Nationally Significant Infrastructure Project

One Earth Solar Farm Project

Lincolnshire County Council Local Impact Report – July 2025

Contents

1. Terms of Reference

Introduction

1.1 This report is the Local Impact Report (LIR) for Lincolnshire County Council (the Council). In preparing this LIR regard has been made to the purpose of LIRs as set out in s60(3) of the Planning Act 2008 (as amended), DCLG's Guidance for the examination of applications for development consent, the Planning Inspectorate's Advice Note One: Local Impact Reports, as well as the Planning Inspectorate's 'Example Documents'.

Scope

1.2 This LIR relates to the impacts of the proposed development of One Earth Solar Farm Projects as it affects the administrative area of the Council.

1.3 This is the Local Impact Report (LIR) of the Council one of the host authorities for the Project. Section 104 of the Planning Act 2008 (the 'Act') requires the Secretary of State to have regard to LIR's in deciding applications. The Act defines an LIR as "a report in writing giving details of the likely impact of the proposed development on the authority's area (or any part of that area)" (section 60(3)).

1.4 Provided that the LIR fits within this definition, its structure and content is a matter for the Local Authority. However, guidance is provided in the Planning Inspectorate's Advice Note One: LIR's (version 2, April 2012), which states that the LIR should set out the local authority's view of likely positive, neutral and negative local impacts, and give its view on the relative importance of different social, environment or economic issues and the impact of the scheme upon them.

1.5 This LIR has, therefore, been prepared in accordance with section 60(3) of the Planning Act 2008 (as amended) and having regard to the guidance in the Planning Inspectorate's Advice Note. Accordingly, it seeks to assist the Examining Authority (ExA) by presenting the Council's assessment of the likely impacts of the Project. Based on local information, expert judgement, and evidence.

1.6 This LIR appraises the impacts likely to result from the Project and identifies whether the impacts are considered to be negative, positive or neutral, taking into account proposed mitigation measures. It also considers whether further work should be undertaken, including mitigation, to address negative issues identified, and raises any missed opportunities for enhancement measures.

1.7 This LIR appraises the DCO documents submitted by the Applicant at the submission stage. Any further submissions will be addressed through subsequent written evidence through the Examination process.

1.8 The topic areas covered in the LIR are set out in section 2 below. The topics covered do not reflect the full remit of those addressed in the Environmental Impact

Assessment (EIA) but highlight what are considered by the Council to be the key issues within their remit.

1.9 The Council is the upper-tier local authority for the county of Lincolnshire as a whole and has a range of statutory responsibilities to provide services and discharge regulatory functions, which together affect a great many aspects of the built, natural, and social environment. These functions include acting as Local Highway Authority, Local Transport Authority, Waste Planning Authority, Waste Disposal Authority, Minerals Planning Authority, County Planning Authority, Lead Local Flood Authority, Fire Authority, Public Health Authority, Local Education Authority, and Social Services Authority.

1.10 The Council also holds responsibility for maintaining the Definitive Map and the Historic Environment Record.

1.11 This LIR does not reflect the views of West Lindsey District Council (WLDC). In producing this LIR, the Council has not sought the views of the public or local interest groups as to any particular matters that should be reflected in the LIR.

1.12 The Council has experience of the Nationally Significant Infrastructure Project (NSIP) planning regime. The Council is a host authority for the number of projects that have been consented or at recommendation stage including Boston Alternative Energy Facility, Mallard Pass, Gate Burton, Cottam, West Burton, Heckington Fen solar schemes and Viking Carbon Capture Storage scheme.

2. Purpose of the LIR

2.1 The LIR covers topics where the Council has a statutory function or holds expertise. The Council defers to WLDC on all other matters.

2.2 The LIR is structured by first identifying the relevant national and local policies, secondly identifying the local impacts, and lastly addresses the extent to which the development proposals accord with these policies. For each topic area, the key issues are identified on the extent the applicant addresses these issues by reference to the application documentation, including the draft DCO articles, requirements and obligation, where relevant.

2.3 This LIR does not seek to duplicate material covered in the Statement of Common Ground (SoCG) which will be progressed through the Examination stage.

3. Overview of the proposed development

3.1 A full description of the proposed development and various ancillary structures themselves is not detailed within this report as this is set out in the DCO application documents.

