact Assessment		
North Kesteven District Council	Likely Significant Effects and Scoping of Receptors for Impact Assessment	I agree that the lowland meadow priority habitat can be scoped out provided that the habitat is retained and that the proposed development would not prevent/obstruct potential for suitable long term management. This habitat could be a suitable target for habitat enhancement/BNG.	Noted.
North Kesteven District Council	Likely Significant Effects and Scoping of Receptors for Impact Assessment	I cannot agree that hedgerows, other priority habitats or (with certain exceptions as identified below) relevant affected species can be scoped out as the relevant survey methods, results and rationale has not been provided to inform decision-making on this	Further details on justification for scoping out hedgerows and other priority habitats are provided in the PEIR.
North Kesteven District Council	Likely Significant Effects and Scoping of Receptors for Impact Assessment	Section 6.2.9 gives the impression that the commitment to provide habitat mitigation/compensation has been relied on to scope habitats out. The first step is to identify the relative nature conservation value and apply the mitigation hierarchy. Habitat compensation should be a last resort, especially where priority habitats would be affected	The mitigation hierarchy will be applied: Impact to priority habitats will be avoided where possible or mitigated. Habitat compensation will be the last resort.

Statutory Consultee		Description	Statutory Consultee Comments	Response
North Kesteven District Council	Likely Significant Effects and Scoping of Receptors for Impact Assessment	I agree that there is likely to be a case, given commitments for habitat stand-offs, for scoping bats out. However, I defer a final decision on this until the survey results are provided at PEIR stage. This is because a specific uncertainty has been identified in Section 6.2.12. Further, the Scoping Report identifies the presence of barbastelle bat (a Red Data List species) and does not discount potential for this species to be affected		A more detailed justification for scoping bats out is provided in the PEIR. Although, due to a design update regarding access, it is not yet known if a limited number of hedgerows will need to be removed for access therefore bats have been scoped in until this can be confirmed.
North Kesteven District Council	Likely Significant Effects and Scoping of Receptors for Impact Assessment	The grounds for scoping out invertebrates, barn owl, water vole, otter and fish seems reasonable. I also agree reptiles can be scoped out provided the identified higher risk habitats are retained. Precautionary working methods would be sufficient to address the low risk of reptiles being encountered and affected in the wider site. No likely significant effects would reasonably be anticipated in relation to roe and fallow deer. However, they remain a welfare consideration. Further information is needed on how movement corridors can be maintained for deer, and how mammal gates could apply to animals as large as deer (given needs for security)		Noted. There will be a 10m buffer of the fencing from field margins. The fencing design will allow deer to disperse across the Site via the field margins. Mammal gates in the fencing will allow badgers access for foraging across the Site and gaps under the fences should allow smaller mammals such as brown hare and hedgehog access for foraging.
North Kesteven District Council	Biodiversity Opportunities	The Applicant has not committed to a BNG assessment within the Scoping Report. A BNG assessment will be required to ensure consistency with preceding solar farm projects of comparable scale. This is also a requirement of emerging local planning policy. Biodiversity Metric 4.0 should be utilised unless substantive work has already progressed using Metric 3.1 (the preceding iteration of the		As stated above, there is a commitment to deliver at least 10% Biodiversity Net Gain. The latest metric will be used.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		metric, which remains approved for use where already adopted ⁷). Use of this metric will deliver a structured repeatable evidence base for agreement that no net loss has been achieved, and that a meaningful biodiversity gain can be secured.	
North Kesteven District Council	Biodiversity Opportunities	The identified opportunities (Section 6.2.10) seem a reasonable starting point. Therefore, I do not wish to make any additional recommendations for habitat creation or enhancement at this time. I agree with the commitment to provide an outline Landscape and Ecological Management Plan (LEMP) with the final application	N/A
North Kesteven District Council	Biodiversity Opportunities	I recommend that the applicant reviews their list to ensure that mitigation measures are not presented as enhancement opportunities. Mammal gates fall into this category. Similarly, arable interventions would likely represent mitigation for impacts on birds from loss of arable farmland elsewhere within the site.	Noted.
North Kesteven District Council	Biodiversity Opportunities	I do not consider drystone walls to represent meaningful biodiversity enhancement, although they may have incidental benefits for a limited suite of species (but likely less so that creation of semi-natural habitats e.g. hedgerows).	Noted.
North Kesteven	Biodiversity Opportunities	Further explanation is needed for the proposed 'herbal ley' and associated management regimes before it can be	Herbal ley would be a temporary 'cover crop' or 'green manure' such as legumes

Statutory Consultee	Description	Statutory Consultee Comments	Response
District Council		<p>agreed that this would deliver meaningful benefits for biodiversity. Particularly, given the impact on farmland birds from changes in land use. With reference to standard definitions, ley usually represents a temporary land-use rather than permanent habitat creation. So, use of this terminology suggests this habitat would not be comparable with wildflower meadow and may need regular replacement sowings to maintain a biodiversity value. Further, a brief internet search indicates such seed mixes are typically marketed as forage for livestock and to improve soil fertility, rather than for purposes of biodiversity enhancement.</p>	<p>(vetches, like common vetch and hairy vetch. clovers, like red clover, white clover, alsike clover, sweet clover and crimson clover) which would provide nectar for insects and nitrogen to the soil.</p>
North Kesteven District Council	Cumulative Impacts and Effects	<p>Given the characteristics of the affected landscape and its habitats, and the species likely to be associated with these, I cannot identify any likely cumulative effects. However, given the limited information received, this would need to be reviewed in more detail at PEIR stage.</p> <p>In terms of 'intra-project effects', I consider these should be addressed in the main biodiversity impact assessment chapter so that a single cohesive assessment of the impacts and effects of the Proposed Development is reported. This should consider the conclusions of other relevant chapters in more detail (e.g. any potential significant air quality impacts). For example, a combined summary of habitat losses will need to be reported (regardless of the activities contributing to this) for purposes of impact and BNG assessment, and to transparently demonstrate that no net loss and net gain has been achieved</p>	<p>Intra-projects cumulative effects are discussed in Chapter 6 of the PEIR. Inter-project cumulative effects are discussed in Chapter 15 of the PEIR.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
Historic Environment Officer			
Historic Environment Officer	Consultation, study areas	<p>The Report states that the study areas have been defined as 2km from the site boundary for non-designated heritage assets and 5km for designated historic assets in accordance with the document ('Guidance for large schemes including NSIPs and EIAs, General Scoping Opinion for the Historic Environment') provided by Lincolnshire County Council (LCC).</p> <p>The LCC guidance also sets out the data sources that should be included to inform the baseline conditions. From the list of sources included in the Report (6.4.3) some have yet to be consulted / interrogated.</p> <p>The Report notes consultation with LCC, and an intention to consult with Historic England and the local planning authority's (LPA's) conservation officer. Consultation on the cultural heritage, relating to matters on archaeology, should also include the archaeological advisor to the LPA, North Kesteven District Council</p>	Consultation with Lincolnshire County Council, North Kesteven District Council and Heritage Trust for Lincolnshire regarding the scope and timing of evaluation is ongoing.
Historic Environment Officer	Surveys to inform the EIA, baseline conditions	<p>The report notes that a full desk-based assessment including aerial photographic and Lidar data will be produced. The full suite of desk-based information needs to be assessed to inform the baseline.</p> <p>The baseline conditions as mentioned in the report focus on the HER data and number of non-designated and</p>	A full DBA and Stage 1 Setting Assessment has informed the PEIR.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>designated assets recorded and therefore represents only a partial evidence base.</p> <p>A Written Scheme of Investigation (WSI) for geophysical survey has been agreed with LCC.</p>	
<p>Historic Environment Officer</p>	<p>Trial trenching</p>	<p>The report states only that the need for, scope and timing of intrusive evaluation will be negotiated and agreed with statutory consultees following completion of the desk-based and geophysical surveys.</p> <p>The proposals for construction of a solar farm will necessarily have an impact on any buried archaeological remains. Piling, building foundations, cable trenching, access roads, building compounds and construction traffic are all known impacts and the cumulative effect will be significant. Therefore, trial trenching is required to establish the baseline conditions and to understand the nature and extent of the impacts on the archaeological remains. There is currently insufficient information on the presence, character, date and significance of any archaeological deposits. The results of the full desk-based assessment including the aerial photographic and Lidar assessments together with the results of the geophysical survey will inform the programme of trial trench evaluation.</p> <p>In order to determine the presence, absence, significance, the depth and extent of any archaeological remains which could be impacted by the development, trial trenching should target areas where archaeological remains have been identified in the foregoing, non-intrusive surveys as well as areas where the surveys have not detected</p>	<p>The scope and timing of further evaluation following the geophysical survey is still being discussed with Lincolnshire County Council and North Kesteven District Council.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>archaeological remains. The programme of trial trenching should be set out in a written scheme of investigation (WSI) to be agreed with the archaeological consultees prior to commencement of the field investigation.</p> <p>The results of the trial trenching and foregoing surveys will inform the archaeological mitigation strategy</p>	
<p>Historic Environment Officer</p>	<p>Mitigation</p>	<p>It is proposed that where primary mitigation (by design) is not feasible that additional mitigation (6.4.6) will take the form of a programme of archaeological investigation and recording secured by a DCO Requirement. Such a programme may include pre-commencement phases of archaeological excavation and / or archaeological “watching brief” during construction.</p> <p>There is currently insufficient information to determine the nature and scope of the mitigation (whether by design or through archaeological investigation). A trial trench evaluation is required in order to establish the baseline conditions, provide an appropriate assessment of the significance of likely effects and inform the mitigation strategy.</p> <p>Mitigation through archaeological excavation may be required. Without detailed information on the archaeological potential and the likely impact of the proposals mitigation by means of a ‘watching brief’ during construction is not considered acceptable as a first response. The results of the assessments and site specific evaluation will inform the archaeological mitigation strategy. The results should be used to minimise the impact on the</p>	<p>The scope and timing of further evaluation to inform the mitigation strategy is still being discussed with Lincolnshire County Council and North Kesteven District Council.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		historic environment through informing the project design and an appropriate programme of archaeological mitigation (secured in the DCO)	
Historic Environment Officer	Likely significant effects	The likely significant effects (6.4.7) cannot be determined in the absence of an assessment of the baseline conditions. The section acknowledges the uncertainty of potential direct and indirect effects. It is not considered appropriate to propose that certain heritage assets be scoped out at this stage.	The DBA and Stage 1 Setting Assessment, Aerial Investigation and Mapping and geophysical survey have informed the PEIR. Further information on the Proposed Development has also been taken account of when considering likely significant effects.
Historic Environment Officer	Likely significant effects	<p>The assets proposed to be scoped out of assessment (6.4.9) are not supported by an evidence base and appear to be piecemeal and based largely on setting effects (rather than an assessment of the significance of the asset and the likely impact of the proposals) or on the type of record (for example findspots). Any proposal to 'descope' designated or relevant non-designated assets must be informed by an evidence base demonstrating the lack of direct or indirect impact upon the heritage asset and its significance.</p> <p>The Settings Assessment/Heritage Impact Assessment needs to demonstrate an understanding of the significance and context of each of those assets in order to assess the impact of the development upon them and propose any mitigation.</p> <p>Section 6.4.9 also proposes scoping out all heritage assets at decommissioning. The nature of these assets has yet to be determined and assessed and, for example where identified assets may have been avoided / protected in situ</p>	<p>The DBA and Stage 1 Setting Assessment has considered the significance of all heritage assets within 2km of the Site and all designated assets within 5km. Those sensitive to construction effects have been considered within the Site and those sensitive to changes in their setting have been filtered based on a worst case ZTV and considered against the proposed masterplan for the Site.</p> <p>Use of a Decommissioning Environmental Management Plan will ensure that assets not impacted during construction are not affected by decommissioning effects.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>during construction / operation they may be under threat from disturbance or destruction during decommissioning. Cultural heritage should be a consideration as part of any outline decommissioning plans.</p> <p>The section entitled 'Opportunities for enhancing the environment' (6.4.10) has not considered the positive and / or beneficial effects of the programme of archaeological surveys and investigations to be undertaken during this process and the added value that a large development can make to archaeology and cultural heritage. The programme of archaeological works should include proposals for community outreach, public engagement and dissemination of the results</p>	<p>The scope and timing of further evaluation is still being discussed with Lincolnshire County Council and North Kesteven District Council.</p>
<p>Historic Environment Officer</p>	<p>References</p>	<p>Reference should be made to planning and specialist cultural heritage and archaeological guidance and standards and should include the Lincolnshire County Council Archaeology Handbook (2019) which sets out requirements for work in the county, including archiving and deposition. In summary, the EIA will need to contain sufficient information on the archaeological potential and must include evidential information on the depth, extent and significance of the archaeological deposits which will be impacted by the development. The results will inform a fit for purpose mitigation strategy which will identify what measures are to be taken to minimise or adequately record the impact of the proposal on archaeological remains.</p> <p>The provision of sufficient baseline information to identify and assess the impact on known and potential heritage</p>	<p>The scope and timing of further evaluation is still being discussed with Lincolnshire County Council and North Kesteven District Council.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		assets is required by Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (Regulation 5 (2d)), National Planning Statement Policy EN1 (Section 5.8), and the National Planning Policy Framework	
Historic Environment Officer	Scoping questions	<ul style="list-style-type: none"> Do you agree with the proposed list of consultees? No, the archaeological advisor to the local planning authority should be included. 	NKDC's archaeological advisor is also being consulted.
Historic Environment Officer	Scoping questions	<ul style="list-style-type: none"> Do you agree with the proposed study areas? Yes, the report defines a study area of 2km for non-designated heritage assets and 5km for designated heritage. 	N/A
Historic Environment Officer	Scoping questions	<ul style="list-style-type: none"> Do you agree that the data sources listed to inform the EIA baseline characterisation are appropriate? Yes, if a full desk-based assessment is provided in accordance with the guidance provided by LCC. 	Full DBA and Stage 1 Setting Assessment has informed the PEIR.
Historic Environment Officer	Scoping questions	<ul style="list-style-type: none"> Do you agree that the surveys proposed to inform the EIA baseline characterisation are appropriate? No, geophysical survey has been included, however, a programme of archaeological trial trenching has not been included and is required to inform the baseline conditions, an appropriate assessment of impact and the mitigation strategy. 	The scope and timing of further evaluation is still being discussed with Lincolnshire County Council and North Kesteven District Council.

Statutory Consultee		Description	Statutory Consultee Comments	Response
Historic Environment Officer	Scoping questions	<ul style="list-style-type: none"> • Are any receptors / assets / resources not identified that you would like to see included in the EIA? <p>All heritage assets as identified through the EIA process should be included (the required assessments, surveys and investigations have yet to be carried out).</p>		All heritage assets within 2km of the Site and all designated assets within 5km have been included in the DBA and Stage 1 Setting Assessment.
Historic Environment Officer	Scoping questions	<ul style="list-style-type: none"> • Do you agree with the proposed additional (secondary and tertiary) mitigation measures and is this mitigation appropriate? <p>No. Insufficient information is available to understand the mitigation measures that may be required. A programme of archaeological trial trenching is required to inform an appropriate mitigation strategy to be included in the Environmental Statement</p>		The scope and timing of further evaluation is still being discussed with Lincolnshire County Council and North Kesteven District Council.
Historic Environment Officer	Scoping questions	<ul style="list-style-type: none"> • Do you agree with the receptors / matters that are proposed to be scoped in and out of the EIA? <p>No. As the evidence base and assessments have yet to be carried out or completed no receptors / matters should be scoped out of the EIA at this stage.</p>		The PEIR has been informed by the DBA and Stage 1 Setting Assessment, Aerial Investigation and Mapping and geophysical survey.
North Kesteven District Council (Landscape)				
North Kesteven District Council	Agricultural Land Classification and Soils	It is important that the ALC survey is undertaken in line with the MAFF 1988 guidelines and TIN049. These documents set out the precise methodology by which the ALC survey should be undertaken, with auger bore sampling at 1		The survey has been undertaken in line with the MAFF 1988 guidelines and TIN049.

Statutory Consultee	Description	Statutory Consultee Comments	Response
	Agricultural Land Classification and Soils	<p>hectare intervals and a suitable number of soil pits dug to determine the precise nature of the soil(s).</p> <p>According to available published data and local knowledge, the soils locally are mainly Marcham 343e and Aswarby 512a Soil Associations. Both of these soils are limestone based, with shallow well drained loamy soils, over limestone and deeper brown earths. Occasionally there are heavier clay soils present of the Curdridge 841a Association. Appendix 3 sets out a description of each of these three soil associations from Cranfield University. The area locally is known as The Heath. Previous ALC surveys locally on these soils and similar have indicated a mixture of Grades 2, 3a and 3b land. It is likely that the shallower soils will be 3b, whilst deeper soils will be 3a or Grade 2, even with some areas of Grade 1. The ALC should identify where BMV land is and the scheme should seek to protect and minimise damage to higher grade land wherever possible in line with national planning policy. There is undoubtedly a lot of BMV land in this vicinity and only a full ALC will identify where it is and what the Grade and quality is. Laboratory analysis of representative samples should be used to determine textures.</p>	An Agricultural Land Classification (ALC) survey has been undertaken and the
	Ecological Effects	Where land is used for biodiversity it would not be available for agriculture. However even if it is available for some form of cutting or grazing it is unlikely that the ALC grade will change significantly during the life of the project. There is evidence that organic matter builds up in biodiversity areas at a faster rate than arable farmland and this may	Noted.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>benefit the land, but it is not a factor in the assessment of ALC. Long term, where biodiverse land becomes ecologically important there is the possibility of land becoming assigned with environmental designations, such as SSSI status, though generally this has not so far occurred on other solar sites.</p>	
	<p>Ecological Effect</p>	<p>Revisions to the Environmental Impact Assessment rules regarding the cultivation of agricultural land suggest that if land remains uncultivated for longer than five years, then permission may be required from Natural England to bring the land back into arable cultivation.</p> <p>Any material enhancement in the botanical diversity of the sward (to the extent that this site is considered to be of ecological value), will limit the capacity for the land to be returned to arable use after the solar plant has been decommissioned. The EIA (Agriculture) (England) (No.2) Regulations 2006 prohibit the physical or chemical cultivation of what are considered to be 'semi-natural areas'.</p> <p>Cultivation is not clearly defined and does not necessarily require land to have been ploughed. The application of pesticides and fertiliser may be sufficient, but the biodiverse areas are much less likely to receive these treatments once established and there is the possibility that large areas of environmentally interesting land may therefore not be allowed to return to arable farmland after the 40 year period. This is a complex area as there may be planning conditions that require land to be returned to agriculture as part of any consent and it is an open</p>	<p>Noted.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		question whether the compliance with a 'restoration' condition 'trumps' any future environmental status or requirement.	
	Ecological Effect	<p>Grazing management at this Site is not easily compatible with standard biodiversity management practices at Solar Photovoltaic sites due to fundamental population biology principles. As the site is in arable production at present, it currently has a relatively low level of biodiversity. The grazing management plan may, therefore, lead to a modest increase in species richness at the site from current base levels, but it will not deliver the level of biodiversity that the site could potentially achieve if biodiversity gains were prioritised over agricultural production.</p> <p>By grazing land for agricultural livestock production, the level of disturbance is high. This prevents plant species with a slow establishment rate (which often are those which are ultimately strong competitors) from growing – and thus the invertebrates that feed on these species are also excluded from the area.</p> <p>Areas which promote high species diversity often use low intensity grazing as a means to promoting biodiversity. Grazing represents a form of disturbance to the area, thus preventing any one species becoming too dominant. It also helps manage the sward to provide an optimum habitat for invertebrates.</p> <p>Grazing for biodiversity enhancement usually occurs between October and April, which will allow plants to flower and set seed. The stock densities are monitored and adjusted to prevent either under and overgrazing and to</p>	Noted.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>ensure the sward contains a mix of long and short vegetation with some plants in flower.</p> <p>There is therefore some conflict between maintaining the land in agricultural production and improving biodiversity. Whilst not incompatible, site based issues, such as soil type(s) and local agricultural practices may create future problems. Often biodiversity areas particularly target the highest grades on agricultural land and any future restriction that might prevent its return to cultivation should be a consideration in the planning process and in the conditioning of any consent.</p>	
	<p>Cumulative Impacts including District ALC</p>	<p>There are a number of small(er) and largescale Solar PV schemes in Lincolnshire, with others planned or proposed. There are five known solar project NSIP schemes; specifically in relation to impacts on agricultural land. The situation is a moving picture as new proposals come forward from time to time. Most of these sites are proposed on farmland. Lincolnshire and N Kesteven in particular are agricultural areas with substantial areas for land within the Best and Most Versatile category. Much of the non BMV land will be Grades 3b and 4 with very little Grade 5.</p> <p>A county-level alternative assessment area should be applied which as a minimum should consider scope for connection into the National Grid at the locations proposed by the registered NSIP solar projects named above, and with specific consideration of agricultural land impacts.</p> <p>For a project of this scale where the project will tie up the land for up to 40 years, there will be some impact. The area is large locally and if the quantities of BMV are as expected</p>	

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>or similar then the impact will be moderately significant. However if the BMV is greater and of higher grades then I would expect the impact to be more significant at a District Level. Environmental Impact Assessments give guidance on the size and quality of Land Grade that is or can be affected by development proposals. The loss of such a large area of land would normally be considered as significant at District level, even though the use is 'temporary'. Any permanent loss of land due either to construction or through biodiversity designation may affect this assessment further.</p>	
	<p>Sheep Farming and Other Farming Impact</p>	<p>This part of Lincolnshire is a mainly arable farming area with only limited sheep grazing operations. Whilst it is perfectly possible to graze the areas under and between the panels, it is unlikely to be very cost effective for a grazier. The difficulties of rounding up sheep and handling them, together with finding sick or wounded animals makes the grazier's workload harder and more complex. As such the economics of moving sheep to and from the site will be marginal. However, most examples quoted do not charge much or anything for the grazing and this may make it sufficiently attractive for a local farmer or shepherd with a 'flying flock'. Land in use for solar panels is generally ineligible for the normal agricultural subsidies, such as the Basic Payment Scheme (now being phased out) and the Environmental Land Management Scheme (ELMS). It does not prevent land from being managed in similar ways, but there will be no payments available to farmers (e.g. graziers) for</p>	<p>Noted and we will take into consideration in the iterative design.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>compliance and this could make farming less financially attractive going forward.</p>	
	<p>Sheep Farming and Other Farming Impact</p>	<p>The site will probably have to be (re)seeded to grass, or species rich grassland, but this will probably occur after the panels have been sited on the land. In my experience grass does not grow well under the panels themselves. There are often areas that are dry and barren or that only host weeds species, due to heavy shading. As part of any environmental statement there should be an impact statement with reference to the farm holdings affected by the proposal. This should address viability, infrastructure and long term consequences on the individual holding.</p>	<p>Noted. A socio-economic statement will be produced and submitted in support of the DCO, which will outline the impacts to agricultural businesses, tourism etc.</p>
	<p>Soils</p>	<p>Soil structure can be significantly damaged during the construction phase of the process. There is a lot of trafficking of vehicles on the land to erect the panels and if this work is undertaken when soils are wet, there can be significant damage. Much of this damage can be remedied post construction but not all and it is possible that long term drainage issues occur on the site due to the construction. Appendix 4 shows photographs of before during and after construction of a large solar farm in Hampshire where soil structural issues were a major problem post construction. Once the panels are in place usual agricultural practices such as subsoiling become difficult During the construction phase many of the areas will affect soil and water issues. Appendix 5 sets out a basic Soil Management Plan that should be established as part of the Construction Phase, to minimise the impact on soil</p>	<p>Measures to ensure the quality of the land is maintained throughout the operational phase of the Proposed Development will be documented within and secured by the Outline Soil Management Plan and the Outline Operational Environmental Management Plan. The Outline Soil Management Plan will identify those areas within the Site which may be more susceptible to damage, for example, steep slopes and qualities of the soil, for example when it is wet or after periods of heavy rainfall or high winds and will advise on when soils are suitable for being handled or trafficked. The Outline Soil Management Plan will also detail</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>resources. The following headings should be included in the Soil Management Plan.</p> <ul style="list-style-type: none"> • Site preparation; • Import of construction materials, plant and equipment to Site; • Establishment of Site construction compounds and welfare facilities; • Cable installation; • Temporary construction compounds; • Trenching in sections • Upgrading existing tracks and construction of new access roads within the Site; • The upgrade or construction of crossing points (bridges /culverts) at drainage ditches within the Site; • Appropriate storage and capping of soil; • Appropriate construction drainage; • Sectionalised approach of duct installation; • Excavation and installation of jointing pits; • Cable pulling; • Testing and commissioning; and • Site reinstatement (i.e. returning any land used during construction, for temporary purposes, back to its previous condition). • Use of borrow pits 	<p>measures for soil management and follow the principles of best practice to maintain the physical properties of the soil, with the aim of maintaining the condition of the land until the end of the lifetime of the Proposed Development.</p> <p>Further detail related to soil management and mitigation is provided in Chapter 10 of the PEIR.</p>
	Soil Management Plan (Outline)	1. The soil stripping, handling, storage and replacement operations should be undertaken in a manner that is consistent with suitable specification and methodology set out in a Soil Management Plan.	Noted. This will be set out in the Outline Soil Management Plan submitted and secured as part of the DCO.

Statutory Consultee		Description	Statutory Consultee Comments	Response
	Soil Management Plan (Outline)	2. All topsoil and subsoil material shall be stripped from areas affected by top soil storage bunds, subsoil storage bunds, general fill bunds, hard-standings and other constructions including temporary access roads and vehicle trafficking routes, and shall be stored separately in bunds from any imported material and shall be used for the restoration of the temporary soil storage site unless otherwise agreed in writing by the Local Planning Authority.		Noted. This will be set out in the Outline Soil Management Plan which will be discussed and agreed with the Local Planning Authority and submitted and secured as part of the DCO.
	Soil Management Plan (Outline)	3. Soils should be stripped, stored and replaced in line with the MAFF Good Practice Guide for Handling Soils Sheets 1, 2, 3 and 4 - http://webarchive.nationalarchives.gov.uk/20090306103114/http://www.defra.gov.uk/farm/environment/land-use/soilguid/index.htm .		Noted.
	Soil Management Plan (Outline)	4. Topsoil and subsoil storage bunds should be placed in approved locations and constructed to ensure secure storage without damage, loss or contamination.		Noted.
	Soil Management Plan (Outline)	5. Topsoil and subsoil should be stored in bunds not exceeding 3m in height above adjacent existing ground level and shall be constructed and shaped by excavator only (dump trucks should not traffic across the bunds at any time).		Noted.
	Soil Management Plan (Outline)	6. Imported general fill material should be stored in bunds not exceeding 4m in height above adjacent existing ground level.		Noted.

Statutory Consultee		Description	Statutory Consultee Comments	Response
	Soil Management Plan (Outline)	7. Bunds should be seeded to grass at the earliest opportunity and shall not be allowed to overwinter without grass cover.		Noted.
	Soil Management Plan (Outline)	8. No topsoil or subsoil should be sold or otherwise removed from the site.		Noted .
	Soil Management Plan (Outline)	9. Within 3 months of their construction, the Developer should provide a detailed plan of soil storage bunds showing details of position, volume and soil type. The Developer shall be responsible for maintaining an up-to-date record of all soil storage and general fill bunds throughout the life of the site.		Noted.
	Soil Management Plan (Outline)	10. The stripping, movement and re-spreading of topsoil and subsoil material should only be undertaken when the topsoil and subsoil material is in a dry and friable condition and the ground is sufficiently dry to allow the passage of heavy machinery and vehicles over it without damage to the soils		Noted.
	Soil Management Plan (Outline)	11. All injurious weeds, as defined by the Weeds Act 1959, growing within the working site should be eradicated or adequately controlled by approved method		Noted.
	Soil Management Plan (Outline)	12. All vegetation growing on soil storage bunds and peripheral areas within the site should be kept in tidy condition by cutting at least once during the growing season.		Noted.

Statutory Consultee		Description	Statutory Consultee Comments	Response
	Soil Management Plan (Outline)	13. The boundary of the development should be made stock proof for the duration of the temporary development		Noted.
	Soil Management Plan (Outline)	14. All temporary plant, machinery, buildings, fixed equipment, roads and areas of hard standing including site compounds should be removed.		Noted.
	Soil Management Plan (Outline)	15. The natural subsoil base material should be comprehensively ripped to a minimum depth of 500mm to break up surface compaction before any soil material is spread. The developer should give the Planning Authority notice of an intention to carry out this operation. All large stones and boulders, wire rope and other foreign material arising should be removed. Special attention should be given to areas of excessive compaction such as haul roads where deeper ripping may be necessary.		Noted.
	Soil Management Plan (Outline)	16. The Developer should be responsible for providing all necessary training of operatives and site supervision by suitably qualified personnel to ensure that the soil replacement operation is carried out in the approved manner.		Noted.
	Soil Management Plan (Outline)	17. Prior to the commencement of spreading soil, all stones, boulders or foreign objects likely to impede normal agricultural cultivations should be removed from that area.		Noted.
	Soil Management Plan (Outline)	18. The soil material set aside for use in any agricultural restoration should be spread uniformly in the correct sequence (subsoil followed by topsoil) over the ripped base material, and should be rooted and scarified to full depth		Noted.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		without causing mixing between different soil layers. The reinstated agricultural soil profile should be total 450mm thickness overlying prepared and free draining natural stony base material, and should consist of 250mm topsoil and 200mm subsoil derived from the soil stripping operation. This soil profile should meet the technical requirements of the identified Agricultural Land Classification Grade on restoration.	
	Soil Management Plan (Outline)	19. All base material ripping, soil spreading and cultivation operations should be carried out in such a manner as to minimise compaction and achieve unimpeded drainage down through the soil profile.	Noted.
	Soil Management Plan (Outline)	20. Any part of the site restored for agricultural purposes which is affected by localised settlement that adversely affects the agricultural after use should be re-graded including the re-construction of the soil profile to approved specification.	Noted.
	Soil Management Plan (Outline)	21. Following restoration of the soil materials, the land will be cultivated, seeded and managed appropriately for a minimum of a year and until agreed with the Local Planning Authority that the land meets satisfactory requirements	Noted.
Nottinghamshire County Council			
Nottinghamshire CC	No comment	Thank you for consulting Nottinghamshire CC on the above, we have no comments to make at this stage of the process.	N/A
Peterborough City Council			

Statutory Consultee		Description	Statutory Consultee Comments	Response
Peterborough City Council	No comment	The Local Planning Authority has no comments or observations.		N/A
Severn Trent Water				
Severn Trent Water	No comment	Please be advised that the site boundary is outside STW's area of responsibility		N/A
South Holland District Council				
South Holland District Council	No comment	I confirm that South Holland District Council has no comment to make		N/A
Scopwick and Kirkby Green Parish Council				
Scopwick and Kirkby Green Parish Council	Public Rights of Way	The words 'explored' and 'recreational connectivity' are not specific enough in the ES. The area Springwell East in particular has a very high density of PROW which need full recognition in the scoping report		<p>Noted.</p> <p>The design has incorporated a 15m offset from all existing PROW. We have acknowledged. We acknowledge that the PROWs particularly in Springwell East and well used and this has been a factor we have considered in the development of the design. Further detail is included in Chapter 3 Reasonable Alternatives of the PEIR.</p> <p>The potential visual effects on users of PROWs are addressed in Chapter 9: Landscape and Visual.</p>

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<p>Scopwick and Kirkby Green Parish Council</p>	<p>Lighting</p>	<p>Particular concerns regarding lighting, fencing and security cameras. The extent, duration and intensity of lighting needs to be fully illuminated.</p>	<p>The lighting will be manually operated for the Springwell Substation compound, BESS compounds, and Collector Compounds, therefore, it would not be permanently lit. Further detail is provided in Chapter 2 of the PEIR.</p>
<p>Scopwick and Kirkby Green Parish Council</p>	<p>Environmental factors to be scoped in</p>	<p>Despite these factors being scoped in we have additional expectations in aspects of biodiversity, cultural heritage, landscape and visual and Land, soils, and groundwater. As residents of Scopwick and Kirkby Green, the Springwell East development in particular will have a major impact on the ability of our community to enjoy local countryside and we seek to minimise this potential impact on our health and wellbeing.</p> <p>It should be recognised that Scopwick and Kirkby Green are two of the most attractive villages in Lincolnshire and welcome many visitors and tourists. The potential restriction on local business development and its future sustainability needs to be fully explored and mitigated. In conclusion, this proposed development has already generated very strong opposition by a large number of parishioners at recent public meetings. The scale of this development and impact on the landscape is beyond what any parish of our size should be expected to accept.</p>	<p>The potential visual effects on users of PROWs are addressed in Chapter 9: Landscape and Visual.</p> <p>Socio-economic statement will be produced and submitted in support of the DCO which will provide further detail on the impact to local businesses and tourism.</p>

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Scopwick and Kirkby Green Parish Council	Rochdale Envelope	<p>The Rochdale Envelope approach was developed to assist with the development of much large national infrastructure projects such as HS2 where at the start it is difficult to know what matters will be relevant as the project develops. This flexible approach is not appropriate for a development of this limited and static nature where the matters to be considered can be determined at the start. Its use in this context would be an abuse of the process allowing the Applicants to change their plans at will without proper scrutiny.</p>	<p>The level of flexibility assessed for the purposes of the PEIR are detailed within Chapter 2 and 4 of the PEIR. This will be refined and detailed within the ES.</p>
Scopwick and Kirkby Green Parish Council	Landscaping, Habitat Management and Biodiversity Enhancement	<p>The Proposed Development will include landscaping, habitat management, biodiversity enhancement, and amenity improvements, which will be explored as the design progresses. This will be sensitivity designed to retain and enhance ecological and recreational connectivity. Where possible, existing trees, hedgerows, public rights of way and Local Wildlife Sites would be retained.</p> <p>The words ‘explored’ and ‘recreational connectivity’ are not specific enough again the information in the ES needs to be more specific</p>	<p>Further detail is included within Chapter 2 within the PEIR.</p>
Scopwick and Kirkby Green Parish Council	Lighting	<p>The National Grid Substation compound, Project Substation compound, BESS compounds, and Collector Compounds would include lighting, in accordance with relevant standards, but will not be permanently lit. Just lit after dark? Needs to be specific</p>	<p>The lighting will be manually operated for the Springwell Substation compound, BESS compounds, and Collector Compounds, therefore, it would not be permanently lit.</p>

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<p>Scopwick and Kirkby Green Parish Council</p>	<p>Use of borrow pits</p>	<p>The use of borrow pits during construction of the Proposed Development will be considered as the design develops. The potential benefit of including borrow pits as part of the Proposed Development include:</p> <ul style="list-style-type: none"> • Allows extracted aggregate to be transported to construction locations (largely via site access tracks) within the Site. • Generates significantly lower levels of Heavy Goods Vehicle (HGV) movements on the local highway network than importation of aggregate from commercial quarries. • Reduces cost risks arising from double handling, importation from commercial quarries and landfill disposal. <p>2.5.10. The benefit of using borrow pits will be carefully considered against any potential environmental impacts. Further detail on the approach to identifying suitable borrow pit locations and justification for their inclusions as part of the Proposed Development will be provided as part of the PEIR and ES.</p> <p>Comment Received This is a cost cutting exercise allowing the Developers to quarry their own aggregate out of the heath sub-soils to use to build temporary roads and hardstandings; further details and approval from the Environment Agency should be gained. The land where borrow pits are excavated will never be returned to proper agricultural use and this procedure should be prohibited as unnecessary and open to abuse. Unnecessary as there is a limestone quarry adjacent to the proposed site. Open to abuse as there is no monitoring of the 'rubbish' that may</p>	<p>No borrow pits are proposed as part of the project.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		end up being dumped in a pit rather than properly (and more expensively) disposed of.	
Scopwick and Kirkby Green Parish Council	Construction Reinstatement	A programme of construction reinstatement and habitat creation will commence during the construction phase. The above statement is a contradiction in terms, the construction machinery and the work being carried out will be disruptive and will have an adverse effect on wildlife, surely 'during' should be 'after' and further specific detail is required	An Outline Landscape and Ecological Management (OLEMP) will be produced and submitted in support of the DCO. This will detail the management requirements during construction and operation of the Proposed Development.
Scopwick and Kirkby Green Parish Council	Soils Management	<p>Regarding agricultural land remediation, the document states the land will return to agricultural use at the end of the 40 year period, will the ES confirm that if the development is approved all of the concrete bases, foundations, piles and all other sub-structure elements are grubbed up, crushed and recycled on site into aggregate and then removed for future construction use, also where necessary replacing any topsoils with a similar heathland soil where required?</p> <p>If this land is not properly restored it will not be able to be farmed in a conventional manner, unable to be cultivated or harvested due to the potential damage to farm machinery. Wild grasses and weeds will grow, and it will look something like the old Butlins Filey holiday camp site does today. I like to see wildflowers growing but not 4,200 acres of them, when this best and most versatile land should be growing food crops.</p>	<p>During the decommissioning phase, it is assumed that all concrete, hardstanding areas, foundations for the infrastructure and any internal tracks will be removed to a depth of up to 1m. It is assumed that all the below ground cables will be left in situ. Further detail is included within the PEIR Chapter 2.</p> <p>The landscape management plan will be developed with the Estate to ensure that the landscape design and long term habitats align with the Estate long term strategy.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
Scopwick and Kirkby Green Parish Council	Above ground infrastructure decommissioning	<p>At the moment solar panels at the end of their usable life are finding their way into landfill in Africa. As far as we know there is no recycling facility in the UK. The West's relationship going forward with China is uncertain. Springwell should fully address these matters at this pre-planning stage.</p> <p>The Lincoln Heath is a very fragile part of our county.</p>	Climate Assessment which assesses the reasonable worst case is provided in Chapter 7 of the PEIR.
Scopwick and Kirkby Green Parish Council	Flood risk and management	<p>The heathland soils are light in nature with an element of limestone particles within the growing medium, very free draining to the limestone brash subsoils which continue down to the water bearing strata which is the Central Lincolnshire aquifer which provides drinking water to many hundreds of thousands of homes.</p> <p>The villages of Scopwick and Kirkby Green have been adversely affected by flooding particularly during periods of high rainfall with an increasing incidence in recent years. The problems created by old and poorly maintained surface water drainage and sewerage systems may be exacerbated by the hard landscaping and the solar panels themselves. This should be investigated at an early stage in assessing the suitability of the land for solar panels.</p>	The potential impacts to water and groundwater are detailed within Chapter 10 and 13 of the PEIR.
Scopwick and Kirkby Green Parish Council	Pollution	<p>The natural aquifer which is a unique feature of the Lincolnshire Heath and feeds the many springs and streams which occur along the site of the proposed solar development should be assessed and protected. The risks of pollution need to be assessed and monitored. In particular those associated with known risks of harmful chemicals from solar panels and battery installations</p>	The potential impacts to water and groundwater are detailed within Chapter 10 and 13 of the PEIR.

Statutory Consultee	Description	Statutory Consultee Comments	Response
<p>Scopwick and Kirkby Green Parish Council</p>	<p>Protected Species</p>	<p>The area is home to many protected species well adapted to the current landscape of open farmland and small woodlands. A full protected species survey should be carried out before construction begins and the habitats protected from development. The area is home to the wild brown hare whose numbers have declined rapidly in recent years due to habitat loss. They are protected under the Wildlife and Countryside Act 1981 and listed as a priority species under the UK post 2010 Biodiversity Framework. The area is also an important habitat for birds of prey including the red kite, buzzard, and barn owl. The number of barn owls is declining, and this native bird was placed on the Red List of Birds of Conservation Concern (2021). Similarly, the area has important populations of ground nesting birds namely skylarks and lapwings, both species named on the Red List as numbers have been subject to recent dramatic decline. Other animals reported in the area and protected by law include bats, hazel dormice, slow-worms and badgers. The area is also home to several populations of deer, whose populations range over fields threatened with being fenced off and covered with solar panels. At a time when the UK has been assessed as one of the most ecologically impoverished countries in the world, it is proposed to take large areas of open countryside and valuable wildlife habitat for industrial use.</p>	<p>The ecological surveys undertaken to date and further survey work to be undertaken to inform the ES is detailed within Chapter 6 Biodiversity.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
Scopwick and Kirkby Green Parish Council	Health	Health of those living and working in the area should be considered particularly the effects on mental health. The pandemic highlighted the importance of being out in nature for our mental health. The considerable disruption of construction over many months together with the industrialisation of the landscape with high metal fencing, closely packed solar panels, lighting, CCTV and 3.5m high solar stations housing transformers on this vast scale will necessarily have a negative impact on mental health in an area which is used for both residential and recreational purposes	The CCTV system will be positioned away from any footpaths and sensitive receptors.
Scopwick and Kirkby Green Parish Council	EIA	Commissioning RSK to prepare the EIA. RSK are not an independent body. They have a biased towards these projects as their ultimate parent company invest in these projects. We should be pushing for a truly independent body. This should be clearly highlighted as a major concern by the PC. RSK are owned by a major US private Equity firm called Ares who are directly involved in the Green Energy Market	Noted.
Scopwick and Kirkby Green Parish Council	EIA Scope	RSK looking to take certain things out of scope in the EIA? This seems to be a common strategy by solar factory developers. Similar strategy was deployed by Mallard Pass developers. We should strongly object. The following should not be taken out of scope - 5.2 (Glint & Glare), 5.3 (Heat & Radiation), 5.4 (Major accidents and disaster), 5.5 (Utilities), 5.6 (Human health), 5.7 (Material assets and waste), 5.8 (population) and 5.9 (Water).	Noted.

Statutory Consultee	Description	Statutory Consultee Comments	Response
Scopwick and Kirkby Green Parish Council	Population	They reference a document known as LA 112. LA 112 is not relevant they need to reconsider - LA112 is for transport projects this isn't a transport project (Design Manual for Roads & Bridges) There are major impacts to all the groups above as highlighted by the 95% who voted against this project in the last Parish meeting	Socio-economic statement will be produced and submitted in support of the DCO.
Scopwick and Kirkby Green Parish Council	Private Property & Houses	They see no impact on our properties	Socio-economic statement will be produced and submitted in support of the DCO.
Scopwick and Kirkby Green Parish Council	Community Land & Assets	They want this out of scope, they miss the point we live in this area for the outstanding natural beauty	The potential visual effects on are addressed in Chapter 9 Landscape and Visual of the PEIR.
Scopwick and Kirkby Green Parish Council	Agricultural & Development Land	How can they position this as out of scope when they are taking 4200 acres of Best Most Valuable farmland out of production.	The impact to Best and Most Versatile agricultural land is assessed within Chapter 10 of the PEIR.
Scopwick and Kirkby Green Parish Council	Public Rights of Way	Walkers Cyclists & Horse Riders They see no impact and indicate this should be out of scope. For all of these groups the significant change to the landscape will have a material impact. We are meant to be promoting health and wellbeing and the countryside is a key element of this	The potential visual effects on users of PROWs are addressed in Chapter 9: Landscape and Visual.

Statutory Consultee	Description	Statutory Consultee Comments	Response
Scopwick and Kirkby Green Parish Council	Decommissioning	These areas are going to be covered in concrete to create hard standing platforms. This along with piling to create footings for the panels this land will never be used again for farming. What cast iron assurances will there be that ever piece of concrete will be removed from the land?	During the decommissioning phase, it is assumed that all concrete, hardstanding areas, foundations for the infrastructure and any internal tracks will be removed to a depth of up to 1m. It is assumed that all the below ground cables will be left in situ. Further detail is included within the PEIR Chapter 2.
Scopwick and Kirkby Green Parish Council	CCTV	The CCTV is a gross intrusion into our human rights with security tracking our right to roam freely in the countryside.	The CCTV system will be positioned away from any footpaths and sensitive receptors.
Scopwick and Kirkby Green Parish Council	Public Rights of Way	These have been in place for many years and were originally scoped by MR Eric Parker, these included 4 promoted walks. These walks will be fundamentally changed and spoilt. At a time when we are focussed so much on people's mental wellbeing this will have a significant detrimental impact	The potential visual effects on users of PROWs are addressed in Chapter 9: Landscape and Visual.
Scopwick and Kirkby Green Parish Council	Cultural Heritage	There are a significant number of Listed Heritage sites across the planned site. These sites will all have their outlooks spoilt by the development	All heritage assets within 2km and all designated heritage assets within 5km have been included in the DBA and Stage 1 Setting Assessment. Those sensitive to changes in their setting have informed the masterplan of the Proposed Development and have been filtered for further assessment based on a worst case ZTV.

Statutory Consultee	Description	Statutory Consultee Comments	Response
Scopwick and Kirkby Green Parish Council	Drainage	There is already increased risk of flooding in the Scopwick area. The document 5.9.23 references Cook & McQueen (2013) when discussing runoff and potential impacts on flooding. This was a modelled classroom study on a tiny scale. It did demonstrate a small increase. They cannot seriously be using a classroom-based study to take Water out of scope. The potential change to drainage on a site this large could be significant.	Flood Risk Assessment (FRA) will be undertaken as part of the EIA, which will inform the ongoing design of the Sustainable Drainage Systems. The FRA will be submitted in support of the DCO.
Scopwick and Kirkby Green Parish Council	Use of borrow pits	Can the planning inspectorate guarantee that these sites won't be filled with construction contaminates and then back filled. Ref 5.7 materials, assets & waste	No borrow pits are proposed as part of the project.
Scopwick and Kirkby Green Parish Council	Reasonable alternatives	Why has no alternative site or source of power generation been considered.	A summary of alternatives has been included within Chapter 3 of this PEIR. Further detail will be presented in the ES, the Statement of Need and the Planning Statement.
Scopwick and Kirkby Green Parish Council	Climate	<ul style="list-style-type: none"> • Panels shipped from China • Concrete on the Land • Alteration of Drainage • Removal of Best most valuable farmland out of production resulting in increase in import and the associated carbon footprint 	Climate Assessment which assesses the reasonable worst case is provided in Chapter 7 of the PEIR.

Statutory Consultee		Description	Statutory Consultee Comments	Response
Scopwick and Kirkby Green Parish Council	Utilities	How can they look to make utilities out of SCOPE There is a significant risk with the Exolum Pipeline that crosses the Blankney estate. This pipeline is a critical piece of infrastructure and needs to be accessed at any time		We are aware of the Exolum Pipeline and are engaging with the relevant consultees to ensure that there is sufficient offset distances from any development.
Scopwick and Kirkby Green Parish Council	Socio-Economic	Whilst during the construction phase there may be a few extra hotel/B&B rooms rented out the longer-term cost will be much higher as potential tourist will avoid the areas and the impact on property could be devastating.		Socio-economic impacts will be detailed within a Socio-economic Statement which will be submitted in support of the DCO.
Scopwick and Kirkby Green Parish Council	Public Rights of Way	Temporary diversions potentially lasting two years will substantially impact the community's freedom of the community to walk the local countryside with adverse consequences to their health and well-being.		Any temporary diversions will be minimised where possible during the construction phase.
Scopwick and Kirkby Green Parish Council	Public Rights of Way	It is not clear whether all the current footpaths and permitted paths are covered in the text. This facility is enjoyed and valued not only by the parish but also by the surrounding wider community in the district. A reduction to any of these will impact all communities' freedom of the community to walk the local countryside with adverse consequences to their health and well-being.		The potential visual effects on users of PROWs are addressed in Chapter 9: Landscape and Visual. The Proposed Development includes proposals to enhance the existing PROW network, as detailed in Figure 2-6 Access Parameter Plan.
Scopwick and Kirkby Green Parish Council	Human health	5.6.5. As any potential human health impacts will be captured by the aforementioned assessments and there are not expected to be any significant human health impacts outside of these assessments, it is proposed that		Human Health has been scoped out from further assessment, however, air quality, climate and water will be assessed as part of the EIA.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>human health is not subject to dedicated assessment and therefore excluded from the scope of the EIA.</p> <p>Observation. The above observations fundamentally challenge the Report's assertion that "human health is not subject to dedicated assessment and therefore excluded from the scope of the EIA."</p>	
<p>Scopwick and Kirkby Green Parish Council</p>	<p>Population</p>	<p>5.8.7. As no significant effects are expected in relation to private property and housing, it is proposed that these matters be scoped out of further assessment.</p> <p>Observation. The changes to the local environment arising from the proposed development will very inevitably impact the value of public and private residential property and housing in the area. This is a factor that should not be excluded from the EIA assessment</p>	<p>Residential visual amenity will be addressed as part of the LVIA in the ES but property value will not be addressed in the ES.</p>
<p>Scopwick and Kirkby Green Parish Council</p>	<p>Population</p>	<p>5.8.9. As no significant effects are expected in relation to community land and assets, it is proposed that these matters be scoped out of further assessment.</p> <p>Observation. The community benefits from its current environment as a rural agricultural area which the proposed development as a mega-sized industrial plant will fundamentally impact. Therefore, this should not be scoped out of the EIA assessment</p>	<p>The visual effects on public amenity are addressed in Chapter 9 and where relevant views from community land and assets is addressed as appropriate.</p>
<p>Scopwick and Kirkby Green Parish Council</p>	<p>Agricultural land holdings, development</p>	<p>5.8.11. There are no other businesses present within the (development) Site boundary. There is no land allocated for employment use, nor are there any planning applications</p>	<p>This will be reviewed prior to undertaking and the ES and will be detailed within a</p>

Statutory Consultee		Description	Statutory Consultee Comments	Response
	land and businesses	<p>yet to be determined that will generate employment opportunities at the Site. Therefore, this should not be scoped out of the EIA assessment.</p> <p>While at present there are no other businesses, land allocated for business use, or planning applications for such within the Site, there nevertheless is the possibility that such, say as small cooperative agricultural holdings or business enterprises being generated any time in future as an alternative to the proposed development. Therefore, these should not be scoped out of the EIA assessment</p>		Socio-Economic Statement which will be submitted in support of the DCO.
Scopwick and Kirkby Green Parish Council	Agricultural land holdings, development land and businesses	<p>5.8.18. As the PRWC will minimise any potential impacts to walkers, cyclists and horse riders during the construction phase and no significant permanent effects are expected in relation to walkers, cyclists and horse riders during the operational phase of the Proposed Development, it is proposed that these matters be scoped out of further assessment.</p> <p>Observation. As with 5.63 and 64 it is not clear whether all the current footpaths and permitted paths are covered in the text. This facility is enjoyed and valued not only by the parish but also by the surrounding wider community in the district. A reduction to any of these will negatively impact health and well-being</p>		The potential visual effects on users of PROWs are addressed in Chapter 9: Landscape and Visual.
Scopwick and Kirkby Green Parish Council	Conclusion	<p>5.8.19. As no significant effects to population are expected across any of the five matters detailed in LA 112, it is proposed to exclude population from the scope of the EIA. However, socio-economic benefits as a result of the</p>		Socio-economics statement will be produced and submitted in support of the DCO application.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>Proposed Development are expected with regards to:</p> <ul style="list-style-type: none"> • Increase in the level of temporary employment; • The subsequent gross value added to the economy; • Uptake in the occupancy rate for beds in local hospitality venues; and • A small number of long-term employment opportunities during operation. <p>5.8.20. Therefore, a Socio-Economic Benefits Statement will be submitted in support of the DCO Application, highlighting the positive socio- economic impacts of the Proposed Development on the local and regional area. This statement will be produced outside of the EIA process and thus to avoid any potential for confusion or repetition, the Applicant does not consider it necessary to consider socio-economic impacts in an EIA context as well. Observation. The preceding observations demonstrate that the conclusions set out above in 5.8.19 are flawed in that the EIA proposes scoping out many factors of significance which will invalidate its very purpose. The missing factors should be made to be part of this EIA exercise</p>	
West Lindsey District Council			
West Lindsey District Council		<p>Planning Policy Context: The site is a good distance (approximately 8.8 miles) outside the closest West Lindsey District boundary near Cherry Willingham. The statutory development plan for the purposes of S38(6) of the Planning and Compulsory Purchase Act 2004 is the Central Lincolnshire Local Plan 2012-2036. It is expected that the</p>	<p>Noted. The Proposed Development will be assessed in accordance with the relevant policies and will be part of the individual ES chapters and assessed within the Planning Statement as part of the DCO application.</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>Central Lincolnshire Local Plan Review will be adopted on 13th April 2023 following examination and acceptance of all modifications recommended by the examining inspector. This would then have full weight as part of the Development Plan. As the district of West Lindsey is part of Central Lincolnshire its statutory development is also the Central Lincolnshire Local Plan 2012- 2036, soon to be Central Lincolnshire Local Plan Review. The Environmental Statement should consider National Planning Policy and Guidance as follows:</p> <ul style="list-style-type: none"> · National Planning Policy Framework (NPPF); · National Planning Practice Guidance (to include): <ul style="list-style-type: none"> - Climate Change - Historic Environment - Environmental Impact Assessment - Air Quality Ian Elliott @west-lindsey.gov.uk 5th April 2023 - Page 2 of 3 - Light Pollution - Healthy and Safe Communities - Natural Environment - Noise - Renewable and Low Carbon Energy - Travel Plans, Transport Assessments and Statements in Decision-taking - Water Supply, Wastewater and Water Quality · National Design Guide 2019 · National Design Model Code 2012 	

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<ul style="list-style-type: none"> · Overarching National Policy Statement for Energy (EN-1)* · Overarching National Policy Statement on Renewable Energy Infrastructure (EN-3)* <p>* Currently under review by Central Government1</p>	
	Landscape and Visual	<p>As set out in the SR the Landscape and Visual Impact Assessment (LVIA) should follow the guidance of the Landscape Institute “Guidelines for Landscape and Visual Impact Assessment 3rd Edition (2013), as proposed. An iterative approach, which guides the layout and scheme design should be followed.</p> <p>The location of the proposed Solar Park would be approximately 8.8 miles (14.3 kilometres) to 12.3 miles (19.9 kilometres) from the shared North Kesteven and West Lindsey district boundary. The height of the development (including infrastructure) would primarily be no more than around 6 metres high, however paragraph 2.4.43 of the SR states that “The National Grid Substation compound would have an approximate footprint of 500m x 500m in plan, and up to 15m in height. The majority of the infrastructure would be up to 6m in height, however, the steel gantries are assumed to be up to 15m in height”. The SR in paragraph 2.4.39 assumes that the National Grid Substation would be on the site. It is requested that more clarity and certainty is provided in the ES statement in terms of the location and appearance of the National Grid Substation which would have structures up to 15 metres in height.</p>	The LVIA will be undertaken in accordance with the identified guidance document.

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>Given the height of the development subject to the location of the 15 metre high unit it would either not be expected to be in view from any parts of the West Lindsey District or if in view would not be expected to have an unacceptable harmful visual impact on the West Lindsey District. Therefore it is not considered likely that any viewpoints from West Lindsey would be necessary and no residential properties in West Lindsey are expected to be affected.</p>	
	Cumulative Effect	<p>West Lindsey which is part of Central Lincolnshire, with North Kesteven District Council and Lincoln City Council, and is expecting four large scale solar projects (nationally significant infrastructure) to be applied for through a Development Consent Order in addition to Springwell Solar Farm. These are (with update):</p> <ul style="list-style-type: none"> · 600MW Cottam Solar Project Proposed across 3 sites on land (1270Ha) in proximity of Sturton by Stow and Willingham by Stow, Corringham and Blyton. The Planning Inspectorate (PINS) confirmed on 9th February that this project has been accepted for examination. · 500MW Gate Burton Solar Project The development is proposed on a 684Ha site to the south of Gainsborough/Lea. It was accepted for examination on 22nd February, · 480MW West Burton Solar Project Proposed across 3 sites (788Ha) on land to the south of Sturton by Stow. The Planning Inspectorate have advised they received an application for a Development Consent Order (DCO) on 21st March. They will make a decision on whether to accept the application for examination, by 18th April. 	<p>Chapter 15 of the PEIR sets out the Cumulative effects, methodology for carrying out the assessing and Zone of Influence for each Environmental Factor. This is a preliminary assessment is based on publicly available information at the time.</p> <p>Further consultation with North Kesteven District Council and Lincolnshire County Council to agree the final short list for inclusion in the ES will be undertaken</p>

Statutory Consultee	Description	Statutory Consultee Comments	Response
		<p>· 500MW Tillbridge Solar Project 1400Ha site on land between Corringham and Glentworth. It is anticipated by PINS, that the developer will submit their application in Q4 2023. Before that, the developer will be required to advertise and undertake public consultation, which is anticipated they will hold around May/June 2023.</p> <p>Whilst the structure of the ES appears to be generally acceptable it is imperative that any Environmental Impact Assessment clearly considers within its structure the cumulative effect of Springwell Solar Farm with these other solar farm projects and any other solar Farms in Central Lincolnshire such as the Fiskerton Solar project, which is an extant development, with consent to expand. There are questions as to how all these developments taken together will affect Central Lincolnshire's character, as traditional rural Lincolnshire Countryside.</p>	

Appendix 5.1

Air Quality Method Statement



Our ref: 445336-01-MS

31st July 2023

Bohdan Dawyd
North Kesteven District Council

Sent by email to: bohdan_dawyd@n-kesteven.gov.uk

Request for Comments on the Proposed Air Quality Assessment for Springwell Solar Farm

Dear Mr Dawyd,

RSK Environment Ltd (RSK) has been commissioned to undertake an assessment of the potential air quality impacts associated with the proposed Springwell Solar Farm. The proposed development comprises the construction, operation and decommissioning of solar photovoltaic (PV) generating station, energy storage facilities, and grid connection infrastructure to allow export to the National Grid. The approximate grid reference of the centre of the site is 506382, 356551 (British National Grid). The proposed site location is shown in Appendix A, for reference.

The site is within the administrative area of North Kesteven District Council (NKDC). There are currently no Air Quality Management Areas (AQMA) declared within the district. Therefore, the proposed development is not located within or close to an AQMA.

The following document outlines RSK's proposed approach to assessing potential air quality impacts associated with the proposed development. We would be grateful for your comments on our proposed assessment methodology.

1. Baseline Air Quality

According to the NKDC's 2022 Air Quality Annual Status Report (ASR), there was a network of 22 nitrogen dioxide (NO₂) diffusion tubes across the district in 2021 and no automatic monitoring station.

The nearest monitoring location is a NO₂ diffusion tube location (NKDC ref: Ruskington) situated approximately 4.3km away from the site. The monitoring data from this site are reproduced in Table 1 below. No exceedances of the annual mean NO₂ Air Quality Standard (AQS) were recorded at this monitoring location. The measured annual average NO₂ concentrations at this diffusion tube site, for years 2017 - 2021, ranged between 10.6µg/m³ and 14.7µg/m³, which were well below the annual mean NO₂ AQS.

Table 1: Annual Mean NO₂ Concentrations at the Diffusion Tube Locations within 4.5km of the Proposed Development Site

Site ID	Location	Site type	Approximate Distance from Site (km)	Annual Mean NO ₂ Concentrations (µg/m ³)				
				2017	2018	2019	2020	2021
Ruskington	Winchelsea Road	Roadside	4.3	10.6	14.7	13.3	10.7	11.5

2. Estimated Background Data

In addition to the local monitoring data, estimated background air quality data available from the LAQM-Tools website, may also be used to establish likely background air quality conditions at the proposed development site.

This website provides estimated annual average background concentrations of NO₂, PM₁₀ and PM_{2.5} on a 1km² grid basis. Table 2 identifies estimated annual average background concentrations for the grid square containing the proposed development site for years from 2023 to 2025. No exceedances of the NO₂, PM₁₀ or PM_{2.5} annual mean AQSs are predicted. As background concentrations are predicted to fall with time, background concentrations in future years would not be expected to exceed their respective annual mean standards.

Table 2: Estimated Background Annual Average NO₂, PM₁₀ and PM_{2.5} Concentrations at Proposed Development Site

Assessment Year	Estimated Annual Average Pollutant Concentrations Derived from the LAQM Website (µg/m ³)		
	Annual Average NO ₂	Annual Average PM ₁₀	Annual Average PM _{2.5}
2023	6.7	15.3	8.2
2024	6.5	15.1	8.0
2025	6.2	15.0	7.9
AQS	40	40	20

Note: Presented concentrations for 1 km² grid centred on 506500, 356500; approximate centre of development site is 506382, 356551.

3. Outline of Assessment Approach

The assessment will address potential impacts during both the construction, operational and decommissioning phases of the proposed development.

During construction and decommissioning, air quality impacts are likely to be local to the development and will be temporary in nature (i.e. during the construction and decommissioning phases only). A qualitative study, based on the Institute of Air Quality Management (IAQM) 'Guidance on the assessment of dust from demolition and construction' document, will be undertaken to assess potential construction and



decommissioning phases impacts. The assessment will identify a range of mitigation measures aimed at minimising construction and decommissioning impacts (fugitive dust emissions).

A screening level qualitative assessment will be undertaken with reference to the Environmental Protection UK (EPUK) and IAQM guidance entitled '*Land-Use and Development Control: Planning for Air Quality*' to assess the potential impacts of construction and decommissioning phases traffic exhaust emissions.

Given the nature of the proposed development, no site activities resulting in significant emissions to air are anticipated during operation and there will only be limited movement of vehicles to the site for maintenance. Operational phase will be scoped out from the assessment.

4. Interpretation

The qualitative assessment results will be interpreted with reference to national and local legislation, policy and guidance including guidance provided by the IAQM, EPUK and the National Air Quality Strategy. An environmental statement will be produced for submission with the EIA planning application for the proposed development.

We would like to address any of your comments or concerns in the air quality assessment for the proposed development and would be grateful for your feedback. Please do not hesitate to contact the undersigned if you would like to discuss any aspects of the proposed methodology detailed above.

Yours sincerely,

For RSK Environment Ltd

Prepared by:

Reviewed by:

Phoebe Chan
Senior Air Quality Consultant

Robert Clark
Senior Air Quality Consultant



Appendix 5.2

Air Quality Method Statement Response



Phoebe Chan

From: Bohdan Dawyd <Bohdan_Dawyd@n-kesteven.gov.uk>
Sent: 01 August 2023 09:30
To: Phoebe Chan
Cc: Nick Feltham
Subject: RE: Request for Comments on the Air Quality Assessment Method Statement - Springwell Solar Farm

CAUTION: This email originated from outside the Organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Phoebe

Many thanks for your email.

I have reviewed the method statement and I'm satisfied with the suggested approach.

Kind regards
Bohdan



Bohdan Dawyd
Environmental Health Officer

Tel: 01529 414155
Email: Bohdan_Dawyd@n-kesteven.gov.uk
www.n-kesteven.gov.uk
Kesteven Street, Sleaford, NG34 7EF

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[Tell us here](#)



Subject: Request for Comments on the Air Quality Assessment Method Statement - Springwell Solar Farm

CAUTION: External email, think before you click!

Dear Mr Dawyd,

Hope you are well.

We are instructed to undertake an air quality assessment for the proposed Springwell Solar Farm and our proposed assessment approach is attached herewith.

We shall be grateful for any of your comments. Please let me know if you want us to provide any further details.

Thanks ever so much for your time.

Kind regards,
Phoebe

Phoebe Chan

MSc, BSc (Hons), AMIEnvSc, AMIAQM
Senior Air Quality Consultant

RSK

18 Frogmore Road, Hemel Hempstead, Hertfordshire, HP3 9RT, UK



Global provider of environmental consultancy, health and safety, and ground engineering services



RSK Environment Ltd is registered in Scotland at 65 Sussex Street, Glasgow, G41,1DX, Scotland, UK
Registered number: 115530

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Appendix 6.1

Preliminary Ecological Appraisal - Report 1





Springwell Energyfarm Ltd

Springwell Solar Farm

Preliminary Ecological Appraisal Report

2483765

JULY 2023

RSK GENERAL NOTES

Project No.: 2483765

Title: Springwell Solar Farm – Preliminary Ecological Appraisal Report

Client: Springwell Energyfarm Ltd

Date: July 2023

Office: Coventry

Status: Rev 02

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Biocensus.

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EXECUTIVE SUMMARY

This report presents the results of a preliminary ecological appraisal (PEA) carried out in April and May 2022, and in January and June 2023 at the proposed Springwell solar farm site, near Ashby de la Launde, Lincolnshire. It has been produced to inform the proposed installation of a solar farm development at the Site.

The Site is comprised primarily of arable fields dissected by ditches, streams, and hedgerows with mixed plantation woodlands and ponds scattered throughout the survey area.

No impacts to any statutory designated sites are anticipated due to their distances from the Site. There are 22 non-statutory designated nature conservation sites within 2 km of the Site, seven of which are within the Site boundary. Measures to protect these sites during construction should be outlined in a construction and environmental management plan (CEMP) to ensure that the proposed works will not have any significant impacts on them.

No notable or invasive plant species were recorded within the survey area. Other than the arable fields, the majority of the habitats within the survey area are included in the local biodiversity action plan. The semi-natural habitats on Site should be retained and protected wherever possible - particularly the ponds, species-rich neutral grassland, and areas of woodland.

Further surveys to determine the extent of potential ecological constraints are recommended, including:

- breeding bird surveys to assess breeding status and population sizes of protected and notable species;
- bat activity surveys (involving the deployment of static detectors) throughout the survey area to inform of bats usage of the Site and to determine mitigation should any hedgerows or suitable habitat be impacted by works;
- water vole and otter surveys of the ditches and streams within the survey area if they will be affected by works or if a 10 m buffer zone cannot be implemented in the design;
- targeted hedgerow surveys if any sections of hedgerows need to be removed; and
- a pre-construction update badger survey within six months of start of works to check for any new badger activity at the Site.

Impacts on ecology receptors will be assessed and outlined in the Environmental statement.

In addition to the above the design is proposed to be biodiversity led. A detailed biodiversity design will be developed in tandem with the scheme design, ensuring considerable gains for biodiversity with habitat enhancement and creation measures benefitting flora and fauna and making a significant contribution to local biodiversity objectives.

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1.0 INTRODUCTION

1.1 Purpose of this report

- 1.1.1 This report presents the results of a preliminary ecological appraisal (PEA) comprising a background data search and a UKHab survey, with assessment for protected or otherwise notable species, for the proposed Springwell solar farm, near Ashby de la Launde, Lincolnshire (central National Grid Reference TF056569). The survey area included the land within the red-line boundary (the three areas - east, central and west, where the solar farm will be located) as well as land connecting these areas in which the cable connecting them will be located. The specific fields to be developed and the exact cable route have yet to be confirmed. The Site and survey area are shown in *Figure 1*.
- 1.1.2 Ponds within the survey area were assessed for their suitability to support great crested newts (*Triturus cristatus*), and suitable ponds were environmental DNA (eDNA) tested for their presence/likely absence. A ground-level assessment of all trees potentially suitable for bats within the survey area and along the boundaries was carried out.
- 1.1.3 The majority of the Site was surveyed in the spring of 2022. The fields to the north of Thompson's Bottom (central National Grid reference - TF 01735 55991) were added to the scheme in late 2022 and surveyed in January 2023. An additional four fields to the west of RAF Digby (central National Grid reference - TF 03223 56195) were added to the scheme and surveyed in June 2023.
- 1.1.4 The report identifies ecological constraints relevant to the project, specifies any further survey or mitigation requirements, gives recommendations for avoidance and protection through design changes, and suggests opportunities for ecological enhancement. The appraisal was carried out on behalf of EDF.

1.2 Landscape context

- 1.2.1 The Site is located close to the villages of Blankney, Scopwick, and Ashby de la Launde in the district of North Kesteven, Lincolnshire. It is dominated by agricultural land, broadleaved woodland, and hedgerows. There are fourteen ponds within the survey area. Streams and ditches intersect many of the fields, although most were dry at the time of survey.
- 1.2.2 The surrounding landscape is largely arable with a mixture of villages, farm complexes, RAF Digby, woodland, hedgerows, and some scattered residential properties.

1.3 Development proposals

- 1.3.1 The assessment is based on the red line boundary of the Site and connecting areas as shown in Figure 1. The proposals are for the installation of solar panels within the site boundary and associated infrastructure.

1.4 Validity of data

- 1.4.1 According to Chartered Institute of Ecology and Environmental Management (CIEEM) advice (CIEEM 2019), survey data are valid for a period of 12 to 18 months from the date of the survey. The report highlights any circumstances where data may be valid for less than 18 months. Between 18 months and three years if any significant changes to the baseline have occurred a professional ecologist will need to undertake a site visit and may also need to update desk study information (effectively updating the PEA) and then review the validity of the report.

2.0 METHODS

2.1 Overview

2.1.1 The preliminary ecological appraisal (PEA) was undertaken in line with guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017), and it therefore included:

- a desk study (including records of designated sites, protected and notable species; a review of aerial photographs; obtaining information from the DEFRA and JNCC websites, and the local authority website; and requesting data from the local records centre) here called a background data search (BDS); and
- a field survey that informed habitat mapping (UKHab), an assessment of the possible presence of protected or priority species, and the likely importance of habitat features.

2.1.2 The PEA report includes an ecological description of the survey area and information about species that may occur there. Notes and mapping of any incidental sightings of invasive non-native plant species and protected or priority fauna species are also provided.

2.1.3 The survey of the majority of the Site was carried out on April 22nd 25th-28th and May 11th, 2022. The survey of the additional fields to the north of Thompson’s Bottom was carried out on 25th January 2023 and the additional four fields to the west of RAF Digby was carried out on 26th June 2023. All the PEA surveys were carried out by Liz Probert of RSK Biocensus. Liz is a senior ecology consultant with over nine years’ experience in ecological consultancy, with extensive experience in carrying out PEAs.

2.2 Background data search

2.2.1 A search was made in in April 2022 for relevant reference materials. An update search was carried out in January 2023 to include the area around the additional fields to the north of Thompson’s Bottom and in June 2023 to include the four fields west of RAF Digby. A list of sources is given in Table 1.

Table 1 Data sources

Information obtained	Available from
Protected and noteworthy species-records	Greater Lincolnshire Nature Partnership
MAGIC (the Multi-Agency Geographic Information website) to view statutory designated nature conservation sites	www.magic.gov.uk
Nationally designated site locations and citations	Natural England
European and Internationally designated site locations and citations	Joint Nature Conservation Committee (JNCC) website

Information obtained	Available from
Local Designated site locations and citations	Greater Lincolnshire Nature Partnership
Designations and legal protection of noteworthy species	Joint Nature Conservation Committee (JNCC) website
Details of species and habitats listed on the LBAP	Local biodiversity action plan website
Local planning guidance and policies	Central Lincolnshire Local Plan (adopted 2017) Policy LP21: Biodiversity and Geodiversity
Aerial photography	As a viewer only, sources include: www.google.com ; www.bing.com ; Google earth. Where reproduced as figures, sources vary and be licensed through ArcGIS, as stated.

2.2.2 A search was made for information on statutory designated sites (often internationally and nationally important sites for ecology) and non-statutory designated (local wildlife) sites within 2 km of the survey area boundary. The search was extended to 10 km for internationally designated sites i.e., Ramsar sites, Special Areas of Conservation (SAC), Special Protection Areas (SPA)¹.

2.2.3 The search for noteworthy species within 2 km of the survey area boundary included species within these search parameters:

- European protected species (listed on Schedules 2 and 5 of The Conservation of Habitats and Species Regulations 2017);
- nationally protected species under Schedules 1, 5 and 8 of The Wildlife & Countryside Act 1981 and The Protection of Badgers Act 1992;
- species listed as critically endangered, endangered, or vulnerable based on the IUCN Red List Categories and Criteria 2001;
- all species listed on the RSPB Birds of Conservation Concern 4 as red or amber;
- nationally rare or nationally scarce species;
- notable invertebrates; and
- species that are of principal importance under The Natural Environment and Rural Communities (NERC) Act (2006) or are priority species under the local biodiversity action plan.

¹ SACs and SPAs were formerly called 'European Sites' and part of the Natura 2000 network; post- 'Brexit', they are now considered part of the UK's 'national site network'. Ramsar sites are sites of international importance. See Appendix A for details. Note that SPAs, SACs and Ramsar sites are also underpinned by SSSI designations whose citations/boundaries may be slightly different.

2.3 Plants and habitats

UKHab survey

- 2.3.1 The field survey was based on the UKHab survey approach (Butcher et al., 2020, 2020a) and habitats were identified down to at least level 4, where possible. The survey involved the following elements:
- i. habitat mapping using a set of standard colour codes and secondary codes to indicate habitat types on a UKHab habitat map (*Figure 2*); and
 - ii. a description of features of possible ecological or nature conservation interest in notes relating to numbered locations on the UKHab habitat map, referred to as target notes.
- 2.3.2 Vascular plant species were recorded during the survey, though at this level of survey, no species lists should be regarded as exhaustive (additional species would almost certainly be found in more detailed surveys or repeat surveys at various times of the year).
- 2.3.3 Plant nomenclature in this report follows Stace (2019) for native and naturalised species of vascular plant, and mosses and liverworts follow Hill et al. (2008). Introduced species and garden varieties were identified using relevant Floras. Plant names in the text are common names with the scientific names in brackets afterwards on the first occurrence only. Doubtful identifications are preceded by 'cf.' placed before the specific epithet where the plant is very probably the species indicated, but it could not be distinguished from similar members of the genus with certainty.

Invasive non-native species (INNS)

- 2.3.4 The survey did not involve exhaustive surveying for individual plant species, and various invasive species may be little in evidence at various times of year (depending on the species). A survey seeking to identify habitat types cannot therefore be relied upon to provide firm information about the presence or extent of any invasive non-native species (even though some things may be evident). However, if any non-native invasive species were seen during the course of the survey, then they would be recorded.

2.4 Protected and notable animals

General

- 2.4.1 The survey area was assessed for its suitability to support protected or otherwise notable animals that are likely to occur in the area. Taking into account the results of the BDS, the geographic location, connectivity to natural habitats in the wider landscape, the nature and extent of habitats at the survey area, and the proposed development, specific assessment was also carried out for the species/species groups outlined below.

Invertebrates

- 2.4.2 The survey area was assessed for its suitability to support notable species and/or assemblage of invertebrates, but no specific surveys were undertaken. The habitat requirements of particular invertebrates are often species-specific, so consideration was

given to the presence of features and habitats that might be suitable for the notable species identified in the BDS.

Great crested newts

- 2.4.3 Although standing water is essential for their breeding, great crested newts are terrestrial for most of the year and have been recorded up to 500 m from their breeding ponds (Beebee & Griffiths, 2000). The survey area was assessed for its suitability to support both terrestrial and breeding great crested newts. Suitable breeding ponds are typically well-vegetated, relatively clean and unpolluted, have few fish or wildfowl, and are likely to retain water throughout most (but not necessarily all) summers. Highly suitable terrestrial habitats include woodland, scrub and tussocky grassland, although great crested newts can be found in a broad range of sub-optimal habitats as well.
- 2.4.4 The locations of ponds were identified using OS maps, aerial imagery, and site visits. Their assessment of suitability for great crested newts was carried out using a Habitat Suitability Index (HSI) developed by Oldham et al. (2000), which is derived from assessment systems developed by the US Fish and Wildlife Service. It is a numerical index, between 0 and 1, where 0 indicates unsuitable habitat and 1 represents optimal habitat.
- 2.4.5 There is a positive correlation between HSI scores and presence and abundance of Great Crested Newts in ponds. Generally, ponds with high HSI scores are likely to support larger populations. However, the relationship is not sufficiently precise to conclude that a pond with a high HSI will definitely have a large newt population, or that a pond with a low HSI score will only have a small newt population or no newts at all.
- 2.4.6 eDNA samples were taken from ponds (which had sufficient depth of water to collect viable samples from) by Liz Probert and Joseph Mould on 13th May 2022. An additional pond near Brauncewell was surveyed by Liz Probert and Jonathan Scragg on 14th April 2023. There are no additional ponds within 500m of the four additional fields to the west of RAF Digby. Using a kit purchased from approved suppliers, water samples were collected and analysed according to strict protocols approved by Natural England and described in Biggs et al. (2014).

Reptiles

- 2.4.7 The survey area was assessed for its suitability for the four most widespread reptile species, with particular attention given to those features that provide suitable basking areas (e.g., south-facing slopes), hibernation sites (e.g. banks, walls, piles of rotting vegetation) and opportunities for foraging (e.g. rough grassland and scrub).
- 2.4.8 Specific habitat requirements differ between species. Common lizards (*Zootoca vivipara*) and slow-worms (*Anguis fragilis*) favour rough grassland. Grass snakes (*Natrix helvetica*) have broadly similar requirements, with a greater reliance on ponds and wetlands.

Adders (*Vipera berus*) use a range of fairly open habitats with some cover but are most often found in dry heath.

Birds

- 2.4.9 The survey area was assessed for its suitability to support diverse assemblages and/or uncommon species of breeding and non-breeding birds, with an emphasis on those species that are listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended), the red and amber lists of the RSPB's Birds of Conservation Concern 4 (Stanbury et al., 2021) and other notable species recorded in the BDS, including any species that are qualifying features of nearby designated sites.
- 2.4.10 Consideration was given to the survey area's connectivity to landscape features that are likely to be of particular importance to birds, such as extensive areas of semi-natural woodland or wetlands. Buildings were surveyed for their suitability for barn owls and other species, with signs including nesting sites, feathers, droppings, and pellets.

Bats

- 2.4.11 Habitats were assessed for their suitability for foraging and commuting bats in line with guidance provided in Collins (2016). Areas of particular interest vary between species, but generally include sheltered areas and habitats with good numbers of insects, such as woodland, scrub, rivers and species-rich or rough grassland.
- 2.4.12 Trees and man-made structures were noted if they had suitability for roosting bats (Collins, 2016). This involved identifying features that roosting bats may favour (e.g. holes, cracks and cavities that might be used as bat access-points or roost sites).

Preliminary roost assessment (PRA) of built structures

- 2.4.13 Buildings were assessed externally and internally where possible to ascertain suitability for roosting bats, taking account of the following factors that influence the likelihood of bats roosting:
- Surrounding habitat: whether there are potential flight-lines and bat foraging areas nearby.
 - Construction detail: the type and construction of architectural features such as attics, soffit boxes, lead flashing and hanging tiles that could be used by roosting bats. Some construction details and materials are more favourable to bat occupation than others.
 - Building condition: whether the building has no roof or has a sound roof without any potential bat-access points.
 - Internal conditions: bats favour sheltered locations with a stable temperature regime, protection from the elements and little wind/light/rain penetration.
 - Potential bat-access points: whether there is flight and crawl access.
 - Potential roosting locations: descriptions of all bat-accessible voids, cracks and crevices.

2.4.14 The building’s potential to support roosting bats was then categorised as defined in Table 2.

Table 2 Categorisation of the suitability of buildings or trees for roosting bats (Collins 2016)

Category (Potential to support roosting bats)	Description
Negligible suitability	Negligible habitat features on site likely to be used by roosting bats.
Low suitability	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate suitability	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely for a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High suitability	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Confirmed roost	Bats or evidence of bats recorded during the initial inspection surveys or during dusk/dawn surveys. A confirmed record (supplied by records centre/local bat group) would also apply.

Ground-Level Tree Surveys

2.4.15 All hedgerow and standard trees within the survey area were surveyed from ground level. Features that might be used by roosting bats were described and categorised according to accepted guidelines (Collins, 2016). Each tree was given a category during the ground-level surveys based on its potential for roosting bats.

Water voles and otters

2.4.16 Waterbodies and watercourses and their surrounding habitats were assessed to determine whether they were suitable for water voles (*Arvicola amphibius*). Suitable habitats include vegetated earth banks, reed beds, flowing water and wet ditches. Incidental signs of water vole activity, including burrows, feeding platforms, food remains and latrines, were recorded if they were encountered.

2.4.17 Waterbodies and watercourses on the Site were also assessed for their suitability for otters (*Lutra lutra*). Otters require clean rivers and associated waterbodies with an abundant, varied supply of food and plenty of bank-side vegetation, offering secluded sites for their holts. Other suitable habitats include reed beds and interconnected ditches

and streams. Incidental signs of otter activity, including holts, foraging signs, paths (runs), footprints and spraints, were recorded if they were encountered.

Badgers

- 2.4.18 An initial assessment was carried out to identify areas that might be used by badgers (*Meles meles*) for commuting, foraging or setts within 30 m of all areas potentially affected by works (where access was possible). The area was systematically searched for signs of badgers including setts, foraging signs, paths (runs) and latrines where possible, and the category of sett and levels of activity visible at each sett was recorded.

Species of Principal Importance

- 2.4.19 Consideration was also given to the Site's potential for other noteworthy species such as those listed under Section 41 of the NERC Act (2006) (formerly UK Biodiversity Action Plan (BAP) species) that are likely to be present in the area e.g., brown hare (*Lepus europaeus*) and hedgehog (*Erinaceus europaeus*).

2.5 Constraints and limitations

- 2.5.1 Less conspicuous plant species (including INNS) may have been missed as a result of the survey being undertaken in early spring and winter. However, the majority of plants present were confidently identified, and the survey was sufficient to make a broad assessment of the habitats present on the Site.
- 2.5.2 This preliminary appraisal as to whether protected or otherwise notable species might occur on the Site is based on the suitability of habitat, the known distribution of relevant species in the local area (from online sources and desk study), and any signs of the relevant species. It does not constitute a full and definitive survey of any protected species group.
- 2.5.3 Field signs for protected and valuable species are often difficult to find or absent from a site. The survey conducted was not intended to be a comprehensive presence/absence survey for all species, but rather to provide an indication of the likely presence of such species based on the field signs found, and the nature of the habitats present.
- 2.5.4 Access was not made to adjacent land, and therefore it remains possible that a badger sett (or other evidence of protected or notable species) beyond the site boundary could have been missed. Much of the woodlands within the Site was also covered by dense bramble scrub, which prevented a full survey for both badger and nesting birds being conducted. The peripheries of all such areas were, however, extensively searched, providing a high level of confidence in the results and assessment provided.
- 2.5.5 One agricultural building (TN22) could not be surveyed internally. Trees within woodlands were not assessed individually for their suitability for roosting bats.
- 2.5.6 All recommendations made in this report are based on the information provided by EDF. A detailed layout is not available at this time. If the development plans change significantly or extend outside of the survey area, then an ecologist must be consulted and further surveys may be required.

3.0 RESULTS

3.1 Background Data Search

Biodiversity action plans

3.1.1 The latest Lincolnshire local biodiversity action plan (LBAP) lists 26 habitat action plans (HAPs) and 11 species or species group action plans (SAPs). The local HAPs and SAPs that are relevant to the proposed development are:

Habitats:

- Arable field margins;
- Hedgerows and hedgerow trees;
- Lowland meadows;
- Ponds, lakes, and reservoirs, rivers, canals, and drains; and
- Lowland mixed deciduous woodland.

Species:

- Bats;
- farmland birds;
- newts; and
- water vole.

Statutory designated sites

3.1.2 There are no internationally protected nature conservation sites within 10 km of the site boundary. ‘The Wash’ Ramsar/SPA/SAC is approximately 35km from the Site. The Wash is designated for wading birds and estuarine habitats. However, being approximately 35km from the Site its habitats and bird populations are not expected to be affected by works due to distance and nature of works.

3.1.3 There are no nationally protected statutory designated nature conservation sites within 2km. There is however one statutory designated geological site within 2km, which is listed in Table 3.

Table 3 Statutory designated sites: International sites within 10 km of the site boundary and 2km for nationally protected sites (such as SSSIs and LNRs)

Site name	Reasons for designation	Approximate distance (km) and direction from site
Metheringham Heath Quarry SSSI	Geological SSSI rather than biological - The rocks which occur here provide an almost complete section through the whole of the Lincolnshire Limestone Formation, laid down in	1.9km northwest

Site name	Reasons for designation	Approximate distance (km) and direction from site
	a warm, shallow sea during Middle Jurassic times about 170 million years ago.	

Non-Statutory Sites

3.1.4 There are 22 non-statutory designated nature conservation sites (Local Wildlife Sites LWS) within 2 km of the site boundary, seven of which are within the Site. There is also one non-statutory local geological site. The designated sites present within the study area are listed in Table 4 along with their proximity to the Site. Citations for these sites are included in Appendix G.

Table 4 Non-statutory designated sites within 2 km of the site boundary

Non-Statutory Designated Site name	Approximate distance (km) from site
Blankney Brick Pit LWS	Within site boundary
Temple Road Verges, Welbourn to Brauncewell 2 LWS	Within site boundary
Bloxholm Wood LWS/Lincolnshire Wildlife Trust reserve	Within site boundary
A15, Slate House Farm to Dunsby Pit Plantation 1 LWS	Within site boundary
A15, Green Man Road to Cuckoo Lane 2 LWS	Within site boundary
Gorse Lane 1 LWS	Within site boundary
Gorse Hill Lane Verges 1 LWS	Within site boundary
Blankney Dyke 2 LWS	0.3km
Long Wood, Blankney LWS	0.6km
Gorse Hill Lane Verges 2 LWS	0.6km
Blankney Dyke 1 LWS	0.6km
Longwood Quarry, Blankney LWS	0.8km
Wellingore Heath Road Verges 2 LWS	0.8km
St John the Baptist Churchyard, Temple Bruer LWS	0.8km
Brauncewell Quarry LGS	1.1km
Scopwick Heath Old Quarry LWS	1.1km
Green Man Lane 3 LWS	1.2km
Navenby Heath Road Verges 2 LWS	1.6km
Green Man Lane 2 LWS	1.7km

Other notable sites

- 3.1.5 There is one area of ancient woodland within 2 km of the site boundary, namely Long Wood which is approximately 475m west of the site boundary.

Protected and Notable Species

- 3.1.6 The BDS returned over 1000 records of 190 species recorded between 2000 and 2021 within 2km of the survey area boundary. Noteworthy species include species of principal importance that are listed under Section 41 of The Natural Environment and Rural Communities (NERC) Act 2006.
- 3.1.7 Of these, 38 species are birds, one is fish, five are invertebrates (lepidoptera only), 10 are mammals (of these, six are bats), 47 are plants, and two are reptiles.
- 3.1.8 Species that are protected by law under Schedules 2 and 5 of The Conservation of Habitats and Species Regulations 2017 (as amended), Schedules 1, 2, 5 and 8 of The Wildlife and Countryside Act 1981 (as amended) or The Protection of Badgers Act 1992 that have been recorded in the search area are highlighted in the full species list is given in Appendix B. Those of relevance to the survey area and the current proposals are discussed in Sections 4.2 and 4.3.

3.2 Plants and habitats

UKHab Survey

- 3.2.1 The UKHab map is provided as Figure 2 and shows the location of the target notes referred to in the text below. A full description for each of the target notes is given in Appendix C. The following habitat types (with UKHab codes in brackets) are present on and around the survey area:

- Other neutral grassland (g3c)
- Modified grassland (g4)
- Lowland mixed deciduous woodland (w1f)
- Other woodland; mixed; mainly broadleaved (w1h5)
- Line of trees (w1g6)
- Other woodland; mixed; mainly conifer (w1h6)
- Hedgerow (priority habitat) (h2a)
- Other blackthorn scrub (h3a6)
- Hawthorn scrub (h3f)
- Mixed scrub (m3h)
- Arable field margins (c1a)
- Cereal crops (c1c)
- Non-cereal crops (c1d)
- Winter stubble (c1c5)

- Developed land; sealed surface (u1b)
- Buildings (u1b5)
- Artificial unvegetated, unsealed surface (u1c)
- Built linear features (u1e)
- Standing open water (r1)
- Other rivers and streams (r2b)

Other neutral grassland (g3c)

- 3.2.2 Uncultivated margins of neutral grassland approximately 0.5-1.5m wide line the perimeter of the majority of the fields within the survey area and form the boundaries in the fields to the west of the A15 road (e.g., Target Note 1).
- 3.2.3 Larger areas are also present within the survey area, including to the south of Cuckoo Lane (TN2), and a large field in the north of the Site (TN3). The sward of these areas was typically long and tussocky.

Modified grassland (g4)

- 3.2.4 Forty-eight of the fields within the survey area were species-poor modified neutral grassland. The sward was long in the majority of the fields, though fields in the southwest of the Site, west of the A15, were in the process of being cut at the time of the survey (e.g. TN4).

Woodland (w)

- 3.2.5 In the northeast corner of the survey area, adjacent to the railway, was an area of planted young trees on the site of a woodland that was felled in 2019 (date estimated from Google Earth images) (TN5). The woodland stood on the site of a former brickworks, and bricks and rubble are still present.

Other lowland mixed deciduous woodland (w1f7)

- 3.2.6 The Site borders Bloxham Wood, a Lincolnshire Wildlife Trust reserve (TN6).

Line of trees (w1g6)

- 3.2.7 Lines of trees form the boundary of several of the fields within the survey area. Two have been planted as a line of field maple (*Acer campestre*) (TN7) and white poplar (*Populus alba*) (TN8) trees. The rest are grown out hedgerows at least 5m tall, comprised predominantly of blackthorn (*Prunus spinosa*) and hawthorn (*Crataegus monogyna*), with

elder (*Sambucus nigra*), sycamore (*Acer pseudoplatanus*), ash (*Fraxinus excelsior*), and willow (*Salix sp.*) also present.

Other broadleaved woodland types (w1g7)

- 3.2.8 Several small, semi-natural woodlands which do not appear to have originated as plantations are present within the survey area (e.g. TN9).

Other woodland; mixed; mainly broadleaved (w1h5)

- 3.2.9 The majority of woodlands within the survey area were mixed broadleaved and conifer plantations.
- 3.2.10 The plantations which are mainly broadleaved are dominated by mature oak or beech, with sycamore, ash, and Scots pine (*Pinus sylvestris*) also present within the canopy (e.g. TN10). The understory of these woodlands is typically dense nettle with some bramble, young holly, hawthorn, and blackthorn. Densely planted blackthorn and hawthorn form the perimeter of many of the woodlands. Pheasant rearing pens are present within the majority of these woodlands.
- 3.2.11 An area of broadleaved woodland consisting primarily of field elm (*Ulmus minor*) has grown along Cuckoo Lane, to the west of RAF Digby (TN11). Other species present included ash and hawthorn.

Other woodland; mixed; mainly conifer (w1h6)

- 3.2.12 Scots pine plantations comprise the remainder of the woodlands within the survey area (e.g., TN12). Broadleaved species including oak, sycamore, ash, willow species, elder, hawthorn, and blackthorn are also present within the woodlands and around the perimeter. The understory is typically dense nettle and bramble.

Hedgerow (h2a)

- 3.2.13 Hedgerows form the boundaries of the majority of the fields within the survey area and border many of the roads and lanes. The majority are comprised either solely of hawthorn, or of hawthorn and blackthorn with occasional elder, ash, sycamore, and dogwood. Many of the hedgerows have immature or mature oak, ash, sycamore, elder, or beech trees. All appear to have been flailed within the last three years – none of the hedgerows have been laid.

Other blackthorn scrub (h3a6)

- 3.2.14 Blackthorn scrub forms the boundary of two of the fields south of Cuckoo Lane (TN13).

Hawthorn scrub (h3f)

- 3.2.15 Isolated stands of hawthorn that do not appear to have once been part of a hedgerow are located within the boundaries of several of the fields (e.g., TN14).

Mixed scrub (h3h)

- 3.2.16 Stands of mixed scrub are located around several of the ponds within the survey area, on field boundaries, and along ditches. In two locations, mixed scrub fills the hollow of

disused quarries (TN145 and TN156). The scrub was comprised of hawthorn, blackthorn, bramble, and willow.

Arable margins sown with wild flowers or a pollen and nectar mix (c1a6)

- 3.2.17 The western margin of two of the fields to the south of the survey area (TN17) has been sown with a pollen and nectar mix.

Legume-rich ley (c1b6)

- 3.2.18 A number of fields (e.g. TN18) had been sown with legumes, including alfalfa (*Medicago sativa*).

Cereal crops (c1c)

- 3.2.19 Thirty-eight of the fields within the survey area (e.g., TN19) had been planted with cereal crops including maize (*Zea mays*), winter wheat, and barley (*Hordeum vulgare*).

Winter stubble c1c5

- 3.2.20 Three of the fields within the survey area had been planted with maize which had been left as stubble after harvesting (e.g., TN20).

Developed land; sealed surface (u1b)

- 3.2.21 Small areas of hard standing are located close to the entrance to some of the fields and adjacent to agricultural buildings (e.g., TN21) and are used as storage or parking areas.

Buildings (u1b5)

- 3.2.22 Two agricultural buildings are located within the northeast of the survey area. One (TN22) could not be surveyed internally. The other two (TN22 and TN24) are open-sided and appear to be used for storage.

Built linear features (u1e)

- 3.2.23 The A15 road, B1191 road, and other smaller lanes run through the survey area.
3.2.24 Farm tracks also run through and alongside many of the fields.

Standing open water (r1)

- 3.2.25 There were 14 ponds within the survey area, of which 11 held water at the time of the survey. These are described in greater detail in Appendix D.

Other rivers and streams (r2b)

- 3.2.26 Streams and ditches run along the boundaries of a number of the fields, particularly in the north of the survey area. Many were dry during the survey. Species present included floating sweet grass (*Glyceria fluitans*), foals water cress (*Helosciadium nodiflorum*), water parsnip (*Berula erecta*), hemlock water dropwort (*Oenanthe crocata*), alder (*Alnus*

glutinosa), branched bur-reed (*Sparganium erectum*), and water horsetail (*Equisetum fluviatile*). Banks are lined with bramble, or neutral grassland species.

Invasive Non-native Species

3.2.27 No invasive non-native species were observed during the survey.

3.3 Protected and notable animals

3.3.1 Figure 2 shows the location of the target notes referred to in the text below, which show the location of particular features with suitability for protected and notable animals. A full description for each of the target notes is given in Appendix C.

Terrestrial invertebrates

3.3.2 The BDS returned six notable invertebrate species, including small heath (*Coenonympha pamphilus*), latticed heath (*Chiasmia clathrate*), wall (*Lasiommata megera*), cinnabar (*Tyria jacobaeae*), grayling (*Hipparchia semele*), and small blue (*Cupido minimus*).

3.3.3 Within the survey area, the habitats present were considered likely to support only a common assemblage of invertebrate species, typical of hedgerows, scrub, plantation woodlands, and species-poor grasslands. It is therefore not considered that further invertebrate surveys will be required.

Fish and white-clawed crayfish

3.3.4 There are no records of white-clawed crayfish (*Austropotamobius pallipes*) within 2km of the Site. Ditches and watercourses on the Site were either small, shallow and/or eutrophic therefore unlikely to be suitable for white-clawed crayfish.

3.3.5 The BDS returned one record of European eel (*Anguilla anguilla*).

3.3.6 The ponds and watercourses within the survey area are small and of relatively poor quality, though they connect with watercourses that are tributaries of the River Witham.

Great crested newts and other amphibians

3.3.7 The BDS revealed no records of great crested newts within 2km of the survey area boundary.

3.3.8 The BDS returned one record of common frog (*Rana temporaria*) within 2km of the survey area boundary.

3.3.9 Fourteen ponds are present within the survey area. These are described in greater detail in Appendix D. A summary of the HSI survey results is provided in Table 5, with the full details given in Appendix E.

3.3.10 The eDNA survey did not include four ponds – P4, P5, P10, and P12 – which were not surveyed as they were too shallow to sample and therefore considered unlikely to be suitable for breeding newts.

3.3.11 There are 14 off-site mapped ponds within 250m of the Site. However these ponds were not surveyed due to distance and nature of works (i.e. as works will mostly be within

unsuitable arable fields and any suitable GCN habitat on Site, such as hedgerows, woodland, and ponds, should not be impacted).

Table 5 HSI and eDNA Survey Results

Waterbody Number	HSI Score	Pond Suitability	eDNA Survey Result
1	0.72	Good	Negative
2	0.65	Average	Negative
3	0.58	Below average	Negative
4	0.77	Good	Not sampled (too shallow)
5	0.58	Below average	Not sampled (too shallow)
6	0.62	Average	Indeterminate
7	0.62	Average	Negative
8	0.62	Average	Negative
9	0.77	Good	Negative
10	0.50	Below average	Not sampled (too shallow)
11	0.53	Below average	Negative
12	0.54	Below average	Not sampled (too shallow)
13	0.52	Below average	Indeterminate
14	0.56	Below average	Negative

Reptiles

- 3.3.12 The BDS returned five records of reptiles within 2 km of the survey area recorded between 2015 and 2020. All records were of common lizard (*Zootoca vivipara*) and were located within RAF Digby – no other reptile species were recorded within 2 km.
- 3.3.13 Most of the survey area is unsuitable for reptiles, comprising large areas of monoculture arable land. However, connecting areas of woodland, scrub, hedgerow bases, rough grassland and spoil heaps/log piles could support low numbers of common reptiles. In particular, there were two areas of tussocky grassland that are likely to be suitable for reptiles (TN3 and TN24).

Birds

- 3.3.14 The BDS returned records of 38 bird species within 2 km of the survey area, of which 86% were recorded in RAF Digby.
- 3.3.15 Eight species are listed on Annex 1 of the Birds Directive: red kite (*Milvus milvus*), marsh harrier (*Circus aeruginosus*), hen harrier (*Circus cyaneus*), Montagu's harrier (*Circus pygargus*), kingfisher (*Alcedo atthis*), merlin (*Falco columbarius*), peregrine (*Falco peregrinus*), and woodlark (*Lullula arborea*).
- 3.3.16 Fifteen species are included in Schedule 1 of the Wildlife and Countryside Act 1981 (some species are included on more than one list): quail (*Coturnix coturnix*), red kite, hen harrier, Montagu's harrier, harsh harrier, barn owl (*Tyto alba*), kingfisher, hoopoe (*Upupa epops*), merlin, hobby (*Falco subbuteo*), peregrine, firecrest (*Regulus ignicapilla*), woodlark, fieldfare (*Turdus pilaris*), and redwing (*Turdus iliacus*).
- 3.3.17 Nineteen are listed in Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006: grey partridge (*Perdix perdix*), hen harrier, Montagu's harrier, lapwing (*Vanellus vanellus*), curlew (*Numenius arquata*), turtle dove (*Streptopelia turtur*), cuckoo

(*Cuculus canorus*), woodlark, grasshopper warbler (*Locustella naevia*), starling (*Sturnus vulgaris*), song thrush (*Turdus philomelos*), spotted flycatcher (*Muscicapa striata*), house sparrow (*Passer domesticus*), tree sparrow (*Passer montanus*), yellow wagtail (*Motacilla flava*), bullfinch (*Pyrrhula pyrrhula*), yellow hammer (*Emberiza citronella*), reed bunting (*Emberiza schoeniclus*), and corn bunting (*Emberiza calandra*).

- 3.3.18 Twenty-one species are included on the red list of birds of conservation concern: (grey partridge, hen harrier, Montagu's harrier, lapwing, curlew, turtle dove, cuckoo, swift (*Apus apus*), merlin, skylark (*Alauda arvensis*), grasshopper warbler, starling, fieldfare, spotted flycatcher, house sparrow, tree sparrow, yellow wagtail, linnet (*Linaria cannabina*), lesser redpoll (*Acanthis cabaret*), yellow hammer, and corn bunting.
- 3.3.19 Nine are included on the amber list of birds of conservation concern: graylag goose (*Anser anser*), quail, marsh harrier, redshank (*Tringa totanus*), snipe (*Gallinago gallinago*), kingfisher, song thrush, redwing, bullfinch, and reed bunting.
- 3.3.20 The survey area contains suitable habitat for ground-nesting birds. Lapwings with chicks and displaying lapwings were observed in several of the ploughed fields within the survey area, and an oystercatcher (*Haematopus ostralegus*) was seen in a ploughed field close to the railway (TN26). A field adjacent to the survey area held 27 lapwings and chicks (TN27). Singing skylarks were also observed in the majority of the modified grassland and cereal crop fields. Of the species identified through the BDS the arable and grassland fields within the survey area may also support species including quail, grey partridge, curlew, turtle dove, yellow wagtail, and yellowhammer.
- 3.3.21 Red kite was observed commuting over the survey area, though no nests or nesting behaviour was observed in any of the woodlands or trees within the survey area.
- 3.3.22 A barn owl was flushed from a tree in the woodland adjacent to the railway line. The barn close to the railway line (TN22) had a barn owl box inside it with suitable access points. Though the barn was not entered during the survey, pellets could be seen on the floor.
- 3.3.23 A corn bunting was heard singing in a field to the south of Cuckoo Lane. Corn bunting is a Section 41 species, as is lapwing which was confirmed to be breeding in several ploughed fields. Other likely breeding Section 41 species observed during the survey included grey partridge, starling, song thrush, dunnock (*Prunella modularis*), house sparrow, yellowhammer, reed bunting, and corn bunting.
- 3.3.24 Greenfinch (*Chloris chloris*) and linnet were observed within the survey area. They appear on the red list of birds of conservation concern (as well as grey partridge).
- 3.3.25 Mallard (*Anas platyrhynchos*), sparrowhawk (*Accipiter nisus*), moorhen (*Gallinula chloropus*), oystercatcher, stock dove (*Columba oenas*), woodpigeon (*Columba palumbus*), kestrel (*Falco tinnunculus*), whitethroat (*Sylvia communis*), wren (*Troglodytes troglodytes*), and pied wagtail (*Motacilla alba ssp. yarellii*) were observed during the phase 1 survey. These species appear on the amber list of birds of conservation concern.
- 3.3.26 The woodlands, hedgerows, and fields provide suitable nesting habitat for a range of bird species. At least five breeding bird survey visits are recommended, to be undertaken between March and July.

Bats

3.3.27 The BDS returned records of the following bat species within 2 km of the survey area:

- Sixteen records of unidentified bats;
- Six records of brown long-eared bat (*Plecotus auratus*) including a record of a roost approximately 1.2km from the survey area;
- Three records of common pipistrelle (*Pipistrellus pipistrellus sensu stricto*);
- Two records of soprano pipistrelle (*Pipistrellus pygmaeus*);
- Five records of unidentified pipistrelles; and
- Two records of Barbastelle (*Barbastella barbastellus*) including a record of a roost approximately 1.9km from the survey area.

3.3.28 Eighty-two individual and groups of trees were identified with moderate (36 trees) to high (36 trees) suitability for roosting bats.

3.3.29 The majority of the site was comprised of monoculture arable fields, which are of low suitability habitat for foraging and commuting bats. Small pockets of woodlands and hedgerows throughout the survey area provide moderate suitability habitat for foraging and commuting bats.

3.3.30 The barn in the northeast of the survey area (TN22) could not be surveyed internally. The barn in the north of the survey area (TN23) was constructed of corrugated metal and breezeblocks, with open sides. It has suitability to be used as a night roost, though is unlikely to be used by large numbers of roosting bats. The barn in the centre of the survey area (TN24) is also open-sided and unlikely to be used as a day roost by bats, though may be used as a night roost or transition roost.

Hazel dormice

3.3.31 Hedgerows within the Site provide some foraging opportunities for dormice (*Muscardinus avellanarius*), albeit limited as there are very few small, scattered pockets of woodland to supplement. The BDS returned no records of dormouse within 2 km of the Site and there are very few records from Lincolnshire. Dormice are therefore presumed to be absent from the survey area.

Water voles and otters

3.3.32 The BDS returned no records of water vole or otter within 2 km of the survey area.

3.3.33 Several of the streams and ditches provide suitable habitat for water voles. The watercourses and waterbodies are likely to be too small to provide refuge and good foraging opportunities for otter, though they may be used by commuting individuals. There are no larger streams or rivers, though the watercourses within the Site connect to Dorrington Dike and the River Witham which may be used by otter.

3.3.34 It is assumed likely that the scheme design will incorporate a suitable buffer to avoid impacts on water courses but further surveys for water voles may be required pre construction in the immediate vicinity of any ditch crossing points.

Badgers

- 3.3.35 The BDS returned no records of badger within 2 km of the survey area.
- 3.3.36 A five-hole badger sett, likely to be a main sett, was identified on the edge of a field close to Bloxham woods but no signs to indicate badgers present at the time of the survey. An annex sett with two holes was found approximately 740 m to the north. An outlier sett with a single hole was found in the hedgerow of a field to the southwest of Ashby de la Launde. An outlier sett with two holes was also found in the north west of the Site.
- 3.3.37 No other signs of active badger presence (i.e. latrines, prints, hairs etc.) were found within the survey area.

Other species

- 3.3.38 The BDS returned 42 records of brown hare within 2 km of the survey area, recorded between 2006 and 2019.
- 3.3.39 Brown hare were seen in the majority of the fields within the survey area, with a peak count of 14 individuals recorded in a field to the south of Cuckoo Lane (TN28). Roe deer (*Capreolus capreolus*) were also observed in many of the fields, particularly close to Scopwick.
- 3.3.40 The BDS returned 14 records of hedgehog within 2km of the Site, recorded between 2006 and 2019.
- 3.3.41 The field survey did not record the presence of hedgehog or any other animals of nature conservation importance; however, habitats within the survey area, including log piles, scrub, woodland, and grassland were considered to be suitable for hedgehog.

4.0 EVALUATION AND RECOMMENDATIONS

Statutory designated sites

- 4.1.1 There are no international statutory designated sites within 10 km of the survey area. The closest internationally statutory designated site - 'The Wash' Ramsar/SPA/SAC - is located approximately 35km from the Site. Although it is hydrologically linked to the Site, via a tributary of the River Witham, it is not expected to be affected by works as it is not designated for migratory fish species. The Wash is designated for wading birds and estuarine habitats. However, being c. 45km from the Site its habitats and bird populations are not expected to be affected by works due to distance and nature of works.
- 4.1.2 Metheringham Heath Quarry SSSI is located approximately 1.9km to the northwest of the survey area boundary. This is a geological no impacts are anticipated on this site as a result of the proposed development.
- 4.1.3 The survey area does not intersect with any SSSI Impact Risk Zones.

Non-statutory designated sites

- 4.1.4 There are 22 non-statutory designated sites identified within 2 km of the survey area boundary. Adjacent to or within the survey boundary are A15, Green Man Road to Cuckoo Lane 2 LWS, A15, Slate House Farm to Dunsby Pit Plantation 1 LWS; Blankney Brick Pit LWS; Bloxholm Wood LWS/Lincolnshire Wildlife Trust reserve; Gorse Lane LWS, Gore Hill Lane Verges LWS, Temple Road Verges, and Welbourn to Brauncewell 2 LWS.
- 4.1.5 Assessment of potential impacts to these sites and appropriate safeguards will be discussed in the Environmental Statement.
- 4.1.6 These sites could be enhanced through landscaping where the development site runs adjacent to them as part of achieving biodiversity net gain within the development site.

Habitats and plants

- 4.1.7 The majority of the survey area comprises arable fields of low to moderate species-richness, within most plant species found within the site boundary being common and/or widespread.
- 4.1.8 The BAP habitats present within the survey area - namely arable field margins, hedgerows and hedgerow trees, lowland meadows, ponds and drains, and lowland mixed deciduous woodland - are also of low to moderate species-richness with the majority of plant species present being common and/or widespread. However, these habitats will be retained as far as is possible.
- 4.1.9 No invasive species were recorded during the survey. However, an additional survey should be carried out prior to commencement of construction to confirm their absence or record the presence of any that have recently appeared.

Protected and other notable species

- 4.1.10 The majority the Site is comprised of arable fields that provide sub-optimal habitat for reptiles. Woodland, scrub, and taller sward grassland and field margins within the survey area offer more suitable habitat for both common amphibians and reptiles. The areas of taller sward, tussocky, more species-rich grassland offer the most suitable areas for foraging, commuting, and basking, whilst wooded and scrub areas offer suitable refuge and hibernation habitat. It is not anticipated that highly suitable habitat such as woodlands or species-rich grassland will be affected by works. If any suitable habitat such as tall vegetation in field margins or tussocky grassland will be impacted then precautionary working methods should be employed to avoid harm. If required, these measures will be outlined in the Environmental statement.
- 4.1.11 Two ponds within the survey area had indeterminate eDNA results (due to degradation of samples). However, it is considered unlikely that great crested newts are present as these ponds were close to the other ponds within the survey area – all of which tested negative. No ponds on Site are expected to be impacted by works.
- 4.1.12 The woodland, hedgerows, and scrub within the survey area provide suitable habitat for birds, whilst the grassland and ploughed fields provide suitable habitat for ground nesting species including skylark and lapwing. To identify key nesting areas, particularly for notable bird species, breeding bird species should be carried out between late March and mid-July. Assessment of potential impacts to bird species and appropriate safeguards will be discussed in the Environmental Statement.
- 4.1.13 There were numerous trees on or adjacent to the survey area which offered moderate to high suitability for roosting bats. If any trees are to be removed or disturbed by proposals, further surveys such as climbing surveys or bat emergence/re-entry surveys will be required. Assessment of potential impacts to bat species and appropriate safeguards will be discussed in the Environmental Statement.
- 4.1.14 Most of the survey area, being arable, offers low suitability for foraging and commuting bats. Hedgerows, woodlands, watercourses and species-rich grasslands are high suitability habitat for foraging and commuting bats. However, it is not expected that these habitats will be significantly affected by the development. To inform bat usage of the Site and to determine any appropriate mitigation in case any suitable habitats may be directly or indirectly affected by the development, bat activity surveys should be carried out by deploying static bat detectors for at least five days per season (i.e., Spring - April/May, Summer - June-August, and Autumn - September/October).
- 4.1.15 Assessment of potential impacts to foraging bat species and appropriate safeguards will be discussed in the Environmental Statement.
- 4.1.16 The ditches and streams within the survey area offer suitable, albeit low quality, habitat for foraging and commuting otter whilst habitats adjacent to the Site may offer suitability for resting otter. It is assumed the scheme design will enable an appropriate buffer to be maintained adjacent to water bodies and assessment of potential impacts to otters and water voles and appropriate safeguards will be discussed in the Environmental Statement. Further survey for water vole may be required in the immediate vicinity of any cable crossing routes. Water vole surveys are undertaken between late April and early

October. Two surveys need to be undertaken at least two months apart, following guidance in the Water Vole Mitigation Handbook (Dean et al. 2016).

- 4.1.17 The survey area offers suitable habitat for badgers, including for sett building, and setts have been identified with the survey area boundary. Although the setts identified did not appear to be recently used, they may be used infrequently or may become active again. It is recommended that a pre-construction survey is undertaken within six months of the commencement of the development to identify any new badger activity on and within 30 m of site.
- 4.1.18 The survey area provides suitable habitat for brown hare and hedgehog, therefore precautionary measures are required during the works to prevent any negative impacts on these species. Brown hares make a small depression in the ground in tall grassland known as a form. In the breeding season, between February and September, checks for young hares (leverets) should be conducted in suitable vegetation prior to works. If any young hares are found, care should be taken to avoid these areas.

Summary of further surveys recommended

- 4.1.19 The following surveys are recommended:
- Breeding bird surveys – at least five visits, to be carried out between late-March and mid-July;
 - Bat activity surveys (for commuting and foraging bats) – deployment of static bat detectors in suitable locations throughout the survey area for a period of at least five days per season (spring, summer and autumn);
 - Water vole and otter surveys of suitable watercourses if the proposed development will result in crossing these watercourses.
 - Targeted hedgerow surveys if any hedgerow removal is required (important hedgerow assessment and to provide species list for replanting if to be re-instated);
 - Non-native invasive plant species (INNS) pre-works check survey recommended in summer before start of works (May-August); and
 - A pre-construction update badger survey is recommended within 6 months of the commencement of the development to identify any new badger activity on and within 30 m of site.

Enhancements

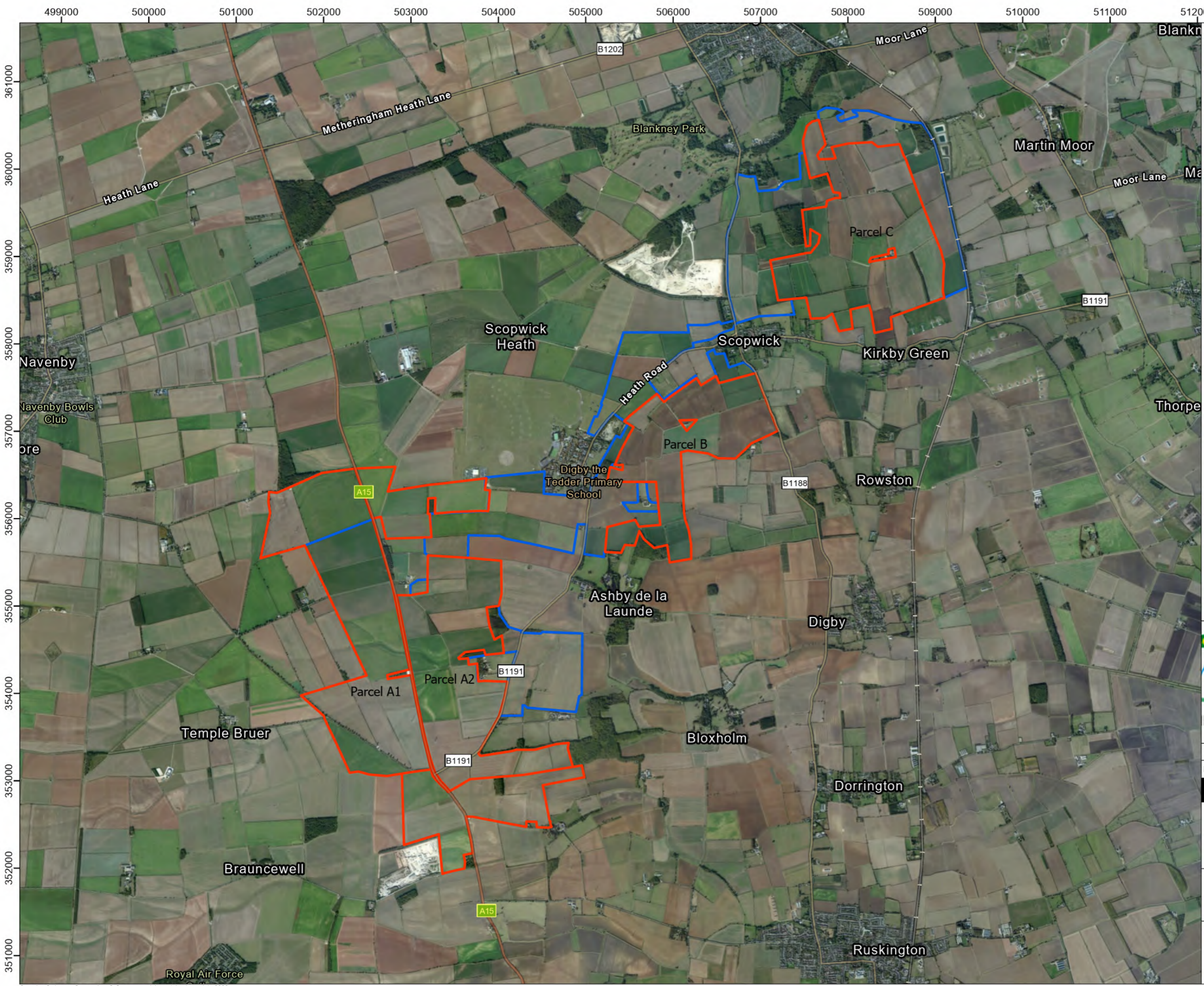
- 4.1.20 A detailed biodiversity design is being produced for the Site. The intention is that the scheme will be biodiversity led with the biodiversity design informing the scheme design. The biodiversity design will include habitat creation and enhancement proposals ensuring the scheme will deliver a significant net gain in biodiversity.

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FIGURES

Figure 1 Site Location Plan
Figure 2 Habitat Map
Figure 3 Pond and GLTA Map



Legend:

- Site Boundary
- Additional Survey Area



Rev	Date	Description	Drn	Chk	App
00	06/07/2023	2483765	RS	SP	LP

Springwell Solar Farm

TITLE: Figure 1:
Site Location Plan

REV 00

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World Imagery (Clarity): Source: Esri, Maxar, Earthstar Geographics, IGN, and the GIS User Community
Hybrid Reference Layer: Esri UK, Esri, HERE, Garmin, Foursquare, GeoTechnologies, Inc., METI/NASA, USGS
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506400 506600 506800 507000 507200 507400 507600 507800 508000 508200 508400 508600 508800 509000 509200 509400 509600



- Legend:**
- Site Boundary
 - Survey Area
 - UKHAB Habitats
 - c1a6 - Arable Margins Sown with Wild Flowers or a Pollen and Nectar Mix
 - c1b6 - Legume Rich Ley
 - c1c - Cereal Crops
 - c1d - Non-Cereal Crops
 - g3 - Neutral Grassland
 - g3c - Other Neutral Grassland
 - g4 - Modified Grassland
 - h3h - Mixed Scrub
 - r1 - Standing Open Water and Canals
 - u1b - Developed Land, Sealed Surface
 - u1e - Built Linear Features
 - w1f7 - Other Lowland Mixed Deciduous Woodland
 - w1g - Other Woodland, Broadleaved
 - w1h5 - Other Woodland, Mixed, Mainly Broadleaved
 - g3c - Other Neutral Grassland
 - h2a - Hedgerow (Priority Habitat)
 - r2b - Other Rivers and Streams
 - u1e - Built Linear Feature
 - w1g6 - Line of Trees
 - r1e - Canal or Ditch
 - Target Note
 - Secondary Code

Secondary Code	Description
16	Tall Herb
36	Plantation
67	Dry Stone Wall
81	Flailed Hedgerow
115	Track



Rev	Date	Description	Drm	Chk	App
00	07/07/2023	2483765	RS	RG	LP

Springwell Solar Farm

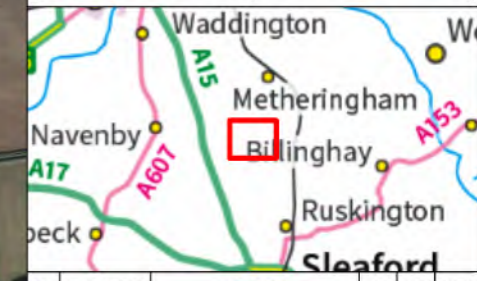
TITLE: Figure 2:
UKHAB Habitats Map
Page 1 of 4

REV 00



- Legend:**
- Site Boundary
 - Survey Area
 - UKHAB Habitats**
 - c1a6 - Arable Margins Sown with Wild Flowers or a Pollen and Nectar Mix
 - c1b6 - Legume Rich Ley
 - c1c - Cereal Crops
 - c1d - Non-Cereal Crops
 - g3 - Neutral Grassland
 - g3c - Other Neutral Grassland
 - g4 - Modified Grassland
 - h3h - Mixed Scrub
 - r1 - Standing Open Water and Canals
 - u1b - Developed Land, Sealed Surface
 - u1e - Built Linear Features
 - w1f7 - Other Lowland Mixed Deciduous Woodland
 - w1g - Other Woodland, Broadleaved
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Springwell Solar Farm

TITLE: Figure 2:
UKHAB Habitats Map
Page 2 of 4

Metres
SCALE: 1:10,000 @A3

REV 00



- Legend:**
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 - Survey Area
 - UKHAB Habitats**
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Rev	Date	Description	Drm	Chk	App
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Springwell Solar Farm

TITLE: Figure 2:
UKHAB Habitats Map
Page 3 of 4

SCALE: 1:10,000 @A3

REV 00



- Legend:**
- Site Boundary
 - Survey Area
 - UKHAB Habitats**
 - c1a6 - Arable Margins Sown with Wild Flowers or a Pollen and Nectar Mix
 - c1b6 - Legume Rich Ley
 - c1c - Cereal Crops
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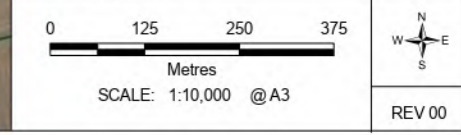


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Springwell Solar Farm

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EXPERTS IN ECOLOGY

TITLE: Figure 2:
UKHAB Habitats Map
Page 4 of 4



505500 506000 506500 507000 507500 508000 508500 509000 509500 510000

361000
360500
360000
359500
359000
358500
358000
357500



Legend:

- Site Boundary
- Additional Survey Area
- Ponds

GLTA Bat Roost Suitability

- High
- Moderate




Rev	Date	Description	Drn	Chk	App
00	06/07/2023	2483765	TG	SP	LP

Springwell Solar Farm




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EXPERTS IN ECOLOGY

TITLE: Figure 3:
GLTA and Ponds Map



Metres
SCALE: 1:15,000 @A3



REV 00



- Legend:**
- Site Boundary
 - Additional Survey Area
 - Ponds
- GLTA Bat Roost Suitability**
- High
 - Moderate




Rev	Date	Description	Drn	Chk	App
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Springwell Solar Farm




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EXPERTS IN ECOLOGY

TITLE: Figure 3:
GLTA and Ponds Map



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REV 00



Legend:

- Site Boundary
- Additional Survey Area
- Ponds

GLTA Bat Roost Suitability

- High
- Moderate




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Rev	Date	Description	Drn	Chk	App

Springwell Solar Farm




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EXPERTS IN ECOLOGY

TITLE: Figure 3:
GLTA and Ponds Map



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APPENDIX A – NATURE CONSERVATION LEGISLATION AND POLICY

International Legislation

The following international conventions and directives apply to biodiversity protection in the UK. Post-‘Brexit’, even though European Union (EU) directives no longer directly apply to the UK, the provisions therein are enshrined in both domestic legislation and international agreements. Legislation has been enacted to ensure the regulations derived from these remain in force².

The Convention on Biological Diversity 1992 *et seq.*

This multilateral treaty (<https://www.cbd.int/doc/legal/cbd-en.pdf>), signed by 150 government leaders at the 1992 Rio Earth Summit, has three main goals, of which one is the conservation of biological diversity. Article 6 requires countries to develop national biodiversity strategies, plans or programmes. In response, the UK developed the UK Biodiversity Action Plan (BAP) 1994 (<https://jncc.gov.uk/our-work/uk-bap/>) as well as county-specific BAPs. Subsequent to this, parties of the convention agreed the supplementary Nagoya Protocol 2010 (available at <https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf>), adopting the Strategic Plan for Biodiversity 2011-2020. The purpose of this Strategic Plan was to provide a framework for establishing national and regional biodiversity targets (<https://www.cbd.int/doc/strategic-plan/2011-2020/Aichi-Targets-EN.pdf>).

Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (Birds Directive) 2009

<https://www.legislation.gov.uk/eudr/2009/147>

The Birds Directive 2009 relates to the conservation of all species of naturally occurring birds in their wild state in the territory of the EU Member States (MSs) to which the treaty applies. Under the Birds Directive, the most suitable areas of conservation of the Annex I species are to be designated as Special Protection Areas (SPAs), as part of the European Natura 2000 network. Post Brexit, SPAs are no longer considered part of Natura 2000 and are instead components of the UK’s ‘national site network’, but their highly protected status is unchanged. Maintaining a coherent network of protected sites with overarching conservation objectives is still required in order to fulfil the commitment made by government to maintain environmental protections and continue to meet the UK’s international legal obligations.

Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) 1992

<https://www.legislation.gov.uk/eudr/1992/43>

The Habitats Directive 1992 requires EU MSs to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of community interest, which are listed

² Further information relating to England can be found here:
<https://www.gov.uk/government/publications/changes-to-the-habitats-regulations-2017/changes-to-the-habitats-regulations-2017>.

under Annex I, II, IV and/or V. Species listed under Annex IV are known as 'European Protected Species' (EPS), and have retained their protected status in UK domestic legislation post-Brexit.

Under the Habitats Directive, EU Member States are required to contribute to the Natura 2000 network through the designation of Special Areas of Conservation (SACs) for natural habitat types listed in Annex I and habitats of species listed in Annex II. Post Brexit, SACs are no longer considered part of the European Natura 2000 network and are instead components of the UK's 'national site network', but their highly protected status is unchanged.

The Convention on Wetlands of International Importance Especially as Waterfowl Habitat 1971: the Ramsar Convention

Accessible via <https://jncc.gov.uk/our-work/ramsar-convention/>

The Ramsar Convention is an intergovernmental treaty focused on the conservation and sustainable use of wetland, primarily as habitats for water birds. Under the convention, each ratified country is required to identify and designate sites (Ramsar sites) that meet the criteria for identifying a wetland of international importance, i.e. containing representative, rare or unique wetland types. In addition, the convention promotes international co-operation to promote the wise use of all wetlands and their resources.

Habitats Regulations Assessment (HRA): a note

There is a requirement under the EU nature directives, and enshrined in country-specific domestic legislation³ (see below), to undertake a screening exercise to determine whether any sites that form part of the 'national site network' (formerly Natura 2000) are likely to be significantly affected by any proposal (project or plan). The assessment must consider the proposals alone and also in combination with other plans and projects, if they result from activities that are not directly connected with, or necessary to, the management of the designated sites. If significant effects are likely, an Appropriate Assessment (AA) will need to be carried out. The screening, any AA, and any subsequent assessment, are collectively known as a Habitats Regulations Assessment (HRA). The HRA needs to take into account each of the 'Qualifying Features' (habitats or species) that justified the site being designated. Ramsar sites are treated in the same way as SACs and SPAs in HRAs, as are sites which have not been fully adopted i.e. candidate SACs (cSACs) and potential SPAs (pSPAs).

The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979

Accessible via: <https://jncc.gov.uk/our-work/the-convention-on-the-conservation-of-migratory-species-of-wild-animals/#convention-summary>

The Bonn Convention was adopted in 1979 and came into force in 1985. Contracting Parties work together to conserve migratory species and their habitats by providing strict protection for endangered migratory species (listed in Appendix I of the Convention), concluding multilateral agreements for the conservation and management of migratory species which require or would benefit from international cooperation (listed in Appendix II), and by undertaking cooperative

³ In England and Wales: the Conservation of Habitats and Species Regulations 2017 (as amended).

research activities. The UK Government ratified the Bonn Convention in 1985. The current legally-binding Agreements under the Convention include EUROBATS⁴.

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1979

<https://www.coe.int/en/web/bern-convention>

The principal aims of the Bern Convention 1979 are to ensure the conservation and protection of wild plant and animal species and their natural habitats (listed in Appendices I and II of the Convention), to increase cooperation between contracting parties, and to regulate the exploitation of those species (including migratory species) listed in Appendix III. To this end, the Bern Convention imposes legal obligations on contracting parties, protecting over 500 wild plant species and more than 1,000 wild animal species. The UK Government ratified the Bern Convention in 1982.

National Legislation

The following pieces of domestic legislation apply to biodiversity protection in the UK.

The Wildlife and Countryside Act (WCA) 1981

<https://www.legislation.gov.uk/ukpga/1981/69>

The Wildlife and Countryside Act 1981 (as amended) is the primary piece of legislation relating to nature conservation in the UK, though it has been adapted in different ways in the devolved administrations. It was initially enacted to implement the Bern Convention, Bonn Convention and the Birds Directive (described above).

The act is supplemented by provisions in the Countryside and Rights of Way (CRoW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006, and extended in Scotland by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2011). Its equivalent in Northern Ireland is the Wildlife (Northern Ireland) Order 1985 (as amended and similarly extended). In addition to the Habitat Regulations (described below), the WCA provides protection for species listed in Schedules 1 (birds), 5 (other animals) and 8 (plants) of the Act. It provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) in England and Wales⁵. It also sets out, in other schedules, important and invasive species which are legally protected or require management.

All species of bird are protected under the WCA. The legislation makes it an offence to intentionally:

- a) kill, injure or take any wild bird;
- b) take, damage, or destroy the nest of any wild bird while that nest is in use or being built; or
- c) take or destroy an egg of any wild bird.

Those species of birds listed on Schedule 1 of the WCA are afforded additional protection, which deems it an offence to intentionally or recklessly:

⁴ More information available at <https://jncc.gov.uk/our-work/agreement-on-the-conservation-of-populations-of-european-bats-eurobats>

⁵ Duty replaced by the Nature Conservation (Scotland) Act 2004 (as amended) and the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 (as amended) in those countries.

- a) disturb any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or
- b) disturb dependent young of such a bird.

Under Section 9 of the WCA, for animals listed on Schedule 5, it is an offence in England and Wales to intentionally or recklessly:

- kill, injure or take any wild animal listed on Schedule 5*;
- possess or control any live or dead those wild animals or anything derived from it*;
- damage or destroy any structure or place which wild animals listed on Schedule 5 uses for shelter or protection*;
- disturb any such animal while it is occupying a structure or place of shelter or protection;
- obstruct access to any structure or place used by any such animal for shelter or protection; and
- sell, offer or expose for sale, or have in their possession or transports for the purpose of sale, any live or dead wild animal listed on Schedule 5 or any part of, or anything derived from such an animal.

As noted above, there are minor differences between the offences in England and Wales outlined above, and those in Scotland / Northern Ireland. The three clauses marked with asterisks do not apply to EPS in England and Wales, as these offences are included in the ‘Habitats Regulations’ (see below). In addition, the Wildlife and Countryside Act 1981 is no longer relevant to EPS in Scotland or Northern Ireland, which instead are afforded full protection by the ‘Habitats Regulations’ (see below).

In addition to EPS, species commonly found on development sites include water voles (*Arvicola amphibius*) and widespread species of reptiles: common lizard (*Zootoca vivipara*); slow-worm (*Anguis fragilis*); grass snake (*Natrix helvetica*); and adder (*Vipera berus*). These four reptile species receive partial protection, which prevents the intentional or deliberate killing and injuring of reptiles or offering them for sale.

Section 14(2)⁶ states that it is an offence to plant or otherwise cause to grow any plant in the wild at a place outside its native range.

Section 16(i) of the Act makes provision for derogation licences to be issued “*for the purposes of preserving public health or public ... safety*”. For confirmation of this, it would be appropriate to consult the relevant statutory nature conservation body (SNCB)⁷.

Until recently, there has been no provision within the Act for derogation licences to be issued for the purposes of development, although Section 10 provides a defence in cases that may be considered to be: “*the incidental result of a lawful operation and could not reasonably have been avoided*” if certain conditions are met.

As a result of the Environment Act 2021, the introduction of the ‘overriding public interest’ (‘OPI’) test was added to the licensing purposes in the WCA, from October 2022, though this only applies in England.

⁶ In Scotland, as amended by Section 14 of the Wildlife and Natural Environment (Scotland) Act 2011.

⁷ SNCBs are - in England: Natural England; in Wales: Natural Resources Wales; in Scotland: NatureScot; in Northern Ireland: Department of Agriculture, Environment and Rural Affairs (DAERA).

The Conservation of Habitats and Species Regulations (Habitat Regulations) 2017

<https://www.legislation.gov.uk/ukxi/2017/1012> England and Wales

The Habitats Regulations 2017 consolidated the various amendments made to the 1994 Habitat Regulations, which were developed to implement the Birds Directive and Habitats Directive (see above) at a national level, though this consolidation only applies in England and Wales. As noted above, in Scotland and in Northern Ireland, the original versions of the Regulations in each region have been retained and amended to include protections for EPS that were initially provided under the WCA (or its equivalent).

The Regulations (as amended) provide for the designation and protection of the national site network (formerly 'Natura 2000 sites'), the adaptation of planning and other controls for those sites, and the protection of EPS (listed on Schedules 2 and 5).

The 2017 Regulations (England and Wales, Reg. 43) deems it an offence to:

- c) deliberately capture, injure or kill a wild animal of a EPS,
- d) deliberately disturb wild animals of any such species,
- e) deliberately take or destroy the eggs of such an animal, or
- f) damage or destroy a breeding site or resting place of such an animal.

For the purposes of paragraph (b), disturbance of animals includes in particular any disturbance which is likely to:

- g) impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- h) to affect significantly the local distribution or abundance of the species to which they belong.

There are also restrictions on transport, possession and sale.

It is possible to obtain a derogation licence from the relevant SNCB to permit activities which would otherwise contravene the regulations above, including for development purposes, when certain conditions are met. Failure to satisfy the Regulations and obtain a licence where required could result in prosecution and lead to fines and possible imprisonment.

To meet the requirements in Regulation 63(1), an HRA is required (see note in previous section).

Currently (2021), all EPS are also listed on Schedule 5 of the WCA (outlined above), as it applies in England and Wales, though only some clauses of the WCA apply (Section 9 4(b), (c) and 5). EPS often encountered on development sites include GCN (*Triturus cristatus*), all species of bats, dormice (*Muscardinus avellanarius*) and otters (*Lutra lutra*).