3.2 The scheme would comprise of the construction, operation (and maintenance) and decommissioning of ground mounted solar PV panel arrays, battery storage facilities, on-site substations and grid connection infrastructure. The development would allow the generation and export of electricity to the proposed National Grid High Marnham Substation. This DCO is seeking a time limited consent, if granted, the proposed development would be operational for 60 years. The development would also include landscaping, habitat management and biodiversity enhancement alongside works to facilitate vehicular access to the site.

3.3 The Order Limits consist of approximately 1,409 hectares (ha) of land, 206 ha of which fall within Lincolnshire, the remaining 1,203 ha are located with Nottinghamshire. The land within the Order Limits is within the administrative boundaries of the Council, WLDC, Nottinghamshire County Council (NCC), Newark and Sherwood District Council (NSDC) and Bassetlaw District Council (BDC) all of which will act as host authorities for the development.

3.4 The scheme can be classified into two distinct elements, the principal site and grid connection cable route.

- The principal site, would house the installation of the ground mounted solar PV panels, Battery Energy Storage Systems (BESS), on-site substations and other associated infrastructure. The principle site has two distinct land parcels, east and west of the River Trent as the river bisects the Order Limits (north/south orientation).

- The grid connection cable route would comprise 400Kv underground cable connection between the on-site substations and the National Grid High Marnham Substation. This cable route would require the crossing of the River Trent which would be crossed via trenchless techniques (horizontal drilling) to minimise environmental impacts.

- The scheme proposes two on-site substation/Battery Energy Storge Systems (BESS) locations, one to the east of the River Trent within Lincolnshire, and the other to the west within Nottinghamshire. Both the eastern and western BESS and onsite Substation Compounds could include either (or a combination) of BESS, on-site substation and solar PV. These substation/BESS areas would facilitate the export of electricity to the National Grid High Marnham Substation. Underground cabling would connect the substation into the National Electricity Transmission System via a 400kV grid connection cable route. The substation and cable connections would be required for the duration of the scheme.

- One Earth has a grid connection agreement with National Grid, which would allow 740MW of electricity to this network, through a new substation that would be developed, owned and operated by National Grid. The grid connection

would allow export and import of up to 740 megawatts (MW) of electricity to the National Grid High Marnham Substation. The High Marnham Substation would be developed separately by National Grid and is not part of One Earths proposals and therefore does not form part of this DCO application.

4. Description of Site and Surrounding Areas.

4.1 The proposed development spans across county boundaries and falls within both Nottinghamshire and Lincolnshire. This LIR focuses on the impacts within Lincolnshire, as such, the description of the site and surrounding area is also focused on that which falls within the administrative boundaries of Lincolnshire County Council.

4.2 The proposed development covers approximately 260ha, this land is located to the east of the River Trent and is predominantly agricultural land. Agricultural Land Classification surveys have identified a mix of Grade 2, 3a and 3b, of which 2 and 3a are classified as Best and Most Versatile (BMV).

4.3 This area falls under the Trent Valley Landscape Character Area which is characterised by gently undulating and low lying landforms with low ridges dividing shallow, broad river valleys and flood plains.

4.4 The extent of the site within Lincolnshire is located in the north east of the wider scheme. The 206ha is bordered to the north by the A57, and the A1133 and further the River Trent to the west. The development site continues into the administrative boundaries of NSDC to the east and south.

4.5 The development site primarily consists of agricultural fields. However, several areas within the Order Limits have been omitted, to avoid current developed areas which include Hall Water Reservoir and Hall Water Treatment Works located off of the A1133, Newton on Trent Oil Site, a safeguarded mineral site to the east of the water treatment works and Hall Farm, south of the oil site, both accessed from Southmoor Lane.

4.6 Newton on Trent is the closest settlement to the Order Limit boundary, located approximately 200m to the North of the proposed development.

4.7 There are no internationally important sites designated for biodiversity within 10km of the Order Limits. However, transmission cables are proposed to cross the River Trent via horizontal directional drilling meaning the proposals would be in hydrological continuity with the Humber Estuary Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC) and Ramsar site.

4.8 There are no nationally important or non-statutory designated sites designated for biodiversity importance either within or within 2km of the Order Limits in Lincolnshire.