Countryside and Rights of Way Act 2000

<https://www.legislation.gov.uk/ukpga/2000/37>

The Countryside and Rights of Way (CRoW) Act 2000 provides for public access on foot to certain land types, amends the law for public rights of way, increases protection for SSSIs, and strengthens wildlife enforcement legislation. It applies only in England and Wales.

The Natural Environment and Rural Communities (NERC) Act 2006

<https://www.legislation.gov.uk/ukpga/2006/16>

The Natural Environment and Rural Communities (NERC) Act 2006, Section 40 requires that any public body or statutory undertaker in England must have regard to the purpose of conservation of biological diversity in a manner that is consistent with the exercise of their normal functions. This may include enhancing, restoring or protecting a population or a habitat. The intention is to help ensure that biodiversity becomes an integral consideration in the development of policies, and that decisions of public bodies work with the grain of nature and not against it.

As part of this duty, statutory undertakers must have regard to the list of habitats and species which are of principal importance for the purpose of maintaining and enhancing biodiversity. For England, the duty to compile such a list is captured under Section 41 of the NERC Act. The lists for England are accessible online via the National Archive⁸.

The Hedgerows Regulations 1997

<https://www.legislation.gov.uk/uksi/1997/1160/made>

The Hedgerows Regulations 1997 provide protection for 'important' hedgerows for which replanting is not a substitute. The 'importance' of a hedgerow depends upon several archaeological, wildlife and landscape criteria (which are outlined in the Regulations). The regulations deem it an offence to remove an 'important hedgerow' without prior notification to the relevant local planning authority.

Protection of Badgers Act 1992

<https://www.legislation.gov.uk/ukpga/1992/51>

Badgers and their setts are protected under the Protection of Badgers Act 1992 (England, Wales and Scotland). The key part of this legislation in relation to the proposed development are in Section 3, which deems it an offence to:

- a) damage a badger sett or any part of it;
- b) destroy a badger sett;
- c) obstruct access to, or any entrance of, a badger sett;
- d) disturb a badger when it is occupying a badger sett,
- e) intend to do any of those things or be reckless as to whether those actions would have any of the consequences listed above.

Derogation licences may be obtained from the relevant SNCB under Section 10 of the Act for the purpose of development, to permit activities which would otherwise be unlawful.

Note: there are additional provisions relating to badgers under the WCA Section 11 (Prohibition of certain methods of killing or taking wild animals).

The Wild Mammals (Protection) Act 1996

<https://www.legislation.gov.uk/ukpga/1996/3>

All wild mammals are protected by The Wild Mammals (Protection) Act 1996 (as amended). This makes it an offence to mutilate, kick, beat, nail, or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal.

⁸

<https://webarchive.nationalarchives.gov.uk/ukgwa/20140712055944/http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx>

Invasive Alien Species (Enforcement and Permitting) Order 2019

(<https://www.legislation.gov.uk/ukxi/2019/527/contents/made>)

The Invasive Alien Species (Enforcement and Permitting) Order applies principally in England and Wales and the UK's offshore marine area, but also controls imports and exports from the UK (including Scotland and Northern Ireland). It lists species of concern which cannot be imported, kept, bred/grown, transported, sold, used, allowed to reproduce, or released into the environment. This Order replaces some elements relating to invasive species in the Wildlife and Countryside Act 1981 (as amended).

National, regional and local policy and guidance of relevance

Planning policy relating to ecology and nature conservation is set out below.

National Planning Policy Framework 2021

Access via: <https://www.gov.uk/government/publications/national-planning-policy-framework-2>

The National Planning Policy Framework (NPPF) sets out the Government's planning policy in England at the national level. It does not contain specific policies for nationally significant infrastructure projects, which are determined in accordance with the decision-making framework in the Act and relevant National Policy Statements for major infrastructure, as well as any other matters that are relevant (which may include the NPPF). Section 15 (paragraphs 174-188) of the NPPF specifies the requirements for conserving and enhancing the natural environment through the planning and development process to minimise impacts on habitats and biodiversity.

Planning Practice Guidance

Accessed via: <https://www.gov.uk/government/collections/planning-practice-guidance>

The Planning Practice Guidance is a web-resource to support the NPPF, including guidance for Environmental Impact Assessments (<https://www.gov.uk/guidance/environmental-impact-assessment>) and the Natural Environment (<https://www.gov.uk/guidance/natural-environment>). The guidance for the Natural Environment explains key issues in implementing the NPPF to protect and enhance the natural environment, including local requirements. The guidance outlines what evidence needs to be taken into account in preparing planning applications to identify and map local ecological networks. It also outlines how biodiversity can be taken into account in preparing a planning application.

Government's 25-Year Environment Plan 2018

Accessed via: <https://www.gov.uk/government/publications/25-year-environment-plan>

The Government's 25-Year Environment Plan 2018 sets out how the UK Government intends to improve the natural health of the UK through improving land, air and water quality, as well as setting out how the effects of climate change will be tackled. The plan promotes the creation or restoration of wildlife-rich habitat outside the protected site network and seeks to recover threatened, iconic or economically important species of animals, plants and fungi, and where possible to prevent human induced extinction or loss of known threatened species in England. The plan sets out a number of goals and corresponding policies that look at managing land sustainably, improving and enhancing landscapes and biodiversity for both marine and terrestrial

environments, improving resource efficiency and reducing waste and pollution, whilst also examining the UK's contribution to improving the global environment.

Central Lincolnshire Local Plan 2017

Accessed via: <https://www.n-kesteven.gov.uk/central-lincolnshire/local-plan/>

The Central Lincolnshire Local Plan was adopted by the Central Lincolnshire Joint Strategic Planning Committee (CLJSPC) on 24 April 2017, replacing the Local Plans of the City of Lincoln, West Lindsey and North Kesteven District Councils.

Relevant policies are:

Policy LP21: Biodiversity and Geodiversity

All development should:

- protect, manage and enhance the network of habitats, species and sites of international, national and local importance (statutory and non-statutory), including sites that meet the criteria for selection as a Local Site;
- minimise impacts on biodiversity and geodiversity;
- and seek to deliver a net gain in biodiversity and geodiversity.

Development proposals that will have an adverse impact on a European Site or cause significant harm to a Site of Special Scientific Interest, located within or outside Central Lincolnshire, will not be permitted, in accordance with the NPPF.

Planning permission will be refused for development resulting in the loss, deterioration or fragmentation of irreplaceable habitats, including ancient woodland and aged or veteran trees, unless the need for, and benefits of, the development in that location clearly outweigh the loss or harm.

Proposals for major development should adopt an ecosystem services approach, and for large scale major development schemes (such as Sustainable Urban Extensions) also a landscape scale approach, to biodiversity and geodiversity protection and enhancement identified in the Central Lincolnshire Biodiversity Opportunity Mapping Study.

Development proposals should create new habitats, and links between habitats, in line with Biodiversity Opportunity Mapping evidence to maintain a network of wildlife sites and corridors to minimise habitat fragmentation and provide opportunities for species to respond and adapt to climate change. Development should seek to preserve, restore and re-create priority habitats, ecological networks and the protection and recovery of priority species set out in the Lincolnshire Biodiversity Action Plan and Geodiversity Action Plan.

Where development is within a Nature Improvement Area (NIA), it should contribute to the aims and aspirations of the NIA.

Development proposals should ensure opportunities are taken to retain, protect and enhance biodiversity and geodiversity features proportionate to their scale, through site layout, design of new buildings and proposals for existing buildings.

Mitigation

Any development which could have an adverse effect on sites with designated features and / or protected species, either individually or cumulatively, will require an assessment as required by the relevant legislation or national planning guidance.

Where any potential adverse effects to the biodiversity or geodiversity value of designated sites are identified, the proposal will not normally be permitted. Development proposals will only be supported if the benefits of the development clearly outweigh the harm to the habitat and/or species.

In exceptional circumstances, where adverse impacts are demonstrated to be unavoidable, developers will be required to ensure that impacts are appropriately mitigated, with compensation measures towards loss of habitat used only as a last resort where there is no alternative. Where any mitigation and compensation measures are required, they should be in place before development activities start that may disturb protected or important habitats and species

APPENDIX B – NOTEWORTHY SPECIES RECORDS

Table 6 displays noteworthy species records that are located within 2 km of the Site boundary. These species records were obtained from Greater Lincolnshire Nature Partnership. The scientific and common names for species are given as well as their level of designation. If a species is not included in the table below it does not necessarily mean the species is absent from the search area, but that data-holding organizations do not have records of it in these locations.


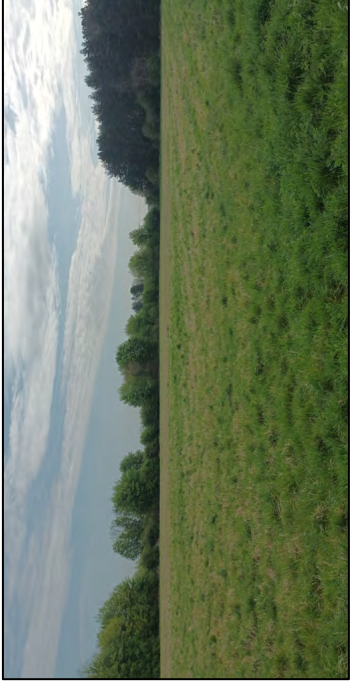
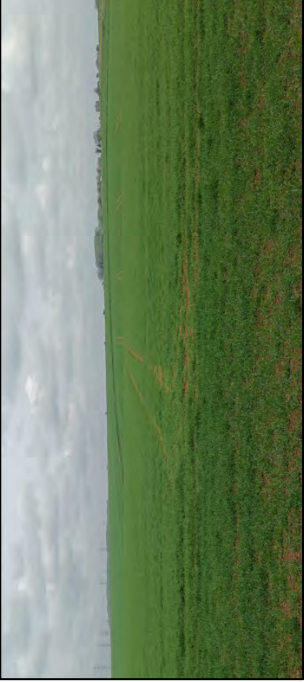
Table 6: Noteworthy species records within 2 km of the Site boundary



Scientific name	Common name	Designation	Most Recent	Within 100m	Within 2km
Plants					
<i>Clinopodium acinos</i>	Basil thyme	S41	2015	0	1
Invertebrates					
<i>Coenonympha pamphilus</i>	Small heath	S41	2021	1	50
<i>Cupido minimus</i>	Small blue	WCA5, S41	2019	0	1
<i>Hipparchia semele</i>	Grayling	S41, GB RDB(VU)	2018	1	0
<i>Polyommatus bellargus</i>	Adonis blue	WCA5	2019	0	1
<i>Tyria jacobaeae</i>	Cinnabar	S41	2021	1	4
Reptiles					
<i>Zootoca vivipara</i>	Common lizard	WCA5, S41	2021	0	5
Fish					
<i>Anguilla anguilla</i>	European eel	S41, OSPAR	2014	0	1
Birds					
<i>Acanthis cabaret</i>	Lesser Redpoll	S41, Red	2005	0	2
<i>Alauda arvensis</i>	Skylark	S41, Red	2020	0	20
<i>Alcedo atthis</i>	Kingfisher	WCA1.1, Amber	2002	0	3
<i>Anser anser</i>	Greylag Goose	WCA1.2, Amber	2005	0	2
<i>Apus apus</i>	Swift	Amber, GB RDB(EN)	2019	0	13
<i>Circus aeruginosus</i>	Marsh harrier	WCA1.1, Amber	2016	0	58
<i>Circus cyaneus</i>	Hen harrier	WCA1.1, S41, Red, GB RDB(VU)	2010	0	4
<i>Circus pygargus</i>	Montagu's Harrier	WCA1.1, Amber, GB RDB(CR)	2007	0	50
<i>Coturnix coturnix</i>	Quail	WCA1.1, Amber	2012	0	1
<i>Cuculus canorus</i>	Cuckoo	S41, Red, GB RDB(VU)	2007	0	2
<i>Emberiza calandra</i>	Corn bunting	S41, Red	2008	0	20
<i>Emberiza citrinella</i>	Yellowhammer	S41, Red	2015	0	18
<i>Emberiza schoeniclus</i>	Reed bunting	S41, Amber	2007	0	13
<i>Falco columbarius</i>	Merlin	WCA1.1, Red, GB RDB(EN)	2014	0	1
<i>Falco peregrinus</i>	Peregrine	WCA1.1	2011	0	7
<i>Falco subbuteo</i>	Hobby	WCA1.1	2014	0	11
<i>Gallinago gallinago</i>	Snipe	Amber	2000	0	2
<i>Linaria cannabina</i>	Linnet	S41, Red	2017	0	19
<i>Locustella naevia</i>	Grasshopper warbler	S41, Red	2011	0	3


Scientific name	Common name	Designation	Most Recent	Within 100m	Within 2km
<i>Lullula arborea</i>	Woodlark	WCA1.1, S41, GB RDB(VU)	2014	0	1
<i>Milvus migrans</i>	Black kite		2008	0	1
<i>Milvus milvus</i>	Red kite	WCA1.1	2020	0	8
<i>Motacilla flava</i>	Yellow wagtail	S41, Red	2009	0	28
<i>Muscicapa striata</i>	Spotted flycatcher	S41, Red	2004	0	4
<i>Numenius arquata</i>	Curlew	S41, Red, GB RDB(EN)	2019	0	2
<i>Passer domesticus</i>	House sparrow	S41, Red	2017	0	14
<i>Passer montanus</i>	Tree sparrow	S41, Red, GB RDB(VU)	2011	0	28
<i>Perdix perdix</i>	Grey partridge	S41, Red, GB RDB(VU)	2016	0	18
<i>Regulus ignicapilla</i>	Firecrest	WCA1.1	2005	0	1
<i>Streptopelia turtur</i>	Turtle dove	S41, Red, GB RDB(CR)	2007	0	14
<i>Sturnus vulgaris</i>	Starling	S41, Red, GB RDB(VU)	2009	0	20
<i>Tringa tetanus</i>	Redshank	Amber, GB RDB(VU)	2003	0	2
<i>Turdus iliacus</i>	Redwing	WCA1.1, Red, GB RDB(CR)	2004	0	3
<i>Turdus philomelos</i>	Song thrush	S41, Red	2017	0	4
<i>Turdus pilaris</i>	Fieldfare	WCA1.1, Red, GB RDB(CR)	2011	0	24
<i>Tyto alba</i>	Barn owl	WCA1.1	2015	0	61
<i>Vanellus vanellus</i>	Lapwing	S41, Red, GB RDB(EN)	2020	1	47
Mammal					
<i>Arvicola amphibius</i>	Water vole	WCA5, S41, GB RDB(EN)	2014	0	1
<i>Erinaceus europaeus</i>	Hedgehog	S41, GB RDB(VU)	2020	3	16
<i>Lepus europaeus</i>	Brown hare	S41	2019	0	42
Bats					
<i>Barbastella barbastellus</i>	Barbastelle	EPS(Sch2), WCA5, S41, GB RDB(VU)	2014	0	2
<i>Chiroptera</i>	Unidentified bat	EPS(Sch2)	2018	0	14
<i>Pipistrellus</i>	Unidentified pipistrelle	EPS(Sch2), WCA5	2018	0	4
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	EPS(Sch2), WCA5	2014	0	2
<i>Pipistrellus pygmaeus</i>	Soprano pipistrelle	EPS(Sch2), WCA5, S41	2014	0	2
<i>Plecotus auratus</i>	Brown long-eared bat	EPS(Sch2), WCA5, S41	2016	0	6


APPENDIX C – TARGET NOTES


Target Note	Description	Photograph
<p>Target Note 1</p>	<p>Longer, tussocky strips of neutral grassland line the boundaries of the fields west of the A15. Several of the boundaries are also lined by a low, dilapidated stone wall.</p> <p>The species assemblage varies slightly in terms of herb species present, but broadly comprised grass species including cock's-foot (<i>Dactylis glomerata</i>), crested dog's-tail (<i>Cynosurus cristatus</i>), false oat grass (<i>Arrhenatherum elatius</i>), red fescue (<i>Festuca rubra</i>), tall fescue (<i>Schedonorus arundinaceus</i>), barren brome (<i>Anisantha sterilis</i>), perennial rye grass (<i>Anisantha sterilis</i>), common bent (<i>Anisantha sterilis</i>), rough meadow-grass (<i>Anisantha sterilis</i>), and Yorkshire-fog (<i>Holcus lanatus</i>).</p> <p>Herb species included colt's-foot (<i>Tussilago farfara</i>), common bird's-foot-trefoil (<i>Lotus corniculatus</i>), creeping thistle (<i>Cirsium arvense</i>), marsh thistle (<i>Cirsium palustre</i>), meadow buttercup (<i>Ranunculus acris</i>), mouse-ear hawkweed (<i>Pilosella officinarum</i>), shepherd's purse (<i>Capsella bursa-pastoris</i>), cuckoo flower (<i>Cardamine pratensis</i>), dandelion (<i>Taraxacum officinale</i> agg.), pineapple weed (<i>Matricaria discoidea</i>), sun spurge (<i>Euphorbia helioscopia</i>), ground ivy (<i>Glechoma hederacea</i>), hogweed (<i>Heracleum sphondylium</i>), cow parsley (<i>Anthriscus sylvestris</i>), ribwort plantain (<i>Plantago lanceolata</i>), yarrow (<i>Achillea millefolium</i>), nettle (<i>Urtica dioica</i>), scarlet pimpernel (<i>Anagallis arvensis</i>), cleavers (<i>Galium aparine</i>), spear thistle (<i>Cirsium vulgare</i>), lesser celandine (<i>Ficaria verna</i>), broad leaved dock (<i>Rumex obtusifolius</i>), teasel (<i>Dipsacus fullonum</i>), white dead nettle (<i>Lamium album</i>), groundsel (<i>Senecio vulgaris</i>), white clover (<i>Trifolium repens</i>), red clover (<i>Trifolium pratense</i>), and daisy (<i>Bellis perennis</i>).</p>	


Target Note	Description	Photograph
Target Note 2	Area of neutral grassland south of Cuckoo Lane. Blackthorn scrub is abundant. Grass and herb species include those listed for Target Note 1.	
Target Note 3	Large field in the north of the survey area. The sward is longer and more tussocky than surrounding fields. Grass and herb species include those listed for Target Note 1.	
Target Note 4	A modified grassland field in the southwest of the survey area. Dominated by tall fescue, perennial rye grass, and Yorkshire fog, with occasional meadow foxtail, and sweet vernal grass (<i>Anthoxanthum odoratum</i>), as well as occasional herbs including creeping thistle, wild mustard (<i>Sinapis arvensis</i>), common mouse-ear (<i>Cerastium fontanum</i>), chickweed (<i>Stellaria media</i>), and broad-leaved dock (<i>Rumex obtusifolius</i>).	


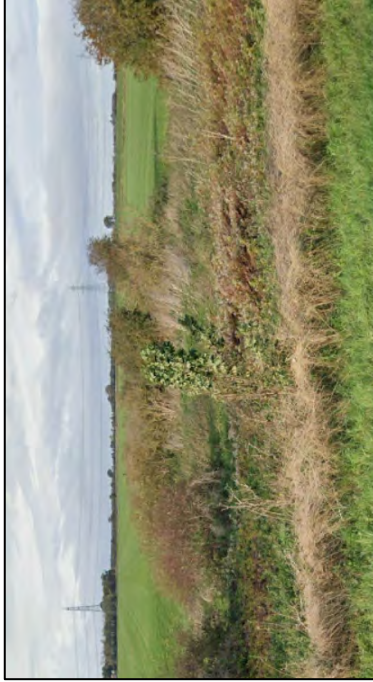
Target Note	Description	Photograph
<p>Target Note 5</p>	<p>An area of planted young trees on the site of a former brickyard and woodland. Species including sycamore (<i>Acer pseudoplatanus</i>), oak (<i>Quercus robur</i>), conifer sp., blackthorn (<i>Prunus spinosa</i>), hazel (<i>Corylus avellana</i>), and silver birch have been planted within the last three years. The ground cover is dominated by scrub species and self-set young trees including ash, hawthorn (<i>Crataegus monogyna</i>), blackthorn, cowslip (<i>Primula veris</i>), spear thistle, dogrose (<i>Rosa canina</i>), comfrey (<i>Symphytum officinale</i> agg.), nettle, rosebay willowherb (<i>Chamaenerion angustifolium</i>), great willowherb (<i>Epilobium hirsutum</i>), bristly oxtongue (<i>Helminthotheca echioides</i>), teasel, great mullein (<i>Verbascum thapsus</i>), compact rush (<i>Juncus conglomeratus</i>), and hard rush (<i>Juncus inflexus</i>).</p>	
<p>Target Note 6</p>	<p>Bloxham Wood, a Lincolnshire Wildlife Trust reserve and Local Wildlife Site. The woodland is predominately mature ash (<i>Fraxinus excelsior</i>), horse chestnut (<i>Aesculus hippocastanum</i>), beech (<i>Fagus sylvatica</i>), and sycamore with herb species including bluebell (<i>Hyacinthoides non-scripta</i>), nettle, cleavers, early purple orchid (<i>Orchis mascula</i>), and bugle (<i>Ajuga reptans</i>).</p>	
<p>Target Note 7</p>	<p>A line of planted field maple trees along a track in the northeast of the survey area.</p>	<p>No photograph available</p>


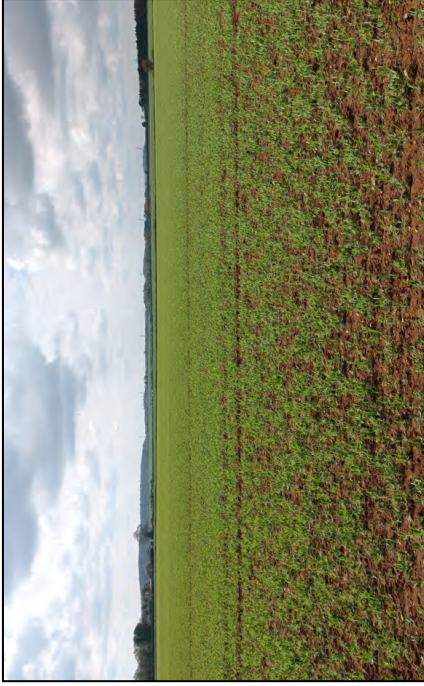
Target Note	Description	Photograph
<p>Target Note 8</p>	<p>A line of white poplar trees in the north of the survey area.</p>	

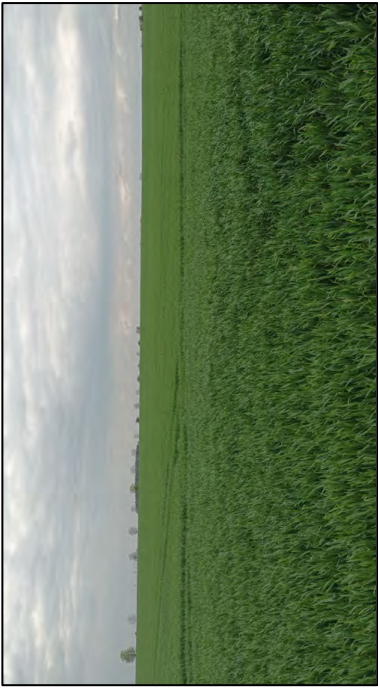

Target Note	Description	Photograph
<p>Target Note 9</p>	<p>A small area of semi-natural woodland which does not appear to have originated as a plantation. Dominated by mature oak or ash, with sycamore, elder, beech, crack willow (<i>Salix fragilis</i>), goat willow (<i>Salix caprea</i>), and dogwood (<i>Cornus sanguinea</i>) also present within the canopy. The understorey was dense nettle and bramble (<i>Rubus fruticosus</i>), with young holly (<i>Ilex aquifolium</i>), hawthorn, and blackthorn.</p>	

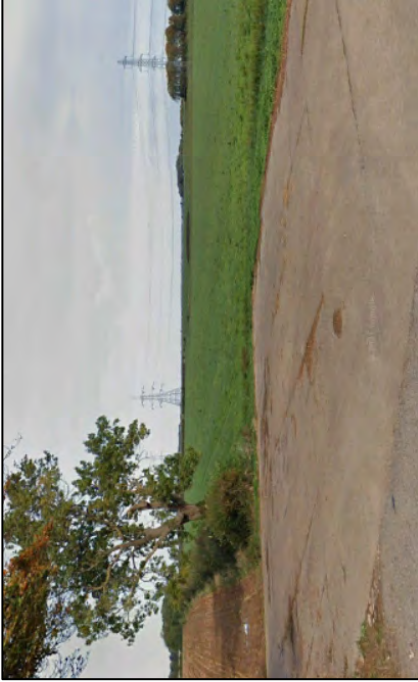

Target Note	Description	Photograph
Target Note 10	<p>A mixed plantation woodland that is dominated by broadleaved species including oak, sycamore, beech, and ash but also contains planted Scots pine. The understorey was dense nettle with some bramble, young holly, hawthorn, and blackthorn.</p>	
Target Note 11	<p>An area of broadleaved woodland has grown along either side of Cuckoo Lane. It was dominated by field elm, with occasional hawthorn, elder, and blackthorn.</p>	



Target Note	Description	Photograph
Target Note 12	A plantation woodland dominated by Scots pine, but also contains a small number of broadleaved species including oak, sycamore, ash, willow species, elder, hawthorn, and blackthorn are also present within the woodlands and around the perimeter. The understorey is typically dense nettle and bramble.	
Target Note 13	An area of blackthorn scrub forming the boundary of two fields to the south of Cuckoo Lane.	No photograph available
Target Note 14	Isolated stands of hawthorn that do not appear to have once been part of a hedgerow are located within the boundaries of several of the fields.	No photograph available


Target Note	Description	Photograph
Target Note 15	An area of mixed scrub in a small disused quarry	
Target Note 16	An area of mixed scrub in a small disused quarry	



Target Note	Description	Photograph
Target Note 17	<p>The west margin of two of the fields to the south of the Site had been sown with a pollen and nectar mix. Species present included wild radish (<i>Raphanus raphanistrum</i>), sun spurge, common vetch (<i>Vicia sativa</i>), wild mustard (<i>Sinapis arvensis</i>), purple tansy (<i>Phacelia tanacetifolia</i>), small bugloss (<i>Anchusa arvensis</i>), white campion (<i>Silene latifolia</i>), cock's foot, timothy (<i>Phleum pratense</i>), red fescue, crested dog's tail, common stork's bill (<i>Erodium cicutarium</i>), common ramping fumitory (<i>Fumaria muralis</i> ssp. <i>Neglecta</i>), and smooth tare (<i>Vicia tetrasperma</i>).</p>	
Target Note 18	<p>A field sown with legumes.</p>	

Target Note	Description	Photograph
Target Note 19	A field sown with cereal crops.	
Target Note 20	A field planted with maize which had been left as stubble after harvesting. Also present was broad-leaved dock, Yorkshire fog, hogweed, ribwort plantain, scarlet pimpernel, dwarf nettle (<i>Urtica urens</i>), pineapple weed, and burdock (<i>Arctium lappa</i>).	

Target Note	Description	Photograph
<p>Target Note 21</p>	<p>An area of hardstanding.</p>	
<p>Target Note 22</p>	<p>A barn in the northeast of the survey area. It is constructed of corrugated metal. The doors were locked at the time of the survey so it could not be inspected internally, though a barn owl box installed on a wall and pellets could be seen inside through the gap. A hole in the side of the building is located adjacent to a barn owl box.</p>	




Target Note	Description	Photograph
<p>Target Note 23</p>	<p>An open-sided barn constructed of breezeblocks and corrugated metal used for storage of agricultural machinery and materials. No signs of bat or barn owl presence was found, though it could be used as a night roost.</p>	
<p>Target Note 24</p>	<p>A barn south of Heath Road constructed of bricks and corrugated metal used for storage of agricultural machinery and materials. It is partially contained, with opening on the southern and western elevations. No signs of bats or barn owls were found, but it could be used as a night roost.</p>	




Target Note	Description	Photograph
Target Note 25	An area of neutral grassland with suitability for reptiles.	
Target Note 26	The location of an oystercatcher in a field.	No photograph available
Target Note 27	A field that contained 27 lapwings and chicks.	No photograph available
Target Note 28	A field that contained 14 brown hares.	No photograph available




Target Note	Description	Photograph
<p>Target Note 29</p>	<p>Mixed woodland plantation – Gorse Hill Covert - predominately comprised of beech and sycamore with occasional Scot's pine. Dense understorey of bramble and ivy.</p>	
<p>Target Note 30</p>	<p>Patches of mixed scrub on embankment leading down from A15 towards field.</p>	




APPENDIX D – DESCRIPTION OF PONDS WITHIN SURVEY AREA


Table 7 Description of ponds within the survey area

Pond number	Description	Photo
P1	A large pond in an area of scrub and young planted tree, surrounded by compact rush. At least 50cm deep.	
P2	A small pond several metres north of P1. At least 90% covered with algae, with branched burr reed and rushes also present. Approximately 15cm deep.	
P3	A small pond several metres to the east of P1. Dominated by macrophytes including algae, branched burr reed and water horsetail. Approximately 10cm deep.	

Pond number	Description	Photo
P4	<p>Several metres west of P1. Does not appear on OS maps. Very shallow or completely dry at the time of the survey and probably only holds water following heavy rain. Dominated by reed mace, teasel, hard rush, and great willowherb.</p>	
P5	<p>Similar to P4, shallow/dry area that probably only holds water following heavy rain., Dominated by rushes and scrub.</p>	
P6	<p>Small pond in centre of arable field. Surrounded by hawthorn scrub. Duck weed covers approximately 70% of the surface.</p>	

Pond number	Description	Photo
P7	Large pond in a small area of mixed scrub and semi-natural deciduous woodland. Localised patches of duckweed with branched burr reed, floating sweet grass and compact rush.	
P8	Large pond surrounded by hawthorn and willow scrub.	
P9	Stagnant area of a field ditch. Steep sides composed of brick. Dominated by macrophytes including branched burr reed and bullrush.	

Pond number	Description	Photo
P10	Small, shallow pond within a small area of woodland. Dominated by algae.	
P11	Large pond at the edge of an arable field. Dominated by rushes, great willowherb, and branched burr reed.	
P12	Small, very shallow pond within an area of woodland. Dominated by algae.	No photo available.
P13	Large pond in the centre of an arable field surrounded by greater pond sedge. Low cover of macrophytes, including branched burr reed.	

Pond number	Description	Photo
P14	Large pond within Bloxham Woods. Dominated by rushes, branched burr reed, and duck weed.	

APPENDIX E – GREAT CRESTED NEWT HABITAT SUITABILITY INDEX RESULTS

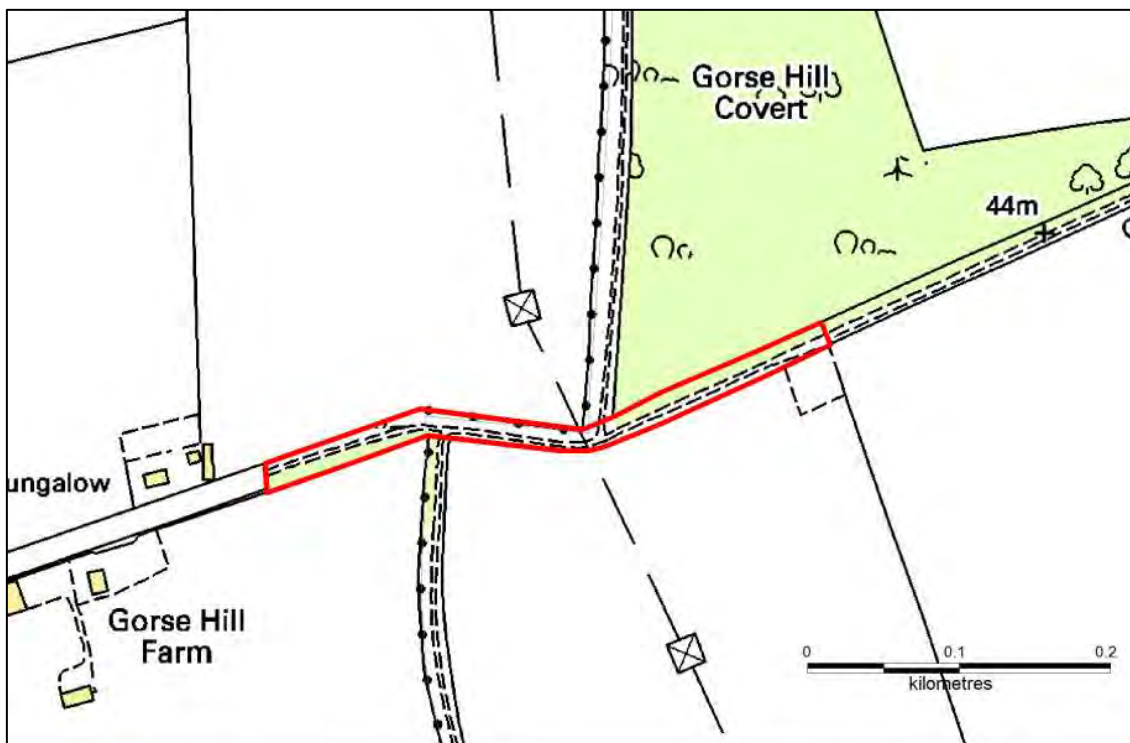
Table 8 GCN HSI Results

	Pond Name	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
		TF 08799 60425	TF 08791 60444	TF 08759 60391	TF 08950 60238	TF 08943 60237	TF 07908 59844	TF 07950 59662	TF 08426 59744	TF 09273 59068	TF 08587 58356
SI No	SI Description	SI Value	SI Value	SI Value	SI Value	SI Value	SI Value	SI Value	SI Value	SI Value	SI Value
1	Geographic location	1	1	1	1	1	1	1	1	1	1
2	Pond area	1	0.2	0.8	1	0.6	0.2	0.2	0.7	0.2	0.1
3	Pond permanence	1	0.5	0.1	1	0.1	0.5	1	0.9	0.9	0.1
4	Water quality	0.67	0.67	0.33	0.67	0.33	0.67	0.33	0.67	0.67	0.33
5	Shade	1	1	1	1	1	0.5	0.5	1	1	1
6	Waterfowl effect	0.67	1	1	0.67	1	1	1	0.67	1	0.67
7	Fish presence	0.67	0.67	0.67	0.67	1	0.67	0.67	0.67	0.67	1
8	Pond Density	0.9	0.9	0.9	1	1	0.6	0.65	0.65	0.65	0.7
9	Terrestrial habitat	0.33	0.33	0.33	0.33	0.67	0.67	0.67	0.67	0.33	0.67
10	Macrophyte cover	0.4	1	1	0.7	0.3	0.9	0.9	0.9	1	1
HSI Score		0.72	0.65	0.58	0.77	0.58	0.62	0.62	0.77	0.67	0.50
Pond suitability		Good	Average	Below average	Good	Below average	Average	Average	Good	Average	Below average

Pond Name		P11	P12	P13	P14
		TF 07991 58481	TF 05730 57118	TF 06044 55920	TF 04595 53439
SI No	SI Description	SI Value	SI Value	SI Value	SI Value
1	Geographic location	1	1	1	1
2	Pond area	0.1	0.2	0.1	0.2
3	Pond permanence	1	0.1	1	0.1
4	Water quality	0.67	0.33	0.67	0.33
5	Shade	1	1	0.3	1
6	Waterfowl effect	0.67	1	1	1
7	Fish presence	0.67	1	0.67	1
8	Pond Density	0.2	0.5	0.3	0.5
9	Terrestrial habitat	0.33	0.67	0.33	1
10	Macrophyte cover	0.95	1	1	1
HSI Score		0.53	0.54	0.52	0.56
Pond suitability		Below average	Below average	Below average	Below average

APPENDIX F – LOCAL WILDLIFE SITES CITATIONS

Gorse Hill Lane Verges



OS copyright No. AL100016739, Banovallum House, Manor House Street, Horncastle, Lincolnshire. LN9 5HF

Grid ref: TF012562 – TF016563
Length: 0.4 km

Survey: 2010
Surveyor: LotV

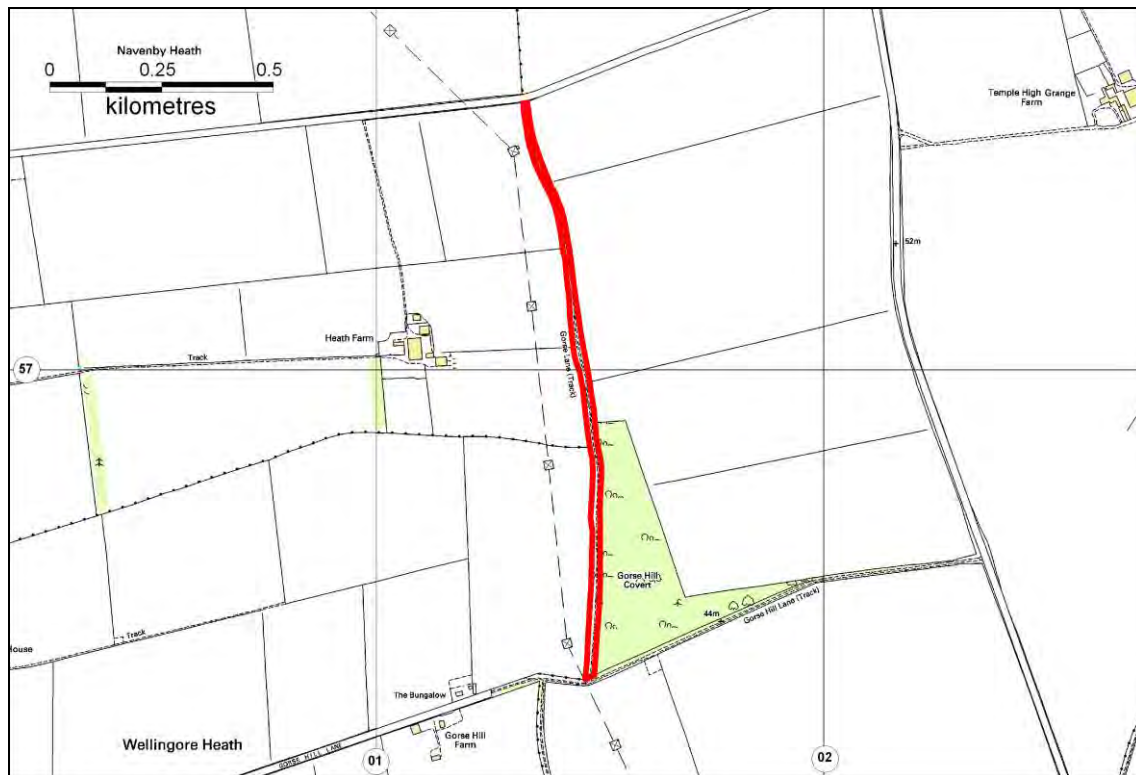
Main habitat: Calcareous grassland

This verge was identified and surveyed as part of the Lincolnshire Wildlife Trust's Life on the Verge Project.

Criterion passed: CG1

Recommended as a Local Wildlife Site: 1 April 2011

Gorse Lane



OS copyright No. AL100016739, Banovallum House, Manor House Street, Horncastle, Lincolnshire. LN9 5HF

Grid ref: TF014563 – TF013576

Survey: 26 June 2008

Area: 2.2 ha

Surveyor: T.Inskipp

Main habitat: Unimproved calcareous grassland, woodland, dense scrub, bracken

Additional features: Tussocky vegetation, species-rich hedgerows

A narrow lane, 1.3 km long, running north from Gorse Hill Lane (TF014563), east of Wellingore, to a minor road (TF013576) connecting Navenby to the A15. It forms the border to three parishes: Navenby in the north-west, Wellingore in the south-west, and Temple Bruer with Temple High Grange in the east.

It is separated from arable fields on the west side by a thick, apparently unmanaged hedge. On the east side, the southern half merges into Gorse Hill Covert, a small mainly deciduous wood, and the northern half is separated from arable fields by a hedge along most of its length. In places a stone wall further marks its outer boundary.

Since it was last surveyed in 1983 the lane has become overgrown with dense areas of bramble, bracken and scrub. A total of 91 plant species were recorded, including 11 woody species in the hedges, but no large areas of calcareous grassland remained and none of the significant species recorded previously (pyramidal orchid, quaking grass, dropwort, rockrose, small scabious, burnet saxifrage, wild parsnip and restharrow) was found. However, 12 indicator species of calcareous grassland were found: tor-grass, upright brome, common knapweed, greater knapweed, lady's bedstraw, field scabious, common bird's-foot trefoil, red bartsia, hoary plantain, wild mignonette, bladder campion and yellow oat grass; however, all of these species were in very small numbers and mainly in gaps in the hedge where there was a field entrance. Some of the fields margins on the east side held small numbers of calcicolous plants, including woolly thistle (TF014574). At the southern end, under the trees on the east side of the lane, were 35 plants of wall lettuce, a rare species in this part of Lincolnshire.

A15, Green Man Road to Cuckoo Lane



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Grid ref: TF017590 – TF025560
Length: 3.2 km

Survey: 2011/12
Surveyor: LotV

Main habitat: Calcareous grassland

This site was surveyed as part of the Lincolnshire Wildlife Trust's Life on the Verge project.

Criteria passed: CG1, Mos2
Selected as a Local Wildlife Site: 18 March 2013

A15, Slate House Farm to Dunsby Pit Plantation



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Grid ref: TF030542 – TF037520
Length: 2.4 km

Survey: 2011/12
Surveyor: LotV

Main habitat: Calcareous grassland

This site was surveyed as part of the Lincolnshire Wildlife Trust's Life on the Verge project.

Criteria passed: CG1, Mos2
Selected as a Local Wildlife Site: 18 March 2013

Wellingore Heath Road Verges



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Grid ref: TF001559 – TF005552
Length: 0.8 km

Survey: 2011/12
Surveyor: LotV

Main habitat: Calcareous grassland

This site was surveyed as part of the Lincolnshire Wildlife Trust's Life on the Verge project.

Criterion passed: CG1
Selected as a Local Wildlife Site: 18 March 2013

St John the Baptist Churchyard, Temple Bruer



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Grid ref: TF009547
Area 0.25ha

Survey: 13 July 2017
Surveyor: Caroline Steel

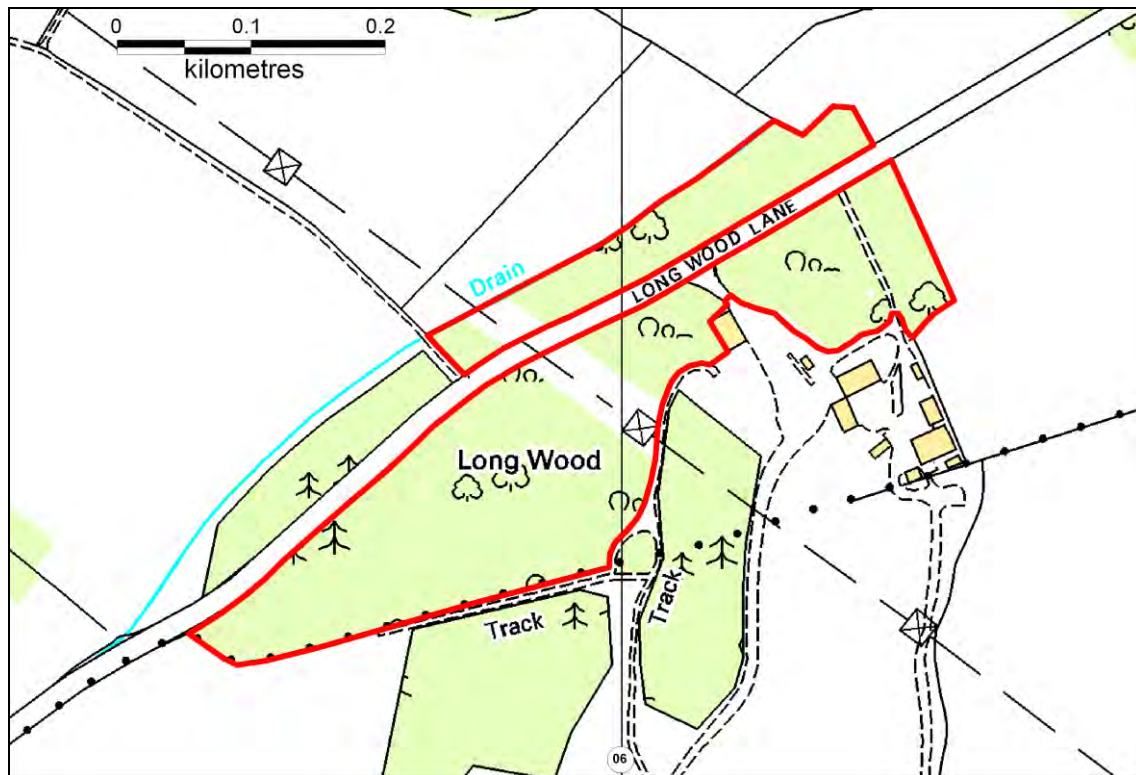
Main habitat: Calcareous grassland (unimproved)
Additional habitat: Calcareous grassland (semi-improved)

St John the Baptist Church, Temple Bruer with Temple High Grange, was built in 1874, at which time, presumably, the churchyard was enclosed (limestone walls). The dark trees visible to the south of the church building are fairly mature yews, probably planted around the time the cemetery was established. There are other trees and shrubs around the edges of the churchyard. Graves are concentrated in the area S, SE & SW of the church.

The open grassland west and south of the church is very species-rich. There is some evidence of seasonal parching. Little of interest was found where the yews cast dense shade. The open area on the north east side of the church is not as rich and at least part has been disturbed recently (evidence of work on septic tank or some such). However plants such as *Plantago media* persist.

The richest areas of grassland appear to be mown regularly and the arisings removed (little evidence of mulching) producing a very tight low sward with abundant thyme. However, taller plants were flowering including small scabious and burnet saxifrage.

Long Wood, Blankney



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Grid ref: TF060593
Area: 7.4 ha

Survey: 10 July 2008
Surveyor: T.Inskipp

Main habitat: Semi-natural woodland
Additional habitat: Unimproved neutral grassland
Additional features: Standing/fallen dead wood, steep slopes, hummocky ground, shallow ditches

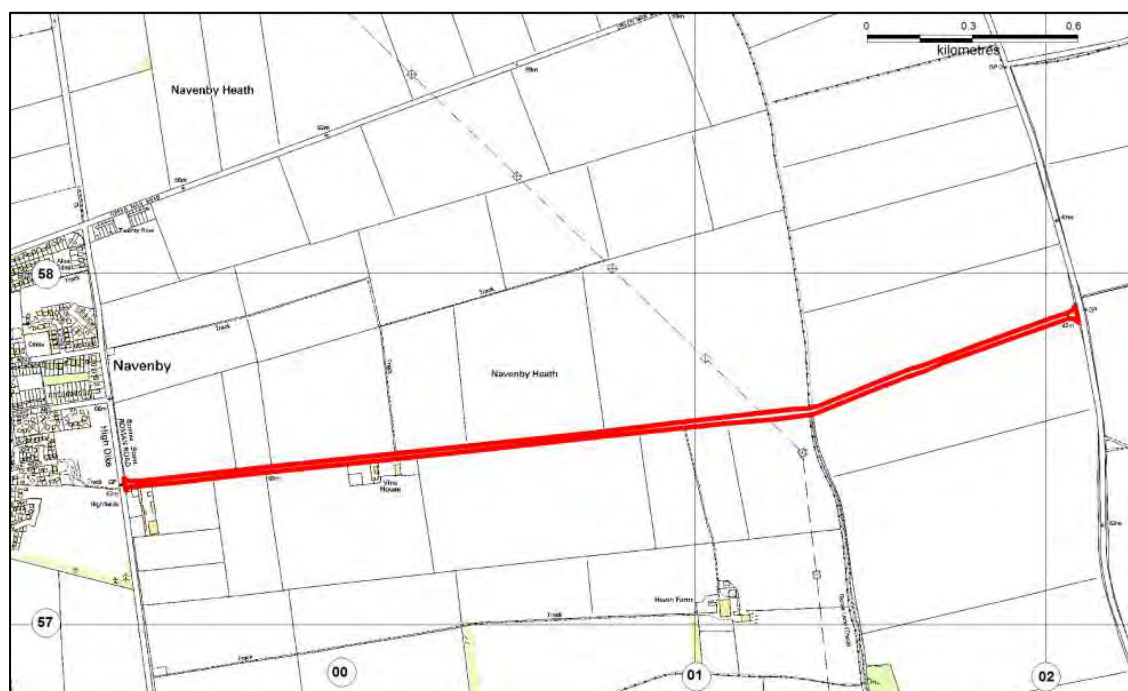
South of road

An area of woodland to the south of Long Wood Lane, bounded on the southern side by quarries, one currently in use and a bigger area around it that was formerly worked. Most of the wood is on a fairly steep north-west facing slope and is quite shady with dense canopy and thick undergrowth and fallen trees. There are some small cleared areas along the route of overhead power lines and the south-western aspect is bounded by a grassy track and species more typical of open habitats. The wood is dominated by sycamore, and other common trees are ash, beech and elm. In the southern part a few pines have been planted and one or two horse chestnuts and small-leaved limes were probably also planted.

A total of 108 plant species were recorded during the survey (with 3 others reported during a previous survey in 1978). These included six woodland indicators: wood anemone, dogwood, spindle, hairy St John's-wort, wild cherry and guelder rose, Five calcareous grassland indicators were present: tor-grass, common knapweed, wild basil, lady's bedstraw and red bartsia and the southern track had two additional neutral grassland indicators: common sedge and ox-eye daisy.

Birds recorded included 6 crossbills flying out of the pines, spotted flycatcher, and singing blackcap, chiffchaff, blackbird and wren. Along the southern track meadow brown, gatekeeper and ringlet butterflies were frequent.

Navenby Heath Road Verges



OS copyright No. AL100016739, Banovallum House, Manor House Street, Horncastle, Lincolnshire. LN9 5HF

Grid ref: SK993573 – TF020578
Length: 2.8 km

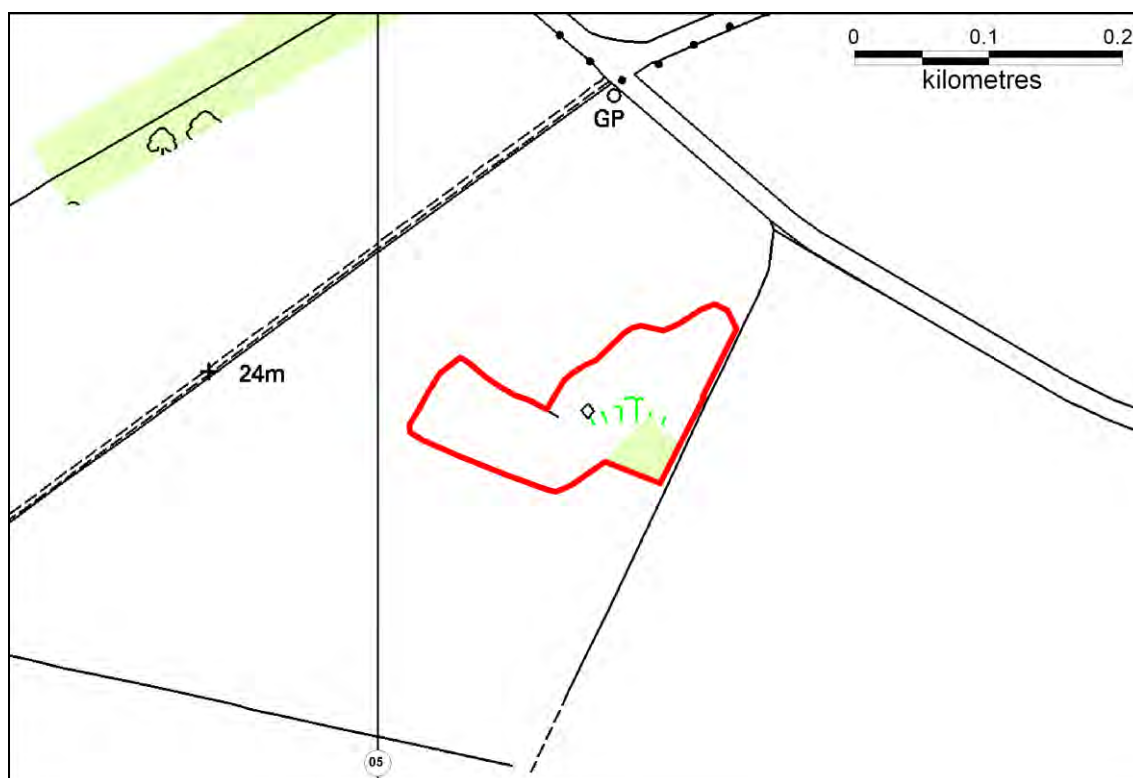
Survey: 2010
Surveyor: LotV

Main habitat: Calcareous grassland

This verge was identified and surveyed as part of the Lincolnshire Wildlife Trust's Life on the Verge Project.

Criteria passed: CG1, Mos2
Recommended as a Local Wildlife Site: 1 April 2011

Scopwick Heath Old Quarry



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Grid ref: TF051586
Area: 1.7 ha

Survey: 3 September 2008
Surveyor: C.Stevenson

Main habitat: Unimproved calcareous grassland
Additional habitat: Plantation woodland
Additional features: Planted specimen trees, tussocky vegetation, bare ground, rock outcrops, steep slopes, south-facing slopes, hummocky ground

This site is an old limestone quarry, although there is only one small exposure of limestone left. Most of the site is covered in a thick deep cover of grasses – mainly tor-grass. There is a little elder scrub in the north-eastern corner, associated with a dense ground cover of nettle and rosebay willowherb. This corner is also where some tipping has occurred in the past. There is no sign that this scrub is encroaching onto the grassland, indeed a large percentage of the elders are moribund. In the south-eastern corner there is also a small block of planted trees.

The main interest lies in the grassland where species such as rockrose, harebell, burnet-saxifrage, lady's bedstraw and knapweed are still present in quantity. Less frequent species include common restharrow, glaucous sedge, carline thistle, thyme, viper's bugloss, and salad burnet.

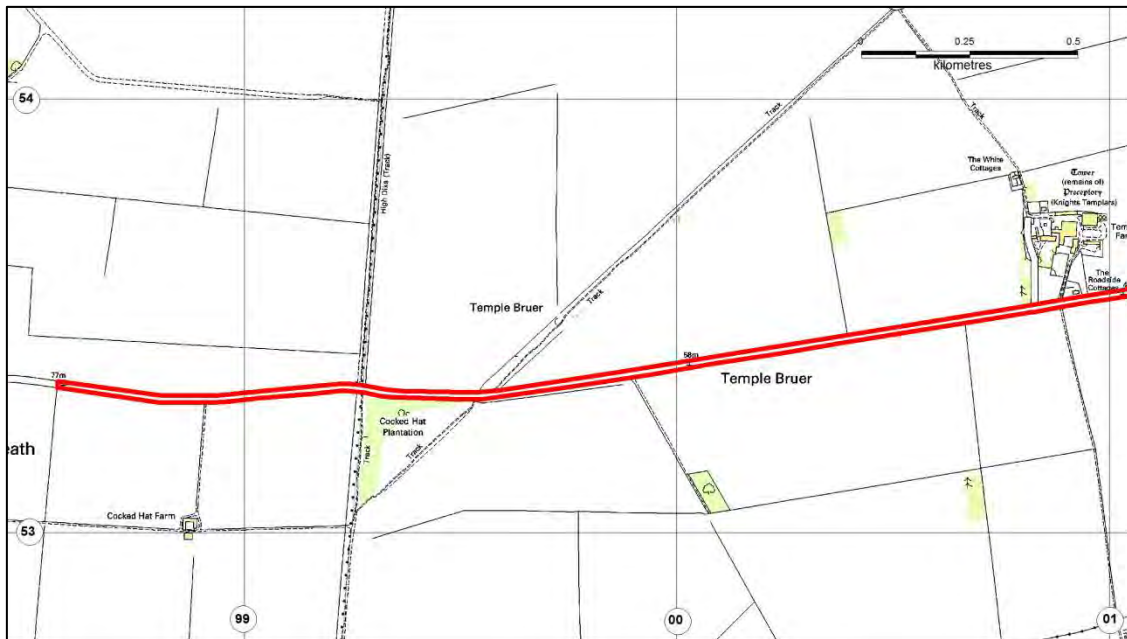
A number of the species listed previously were not seen, but that may be because of the late visit. They included: dropwort, small scabious and hairy violet. The flora also includes a number of more-or-less ubiquitous species that are not particularly characteristic of limestone grassland.

There are some signs of rabbit activity, and there were a few bare patches of soil on some of the steeper south facing slopes. Butterflies seen include speckled wood and small white.

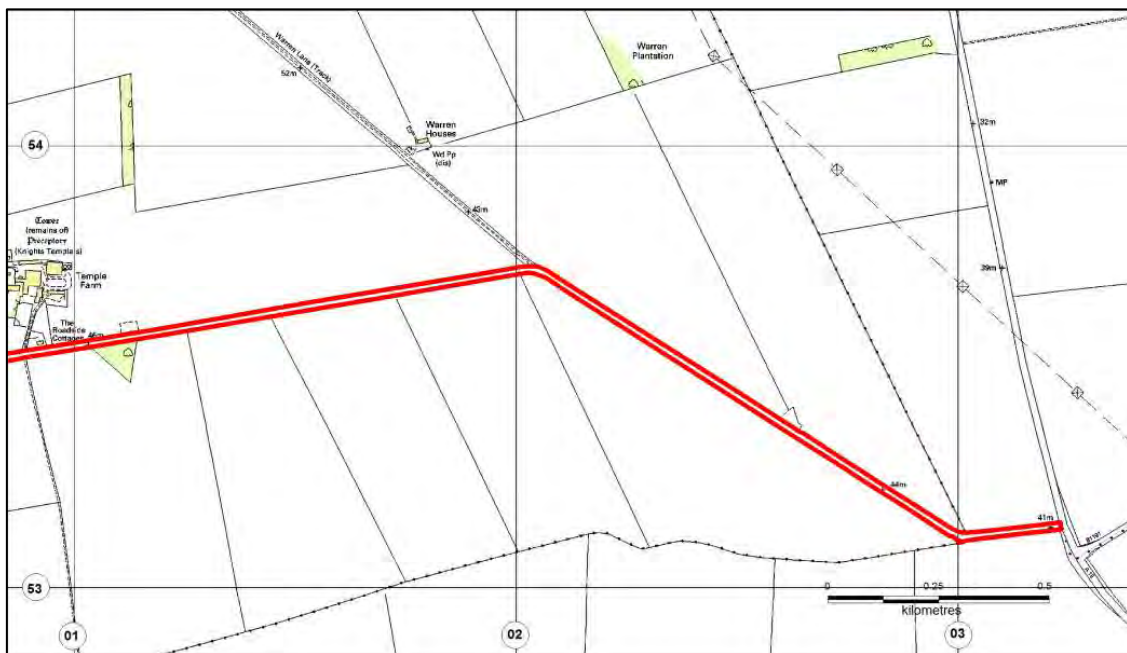
Criteria passed: NG1, CG1

Recommended as a Local Wildlife Site: 10 September 2009

Temple Road Verges, Welbourn to Brauncewell



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Grid ref: SK985533 – TF032531
Length: 4.9 km

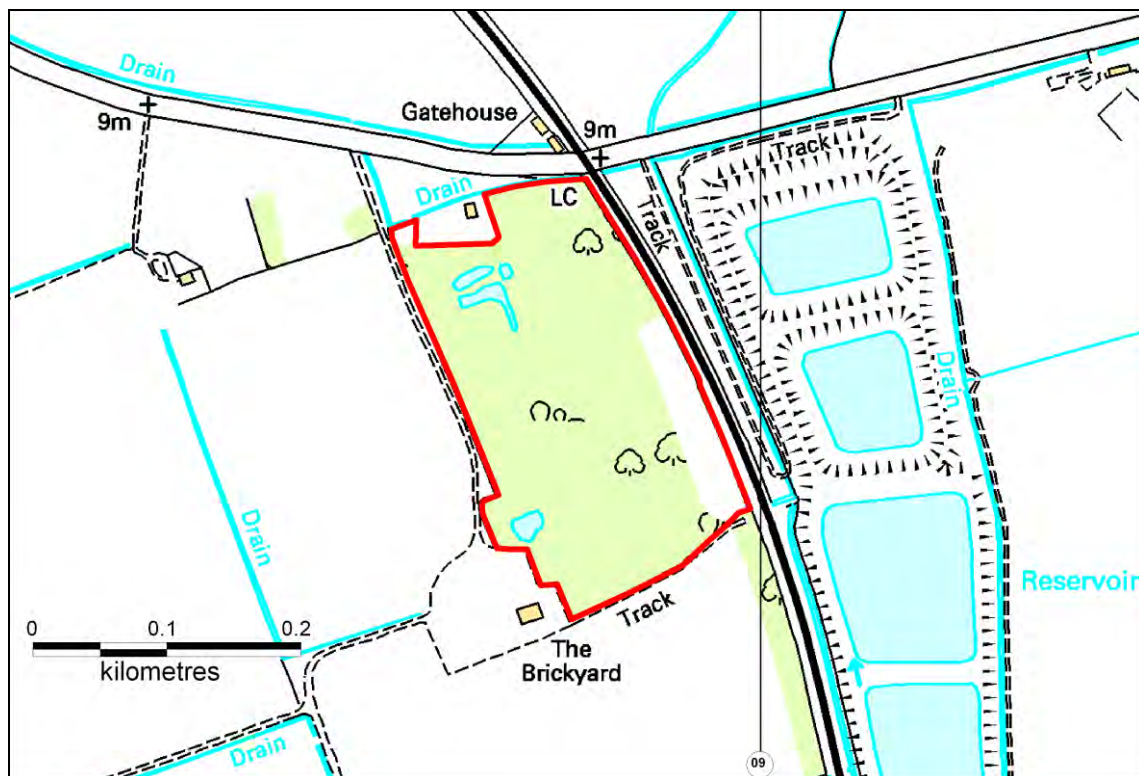
Survey: 2010
Surveyor: LotV

Main habitat: Calcareous grassland

This verge was identified and surveyed as part of the Lincolnshire Wildlife Trust's Life on the Verge Project.

Criteria passed: CG1, Mos2
Recommended as a Local Wildlife Site: 1 April 2011

Blankney Brick Pit



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Grid ref: TF088603

Area: 4.9 ha

Main habitats:

Additional habitats:

Additional features:

Semi-natural woodland

Wet woodland, standing water

**Standing/fallen dead wood, hummocky ground,
areas with frequent/prolonged flooding**

Survey: 7 July 2008

Surveyor: T.Inskipp

A disused brick pit, about 2 km east of Blankney village on the south side of a minor road to Walcott. The east side is bounded by a railway line and the south and west sides by open farmland.

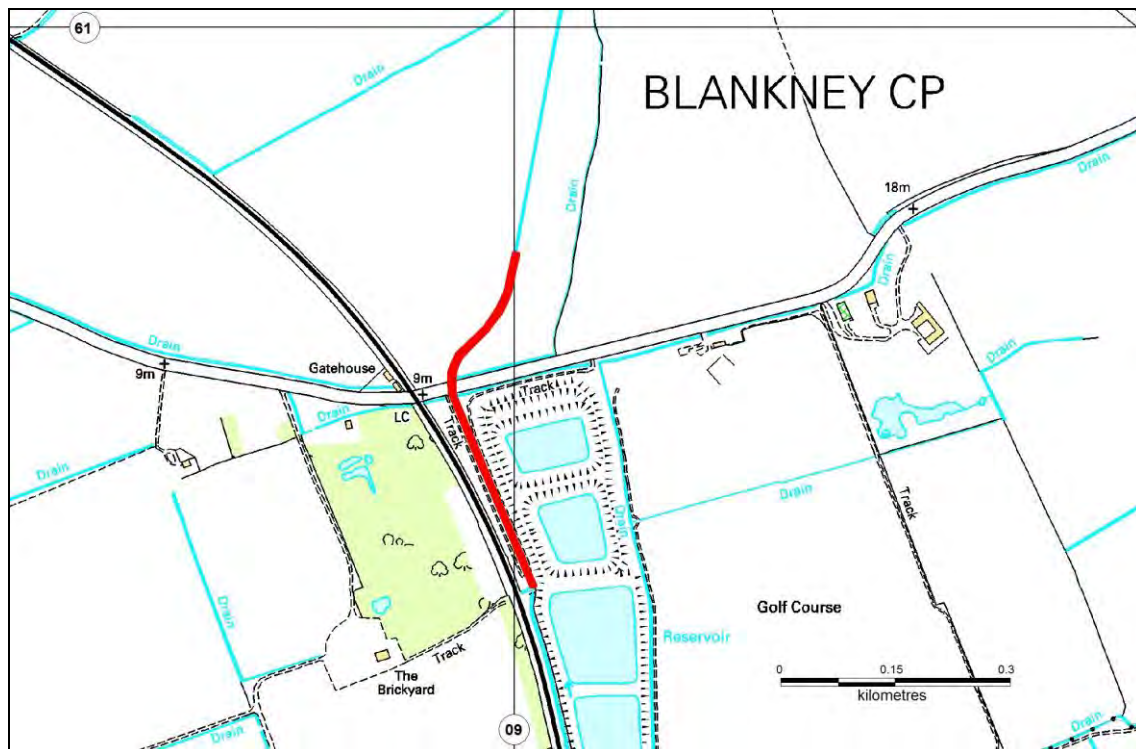
The previous survey in 1978 described it as an 'area of clear water, deep pits with sedgey edges; difficult to negotiate; also woodland.' This suggests that it was fairly open habitat at that time. However, it is now very overgrown, with almost complete tree cover, and the pits are shallow and shaded. Access is very difficult because the boundary is lined with thick bushes and nettles. For this survey access was made in the north-east corner and a zigzag course was followed between fallen trees, thick bushes, extensive nettle patches and the wet pits, eventually emerging on a track on the south side.

A total of 82 plant species were recorded, including a few woodland indicator species, suggesting that at least some woodland has existed here for some time: lady fern, hazel, creeping-jenny, primrose, common figwort and guelder rose. It is likely that there were more water plant species when the habitat was more open; of those remaining the most notable were tufted sedge and the introduced least duckweed. Very few animal species were noted, given the nature of the terrain. A few birds were singing: blackcap, chiffchaff, blackbird, robin and wren, and a hobby was noted flying over just outside the site. Mosquitoes were extremely abundant.