4.9 Approximately 56% of the Order Limits fall within flood zones 2 and 3, both of which are present within Lincolnshire. The River Trent bisects the site in a north/south orientation, parallel to this, also within Lincolnshire flows an unnamed ordinary watercourse.

4.10 There are no Listed Buildings, Conservation Areas or Registered Parks and Gardens within the Order Limits. The closet designated assets are located in Newton on Trent and consist of Grade II and Grade II* Listed Buildings. Similarly there are no non-designated heritage assets within the Order Limits, the closest are located within Newton on Trent.

4.11 There are no Registered Battlefields or World Heritage Sites l and no Scheduled Monuments located within the Lincolnshire Order Limits, the closest is located to the East of the River Trent and west of the Order Limits and consists of a Roman Vexillation Fortress.

5. Policy Context

National Planning Policy

5.1 The Secretary of State (SoS) is required to have regard to any relevant national policy statement (NPS), amongst other matters, when deciding whether to grant a DCO. Where there is a relevant NPS in place DCO applications are determined in line with Section 104 of the PA2008. However, where there is no relevant NPS in place then Section 105 of the PA2008 takes effect and provides the legal basis for determining DCO applications. In addition to any relevant NPS, Section 104 requires the SoS to also have regard to any LIR and any matters which the SoS thinks are both important and relevant to its decision.

5.2 The following NPS's (dated November 2023) that came into force 17 January 2024 are considered relevant to the determination of this DCO application:

5.3 **EN-1 - Overarching National Policy Statement for Energy**

EN-1 confirms the Government's 2050 net zero ambitions. It also identifies the need to ensure the UK is more energy independent, resilient and secure requires the smooth transition to abundant, low-carbon energy. Government has therefore concluded that there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure. Renewable energy generation such as solar is considered to be CNP infrastructure.

5.4 **EN-3 – National Policy Statement for renewable energy infrastructure**

Solar is a key part of the government's strategy for low-cost decarbonisation of the energy sector and that the government expects a five-fold increase in solar

deployment by 2035 (up to 70GW). It is also stated that solar farms can be built quickly and – coupled with consistent reductions in the cost of materials and improvements in the efficiency of panels – large-scale solar is now viable in some cases to deploy subsidy-free.

5.5 This NPS sets out key considerations and factors that will need to be taken into consideration when selecting sites and these include irradiance and site topography, proximity of site to dwellings, agricultural land classification and land type, accessibility, public rights of way, security and lighting and grid connectivity. The technical considerations are set out in and include capacity of the site, site layout design and appearance, project lifetimes and flexibility. Impacts that will need to be considered are set out and include biodiversity, ecology, geological conservation, water management, landscape, visual and residential amenity, glint and glare, cultural heritage, construction including traffic and transport noise and vibration.

5.6 **EN-5 – National Policy Statement for Electricity Networks Infrastructure**
EN-5 is also relevant as it recognises electricity networks as "transmission systems (the long-distance transfer of electricity through 400kV and 275kV lines), and distribution systems (lower voltage lines from 132kV to 230V from transmission substations to the end-user) which can either be carried on towers/poles or undergrounded" and "associated infrastructure, e.g. substations (the essential link between generation, transmission, and the distribution systems that also allows circuits to be switched, or voltage transformed to a useable level for the consumer) and converter stations to convert DC power to AC power and vice versa." This is therefore relevant in so far as it relates to the proposed grid connection.

5.7 On 24 April 2025 the Government published a consultation on revisions to EN-1, EN-3 and EN-5. Whilst the review is undertaken, the current suite of energy NPS's remain relevant and have effect for the purposes of the Planning Act 2008.

5.8 The **National Planning Policy Framework** (NPPF) was first published in 2012 and updated in 2018, 2019, 2021, 2023 and 2024. Paragraph 5 of the NPPF states that the document does not contain specific policies for NSIPs. NSIPs are to be determined in accordance with the decision-making framework set out in the Planning Act 2008 and relevant NPSs which form part of the overall framework of national planning policy and may be a material consideration in preparing plans and making decisions on planning applications.

5.9 The Labour government elected in 2024 aims to re-instate mandatory housing targets and local authorities to have a 5-year land supply for housing. They have removed the idea of 'beauty', have updated the 'presumption in favour' of sustainable development and have redefined the classification of areas of Green Belts to include 'grey belt'.

5.10 The NPPF does, however, state that the planning system should support the transition to a low carbon future and support renewable energy and associated infrastructure (paragraph 152) and that local planning authorities should, when determining planning applications for such development, approve the application if its impacts are (or can be made) acceptable. Applicants are not required to demonstrate the overall need for renewable or low carbon energy (paragraph 158(a)).

5.11 The National Planning Policy Guidance (NPPG) outlines guidance on the specific planning considerations that relate to large scale ground-mounted solar PV farms. It encourages the effective use of previously developed land, and if a proposal does involve greenfield land, that it allows for continued agricultural use and/or encourages biodiversity improvements around arrays. It also states that local authorities should consider the effect of glint and glare on landscape, on neighbouring uses and aircraft safety in addition to taking great care to ensure heritage assets are conserved in a manner appropriate to their significance.

5.12 The potential impacts of large-scale solar farms were also addressed through a speech by the then Minister for Energy and Climate Change to the solar PV industry on 25 April 2013 and subsequent Written Ministerial Statements (WMS). The speech highlighted the importance of considering the use of low grade agricultural land which works with farmers to allow grazing in parallel with generation, and the WMS (dated 25/3/15 - UIN HCWS488) stressed that meeting our energy goals should not be used to justify the unnecessary use of high quality agricultural land, noting that 'any proposal for a solar farm involving the BMV agricultural land would need to be justified by the most compelling evidence'.

5.13 On 15 May 2024, a WMS was published on solar infrastructure and protecting food security and BMV land. The Council notes that the 15 May 2024 WMS captures elements of the 2024 NPS's. In particular, the 2024 WMS emphasises that when considering whether planning consent should be granted for solar development the cumulative impacts where several proposals come forward in the same locality should be considered.

5.14 Notwithstanding, the NPSs provide the predominant policy context.

Development Plan

5.15 For the purpose of Section 38(3) of the Planning and Compulsory Purchase Act 2004, the relevant documents that comprise the development plan in force in the area and of relevance to the DCO application are set out below. Other policy documents that should be considered as a material considerations are also identified.

Central Lincolnshire Local Plan

5.16 The Central Lincolnshire Local Plan 2023-2043 (CLLP) was adopted April 2023, replacing the Central Lincolnshire Local Plan adopted in 2017.
The relevant policies are:

- **Policy S1: The Spatial Strategy and Settlement Hierarchy** – Reason: The development would be located in the countryside.

- **Policy S5: Development in the Countryside –** Specifically Part E: Non-Residential development in the country. The reason for this is because of the criterion to be considered that *"The development is of a size and scale commensurate with the proposed use and with the rural character of the location."*

- **Policy S12: Water Efficiency and Sustainable Water Management** – Reason: To encourage infiltration, as Central Lincolnshire is identified as being within an area of serious water stress and to reduce energy demand on the water recycling network.

- **Policy S14: Renewable Energy –** Reason: To consider if the impacts are acceptable having considered the scale, siting and design, and the consequent impacts on landscape character; visual amenity; biodiversity; geodiversity; flood risk; townscape; heritage assets, their settings, and the historic landscape; and highway safety and rail safety.

- **Policy S16: Wider Energy Infrastructure** - recognises and supports, in principle, the need for significant investment in new and upgraded energy infrastructure the transition to net zero taking subject to mitigation, appropriate locations and good design to minimise harm.

- **Policy S21: Flood Risk and Water Resources –** Reason: some of the site is in high flood risk zones.

- **Policy S47: Accessibility and transport –** Reason: the development involves traffic on the highway network.

- **Policy S48: Walking and Cycling Infrastructure** - Reason: to protect, maintain and improve existing infrastructure, including closing gaps or deficiencies in the network and connecting communities and facilities; this being relevant to Public Rights of Way (PRoWs).

- **Policy S53: Design and Amenity –** Reason: all development, including extensions and alterations to existing buildings, must achieve high quality sustainable design that contributes positively to local character, landscape and townscape, and supports diversity, equality and access for all.

- **Policy S54: Health and Wellbeing –** Reason: This policy aims to ensure adequate access to nature, which might run counter to the development essentially "taking away" open green space.