Criteria passed: WD4, Sw2

Recommended as a Local Wildlife Site: 10 September 2009

Blankney Dyke



OS copyright No. AL100016739, Banovallum House, Manor House Street, Horncastle, Lincolnshire. LN9 5HF

Grid ref: TF090607 – TF090602

Area: 0.5 km

Survey: 14 September 2010

Surveyor: A.Prendergast

Main habitat: Drain/ditch
Additional habitat: Calcareous grassland, Arable
Additional features: Tussocky vegetation, Steep slopes

A ditch following an apparently natural course, running through arable fields and crossed by a minor road. The ditch is fed via a culvert just north of the road.

The site supports a reasonably varied aquatic flora including stands of greater pond sedge *Carex riparia*, bulrush *Typha latifolia* and branched bur-reed *Sparganium erectum* but also occasional foals watercress *Apium nodiflorum*, yellow flag *Iris pseudacorus*, purple-loosestrife *Lythrum salicaria*, gypsywort *Lycopus europaeus*, reed canary-grass *Phalaris arundinacea* and water figwort *Scrophularia auriculata*.

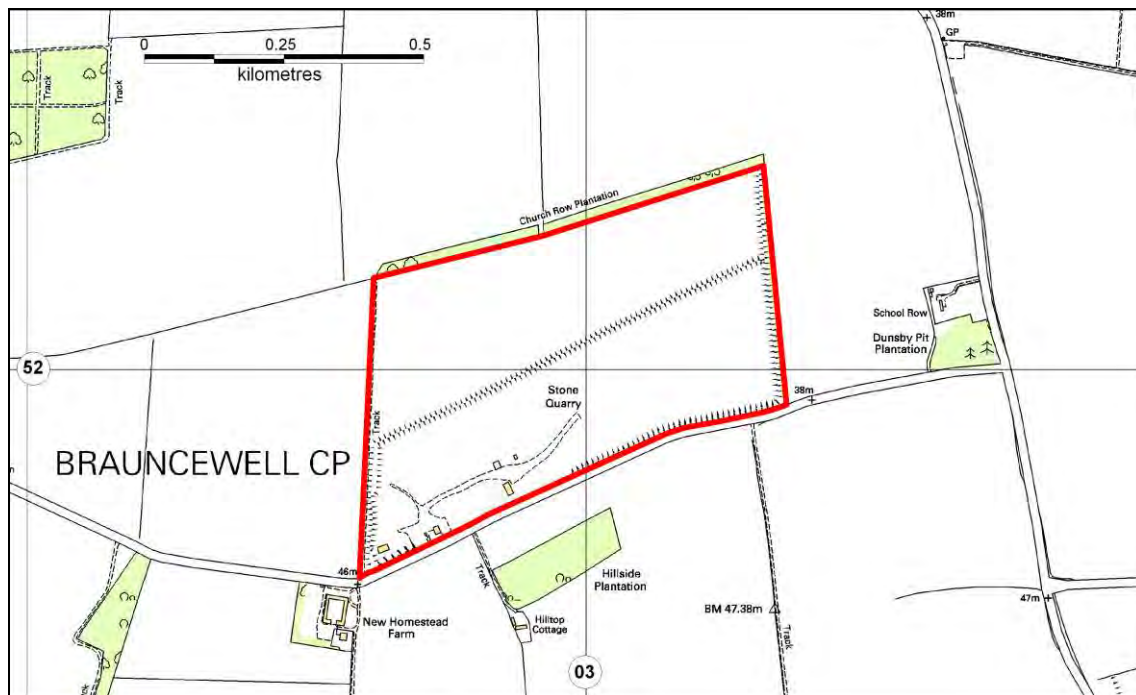
The upper banks support a rudimentary calcareous-neutral grassland flora with tor-grass *Brachypodium pinnatum* dominating over large sections and meadowsweet *Filipendula ulmaria*, knapweed *Centaurea nigra* and false oat-grass *Arrhenatherum elatius* also frequent. Occasional hawthorns *Crataegus monogyna* are present on the banks.

The section of the dyke to the south of the road is swamped by scrub. Species present include hawthorn, dogwood *Cornus sanguinea*, blackthorn *Prunus spinosa*, field rose *Rosa arvensis*, grey willow *Salix cinerea* and guelder-rose *Viburnum opulus*.

Criterion passed: Sw2

Recommended as a Local Wildlife Site: 1 April 2011

Brauncewell Quarry



OS copyright No. AL100016739, Banovallum House, Manor House Street, Horncastle, Lincolnshire. LN9 5HF

Grid ref: TF029519 **Survey:** November 2009
Area: 33.7 ha **Recorder:** J.Aram, T.Langdale-Smith, R.Bartlett

Description and geomorphology

The quarry presents an impressive wide and low-lying vista of almost horizontal limestone beds, strongly conveying the scale of the depositional environment.

Access from the west end is used by the quarry traffic and is therefore provides safe, open and clear access and parking within the designated areas, traffic notwithstanding.

The faces are visible on the north, south and east sides, although the south side will be concealed by embanked fill to protect the road.

The working faces on the north and east sides, stand vertically with little weathered scree. The older un-worked face along the south side shows a greater degree of fissuring and jointing leading to spalling, due to stress-release in the strata.

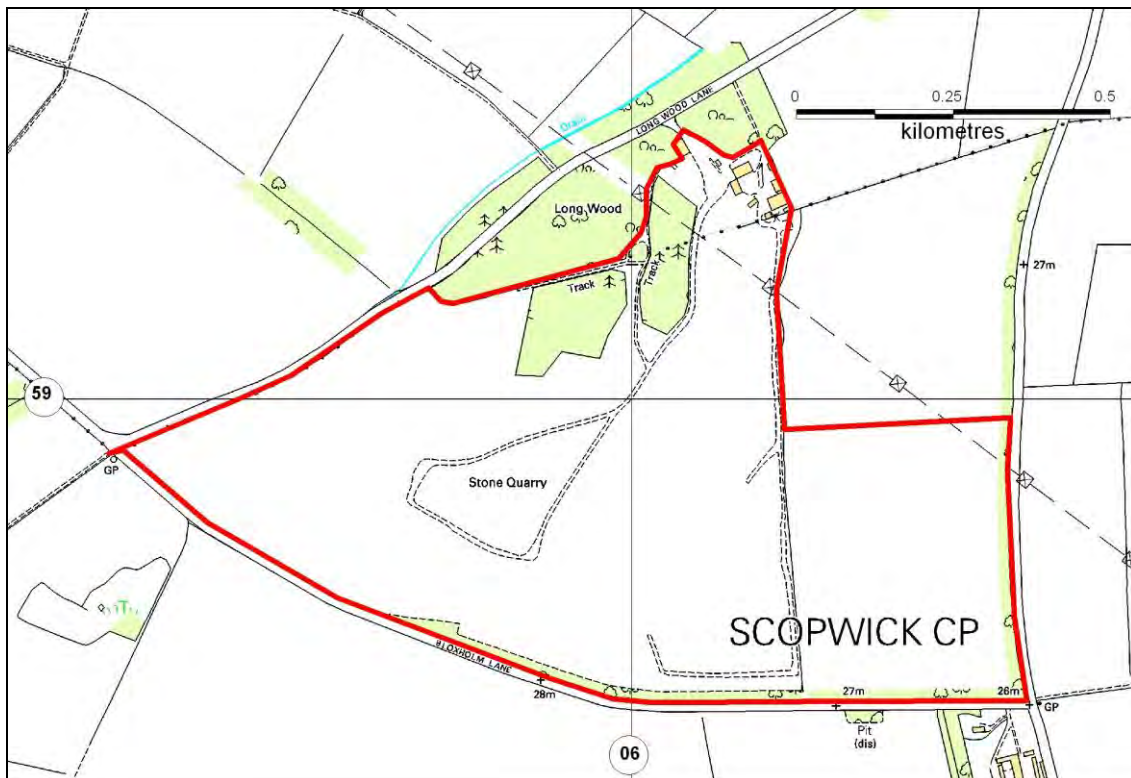
Brief history and present status

The quarry has recently achieved planning permission (N15/0771/07): *to extract limestone from land immediately to the northwest of Brauncewell (as an extension to the existing quarry) and to restore the extension area and the existing quarry utilising inert waste at Brauncewell Quarry.*

Study of the documents supporting the application show no attempt to preserve any face for future inspection.

Criteria passed: Scientific, Cultural, Educational, Access and safety
Recommended as a Local Geological Site: 6 December 2010

Longwood Quarry, Blankney



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Grid ref: TF058589 **Survey:** November 2009
Area: 70.8 ha **Recorder:** J.Aram, T.Langdale-Smith, R.Bartlett

Description and geomorphology

The quarry presents an impressive wide and low-lying vista of almost horizontal limestone beds, strongly conveying the scale of the depositional environment. Activity in the quarry is at a low level and large parts are now left dormant. The faces extant are relatively low and, due to the extensive flat quarry floor, are easily and safely accessible.

A layer of Glacial Till can be seen draped over the limestone beds. Channels cut into the limestone bedrock and then filled with glacial deposits can be seen at more than one locality.

Brief history and present status

The quarry was established in the 19th century when the Blankney Estate was owned by the Chaplin family, to provide lime to improve the local soils. A kiln was built at the quarry to burn the limestone. It is now defunct and almost completely overgrown.

The quarry continues to supply aggregate and dimension stone to a local market at a low level of activity.

Criteria passed: Scientific, Cultural, Educational, Access and safety
Recommended as a Local Geological Site: 6 December 2010



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Appendix 6.2

Preliminary Ecological Appraisal - Report 2
(Brauncewell)





Springwell Energyfarm Ltd

Springwell Solar Farm – Land at Brauncewell

Preliminary Ecological Appraisal Report

2483765

FEBRUARY 2023

RSK
biocensus
EXPERTS IN ECOLOGY

RSK GENERAL NOTES

Project No.: 2483765

Title: Springwell Solar Farm - Brauncewell – Preliminary Ecological Appraisal Report

Client: Springwell Energyfarm Ltd

Date: February 2023

Office: Coventry

Status: Rev 00

RSK Biocensus (RSK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and RSK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by RSK Biocensus for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Biocensus.

Switchboard: +44 (0)330 223 1074 Company contact: Enquiries@biocensus.co.uk

EXECUTIVE SUMMARY

This report presents the results of a preliminary ecological appraisal (PEA) carried out on in April January 2023 of additional land proposed for the Springwell solar farm site at Brauncewell, Lincolnshire. It has been produced to inform the proposed installation of a solar farm at the Site.

The site is comprised of arable fields dissected by ditches, streams, and hedgerows with mixed plantation woodlands and ponds scattered throughout the survey area.

No impacts to any statutory designated sites are anticipated due to their distances from the site. However, one non-statutory local wildlife site is within the Site and two other local wildlife sites are adjacent to the Site. Measures to protect these sites during construction will be outlined in a construction and environmental management plan (CEMP) as part of the Environmental statement to ensure that the proposed works will not have any significant impacts on them.

No notable or invasive plant species were recorded within the survey area. Other than the arable fields, many of the habitats within the survey area are included in the local biodiversity action plan. The semi-natural habitats on site will be retained and protected wherever possible, particularly the ponds and areas of woodland.

Further surveys to determine the extent of potential ecological constraints are recommended, including:

- breeding bird surveys to assess breeding status and population sizes of protected and notable species;
- bat activity surveys (involving the deployment of static detectors) to inform of bats usage of the site and to determine mitigation should any hedgerows or suitable habitat be impacted by works;
- eDNA survey of pond in south-east corner of site and four nearby ponds (within 50m-100m) to determine presence or likely absence of great crested newts;
- reptile surveys should be carried out if significant areas of high suitability reptile habitat can't be avoided by design;
- roosting bat surveys – climbing or activity surveys of any trees suitable for roosting bats that will be impacted by the proposed development;
- water vole surveys of the ditches and streams within the survey area if they will be affected by works or if a 10 m buffer zone cannot be implemented in the design;
- targeted hedgerow surveys if any sections of hedgerows need to be removed; and
- a pre-construction update badger survey within six months of start of works to check for any new badger activity at the Site.

Mitigation measures required to be outlined in a CEMP include:

- measures to protect local wildlife sites and local biodiversity action plan habitats;
- nesting bird and breeding brown hare checks by an ecologist prior to commencement of works;

- precautionary working methods to protect reptiles, amphibians, hedgehogs, badgers and other nocturnal species;
- habitat retention and protection in line with relevant guidance; and
- implementation of a sensitive lighting strategy to avoid disturbance to foraging bats, if any artificial lighting is required.

In addition to the above the design is proposed to be biodiversity led. A detailed biodiversity design would be developed in tandem with the scheme design, ensuring considerable gains for biodiversity with habitat enhancement and creation measures benefitting flora and fauna and making a significant contribution to local biodiversity objectives.

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1.0 INTRODUCTION

1.1 Purpose of this report

- 1.1.1 This report presents the results of a preliminary ecological appraisal (PEA) comprising a background data search and a UKHab survey, with assessment for protected or otherwise notable species, for an additional area of land for the proposed Springwell solar farm development, near Braucewell, Lincolnshire (central National Grid Reference TF042528). The Site is shown in Figure 1.
- 1.1.2 The PEA included an assessment of ponds within the survey area for their habitat suitability index to support great crested newts (*Triturus cristatus*) and a ground-level assessment of trees potentially suitable for roosting bats within the Site and along the Site boundaries.
- 1.1.3 The survey of the additional land at Braucewell was carried out in January 2023. The majority of the rest of the proposed Springwell solar farm site was previously surveyed in the spring of 2022. An additional area to the north of Thompson's Bottom (central National Grid reference - TF 01735 55991) was also added to the scheme in late 2022 and surveyed in January 2023.
- 1.1.4 The report identifies ecological constraints relevant to the project, specifies any further survey or mitigation requirements, provides recommendations for avoidance and protection through design changes, and suggests opportunities for ecological enhancement. The appraisal was carried out on behalf of EDF.

1.2 Landscape context

- 1.2.1 The c.114 ha Site is located close to the villages of Ruskington and Cranwell Village in the district of North Kesteven, Lincolnshire. The Site is dominated by agricultural fields bordered by hedgerows with a mixed woodland plantation to the north. There is one pond within the Site and an additional four to the south-east near Braucewell Church and Manor Farm. A small, partially dry ditch runs through the south-eastern corner of the Site.
- 1.2.2 The surrounding landscape is largely arable, with Braucewell Quarry to the south-west and the hamlet of Braucewell to the east.

1.3 Development proposals

- 1.3.1 The assessment is based on the red line boundary of the Site as shown in Figure 1. The specific detailed development proposals are not currently known but are anticipated to be for the installation of solar panels and/or associated infrastructure. The solar farm development, once constructed, should be operational for a period of approximately 40 years after which it is anticipated to be decommissioned.

1.4 Validity of data

- 1.4.1 According to Chartered Institute of Ecology and Environmental Management (CIEEM) advice (CIEEM 2019), survey data are valid for a period of 12 to 18 months from the date of the survey. The report highlights any circumstances where data may be valid for less than 18 months. Between 18 months and three years if significant changes have occurred to the habitats present then a professional ecologist will need to undertake a site visit and may also need to update desk study information (effectively updating the PEA) and then review the validity of the report.

2.0 METHODS

2.1 Overview

2.1.1 The preliminary ecological appraisal (PEA) was undertaken in line with guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017), and it therefore included:

- a desk study (including records of designated sites, protected and notable species; a review of aerial photographs; obtaining information from the DEFRA and JNCC websites, and the local authority website; and requesting data from the local records centre) here called a background data search (BDS); and
- a field survey that informed habitat mapping (UKHab), an assessment of the possible presence of protected or priority species, and the likely importance of habitat features.

2.1.2 The PEA report includes an ecological description of the survey area and information about species that may occur there. Notes and mapping of any incidental sightings of invasive non-native plant species and protected or priority fauna species are also provided.

2.1.3 The survey of the Site was carried out on January 26th-27th 2023 by Liz Probert of RSK Biocensus. Liz is a senior ecology consultant with over nine years' experience in ecological consultancy, with extensive experience in carrying out PEAs.

2.2 Background data search

2.2.1 A search was made in January 2023 for relevant reference materials. A list of sources is given in **Error! Reference source not found..**

Table 1 Data sources

Information obtained	Available from
Protected and noteworthy species-records	Greater Lincolnshire Nature Partnership
MAGIC (the Multi-Agency Geographic Information website) to view statutory designated nature conservation sites	www.magic.gov.uk
Nationally designated site locations and citations	Natural England
European and Internationally designated site locations and citations	Joint Nature Conservation Committee (JNCC) website
Local Designated site locations and citations	Greater Lincolnshire Nature Partnership
Designations and legal protection of noteworthy species	Joint Nature Conservation Committee (JNCC) website

Information obtained	Available from
Details of species and habitats listed on the LBAP	Local biodiversity action plan website
Local planning guidance and policies	Central Lincolnshire Local Plan (adopted 2017) Policy LP21: Biodiversity and Geodiversity
Aerial photography	As a viewer only, sources include: www.google.com ; www.bing.com ; Google earth. Where reproduced as figures, sources vary and be licensed through ArcGIS, as stated.

2.2.2 A search was made for information on statutory designated sites (often internationally and nationally important sites for ecology) and non-statutory designated (local wildlife) sites within 2 km of the survey area boundary. The search was extended to 10 km for internationally designated sites i.e., Ramsar sites, Special Areas of Conservation (SAC), Special Protection Areas (SPA).

2.2.3 The search for noteworthy species within 2 km of the survey area boundary included species within these search parameters:

- European protected species (listed on Schedules 2 and 5 of The Conservation of Habitats and Species Regulations 2017);
- nationally protected species under Schedules 1, 5 and 8 of The Wildlife & Countryside Act 1981 and The Protection of Badgers Act 1992;
- species listed as critically endangered, endangered, or vulnerable based on the IUCN Red List Categories and Criteria 2001;
- all species listed on the RSPB Birds of Conservation Concern 4 as red or amber;
- nationally rare or nationally scarce species;
- notable invertebrates; and
- species that are of principal importance under The Natural Environment and Rural Communities (NERC) Act (2006) or are priority species under the local biodiversity action plan.

2.3 Plants and habitats

UKHab survey

2.3.1 The field survey was based on the UKHab survey approach (Butcher et al., 2020, 2020a) and habitats were identified down to at least level 4, where possible. The survey involved the following elements:

- habitat mapping using a set of standard colour codes and secondary codes to indicate habitat types on a UKHab habitat map (*Figure 2*); and

- a description of features of possible ecological or nature conservation interest in notes relating to numbered locations on the UKHab habitat map, referred to as target notes.
- 2.3.2 Vascular plant species were recorded during the survey, though at this level of survey, no species lists should be regarded as exhaustive (additional species would almost certainly be found in more detailed surveys or repeat surveys at various times of the year).
- 2.3.3 Plant nomenclature in this report follows Stace (2019) for native and naturalised species of vascular plant, and mosses and liverworts follow Hill et al. (2008). Introduced species and garden varieties were identified using relevant Floras. Plant names in the text are common names with the scientific names in brackets afterwards on the first occurrence only. Doubtful identifications are preceded by 'cf.' placed before the specific epithet where the plant is very probably the species indicated, but it could not be distinguished from similar members of the genus with certainty.

Invasive non-native species (INNS)

- 2.3.4 The survey did not involve exhaustive surveying for individual plant species, and various invasive species may be little in evidence at various times of year (depending on the species). A survey seeking to identify habitat types cannot therefore be relied upon to provide firm information about the presence or extent of any invasive non-native species (even though some things may be evident). However, we have noted any known invasive non-native species seen during the course of the survey, as well as any invasive non-native species of animals recorded during the survey.

2.4 Protected and notable animals

General

- 2.4.1 The survey area was assessed for its suitability to support protected or otherwise notable animals that are likely to occur in the area. Taking into account the results of the BDS, the geographic location, connectivity to natural habitats in the wider landscape, the nature and extent of habitats at the survey area, and the proposed development, specific assessment was also carried out for the species/species groups outlined below.

Invertebrates

- 2.4.2 The survey area was assessed for its suitability to support notable species and/or assemblage of invertebrates, but no specific surveys were undertaken. The habitat requirements of particular invertebrates are often species-specific, so consideration was given to the presence of features and habitats that might be suitable for the notable species identified in the BDS.

Great crested newts

- 2.4.3 Although standing water is essential for their breeding, great crested newts are terrestrial for most of the year and have been recorded up to 500 m from their breeding ponds (Beebee & Griffiths, 2000). The survey area was assessed for its suitability to support both terrestrial and breeding great crested newts. Suitable breeding ponds are typically well-vegetated, relatively clean and unpolluted, have few fish or wildfowl, and are likely to

retain water throughout most (but not necessarily all) summers. Highly suitable terrestrial habitats include woodland, scrub and tussocky grassland, although great crested newts can be found in a broad range of sub-optimal habitats as well.

- 2.4.4 The locations of ponds were identified using OS maps, aerial imagery, and site visits. Their assessment of suitability for great crested newts was carried out using a Habitat Suitability Index (HSI) developed by Oldham et al. (2000). It is a numerical index, between 0 and 1, where 0 indicates unsuitable habitat and 1 represents optimal habitat.
- 2.4.5 There is a positive correlation between HSI scores and presence and abundance of Great Crested Newts in ponds. Generally, ponds with high HSI scores are likely to support larger populations. However, the relationship is not sufficiently precise to conclude that a pond with a high HSI will definitely have a large newt population, or that a pond with a low HSI score will only have a small newt population or no newts at all.

Reptiles

- 2.4.6 The survey area was assessed for its suitability for the four most widespread reptile species, with particular attention given to those features that provide suitable basking areas (e.g., south-facing slopes), hibernation sites (e.g. banks, walls, piles of rotting vegetation) and opportunities for foraging (e.g. rough grassland and scrub).
- 2.4.7 Specific habitat requirements differ between species. Common lizards (*Zootoca vivipara*) and slow-worms (*Anguis fragilis*) favour rough grassland. Grass snakes (*Natrix helvetica*) have broadly similar requirements, with a greater reliance on ponds and wetlands. Adders (*Vipera berus*) use a range of fairly open habitats with some cover but are most often found in dry heath.

Birds

- 2.4.8 The survey area was assessed for its suitability to support diverse assemblages and/or uncommon species of breeding and non-breeding birds, with an emphasis on those species that are listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended), the red and amber lists of the RSPB's Birds of Conservation Concern 4 (Stanbury et al., 2021) and other notable species recorded in the BDS, including any species that are qualifying features of nearby designated sites.
- 2.4.9 Consideration was given to the survey area's connectivity to landscape features that are likely to be of particular importance to birds, such as extensive areas of semi-natural woodland or wetlands. Buildings were surveyed for their suitability for barn owls and other species, with signs including nesting sites, feathers, droppings, and pellets.

Bats

- 2.4.10 Habitats were assessed for their suitability for foraging and commuting bats in line with guidance provided in Collins (2016). Areas of particular interest vary between species, but generally include sheltered areas and habitats with good numbers of insects, such as woodland, scrub, rivers and species-rich or rough grassland.
- 2.4.11 Trees were noted if they had suitability for roosting bats (Collins, 2016). This involved identifying features that roosting bats may favour (e.g. holes, cracks and cavities that might be used as bat access-points or roost sites).

2.4.12 Each tree’s suitability to support roosting bats was then categorised as defined in Table 2.

Table 2 Categorisation of the suitability of trees for roosting bats (Collins 2016)

Category (Potential to support roosting bats)	Description
Negligible suitability	Negligible habitat features on site likely to be used by roosting bats.
Low suitability	A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate suitability	A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely for a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High suitability	A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Confirmed roost	Bats or evidence of bats recorded during the initial inspection surveys or during dusk/dawn surveys. A confirmed record (supplied by records centre/local bat group) would also apply.

Water voles and otters

2.4.13 Waterbodies and watercourses and their surrounding habitats were assessed to determine whether they were suitable for water voles (*Arvicola amphibius*). Suitable habitats include vegetated earth banks, reed beds, flowing water and wet ditches. Incidental signs of water vole activity, including burrows, feeding platforms, food remains and latrines, were recorded if they were encountered.

2.4.14 Waterbodies and watercourses on the Site were also assessed for their suitability for otters (*Lutra lutra*). Otters require clean rivers and associated waterbodies with an abundant, varied supply of food and plenty of bank-side vegetation, offering secluded sites for their holts. Other suitable habitats include reed beds and interconnected ditches and streams. Incidental signs of otter activity, including holts, foraging signs, paths (runs), footprints and spraints, were recorded if they were encountered.

Badgers

2.4.15 An initial assessment was carried out to identify areas that might be used by badgers (*Meles meles*) for commuting, foraging, or setts within 30 m of all areas potentially affected by works (where access was possible). The area was systematically searched for signs of badgers including setts, foraging signs, paths (runs) and latrines where possible, and the category of sett and levels of activity visible at each sett was recorded.

Species of Principal Importance

- 2.4.16 Consideration was also given to the Site's potential for other noteworthy species such as those listed under Section 41 of the NERC Act (2006) (formerly UK Biodiversity Action Plan (BAP) species) that are likely to be present in the area e.g., brown hare (*Lepus europaeus*) and hedgehog (*Erinaceus europaeus*).

2.5 Constraints and limitations

- 2.5.1 Less conspicuous plant species (including INNS) may have been missed as a result of the survey being undertaken in winter. However, the majority of plants present were confidently identified, and the survey was sufficient to make a broad assessment of the habitats present on the Site.
- 2.5.2 This preliminary appraisal as to whether protected or otherwise notable species might occur on the Site is based on the suitability of habitat, the known distribution of relevant species in the local area (from online sources and desk study), and any signs of the relevant species. It does not constitute a full and definitive survey of any protected species group.
- 2.5.3 Field signs for protected and valuable species are often difficult to find or absent from a site. The survey conducted was not intended to be a comprehensive presence/absence survey for all species, but rather to provide an indication of the likely presence of such species based on the field signs found, and the nature of the habitats present.
- 2.5.4 Access was not made to adjacent land (the exception being other land within the Springwell solar farm boundary which was surveyed in 2022), and therefore it remains possible that a badger sett (or other evidence of protected or notable species) beyond the site boundary could have been missed.
- 2.5.5 Trees within woodlands were not assessed individually for their suitability for roosting bats, on the assumption that woodland would be retained within the solar farm scheme design.
- 2.5.6 All recommendations made in this report are based on the information provided by EDF. A detailed layout is not available at this time. If the development plans change significantly or extend outside of the survey area, then an ecologist must be consulted and further surveys may be required.

3.0 RESULTS

3.1 Background Data Search

Biodiversity action plans

3.1.1 The latest Lincolnshire local biodiversity action plan (LBAP) lists 26 habitat action plans (HAPs) and 11 species or species group action plans (SAPs). The local HAPs and SAPs that are relevant to the proposed development are:

Habitats:

- Arable field margins;
- Hedgerows and hedgerow trees;
- Lowland meadows;
- Ponds, lakes, and reservoirs, rivers, canals, and drains; and
- Lowland mixed deciduous woodland.

Species:

- Bats;
- farmland birds;
- newts; and
- water vole.

Statutory designated sites

3.1.2 There are no internationally protected nature conservation sites within 10 km of the site boundary. There are no nationally protected statutory designated nature conservation sites within 2km.

Non-Statutory Sites

3.1.3 There are three non-statutory designated sites within 2 km of the site boundary. The designated sites present within the study area are listed in Table 3 along with their proximity to the Site. Citations for these Local Wildlife Sites (LWS) sites are provided in Appendix E.

Table 3 Non-statutory sites within 1 km of the site boundary

Site name	Approximate distance (km) from Site
A15, Slate House Farm to Dunsby Pit Plantation LWS	Within site boundary
Bloxholm Wood LWS and Lincolnshire Wildlife Trust Reserve	Adjacent to north-eastern boundary
Temple Road Verges, Welbourn to Braucewell LWS	Adjacent to north-western boundary

Protected and Notable Species

- 3.1.4 The BDS returned 503 records of 144 species recorded between 2000 and 2021 within 2km of the survey area boundary. Noteworthy species include species of principal importance that are listed under Section 41 of The Natural Environment and Rural Communities (NERC) Act 2006.
- 3.1.5 Of these, 76 are flowering plants, one is a moss, one is a fungus, six are invertebrates, one is fish, one is an amphibian, 40 are birds, and 18 are mammals (of which nine are bats).
- 3.1.6 Species that are protected by law under Schedules 2 and 5 of The Conservation of Habitats and Species Regulations 2017 (as amended), Schedules 1, 2, 5 and 8 of The Wildlife and Countryside Act 1981 (as amended) or The Protection of Badgers Act 1992 that have been recorded in the search area are highlighted in the full species list is given in Appendix B. Those of relevance to the survey area and the current proposals are discussed in Sections 4.2 and 4.3.

3.2 Plants and habitats

UKHab Survey

- 3.2.1 The UKHab map is provided as Figure 2 and shows the location of the target notes referred to in the text below. A full description for each of the target notes is given in Appendix C. The following habitat types (with UKHab codes in brackets) are present on and around the survey area:
- Other neutral grassland (g3c)
 - Lowland mixed deciduous woodland (w1f)
 - Other woodland; mixed; mainly broadleaved (w1h5)
 - Line of trees (w1g6)
 - Hedgerow (priority habitat) (h2a)
 - Mixed scrub (h3h)
 - Cereal crops (c1c)
 - Built linear features (u1e)
 - Standing open water (r1) and
 - Other rivers and streams (r2b)

Other neutral grassland (g3c)

- 3.2.2 Uncultivated margins of neutral grassland approximately 0.5-1.5m wide line the perimeter of most of the fields within the Site (e.g., Target Note 1).
- 3.2.3 Larger areas are also present within the Site, particularly in the east of the Site where wide areas of neutral grassland border the arable fields (e.g. TN2).
- 3.2.4 In the south-eastern corner of the Site are two larger areas of uncultivated neutral grassland with a longer and more species-diverse sward. The area to the west of Church

View Cattery (TN3) contains a small area of mixed scrub (described below 3.2.15). The area to the east of the cattery (TN4) has several veteran trees including sycamore (*Acer pseudoplatanus*), pedunculate oak (*Quercus robur*), and sweet chestnut (*Castanea sativa*).

Lowland mixed deciduous woodland (w1f)

- 3.2.5 Off-Site but bordering the Site to the north-east is Bloxham Woods (TN5) – a Lincolnshire Wildlife Trust reserve. The woodland is dominated by ash (*Fraxinus excelsior*) and sycamore with occasional sweet chestnut and pedunculate oak.

Other woodland; mixed; mainly broadleaved (w1h5)

- 3.2.6 Within the centre of the Site is Warren Pit Plantation (TN6). A line of cypresses (*Cypressus sp.*) has been planted along the western edge, though the woodland itself is mainly comprised of sycamore and ash. The understorey consists of dense nettle (*Urtica dioica*) and bramble (*Rubus fruticosus*), with scattered hawthorn (*Crataegus monogyna*) and elder (*Sambucus nigra*).
- 3.2.7 A narrow strip of plantation woodland is also present adjacent to (but outside of) the southwest boundary of the Site (TN7), to the north of Brauncewell quarry. It is dominated by ash and sycamore with occasional pedunculate oak.
- 3.2.8 A much younger strip of plantation woodland (TN8) extends along the eastern edge of the quarry adjacent to the site boundary. It appears to have been planted within the last 20 years and consists of rows of sycamore, field maple (*Acer campestre*), hazel (*Corylus avellana*), hawthorn, and ash.
- 3.2.9 A small area of secondary woodland is present to the south of Brauncewell Cottages (TN9) outside of the site boundary that has grown on the site of Dunsby Pit. It is dominated by ash and sycamore with occasional oak and a dense understory of bramble, ivy (*Hedera helix*), and hawthorn.

Line of trees (w1g6)

- 3.2.10 An outgrown hedgerow over 5m tall lines the northern boundary of the Site along the road leading to Temple Bruer (TN10). It is predominantly comprised of hawthorn, blackthorn (*Prunus spinosa*), ash, and sycamore with dense bramble and ivy.
- 3.2.11 A second outgrown hedgerow lines the north-eastern boundary to the south of Bloxholm Wood (TN11). It is comprised of ash, field maple, hawthorn, and blackthorn with dense bramble, dog rose (*Rosa canina*), and ivy.
- 3.2.12 A line of mature beech trees lines the road leading to Brauncewell church (TN12).

Hedgerow (priority habitat) (h2a)

- 3.2.13 Hedgerows border many of the fields within the Site. They are mainly composed of hawthorn and blackthorn and appear to have been flailed within the last two years. Several of the hedgerows (e.g. TN13) contain semi-mature or mature ash, sycamore, and beech trees.

Mixed scrub (h3h)

- 3.2.14 A large patch of mixed scrub, consisting of blackthorn, hawthorn, elder, and bramble, lines the fields along the boundary of with the A15 (TN14).
- 3.2.15 The area of grassland to the west of Church View Cattery (TN3) contains an area of mixed scrub where young trees have self-seeded under power lines.

Cereal crops (c3c)

- 3.2.16 The seven fields within the Site have been planted with cereal crops.

Built linear features (u1e)

- 3.2.17 The Site is bisected by the A15. A smaller road runs along the north-western boundary towards Temple Bruer and in the south-east a small track leads towards Brauncewell Church.

Standing open water (r1)

- 3.2.18 In the south-east corner of the Site is a large pond (TN15) which is heavily shaded by numerous mature willows (*Salix sp.*) and surrounded by scrub. There were few aquatic macrophytes and the water appeared partially turbid. It is connected at the south-west corner and at the northern end by slow-flowing ditches.

Other rivers and streams (r2b)

- 3.2.19 In the south of the Site, running partially along the track leading to Brauncewell Church, is a shallow drainage ditch (TN16). It was largely dry, though it held water towards the eastern end. No aquatic plants were visible, only species typical of neutral grassland.
- 3.2.20 A second ditch ran north from the pond then turned east towards neighbouring fields (TN17). This ditch was slightly deeper and held water, with a slow flow towards the northern end. No aquatic plants were visible. The ditch is bordered by broadleaved trees including sycamore, ash, and pedunculate oak.

3.3 Protected and notable animals

- 3.3.1 Figure 1 shows the location of the target notes referred to in the text below, which show the location of particular features with suitability for protected and notable animals. A full description for each of the target notes is given in Appendix C.

Invertebrates

- 3.3.2 The BDS returned 12 records of six invertebrate species, including bean seed beetle (*Bruchus rufimanus*), common garden snail (*Cornu aspersum*) and the Section 41 species white-letter hairstreak (*Satyrrium w-album*). The white-letter hairstreak butterfly's larval food plant is elm (*Ulmus spp.*) and it breeds where elms occur in hedgerows, scrub and woodland edges (Butterfly Conservation 2023).
- 3.3.3 Within the survey area, the habitats present were considered likely to support only a common assemblage of invertebrate species, typical of hedgerows scrub, plantation woodlands, and species-poor grasslands. No obvious stands of regenerating elm

suckers¹ were noted but it is possible that elm and white letter hairstreaks persist on some of the woodland areas. However, as the solar farm scheme design will likely retain these areas it is therefore not considered that further invertebrate surveys will be required.

Fish

- 3.3.4 The BDS returned one record of European eel (*Anguilla anguilla*).
- 3.3.5 The ponds and watercourse within the survey area are small and of relatively poor quality, though the ditch within the Site connects to the River Slea. If works have the potential to adversely affect eels due to habitat loss or degradation by creating temporary or permanent barriers to dispersal, further surveys would be required to inform mitigation.

Great crested newts

- 3.3.6 The BDS revealed no records of great crested newts within 2km of the survey area boundary.
- 3.3.7 There are several areas of neutral grassland with a longer sward (e.g. TN3 and TN4) that could provide suitable terrestrial habitat for great crested newt.
- 3.3.8 One pond (TN15) is present within the Site. An additional four ponds are located to the south of Brauncewell Church, within 50m of the Site. It was not possible to survey these additional four ponds due to lack of access at the time of the survey.
- 3.3.9 The Habitat Suitability Index (HSI) assessment result for the pond within the Site is 'good' (i.e. the pond has good suitability for great crested newts). Details are provided in Table 4 below.

Table 4 HSI calculations for pond on Site

Waterbody number	P1
SI1 – Location	1
SI2 – Pond area	0.9
SI3 – Permanence	1
SI4 – Water quality	0.67
SI5 – Shade	0.6
SI6 - Waterfowl	1
SI7 – Fish	0.67
SI8 – Pond count	0.67
SI9 – Terrestrial habitat	0.8
SI10 - Macrophytes	0.6
HSI	0.76
Categorisation	Good

Reptiles

- 3.3.10 The BDS returned no records of reptiles within 2km of the survey area boundary.

¹ Mature elm trees were devastated by Dutch elm disease but elm suckers grow back from root stock until the suckers also succumb to the disease.

3.3.11 Although the Site is mostly arable and therefore mostly of poor suitability for reptiles, there are some field margins and areas of rough grassland suitable for refuge and foraging for reptiles (particularly the areas of grassland in the south-east of the Site (TN3 and TN4). Furthermore, the woodland edges and dry stone walls lining several of the fields and tracks within the Site may offer basking and hibernation opportunities.

Birds

3.3.12 The BDS returned 256 records of 40 bird species within 2 km of the survey area.

3.3.13 Ten species are listed on Annex 1 of the Birds Directive: whooper swan (*Cygnus cygnus*), red kite (*Milvus milvus*), marsh harrier (*Circus aeruginosus*), hen harrier (*Circus cyaneus*), Montagu's harrier (*Circus pygargus*), osprey (*Pandion haliaetus*), Mediterranean gull (*Larus melanocephalus*), merlin (*Falco columbarius*), peregrine (*Falco peregrinus*), and woodlark (*Lullula arborea*).

3.3.14 Fifteen species are included in Schedule 1 of the Wildlife and Countryside Act 1981 (some species are included on more than one list): whooper swan, quail (*Coturnix coturnix*), red kite, hen harrier, marsh harrier, Montagu's harrier, osprey, Mediterranean gull, barn owl (*Tyto alba*), merlin, hobby (*Falco subbuteo*), peregrine, woodlark, fieldfare (*Turdus pilaris*), and redwing (*Turdus iliacus*).

3.3.15 Sixteen are listed in Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006: grey partridge (*Perdix perdix*), hen harrier, Montagu's harrier, lapwing (*Vanellus vanellus*), curlew (*Numenius arquata*), turtle dove (*Streptopelia turtur*), woodlark, starling (*Sturnus vulgaris*), song thrush (*Turdus philomelos*), house sparrow (*Passer domesticus*), tree sparrow (*Passer montanus*), yellow wagtail (*Motacilla flava*), bullfinch (*Pyrrhula pyrrhula*), yellowhammer (*Emberiza citrinella*), reed bunting (*Emberiza schoeniclus*), and corn bunting (*Emberiza calandra*).

3.3.16 Twenty species are included on the red list of birds of conservation concern: grey partridge, hen harrier, Montagu's harrier, lapwing, curlew, Mediterranean gull, turtle dove, swift (*Apus apus*), merlin, skylark (*Alauda arvensis*), starling, fieldfare, house sparrow, tree sparrow, yellow wagtail, linnet (*Linaria cannabina*), lesser redpoll (*Acanthis cabaret*), yellow hammer, and corn bunting.

3.3.17 Ten are included on the amber list of birds of conservation concern: whooper swan, graylag goose (*Anser anser*), quail, marsh harrier, osprey, snipe (*Gallinago gallinago*), song thrush, redwing, bullfinch, and reed bunting.

3.3.18 Ten are included on the green list of birds of conservation concern: red-legged partridge (*Alectoris rufa*), pheasant (*Phasianus colchicus*), red kite, feral pigeon (*Columba livia*), collared dove (*Streptopelia decaocto*), barn owl, hobby, peregrine, woodlark, and rose-coloured starling (*Pastor roseus*).

3.3.19 The survey area contains suitable habitat for ground-nesting birds. Flocks of up to ten grey partridge were observed in fields either side of the A15. A snipe was flushed from a small area of flooded grassland in the north of the Site. Singing skylarks were also observed in several of the fields within the Site, and in neighbouring fields. Of the species identified through the BDS the arable and grassland habitats within the survey area may also support species including quail, curlew, turtle dove, yellow wagtail, and yellowhammer.

3.3.20 The woodlands and hedgerows within the Site are also likely to provide suitable breeding habitat for a range of species.

Bats

3.3.21 The BDS returned records of the following bat species within 2km of the Site:

- Three records of brown long-eared bat (*Plecotus auratus*) from Ashby de la Launde and Bloxholm Wood;
- One record of common pipistrelle (*Pipistrellus pipistrellus*) from Bloxholm Wood;
- One record of soprano pipistrelle (*Pipistrellus pygmaeus*) from Bloxholm Wood;
- One record of Nathusius's pipistrelle (*Pipistrellus nathusii*) from Bloxholm Wood;
- One record of noctule bat (*Nyctalus noctule*) from Bloxholm Wood;
- One record of barbastelle bat (*Barbastella barbastellus*) from Bloxholm Wood; and
- one record of Whiskered/Brandt's bat (*Myotis mystacinus/brandtii*) from Bloxholm Wood.

3.3.22 Six trees were identified with suitability for roosting bats, all of which are located along the track leading from the A15 to Brauncewell Church. Five were assessed as having high suitability for roosting bats due to the presence of multiple potential roost features. One was assessed as low potential as it was covered in dense ivy.

3.3.23 Most of the Site being arable is of low suitability for foraging and commuting bats. The habitat within the Site was assessed as having low suitability for bats, though the area close to Brauncewell Church has higher suitability due to the presence of old buildings and veteran trees. Throughout the remainder of the Site, the hedgerows and woodlands provide moderately suitable foraging and commuting habitat, though many of the hedgerows are in poor condition and do not extend along the entirety of the field boundaries.

Water voles and otters

3.3.24 The BDS returned one record of water vole at Springwell Brook and no records of otter within 2 km of the survey area.

3.3.25 The ditch within the Site provides sub-optimal habitat for water voles. The ditch and pond are likely to be too small for otter, though they may be used by foraging and commuting individuals. There are no larger streams or rivers, though the ditch within the Site connects to the River Slea which may be used by otter.

Badgers

3.3.26 The BDS returned no records of badger within 2 km of the survey area.

3.3.27 A badger sett with at least four holes was identified within the Site. There were no additional signs of presence e.g. prints or latrines, though the entrances were clear of debris, potentially indicating occasional use. This was considered likely to be a subsidiary sett.

3.3.28 In additional, there are several well-worn mammal paths throughout the Site. However, no further signs of badger activity were found.

Other species

3.3.29 The BDS returned nine records of brown hare within 2 km of the survey area. Five individuals were seen foraging in fields close to Bloxholm Woods.

3.3.30 The BDS returned recorded of the following species: American mink (*Neovison vison*); Chinese muntjac (*Muntiacus reevesi*); grey squirrel (*Sciurus carolinensis*); European rabbit (*Oryctolagus cuniculus*); Fallow deer (*Dama dama*); and European hedgehog (*Erinaceus europaeus*).

3.3.31 The field survey did not record the presence of hedgehog, or of any other animals of nature conservation importance; however, habitats within the survey area, including log piles, scrub, woodland, and grassland were considered to be suitable for hedgehog.

3.3.32 Roe deer (*Capreolus capreolus*) and brown hare were identified in the fields to the east of the A15. A peak count of 15 roe deer and eight brown hare were recorded within the Site to the east of Warren Pit Plantation.

4.0 EVALUATION AND RECOMMENDATIONS

Statutory designated sites

- 4.1.1 There are no international statutory designated sites within 10 km of the survey area. The closest international statutory designated site is 'The Wash' Ramsar/SPA/SAC, approximately 3km from the site. The Wash is designated for wading birds and estuarine habitats. However, being c. 3km from the Site its habitats and bird populations are not expected to be affected by works due to distance and nature of works.
- 4.1.2 There are no nationally protected statutory designated nature conservation sites within 2km and the survey area does not intersect with any SSSI Impact Risk Zones.

Non-statutory designated sites

- 4.1.3 There is one non-statutory designated local wildlife site (LWS) within the Site: 'A15, Slate House Farm to Dunsby Pit Plantation LWS' – which are calcareous grassland roadside verges alongside the A15. The only other sites within 2km are two other LWS sites which are adjacent to the site boundaries, one of which is Bloxham Woods LWS and the other is Temple Road verges LWS (calcareous grassland).
- 4.1.4 Measures should be taken to protect these Local Wildlife Sites from direct damage or from pollution, such as both chemical run-off and dust deposition. In particular, construction traffic may result in dust and pollution impacts to the road verge sites. Impacts of these sites will be assessed within the Environmental statement's implementation of a Construction and Environment Management Plan (CEMP) will detail measures to be taken to protect these sites.
- 4.1.5 These sites could be enhanced through landscaping where the development site runs adjacent to them as part of achieving biodiversity net gain within the development site.

Habitats and plants

- 4.1.6 The Site comprises arable fields of low species-richness, with most plant species found within the site boundary being common and/or widespread.
- 4.1.7 The BAP habitats present within the survey area – namely hedgerows and hedgerow trees, ponds and drains, arable field margins and lowland mixed deciduous woodland - are also of low to moderate species-richness with the majority of plant species present being common and/or widespread. However, these habitats should be retained as far as is possible, protected through the implementation of a CEMP, and enhanced where possible through landscaping.
- 4.1.8 The solar farm design will likely enable the retention of the hedgerows, woodland and individual trees.
- 4.1.9 No invasive species were recorded during the survey. An additional survey should be carried out prior to commencement of construction, with the results informing mitigation measures to be implemented as part of the CEMP.

Protected and other notable species

- 4.1.10 Most of the Site being arable is sub-optimal habitat for reptiles. Woodland, scrub, and taller sward grassland and field margins within the survey area offer more suitable habitat for both common amphibians and reptiles. The areas of taller sward, tussocky, neutral grassland are thought to offer the most suitable areas for foraging, commuting, and basking, whilst wooded and scrub areas offer suitable refuge and hibernation habitat. It is not anticipated that high suitability reptile habitat such as woodlands or large areas of rough grassland will be affected by works. For small areas of suitable reptile habitat, such as field margins or field corners of tussocky grassland then precautionary working methods should be employed to avoid harm, implemented as part of the CEMP.
- 4.1.11 There are five ponds within 500 m of the site boundary, one of which was on Site and four of which were just outside (within 50m) of the site boundary which could not be surveyed. To determine presence/likely absence of great crested newts from these ponds, eDNA surveys will be carried out to determine the presence/absence of great crested newt from these ponds.
- 4.1.12 The woodland, hedgerows, and scrub within the survey area provide suitable habitat for birds, whilst the grassland and arable fields provide suitable habitat for ground nesting species including skylark and lapwing. To identify key nesting areas, particularly for notable bird species, breeding bird species should be carried out between late March and mid-July. Works should avoid the breeding bird season (March to August inclusive) where possible.
- 4.1.13 There were six trees within or adjacent to the Site which offered moderate to high suitability for roosting bats. It is likely that the solar farm design will enable retention of these trees.
- 4.1.14 Most of the Site, being arable, offers low suitability for foraging and commuting bats. Hedgerows, woodlands, watercourses and species-rich grasslands are high suitability habitat for foraging and commuting bats, although it is not expected that these habitats will be significantly affected by the development. To inform bat usage of the Site and to determine any appropriate mitigation in case any suitable habitats may be directly or indirectly affected by the development, bat activity surveys should be carried out by deploying static bat detectors for at least five days per season (i.e., Spring April/May, Summer June-August and Autumn September/October). Bat activity surveys of the wider area were carried out in August and October last year (2022), with another survey planned in April 2023. Surveys last year generally found relatively low bat usage of the wider area by mostly common species, although a small number of barbastelle bat passes (a priority species) were recorded.
- 4.1.15 The ditches within the survey area had little water at time of survey, however they connect to other ditches and watercourses in the wider area and may offer suitable, albeit low quality, habitat for water vole and may potentially be used at night by commuting otter. Should any habitats along or near any watercourses require removal, or be subject to increases in light levels then further consideration for water vole and otter may be required. The design of the solar farm will likely ensure a buffer of at least 5 m from watercourse edges pollution. If this is not possible, further survey for water vole may be required, in particular for any cable crossing routes affecting ditch habitat. Water vole surveys are undertaken between late April and early October. Two surveys need to be

undertaken at least two months apart, following guidance in the Water Vole Mitigation Handbook (Dean et al. 2016).

- 4.1.16 The survey area offers suitable habitat for badgers, including for sett building, and a sett has been identified with the survey area boundary. Although the sett identified did not appear to be recently used it may be used infrequently or may become active again. It is recommended that a pre-construction survey is undertaken within 6 months of the commencement of the development to identify any new badger activity on and within 30 m of site.
- 4.1.17 The survey area provides suitable habitat for brown hare and hedgehog, and potential impacts on such species will be considered within the Environmental Statement.

Summary of further surveys required

4.1.18 The following surveys are likely to be required based on the results of this PEA:

- Breeding bird surveys – at least five visits, to be carried out between late-March and mid-July;
- Bat activity surveys – deployment of static bat detectors in suitable locations throughout the survey area for a period of at least five days per season (in spring, summer and autumn). If no impact to bats is anticipated i.e. bat commuting or foraging habitat will not be affected and no lighting is planned, then the survey effort on Site could be reviewed;
- eDNA survey of the pond on Site and the four ponds adjacent to the site (within 50-100m) (sampling window is between mid April and end of June).
- A pre-construction update badger survey within 6 months of start of works to identify any new badger activity.

4.1.19 The following surveys may be required depending on works impact:

- It is anticipated that high suitability reptile habitat will not be significantly affected by works. However, if any areas of suitable grassland cannot be avoided in the design, reptile surveys may be required;
- Roosting bat surveys – climbing or activity surveys of any trees suitable for roosting bats that will be impacted by the proposed development;
- Water vole surveys of the ditches and streams within the survey area if they will be affected by works or if a 10 m buffer zone cannot be implemented in the design;
- Targeted hedgerow surveys if any sections of hedgerows need to be removed;

Enhancements

A detailed biodiversity design is being produced for the Site. The intention is that the scheme will be biodiversity led with the biodiversity design informing the scheme design. The biodiversity design will include habitat creation and enhancement proposals ensuring the scheme will deliver a significant net gain in biodiversity.

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FIGURES

Figure 1 Site Location Plan
Figure 2 Habitat Map
Figure 3 Pond and GLTA Map



Legend:
 Site Boundary

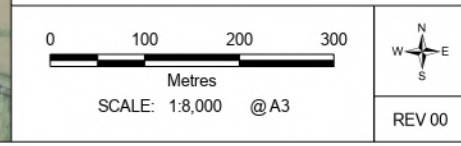


Rev	Date	Description	Drn	Chk	App
00	22/02/2023	2483765	RS	RG	FL

Springwell Solar Farm - Brauncewell



TITLE: Figure 1:
 Site Location Plan

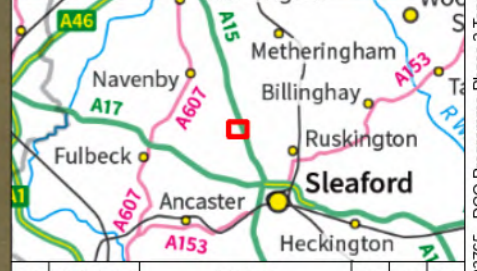




Legend:

- Site Boundary
- UKHab Habitats**
- Cereal Crops
- Neutral Grassland
- Built Linear Features
- Other Woodland, Broadleaved
- Other Woodland, Mixed, Mainly Broadleaved
- Built Linear Feature
- Hedgerow (Priority Habitat)
- Line of Trees
- Target Note
- Secondary Code
- Bat Trees GLTA Point

Secondary Code	Description
11	Scattered Trees
16	Tall Herb
19	Ponds (Priority Habitat)
36	Plantation
37	Semi-Natural Woodland
38	Secondary Woodland
49	Veteran Trees
67	Dry Stone Wall
80	Unmanaged
160	Sward Type Mosaic
10	Scattered Scrub

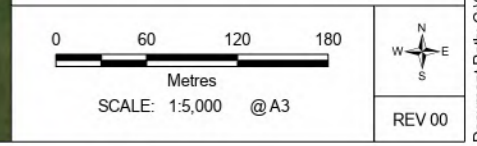


Rev	Date	Description	Drn	Chk	App
00	22/02/2023	2483765	RS	RG	LP

Springwell Solar Farm - Brauncewell



TITLE: Figure 2:
UKHab Habitat Survey
Page 1 of 2



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APPENDIX A – NATURE CONSERVATION LEGISLATION AND POLICY

International Legislation

The following international conventions and directives apply to biodiversity protection in the UK. Post-‘Brexit’, even though European Union (EU) directives no longer directly apply to the UK, the provisions therein are enshrined in both domestic legislation and international agreements. Legislation has been enacted to ensure the regulations derived from these remain in force².

The Convention on Biological Diversity 1992 *et seq.*

This multilateral treaty (<https://www.cbd.int/doc/legal/cbd-en.pdf>), signed by 150 government leaders at the 1992 Rio Earth Summit, has three main goals, of which one is the conservation of biological diversity. Article 6 requires countries to develop national biodiversity strategies, plans or programmes. In response, the UK developed the UK Biodiversity Action Plan (BAP) 1994 (<https://jncc.gov.uk/our-work/uk-bap/>) as well as county-specific BAPs. Subsequent to this, parties of the convention agreed the supplementary Nagoya Protocol 2010 (available at <https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf>), adopting the Strategic Plan for Biodiversity 2011-2020. The purpose of this Strategic Plan was to provide a framework for establishing national and regional biodiversity targets (<https://www.cbd.int/doc/strategic-plan/2011-2020/Aichi-Targets-EN.pdf>).

Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (Birds Directive) 2009

<https://www.legislation.gov.uk/eudr/2009/147>

The Birds Directive 2009 relates to the conservation of all species of naturally occurring birds in their wild state in the territory of the EU Member States (MSs) to which the treaty applies. Under the Birds Directive, the most suitable areas of conservation of the Annex I species are to be designated as Special Protection Areas (SPAs), as part of the European Natura 2000 network. Post Brexit, SPAs are no longer considered part of Natura 2000 and are instead components of the UK’s ‘national site network’, but their highly protected status is unchanged. Maintaining a coherent network of protected sites with overarching conservation objectives is still required in order to fulfil the commitment made by government to maintain environmental protections and continue to meet the UK’s international legal obligations.

Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) 1992

<https://www.legislation.gov.uk/eudr/1992/43>

The Habitats Directive 1992 requires EU MSs to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of community interest, which are listed

² Further information relating to England and Wales can be found here: <https://www.gov.uk/government/publications/changes-to-the-habitats-regulations-2017/changes-to-the-habitats-regulations-2017>. A similar exercise has been undertaken in Scotland and Northern Ireland.

under Annex I, II, IV and/or V. Species listed under Annex IV are known as 'European Protected Species' (EPS), and have retained their protected status in UK domestic legislation post-Brexit.

Under the Habitats Directive, EU Member States are required to contribute to the Natura 2000 network through the designation of Special Areas of Conservation (SACs) for natural habitat types listed in Annex I and habitats of species listed in Annex II. Post Brexit, SACs are no longer considered part of the European Natura 2000 network and are instead components of the UK's 'national site network', but their highly protected status is unchanged.

The Convention on Wetlands of International Importance Especially as Waterfowl Habitat 1971: the Ramsar Convention

Accessible via <https://jncc.gov.uk/our-work/ramsar-convention/>

The Ramsar Convention is an intergovernmental treaty focused on the conservation and sustainable use of wetland, primarily as habitats for water birds. Under the convention, each ratified country is required to identify and designate sites (Ramsar sites) that meet the criteria for identifying a wetland of international importance, i.e. containing representative, rare or unique wetland types. In addition, the convention promotes international co-operation to promote the wise use of all wetlands and their resources.

Habitats Regulations Assessment (HRA): a note

There is a requirement under the EU nature directives, and enshrined in country-specific domestic legislation³ (see below), to undertake a screening exercise to determine whether any sites that form part of the 'national site network' (formerly Natura 2000) are likely to be significantly affected by any proposal (project or plan). The assessment must consider the proposals alone and also in combination with other plans and projects, if they result from activities that are not directly connected with, or necessary to, the management of the designated sites. If significant effects are likely, an Appropriate Assessment (AA) will need to be carried out. The screening, any AA, and any subsequent assessment, are collectively known as a Habitats Regulations Assessment (HRA). The HRA needs to take into account each of the 'Qualifying Features' (habitats or species) that justified the site being designated. Ramsar sites are treated in the same way as SACs and SPAs in HRAs, as are sites which have not been fully adopted i.e. candidate SACs (cSACs) and potential SPAs (pSPAs).

The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979

Accessible via: <https://jncc.gov.uk/our-work/the-convention-on-the-conservation-of-migratory-species-of-wild-animals/#convention-summary>

The Bonn Convention was adopted in 1979 and came into force in 1985. Contracting Parties work together to conserve migratory species and their habitats by providing strict protection for endangered migratory species (listed in Appendix I of the Convention), concluding multilateral agreements for the conservation and management of migratory species which require or would benefit from international cooperation (listed in Appendix II), and by undertaking cooperative

³ In England and Wales: the Conservation of Habitats and Species Regulations 2017 (as amended).
In Scotland: the Conservation (Natural Habitats &c.) Regulations 1994 (as amended).
In Northern Ireland: the Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended).
In the UK offshore area: the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended).

research activities. The UK Government ratified the Bonn Convention in 1985. The current legally-binding Agreements under the Convention include EUROBATS⁴.

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1979

<https://www.coe.int/en/web/bern-convention>

The principal aims of the Bern Convention 1979 are to ensure the conservation and protection of wild plant and animal species and their natural habitats (listed in Appendices I and II of the Convention), to increase cooperation between contracting parties, and to regulate the exploitation of those species (including migratory species) listed in Appendix III. To this end, the Bern Convention imposes legal obligations on contracting parties, protecting over 500 wild plant species and more than 1,000 wild animal species. The UK Government ratified the Bern Convention in 1982.

National Legislation

The following pieces of domestic legislation apply to biodiversity protection in the UK.

The Wildlife and Countryside Act (WCA) 1981

<https://www.legislation.gov.uk/ukpga/1981/69>

The Wildlife and Countryside Act 1981 (as amended) is the primary piece of legislation relating to nature conservation in the UK, though it has been adapted in different ways in the devolved administrations. It was initially enacted to implement the Bern Convention, Bonn Convention and the Birds Directive (described above).

The act is supplemented by provisions in the Countryside and Rights of Way (CRoW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006, and extended in Scotland by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2011). Its equivalent in Northern Ireland is the Wildlife (Northern Ireland) Order 1985 (as amended and similarly extended). In addition to the Habitat Regulations (described below), the WCA provides protection for species listed in Schedules 1 (birds), 5 (other animals) and 8 (plants) of the Act. It provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) in England and Wales⁵. It also sets out, in other schedules, important and invasive species which are legally protected or require management.

All species of bird are protected under the WCA. The legislation makes it an offence to intentionally:

- a) kill, injure or take any wild bird;
- b) take, damage, or destroy the nest of any wild bird while that nest is in use or being built; or
- c) take or destroy an egg of any wild bird.

Those species of birds listed on Schedule 1 of the WCA are afforded additional protection, which deems it an offence to intentionally or recklessly:

⁴ More information available at <https://jncc.gov.uk/our-work/agreement-on-the-conservation-of-populations-of-european-bats-eurobats>

⁵ Duty replaced by the Nature Conservation (Scotland) Act 2004 (as amended) and the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 (as amended) in those countries.

- a) disturb any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or
- b) disturb dependent young of such a bird.

Under Section 9 of the WCA, for animals listed on Schedule 5, it is an offence in England and Wales to intentionally or recklessly:

- kill, injure or take any wild animal listed on Schedule 5*;
- possess or control any live or dead those wild animals or anything derived from it*;
- damage or destroy any structure or place which wild animals listed on Schedule 5 uses for shelter or protection*;
- disturb any such animal while it is occupying a structure or place of shelter or protection;
- obstruct access to any structure or place used by any such animal for shelter or protection; and
- sell, offer or expose for sale, or have in their possession or transports for the purpose of sale, any live or dead wild animal listed on Schedule 5 or any part of, or anything derived from such an animal.

As noted above, there are minor differences between the offences in England and Wales outlined above, and those in Scotland / Northern Ireland. The three clauses marked with asterisks do not apply to EPS in England and Wales, as these offences are included in the ‘Habitats Regulations’ (see below). In addition, the Wildlife and Countryside Act 1981 is no longer relevant to EPS in Scotland or Northern Ireland, which instead are afforded full protection by the ‘Habitats Regulations’ (see below).

In addition to EPS, species commonly found on development sites include water voles (*Arvicola amphibius*) and widespread species of reptiles: common lizard (*Zootoca vivipara*); slow-worm (*Anguis fragilis*); grass snake (*Natrix helvetica*); and adder (*Vipera berus*). These four reptile species receive partial protection, which prevents the intentional or deliberate killing and injuring of reptiles or offering them for sale.

Section 14(2)⁶ states that it is an offence to plant or otherwise cause to grow any plant in the wild at a place outside its native range.

Section 16(i) of the Act makes provision for derogation licences to be issued “*for the purposes of preserving public health or public ... safety*”. For confirmation of this, it would be appropriate to consult the relevant statutory nature conservation body (SNCB)⁷.

Until recently, there has been no provision within the Act for derogation licences to be issued for the purposes of development, although Section 10 provides a defence in cases that may be considered to be: “*the incidental result of a lawful operation and could not reasonably have been avoided*” if certain conditions are met.

As a result of the Environment Act 2021, the introduction of the ‘overriding public interest’ (‘OPI’) test was added to the licensing purposes in the WCA, from October 2022, though this only applies in England.

⁶ In Scotland, as amended by Section 14 of the Wildlife and Natural Environment (Scotland) Act 2011.

⁷ SNCBs are - in England: Natural England; in Wales: Natural Resources Wales; in Scotland: NatureScot; in Northern Ireland: Department of Agriculture, Environment and Rural Affairs (DAERA).

The Conservation of Habitats and Species Regulations (Habitat Regulations) 2017

<https://www.legislation.gov.uk/ukxi/2017/1012> England and Wales

The Habitats Regulations 2017 consolidated the various amendments made to the 1994 Habitat Regulations, which were developed to implement the Birds Directive and Habitats Directive (see above) at a national level, though this consolidation only applies in England and Wales. As noted above, in Scotland and in Northern Ireland, the original versions of the Regulations in each region have been retained and amended to include protections for EPS that were initially provided under the WCA (or its equivalent).

The Regulations (as amended) provide for the designation and protection of the national site network (formerly 'Natura 2000 sites'), the adaptation of planning and other controls for those sites, and the protection of EPS (listed on Schedules 2 and 5).

The 2017 Regulations (England and Wales, Reg. 43) deems it an offence to:

- a) deliberately capture, injure or kill a wild animal of a EPS,
- b) deliberately disturb wild animals of any such species,
- c) deliberately take or destroy the eggs of such an animal, or
- d) damage or destroy a breeding site or resting place of such an animal.

For the purposes of paragraph (b), disturbance of animals includes in particular any disturbance which is likely to:

- a) impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- b) to affect significantly the local distribution or abundance of the species to which they belong.

There are also restrictions on transport, possession and sale.

It is possible to obtain a derogation licence from the relevant SNCB⁷ to permit activities which would otherwise contravene the regulations above, including for development purposes, when certain conditions are met. Failure to satisfy the Regulations and obtain a licence where required could result in prosecution and lead to fines and possible imprisonment.

To meet the requirements in Regulation 63(1) [48(1) of the 1994 Regulations in Scotland], an HRA is required (see note in previous section).

Currently (2021), all EPS are also listed on Schedule 5 of the WCA (outlined above), as it applies in England and Wales, though only some clauses of the WCA apply (Section 9 4(b), (c) and 5). EPS often encountered on development sites include GCN (*Triturus cristatus*), all species of bats, dormice (*Muscardinus avellanarius*) and otters (*Lutra lutra*).

Countryside and Rights of Way Act 2000

<https://www.legislation.gov.uk/ukpga/2000/37>

The Countryside and Rights of Way (CRoW) Act 2000 provides for public access on foot to certain land types, amends the law for public rights of way, increases protection for SSSIs, and strengthens wildlife enforcement legislation. It applies only in England and Wales.

The Natural Environment and Rural Communities (NERC) Act 2006

<https://www.legislation.gov.uk/ukpga/2006/16>

The Natural Environment and Rural Communities (NERC) Act 2006, Section 40 requires that any public body or statutory undertaker in England must have regard to the purpose of conservation of biological diversity in a manner that is consistent with the exercise of their normal functions. This may include enhancing, restoring or protecting a population or a habitat. The intention is to help ensure that biodiversity becomes an integral consideration in the development of policies, and that decisions of public bodies work with the grain of nature and not against it.

As part of this duty, statutory undertakers must have regard to the list of habitats and species which are of principal importance for the purpose of maintaining and enhancing biodiversity. For England, the duty to compile such a list is captured under Section 41 of the NERC Act. The lists for England are accessible online via the National Archive⁸; for Wales via <https://www.biodiversitywales.org.uk/>.

The Hedgerows Regulations 1997

<https://www.legislation.gov.uk/uksi/1997/1160/made>

The Hedgerows Regulations 1997 provide protection for 'important' hedgerows for which replanting is not a substitute. The 'importance' of a hedgerow depends upon several archaeological, wildlife and landscape criteria (which are outlined in the Regulations). The regulations deem it an offence to remove an 'important hedgerow' without prior notification to the relevant local planning authority.

Protection of Badgers Act 1992

<https://www.legislation.gov.uk/ukpga/1992/51>

Badgers and their setts are protected under the Protection of Badgers Act 1992 (England, Wales and Scotland). The key part of this legislation in relation to the proposed development are in Section 3, which deems it an offence to:

- a) damage a badger sett or any part of it;
- b) destroy a badger sett;
- c) obstruct access to, or any entrance of, a badger sett;
- d) disturb a badger when it is occupying a badger sett,
- e) intend to do any of those things or be reckless as to whether those actions would have any of the consequences listed above.