- **Policy S57: The Historic Environment –** Reason: to protect heritage assets, above and below ground and on the site.

- **Policy S59: Green and Blue Infrastructure Network –** Reason: relevant because of the nature of the development itself or the development impacts on PRoWs.

- **Policy S60: Protecting Biodiversity and Geodiversity** – Reason: Due to the need to ensure that adverse impacts of development are adequately mitigated.

- **Policy S61: Biodiversity Opportunity and Delivering Measurable Net gains –** Reason: delivering at least a 10% biodiversity net gain is an ambition that all DCO projects are working towards as it will become mandatory for projects of this size to be comply with biodiversity net gain (BNG) targets in 2025.

- **Policy S62**: Area of Outstanding Natural Beauty and Areas of great Landscape Value – Reason: relevant because of the cumulative impacts on landscape and visual impacts.

- **Policy S66: Trees, Woodland and Hedgerows –** Reason: due to the trees and hedgerows within and around the site boundaries and the potential for a proportion of these to be removed to enable the development to progress.

- **Policy S67: Best and Most Versatile Agricultural Land –** Reason: there is BMV land present within the Order Limits.

Neighbourhood Plan

5.17 There are no adopted neighbourhood plans within the proposed development area.

Lincolnshire Minerals and Waste Local Plan Core Strategy and Development Management Policies (2016) (LMWLP):

5.18 The relevant policies are:

- **Policy DM1**: Presumption in favour of sustainable development – Reason: the County Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the NPPF.

- **Policy DM4: Historic Environment** – Reason: potential archaeological interest.

- **Policy DM12: Best and Most Versatile Agricultural Land** – Reason: development proposals that involve significant amounts of BMV agricultural land will only be permitted where the stated criteria are met.

- **Policy M11: Safeguarding of Mineral Resources** – Reason: One Earth is located in a Sand and Gravel Minerals Safeguarding Area (MSA).

- **Policy M12: Safeguarding of Existing Mineral Sites and Associated Minerals Infrastructure -** Parts of the One Earth order limits are situated within a Sand and Gravel MSA within the LCC administrative boundary and a safeguarded mineral site (Newton on Trent Oil site) is surrounded the order limits boundary.

- **Policy W1:** Future Requirements for New waste Facilities.

- **Policy W8: Safeguarding Waste Management sites –** A water treatment works (Hall Water Treatment Works) is surrounded by the One Earth Order Limit boundary. A safeguarded Sewage Treatment Works site (ST01: Land Opposite Park Farm Cottage, Kettlethorpe) is located approximately 70m to the north of the Order Limits.

Lincolnshire County Council Energy Infrastructure Position Statement (December 2023)

5.19 The Council's Energy Infrastructure Position Statement[1] notes that NSIP's cover a range of potential developments including solar farms and cable routes.

5.20 All new energy sources need to be connected to the grid and this creates risk. The Council's position is that any cabling required should be underground unless connecting to an existing overhead line.

5.21 The statement notes the advice contained in the NPPF that local planning authorities should consider the economic and other benefits of BMV agricultural land. Where significant development of agricultural land is demonstrated to be necessary local planning authorities should require the use of areas of poorer quality land in preference to that of higher quality. Based on this the Council will object to development on Grade 1, 2 and 3a land.

5.22 In considering NSIP proposals the protection of BMV agricultural land is the starting point for the Council for projects that involve significant land take. This principle will be cross referenced with other topics of consideration such as local environment, landscape, historic and community impacts to come to a view if there is any justification to override the loss of agricultural land.

[1] Energy Infrastructure Position (December 2023)

5.23 Finally, consideration should be given to the cumulative impact from proposals in combination for significant impact of numerous developments clustered within the same locality in a similar time period.

6. Assessment of Impacts and Adequacy of Response

6.1 The following sections identify, for each topic heading listed below, key statements from national planning policy, the relevant local planning policies, the key issues and impacts raised by the proposed development and the extent to which the applicant has addressed these issues in the application documents.

- Principle of the Development – Climate Change
- Grid Connection
- Landscape and Visual
- Ecology
- Traffic and Transport
- Public Rights of Way (PRoW)
- Flood Risk, Drainage and Surface Water
- Minerals and Waste
- Cultural Heritage (Built Heritage and Archaeology)
- Land, Soil and Groundwater
- Socioeconomics
- Public Health
- Cumulative Effects
- Fire Safety
- Other topics
- Draft DCO

7. Principle of the Development – Climate Change

7.1 The overarching energy NPS EN-1 sets out the overarching needs case for different types of energy infrastructure and general assessment principles. EN-1 re-affirms the government's commitment to net zero and sets out that the government's objectives for the energy system to ensure energy supply remains secure, reliable, affordable, and is consistent with meeting the UK net zero target by 2050.

7.2 Section 3.2 of EN-1 requires the SoS, in decision making, to assess all applications for development of the types of infrastructure covered by this NPS on the basis that the government has demonstrated that there is a need for those types of development which is urgent. The government has concluded that there is a critical national priority for the provision of nationally significant low carbon infrastructure for both energy security and net zero.

7.3 Section 4.10 of EN-1 addresses climate change adaptation and resilience in energy infrastructure development. It requires the effects of climate change to be

considered when developing and consenting infrastructure, referring also to the potential long-term impact of climate change.

7.4 New energy infrastructure will typically be a long-term investment and will need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the impacts of climate change when planning the location, design, build, operation and, where appropriate, decommissioning of new energy infrastructure (paragraph 4.10.8).

7.5 The SoS should be satisfied that applicants for new energy infrastructure have considered the potential impacts of climate change using the latest UK Climate Projections available at the time the ES was prepared to ensure they have identified appropriate mitigation or adaptation measures. This should cover the estimated lifetime of the new infrastructure (paragraph 4.10.13).

7.6 EN-1 notes that we must continue to accelerate efforts to end our contribution to climate change by reaching net zero GHG emissions. It also emphasis the need for adaptation, which is necessary to manage the impacts of current and future climate change.

7.7 Paragraph 2.3.5 of EN-1 notes that historically the UK energy system has been dominated by fossil fuels. Paragraph 2.3.6 acknowledges the need to transform the energy system, tackling emissions whilst continuing to ensure secure and reliable supply.

7.8 Local Policies:

- CLLP Policy S14: Renewable Energy
- CLLP Policy S16: Wider Energy Infrastructure
- CLLP Policy S53: Design and Amenity
- LMWLP Policy DM1: Presumption in favour of sustainable development.

7.9 CLLP Policy S14 (Renewable Energy) states that proposals for renewable energy schemes, including ancillary development, will be supported where the direct, indirect, individual, and cumulative impacts of development on a number of considerations are, or will be made, acceptable.

7.10 Paragraph 3.3.4 of the supporting text to policy S14 sets out that the aim of the Joint Committee that prepared the CLLP is to maximise appropriately located renewable energy generated in Central Lincolnshire. Policy S14 sets no floor or cap on the scale of renewable energy targeted to be generated, preferring, instead, an approach which supports all appropriate proposals that meet the policy requirements set out.

7.11 Paragraph 3.3.19 recognises that in order to support a move to a zero carbon Central Lincolnshire, there is a need to move away from fossil fuels (gas, petrol, diesel, oil)

towards low carbon alternatives and this transition needs to take place with increasing momentum in order to stay within identified carbon saving targets. Demand for electrical energy is forecast to increase by 165% in Central Lincolnshire over the next 30 years and so electrical infrastructure will need to adapt and change to accommodate this increased need for the management and storage of electricity. Energy storage (including battery storage), consideration of existing and new electricity substation, and energy strategies for large developments are required to help support the future energy infrastructure needs for Central Lincolnshire.

7.12 CLLP Policy S16 (Wider Energy Infrastructure) states that the Joint Committee is committed to supporting the transition to a net zero carbon future and, in doing so, recognises and supports, in principle, the need for significant investment in new and upgraded energy infrastructure. Support will be given to proposals which are necessary for, or form part of, the transition to a net zero carbon sub-region, which could include energy storage facilities and upgraded or new electricity facilities or other electricity infrastructure. This policy however caveats that any such proposals should take all reasonable opportunities to mitigate any harm arising from such proposals and take care to select not only appropriate locations for such facilities but also design solutions (reference to policy S53) which minimises harm arising.