Derogation licences may be obtained from the relevant SNCB⁷ under Section 10 of the Act for the purpose of development, to permit activities which would otherwise be unlawful.

Note: there are additional provisions relating to badgers under the WCA Section 11 (Prohibition of certain methods of killing or taking wild animals).

⁸

<https://webarchive.nationalarchives.gov.uk/ukgwa/20140712055944/http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx>

The Wild Mammals (Protection) Act 1996

<https://www.legislation.gov.uk/ukpga/1996/3>

All wild mammals are protected by The Wild Mammals (Protection) Act 1996 (as amended). This makes it an offence to mutilate, kick, beat, nail, or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal.

Invasive Alien Species (Enforcement and Permitting) Order 2019

(<https://www.legislation.gov.uk/uksi/2019/527/contents/made>)

The Invasive Alien Species (Enforcement and Permitting) Order applies principally in England and Wales and the UK's offshore marine area, but also controls imports and exports from the UK (including Scotland and Northern Ireland). It lists species of concern which cannot be imported, kept, bred/grown, transported, sold, used, allowed to reproduce, or released into the environment. This Order replaces some elements relating to invasive species in the Wildlife and Countryside Act 1981 (as amended).

National, regional and local policy and guidance of relevance

Planning policy relating to ecology and nature conservation is set out below.

National Planning Policy Framework 2021

Access via: <https://www.gov.uk/government/publications/national-planning-policy-framework-2>

The National Planning Policy Framework (NPPF) sets out the Government's planning policy in England at the national level. It does not contain specific policies for nationally significant infrastructure projects, which are determined in accordance with the decision-making framework in the Act and relevant National Policy Statements for major infrastructure, as well as any other matters that are relevant (which may include the NPPF). Section 15 (paragraphs 174-188) of the NPPF specifies the requirements for conserving and enhancing the natural environment through the planning and development process to minimise impacts on habitats and biodiversity.

Planning Practice Guidance

Accessed via: <https://www.gov.uk/government/collections/planning-practice-guidance>

The Planning Practice Guidance is a web-resource to support the NPPF, including guidance for Environmental Impact Assessments (<https://www.gov.uk/guidance/environmental-impact-assessment>) and the Natural Environment (<https://www.gov.uk/guidance/natural-environment>). The guidance for the Natural Environment explains key issues in implementing the NPPF to protect and enhance the natural environment, including local requirements. The guidance outlines what evidence needs to be taken into account in preparing planning applications to identify and map local ecological networks. It also outlines how biodiversity can be taken into account in preparing a planning application.

Government's 25-Year Environment Plan 2018

Accessed via: <https://www.gov.uk/government/publications/25-year-environment-plan>

The Government's 25-Year Environment Plan 2018 sets out how the UK Government intends to improve the natural health of the UK through improving land, air and water quality, as well as setting out how the effects of climate change will be tackled. The plan promotes the creation or

restoration of wildlife-rich habitat outside the protected site network and seeks to recover threatened, iconic or economically important species of animals, plants and fungi, and where possible to prevent human induced extinction or loss of known threatened species in England. The plan sets out a number of goals and corresponding policies that look at managing land sustainably, improving and enhancing landscapes and biodiversity for both marine and terrestrial environments, improving resource efficiency and reducing waste and pollution, whilst also examining the UK's contribution to improving the global environment.

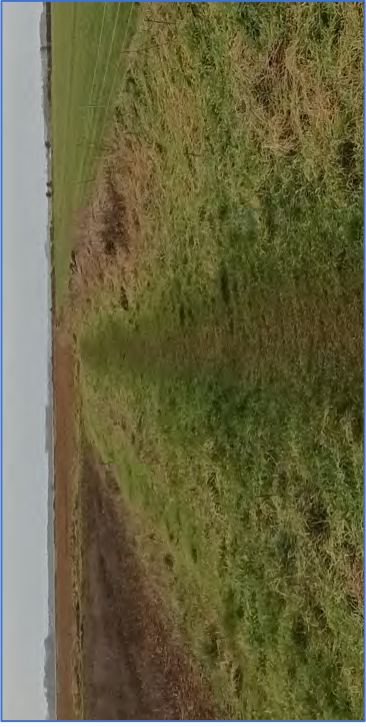

APPENDIX B – NOTEWORTHY SPECIES RECORDS



Table 6 displays noteworthy species records that are located within 2 km of the site boundary. These species records were obtained from Greater Lincolnshire Nature Partnership. The scientific and common names for species are given as well as their level of designation. If a species is not included in the table below it does not necessarily mean the species is absent from the search area, but that data-holding organizations do not have records of it in these locations.



Latin Name	Common Name	Designation	Most Recent	Within 100m
Birds				
<i>Anser anser</i>	Greylag Goose	WCA1.2, Amber	2021	
<i>Circus aeruginosus</i>	Marsh Harrier	WCA1.1, Amber	2012	
<i>Circus cyaneus</i>	Hen Harrier	WCA1.1, S41, Red, GB RDB(VU)	2011	
<i>Circus pygargus</i>	Montagu's Harrier	WCA1.1, Red, GB RDB(CR)	2008	
<i>Coturnix coturnix</i>	Quail	WCA1.1, Amber	2020	
<i>Cygnus cygnus</i>	Whooper Swan	WCA1.1, Amber, GB RDB(EN)	2013	
<i>Falco columbarius</i>	Merlin	WCA1.1, Red, GB RDB(EN)	2019	
<i>Falco peregrinus</i>	Peregrine	WCA1.1	2019	
<i>Falco subbuteo</i>	Hobby	WCA1.1	2018	
<i>Fringilla montifringilla</i>	Brambling	WCA1.1	2003	
<i>Ichthyaetus melanocephalus</i>	Mediterranean Gull	WCA1.1, Amber	2009	
<i>Lullula arborea</i>	Woodlark	WCA1.1, S41, GB RDB(VU)	2014	
<i>Milvus milvus</i>	Red Kite	WCA1.1	2021	<input checked="" type="checkbox"/>
<i>Pandion haliaetus</i>	Osprey	WCA1.1, Amber	2014	
<i>Turdus iliacus</i>	Redwing	WCA1.1, Amber, GB RDB(CR)	2021	
<i>Turdus pilaris</i>	Fieldfare	WCA1.1, Red, GB RDB(CR)	2019	
<i>Tyto alba</i>	Barn Owl	WCA1.1	2003	
Fungus				
<i>Battarrea phalloides</i>	Sandy Stiltball	WCA8, S41	2020	
Mammals				
<i>Arvicola amphibius</i>	European Water Vole	WCA5, S41, GB RDB(EN)	2014	
<i>Barbastella barbastellus</i>	Western Barbastelle	EPS(Sch2), WCA5, S41, GB RDB(VU)	2015	
<i>Chiroptera</i>	Bat	EPS(Sch2)	2020	
<i>Myotis daubentonii</i>	Daubenton's Bat	EPS(Sch2), WCA5	2015	



Latin Name	Common Name	Designation	Most Recent	Within 100m
<i>Myotis mystacinus/brandtii</i>	Whiskered/Brandt's Bat	EPS(Sch2), WCA5	2015	
<i>Nyctalus noctula</i>	Noctule Bat	EPS(Sch2), WCA5, S41	2015	
<i>Pipistrellus nathusii</i>	Nathusius's Pipistrelle	EPS(Sch2), WCA5	2015	
<i>Pipistrellus pipistrellus sensu stricto</i>	Common Pipistrelle	EPS(Sch2), WCA5	2015	
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle	EPS(Sch2), WCA5, S41	2015	
<i>Plecotus auritus</i>	Brown Long-eared Bat	EPS(Sch2), WCA5, S41	2015	



APPENDIX C – TARGET NOTES



Target Note	Description	Photograph
Target Note 1	<p>Uncultivated margins of neutral grassland approximately 0.5-1.5m wide line the perimeter of most of the fields within the Site. These areas typically have a longer, tussocky sward. The species assemblage varies in term of herb species but broadly comprise grass species including cock's-foot (<i>Dactylis glomerata</i>), false oat grass (<i>Arrhenatherum elatius</i>), red fescue (<i>Festuca rubra</i>), perennial rye grass (<i>Anisantha sterilis</i>), rough meadow-grass (<i>Anisantha sterilis</i>), and Yorkshire-fog (<i>Holcus lanatus</i>). Herb species included shepherd's purse (<i>Capsella bursa-pastoris</i>), dandelion (<i>Taraxacum officinale agg.</i>), cow parsley (<i>Anthriscus sylvestris</i>), ribwort plantain (<i>Plantago lanceolata</i>), yarrow (<i>Achillea millefolium</i>), nettle (<i>Urtica dioica</i>), cleavers (<i>Galium aparine</i>), lesser celandine (<i>Ficaria verna</i>), white clover (<i>Trifolium repens</i>), and daisy (<i>Bellis perennis</i>).</p>	
Target Note 2	<p>A wide area of neutral grassland margin between a hedgerow and arable field. The sward was short and broadly comprised perennial rye grass, annual meadow grass, cock's foot, Yorkshire fog, and red fescue. Herb species included ribwort plantain, cow parsley, yarrow, and white clover.</p>	



Target Note	Description	Photograph
<p>Target Note 3</p>	<p>Area to the west of Church View cattery. This area has a longer, tussocky sward with young self-set trees at the centre. Grass species present included cock's foot, red fescue, barren brome (<i>Bromus sterilis</i>), perennial rye grass, and Yorkshire fog. Herb species included lesser celandine, yarrow, and cow parsley.</p>	
<p>Target Note 4</p>	<p>The area to the east of the cattery (TN4) contains a similar species assemblage as TN3 with several veteran trees including sycamore, pedunculate oak, and sweet chestnut.</p>	



Target Note	Description	Photograph
Target Note 5	<p>Bloxholm Woods is adjacent to the Site in the north-east corner. The wood is a Lincolnshire Wildlife Trust reserve. It is dominated by ash and sycamore with occasional horse chestnut and pedunculate oak.</p>	
Target Note 6	<p>Warren Pit Plantation is located along the northern boundary of the Site. A line of cypresses has been planted along the western edge though the wood is mainly comprised of sycamore and ash. The understorey consists of dense nettle and bramble with scattered hawthorn and elder.</p>	



Target Note	Description	Photograph
<p>Target Note 7</p>	<p>A narrow strip of plantation woodland is also present towards the southwest of the Site to the north of Brauncewell quarry. It is dominated by ash and sycamore with occasional pedunculate oak and a sparse understorey of ivy and nettle.</p>	
<p>Target Note 8</p>	<p>A much younger strip of plantation woodland extends along the eastern edge of the quarry. It appears to have been planted within the last 20 years and consists of rows of sycamore, field maple, hazel, hawthorn, and ash.</p>	

Target Note	Description	Photograph
<p>Target Note 9</p>	<p>A small area of secondary woodland is present to the south of Brauncewell Cottages that has grown on the site of Dunsby Pit. It is dominated by ash and sycamore with occasional oak and a dense understorey of bramble, ivy, and hawthorn.</p>	
<p>Target Note 10</p>	<p>The area of grassland to the west of the cattery (TN3) contains a small area of young self-set trees, with species including ash, sycamore, and pedunculate oak. Grass at the base of the trees is long and tussocky with scattered areas of ivy and bramble scrub.</p>	

Target Note	Description	Photograph
<p>Target Note 11</p>	<p>An outgrown hedgerow over 5m tall lines the northern boundary of the Site along the road leading to Temple Bruer. It is predominantly comprised of hawthorn, blackthorn, ash, and sycamore with dense bramble and ivy.</p>	
<p>Target Note 12</p>	<p>An outgrown hedgerow over 4m tall lining the north-eastern boundary to the south of Bloxholm Wood. It is comprised of ash, field maple, hawthorn, and blackthorn with dense bramble, dog rose, and ivy.</p>	

Target Note	Description	Photograph
Target Note 13	A line of mature beech trees along the road leading to Brauncewell church	
Target Note 14	Hawthorn and blackthorn hedgerow along the track leading towards Brauncewell Church, containing semi-mature and mature ash, sycamore, and beech trees.	

		Photograph	
Target Note	Description		
Target Note 15	A large patch of mixed scrub, consisting of blackthorn, hawthorn, elder, and bramble, lines on the fields along the boundary of with the A15.		
Target Note 16	A large pond in the south-east of the Site which is heavily shaded by numerous mature willows and surrounded by scrub. There were few macrophytes and the water appeared partially turbid. It is connected at the south-west corner and at the northern end by slow-flowing ditches.		

Target Note	Description	Photograph
<p>Target Note 17</p>	<p>Ditch running from the western boundary of the cattery in the south-east of the Site towards the pond (TN16). It was largely dry, though it held water towards the eastern end. No aquatic plants were visible.</p>	
<p>Target Note 18</p>	<p>A ditch running north from the pond then flowing east towards the adjacent field. Slightly deeper than TN17 and held water, with a slow flow towards the northern end. No aquatic plants were visible. The ditch was bordered by broadleaved trees including sycamore, ash, and pedunculate oak.</p>	

APPENDIX D - LOCAL WILDLIFE SITES CITATIONS

A15, Slate House Farm to Dunsby Pit Plantation



© Crown Copyright and Database Rights (2013) Ordnance Survey (100025370)

Grid ref: TF030542 – TF037520
Length: 2.4 km

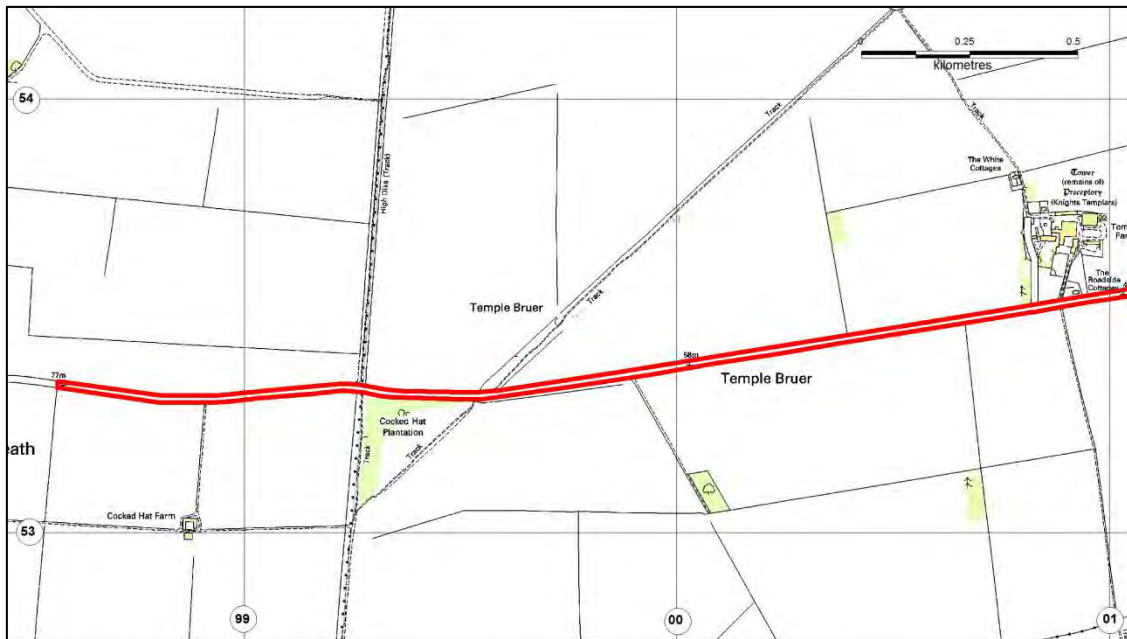
Survey: 2011/12
Surveyor: LotV

Main habitat: Calcareous grassland

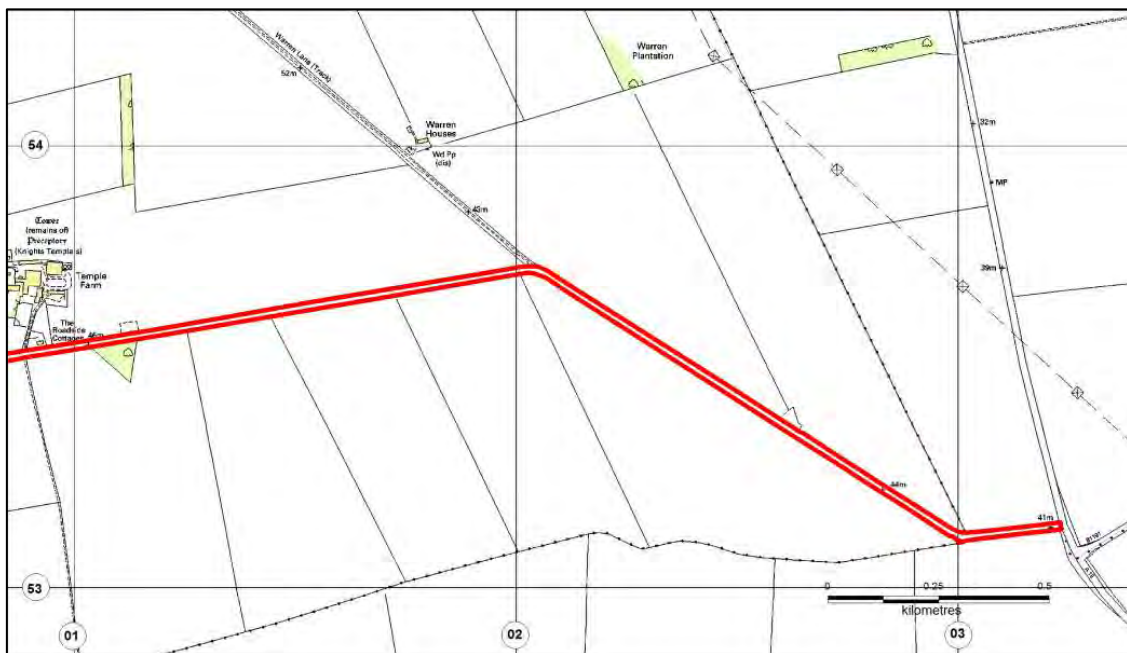
This site was surveyed as part of the Lincolnshire Wildlife Trust's Life on the Verge project.

Criteria passed: CG1, Mos2
Selected as a Local Wildlife Site: 18 March 2013

Temple Road Verges, Welbourn to Brauncewell



OS copyright No. AL100016739, Banovallum House, Manor House Street, Horncastle, Lincolnshire. LN9 5HF



OS copyright No. AL100016739, Banovallum House, Manor House Street, Horncastle, Lincolnshire. LN9 5HF

Grid ref: SK985533 – TF032531
Length: 4.9 km

Survey: 2010
Surveyor: LotV

Main habitat: Calcareous grassland

This verge was identified and surveyed as part of the Lincolnshire Wildlife Trust's Life on the Verge Project.

Criteria passed: CG1, Mos2
Recommended as a Local Wildlife Site: 1 April 2011



springwellsolarfarm.com

Appendix 6.3

Preliminary Ecological Appraisal –
Grid Connection Corridor



Springwell Solar Farm

Grid Connection Corridor – Preliminary Ecological Appraisal Report

Quality information:

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Executive Summary

This report presents the results of a preliminary ecological appraisal (PEA) of an area of land near Navenby, Lincolnshire which has been added to the proposed Springwell solar farm site boundary. This area, referred to as the 'site', is proposed for installation of a connecting cable route to a new National Grid Navenby substation, referred to as the 'Grid Connection Corridor', which would eventually link to the proposed Springwell solar farm. The exact cable route is still to be confirmed, therefore this report presents a broad assessment of the wider area within which the cable route is to be situated.

The site is comprised of arable fields intersected by hedgerows and dry stone walls with a mixed plantation woodland, Gorse Hill Covert, bordering the site to the south west.

No impacts to any statutory designated sites are expected on account of their absence in proximity to the site. However, four non-statutory local wildlife sites run within or immediately adjacent to the site. Measures to protect these sites during construction should be outlined in a construction and environmental management plan (CEMP) to ensure that the proposed works will not have any significant impacts on them, or where impacts cannot be avoided how these will be mitigated.

No notable or invasive plant species were recorded within the survey area, however the survey was completed outside the optimal time period for these surveys and as such findings should be interpreted with caution.

Further surveys to determine the extent of potential ecological constraints are recommended, including:

- a detailed hedgerow survey to determine if any of the affected hedgerows are classified as 'important' under the criteria outlined in the Hedgerow Regulations 1997 and to determine species composition for re-planting;
- a pre-construction update badger survey within six months of start of works to check for any new badger activity on the site;
- bat roost surveys – aerial inspections or emergence activity surveys of any trees suitable for roosting bats if any will be impacted by the proposed development;
- targeted botanical surveys, such as National Vegetation Classification (NVC), if any sections of calcareous grassland road verges (which are designated as Local Wildlife Sites), need to be disturbed.

Mitigation measures to be outlined in a CEMP include:

- measures to protect local wildlife sites and priority habitats;
- nesting bird and breeding brown hare checks by an ecologist prior to commencement of works;
- precautionary working methods to protect reptiles, hedgehogs, badgers and other nocturnal species;
- habitat retention and protection in line with relevant guidance; and
- implementation of a sensitive lighting strategy to avoid disturbance to foraging bats, if any artificial lighting is required.

1. Introduction

1.1. Purpose of this report

- 1.1.1. This report presents the results of a preliminary ecological appraisal (PEA), comprising a background data search and a UK habitat survey, with assessment for protected or otherwise notable species, of an additional area of land for the proposed Springwell solar farm development, east of Navenby, Lincolnshire (central National Grid Reference TF018574).
- 1.1.2. This area, referred to as the 'site', is proposed for installation of a connecting cable route to a new National Grid Navenby substation, referred to as the 'Grid Connection Corridor', which would eventually link to the proposed Springwell solar farm. The exact cable route is still to be confirmed, therefore this report presents a broad assessment of the wider area within which the cable route is to be situated. The Grid Connection Corridor site is shown in Figure 1.
- 1.1.3. The PEA included a ground-level assessment of trees (GLTA) potentially suitable for roosting bats within the site and along the site boundaries and a badger survey.
- 1.1.4. The survey of the site was carried out on 2nd and 3rd of November 2023.
- 1.1.5. The majority of the rest of the proposed Springwell solar farm site was previously surveyed in the spring of 2022. An area to the north of Thompson's Bottom (central National Grid reference - TF 01735 55991) and area at Brauncewell (central National Grid Reference TF042528), were added to the scheme in late 2022 and surveyed in January 2023. Also a PEA survey of an additional four fields, to the west of RAF Digby, was carried out in June 2023. The results of these PEA surveys are presented in two separate reports, one for the majority of the site (RSK Biocensus 2023A¹) and a separate report for the land near Brauncewell (RSK Biocensus 2023B²).
- 1.1.6. This report identifies ecological constraints relevant to the project, specifies any further survey or mitigation requirements, gives recommendations for avoidance and protection through design changes, and suggests opportunities for ecological enhancement. The appraisal was carried out on behalf of EDF.

1.2. Landscape context

- 1.2.1. The c. 139 ha site is located c. 2 km east of the village of Navenby in the district of North Kesteven, Lincolnshire. The site is dominated by agricultural fields bordered by hedgerows and dry stone walls with a mixed woodland plantation to the south west, bordering fields A and B. The A15, a major connecting road to Lincoln, lies on the sites eastern boundary.

¹ RSK Biocensus (2023A) *Springwell Solar Farm – Preliminary Ecological Appraisal Report*. Rev02. July 2023. 2483765: RSK Biocensus, Coventry.

² RSK Biocensus (2023A) *Springwell Solar Farm: Land at Brauncewell – Preliminary Ecological Appraisal Report*. Rev00. February 2023. 2483765: RSK Biocensus, Coventry.

There were no ponds or wet ditches within the site boundary, or within 500m of the site boundary based upon aerial imagery.

- 1.2.2. The surrounding landscape is largely arable, comprising a mosaic of arable fields and interconnecting hedgerows, with Navenby village to the west. A large woodland plantation lies c. 740 m to the north on the eastern side of the A15.

1.3. Development proposals

- 1.3.1. The assessment is based on the red line boundary of the site as shown in Figure 1. The specific development proposals are not currently known but are anticipated to involve the construction of a new National Grid Navenby substation and a connecting cable route which will be used to connect the Springwell solar farm to the National Grid. The cable route is expected to include a 25m easement, however the route has still to be confirmed.
- 1.3.2. This report only covers the Grid Connection Corridor and not the proposed location for the National Grid Navenby substation which is anticipated to be situated in one of the three fields to the west of the site. These fields have been included within the red line boundary but have not been surveyed as access permission has not yet been obtained. It is anticipated that this remaining area will be surveyed once the substation proposals have been confirmed and the correct permissions are in place.

1.4. Validity of data

- 1.4.1. According to Chartered Institute of Ecology and Environmental Management (CIEEM) advice (CIEEM 2019³), survey data are valid for a period of 12 to 18 months from the date of the survey. The report highlights any circumstances where data may be valid for less than 18 months. Between 18 months and three years a professional ecologist will need to undertake a site visit and may also need to update desk study information (effectively updating the PEA) and then review the validity of the report.

³ Chartered Institute of Ecology and Environmental Management (2019), *Advice Note on the Lifespan of Ecological Reports & Surveys*. CIEEM, Winchester, Hampshire.

2. Methods

2.1. Overview

- 2.1.1. The PEA was undertaken in line with guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017⁴); it therefore included:
- a desk study (here called a background data search (BDS)), which included a review of aerial photographs; obtaining information from the DEFRA and JNCC websites, and the local authority website; requesting data from the local records centre; and
 - a field survey that informed habitat mapping, an assessment of the possible presence of protected or priority species and the likely importance of habitat features.
- 2.1.2. The PEA report includes an ecological description of the site and information about species that may occur there. Notes and mapping of any incidental sightings of invasive non-native plant species and protected or priority fauna species are also provided.
- 2.1.3. The survey of the Site was carried out on November 2nd and 3rd 2023 by Joseph Mould of RSK Biocensus. Joseph is a suitably qualified and experienced ecological consultant, with two years' experience in ecological consultancy.

2.2. Background data search

- 2.2.1. A search was made in November 2023 for relevant reference materials. A list of sources is given in Table 1.

Table 1: Data sources

Information obtained	Available from
Protected and noteworthy species-records	Greater Lincolnshire Nature Partnership
Designated site locations and citations	Natural England website
Designated site locations and citations	Joint Nature Conservation Committee (JNCC) website
Designated site locations and citations	Greater Lincolnshire Nature Partnership
Designations and legal protection of noteworthy species	Joint Nature Conservation Committee (JNCC) website
Areas / Habitats of Strategic Significance	Lincolnshire biodiversity action plan

⁴ Chartered Institute of Ecology and Environmental Management (2017), *Guidelines for Preliminary Ecological Appraisal*. Technical Guidance Series, www.cieem.net/gpea.asp.

Areas / Habitats of Strategic Significance

National Habitat Networks
<https://www.data.gov.uk/dataset/0ef2ed26-2f04-4e0f-9493-ffbdbfaeb159/habitat-networks-england>

Areas / Habitats of Strategic Significance

National Priority Focus Areas
<https://www.data.gov.uk/dataset/c20a40c5-c975-43e1-9abd-d1257aa58432/natural-england-national-priority-focus-areas>

Areas / Habitats of Strategic Significance

Nature Improvement Areas
<https://www.data.gov.uk/dataset/a19c95e3-9657-457d-825e-3d2f3993b653/nature-improvement-areas>

- 2.2.2. A search was made for the following international and national statutory designated sites of ecological importance within 10km of the site boundary: Ramsar sites, Special Areas of Conservation (SAC) , Special Protection Areas (SPA) , and for Sites of Special Scientific Interest (SSSI), including consideration of SSSI risk zones, within 2km.
- 2.2.3. A search was also made for non-statutory designated (often important in a local context) within 2 km of the site boundary and any ancient woodland sites within 1km of the site boundary.
- 2.2.4. The BDS also included a search for records within 2 km of the site boundary of noteworthy species, which might pose a constraint to the proposed development. Species included in the search were:
- European protected species (listed on Schedules 2 and 5 of The Conservation of Habitats and Species Regulations 2017 (as amended));
 - nationally protected species under Schedules 1, 5 and 8 of The Wildlife & Countryside Act 1981 (as amended) and The Protection of Badgers Act 1992;
 - species listed as critically endangered, endangered or vulnerable based on the IUCN Red List Categories and Criteria 2001;
 - all species listed on the RSPB's Birds of Conservation Concern 5 (Stanbury et al., 2021⁵) as red' or 'amber';
 - nationally rare or nationally scarce species;
 - notable invertebrates; and
 - species of principal importance listed under The Natural Environment and Rural Communities (NERC) Act 2006 or priority species under the relevant local biodiversity action plan.

⁵ Stanbury, A.J., Eaton, M.A., Aebischer, N.J., Balmer, D., Brown, A.F., Douse, A., Lindley, P., McCulloch, N., Noble, D.G. & Win, I. (2021). The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114: 723-747.].

2.3. Plants and habitats

UK Habitat (UKHab) survey

2.3.1. The field survey was based on the UK habitats (UK Hab) survey methodology (Version 2.0; UKHab Ltd 2023⁶). The UK Hab classification system is the habitat classification that underpins the DEFRA Biodiversity Metric and is therefore the favoured habitat classification to use when surveys need to inform a Biodiversity Net Gain Calculation. This field survey was undertaken in line with CIEEM 2017 and involved the following elements:

- descriptions of the broad and dominant vegetation types;
- habitat mapping using a set of standard colour codes to indicate habitat types (Figure 2); and
- additional notes relating to numbered locations on Figure 2, called ‘target notes’.

2.3.2. Vascular plant species were recorded during the survey, although no attempt was made to produce an exhaustive species list (additional species would almost certainly be found during more detailed surveys or repeat surveys at various times of the year).

2.3.3. Plant nomenclature in this report follows Stace (2019⁷) for native and naturalised species of vascular plant, and mosses and liverworts follow Hill *et al.* (2008⁸). Introduced species and garden varieties were identified using relevant Floras. Plant names in the text are given with common names with the scientific name (in italics) immediately following the first time it is mentioned. Capital letters are used for common plant names.

Invasive non-native species (INNS)

2.3.4. UK habitat survey does not involve exhaustive surveying for individual plant species, and various invasive species may be little in evidence at various times of year (depending on the species). A survey seeking to identify habitat types cannot therefore be relied upon to provide firm information about the presence or extent of any INNS. However, any INNS, if encountered during the habitat survey would be noted, such as Japanese Knotweed (*Reynoutria japonica*), Giant Hogweed (*Heracleum mantegazzianum*) and Himalayan Balsam (*Impatiens glandulifera*), as well as any invasive non-native species of animals.

⁶ UKHab Ltd (2023). UK Habitat Classification Version 2.0 (at <https://www.ukhab.org>)

⁷ Stace, C.A. (2019), *A New Flora of the British Isles* (4th edition). C & M Floristics, Middlewich Green.

⁸ Hill, M.O., Blackstock, T.H., Long, D.G. & Rothero, G.P. (2008), *A Checklist and Census Catalogue of British and Irish Bryophytes*. British Bryological Society, Middlewich.

2.4. Protected and notable animals

General

- 2.4.1. The site was assessed for its suitability to support protected or otherwise notable animals that are likely to occur in the area. Some species could be ruled out through review of existing records, species distribution, geographic location, ecological connectivity and broad habitat types. Taking into account connectivity to natural habitats in the wider landscape, the nature and extent of habitats at the site, specific assessment was also carried out for the species/species groups outlined below.

Invertebrates

- 2.4.2. The site was assessed for its suitability to support notable species and/or assemblage of invertebrates, but no specific surveys were undertaken. The habitat requirements of particular invertebrates are often species-specific, so consideration was given to the presence of features and habitats that might be suitable for the notable species identified in the BDS.

Great crested newts

- 2.4.3. Although standing water is essential for their breeding, great crested newts (*Triturus cristatus*) are terrestrial for most of the year and have been recorded up to 500 m from their breeding ponds. Ordnance Survey maps and aerial imagery was reviewed to identify any ponds within 500 m of the site boundary, and the site was assessed for its suitability for both terrestrial and breeding great crested newts. Optimal breeding ponds tend to be well-vegetated, relatively clean and unpolluted, free of fish and wildfowl, and retentive of water throughout most summers (but not necessarily all). Highly suitable terrestrial habitats include woodland, scrub and tussocky grassland, although great crested newts can be found in a broad range of sub-optimal habitats as well. Habitat suitability for other amphibians was similarly assessed.
- 2.4.4. Water features were assessed to determine whether they were suitable for great crested newts using the habitat suitability index (HSI) methodology developed by Oldham et al. (2000). This comprises a numerical index, where 0 indicates unsuitable habitat and 1 represents optimal habitat.
- 2.4.5. There is a positive correlation between HSI scores and presence and abundance of great crested newts in ponds. Generally, ponds with high HSI scores are likely to support larger populations. However, the relationship is not sufficiently precise to conclude that any pond with a high HSI will support newts in high populations, or that any pond with a low score will support low numbers of newts or no newts at all.

Reptiles

- 2.4.6. The site was assessed for its suitability for the four most widespread reptile species, with particular attention given to those features that provide suitable basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, piles of rotting vegetation) and opportunities for foraging (e.g. rough grassland and scrub).
- 2.4.7. Specific habitat requirements differ between species. Common lizards (*Zootoca vivipara*) and slow-worms (*Anguis fragilis*) favour rough grassland. Grass snakes (*Natrix helvetica*) have broadly similar requirements, with a greater reliance on ponds and wetlands. Adders (*Vipera berus*) use a range of fairly open habitats with some cover but are most often found in dry heath.

Birds

- 2.4.8. Birds nest, forage and roost in a wide variety of habitats including scrub, woodland, hedgerows and trees, wetland, arable and pastoral farmland and rough grassland. Some species also use open bare ground and man-made structures.
- 2.4.9. The site was assessed for its suitability to support diverse assemblages and/or uncommon species of breeding and non-breeding birds, with an emphasis on those species that are listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended), the red and amber lists of the RSPB's Birds of Conservation Concern 5 (Stanbury et al., 2021) and other notable species recorded in the BDS, including any species that are qualifying features of nearby designated sites. Consideration was given to the site's connectivity to landscape features that are likely to be of particular importance to birds, such as extensive areas of semi-natural woodland or wetlands. The presence of nests or signs of nest building were recorded, and buildings were surveyed for their suitability for barn owls and other species, with signs including nesting sites, feathers, droppings and pellets.

Bats

- 2.4.10. Habitats were assessed for their suitability for foraging and commuting bats, in line with guidance provided in Collins (2023⁹). Areas of particular interest vary between species, but generally include sheltered areas and habitats with good numbers of insects, such as woodland, scrub, rivers and species-rich or rough grassland.
- 2.4.11. Trees were noted if they had potential suitability for roosting bats (Collins 2023). This involved identifying features that roosting bats may favour (e.g. holes, cracks and cavities that might be used as bat access-points or roost sites).
- 2.4.12. Each tree's suitability to support roosting bats was then categorised as follows:

⁹ Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

- PRF-I – Roosting features have the potential to support only individual or small numbers of bats.
- PRF-M – Roosting features have the potential to support multiple bats and which may therefore be suitable for use by a maternity colony.

Badgers

- 2.4.13. An initial assessment was carried out to identify areas that might be used by badgers (*Meles meles*) for foraging or sett building within 30 m of all areas potentially affected by works (where access was possible). The area was systematically searched for signs of badgers including setts, foraging signs, paths (runs) and latrines where possible, and the category of sett and levels of activity visible at each sett was recorded.

Species of principle importance

- 2.4.14. The UK countries of England, Wales, Scotland and Northern Ireland are obliged by their individual laws to maintain lists of species and habitats of principal importance for biodiversity conservation. In England, this obligation derives from the Natural Environment and Rural Communities (NERC) Act 2006. An assessment of the suitability and likelihood of the site supporting such species was made - for example, brown hare (*Lepus europaeus*).

2.5. Limitations

- 2.5.1. Less conspicuous plant species (including INNS) may have been missed as a result of the survey being undertaken outside of the ideal survey season. However, the majority of plants present were confidently identified, and the survey was sufficient to make a broad assessment of the habitats present on the site.
- 2.5.2. This preliminary appraisal as to whether protected or otherwise notable species might occur on the site is based on the suitability of habitat, the known distribution of relevant species in the local area (from online sources and desk study), and any signs of the relevant species. It does not constitute a full and definitive survey of any protected species group.
- 2.5.3. Field signs for protected and valuable species are often difficult to find or absent from a site. The survey conducted was not intended to be a comprehensive presence/absence survey for all species, but rather to provide an indication of the likely presence of such species based on the field signs found, and the nature of the habitats present.
- 2.5.4. Access was not made to adjacent land without access permission, and therefore it remains possible that a badger sett (or other evidence of protected or notable species) beyond the site boundary could have been missed.
- 2.5.5. Trees within the woodland area to the south west of the site were not assessed individually for their suitability for roosting bats, since they are outside of the site red line boundary. If any of these trees are to be

impacted directly or the cable route is anticipated to pass in close proximity to this area further survey may be required.

- 2.5.6. The roadside verges either side of the A15 were not surveyed in detail for safety reasons due to high speed traffic along this stretch of road, however it is considered likely that these verges will not be impacted by the proposals and therefore this is not considered a significant constraint.
- 2.5.7. Several hedgerows were noted to have been flailed prior to the survey, as such there was little vegetation by which to identify species with confidence and therefore only a rough estimation of relative species richness could be made.
- 2.5.8. All recommendations made in this report are based on the information provided by EDF. A detailed layout of the proposed cable route is not available at this time. If the development plans change significantly or extend outside of the survey area, then an ecologist must be consulted and further surveys may be required.

3. Results

3.1. Background data search

Formal local biodiversity action plans and strategies

- 3.1.1. The latest Lincolnshire local biodiversity action plan (LBAP) lists 26 habitat action plans (HAPs) and 11 species or species group action plans (SAPs). The local HAPs and SAPs that are relevant to the proposed development are:

Habitats

- Arable field margins
- Hedgerows and hedgerow trees
- Lowland calcareous grassland
- Lowland mixed deciduous woodland

Species

- Bats
- Farmland birds

Statutory designated sites

- 3.1.2. There are no international statutory designated sites within 10 km of the site boundary.
- 3.1.3. There are no national statutory designated sites within 2km of the site boundary. The site does not intersect with any Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ) buffers. Statutory designated sites are therefore not considered any further.

Non-Statutory sites

- 3.1.4. There are ten non-statutory designated sites within 2 km of the site boundary, all of which are Local Wildlife Sites (LWS). The designated sites present within the study area are listed in Table 2, along with their proximity to the site.

Table 2: Non-statutory designated sites within 2km of the Site

Site name and reason for designation	Designation	Distance and orientation (m)
A15, Green Man Road to Cuckoo Lane – Calcareous grassland habitat	LWS	Immediately adjacent – E
Gorse Lane – Unimproved calcareous grassland, woodland, dense scrub and bracken.	LWS	Immediately adjacent – W

Navenby Heath Road Verges – Calcareous grassland	LWS	Within site boundary
Green Man Lane – Calcareous grassland	LWS	107m N
Gorse Hill Lane Verges – Calcareous grassland	LWS	Adjacent to site boundary
Navenby, Green Man Road Verges – Calcareous grassland	LWS	329m N
High Dike, Long Lane to Navenby Verges – Calcareous grassland	LWS	1412m W
Wellingore Heath Road Verges – Calcareous grassland	LWS	1564m SW
Boothby Graffoe Road Verge – Calcareous grassland	LWS	1630m N
St. John the Baptist Churchyard, Temple Bruer – Calcareous grassland (unimproved and semi improved)	LWS	1889m S

Ancient woodlands

- 3.1.5. There are no areas of ancient woodland (over 0.5ha) recorded within 1 km of the site boundary.

Informal strategies to identify ecologically desirable areas

- 3.1.6. The site is not within any national priority focus or nature improvement areas. National priority focus areas are typically designated where Natural England (NE) are targeting more than one delivery programme, and as such, are key areas where NE are targeting most effort. Nature improvement areas comprise 12 sites selected across England, with the aim of creating ecological networks at a landscape scale. These areas are partnerships between local authorities, communities and private landowners supported by funding from DEFRA and NE.
- 3.1.7. The site lies partially within a Network Enhancement Zone 1 and a Network Expansion Zone, for primary habitat Lowland calcareous grassland and associated habitat 'PHI_Other habitat networks'.
- 3.1.8. A 'Network Enhancement Zone 1' is 'land connecting existing patches of primary and associated habitats, which is likely to be suitable for creation of the primary habitat. Factors affecting suitability include: proximity to primary habitat; land use (urban/rural); soil type; slope and proximity to coast. Action in this zone to expand and join up existing habitat patches and improve the connections between them can be targeted here' (Magic

2023¹⁰). A ‘Network Expansion Zone’ is ‘land beyond the Network Enhancement Zones with potential for expanding, linking/joining networks across the landscape i.e. conditions such as soils are potentially suitable for habitat creation for the specific habitat in addition to Enhancement Zone 1. Action in this zone to improve connections between existing habitat networks can be targeted here (Magic 2023¹¹).

- 3.1.9. Any associated habitat that does not have an individual habitat network map (as outlined above) and all other priority habitat is shown on the combined habitat network map as ‘PHI_Other’ (Natural England 2020¹²).

Protected and notable species

- 3.1.10. Records of at least 28 protected species are recorded within 2km of the site. Records in excess of 30 years old have been excluded from discussion here, however a full list of species recorded is provided in Appendix. These included: 15 species of bird; 2 species of reptile (including grass snake and common lizard); water vole (*Arvicola amphibius*); badger and 6 species of bat, including the nationally rare western barbastelle (*Barbastella barbastellus*).
- 3.1.11. At least 38 noteworthy species are recorded within 2 km of the site boundary. Some noteworthy species include species of principal importance that are listed under Section 41 of The Natural Environment and Rural Communities (NERC) Act 2006, such as common toad (*Bufo bufo*), hedgehog (*Erinaceus europaeus*) and brown hare (*Lepus europaeus*).
- 3.1.12. Other noteworthy species include: 19 bird species, 13 invertebrate species, and one plant species Purple milk-vetch (*Astragalus danicus*). Species of relevance to the site and the current proposals are discussed later in this report.

3.2. Plants and habitats

UK Habitat (UKHab) survey

- 3.2.1. The UK habitat map is provided as Figure 2 and shows the location of the target notes referred to in the text below. A full description for each of the target notes is given in Appendix D. The site comprises the following:
- Other neutral grassland (g3c)
 - Calcareous grassland (g2)
 - Bracken (g1c)
 - Line of trees (w – secondary code 33)
 - Hedgerow (priority habitat) (h2a)

¹⁰ Magic (2023) *Magic Interactive Map Application*, DEFRA <https://magic.defra.gov.uk/magicmap.aspx>

¹¹ Magic (2023) *Magic Interactive Map Application*, DEFRA <https://magic.defra.gov.uk/magicmap.aspx>

¹² Natural England (2020) *National Habitat Network Maps – User Guidance v.2*

https://magic.defra.gov.uk/Metadata_for_magic/Habitat%20Network%20Mapping%20Guidance.pdf

- Bramble scrub (h3d)
- Mixed scrub (h3h)
- Cropland (c1)
- Temporary grass and clover leys (c1b)
- Non cereal crops (c1d)
- Built linear features (u1e)

Other neutral grassland (g3c)

- 3.2.2. Uncultivated field margins of species-poor grassland c. 1 m-1.5 m wide bound all of the fields within the Site. These varied in their condition with some evidence of damage arising from minor herbicide spray drift and some minor damage from farm machinery.
- 3.2.3. Broadly all of these margins were species poor, frequently dominated by species typically associated with high levels of soil fertility, including Cleavers (*Galium aparine*) Common Nettle (*Urtica dioica*), Cow Parsley (*Anthriscus sylvestris*), Creeping Thistle (*Cirsium arvense*), Hogweed (*Heracleum sphondylium*), Mugwort (*Artemisia vulgaris*), Red dead-nettle (*Lamium purpureum*), Sow Thistle (*Sonchus sp.*) and Spear Thistle (*Cirsium vulgare*). Wood Avens (*Geum urbanum*), White Campion (*Silene latifolia*) and Violet (*Viola sp.*) were also noted relatively frequently at the base of hedges. Grass species included False oat-grass (*Arrhenatherum elatius*), Cock's-foot (*Dactylis glomerata*), Yorkshire Fog (*Holcus lanatus*), Red Fescue (*Festuca rubra*), Rough meadow-grass (*Poa trivialis*), Perennial rye-grass (*Lolium perenne*) and Brome (*Bromus sp.*).

Calcareous grassland

- 3.2.4. Grassland road verges alongside the A15, Navenby Heath Road (TN8, Appendix B, Photograph 8) and farm tracks along the southern and western boundaries are designated as Local Wildlife Sites for calcareous grassland. Lowland calcareous grassland is a priority habitat of importance. However it was not possible to carry out a detailed botanical survey of these grassland verges during the PEA survey (to determine whether they qualify as lowland calcareous grassland priority habitat) due to road safety concerns and because the PEA survey was undertaken in November – which is a sub-optimal time of year for botanical survey as herbs are not as abundant or may not be visible.

Bracken (g1c)

- 3.2.5. Bracken (*Pteridium aquilinum*) dominated open ground along the western boundary of Field C which adjoins Gorse Lane LWS, accompanied by large stands of Common Nettle, scattered Bramble (*Rubus fruticosus*) and other tall herbaceous vegetation including Rosebay Willowherb (*Chamaenerion angustifolium*) and Great Willowherb (*Epilobium hirsutum*) (TN4, Appendix B, Photograph 4).

Line of trees (w – secondary code 33)

- 3.2.6. A line of semi mature trees lies on the southern boundary of Field A adjacent to the main field entrance, comprising mainly Sycamore (*Acer pseudoplatanus*) with Beech (*Fagus sylvatica*), Field Maple (*Acer campestre*) and Hawthorn (*Crataegus mongyna*).

Hedgerow priority habitat (h2a)

- 3.2.7. Many of the fields within the site are bordered by hedgerows, either fully or partially. These were found to comprise several native tree and shrub species, though most often dominated by Hawthorn with perhaps 3 or 4 other species appearing occasionally. Other species noted included Ash (*Fraxinus excelsior*), Blackthorn (*Prunus spinosa*) Elder (*Sambucus nigra*), Elm (*Ulmus sp.*), Rose (*Rosa sp.*), and Wild Privet (*Ligustrum vulgare*).
- 3.2.8. Several of the hedgerows incorporated a mixture of young semi mature and mature standard trees, typical species were Ash, Beech and Sycamore. A number of these trees were in poor condition with several either fully dead or in decline, of which the majority were Ash. Many Ash showed signs of infection with the bracket fungus (*Inonotus hispidus*) with visible evidence of decay including numerous cavities also noted.
- 3.2.9. The hedgerows around the site are subject to regular management, with several having been recently flailed prior to the survey (TN7, Appendix B, Photograph 7). This has resulted in some wounding and damage to several hedgerow trees, typically where lower overhanging limbs have been broken off, or contact has been made with the main stem of trees.

Bramble (h3d)

- 3.2.10. Several patches of Bramble dominated scrub were noted along field boundaries within the site. A raised bank in the south eastern corner of Field A is the most apparent example of this (TN12, Appendix B Photograph 12). Bramble is also dominant along the woodland edge on the western boundaries of Field A and Field B.

Mixed scrub (h3h)

- 3.2.11. In several areas there are pockets of mixed scrub, most notably along the western field boundaries of Fields B and C (TN3, Appendix B, Photograph 3. These areas of scrub comprised several woody species including Hawthorn, Blackthorn, Elder, Ash, Wild Privet, Bramble, Elm and infrequently Common Gorse (*Ulex Europaeus*) and Wild Cherry (*Prunus avium*).

Cropland (c1)

- 3.2.12. Field C comprised bare recently cultivated soil.

Temporary grass and clover leys (c1b)

- 3.2.13. Fields A, F and G were comprised of temporary sown grass leys with a uniform length sward of poor species richness dominated by fast growing grasses, mainly Perennial rye-grass (*Lolium perenne*), with a few scattered forbs including Ribwort Plantain (*Plantago lanceolata*), Field Speedwell (*Veronica agrestis*) and Sow Thistle (*Sonchus sp.*).

Non cereal crops (c1d)

- 3.2.14. Field B comprised a winter Brassica cover crop with Fields D and E comprising recently harvested sugar beet.

Built linear features (u1e)

- 3.2.15. The site is bordered to the east by the A15 a single carriageway main road. A smaller minor road connecting Navenby village to the A15 separates Fields D and E and has a narrow grass verge c.1-1.5 m wide on each side. As the road is narrow, traffic passing has resulted in erosion and compaction of the roadside verge, with a strip of bare ground on each side of the carriageway surface. As described above, the A15 and Navenby Road roadside verges are comprised of calcareous grassland which are designated as Local Wildlife Sites. To the south of Field A lies a farm track, this comprises crushed stone rather than a sealed tarmac surface.
- 3.2.16. Dry stone walls in varying states of repair border many of the field edges on the site. In many cases the walls have collapsed or partially collapsed, with the majority of the remaining stone overgrown by vegetation, it was therefore difficult to determine the exact extent of these walls. However some remain in relatively good condition, for example along the boundary between Fields F and G (TN11, Appendix B, Photograph 11).

Invasive non-native plant species

- 3.2.17. No invasive non-native plant species were identified within the Site, however as the survey was completed outside the main growing season, it is possible that evidence of invasive species may have been missed particularly if occurring at low density. However it is considered unlikely that some such perennial species are present given the absence of any residual evidence, for example dead stems, which remain distinctive in species such as Japanese Knotweed (*Reynoutria japonica*).

3.3. Protected and notable animals

- 3.3.1. Figure 2 shows the location of the target notes referred to in the text below, which show the location of particular features with suitability for protected and notable animals. A full description for each of the target notes is given in Appendix A, site photographs are provided in Appendix B.

Invertebrates

- 3.3.2. The BDS returned records of 13 species of invertebrates, almost entirely comprising species of Lepidoptera (moths and butterflies) and a single species of bumblebee, large garden bumblebee (*Bombus ruderatus*).
- 3.3.3. Most of the habitats on Site were considered likely to support only a common assemblage of invertebrate species, typical of hedgerows, scrub, mixed broadleaved woodland and species-poor grasslands. However there are several local wildlife sites either within the site (Navenby Heath Road Verges LWS and Gorse Lane LWS) or on the boundaries (A15 Green Man Road to Cuckoo Lane LWS and Gorse Hill Lane LWS). The majority of these sites have been designated for their calcareous grassland communities, which may be capable of supporting more varied invertebrate communities.

Great crested newts and other amphibians

- 3.3.4. The BDS returned four records of great crested newts, however these were not recent records dating back to 1976 and were only recorded to 10 km grid square accuracy.
- 3.3.5. There were no ponds within the survey area and a review of aerial imagery indicates there are no ponds within 500 m of the site. The closest visible waterbody is a large farm reservoir situated c. 650 m east of the site, which is considered likely unsuitable for great crested newt. Furthermore the Site is separated from this reservoir by a busy main road, the A15, a significant barrier to any potential dispersal from the east.
- 3.3.6. Great crested newts are considered likely absent from the site and are therefore not considered any further.
- 3.3.7. Given the habitat on Site being mostly arable and absence of nearby waterbodies for breeding, the presence of other amphibian species such as common frog and common toad is also considered unlikely, however several of the dry stone walls along the field boundaries do offer potential resting places and foraging opportunities for these species.

Reptiles

- 3.3.8. The BDS returned records of four reptile species including slow worm, grass snake, adder and common lizard. The records of slow worm and adder were not recent records dating back to 1976. Grass snake was most recently recorded in 2009 to the north of the site on land between Green Man Road and Heath Lane. Common lizard was last recorded in 2021 in both Navenby to the west of the site and Scopwick Heath to the east, close to RAF Digby.
- 3.3.9. The site comprises mostly arable cropland and therefore is generally of poor suitability for reptiles. However there are some areas of Bracken, Bramble scrub, and rough grassland particularly within Gorse Lane LWS, on the western Site boundary, which offer suitable habitat for reptiles, with connectivity to the area of woodland immediately south west of the site. The dry stone walls lining several of the fields offer potential hibernation

opportunities and serve as potential habitat corridors, as many follow hedge lines or are on less frequently disturbed grass margins.

Birds

- 3.3.10. The BDS returned records of 15 protected and 19 notable bird species. This included a mix of species frequently associated with farmland habitats such as skylark (*Alauda arvensis*), quail (*Coturnix coturnix*), corn bunting (*Emberiza calandra*), yellowhammer (*Emberiza citrinella*), linnets (*Linaria cannabina*), yellow wagtail (*Motacilla flava*), tree sparrow (*Passer montanus*), grey partridge (*Perdix perdix*), turtle dove (*Streptopelia turtur*), starling (*Sturnus vulgaris*), redwing (*Turdus iliacus*), fieldfare (*Turdus pilaris*), barn owl (*Tyto alba*) and lapwing (*Vanellus vanellus*).
- 3.3.11. The habitats within the site boundary offer opportunities for both foraging roosting and nesting. Boundary hedgerows offer winter feeding opportunities for migrant thrushes such as redwing and fieldfare with several flocks noted during the survey, particularly where hedges have not yet been flailed. Dense vegetation at hedgerow bases and along field margins also offers potential nesting opportunities for ground nesting species such as skylark, grey partridge, and quail.
- 3.3.12. Large stick nests likely associated with corvid species were noted both within the canopy of several hedgerow trees but also in some cases within internal cavities in the trees themselves.
- 3.3.13. Dry stone walls along field boundaries where partially overgrown by vegetation offer potentially suitable sheltered nesting cavities, for species such as robin (*Erithacus rubecula*) and wren (*Troglodytes troglodytes*).

Bats

- 3.3.14. The BDS returned records of 6 different bat species including:
- Western barbastelle (*Barbastella barbastellus*)
 - Natterer's bat (*Myotis nattereri*)
 - Noctule bat (*Nyctalus noctula*)
 - Common pipistrelle (*Pipistrellus pipistrellus*)
 - Soprano pipistrelle (*Pipistrellus pygmaeus*)
 - Brown long-eared bat (*Plecotus auritus*)
- 3.3.15. Most of the site being arable is of low suitability for foraging and commuting bats. The habitat within the site was assessed as having low suitability for bats, though the area close to Gorse Hill Covert has higher suitability due to the presence of mature trees, several of which along the perimeter of the site were noted to have potential for roosting bats. Throughout the remainder of the site, the hedgerows and areas of scrub provide moderately suitable foraging and commuting habitat, though several of the hedgerows are broken or discontinuous and do not extend along the entirety of the field boundaries.

- 3.3.16. The edge of Gorse Hill Covert woodland borders the site to the south west. Trees along the woodland boundary were not individually assessed for bat roosting potential, however several mature Ash at the woodland edge were found to contain suitable potential bat roosting features, including several large knot hole and wound features.
- 3.3.17. Individual trees within and on the perimeter of the site were assessed for bat roosting potential. Six trees were categorised as PRF-I, possessing roosting features suitable for individual or small numbers of bats. A further eight trees were assessed as PRF-M, making them potentially suitable for multiple bats and therefore for potential use by a maternity colony. The results of the ground level tree assessment are shown in Figure 3.

Badgers

- 3.3.18. The BDS returned two records of badger, including one of a deceased badger in 2007 on the A15 close to its junction with Navenby Lane to the south of the site. A further more recent record in 2023 was from land immediately north of Green Man Lane c. 830m north of the site.
- 3.3.19. Evidence of badger activity was recorded within the Site including a fresh latrine at the base of a hedge on the western boundary. This was traced via a well-worn path to a three hole badger sett located just outside of the site boundary. This was considered likely to be a subsidiary sett (Photograph 5, Appendix B). The exact location of the sett is not provided for confidentiality reasons.
- 3.3.20. This sett was clearly recently active with a large mound of freshly excavated sandy spoil outside the largest entrance and fresh latrines nearby. Further evidence in the form of snuffle holes and latrines were noted along the base of the hedgerows within the site.

Other species

- 3.3.21. A complex of three burrows, which appeared inactive were noted beneath the hedgerow and within the field margin separating Fields A and B towards the western end close to Gorse Hill Covert woodland. Several of these burrows were partially blocked and there was no recent evidence of excavation, due to their small size it is thought likely that these were rabbit (*Oryctolagus cuniculus*) burrows (TN2, Appendix B, Photograph 2).
- 3.3.22. A second complex of four burrows was noted along the hedgerow separating Field B and C. The area surrounding these burrows showed no signs of significant recent activity, however given the small size of these burrows it is thought that they are linked to rabbit activity (TN6, Appendix B, Photograph 6).
- 3.3.23. Multiple rabbit burrows forming an extensive warren were noted beneath the hedgerow along the western boundary of Field F (TN9, Appendix B, Photograph 9).
- A sighting of a single brown hare was recorded in Field G, when an single individual was disturbed from a resting place (form).

4. Evaluation and recommendations

4.1. Designated sites

Non-statutory designated sites

- 4.1.1. There are four non-statutory designated Local Wildlife Sites (LWS) either within or immediately adjacent to the site, these include Gorse Lane LWS on the western site boundary, Gorse Hill Lane LWS on the southern boundary, Navenby Heath Road Verges LWS, which runs across the site between Fields D and E and A15 Green Man Road to Cuckoo Lane LWS on the eastern boundary. These sites with the exception of Gorse Lane LWS are calcareous grassland roadside verges. Gorse Lane LWS incorporates unimproved calcareous grassland, dense scrub, woodland and Bracken.
- 4.1.2. Measures should be taken to protect these LWS's from direct physical damage or pollution, such as fuel and chemical run-off or dust deposition. Dependent upon the access routes chosen construction traffic may result in dust and pollution impacts to these roadside verges. Impacts to these sites will be assessed and measures to protect them will be documented within the CEMP.

4.2. Habitats and plants

- 4.2.1. The site comprises arable fields of low ecological value, with most plant species found within the site boundary being common and/or widespread and generally limited to perimeter habitats including field margins, hedgerows and scrub.
- 4.2.2. The hedgerows on Site are priority habitats which were generally of low to moderate species-richness with the majority of plant species present being common and/or widespread. The arable field margins were species-poor grassland and therefore do not qualify as 'arable field margin habitats of principal importance'. A full assessment of the calcareous grassland along several roadside verges could not be effectively surveyed due to the timing of the survey. Therefore if any sections of these roadside verges are to be impacted by the cable installation they should be subject to a detailed botanical survey ideally between May and August.
- 4.2.3. Hedgerows, hedgerow trees and calcareous grassland road verges (LWS's) should be retained as far as is possible, protected through the implementation of a CEMP, and enhanced where possible through appropriate landscaping design.
- 4.2.4. Once the cable route has being determined, any sections of hedgerow which are to be removed to facilitate the cable installation should be subject to a detailed hedgerow survey. This should be completed between late April and August, ideally between May and August, in order to determine if the affected hedgerows are classified as 'important' under the criteria outlined in the Hedgerow Regulations 1997 and to determine species for re-planting after works.

- 4.2.5. Retained woodland and individual trees should be protected in line with BS5837:2012 – Trees in relation to design, demolition and construction. This should consider potential impacts on trees and outline mitigation measures, such as the establishment of tree root protection zones (TPZ's) The details of this may be included within a site Construction Environmental Management Plan (CEMP).
- 4.2.6. No invasive species were recorded during the survey, however due to suboptimal timing of the survey. An additional survey should be carried out prior to commencement of construction, with the results informing mitigation measures to be implemented as part of the CEMP. This may be completed concurrently with either the hedgerow surveys or further botanical surveys.

4.3. Protected and other notable species

Reptiles

- 4.3.1. The dry stone walls which border several of the fields on the site offer potentially suitable habitat corridors and hibernacula for reptile species. There are recent records of both grass snake and common lizard within 2km of the site and some boundary habitats, particularly the scrubby grassland and Bracken corridor which forms Gorse Lane LWS on the sites western boundary, offers potentially suitable foraging, resting and basking opportunities for reptiles. However, if present, reptiles are considered likely to be at low population density, detailed reptile population surveys are therefore not recommended as it is unlikely that large areas of suitable habitat will be impacted by the proposals.
- 4.3.2. To minimise the risk of potential injury or harm to reptiles occurring during vegetation clearance of small areas of suitable habitat such as grass field margins, hedgerows and scrub, work should follow an appropriate precautionary working method statement. This should include a two stage cut whereby suitable vegetation is reduced in height, firstly to 15cm allowing time for reptiles to disperse, before finally reducing vegetation to ground level. Details of these methods should be outlined within the CEMP.
- 4.3.3. Any sections of dry stone wall which require removal should be dismantled above ground by hand under the supervision of an ecological clerk of works (ECoW), once below ground level the remaining stone should be removed by excavator and checked by the ECoW.

Birds

- 4.3.4. The hedgerows, and scrub within the survey area and adjacent woodland provide suitable habitat for birds, whilst the grassland and arable fields provide suitable habitat for ground nesting species including skylark and lapwing.
- 4.3.5. Works should avoid the breeding bird season (March to August inclusive) where possible. If work is to take place within the bird breeding season precautionary measures will be required. This should include pre-works

nesting bird checks by a suitably qualified ecologist within 48 hours of vegetation clearance taking place in areas of suitable nesting habitat.

- 4.3.6. If a section of dry stone wall is to be removed within the breeding season this should again be subject to a nesting bird check within 48 hours of removal. This will supplement precautionary measures outlined above to protect reptiles.

Bats

- 4.3.7. Most of the site, being arable, offers low suitability for foraging and commuting bats. However features around the site boundary such as Gorse Hill Covert woodland and the adjoining hedgerow network running across the site provide suitable habitats for foraging and commuting bats. Undergrounding of the cable will require removal of sections of hedgerow. Gaps in hedgerows can impact bats as some species have been found to avoid gaps of 10m or more (Gunnell *et al.* 2012¹³). However, it is anticipated that hedgerow removal will be minimised as much as possible and therefore should be relatively small in scale. All hedgerow gaps should be replanted in the next appropriate season after works with similar species so any adverse effect would be temporary.
- 4.3.8. To avoid impact to foraging and commuting bats, working at night should be avoided. If lighting is required then this should be directed downwards if possible or appropriately shrouded and directed away from hedgerows, or woodland edge habitats.
- 4.3.9. Six trees within the site were assessed as PRF-I meaning they are likely suitable only for individual or small numbers of bats. Trees identified as PRF-I should be considered for their value within a wider context including the presence of suitable habitat, and alternative favourable potential roosting sites. The presence of several mature trees with potential bat roosting features along the edge of Gorse Hill Covert woodland, indicates potential for further suitable roosting resource within the woodland itself. More isolated hedgerow trees with smaller and less valuable features in context are therefore potentially less likely to be chosen for roosting sites.
- 4.3.10. Trees assessed as PRF-I should not require further survey, however in accordance with the latest guidance, appropriate compensation for all PRF-I's which would be impacted by the cable installation should be provided in advance and works should follow an appropriate precautionary working method statement (PWMS) (Reason & Wray 2023¹⁴).
- 4.3.11. Eight trees within the site were assessed as PRF-M, as they are potentially suitable for multiple bats or a maternity roost.
- 4.3.12. Trees identified as PRF-M which are to be impacted by the proposed cable installation should be subject to three aerial climbing inspections,

¹³ Gunnell K., Grant G. and Williams C. (2012) *Landscape and Urban Design for Bats and Biodiversity*. Bat Conservation Trust.

¹⁴ Reason, P.F. and Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. Chartered Institute of Ecology and Environmental Management, Ampfield.

where safe to do so, between May and September (with at least two of these surveys between May and August) to determine feature suitability and presence or likely absence of bats (surveys should be at least three weeks apart). If features are found to be unsuitable by aerial inspection then further surveys would not be required. If aerial inspections are not possible then three emergence surveys using night vision aids (NVAs) would be required instead as per timings above (Collins 2023).

Badgers

- 4.3.13. The subsidiary sett is located just outside of the western boundary, and it is considered possible that a main sett may be present within Gorse Hill Covert woodland. Evidence including snuffle holes and latrines indicates that badgers are also active within the site, using the nearby field margins and hedgerows for foraging.
- 4.3.14. A works buffer of at least 30 m should be maintained from any active badger setts. It is recommended that a pre-construction badger survey is undertaken within 6 months of the commencement of work to identify any new badger activity on and within 30 m of the final proposed cable route inclusive of the 25 m easement. Badgers are highly mobile and regularly move territories, open up old setts or dig new ones. Vigilance should therefore be maintained for any new badger activity within the site boundary prior to works commencing.
- 4.3.15. If an active sett is discovered within 30 m of the working area, works should stop and advice should be obtained from a suitably qualified ecologist. If work within 30 m of an active sett cannot be avoided and destruction or disturbance of the sett is likely to occur then a licence to close or damage the sett may be required (depending on distance and works impact). Licences are only issued between 1 July and 30 November.
- 4.3.16. In order to safeguard any badgers that may be active in the area, working at night should be avoided and it is also good practice to cover any excavations overnight to prevent badgers (and other animals) from becoming trapped. If it is not possible to cover excavations a ramp should be provided to allow animals to escape.

Other species

- 4.3.17. The site provides suitable habitat for brown hare and hedgehog, therefore precautionary measures are required during the works to prevent any negative impacts on these species. Brown hares make a small depression in the ground in tall grassland known as a form. In the breeding season, between February and September, checks for young hares (leverets) should be conducted in suitable vegetation prior to works. If any young hares are found, care should be taken to avoid these areas. Similarly potential hedgehog hibernation sites, particularly amongst dense vegetation should be subject to a pre-works inspection if clearance is to take place between October and March.
- 4.3.18. Rabbit burrows were noted beneath several of the hedgerows on the site, particularly along the western boundary of Field F but also between fields

A and B and B and C. Whilst rabbits receive no formal protection under the Wildlife & Countryside Act 1981 (as amended), if a section of hedgerow is to be removed which contains a rabbit burrow(s), efforts should be made to displace rabbits from these burrows prior to excavation in order to comply with the Animal Welfare Act (2006) which prohibits causing unnecessary suffering to an animal.

Summary of further required surveys

4.3.19. The following surveys are likely to be required based upon the findings of this PEA:

- a detailed hedgerow survey (between late April and August) to determine if any of the affected hedgerows are classified as ‘important’ under the criteria outlined in the Hedgerow Regulations 1997 and to determine species composition for re-planting;
- a pre-construction update badger survey within six months of start of works to check for any new badger activity on the site.

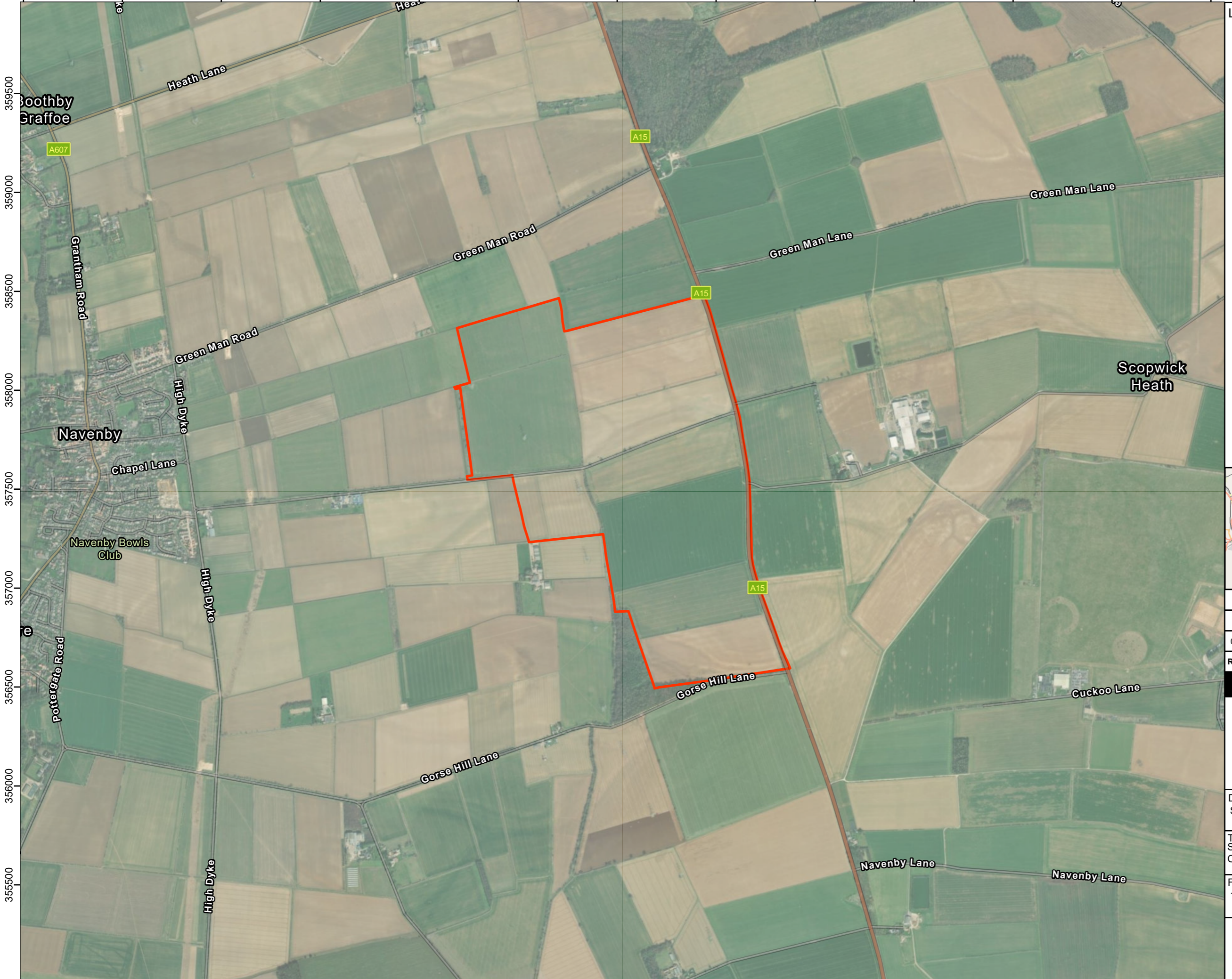
4.3.20. The following surveys may be required depending upon the expected impact of the works once the cable route has been determined:


- bat roost surveys – aerial inspections or emergence surveys of any trees suitable for roosting bats that will be impacted by the proposed development;
- targeted botanical surveys such as National Vegetation Classification (NVC) if any sections of roadside verge, recorded as calcareous grassland need to be disturbed.

Figure 1

Site Location

498500 499000 499500 500000 500500 501000 501500 502000 502500 503000 503500 504000 504500



LEGEND:
 Site Boundary



Rev	Date	Description	Drn	Chk	App
00	17/11/2023	First Draft	RS	SP	JM

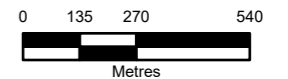
Springwell Solar Farm




DOCUMENT:
 SPRINGWELL SOLAR FARM

TITLE:
 SITE LOCATION PLAN
 CABLE CORRIDOR EXTENSION

FIGURE NUMBER:
 1



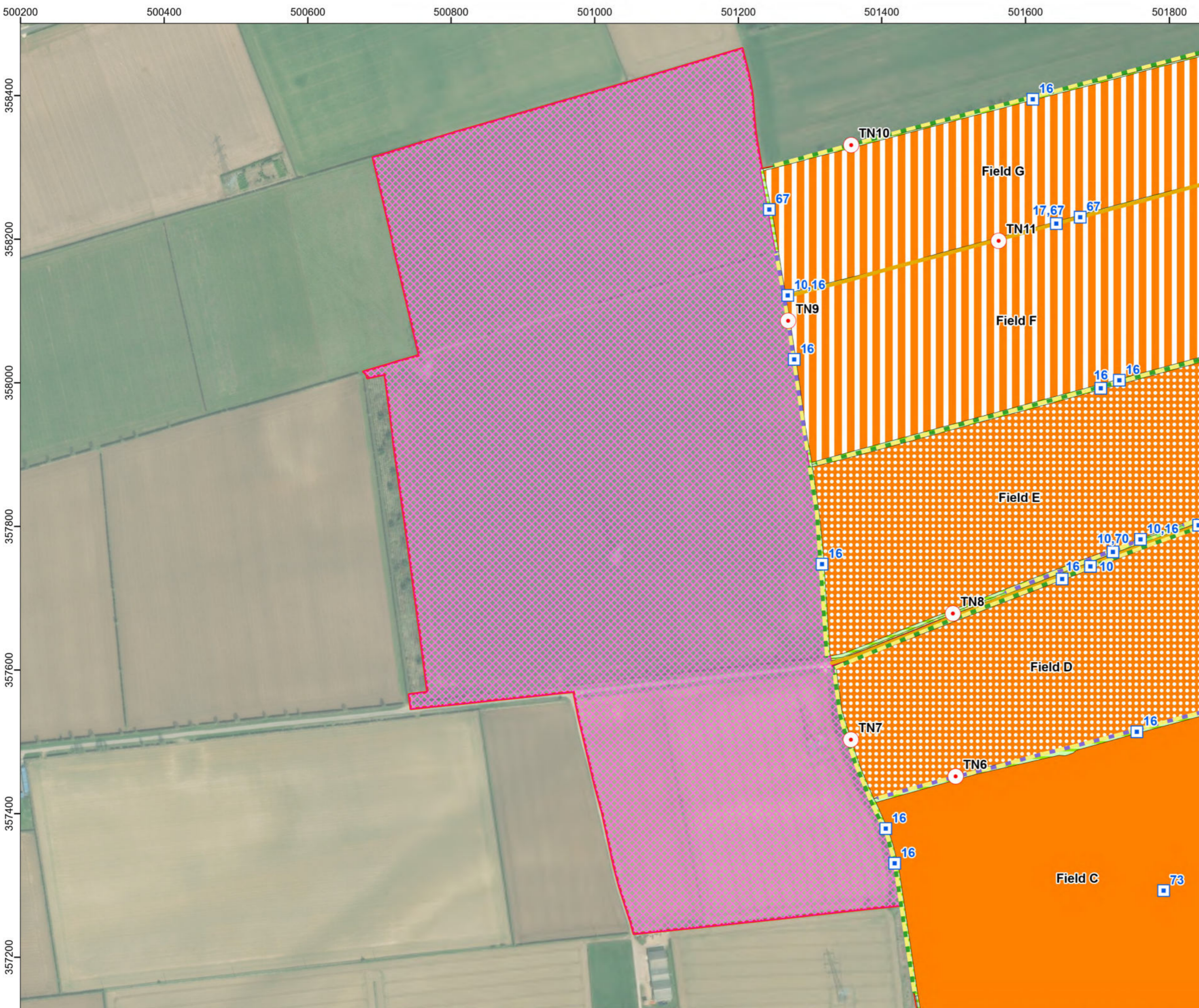
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REV 00

Figure 2

'UKHab' Habitat Plan



- LEGEND:**
- Site Boundary
 - UKHab Habitats**
 - Cropland
 - Temporary Grass and Clover Leys
 - Non-Cereal Crops
 - Bracken
 - Lowland Calcareous Grassland
 - Other Neutral Grassland
 - Mixed Scrub
 - Built Linear Features
 - No Access
 - Native Hedgerow
 - Native Hedgerow with Trees
 - Built Linear Feature
 - Target Note
 - Secondary Code

Secondary Code	Description
10	Scattered scrub
11	Scattered Trees
16	Tall herb
17	Ruderal/ Ephemeral
67	Dry Stone Wall
70	Hedgebank
73	Bare Ground
111	Road
190	Hedgerow With Trees



Rev	Date	Description	Drm	Chk	App
00	20/11/2023	First Draft	RS	EC	JM

Springwell Solar Farm

DOCUMENT:
SPRINGWELL SOLAR FARM

TITLE:
UKHAB HABITAT SURVEY
CABLE CORRIDOR EXTENSION

FIGURE NUMBER:
2
PAGE 1 OF 5

Scale: 1:5,000 @ A3

REV 00



- LEGEND:**
- Site Boundary
 - UKHab Habitats**
 - Temporary Grass and Clover Leys
 - Non-Cereal Crops
 - Lowland Calcareous Grassland
 - Other Neutral Grassland
 - Mixed Scrub
 - Built Linear Features
 - No Access
 - Native Hedgerow
 - Native Hedgerow with Trees
 - Built Linear Feature
 - Target Note
 - Secondary Code

Secondary Code	Description
10	Scattered scrub
11	Scattered Trees
16	Tall herb
17	Ruderal/ Ephemeral
67	Dry Stone Wall
70	Hedgebank
73	Bare Ground
111	Road
190	Hedgerow With Trees



Rev	Date	Description	Drn	Chk	App
00	20/11/2023	First Draft	RS	EC	JM

Springwell Solar Farm

DOCUMENT:
SPRINGWELL SOLAR FARM

TITLE:
UKHAB HABITAT SURVEY
CABLE CORRIDOR EXTENSION

FIGURE NUMBER:
2
PAGE 2 OF 5

Scale: 1:3,000 @ A3

REV 00



- LEGEND:**
- Site Boundary
 - UKHAB Habitats**
 - Cropland
 - Temporary Grass and Clover Leys
 - Non-Cereal Crops
 - Lowland Calcareous Grassland
 - Other Neutral Grassland
 - Mixed Scrub
 - Built Linear Features
 - No Access
 - Native Hedgerow
 - Native Hedgerow with Trees
 - Built Linear Feature
 - Target Note
 - Secondary Code

Secondary Code	Description
10	Scattered scrub
11	Scattered Trees
16	Tall herb
17	Ruderal/ Ephemeral
67	Dry Stone Wall
70	Hedgebank
73	Bare Ground
111	Road
190	Hedgerow With Trees



Rev	Date	Description	Drn	Chk	App
00	20/11/2023	First Draft	RS	EC	JM

Springwell Solar Farm

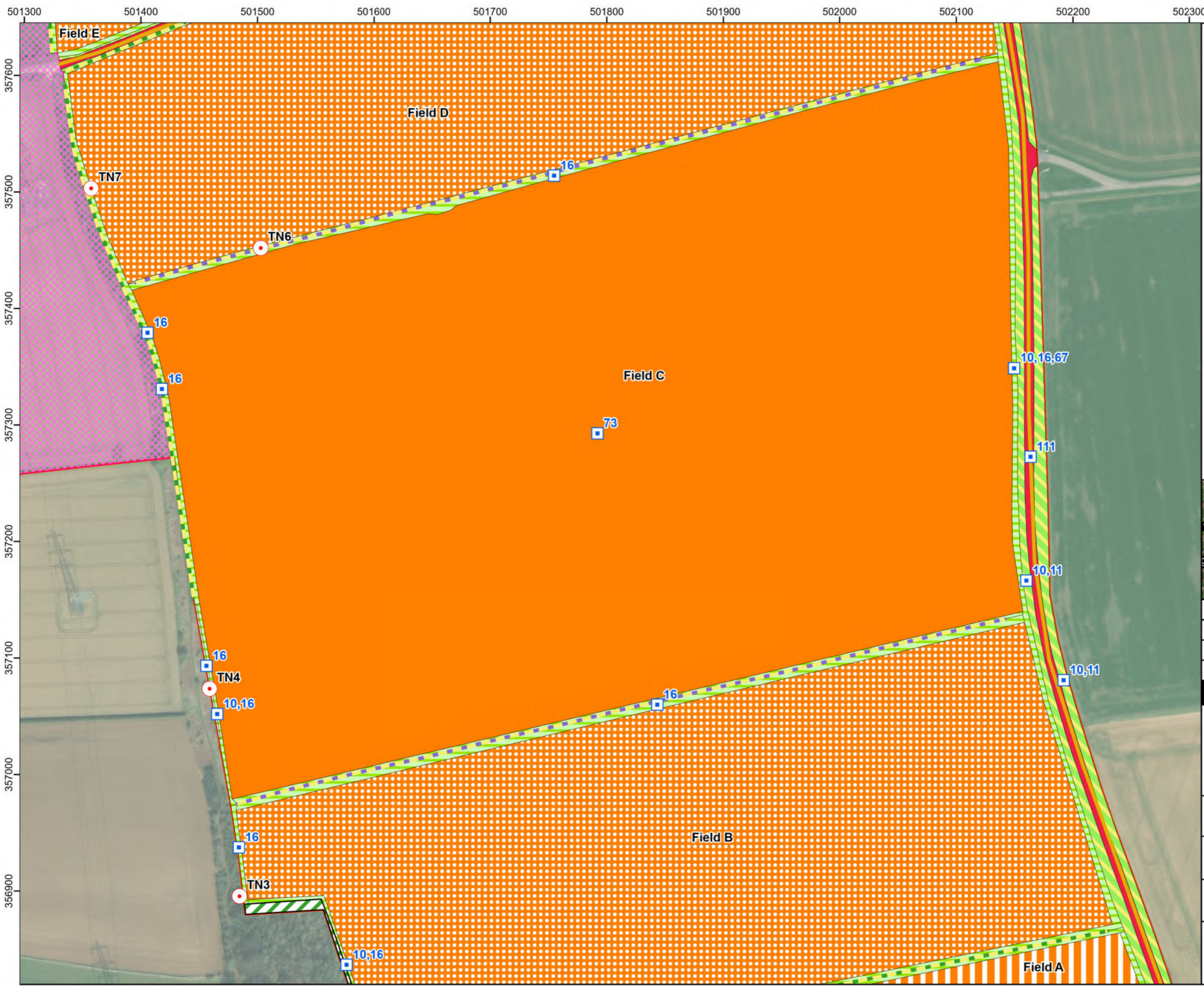
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TITLE:
UKHAB HABITAT SURVEY
CABLE CORRIDOR EXTENSION

FIGURE NUMBER:
2
PAGE 3 OF 5

Scale: 1:3,000 @ A3

REV 00



LEGEND:

- Site Boundary
- UKHab Habitats**
- Cropland
- Temporary Grass and Clover Leys
- Non-Cereal Crops
- Bracken
- Lowland Calcareous Grassland
- Other Neutral Grassland
- Built Linear Features
- Broadleaved, Mixed and Yew Woodland
- No Access
- Native Hedgerow
- Native Hedgerow with Trees
- Built Linear Feature
- Target Note
- Secondary Code

Secondary Code	Description
10	Scattered scrub
11	Scattered Trees
16	Tall herb
17	Ruderal/ Ephemeral
67	Dry Stone Wall
70	Hedgebank
73	Bare Ground
111	Road
190	Hedgerow With Trees



Rev	Date	Description	Drn	Chk	App
00	20/11/2023	First Draft	RS	EC	JM

Springwell Solar Farm

DOCUMENT:
SPRINGWELL SOLAR FARM

TITLE:
UKHAB HABITAT SURVEY
CABLE CORRIDOR EXTENSION

FIGURE NUMBER:
2
PAGE 4 OF 5

Scale: 1:3,000 @ A3

REV 00



- LEGEND:**
- Site Boundary
 - UKHAB Habitats**
 - Cropland
 - Temporary Grass and Clover Leys
 - Non-Cereal Crops
 - Bracken
 - Lowland Calcareous Grassland
 - Other Neutral Grassland
 - Mixed Scrub
 - Built Linear Features
 - Broadleaved, Mixed and Yew Woodland
 - Native Hedgerow
 - Native Hedgerow with Trees
 - Line of Trees
 - Built Linear Feature
 - Target Note
 - Secondary Code

Secondary Code	Description
10	Scattered scrub
11	Scattered Trees
16	Tall herb
17	Ruderal/ Ephemeral
67	Dry Stone Wall
70	Hedgebank
73	Bare Ground
111	Road
190	Hedgerow With Trees



Rev	Date	Description	Drn	Chk	App
00	20/11/2023	First Draft	RS	EC	JM

Springwell Solar Farm

DOCUMENT:
SPRINGWELL SOLAR FARM

TITLE:
UKHAB HABITAT SURVEY
CABLE CORRIDOR EXTENSION

FIGURE NUMBER:
2
PAGE 5 OF 5

Scale: 1:3,000 @ A3

REV 00

Figure 3

Ground Level Tree Assessment (for bat roost potential)



LEGEND:

- Site Boundary
- Tree Suitability**
- PRF-I
- PRF-M



Rev	Date	Description	Drn	Chk	App
00	21/11/2023	First Draft	RS	SP	JM

Springwell Solar Farm

DOCUMENT:
SPRINGWELL SOLAR FARM

TITLE:
GROUND LEVEL TREE ASSESSMENT
CABLE CORRIDOR EXTENSION

FIGURE NUMBER:
3

Scale: 1:8,000 @ A3

REV 00

Appendix A

Target Notes

Target note number	Description
TN1	Gorse Hill Covert a mixed deciduous woodland on the south western boundary of the site. Several trees with bat roosting potential were noted in mature Ash trees along the woodland edge.
TN2	Three mammal burrows under hedge separating Fields A and B, considered likely to be rabbit burrows. Partially abandoned as debris blocking one of the burrow entrances.
TN3	Mixed scrub on western boundary of Field B comprising Elder, Blackthorn, Wild Privet, Bramble, Rose and Gorse.
TN4	Dense bracken and tall herb vegetation on western boundary of Field C where the site borders the Gorse Lane LWS, potential suitability for reptiles.
TN5	<i>(Removed from UK Hab plan Figure 2 for confidentiality)</i> . Three entrance badger sett, likely to be a subsidiary sett, with fresh spoil and latrines nearby.
TN6	Four mammal burrows beneath hedgerow separating Fields C and D, considered likely to be rabbit burrows based on size, no recent evidence of use.
TN7	Recently flailed hedgerow on western boundary of Field D, showing extent of adjoining scrub.
TN8	Navenby Heath Road LWS, roadside verges designated for calcareous grassland habitat, noted to be heavily eroded either side of carriageway.
TN9	Rabbit warren comprising multiple burrows beneath hedge on western boundary of Field F, very active, well-worn vegetation surrounding burrows.
TN10	Large Ash stump within hedgerow on northern boundary of Field G, deadwood feature with potential for invertebrates.
TN11	Largely in-tact dry stone wall separating Fields F and G with potential as amphibian and reptile refugia and nesting birds.
TN12	Dense bramble scrub in south eastern corner of Field A with suitability for breeding birds.

Appendix B

Photographs

Photograph 1:

Edge of Gorse Hill Covert woodland on the western boundary of Field A (TN1)



Photograph 2:

Mammal burrow beneath hedgerow separating Fields A and B (TN2).



Photograph 3:

Mixed scrub on western boundary of Field B (TN3)



Photograph 4:

Dense bracken and tall herb vegetation on the western boundary of Field C (TN4)



Photograph 5:

Badger sett within Gorse Lane LWS close to the sites western boundary (TN5)



Photograph 6:

Complex of mammal burrows beneath hedgerow separating Fields C and D (TN6)



Photograph 7:
Recently flailed hedgerow and field margin on western boundary of Field D (TN7)



Photograph 8:
Navenby Heath Road LWS roadside verges (TN8)



Photograph 9:
Active rabbit warren on western boundary of Field F (TN9)



Photograph 10:
Large dead Ash stump on northern boundary of Field G (TN10)



Photograph 11:
Dry stone wall separating Fields F and G (TN11)



Photograph 12:
Dense bramble scrub in south east corner of Field A (TN12)



Appendix C

Local Wildlife Sites within or immediately adjacent to the site

On following pages

A15, Green Man Road to Cuckoo Lane



© Crown Copyright and Database Rights (2013) Ordnance Survey (100025370)

Grid ref: TF017590 – TF025560
Length: 3.2 km

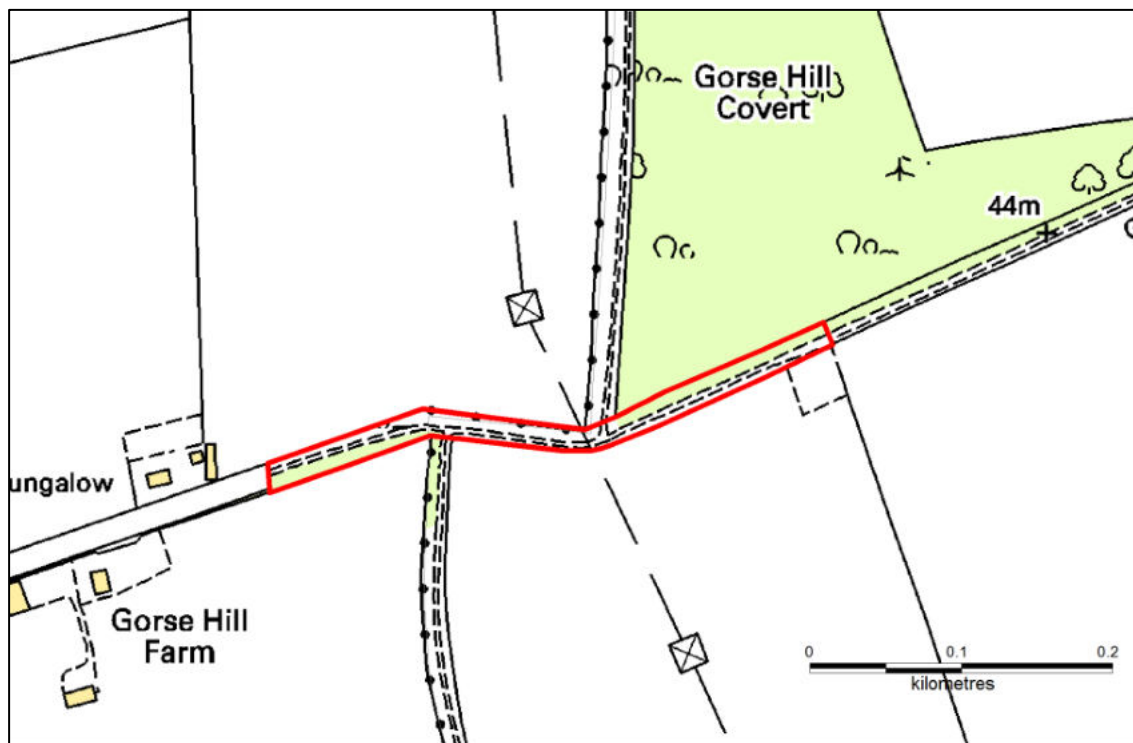
Survey: 2011/12
Surveyor: LotV

Main habitat: Calcareous grassland

This site was surveyed as part of the Lincolnshire Wildlife Trust's Life on the Verge project.

Criteria passed: CG1, Mos2
Selected as a Local Wildlife Site: 18 March 2013

Gorse Hill Lane Verges



OS copyright No. AL100016739, Banovallum House, Manor House Street, Horncastle, Lincolnshire. LN9 5HF

Grid ref: TF012562 – TF016563
Length: 0.4 km

Survey: 2010
Surveyor: LotV

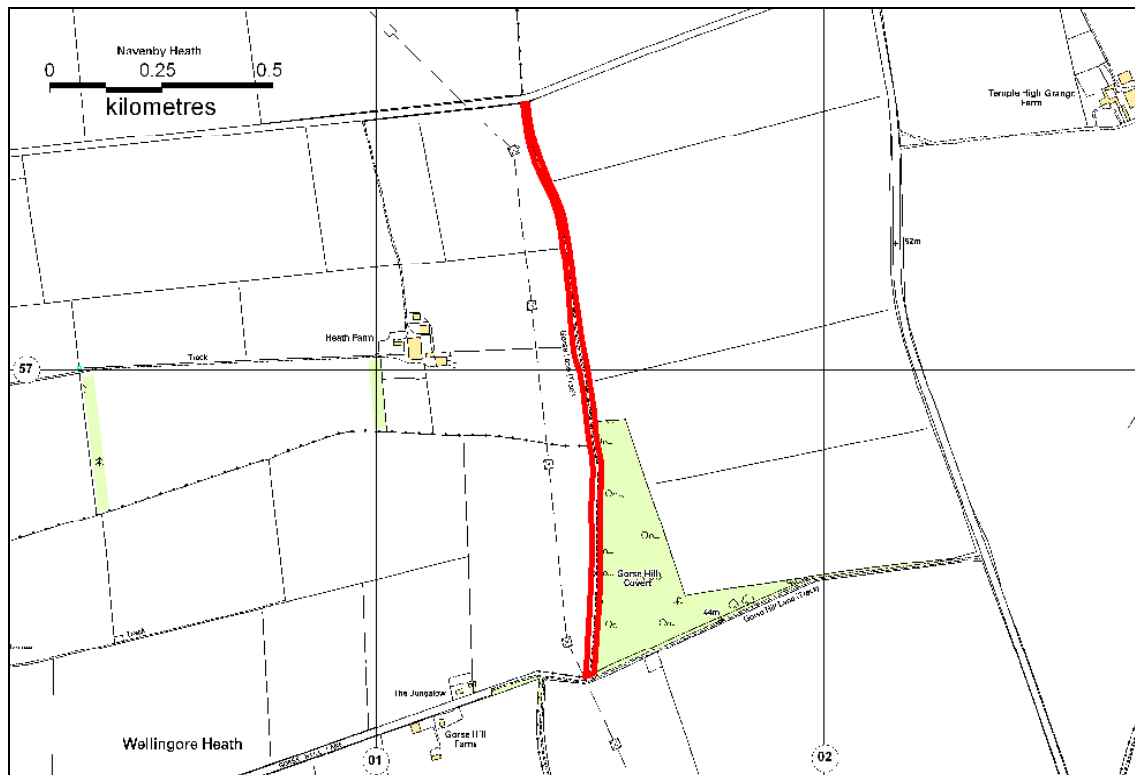
Main habitat: Calcareous grassland

This verge was identified and surveyed as part of the Lincolnshire Wildlife Trust's Life on the Verge Project.

Criterion passed: CG1

Recommended as a Local Wildlife Site: 1 April 2011

Gorse Lane



OS copyright No. AL100016739, Banovallum House, Manor House Street, Horncastle, Lincolnshire. LN9 5HF

Grid ref: TF014563 – TF013576

Survey: 26 June 2008

Area: 2.2 ha

Surveyor: T.Inskipp

Main habitat: Unimproved calcareous grassland, woodland, dense scrub, bracken

Additional features: Tussocky vegetation, species-rich hedgerows

A narrow lane, 1.3 km long, running north from Gorse Hill Lane (TF014563), east of Wellingore, to a minor road (TF013576) connecting Navenby to the A15. It forms the border to three parishes: Navenby in the north-west, Wellingore in the south-west, and Temple Bruer with Temple High Grange in the east.

It is separated from arable fields on the west side by a thick, apparently unmanaged hedge. On the east side, the southern half merges into Gorse Hill Covert, a small mainly deciduous wood, and the northern half is separated from arable fields by a hedge along most of its length. In places a stone wall further marks its outer boundary.

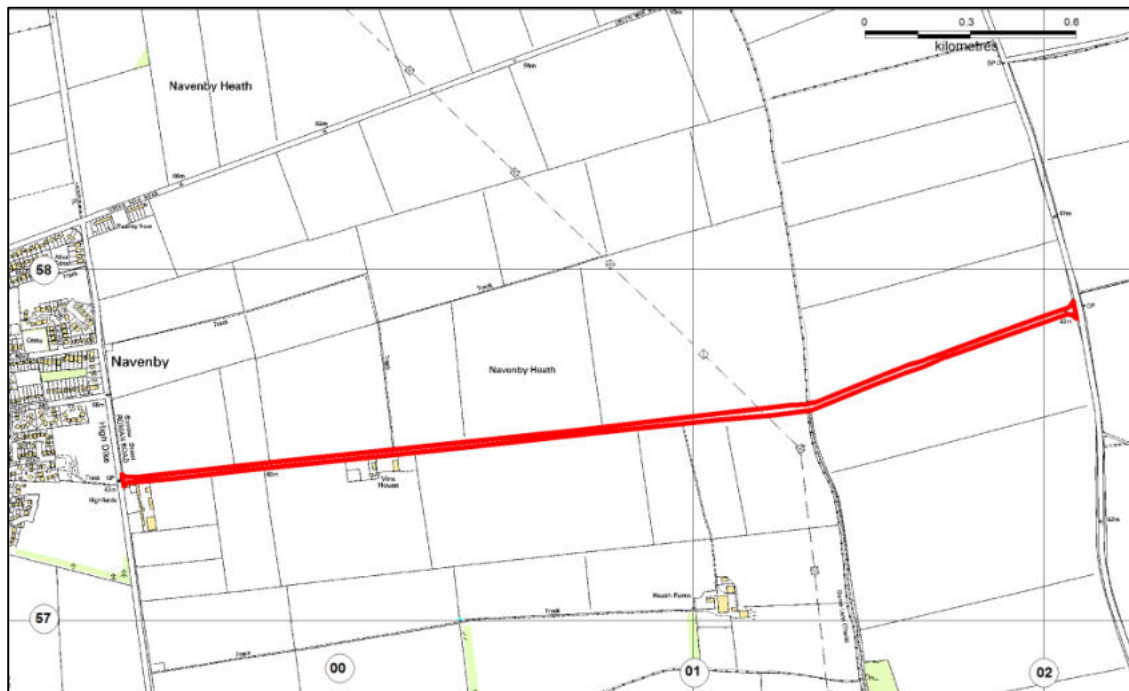
Since it was last surveyed in 1983 the lane has become overgrown with dense areas of bramble, bracken and scrub. A total of 91 plant species were recorded, including 11 woody species in the hedges, but no large areas of calcareous grassland remained and none of the significant species recorded previously (pyramidal orchid, quaking grass, dropwort, rockrose, small scabious, burnet saxifrage, wild parsnip and restharrow) was found. However, 12 indicator species of calcareous grassland were found: tor-grass, upright brome, common knapweed, greater knapweed, lady's bedstraw, field scabious, common bird's-foot trefoil, red bartsia, hoary plantain, wild mignonette, bladder campion and yellow oat grass; however, all of these species were in very small numbers and mainly in gaps in the hedge where there was a field entrance. Some of the fields margins on the east side held small numbers of calcicolous plants, including woolly thistle (TF014574). At the southern end, under the trees on the east side of the lane, were 35 plants of wall lettuce, a rare species in this part of Lincolnshire.

At the time of the visit there were heavy blustery showers so little was recorded in the way of fauna. Only two species of butterflies were noted: meadow brown and speckled wood, and only 12 species of birds were recorded within the confines of the lane: singing blackcap, chiffchaff, song thrush, robin, chaffinch, yellowhammer and wood pigeon; a whitethroat alarming; also green woodpecker and bullfinch, with house martins feeding over the lane.

Criterion passed: CG1

Recommended as a Local Wildlife Site: 8 December 2009

Navenby Heath Road Verges



OS copyright No. AL100016739, Banovallum House, Manor House Street, Horncastle, Lincolnshire. LN9 5HF

Grid ref: SK993573 – TF020578
Length: 2.8 km

Survey: 2010
Surveyor: LotV

Main habitat: Calcareous grassland

This verge was identified and surveyed as part of the Lincolnshire Wildlife Trust's Life on the Verge Project.

Criteria passed: CG1, Mos2
Recommended as a Local Wildlife Site: 1 April 2011



springwellsolarfarm.co.uk

Appendix 6.4

Breeding Bird Survey Report



Springwell Solar Farm

Breeding Bird Survey Report

Springwell Energyfarm Ltd



Quality information:

Prepared by

JS

Checked by

GW

Verified by

ML and FL

Approved by

ML

Prepared for:

Springwell Energyfarm Ltd

Prepared by:

RSK Biocensus
Abbey Park, Humber Rd, Coventry CV3 4AQ
Rskbiocensus.co.uk



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1. Introduction

1.1. Purpose of this report

- 1.1.1. This report presents the results of the survey for breeding birds undertaken by RSK Biocensus for the proposed Springwell solar farm, located on land near Ashby de la Launde, Lincolnshire (central National Grid Reference TF056569). The survey area comprised the land within the red-line boundary on which the solar farm will be located (split into three areas – Springwell East, Springwell Central and Springwell West, see Figure 1) as well as parcels of land connecting these three areas where associated infrastructure such as cabling and access roads will be located. This appraisal was carried out on behalf of EDF.

1.2. Ecological context

- 1.2.1 The c.1,772 ha survey area is located on land surrounding the villages of Blankney, Scopwick, and Ashby de la Launde in the district of North Kesteven, Lincolnshire. The survey area is dominated by agricultural land and improved grassland with accompanying hedgerows, interspersed with multiple small to medium sized areas of broadleaved woodland. There are fourteen ponds within the survey area. Streams and ditches intersect many of the agricultural fields, although most were dry at the time of survey.
- 1.2.2 The surrounding landscape is largely arable with a mixture of villages, farm complexes, woodland, hedgerows and some scattered residential properties, as well as the RAF Digby military base to the north-west.

1.3. Development proposals

- 1.3.1 The assessment is based on the red-line boundary of the site and connecting areas as shown in Figure 1. The proposals are for the installation of solar panels and other associated infrastructure within the site boundary.

1.4. Structure of this report

- 1.4.1 This report is structured as follows:
 - Section 2 presents legislation and guidance relevant to breeding birds;
 - Section 3 describes the methods adopted for the collection and interpretation of breeding bird data;
 - Section 4 presents the results of the desk study and field surveys;
 - Section 5 evaluates the results of the desk study and field surveys and assesses the importance of the breeding bird populations recorded; and
 - Section 6 summarises the findings of the breeding bird survey report.

2. Legislation and Guidance

2.1. Overview

- 2.1.1 Relevant legislation and guidance relating to breeding birds is summarised below. This legislation and guidance have been used to inform the evaluation of the conservation status of the species recorded during the desk study and field surveys, and when assessing the importance of the breeding bird populations present.

2.2. Legislation

European Commission Birds Directive (2009/147/EC)

- 2.2.1 Certain UK bird species (including some wintering species) are protected at an international level under the European Commission (EC) Directive on the Conservation of Wild Birds 2009 (2009/147/EC). These species are afforded enhanced legal protection and European Union member states have a responsibility to maintain populations of these species. This Directive is transposed into English law through the Conservation of Habitats and Species Regulations 2017 (as amended).
- 2.2.2 Species listed on Annex 1 of the Directive are those for which the UK Government is required to take special conservation measures (including the designation of land as Special Protection Areas (SPAs)) to conserve populations of these species throughout their distributions. These sites form part of the UK's national site network of core sites that are protected for rare and threatened species.
- 2.2.3 Bird species listed on Annex 1 of the Directive are those which are deemed to be:
- in danger of extinction;
 - vulnerable to specific changes to their habitats;
 - considered rare due to their small population sizes and/or restricted local distributions; and
 - in need of particular attention due to the specific nature of their habitat requirements.

Wildlife and Countryside Act 1981 (as amended)

- 2.2.4 Wild birds are protected in the UK under Section 1 of the Wildlife and Countryside Act (WCA) 1981 (as amended). This protection was extended by the Countryside Rights of Way (CRoW) Act 2000. Under this legislation it is an offence to:
- kill, injure or take any wild bird;
 - take, damage or destroy the nest of any wild bird while that nest is in use or being built; and
 - take or destroy an egg of any wild bird.

- 2.2.5 In addition, certain species are listed on Schedule 1 of the WCA and receive special protection under Sections 1(4) and 1(5), which confer penalties where the above-mentioned offences are committed, in addition to making it an offence to:
- disturb any such bird whilst building its nest or whilst it is in or near a nest containing eggs or dependent young; and
 - disturb the dependent young of such a bird.

Natural Environment and Rural Communities Act 2006

- 2.2.6 The Natural Environment and Rural Communities (NERC) Act 2006 requires local and governmental authorities and departments to have regard to the conservation of biodiversity and a range of measures associated with public rights of way and other rural affairs.
- 2.2.7 Forty-nine bird species are listed as being Species of Principal Importance for conservation in England under Section 41 (S41) of the NERC Act 2006, and as such they are a material consideration during the planning process. These Species of Principal Importance (SPI) are those identified as requiring action under the UK Biodiversity Action Plan (UKBAP), which continue to be regarded as species of conservation priority under the UK Post-2010 Biodiversity Framework (which succeeded the UKBAP in July 2012).

2.3. Guidance

National Planning Policy Framework

- 2.3.1 The National Planning Policy Framework (NPPF, 2021) sets out the government's planning policies for England and how these are expected to be applied. This includes requirements for the contribution to and enhancement of the natural environment, including habitats and biodiversity. The NPPF specifies the obligations that local authorities and the UK government have regarding statutory designated sites and protected species under UK and international legislation and how these are to be delivered in the planning system.

Birds of Conservation Concern

- 2.3.2 The Birds of Conservation Concern (BoCC) Red, Amber and Green lists categorise the UK's regularly occurring bird species according to their level of conservation concern (Stanbury et al., 2021). Although these listings confer no legal protection, they are useful in guiding conservation action for individual species when birds may be affected by plans or projects.

Red list species

- 2.3.3 These are species of high conservation concern, including:
- species that are globally threatened according to the International Union for the Conservation of Nature (IUCN) criteria;
 - species with a historical breeding decline that have not shown a substantial recent recovery;

- species that have shown a severe breeding decline over the last 25 years or longer term;
- species that have shown a severe breeding range decline over the last 25 years or longer term; and
- species whose non-breeding populations have declined over the last 25 years or longer term.

Amber list species

2.3.4 These are species of medium conservation concern, including:

- species of European Conservation Concern;
- species whose populations have declined historically but which have made a substantial recent recovery;
- species whose breeding populations have declined moderately over the last 25 years or longer term;
- species that have shown a moderate breeding range decline over the last 25 years or longer term;
- species whose non-breeding populations have declined moderately over the last 25 years or longer term; and
- rare breeders or non-breeding rarity species with internationally important or localised populations.

Green list species

2.3.5 Green list species fulfil none of the criteria detailed above. As such, they have stable or increasing populations and are not currently of conservation concern.

2.3.6 Non-native species such as Canada goose (*Branta canadensis*) are not afforded Red, Amber, or Green list status.

Lincolnshire Biodiversity Action Plan

2.3.7 The Lincolnshire Biodiversity Action Plan (2011-2020 3rd ed.) includes a species action plan (SAP) for farmland birds, which includes the following species:

- grey partridge (*Perdix perdix*);
- lapwing (*Vanellus vanellus*);
- curlew (*Numenius arquata*);
- snipe (*Gallinago gallinago*);
- redshank (*Tringa totanus*);
- turtle dove (*Streptopelia turtur*);
- barn owl (*Tyto alba*).
- skylark (*Alauda arvensis*);
- starling (*Sturnus vulgaris*);

- tree sparrow (*Passer montanus*);
- yellow wagtail (*Motacilla flava*);
- bullfinch (*Pyrrhula pyrrhula*);
- linnet (*Linaria cannabina*);
- yellowhammer (*Emberiza citrinella*);
- corn bunting (*Miliaria calandra*);
- reed bunting (*Emberiza schoeniclus*);

3. Methods

3.1. Desk study

- 3.1.1 To provide supplementary data on breeding bird species known to be present in the vicinity of the study area, the following baseline data was obtained:
- 3.1.2 A data report was also obtained from the British Trust for Ornithology (BTO, 2022). This provided records from relevant 1km and 10km grid squares from 2007-2011 and 2019-2023; specifically, two 10km grid squares (TF05 and TF06) and 36 1km grid squares.
- 3.1.3 For reasons of confidentiality, records for certain rare breeding species (e.g. Montagu's harrier (*Circus pygargus*)) were provided for the nearest 50km grid square.
- 3.1.4 MAGIC (the Multi-Agency Geographic Information website) was consulted to view statutory designated nature conservation sites designated for features of ornithological interest within 10km of the site boundary for internationally designated sites and 2km of the site boundary for nationally designated sites.
- 3.1.5 The relevant local environmental records centre, Greater Lincolnshire Nature Partnership, was consulted in January 2023 for records of protected and notable species within 2km of the site boundary. The results of this data search are included in the Preliminary Ecological Appraisal Report (RSK, 2023).

3.2. Field surveys

- 3.2.1 The field surveys for breeding birds were undertaken during March to July 2023 inclusive, in accordance with the Bird Survey Guidelines for Assessing Ecological Impacts (BSG) (Bird Survey and Assessment Steering Group, 2023). These comprised a series of five survey visits, with a minimum period of 14 days between each visit.
- 3.2.2 Due to its large size, the survey area was divided into eight sub-areas or transects for the purpose of the field surveys, which each sub-area being surveyed once per visit, see Figure 2. Birds observed up to a distance of 50m beyond the survey boundary were also recorded, due to the possibility that secondary impacts from the proposed development could impact on these populations.
- 3.2.3 During survey visits, suitably experienced RSK Biocensus ornithologists walked pre-determined transect routes throughout the survey area, recording all bird species encountered (either visually or through their vocalisations) onto GIS Field Maps software using standard BTO species codes and behaviour notation (Marchant, 1983). In open habitats, such as the large agricultural fields that dominate the survey area, transect routes were selected so that each field could be viewed entirely from the transect route, and all boundary hedgerows were walked where practical to do so. In closed habitats, such as the parcels of woodland on site, transect routes were selected so that they passed within 50m of all sections of the habitat.

The direction with which the transects were walked was alternated for each survey visit, in order to reduce the risk of observational bias occurring in the results caused by visiting the same areas at the same time of the morning on each visit. In addition, surveyors avoided undertaking adjacent transects on the same visit to minimise double counting of birds. The transect routes are displayed on Figure 2.

- 3.2.4 Surveys were undertaken between the hours of dawn and 11am to coincide with the highest levels of bird activity.
- 3.2.5 Surveys were undertaken in suitable weather conditions, avoiding extreme temperatures, high winds, heavy rain, snow or fog, during which bird activity may be atypical and/or surveying may be impractical. The dates, timings and weather conditions for the survey visits are listed in Appendix 1.

3.3. Interpretation of survey results

Assessment of breeding status

- 3.3.1 The results of the five survey visits were used to assess the breeding statuses of the bird species recorded within the site, in accordance with the criteria presented in Gilbert et al., (1998) and taking into consideration understanding of the breeding ecology of the species in question. These criteria are based on the principle that many species are territorial during the breeding season and, as such, observation of certain behaviours (e.g. singing, displaying, aggressive interactions) can be used to infer breeding or likely breeding by a given species.
- 3.3.2 Breeding by a particular species within the site can be assessed as being 'Confirmed' if:
 - a nest or used nest was found;
 - a nest with young was seen or heard;
 - recently fledged young were seen or heard;
 - adults were seen entering or leaving a nest site, or an adult was seen incubating; or
 - a territory was positively identified due to the number and type of observations recorded (i.e. a combination of observations of a male singing from the same area of suitable nesting habitat on multiple occasions, adults seen visiting a probable nest site at that location and/or observation of a pair at that location).
- 3.3.3 Breeding by a particular species within the site can be assessed as being 'Probable' if:
 - nest-building was observed;
 - a bird was seen visiting a probable nest site on a single occasion;
 - agitated behaviour or alarm calls were observed in or near suitable nesting habitat;
 - a pair was seen in suitable nesting habitat during the breeding season; courtship and/or display were seen; or

- a male was heard singing in the same location on two or more occasions.
- 3.3.4 Breeding by a particular species within the site can be assessed as being 'Possible' if:
- birds were seen in or near suitable nesting habitat during the breeding season; or
 - a male was heard singing on one occasion during the breeding season.
- 3.3.5 Species not observed exhibiting the behaviours above are assessed as 'Non-breeding'.
- 3.3.6 A peak count was derived for each species as being the highest number of individuals observed across the entire survey area on any one visit.

Conservation status

- 3.3.7 The assessment of the importance of the breeding bird populations recorded took into consideration the conservation statuses of the species recorded. Species afforded special statutory protection or included on lists of species of conservation interest were evaluated. These included:
- Wildlife and Countryside Act 1981 (as amended) Schedule 1 species;
 - EC Birds Directive (2009/147/EC) Annex 1 species;
 - NERC Act 2006 S41 Species of Principal Importance;
 - BoCC Red and Amber list species; and
 - Relevant SAP species for Lincolnshire.

Species abundance

- 3.3.8 The importance of the breeding bird populations recorded was assessed in the context of the sizes of those populations relative to international, national, and regional population estimates for the species in question. National population estimates used for this analysis are as presented by Woodward et al., (2020). Assessment of county, district, or local importance was based on professional judgement and using county population estimates where available (as presented in the appropriate county bird report).

Species diversity

- 3.3.9 The importance of the breeding bird assemblage recorded within the site was assessed according to its level of species diversity (i.e., the number of species breeding or potentially breeding), in reference to the criteria described by Fuller (1980) indicated in Table 1.

Table 1 Breeding bird assemblage importance criteria (Fuller 1980) and adapted criteria

Breeding bird assemblage importance category	Fuller (1980) criteria	Adapted criteria
--	------------------------	------------------

National	More than 85	More than 85
Regional	70-84	70-84
County	50-69	50-69
District	-	25-49
Local	25-49	Fewer than 25

- 3.3.10 It should be recognised that breeding birds have undergone widespread decline since these criteria were devised. As such, the qualifying number of species for a given importance category proposed by Fuller (1980) is now considered to be relatively high. This disparity is taken into account when assessing the importance of the breeding bird assemblage recorded within the study area. Assessment of county or district importance was based on professional judgement and in reference to county population data detailed within the Birds of Lincolnshire (Casey, C., et al, 2021) publication and the latest Rare Birds Breeding Panel (RBBP) report for 2020 (Eaton, M. A., et al. 2022).
- 3.3.11 The breeding bird assemblage was also evaluated in the context of the relevant Local Wildlife Site (LWS) selection criteria, which provide a mechanism for the designation and protection of areas of land that are especially important for their wildlife at a county level.
- 3.3.12 Local Wildlife Site Guidelines for Greater Lincolnshire (GLNP, 2013) sets out the criteria for the selection of LWSs within the county. This does not specify LWS selection criteria relating to breeding birds for the dominant habitat types present within the site (i.e. arable fields). However, many species potentially breeding on site are also species typical of grazing marsh; LWS selection criteria for which are specified in the LWS Guidelines. Whilst the site does not comprise grazing marsh habitat and therefore would not qualify as a grazing marsh LWS even if the breeding bird thresholds for this designation are met, comparison of the breeding bird populations recorded on site with these LWS thresholds provides an indication of the value of the assemblage at a county level.

3.4 Limitations

- 3.4.1 Whilst desk study data are useful in providing supplementary ecological information for a study area, it should be acknowledged that these data are dependent on the submission of records to the relevant organisations (e.g., the BTO). As such, a lack of records for a particular species does not necessarily mean that the species is absent from the study area. Similarly, records of a particular species do not necessarily mean that the species is still present within the study area.

- 3.4.2 Due to adverse weather condition, one portion of the central area could not be surveyed during the third visit in late May. To ensure this section was subject to the same level of survey effort as the rest of the survey area, an additional survey visit was undertaken in early July to ensure that the whole survey area was surveyed on five occasions. Details of this additional survey visit are provided in Appendix 1. As the additional visit was conducted within the peak breeding season, and survey effort was achieved across the entire peak breeding season (i.e., March to early July inclusive), the results of the survey are valid and representative of the breeding bird assemblage of the survey area. This is not therefore considered to be a significant limitation to the survey results.
- 3.4.3 When calculating the peak count for each survey visit, the possibility of double-counting individuals or groups of birds exists where surveys were undertaken on different portions of the survey across multiple days. For the majority of species such as passerines, their relatively small territories and feeding ranges whilst nesting is deemed sufficient to minimise the risk of double-counting, as there is little movement to be expected between the different transect areas of the site. For more mobile species (e.g. waders and birds of prey), the potential for double-counting has been considered when interpreting the survey results.
- 3.4.4 It should be noted that ecological features (e.g., bird populations) are transient, and that the distributions of habitats and species may be subject to change. As such, in line with Chartered Institute of Ecology and Environmental Management (CIEEM) guidance, the ecological survey data presented in this report are considered valid for at least two years (CIEEM, 2019), after which if any significant changes have occurred to the habitats present then it may be necessary for further field surveys to be undertaken.

4 Results

4.1 Desk Study

- 4.1.1 The BTO Data Report identified confirmed or potential breeding by 71 species within 2km of the site boundary in 2007-2011, and by 34 species in 2019-2023. 91 species were recorded within 2km of the site boundary during 2007-2011, including one species recorded within 50km (Montagu’s harrier). 66 species were recorded breeding within 10km of the site boundary during 2019-2023. Table 2 summaries the results of the BTO Data Report. Full BTO data are provided in Appendix 2.

Table 2 Species recorded within 2km and 10km of the site boundary in 2007-2011 and 2019-2023

No. Species	2007-11		2019-2023	
	Within 2km	Within 10km	Within 2km	Within 10km
Breeding	71	91	34	66
Present (non-breeding)	N/A	N/A	46	52

- 4.1.2 The background data report from the Greater Lincolnshire Nature Partnership returned records of 38 bird species within 2 km of the survey area, of which 86% were recorded from RAF Digby. Of these species, eight are listed on Annex 1 of the Birds Directive, including red kite (*Milvus milvus*), marsh harrier (*Circus aeruginosus*), and peregrine (*Falco peregrinus*), and 15, including the 8 above, are included in Schedule 1 of the Wildlife and Countryside Act 1981, including quail (*Coturnix coturnix*), barn owl (*Tyto alba*), hobby (*Falco subbuteo*) and firecrest (*Regulus ignicapilla*).
- 4.1.3 Desk based scoping identified no designated sites (e.g. SPAs, Ramsar sites, Sites of Special Scientific Interest) relevant to the proposed development with regard to features of ornithological interest. The nearest SPA/Ramsar site is The Wash located approximately 37km to the south-east of the development site.

4.2 Field Surveys

- 4.1.1 A total of 86 bird species were recorded during the field surveys of the site between March and July 2023 inclusive. The peak counts and breeding statuses of these species are summarised in Table 3, in reference to the assessment criteria described in Section 3.3, with descriptions provided where necessary. Full breeding bird survey data from March to July 2023 inclusive are provided in Appendix 3.

Table 3 Summary of species recorded during the 2023 field surveys

Common name	Scientific name	Peak count	Breeding status	Description
Greylag Goose	<i>Anser anser</i>	12	Non-breeding	Individuals and small groups were occasionally observed feeding in arable fields or as fly-overs, but no evidence of breeding was noted
Whooper Swan	<i>Cygnus cygnus</i>	120	Non-breeding	Two flocks were observed migrating north during visit 1
Shelduck	<i>Tadorna tadorna</i>	3	Non-breeding	Occasional fly-over, presumed to be moving between off-site waterbodies
Gadwall	<i>Mareca strepera</i>	2	Non-breeding	Two males were feeding in the disused quarry next to RAF Digby during visit 3
Mallard	<i>Anas platyrhynchos</i>	16	Possible	Females were observed in suitable wet ditches on two visits, otherwise occasional fly-over
Red-legged Partridge	<i>Alectoris rufa</i>	30	Probable	Pairs and small coveys were frequently encountered across all three areas. Likely released for shooting
Grey Partridge	<i>Perdix perdix</i>	30	Confirmed	Recently fledged young observed in the western area. Multiple pairs observed across all three areas. 14 possible territories
Quail	<i>Coturnix coturnix</i>	2	Probable	Two singing males present – one in the western area during visits 4 & 5, and one in the central area during visit 4
Pheasant	<i>Phasianus colchicus</i>	28	Confirmed	Recently fledged juveniles observed. Frequently encountered across all three areas. Likely released for shooting
Little Grebe	<i>Tachybaptus ruficollis</i>	1	Confirmed	An adult was observed taking food into undergrowth in the disused quarry next to RAF Digby during visit 3
Grey Heron	<i>Ardea cinerea</i>	2	Non-breeding	Two fly-overs observed during the survey

Cormorant	<i>Phalacrocorax carbo</i>	1	Non-breeding	One fly-over observed during the survey
Sparrowhawk	<i>Accipiter nisus</i>	3	Possible	Adults were observed in suitable breeding habitat in all three areas.
Marsh Harrier	<i>Circus aeruginosus</i>	1	Non-breeding	An adult female was observed twice in flight in the central section during visit 3, both times coming from the direction of RAF Digby where suitable nesting habitat is present
Red Kite	<i>Milvus milvus</i>	7	Non-breeding	Singles and pairs of birds were observed in all three areas, particularly in the eastern area where it was thought that a pair were likely nesting in woodland approximately 400m north of the site. Four birds were observed together in the eastern area during visit 5, feeding over a recently harvested field
Buzzard	<i>Buteo buteo</i>	12	Confirmed	An active nest was observed in a stand of woodland in the western area
Moorhen	<i>Gallinula chloropus</i>	2	Probable	A pair were in the disused quarry next to RAF Digby during visits 2 & 3
Coot	<i>Fulica atra</i>	3	Confirmed	A pair with one chick were in the disused quarry next to RAF Digby during visit 3
Oystercatcher	<i>Haematopus ostralegus</i>	4	Possible	A pair were in the disused quarry next to RAF Digby during visits 2 & 3, otherwise occasional fly-over
Lapwing	<i>Vanellus vanellus</i>	25	Probable	Displaying birds were observed in five bare or recently ploughed fields across the eastern and central areas, with a minimum of 3 and 8 pairs present respectively (i.e. 11 pairs in total)
Curlew	<i>Numenius arquata</i>	3	Non-breeding	A pair were observed in flight and heard calling on multiple visits from the large grassland field at RAF Digby where breeding is suspected, a minimum of 250m from the site boundary. A pair flew high east over the eastern area during visit 4. There were no observations of birds on the ground within the survey area

Snipe	<i>Gallinago gallinago</i>	11	Non-breeding	Wintering birds were present on patches of wet grassland in the eastern area during visits 1 & 2
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	11	Non-breeding	Small flocks were occasionally observed feeding on recently ploughed fields
Common Gull	<i>Larus canus</i>	17	Non-breeding	One flock was observed feeding on a recently ploughed field during visit 2
Herring Gull	<i>Larus argentatus</i>	39	Non-breeding	Small flocks were occasionally observed feeding on recently ploughed fields, and occasional fly-over
Lesser Black-backed Gull	<i>Larus fuscus</i>	40	Non-breeding	Small flocks were occasionally observed feeding on recently ploughed fields, and occasional fly-over
Feral Pigeon	<i>Columba livia</i>	24	Probable	Pairs were observed around suitable nesting buildings in the eastern and central sections
Stock Dove	<i>Columba oenas</i>	38	Confirmed	Singing males and pairs were frequently observed in suitable nesting habitat in all three areas. Small flocks were frequently observed feeding in arable fields. 23 possible territories
Woodpigeon	<i>Columba palumbus</i>	534	Confirmed	Singing males and pairs were frequently observed in suitable nesting habitat in all three areas. Medium to large sized flocks were frequently observed feeding in arable fields
Collared Dove	<i>Streptopelia decaocto</i>	1	Non-breeding	Single birds were observed on two visits, likely from nest sites in the adjacent villages
Cuckoo	<i>Cuculus canorus</i>	3	Possible	Three singing males were across the eastern and central areas during visit 3
Barn Owl	<i>Tyto alba</i>	2	Confirmed	Separate pairs were observed entering, roosting and hunting in the vicinity of two nest sites – a barn in the north-east corner of the eastern area, and a former military building in the north-west corner of the central area

Little Owl	<i>Athene noctua</i>	2	Probable	Up to two birds were observed in a barn in the central section on three visits
Swift	<i>Apus apus</i>	11	Non-breeding	Occasional fly-over, presumably from nest sites in the adjacent villages
Great Spotted Woodpecker	<i>Dendrocopos major</i>	8	Probable	Frequently recorded in the woodlands and mature hedgerows
Green Woodpecker	<i>Picus viridis</i>	4	Probable	Frequently recorded in the eastern and western areas
Kestrel	<i>Falco tinnunculus</i>	12	Confirmed	A female with two recently fledged young were observed in the eastern area. Pairs were observed in all three areas. 6 possible territories
Peregrine	<i>Falco peregrinus</i>	2	Non-breeding	A pair were observed in the western area on multiple occasions during visits 1 & 2, including commuting to and from the large active quarry 100m to the south-west which is considered a likely nest site. Possibly the same male flew over the eastern area during visit 2
Jay	<i>Garrulus glandarius</i>	3	Probable	Alarm calling adults observed in suitable breeding habitat
Magpie	<i>Pica pica</i>	13	Probable	Alarm calling adults observed in suitable breeding habitat
Jackdaw	<i>Corvus monedula</i>	97	Probable	Pairs were observed in suitable breeding habitat. Small to medium sized flocks were frequently observed feeding in arable fields
Rook	<i>Corvus frugilegus</i>	301	Confirmed	One active rookery was recorded within the survey area – in trees in the south-west corner of the eastern area. Medium to large sized flocks were frequently observed feeding in arable fields
Carrion Crow	<i>Corvus corone</i>	28	Possible	Adults were observed in suitable breeding habitat in all three areas

Raven	<i>Corvus corax</i>	4	Confirmed	An active nest was observed on a pylon immediately adjacent to the north-west corner of the western area, otherwise occasional fly-over
Coal Tit	<i>Periparus ater</i>	10	Confirmed	Recently fledged young observed in the eastern area
Blue Tit	<i>Cyanistes caeruleus</i>	254	Confirmed	Recently fledged young observed in all three areas
Great Tit	<i>Parus major</i>	137	Confirmed	Recently fledged young observed in all three areas
Skylark	<i>Alauda arvensis</i>	271	Confirmed	Very high numbers recorded, particularly across the central and western areas. Recently fledged young were observed in the western area. A minimum of 184 territories present
Sand Martin	<i>Riparia riparia</i>	1	Non-breeding	A single passage migrant was recorded during visit 1
Swallow	<i>Hirundo rustica</i>	35	Confirmed	Adults seen taking food to an active nest
House Martin	<i>Delichon urbicum</i>	14	Non-breeding	Feeding birds were observed on three visits, presumably from nest sites in the adjacent villages
Long-tailed Tit	<i>Aegithalos caudatus</i>	56	Confirmed	Recently fledged young observed in all three areas
Willow Warbler	<i>Phylloscopus trochilus</i>	8	Confirmed	Recently fledged young observed in the central area. 12 possible territories
Chiffchaff	<i>Phylloscopus collybita</i>	59	Confirmed	Very common. Multiple territories confirmed and pairs observed in suitable nesting habitat
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>	3	Possible	Three singing males recorded in the eastern and central areas during visit 3 only
Blackcap	<i>Sylvia atricapilla</i>	41	Confirmed	Recently fledged young observed in the western area. Common across all three areas

Lesser Whitethroat	<i>Sylvia curruca</i>	6	Probable	Singing males observed on multiple visits in the eastern area. 8 possible territories across all three areas
Whitethroat	<i>Sylvia communis</i>	78	Confirmed	Very common. Recently fledged young observed in all three areas
Goldcrest	<i>Regulus regulus</i>	6	Probable	Singing birds and pairs were observed in suitable nesting habitat in the eastern and western areas
Wren	<i>Troglodytes troglodytes</i>	123	Confirmed	Very common. Recently fledged young observed in all three areas
Nuthatch	<i>Sitta europaea</i>	1	Possible	An adult was observed in suitable breeding habitat in the central area during visit 1
Treecreeper	<i>Certhia familiaris</i>	2	Possible	Single or pairs of birds were observed in five woodlands across all three areas
Starling	<i>Sturnus vulgaris</i>	24	Non-breeding	Occasionally observed, presumably from nest sites in the adjacent villages
Blackbird	<i>Turdus merula</i>	91	Confirmed	Very common across all three areas. Recently fledged young observed
Fieldfare	<i>Turdus pilaris</i>	99	Non-breeding	Wintering flocks were recorded during visits 1 & 2
Redwing	<i>Turdus iliacus</i>	58	Non-breeding	Wintering flocks were recorded during visit 1
Song Thrush	<i>Turdus philomelos</i>	20	Confirmed	Adults were observed carrying food in the eastern area. Singing males present in all three areas. 23 possible territories
Mistle Thrush	<i>Turdus viscivorus</i>	7	Confirmed	Adults were observed carrying food in the eastern area. Adults were observed in all three areas. 3 possible territories
Robin	<i>Erithacus rubecula</i>	65	Confirmed	Very common across all three areas. Recently fledged young observed

Redstart	<i>Phoenicurus phoenicurus</i>	1	Non-breeding	A single passage migrant was recorded during visit 2
Wheatear	<i>Oenanthe oenanthe</i>	3	Non-breeding	Four passage migrants were recorded during visits 1 & 2
House Sparrow	<i>Passer domesticus</i>	20	Probable	Small colonies were present around four farms and residential buildings in the central and western areas
Tree Sparrow	<i>Passer montanus</i>	2	Probable	A pair were observed in suitable breeding habitat around a farm in the eastern area during visits 3 & 4
Dunnock	<i>Prunella modularis</i>	42	Confirmed	Recently fledged young observed in the western area. Common across all three areas
Yellow Wagtail	<i>Motacilla flava</i>	21	Confirmed	Recently fledged young observed in the central area, and adults carrying food in the eastern area. Pairs present in all three areas. 12 possible territories
Pied Wagtail	<i>Motacilla alba ssp. yarrellii</i>	8	Probable	A pair were present in suitable breeding habitat in the eastern area
Meadow Pipit	<i>Anthus pratensis</i>	54	Confirmed	Adults were observed carrying food in the central area. Singing males were observed in the central and eastern areas. Higher numbers were recorded during visit 1 due to the presence of wintering birds
Chaffinch	<i>Fringilla coelebs</i>	89	Confirmed	Recently fledged young observed in the central area. Common across all three areas
Bullfinch	<i>Pyrrhula pyrrhula</i>	3	Possible	A pair were observed in suitable nesting habitat in the eastern section
Greenfinch	<i>Chloris chloris</i>	11	Confirmed	Recently fledged young observed in the eastern and central areas
Linnet	<i>Linaria cannabina</i>	291	Probable	Pairs of birds were frequently recorded in all three areas. Higher numbers were recorded during visit 1 due to the presence of wintering birds. 14 possible territories

Goldfinch	<i>Carduelis carduelis</i>	86	Confirmed	Recently fledged young observed in the eastern and western areas. Common across all three areas
Siskin	<i>Spinus spinus</i>	1	Non-breeding	A single wintering bird was observed in the eastern area during visit 2
Corn Bunting	<i>Miliaria calandra</i>	24	Confirmed	Recently fledged young observed in the western area. Common in the western and central areas. 19 possible territories
Yellowhammer	<i>Emberiza citrinella</i>	84	Confirmed	Recently fledged young observed in the western area. Common across all three areas. 38 possible territories
Reed Bunting	<i>Emberiza schoeniclus</i>	14	Confirmed	Evidence of nest building observed in the central area. Pairs were observed in all three areas. 10 possible territories

- 4.2.4 In summary, in reference to the criteria described in Section 3.3, the breeding status of 35 species was identified as Confirmed:
- 4.2.5 The breeding status of 17 species was identified as Probable:
- 4.2.6 The breeding status of 9 species was identified as Possible:
- 4.2.7 The remaining 25 species recorded were assessed as Non-breeding.

5 Evaluation

5.1 Overview

5.1.1 The assessment of the importance of the breeding bird populations recorded within the site during the field surveys undertaken between March and July 2023 inclusive is provided below, taking into consideration:

- the conservation statuses of the species recorded (i.e. their inclusion on the legislation and guidance described in Section 2 of this report);
- the sizes of the populations of the species recorded (i.e. species abundance);
- the overall diversity of the breeding bird assemblage (i.e. species diversity); and
- the spatial patterns of breeding bird usage of the site, including any areas of particular importance to breeding bird populations.

5.2 Conservation status

5.2.1 Of the 61 species recorded breeding or potentially breeding during the 2023 field surveys, 31 are included on the legislation and guidance described in Section 2 of this report (as indicated in Table 4).

Table 4 Specially protected and notable species recorded during the 2023 field surveys

Species	Breeding status	Conservation status category				
		Schedule 1	S41	Red	Amber	SAP
Mallard	Possible				✓	
Grey Partridge	Confirmed		✓	✓		✓
Quail	Probable	✓			✓	
Sparrowhawk	Possible				✓	
Moorhen	Probable				✓	
Oystercatcher	Possible				✓	
Lapwing	Probable		✓	✓		✓
Stock Dove	Confirmed				✓	
Woodpigeon	Confirmed				✓	
Cuckoo	Possible		✓	✓		
Barn Owl	Confirmed	✓				✓

Species	Breeding status	Conservation status category				
		Schedule 1	S41	Red	Amber	SAP
Kestrel	Confirmed				✓	
Rook	Confirmed				✓	
Skylark	Confirmed		✓	✓		✓
Willow Warbler	Confirmed				✓	
Sedge Warbler	Possible				✓	
Whitethroat	Confirmed				✓	
Song Thrush	Confirmed		✓		✓	
Mistle Thrush	Confirmed			✓		
Wren	Confirmed				✓	
House Sparrow	Probable		✓	✓		
Tree Sparrow	Probable		✓	✓		✓
Dunnock	Confirmed		✓		✓	
Yellow Wagtail	Confirmed		✓	✓		✓
Meadow Pipit	Confirmed				✓	
Greenfinch	Probable			✓		
Linnet	Probable		✓	✓		✓
Bullfinch	Possible		✓		✓	✓
Corn Bunting	Confirmed		✓	✓		✓
Yellowhammer	Confirmed		✓	✓		✓
Reed Bunting	Confirmed		✓		✓	✓

Schedule 1: Wildlife and Countryside Act 1981 (as amended) Schedule 1 species.

S41: NERC Act 2006 S41 Species of Principal Importance

Red: BoCC Red list species

Amber: BoCC Amber list species

SAP: species subject to Species Action Plans for Lincolnshire

5.2.1 In summary, the 61 species recorded breeding or potentially breeding included the following:

- 2 WCA Schedule 1 species;
- 14 NERC S41 Species of Principal Importance;
- 12 BoCC Red list species;
- 18 BoCC Amber list species; and
- 11 SAP bird species for Lincolnshire.

Figures 3a-3q display the observation points of the 18 WCA Schedule 1, NERC S41 and BoCC Red list species recorded during the survey.

5.3 Species Abundance

5.3.1 Based on the peak counts and the number of territories recorded for the species encountered during the 2023 field surveys, no species are assessed as being present in numbers of international or national importance within the site boundary.

5.3.2 The following species were present in numbers that are considered to be of county importance:

- quail, with 2 possible territories, and a peak count of 2, representing 6.9% of the Lincolnshire breeding population;
- corn bunting, with 19 possible territories, and a peak count of 24, representing 2.7% of the Lincolnshire breeding population.

5.3.3 The suspected breeding pair of curlew on RAF Digby, approximately 500m from the site, is likely to be of county importance, representing 4% of the Lincolnshire breeding population. However curlew was not found to be breeding on the site itself.

5.3.4 Breeding populations of other farmland bird species present on site, including skylark, grey partridge and yellow wagtail, are likely to be of district importance, due to the national declines these species have undergone. However, with no direct comparative district population data available, we are unable to confirm this.

5.4 Species Diversity

5.4.1 31 specially protected and/or notable species were identified as breeding or potentially breeding within the survey area. Using the adapted breeding bird assemblage importance criteria described in Section 3.2.21, this equates to a breeding bird assemblage of local level importance. Considering this, and the presence of a further 30 green listed species, either confirmed or possibly breeding within the survey area, the breeding bird assemblage recorded is considered to be of up to county level importance.

5.4.2 In reference to the LWS criteria described in Section 3.1.3, based on the species recorded as breeding or potentially breeding during the 2023 field surveys, the site attains a score of 14, which would exceed the threshold of

13 for LWS selection. Whilst the site does not contain grazing marsh habitat and therefore does not qualify for LWS selection, this further suggests that the breeding bird assemblage may potentially be of value at a county level.

5.5 Comparison with BTO Data Report

5.5.1 As outlined in Table 2, the data received from the BTO shows that a total of 71 species were recorded breeding within 2km of the site between 2007-2011, followed by 34 species between 2019-2023. Of these species, seventeen were not recorded as breeding on site during the breeding bird survey, with these falling into one of the four following categories:

- Three aquatic species which were recorded as being present during the survey, but for which no suitable nesting habitat is present on site – greylag goose, shelduck and black-headed gull.
- Three aquatic species which were absent during the survey, and for which no suitable nesting habitat is present on site – little ringed plover, ringed plover and grey wagtail.
- Six terrestrial species which were recorded as being present during the survey, but for which no suitable nesting habitat is present on site – curlew, collared dove, swift, sand martin, house martin and starling.
- Five terrestrial species which were absent during the survey, for which suitable nesting habitat is present on site – turtle dove, tawny owl, willow tit, marsh tit and spotted flycatcher.

5.5.2 Of the five species in the latter category, the broadleaved woodland habitats on site are considered suitable for supporting tawny owl. However, due to the species' nocturnal habits, it would be unlikely to be recorded during the breeding bird surveys. Of the other species in this category, all four are undergoing significant range and population reductions within the UK, and all were absent during the 2019-2023 period in the BTO data, suggesting that they no longer occur on or within the vicinity of the site, as supported by their absence from our survey.

5.6 Site usage by breeding birds

5.6.1 The highest value habitats on site for breeding birds were the large grassland and arable fields present across western area and the western portion of the central area. These fields, a mixture of fallow vegetation and silage crops, held the majority of the corn bunting territories within the survey area, as well as the highest concentrations of skylark, meadow pipit, and grey partridge territories. Arable fields adjacent to these grassland areas showed significantly higher abundances of these ground-nesting species compared to those arable fields in the eastern area where the grassland areas were absent, highlighting the value of this habitat in a wider context.

5.6.2 The majority of non-ground-nesting birds recorded were in the hedgerows surrounding the arable fields on site. Mature, species-rich hedgerows, such as those present in the eastern area, were of particularly high value for species such as chiffchaff, blackcap and song thrush.

5.6.3 The stands of broadleaved woodland on site were generally of poor condition, with little to no understory present due to the presence of

pheasant rearing pens. As such, diversity of woodland species was low beyond the common generalist species such as blue tit, great tit and chaffinch.

- 5.6.4 Breeding bird activity within the arable fields themselves was generally low, particularly where single-crop monocultures such as barley and wheat were present, though yellow wagtails were primarily recorded in this habitat type, with skylark also being recorded frequently.
- 5.6.5 The farm buildings and other man-made structures present on site provided suitable nesting opportunities for several species including barn owl, kestrel and tree sparrow. Although it is unlikely that the proposed development will impact on these buildings directly, the foraging areas surrounding the buildings may be subject to change.

6 Conclusion

- 6.2.1 The field surveys undertaken in March to July 2023 inclusive, to inform the proposed development for Springwell Solar Farm, recorded a total of 86 bird species, 61 of which were breeding or potentially breeding within or in close proximity to the site. These included protected species including those listed under schedule 1 of the WCA and S41 of the NERC Act.
- 6.2.2 Based on the diversity of the breeding bird assemblage recorded, and sizes of the breeding populations of corn bunting and quail recorded, the breeding bird populations and overall assemblage within and in close proximity to the site are considered to be of up to county importance. Grassland fields and hedgerows were of greatest value to breeding birds, particularly skylark and grey partridge, whilst arable fields were used by yellow wagtails.
- 6.2.3 The proposed development has the potential to adversely affect breeding birds within and adjacent to the site through the loss or alteration of suitable habitat, both during its construction and operation. The potential impacts on breeding birds will be assessed in detail within the Environmental statement and appropriate mitigation identified.
- 6.2.4 No further surveys for breeding birds are required at this stage. The Site is not considered of importance for overwintering waders and wildfowl due to distance from coast and any significant wetland areas (i.e. it is more than 35km from the Wash SPA). However due to the extent and suitability of habitats within and adjacent to the site for wintering farmland birds, further consultation is planned with North Kesteven District Council and Lincolnshire County Council to determine if further surveys would be required to inform an assessment of the wintering bird assemblage and identify any potential impacts and required mitigation measures. Wintering bird surveys comprise four to six survey visits spread evenly between late October and early March inclusive.

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Appendix 1 – Field Survey Weather Conditions

Visit Number	Date	Weather
1	28/03/2023	Start: 3°C, cloud 8/8, wind BF1, light drizzle End: 9° C, cloud 8/8, wind BF4, light rain
	29/03/2023	Start: 7°C, cloud 8/8, wind BF1, light drizzle End: 8°C, cloud 6/8, wind BF3, light rain
	30/03/2023	Start: 8°C, cloud 6/8, wind BF3, dry End: 9°C, cloud 6/8, wind BF4, light drizzle
	31/03/2023	Start: 8°C, cloud 8/8, wind BF1, light drizzle End: 9°C, cloud 6/8, BF2, moderate rain
2	13/04/2023	Start: 7°C, cloud 6/8, wind BF3, dry End: 13° C, cloud 8/8, wind BF4, dry
	14/04/2023	Start: 5°C, cloud 0/8, wind BF1, dry End: 10° C, cloud 2/8, wind BF1, dry
	18/04/2023	Start: 7°C, cloud 8/8, wind BF2, dry End: 12° C, cloud 8/8, wind BF3, dry
	19/04/2023	Start: 6°C, cloud 2/8, wind BF1, dry End: 11° C, cloud 6/8, wind BF2, dry
	20/04/2023	Start: 4°C, cloud 0/8, wind BF1, dry End: 12° C, cloud 4/8, wind BF4, dry
	21/04/2023	Start: 7°C, cloud 2/8, wind BF1, dry End: 14° C, cloud 4/8, wind BF2, light drizzle
	24/04/2023	Start: 6°C, cloud 4/8, wind BF2, dry End: 13° C, cloud 4/8, wind BF1, dry
3	16/05/2023	Start: 9°C, cloud 2/8, wind BF2, dry End: 15° C, cloud 2/8, wind BF2, dry
	17/05/2023	Start: 12°C, cloud 0/8, wind BF3, dry End: 16° C, cloud 4/8, wind BF3, dry
	18/05/2023	Start: 9°C, cloud 0/8, wind BF1, dry End: 15° C, cloud 8/8, wind BF1, dry
	19/05/2023	Start: 12°C, cloud 4/8, wind BF0, dry End: 19° C, cloud 8/8, wind BF1, dry
	23/05/2023	Start: 8°C, cloud 4/8, wind BF1, dry End: 14° C, cloud 8/8, wind BF2, dry
	24/05/2023	Start: 10°C, cloud 6/8, wind BF2, dry End: 15° C, cloud 8/8, wind BF3, dry
	25/05/2023	Start: 11°C, cloud 0/8, wind BF2, dry End: 17° C, cloud 2/8, wind BF2, dry

Visit Number	Date	Weather
4	06/06/2023	Start: 13°C, cloud 4/8, wind BF3, dry End: 19° C, cloud 8/8, wind BF3, dry
	07/06/2023	Start: 11°C, cloud 6/8, wind BF2, dry End: 18° C, cloud 2/8, wind BF2, dry
	09/06/2023	Start: 12°C, cloud 4/8, wind BF3, dry End: 18° C, cloud 8/8, wind BF3, dry
	13/06/2023	Start: 10°C, cloud 0/8, wind BF1, dry End: 17° C, cloud 0/8, wind BF1, dry
	14/06/2023	Start: 10°C, cloud 2/8, wind BF1, dry End: 18° C, cloud 2/8, wind BF3, dry
	15/06/2023	Start: 12°C, cloud 4/8, wind BF3, dry End: 18° C, cloud 8/8, wind BF3, dry
5	27/06/2023	Start: 14°C, cloud 7/8, wind BF0, dry End: 18° C, cloud 8/8, wind BF2, dry
	28/06/2023	Start: 17°C, cloud 7/8, wind BF0, dry End: 22° C, cloud 8/8, wind BF1, dry
	29/06/2023	Start: 14°C, cloud 2/8, wind BF3, dry End: 19° C, cloud 8/8, wind BF3, dry
	30/06/2023	Start: 13°C, cloud 2/8, wind BF3, dry End: 19° C, cloud 8/8, wind BF3, dry
6	12/072023	Start: 11°C, cloud 3/8, wind BF3, dry End: 16° C, cloud 6/8, wind BF4, dry

Appendix 2 – BTO Data Report

Common name	Scientific name	Conservation status	2007-2011 2km	2007-2011 10km	2019-2023 2km	2019-2023 10km	Present during 2023 surveys
Pink-footed Goose	<i>Anser brachyrhynchus</i>	Amber	-	-	-	Present	-
Greylag Goose	<i>Anser anser</i>	Amber	Probable	Confirmed	Present	Confirmed	Present
Canada Goose	<i>Branta canadensis</i>	Green	-	Confirmed	-	Present	-
Mute Swan	<i>Cygnus olor</i>	Amber	-	-	-	Present	-
Whooper Swan	<i>Cygnus cygnus</i>	A1, Sch1, Amber	-	-	-	Present	Present
Shelduck	<i>Tadorna tadorna</i>	Amber	Confirmed	Confirmed	Probable	Probable	Present
Wigeon	<i>Anas penelope</i>	Amber	-	-	-	Present	-
Gadwall	<i>Mareca strepera</i>	Amber	-	Probable	-	Present	Present
Teal	<i>Anas crecca</i>	Amber	-	Probable	Present	Present	-
Mallard	<i>Anas platyrhynchos</i>	Amber	Confirmed	Confirmed	Present	Confirmed	Possible
Shoveler	<i>Anas clypeata</i>	Amber	-	Probable	-	Present	-
Pochard	<i>Aythya ferina</i>	Red	-	-	-	Present	-
Tufted Duck	<i>Aythya fuligula</i>	Green	-	Probable	-	Confirmed	-
Red-legged Partridge	<i>Alectoris rufa</i>	Green	Confirmed	Confirmed	Present	Present	Probable
Grey Partridge	<i>Perdix perdix</i>	S41, Red	Probable	Confirmed	Confirmed	Confirmed	Confirmed
Quail	<i>Coturnix coturnix</i>	Sch1, Amber	-	-	Possible	Possible	Probable
Pheasant	<i>Phasianus colchicus</i>	Green	Probable	Confirmed	Possible	Probable	Confirmed
Little Grebe	<i>Tachybaptus ruficollis</i>	Green	-	-	-	Possible	Confirmed
Great Crested Grebe	<i>Podiceps cristatus</i>	Green	-	Confirmed	-	Confirmed	-

Common name	Scientific name	Conservation status	2007-2011 2km	2007-2011 10km	2019-2023 2km	2019-2023 10km	Present during 2023 surveys
Little Egret	<i>Egretta garzetta</i>	A1, Green	-	-	-	Present	-
Cattle Egret	<i>Bubulcus ibis</i>	Amber	-	-	-	Present	-
Grey Heron	<i>Ardea cinerea</i>	Green	-	Confirmed	Present	Confirmed	Present
Cormorant	<i>Phalacrocorax carbo</i>	Green	-	-	-	Present	Present
Sparrowhawk	<i>Accipiter nisus</i>	Amber	Probable	Confirmed	Present	Present	Possible
Marsh Harrier	<i>Circus aeruginosus</i>	A1, Sch1, Amber	-	Confirmed	Present	Present	Present
Montagu's Harrier	<i>Circus pygargus</i>	A1, Sch1, Red	-	Confirmed (50- km)	-	-	-
Red Kite	<i>Milvus milvus</i>	A1, Sch1, Green	-	-	Present	Confirmed	Present
Buzzard	<i>Buteo buteo</i>	Green	Confirmed	Confirmed	Probable	Probable	Confirmed
Osprey	<i>Pandion haliaetus</i>	A1, Sch1, Amber	-	-	-	Present	-
Water Rail	<i>Rallus aquaticus</i>	Green	-	Probable	-	Present	-
Moorhen	<i>Gallinula chloropus</i>	Amber	Confirmed	Confirmed	-	Confirmed	Probable
Coot	<i>Fulica atra</i>	Green	Confirmed	Confirmed	Present	Confirmed	Confirmed
Oystercatcher	<i>Haematopus ostralegus</i>	Amber	Confirmed	Confirmed	Probable	Probable	Possible
Golden Plover	<i>Pluvialis apricaria</i>	A1, Green	-	-	-	Present	-
Lapwing	<i>Vanellus vanellus</i>	S41, Red	Confirmed	Confirmed	Present	Confirmed	Probable
Little Ringed Plover	<i>Charadrius dubius</i>	Sch1, Green	Confirmed	Confirmed	-	-	-
Ringed Plover	<i>Charadrius hiaticula</i>	Red	Confirmed	Confirmed	-	-	-
Curlew	<i>Numenius arquata</i>	S41, Red	-	-	Confirmed	Confirmed	Present
Redshank	<i>Tringa totanus</i>	Amber	-	Probable	-	-	-

Common name	Scientific name	Conservation status	2007-2011 2km	2007-2011 10km	2019-2023 2km	2019-2023 10km	Present during 2023 surveys
Woodcock	<i>Scolopax rusticola</i>	Red	-	Probable	-	-	-
Snipe	<i>Gallinago gallinago</i>	Amber	-	Possible	-	Present	Present
Common Tern	<i>Sterna hirundo</i>	A1, Amber	-	-	-	Present	-
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	Amber	Confirmed	Confirmed	Present	Present	Present
Mediterranean Gull	<i>Larus melanocephalus</i>	A1, Sch1, Amber	-	-	-	Present	-
Common Gull	<i>Larus canus</i>	Amber	-	-	Present	Present	Present
Lesser Black-backed Gull	<i>Larus fuscus</i>	Amber	-	-	Present	Present	Present
Herring Gull	<i>Larus argentatus</i>	S41, Red	-	-	-	Present	Present
Great Black-backed Gull	<i>Larus marinus</i>	Amber	-	-	-	Present	-
Rock Dove	<i>Columba livia</i>	Green	Possible	Confirmed	-	Present	Probable
Stock Dove	<i>Columba oenas</i>	Amber	Confirmed	Confirmed	Present	Probable	Confirmed
Woodpigeon	<i>Columba palumbus</i>	Amber	Confirmed	Confirmed	Probable	Confirmed	Confirmed
Collared Dove	<i>Streptopelia decaocto</i>	Green	Confirmed	Confirmed	Probable	Probable	Present
Turtle Dove	<i>Streptopelia turtur</i>	S41, Red	Possible	Probable	-	Possible	-
Cuckoo	<i>Cuculus canorus</i>	S41, Red	Possible	Possible	Present	Present	Possible
Barn Owl	<i>Tyto alba</i>	Sch1, Green	Confirmed	Confirmed	Confirmed	Confirmed	Confirmed
Little Owl	<i>Athene noctua</i>	Green	Confirmed	Confirmed	-	Present	Probable
Tawny Owl	<i>Strix aluco</i>	Amber	Probable	Confirmed	Confirmed	Confirmed	-
Long-eared Owl	<i>Asio otus</i>	Green	-	-	Present	Present	-
Short-eared Owl	<i>Asio flammeus</i>	A1, Amber	-	-	Present	Present	-

Common name	Scientific name	Conservation status	2007-2011 2km	2007-2011 10km	2019-2023 2km	2019-2023 10km	Present during 2023 surveys
Swift	<i>Apus apus</i>	Red	Confirmed	Confirmed	Present	Present	Present
Kingfisher	<i>Alcedo atthis</i>	A1, Sch1, Amber	-	Confirmed	-	Present	-
Green Woodpecker	<i>Picus viridis</i>	Green	Confirmed	Confirmed	Possible	Confirmed	Probable
Great Spotted Woodpecker	<i>Dendrocopos major</i>	Green	Probable	Confirmed	Present	Confirmed	Probable
Kestrel	<i>Falco tinnunculus</i>	Amber	Confirmed	Confirmed	Confirmed	Confirmed	Confirmed
Merlin	<i>Falco columbarius</i>	A1, Sch1, Red	-	-	Present	Present	-
Hobby	<i>Falco subbuteo</i>	Sch1, Green	-	Confirmed	-	Present	-
Peregrine	<i>Falco peregrinus</i>	A1, Sch1, Green	-	Confirmed	Present	Present	Present
Jay	<i>Garrulus glandarius</i>	Green	Possible	Possible	Present	Present	Probable
Magpie	<i>Pica pica</i>	Green	Confirmed	Confirmed	Present	Probable	Probable
Jackdaw	<i>Corvus monedula</i>	Green	Confirmed	Confirmed	Probable	Probable	Probable
Rook	<i>Corvus frugilegus</i>	Amber	-	Confirmed	Present	Confirmed	Confirmed
Carrion Crow	<i>Corvus corone</i>	Green	Confirmed	Confirmed	Probable	Probable	Possible
Raven	<i>Corvus corax</i>	Green	-	-	-	Present	Confirmed
Blue Tit	<i>Cyanistes caeruleus</i>	Green	Confirmed	Confirmed	Possible	Confirmed	Confirmed
Great Tit	<i>Parus major</i>	Green	Confirmed	Confirmed	Present	Confirmed	Confirmed
Coal Tit	<i>Periparus ater</i>	Green	Confirmed	Confirmed	Present	Confirmed	Confirmed
Willow Tit	<i>Poecile montana</i>	S41, Red	Probable	Probable	-	-	-
Marsh Tit	<i>Poecile palustris</i>	S41, Red	Probable	Probable	-	Probable	-
Skylark	<i>Alauda arvensis</i>	Red	Confirmed	Confirmed	Probable	Confirmed	Confirmed
Sand Martin	<i>Riparia riparia</i>	Green	Confirmed	Confirmed	Present	Present	Present

Common name	Scientific name	Conservation status	2007-2011 2km	2007-2011 10km	2019-2023 2km	2019-2023 10km	Present during 2023 surveys
Swallow	<i>Hirundo rustica</i>	Green	Confirmed	Confirmed	Confirmed	Confirmed	Confirmed
House Martin	<i>Delichon urbicum</i>	Red	Confirmed	Confirmed	Confirmed	Confirmed	Present
Long-tailed Tit	<i>Aegithalos caudatus</i>	Green	Confirmed	Confirmed	Present	Confirmed	Confirmed
Willow Warbler	<i>Phylloscopus trochilus</i>	Amber	Possible	Confirmed	Confirmed	Confirmed	Confirmed
Chiffchaff	<i>Phylloscopus collybita</i>	Green	Possible	Confirmed	Possible	Confirmed	Confirmed
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>	Amber	-	Confirmed	Present	Possible	Possible
Reed Warbler	<i>Acrocephalus scirpaceus</i>	Green	-	Probable	Present	Possible	-
Blackcap	<i>Sylvia atricapilla</i>	Green	Probable	Confirmed	Possible	Probable	Confirmed
Garden Warbler	<i>Sylvia borin</i>	Green	-	Possible	-	Possible	-
Lesser Whitethroat	<i>Sylvia curruca</i>	Green	Possible	Possible	Present	Possible	Probable
Whitethroat	<i>Sylvia communis</i>	Amber	Confirmed	Confirmed	Probable	Probable	Confirmed
Wren	<i>Troglodytes troglodytes</i>	Amber	Confirmed	Confirmed	Possible	Probable	Confirmed
Goldcrest	<i>Regulus regulus</i>	Green	Confirmed	Confirmed	Present	Possible	Probable
Nuthatch	<i>Sitta europaea</i>	Green	Probable	Confirmed	-	Possible	Possible
Treecreeper	<i>Certhia familiaris</i>	Green	Probable	Confirmed	-	Confirmed	Possible
Starling	<i>Sturnus vulgaris</i>	S41, Red	Confirmed	Confirmed	Present	Confirmed	Present
Blackbird	<i>Turdus merula</i>	Green	Confirmed	Confirmed	Possible	Confirmed	Confirmed
Fieldfare	<i>Turdus pilaris</i>	Sch, Red	-	-	Present	Present	Present
Redwing	<i>Turdus iliacus</i>	Sch1, Amber	-	-	-	Present	Present
Song Thrush	<i>Turdus philomelos</i>	S41, Amber	Confirmed	Confirmed	Confirmed	Confirmed	Confirmed

Common name	Scientific name	Conservation status	2007-2011 2km	2007-2011 10km	2019-2023 2km	2019-2023 10km	Present during 2023 surveys
Mistle Thrush	<i>Turdus viscivorus</i>	Red	Confirmed	Confirmed	Probable	Confirmed	Confirmed
Spotted Flycatcher	<i>Muscicapa striata</i>	S41, Red	Confirmed	Confirmed	-	Present	-
Robin	<i>Erithacus rubecula</i>	Green	Confirmed	Confirmed	Possible	Confirmed	Confirmed
Black Redstart	<i>Phoenicurus ochruros</i>	Sch1, Amber	-	-	Present	Present	-
Redstart	<i>Phoenicurus phoenicurus</i>	Amber	-	-	-	-	Present
Whinchat	<i>Saxicola rubetra</i>	Red	-	-	Present	Present	-
Stonechat	<i>Saxicola rubicola</i>	Green	-	-	Present	Present	-
Wheatear	<i>Oenanthe oenanthe</i>	Amber	-	-	Present	Present	Present
House Sparrow	<i>Passer domesticus</i>	S41, Red	Confirmed	Confirmed	Confirmed	Confirmed	Probable
Tree Sparrow	<i>Passer montanus</i>	S41, Red	Probable	Confirmed	-	Present	Probable
Duncock	<i>Prunella modularis</i>	S41, Amber	Confirmed	Confirmed	Possible	Probable	Confirmed
Yellow Wagtail	<i>Motacilla flava</i>	S41, Red	Confirmed	Confirmed	Present	Present	Confirmed
Grey Wagtail	<i>Motacilla cinerea</i>	Amber	Probable	Confirmed	-	Present	-
Pied Wagtail	<i>Motacilla alba ssp. yarellii</i>	Amber	Confirmed	Confirmed	Present	Confirmed	Probable
Meadow Pipit	<i>Anthus pratensis</i>	Amber	Probable	Confirmed	Present	Present	Confirmed
Chaffinch	<i>Fringilla coelebs</i>	Green	Confirmed	Confirmed	Probable	Probable	Confirmed
Bullfinch	<i>Pyrrhula pyrrhula</i>	S41, Amber	Confirmed	Confirmed	Present	Present	Possible
Greenfinch	<i>Chloris chloris</i>	Red	Confirmed	Confirmed	Present	Confirmed	Confirmed
Linnet	<i>Linaria cannabina</i>	Red	Confirmed	Confirmed	Probable	Probable	Probable
Lesser Redpoll	<i>Acanthis flammea</i>	S41, Red	-	-	-	Present	-
Goldfinch	<i>Carduelis carduelis</i>	Green	Confirmed	Confirmed	Present	Confirmed	Confirmed

Common name	Scientific name	Conservation status	2007-2011 2km	2007-2011 10km	2019-2023 2km	2019-2023 10km	Present during 2023 surveys
Siskin	<i>Spinus spinus</i>	Green	-	-	Present	Confirmed	Present
Corn Bunting	<i>Emberiza calandra</i>	S41, Red	Possible	Possible	Probable	Probable	Confirmed
Yellowhammer	<i>Emberiza citrinella</i>	S41, Red	Confirmed	Confirmed	Probable	Confirmed	Confirmed
Reed Bunting	<i>Emberiza schoeniclus</i>	S41, Amber	-	-	Present	Confirmed	Confirmed

Appendix 3 – Field Survey Results

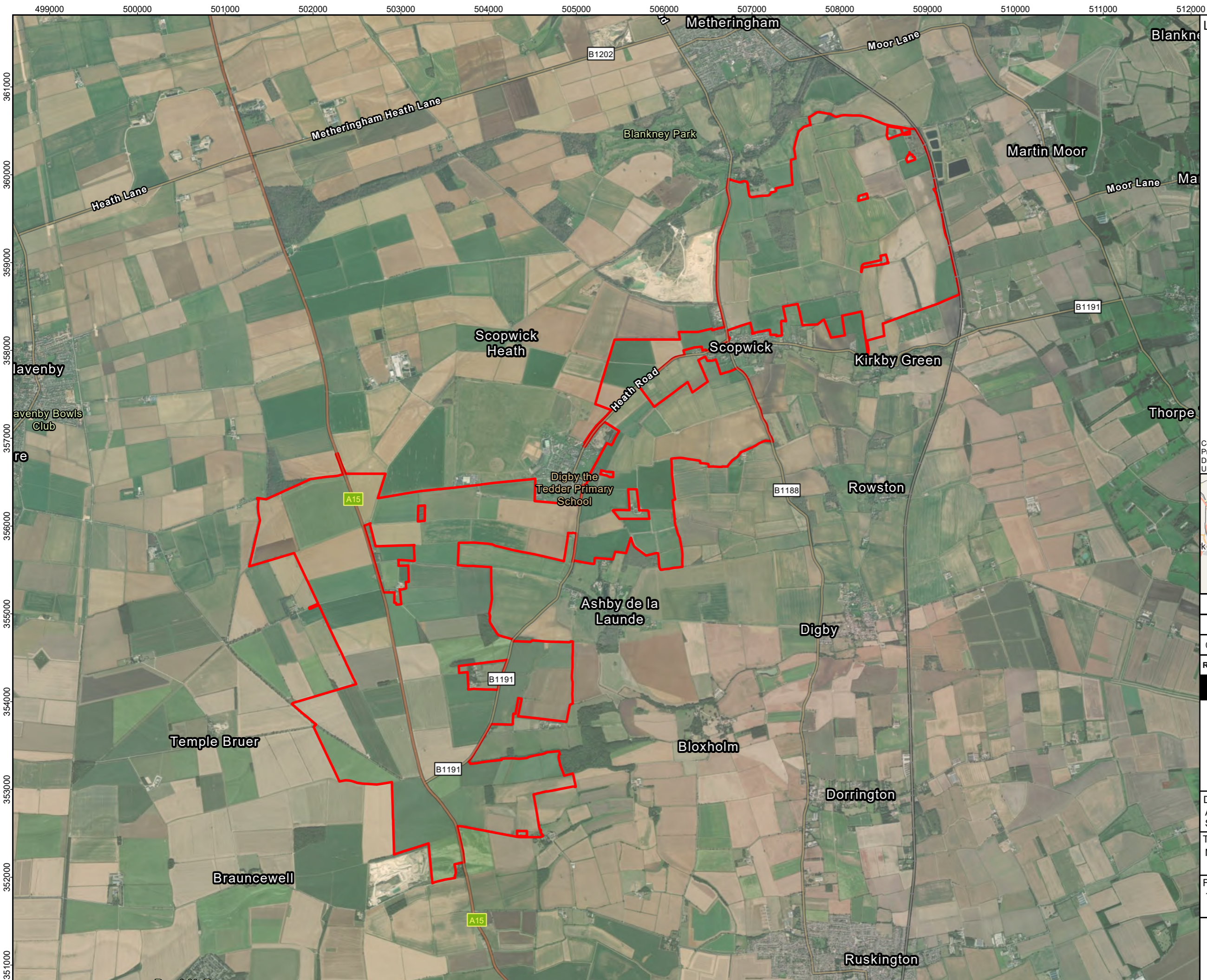
Common name	Species			Number of individuals recorded					
	Scientific Name	BTO species code	Conservation status	Visit 1	Visit 2	Visit 3	Visit 4	Visit 5	Visit 6
Greylag Goose	<i>Anser anser</i>	GJ	Amber	12	11	2	3	-	-
Whooper Swan	<i>Cygnus cygnus</i>	WS	A1, Sch1, Amber	120	-	-	-	-	-
Shelduck	<i>Tadorna tadorna</i>	SU	Amber	2	2	3	-	-	-
Gadwall	<i>Mareca strepera</i>	GA	Amber	-	-	2	-	-	-
Mallard	<i>Anas platyrhynchos</i>	MA	Amber	16	5	2	4	-	-
Red-legged Partridge	<i>Alectoris rufa</i>	PL	Green	25	30	25	23	19	5
Grey Partridge	<i>Perdix perdix</i>	P.	S41, Red	30	14	29	11	14	-
Quail	<i>Coturnix coturnix</i>	Q.	Sch1, Amber	-	-	-	2	1	-
Pheasant	<i>Phasianus colchicus</i>	PH	Green	17	28	1	5	-	-
Little Grebe	<i>Tachybaptus ruficollis</i>	LG	Green	-	1	1	-	-	-
Grey Heron	<i>Ardea cinerea</i>	H.	Green	-	2	-	-	-	-
Cormorant	<i>Phalacrocorax carbo</i>	CA	Green	-	-	-	1	-	-
Sparrowhawk	<i>Accipiter nisus</i>	SH	Amber	1	3	3	-	1	-
Marsh Harrier	<i>Circus aeruginosus</i>	MR	A1, Sch1, Amber	-	-	1	-	-	-
Red Kite	<i>Milvus milvus</i>	KT	A1, Sch1, Green	7	5	2	6	7	-
Buzzard	<i>Buteo buteo</i>	BZ	Green	11	9	5	7	12	1
Moorhen	<i>Gallinula chloropus</i>	MH	Amber	-	1	2	-	-	-
Coot	<i>Fulica atra</i>	CO	Green	-	2	3	-	-	-
Oystercatcher	<i>Haematopus ostralegus</i>	OC	Amber	3	2	2	4	-	-


Common name	Species			Number of individuals recorded					
	Scientific Name	BTO species code	Conservation status	Visit 1	Visit 2	Visit 3	Visit 4	Visit 5	Visit 6
Lapwing	<i>Vanellus vanellus</i>	L.	S41, Red	19	19	25	6	-	-
Curlew	<i>Numenius arquata</i>	CU	S41, Red	1	2	2	3	-	-
Snipe	<i>Gallinago gallinago</i>	SN	Amber	11	3	-	-	-	-
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	BH	Amber	-	11	2	-	-	-
Common Gull	<i>Larus canus</i>	CM	Amber	-	17	-	-	-	-
Herring Gull	<i>Larus argentatus</i>	HG	S41, Red	3	39	-	-	-	1
Lesser Black-backed Gull	<i>Larus fuscus</i>	LB	Amber	14	40	-	-	5	1
Feral Pigeon	<i>Columba livia</i>	FP	Green	18	11	7	24	18	-
Stock Dove	<i>Columba oenas</i>	SD	Amber	38	16	29	17	14	-
Woodpigeon	<i>Columba palumbus</i>	WP	Amber	534	216	42	227	336	89
Collared Dove	<i>Streptopelia decaocto</i>	CD	Green	-	-	1	1	-	-
Cuckoo	<i>Cuculus canorus</i>	CK	S41, Red	-	-	3	-	-	-
Barn Owl	<i>Tyto alba</i>	BO	Sch1, Green	2	1	1	2	1	-
Little Owl	<i>Athene noctua</i>	LO	Green	2	-	-	1	1	-
Swift	<i>Apus apus</i>	SI	Red	-	-	-	11	2	-
Great Spotted Woodpecker	<i>Dendrocopos major</i>	GS	Green	3	5	8	3	7	1
Green Woodpecker	<i>Picus viridis</i>	G.	Green	4	2	1	2	2	-
Kestrel	<i>Falco tinnunculus</i>	K.	Amber	6	7	3	3	12	-
Peregrine	<i>Falco peregrinus</i>	PE	A1, Sch1, Green	2	2	-	-	-	-
Jay	<i>Garrulus glandarius</i>	J.	Green	2	2	-	3	1	-

Species				Number of individuals recorded					
Common name	Scientific Name	BTO species code	Conservation status	Visit 1	Visit 2	Visit 3	Visit 4	Visit 5	Visit 6
Magpie	<i>Pica pica</i>	MG	Green	13	10	8	9	11	-
Jackdaw	<i>Corvus monedula</i>	JD	Green	97	31	54	5	62	-
Rook	<i>Corvus frugilegus</i>	RO	Amber	97	105	110	301	176	-
Carrion Crow	<i>Corvus corone</i>	C.	Green	28	23	26	15	22	2
Raven	<i>Corvus corax</i>	RN	Green	4	2	3	-	2	-
Coal Tit	<i>Parus ater</i>	CT	Green	3	2	10	5	-	-
Blue Tit	<i>Cyanistes caeruleus</i>	BT	Green	54	70	42	120	254	19
Great Tit	<i>Parus major</i>	GT	Green	48	77	35	69	137	6
Skylark	<i>Alauda arvensis</i>	S.	Red	254	271	203	254	244	61
Sand Martin	<i>Riparia riparia</i>	SM	Green	1	-	-	-	-	-
Swallow	<i>Hirundo rustica</i>	SL	Green	-	9	21	35	19	34
House Martin	<i>Delichon urbicum</i>	HM	Red	-	-	-	2	2	14
Long-tailed Tit	<i>Aegithalos caudatus</i>	LT	Green	20	15	43	7	56	13
Willow Warbler	<i>Phylloscopus trochilus</i>	WW	Amber	-	7	5	4	8	-
Chiffchaff	<i>Phylloscopus collybita</i>	CC	Green	39	59	38	49	43	4
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>	SW	Amber	-	-	3	-	-	-
Blackcap	<i>Sylvia atricapilla</i>	BC	Green	1	24	41	30	35	2
Lesser Whitethroat	<i>Sylvia curruca</i>	LW	Green	-	1	4	6	2	-
Whitethroat	<i>Sylvia communis</i>	WH	Amber	-	5	54	65	78	2
Goldcrest	<i>Regulus regulus</i>	GC	Green	6	1	3	1	6	-

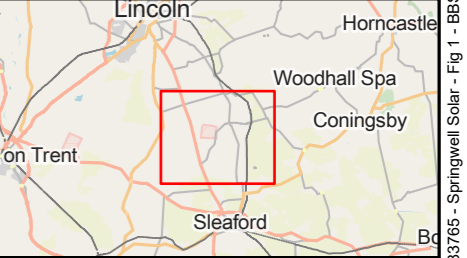
Species				Number of individuals recorded					
Common name	Scientific Name	BTO species code	Conservation status	Visit 1	Visit 2	Visit 3	Visit 4	Visit 5	Visit 6
Wren	<i>Troglodytes troglodytes</i>	WR	Amber	75	81	60	106	123	13
Nuthatch	<i>Sitta europaea</i>	NH	Green	1	-	-	-	-	-
Treecreeper	<i>Certhia familiaris</i>	TC	Green	2	1	-	-	2	2
Starling	<i>Sturnus vulgaris</i>	SG	S41, Red	21	-	-	24	-	-
Blackbird	<i>Turdus merula</i>	B.	Green	68	62	60	68	91	7
Fieldfare	<i>Turdus pilaris</i>	FF	Sch, Red	99	72	-	-	-	-
Redwing	<i>Turdus iliacus</i>	RE	Sch1, Amber	58	-	-	-	-	-
Song Thrush	<i>Turdus philomelos</i>	ST	S41, Amber	21	20	15	16	16	-
Mistle Thrush	<i>Turdus viscivorus</i>	M.	Red	7	3	1	-	1	-
Robin	<i>Erithacus rubecula</i>	R.	Green	62	61	71	43	65	10
Redstart	<i>Phoenicurus phoenicurus</i>	RT	Amber	-	1	-	-	-	-
Wheatear	<i>Oenanthe oenanthe</i>	W.	Amber	1	3	-	-	-	-
House Sparrow	<i>Passer domesticus</i>	HS	S41, Red	20	6	7	16	9	-
Tree Sparrow	<i>Passer montanus</i>	TS	S41, Red	-	-	2	1	-	-
Dunnock	<i>Prunella modularis</i>	D.	S41, Amber	42	38	18	24	39	2
Yellow Wagtail	<i>Motacilla flava</i>	YW	S41, Red	-	5	15	21	9	2
Pied Wagtail	<i>Motacilla alba ssp. yarrellii</i>	PW	Amber	4	6	8	3	2	-
Meadow Pipit	<i>Anthus pratensis</i>	MP	Amber	54	4	11	10	3	-
Chaffinch	<i>Fringilla coelebs</i>	CH	Green	89	64	79	54	53	-

Species				Number of individuals recorded					
Common name	Scientific Name	BTO species code	Conservation status	Visit 1	Visit 2	Visit 3	Visit 4	Visit 5	Visit 6
Bullfinch	<i>Pyrrhula pyrrhula</i>	BF	S41, Amber	1	3	1	1	2	-
Greenfinch	<i>Chloris chloris</i>	GR	Red	8	8	5	5	11	-
Linnet	<i>Linaria cannabina</i>	LI	S41, Red	291	78	33	34	20	33
Goldfinch	<i>Carduelis carduelis</i>	GO	Green	50	43	41	34	86	-
Siskin	<i>Spinus spinus</i>	SK	Green	-	1	-	-	-	-
Corn Bunting	<i>Miliaria calandra</i>	CB	S41, Red	15	14	20	17	24	5
Yellowhammer	<i>Emberiza citrinella</i>	Y.	S41, Red	84	67	39	48	74	6
Reed Bunting	<i>Emberiza schoeniclus</i>	RB	S41, Amber	14	13	9	10	5	-



LEGEND:
 Site Boundary

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



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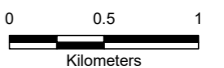
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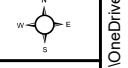
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 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
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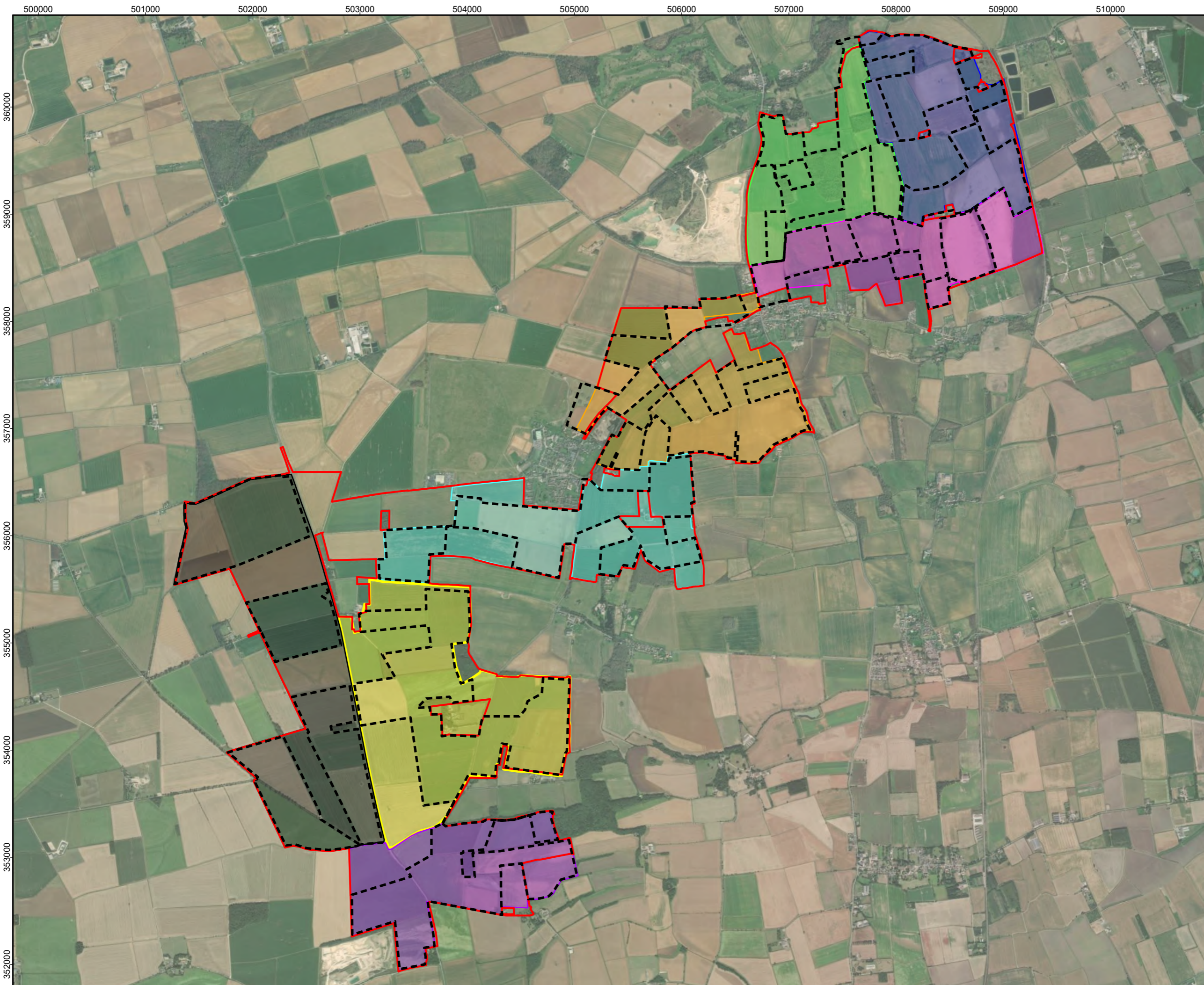
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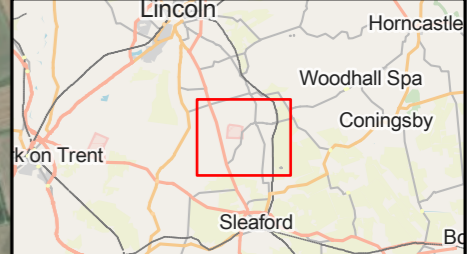
REV 00



LEGEND:

- Site Boundary
- Breeding Bird Survey Areas**
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- Transect

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



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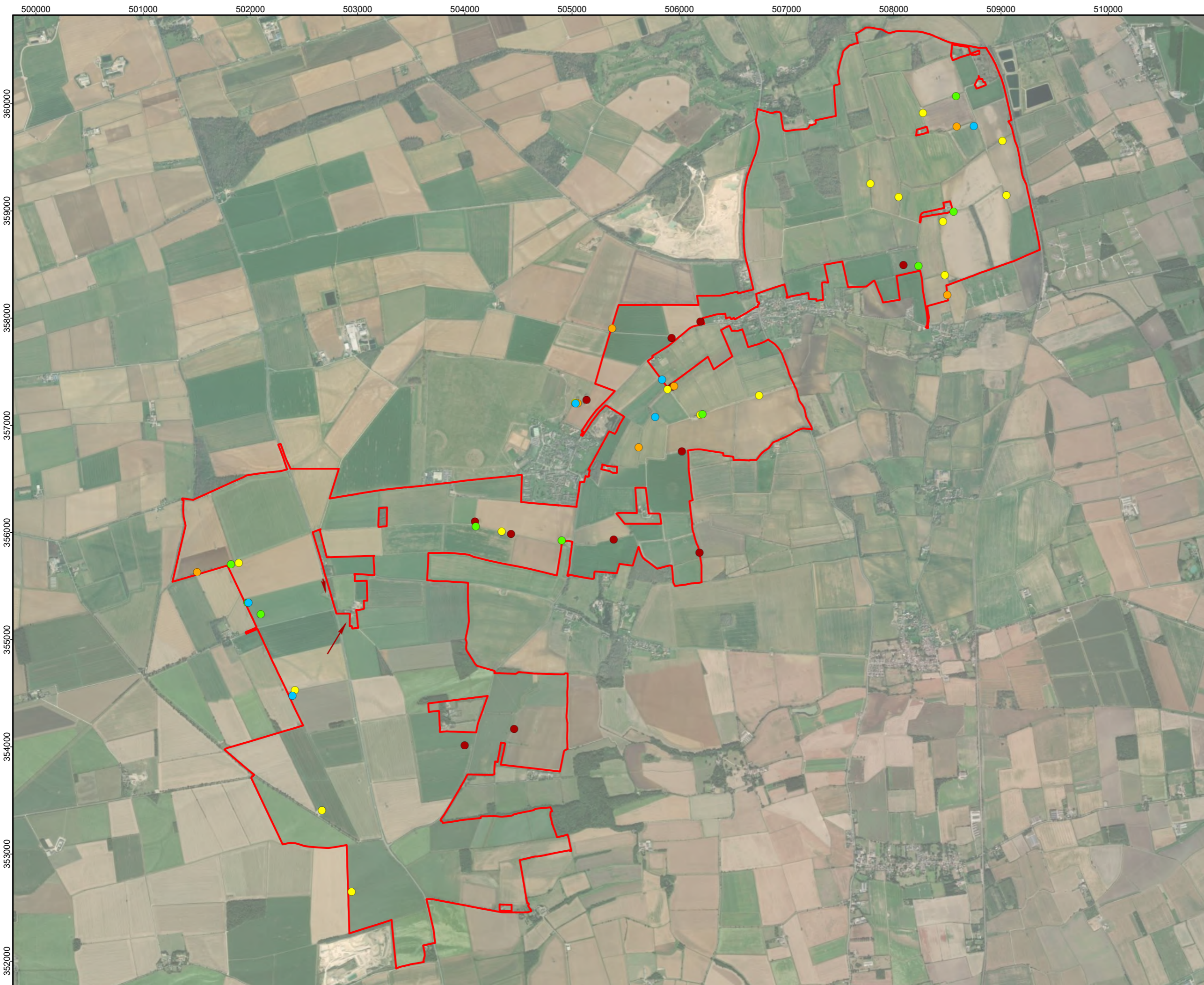
DOCUMENT:
 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Survey Areas and Transect Routes

FIGURE NUMBER:
 2

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REV 00



- LEGEND:**
- Site Boundary
 - Bird Observation Point By Visit**
 - Visit 1
 - Visit 2
 - Visit 3
 - Visit 4
 - Visit 5
 - Bird Flight By Visit**
 - Visit 1

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



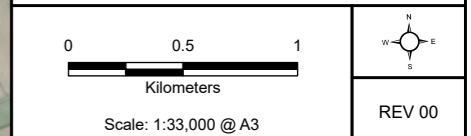
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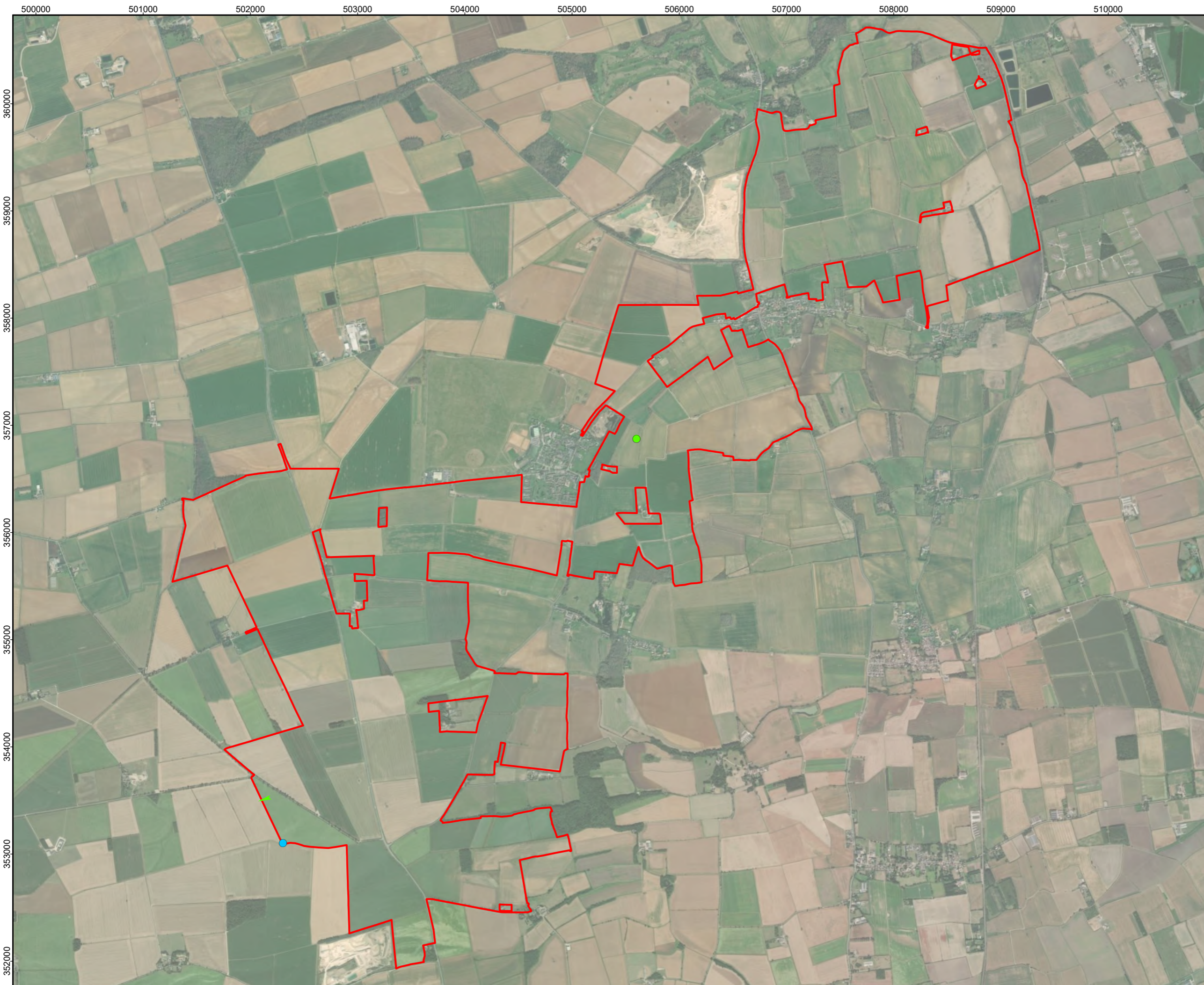
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DOCUMENT:
 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - Grey Partridge

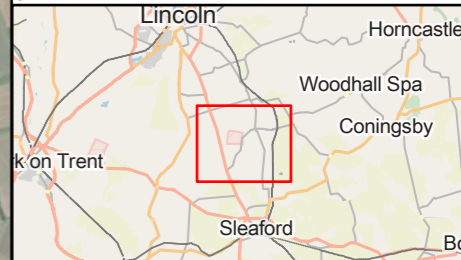
FIGURE NUMBER:
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- LEGEND:**
- Site Boundary
 - Bird Observation Point By Visit**
 - Visit 4
 - Visit 5
 - Bird Flight By Visit**
 - Visit 4

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



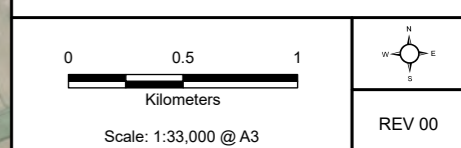
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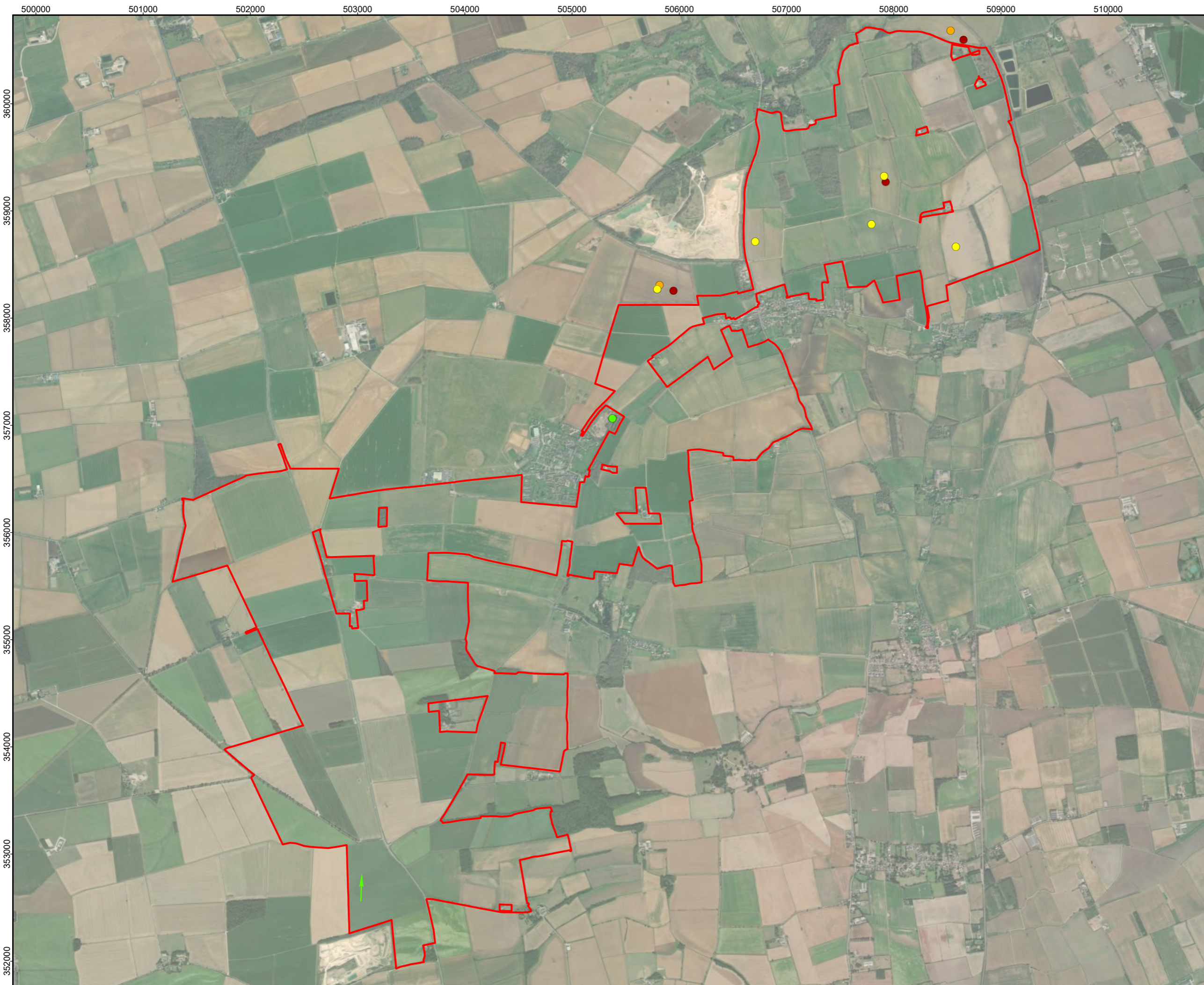
Springwell Solar Farm

DOCUMENT:
 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - Quail

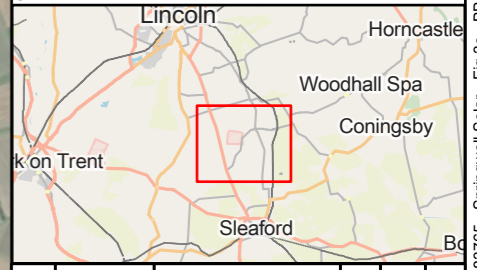
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- LEGEND:**
- Site Boundary
 - Bird Observation Point By Visit**
 - Visit 1
 - Visit 2
 - Visit 3
 - Visit 4
 - Bird Flight By Visit**
 - Visit 4

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



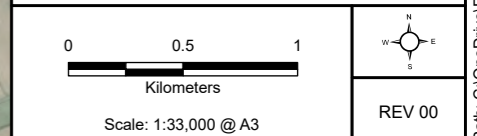
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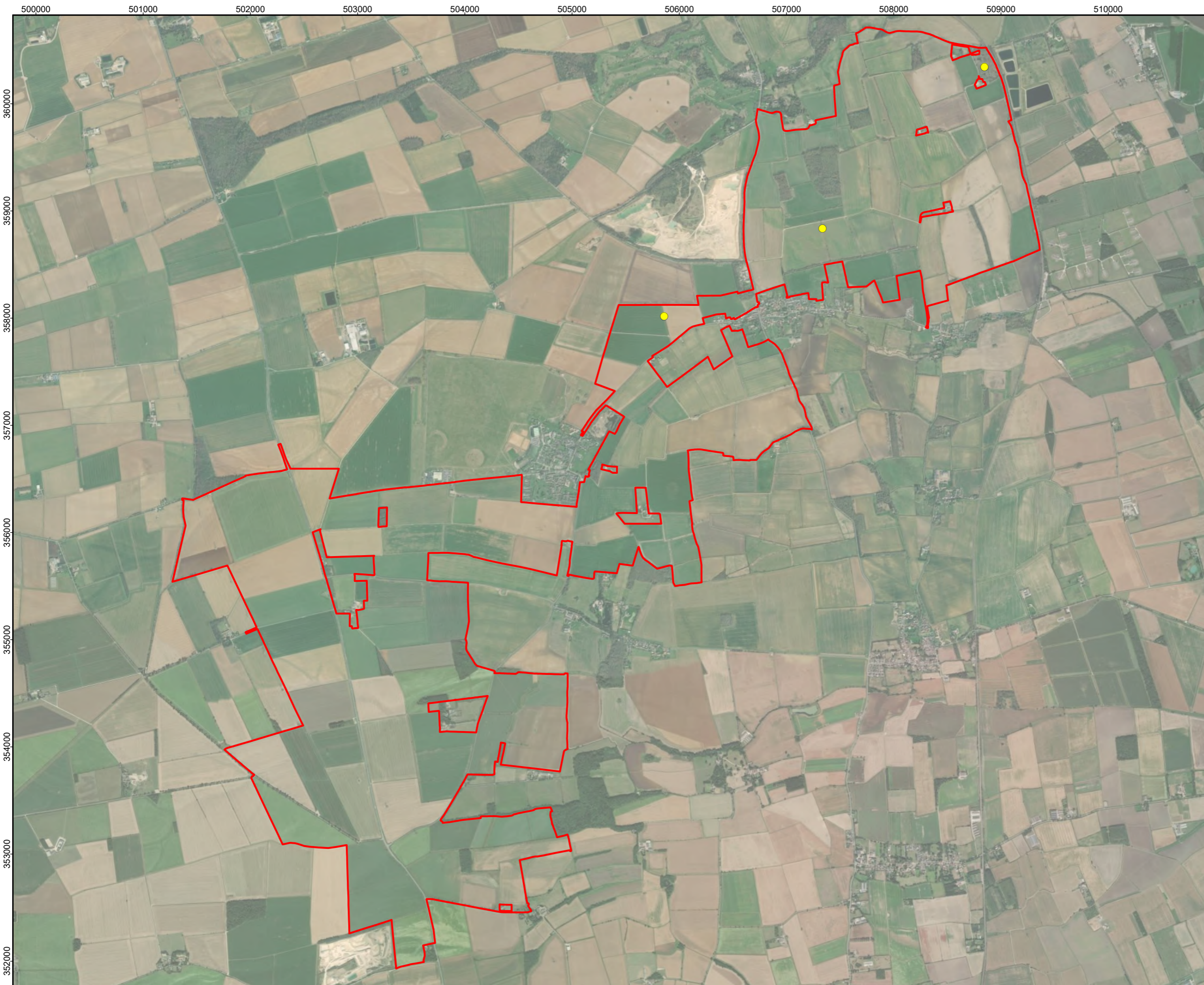
Springwell Solar Farm

DOCUMENT:
 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - Lapwing

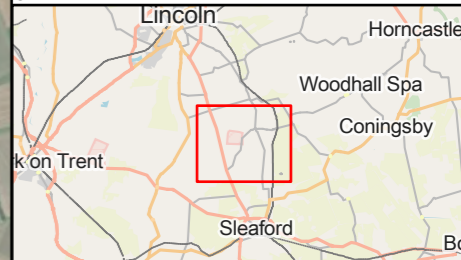
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LEGEND:
 Site Boundary
 Bird Observation Point By Visit
● Visit 3

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



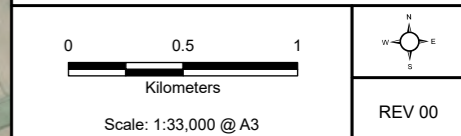
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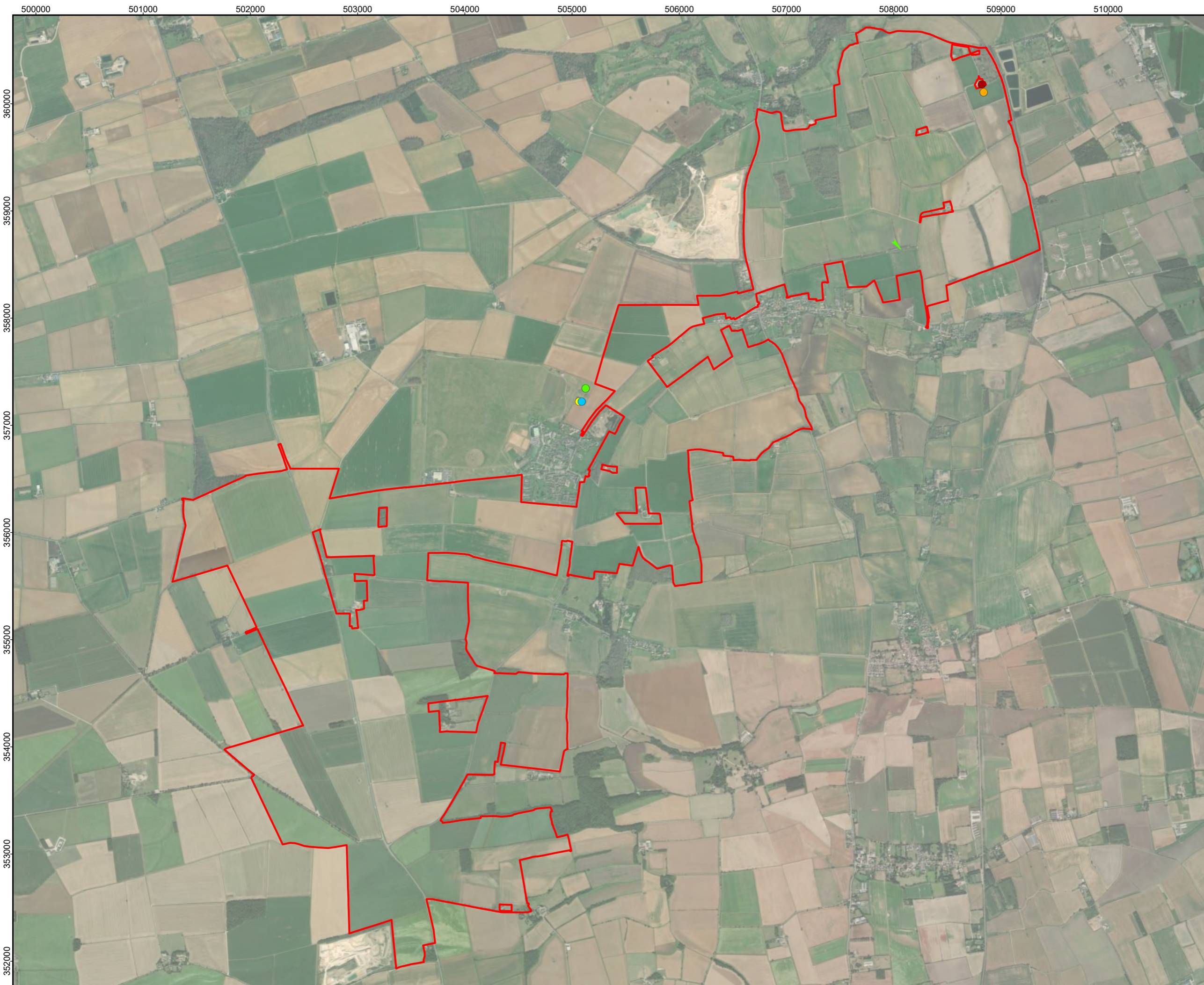
Springwell Solar Farm

DOCUMENT:
 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - Cuckoo

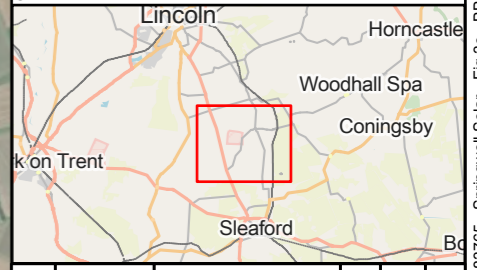
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- LEGEND:**
- Site Boundary
 - Bird Observation Point By Visit**
 - Visit 1
 - Visit 2
 - Visit 3
 - Visit 4
 - Visit 5
 - Bird Flight By Visit**
 - Visit 4

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



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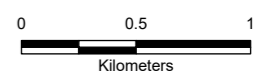
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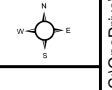
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 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - Barn Owl

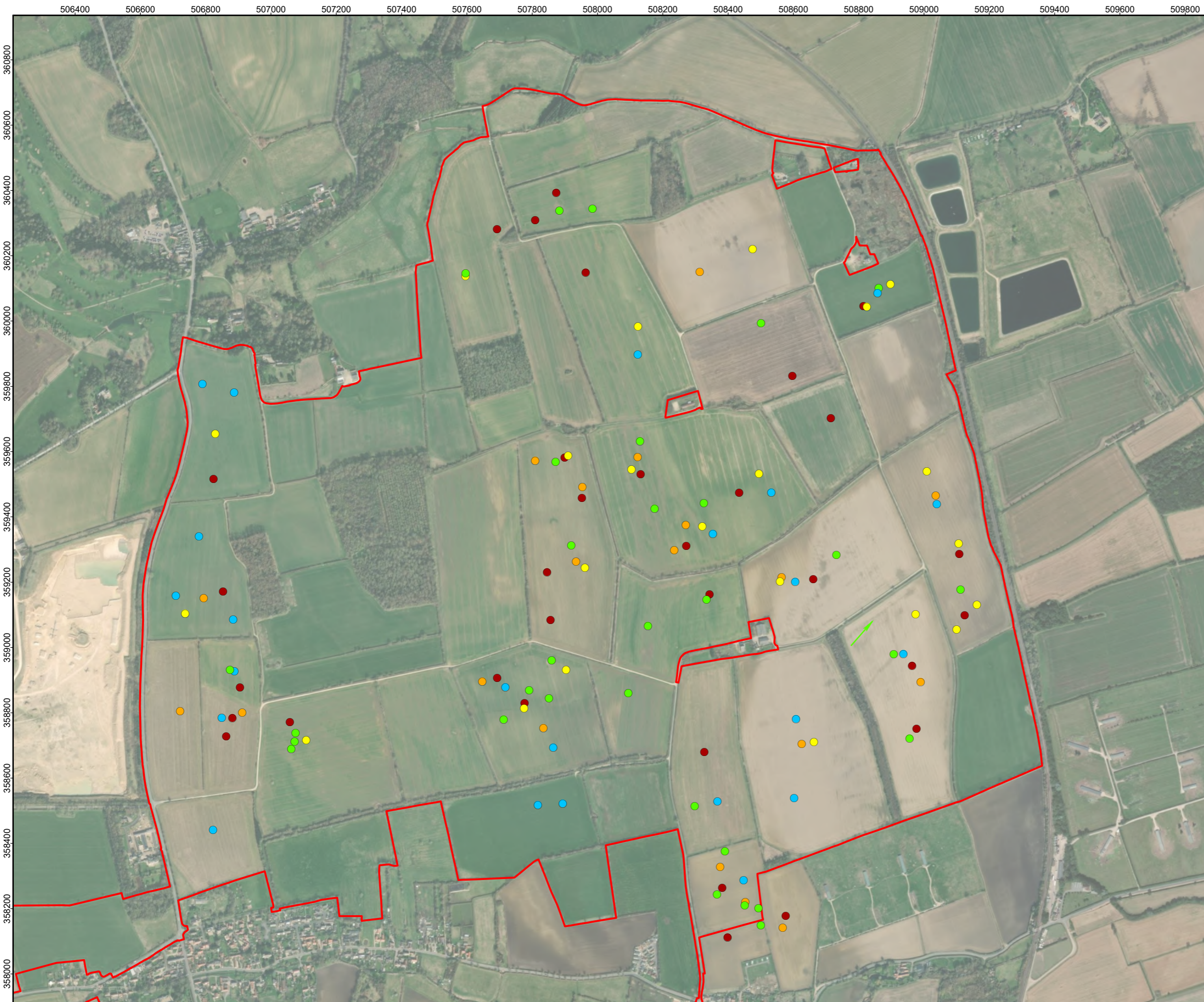
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REV 00



LEGEND:

- Site Boundary
- Bird Observation Point By Visit**
- Visit 1
- Visit 2
- Visit 3
- Visit 4
- Visit 5
- Bird Flight By Visit**
- Visit 4

Coordinate System: British National Grid
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 Units: Meter



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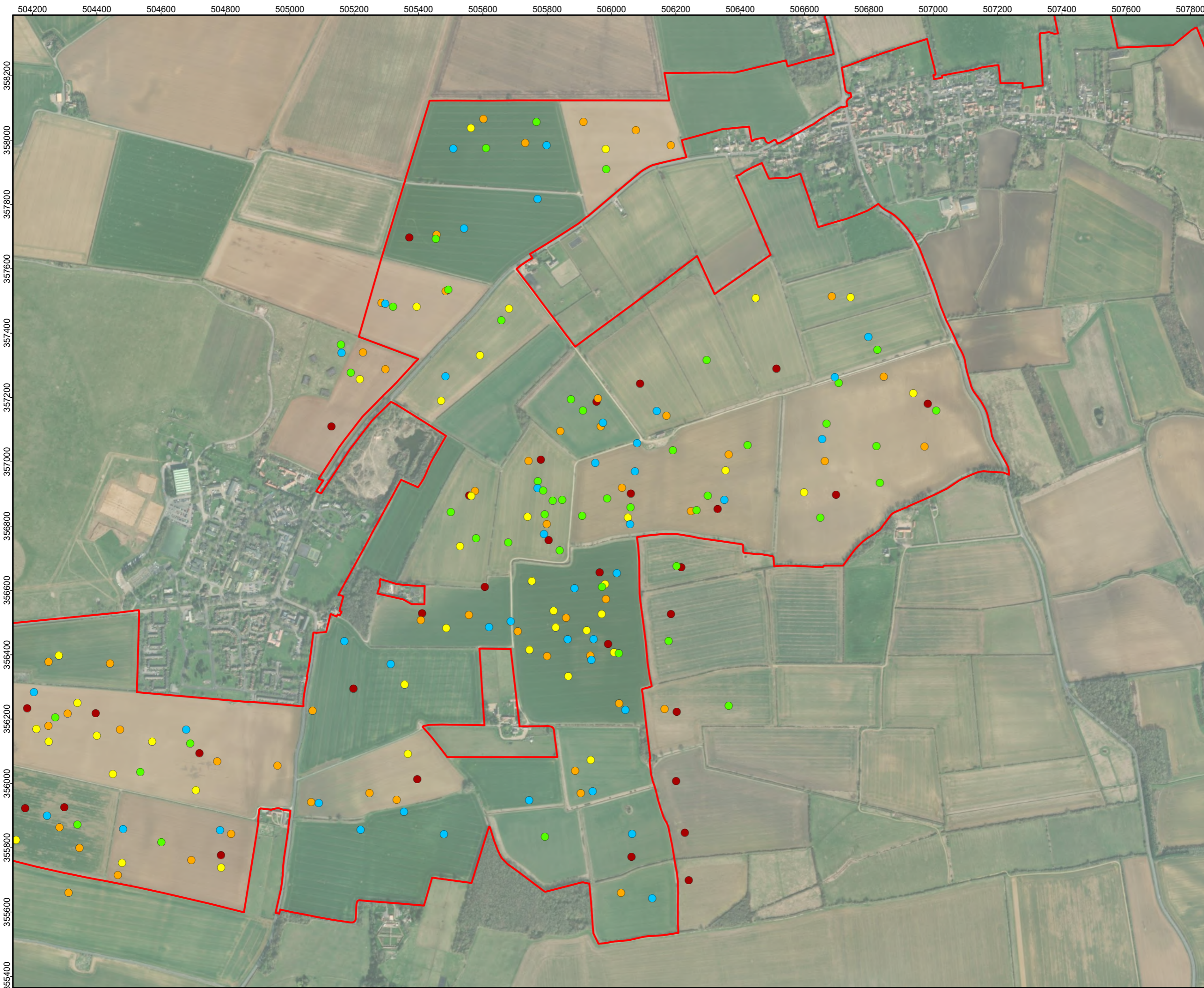
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 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - Skylark

FIGURE NUMBER:
 3f
 Page 1 of 4

Scale: 1:11,000 @ A3

REV 00



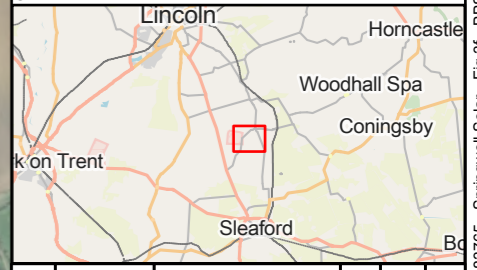
LEGEND:

Site Boundary

Bird Observation Point By Visit

- Visit 1
- Visit 2
- Visit 3
- Visit 4
- Visit 5

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



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DOCUMENT:
 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - Skylark

FIGURE NUMBER:
 3f
 Page 2 of 4

Scale: 1:11,000 @ A3

REV 00



- LEGEND:**
- Site Boundary
 - Bird Observation Point By Visit**
 - Visit 1
 - Visit 2
 - Visit 3
 - Visit 4
 - Visit 5
 - Visit 6
 - Bird Flight By Visit**
 - Visit 4

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



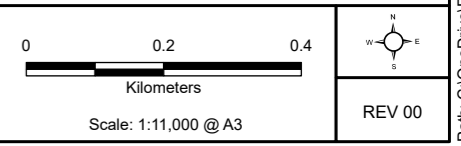
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DOCUMENT:
 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - Skylark

FIGURE NUMBER:
 3f
 Page 3 of 4





LEGEND:

Site Boundary

Bird Observation Point By Visit

- Visit 1
- Visit 2
- Visit 3
- Visit 4
- Visit 5
- Visit 6

Coordinate System: British National Grid
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 Datum: OSGB 1936
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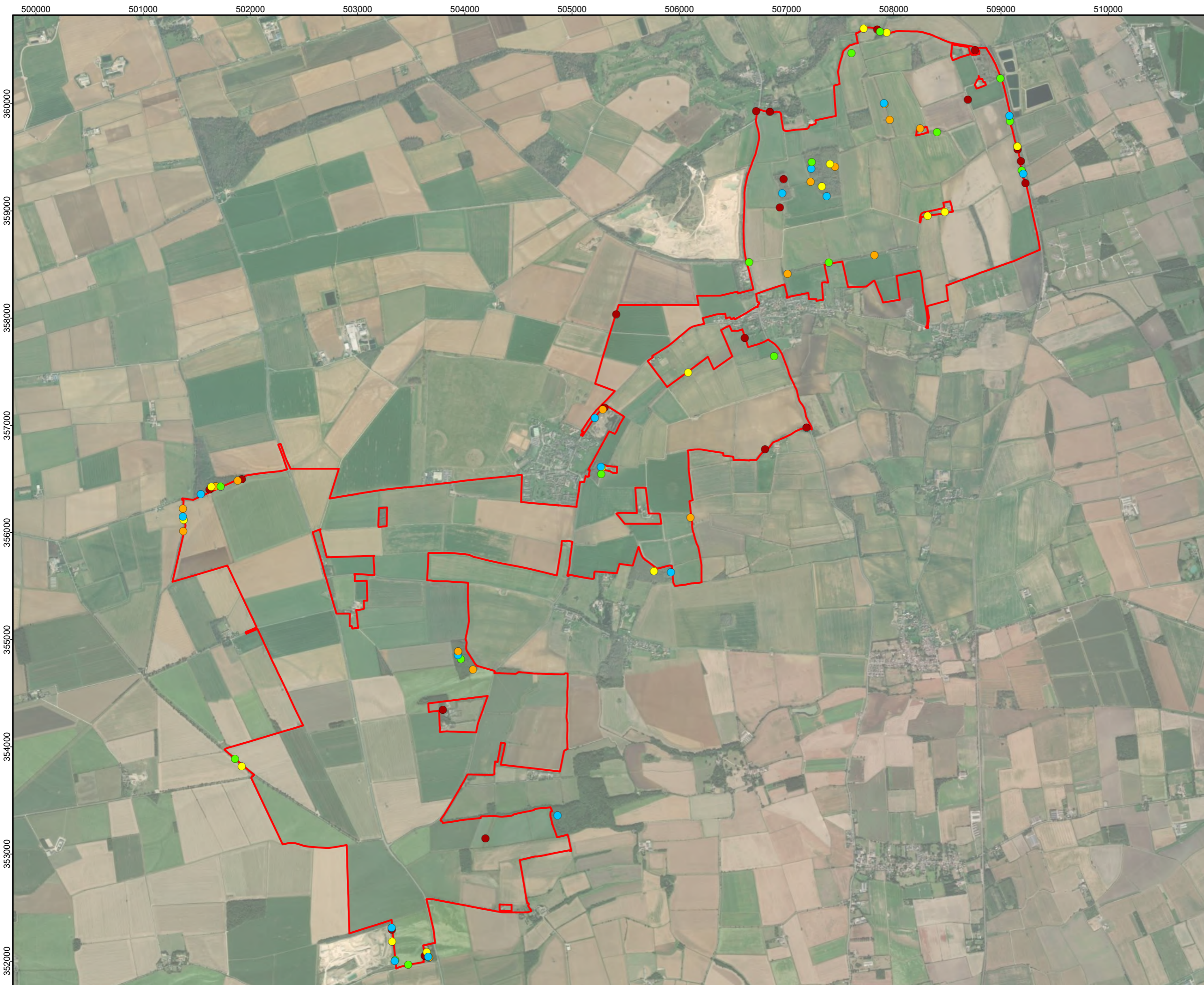
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 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - Skylark

FIGURE NUMBER:
 3f
 Page 4 of 4

Scale: 1:11,000 @ A3

REV 00



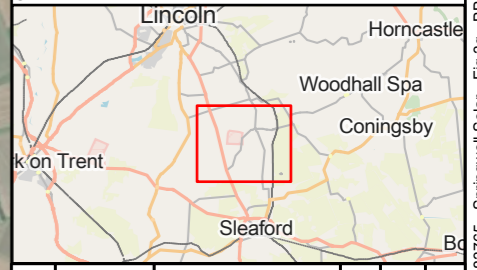
LEGEND:

Site Boundary

Bird Observation Point By Visit

- Visit 1
- Visit 2
- Visit 3
- Visit 4
- Visit 5

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



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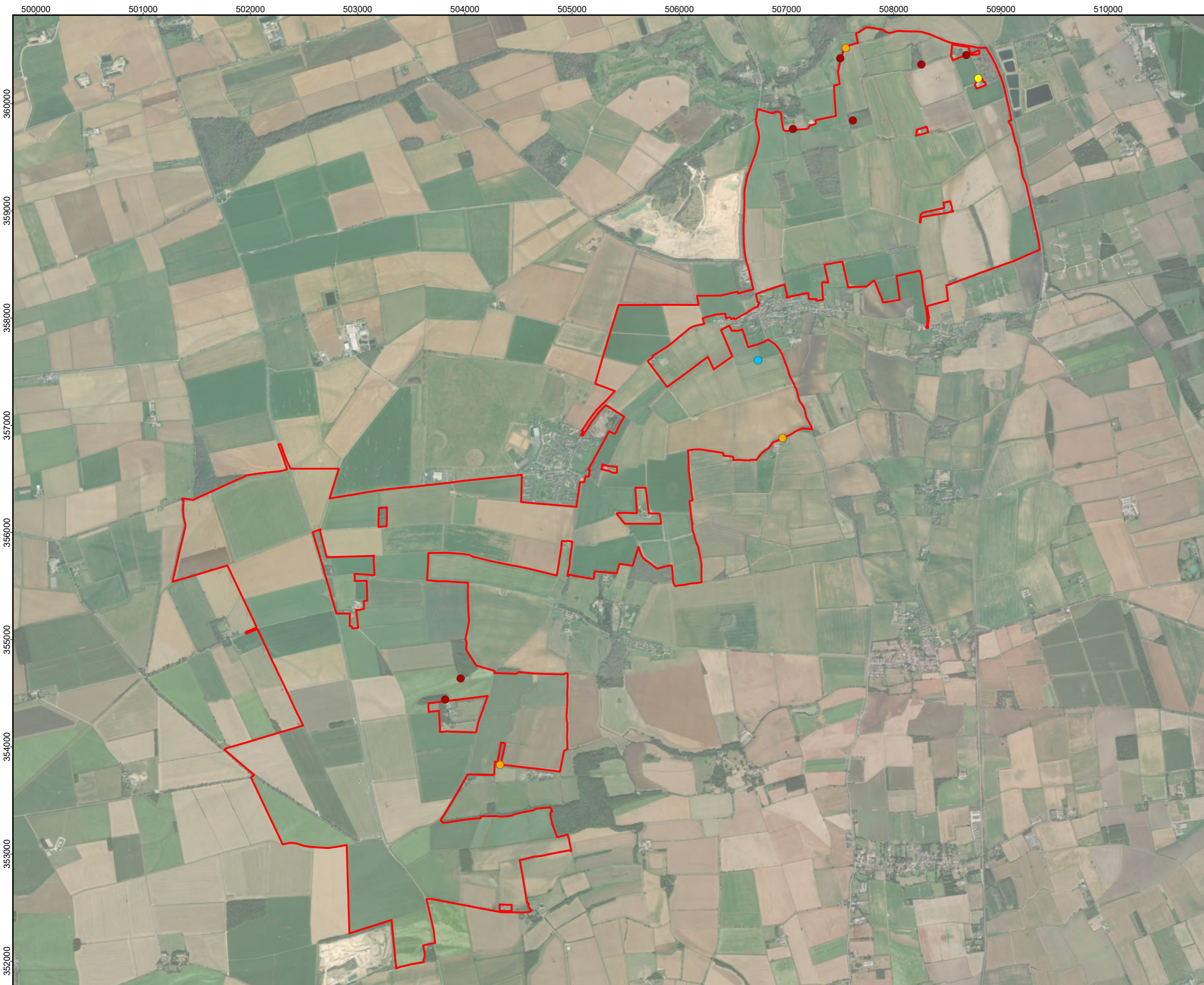
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 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - Song Thrush

FIGURE NUMBER:
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Scale: 1:33,000 @ A3

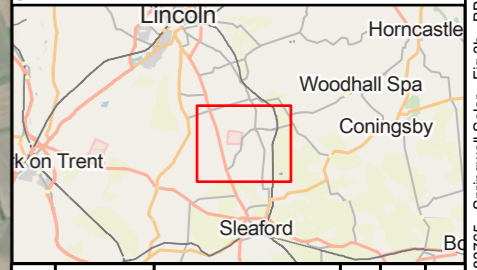
REV 00



LEGEND:

- Site Boundary
- Visit 1
- Visit 2
- Visit 3
- Visit 5

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



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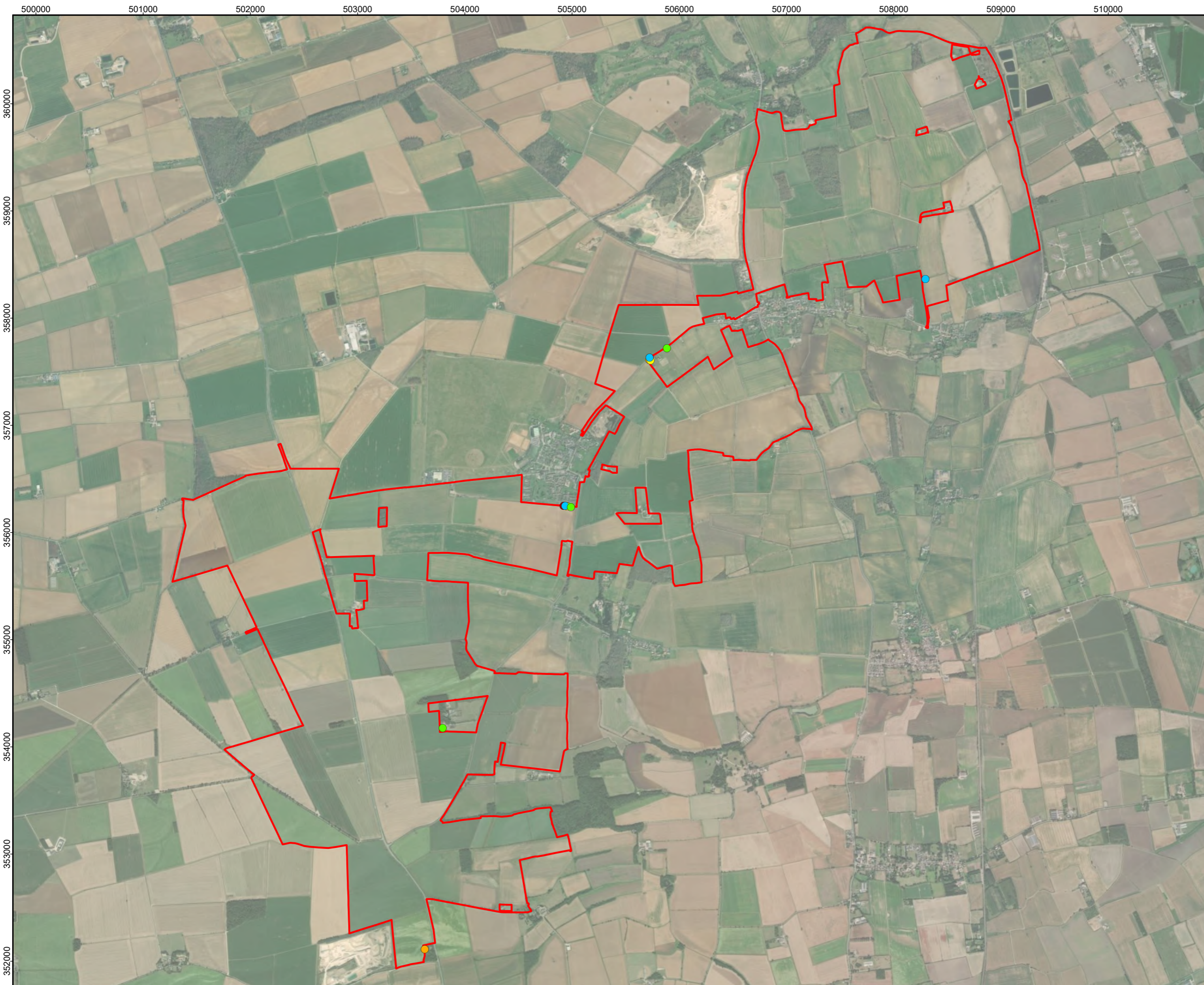
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 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - Mistle Thrush

FIGURE NUMBER:
 3h

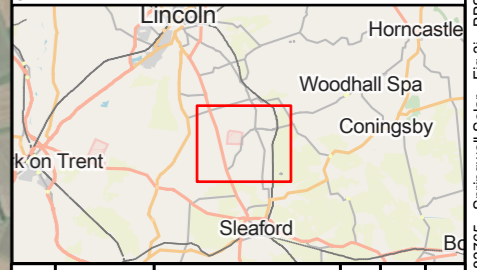
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REV 00



- LEGEND:**
- Site Boundary
 - Visit 1
 - Visit 2
 - Visit 3
 - Visit 4
 - Visit 5

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



Rev	Date	Description	Drn	Chk	App
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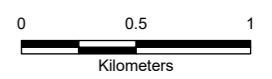
Springwell Solar Farm



DOCUMENT:
 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - House Sparrow

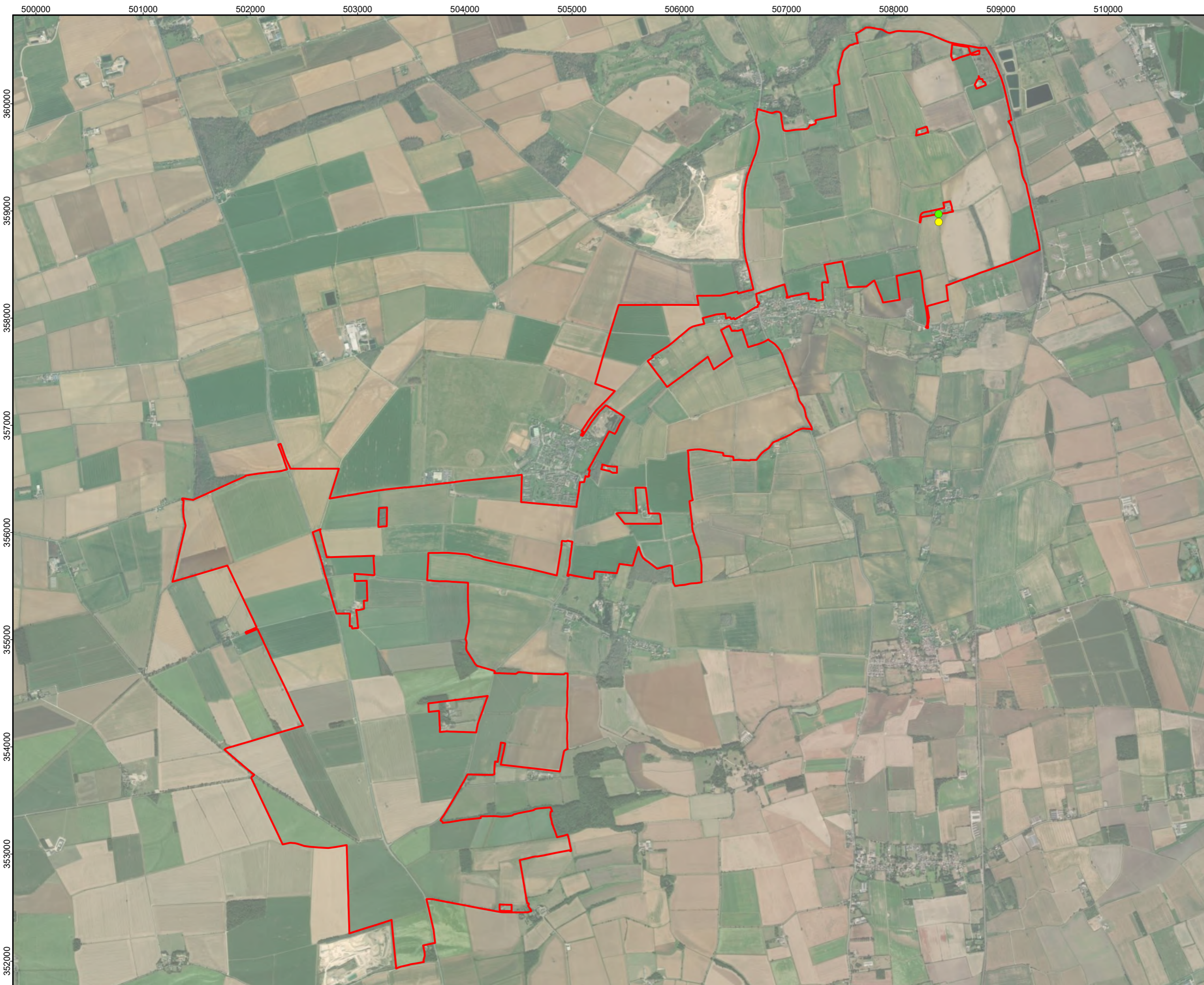
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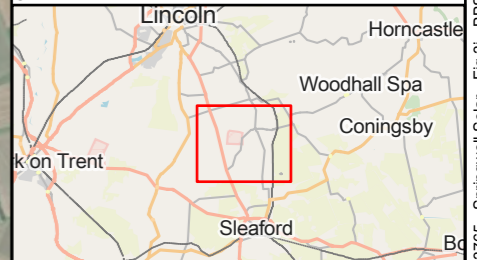
REV 00



LEGEND:

- Site Boundary
- Visit 3
- Visit 4

Coordinate System: British National Grid
 Projection: Transverse Mercator
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 Units: Meter



Rev	Date	Description	Drn	Chk	App
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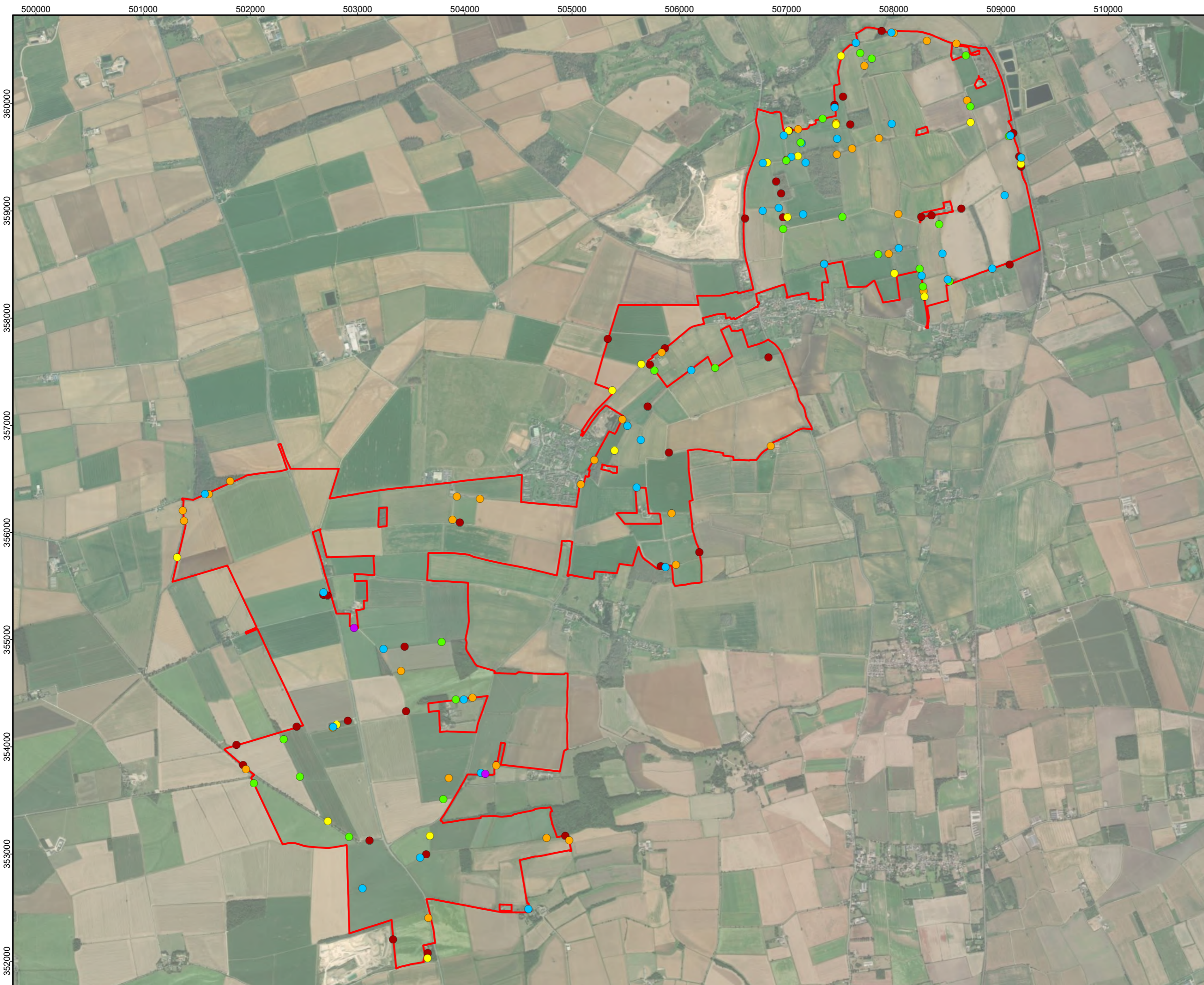
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 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - Tree Sparrow

FIGURE NUMBER:
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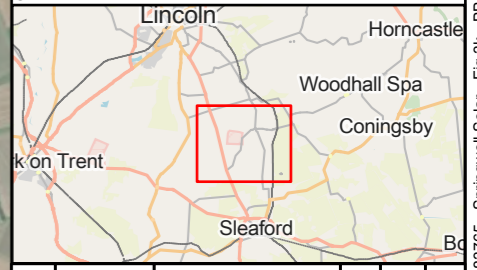
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REV 00



- LEGEND:**
- Site Boundary
 - Bird Observation Point By Visit**
 - Visit 1
 - Visit 2
 - Visit 3
 - Visit 4
 - Visit 5
 - Visit 6

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



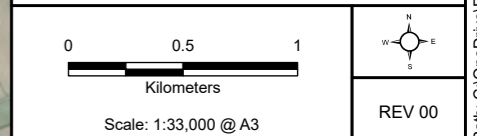
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DOCUMENT:
 Appendix 5.3 Springwell Breeding Bird Survey Report

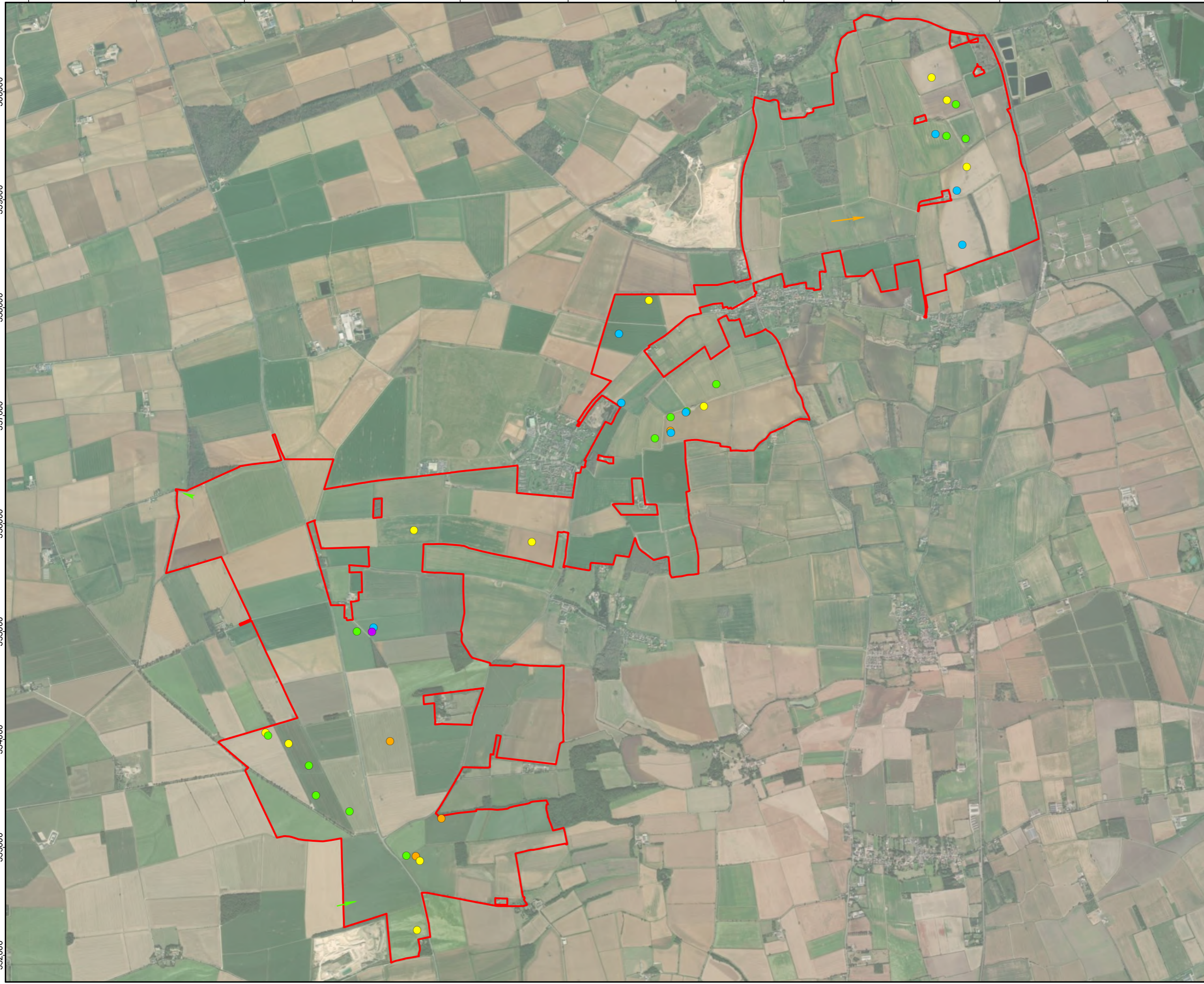
TITLE:
 Species Observations - Dunnock

FIGURE NUMBER:
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352000



LEGEND:

- Site Boundary
- Bird Observation Point By Visit**
- Visit 2
- Visit 3
- Visit 4
- Visit 5
- Visit 6
- Bird Flight By Visit**
- Visit 2
- Visit 4

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



Rev	Date	Description	Drn	Chk	App
00	10/08/2023	First Draft	RG	RJ	JS

Springwell Solar Farm

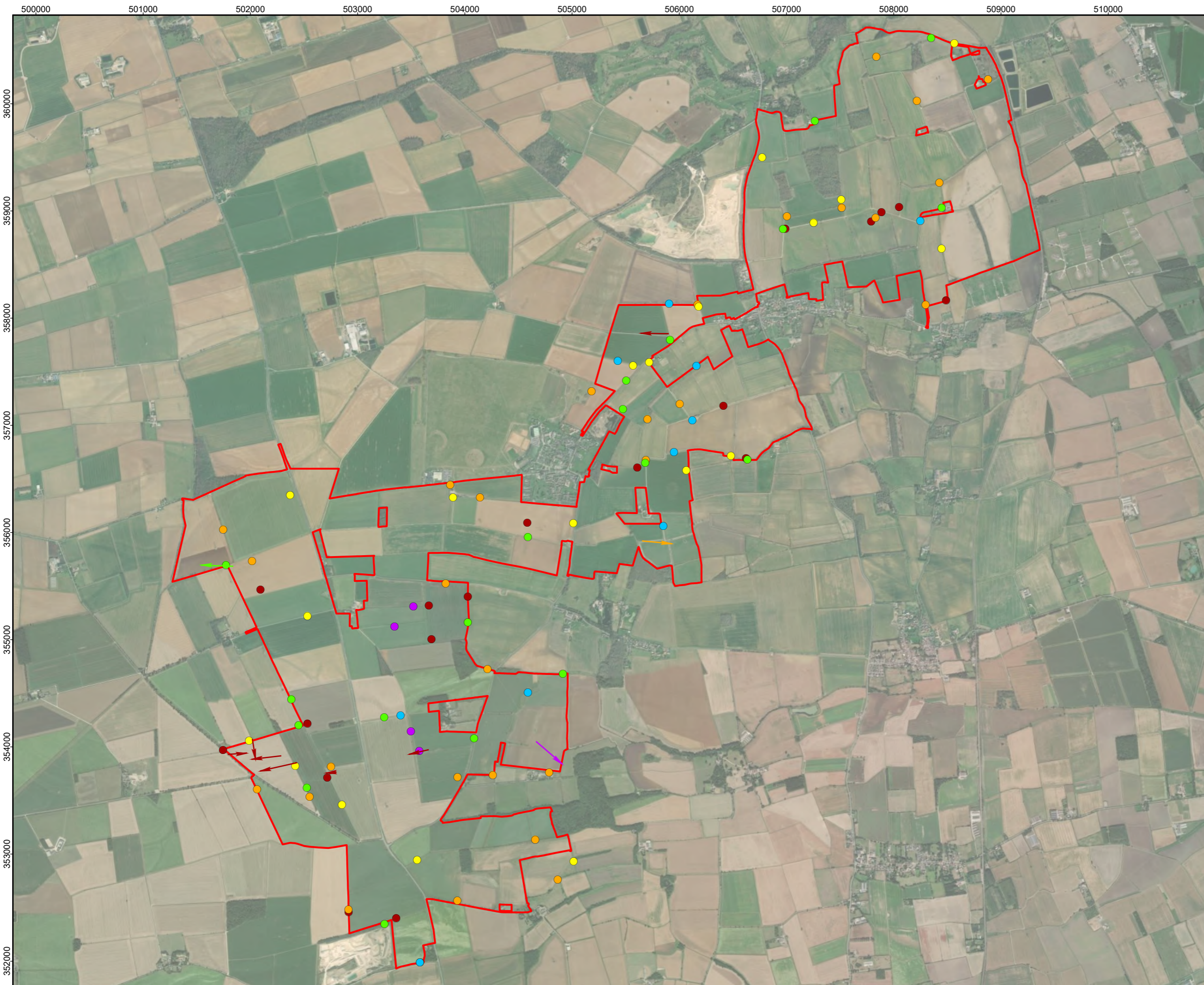
DOCUMENT:
Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
Species Observations - Yellow Wagtail

FIGURE NUMBER:
31

Scale: 1:33,000 @ A3

REV 00



LEGEND:

- Site Boundary

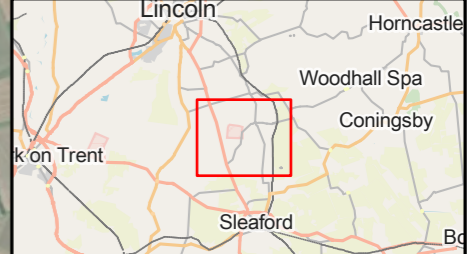
Bird Observation Point By Visit

- Visit 1
- Visit 2
- Visit 3
- Visit 4
- Visit 5
- Visit 6

Bird Flight By Visit

- Visit 1
- Visit 2
- Visit 4
- Visit 6

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



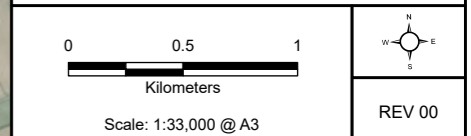
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00	10/08/2023	First Draft	RG	RJ	JS

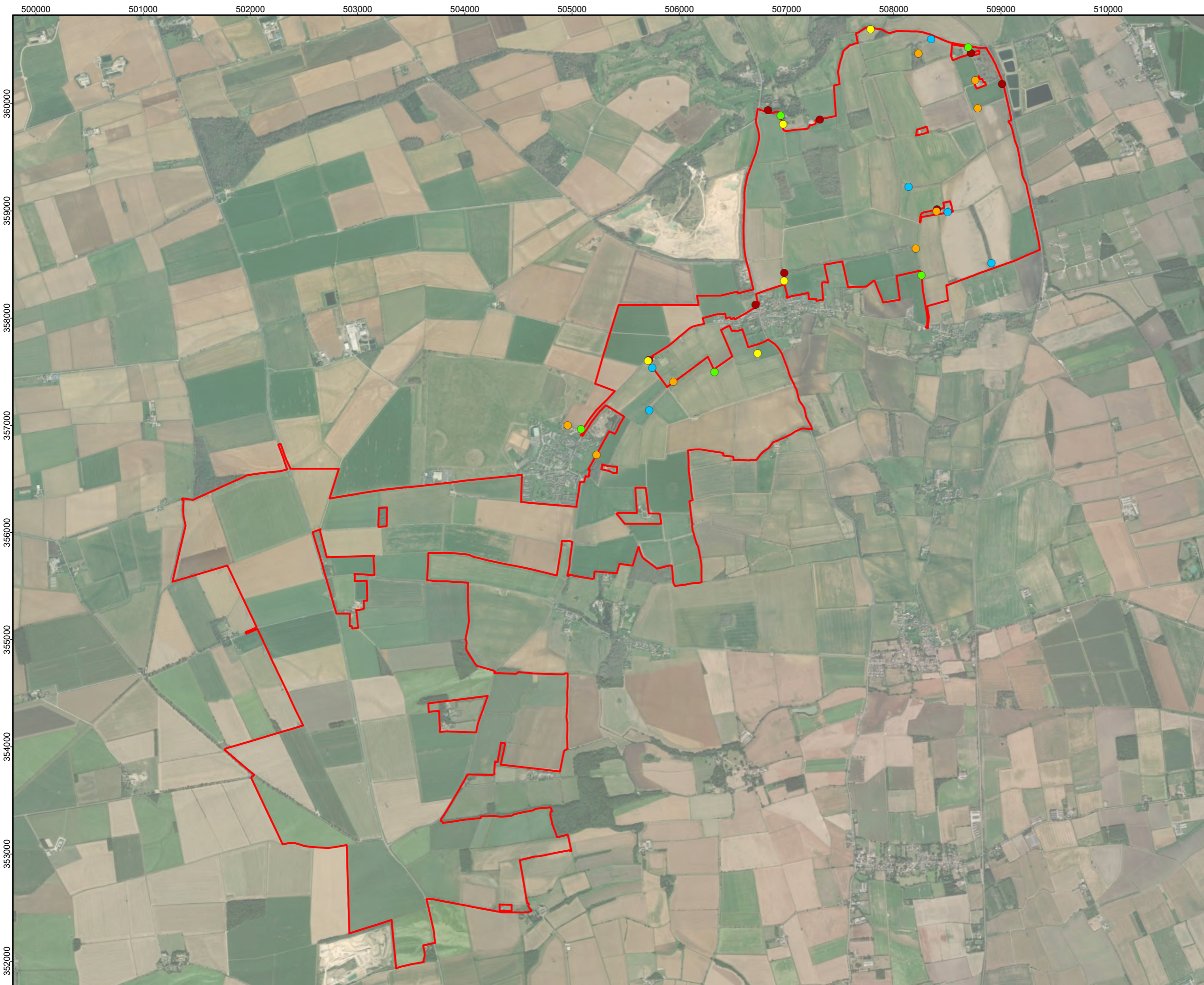
Springwell Solar Farm

DOCUMENT:
 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - Linnet

FIGURE NUMBER:
 3n



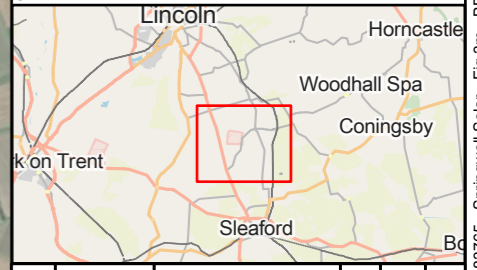


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360000
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- LEGEND:**
- Site Boundary
 - Bird Observation Point By Visit**
 - Visit 1
 - Visit 2
 - Visit 3
 - Visit 4
 - Visit 5

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



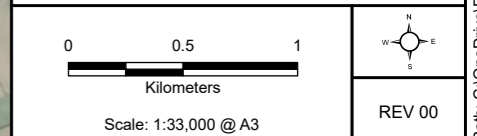
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00	10/08/2023	First Draft	RG	RJ	JS

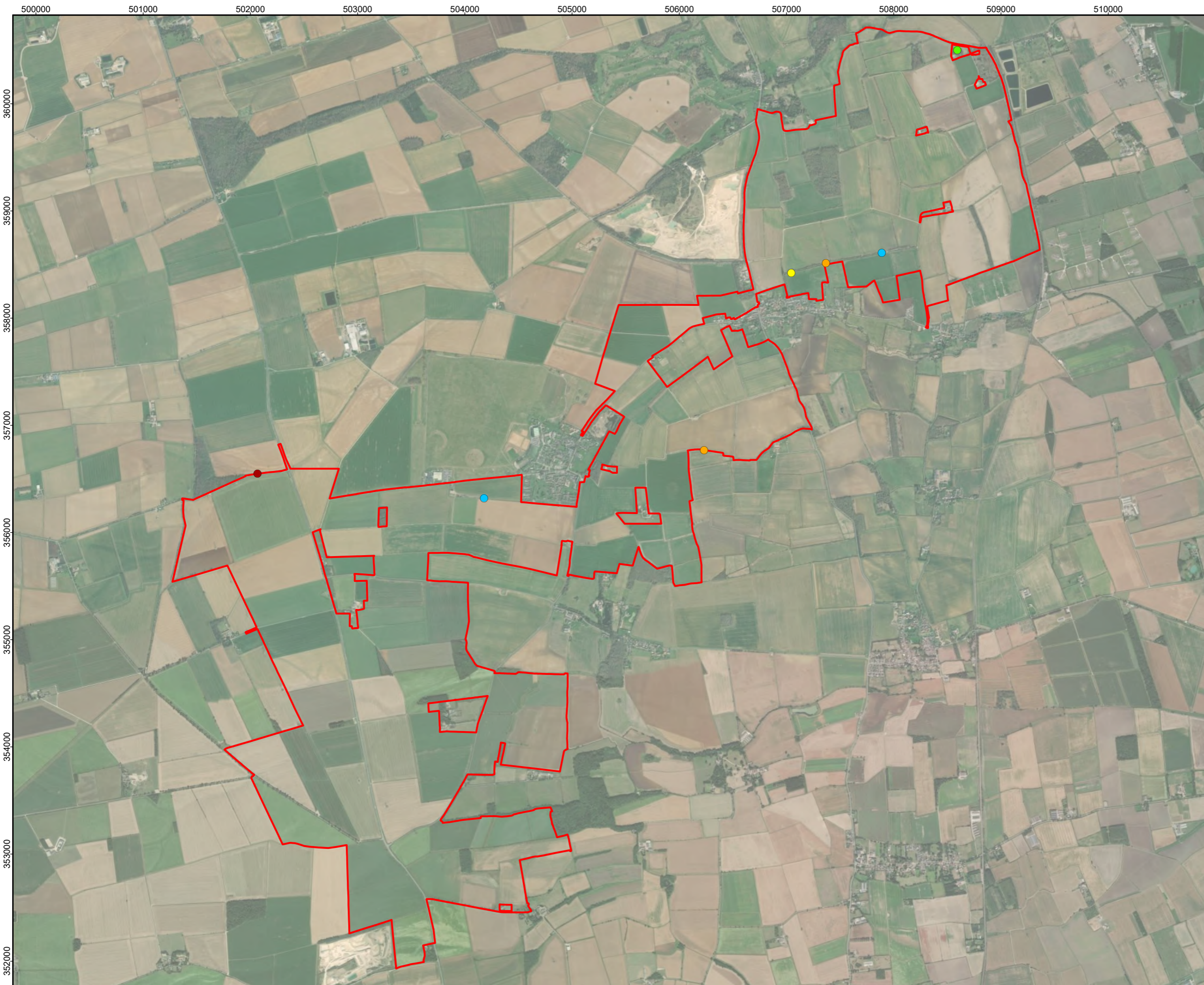
Springwell Solar Farm

DOCUMENT:
Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
Species Observations - Greenfinch

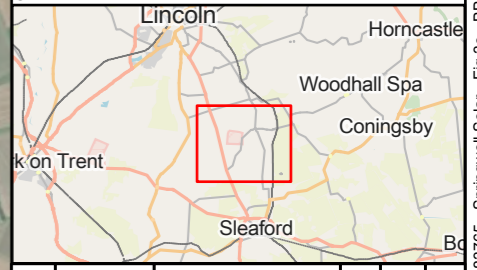
FIGURE NUMBER:
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- LEGEND:**
- Site Boundary
 - Bird Observation Point By Visit**
 - Visit 1
 - Visit 2
 - Visit 3
 - Visit 4
 - Visit 5

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



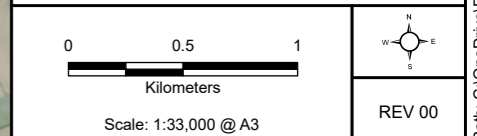
Rev	Date	Description	Drn	Chk	App
00	10/08/2023	First Draft	RG	RJ	JS

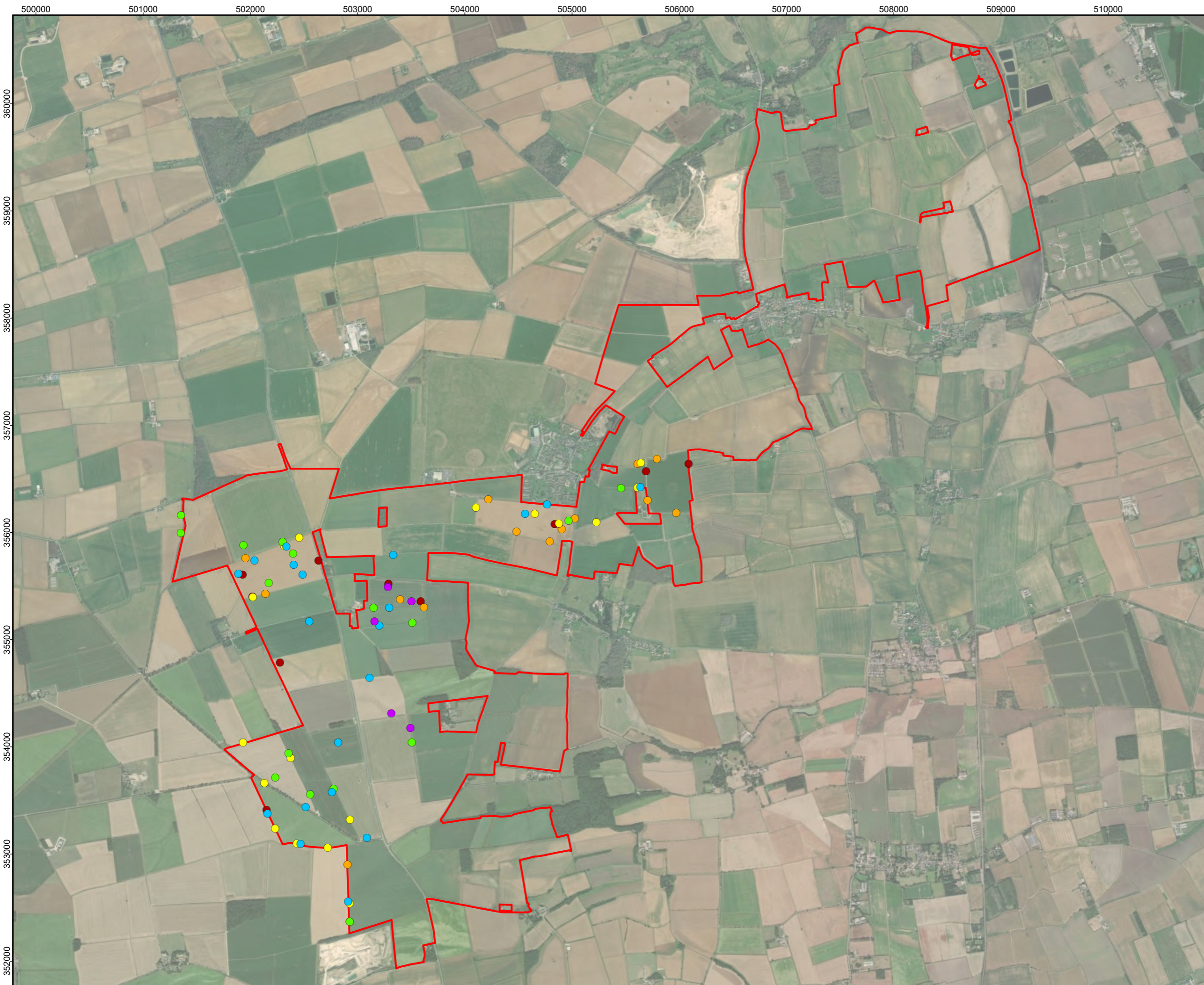
Springwell Solar Farm

DOCUMENT:
 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - Bullfinch

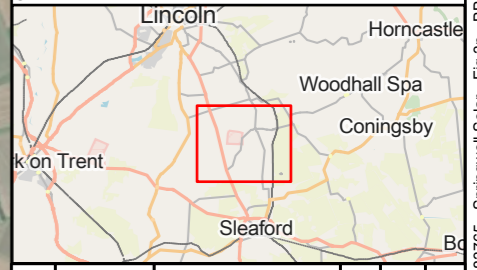
FIGURE NUMBER:
 3o





- LEGEND:**
- Site Boundary
 - Bird Observation Point By Visit**
 - Visit 1
 - Visit 2
 - Visit 3
 - Visit 4
 - Visit 5
 - Visit 6

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



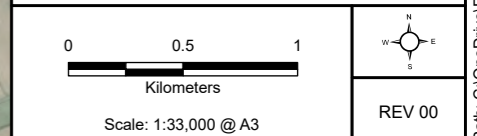
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00	10/08/2023	First Draft	RG	RJ	JS

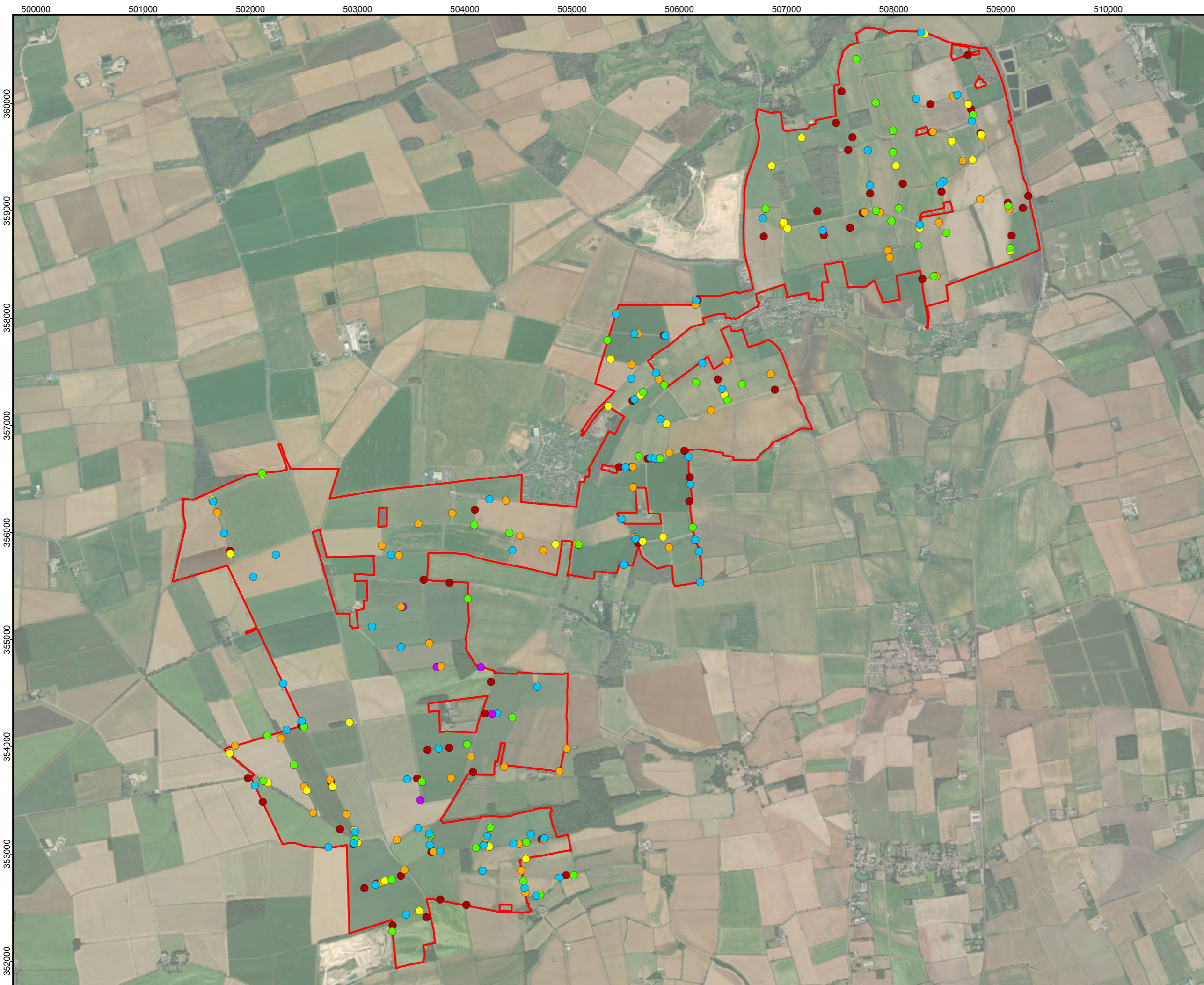
Springwell Solar Farm

DOCUMENT:
 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - Corn Bunting

FIGURE NUMBER:
 3p





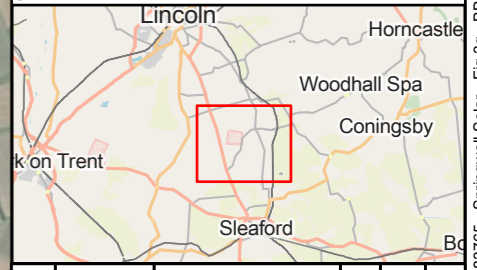
LEGEND:

- Site Boundary

Bird Observation Point By Visit

- Visit 1
- Visit 2
- Visit 3
- Visit 4
- Visit 5
- Visit 6

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



Rev	Date	Description	Drn	Chk	App
00	10/08/2023	First Draft	RG	RJ	JS

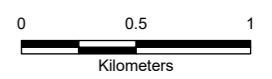
Springwell Solar Farm



DOCUMENT:
 Appendix 5.3 Springwell Breeding Bird Survey Report

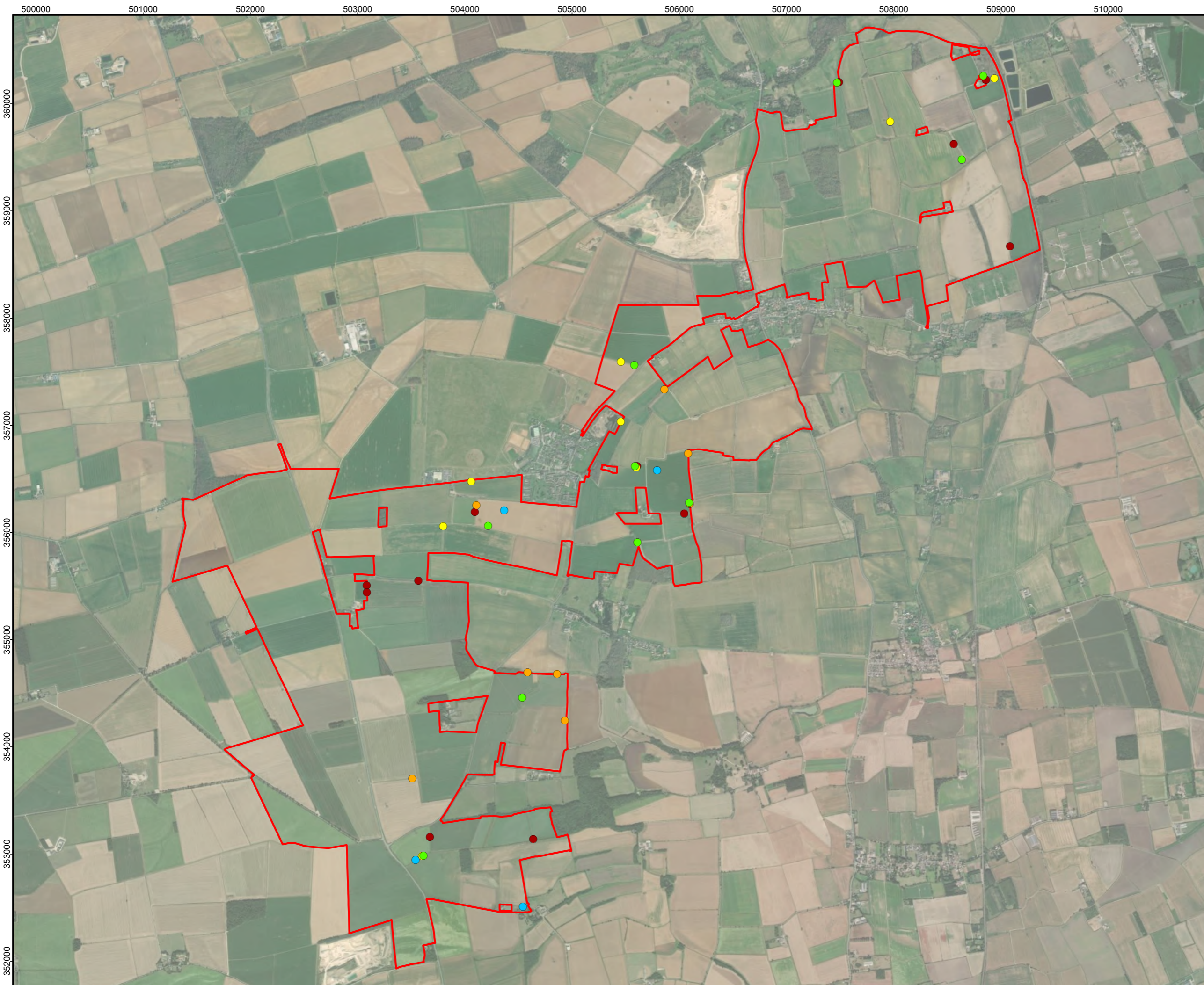
TITLE:
 Species Observations - Yellowhammer

FIGURE NUMBER:
 3q



Scale: 1:33,000 @ A3

REV 00



LEGEND:

- Site Boundary
- Visit 1
- Visit 2
- Visit 3
- Visit 4
- Visit 5

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



Rev	Date	Description	Drn	Chk	App
00	10/08/2023	First Draft	RG	RJ	JS

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DOCUMENT:
 Appendix 5.3 Springwell Breeding Bird Survey Report

TITLE:
 Species Observations - Reed Bunting

FIGURE NUMBER:
 3r

Scale: 1:33,000 @ A3

REV 00



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