7.13 The theme of these policies centres around the desire to support developments that are sustainable/relate to renewable energy. The principle of this development is meeting a nation need for solar/renewable energy, so it should be assessed against these policies. Policy S14 requires the specific tests to be met:

- The impacts are acceptable having considered the scale, siting and design, and the consequent impacts on landscape character; visual amenity; biodiversity; geodiversity; flood risk; townscape; heritage assets, their settings and the historic landscape; and highway safety and rail safety; and

- The impacts are acceptable on aviation and defence navigation system/ communications; and

- The impacts are acceptable on the amenity of sensitive neighbouring uses (including local residents) by virtue of matters such as noise, dust, odour, shadow flicker, air quality and traffic.

7.14 The One Earth Solar Project proposals would make a significant contribution towards renewable energy generation, generating 740MW of energy. This contribution aligns with the NPS's and to key commitments of government at the national level to reach net zero by 2050. The Council recognises, in principle, that solar energy development can help meet targets for reducing carbon emissions, reduce reliance on fossil fuels and provide local and national energy security. They can also provide economic diversification for farmers and landowners and support local employment

opportunities during the construction phase and which may offset any impact on farming enterprises. Therefore whilst One Earth Solar Project, by its nature offers significant positive impacts in terms of the production of clean renewable energy and the transition and movements towards Net Zero, in order to be supported it must be demonstrated that there are no significant adverse environmental impacts that cannot be appropriately managed and/or mitigated through the DCO process. The Council's position is therefore that overall, adopting a 'whole life' approach to GHG emissions, that significant positive impacts would accrue.

7.15 The sections below consider the potential impacts of the development on other factors/topics. The Examining Authority (ExA) will need to balance these positive impacts against the negative impacts identified within this LIR and those raised by other host authorities and Interested Parties.

8. Grid Connection

8.1 The Council are of the view that a crucial aspect of this proposal is ensuring certainty about the grid connection. There is currently no existing grid connection available to the applicant for the One Earth Solar project and the development relies on connection to a new substation that is being promoted by National Grid at High Marnham. The required infrastructure does not yet benefit from planning permission and is some years away from being completed. The applicant has received a grid connection offer from National Grid to connect to the proposed High Marnham Substation. The new High Marnham Substation does not form part of the DCO application and will be subject to planning permission through the Town and Country Planning Act 1990, as amended, for which a planning application is yet to be submitted. This presents potential concerns regarding the information available to inform the Environmental Statement (ES), the timing of the two related projects and the deliverability of the One Earth Solar project.

8.2 NPS EN1 paragraph 4.11.8 states that "On some occasions it may not be possible to coordinate applications. For example, different elements of a project may have different lead-in times and be undertaken by different legal entities subject to different commercial and regulatory frameworks (for example grid companies operate within OFGEM controls) making it inefficient from a delivery perspective to submit one application. Applicants may therefore decide to submit separate applications for each element[160]. Where this is the case, the applicant should include information on the other elements and explain the reasons for the separate application confirming that there are no obvious reasons for why other elements are likely to be refused."

8.3 Footnote 160 of NPS EN-1 acknowledges that different levels of information may be available at different times and as such applicants should take a proportionate approach to what information should be included.

8.4 Paragraph 4.11.9 of NPS EN-1 advises that if this option is pursued, the applicant accepts the implicit risks involved in doing so and must ensure they provide sufficient information to comply with the EIA Regulations including the indirect, secondary, and cumulative effects, which will encompass information on grid connections.

8.5 It is noted that One Earth Solar has a grid connection agreement which relies on connection to a new substation being promoted by National Grid at High Marnham. The Grid Connection Statement [APP-174], states that engagement with the National Energy System Operator (NESO) has resulted in a grid connection offer which provides a connection date of 2029. The proposed new High Marnham substation will require planning consent under the Town and Country Planning Act 1990 (as amended). The National Grid project website indicates that a planning application would be submitted in early 2025, with construction anticipated to commence during summer 2026 and a fully operational substation being achieved by winter 2029. However at the time of writing of this LIR a planning application for the proposed new High Marnham substation has not yet been made.

8.6 Construction of the One Earth Solar Farm according to paragraph 5.5.1 of the Environmental Statement (ES) Volume 1: Chapter 5: Description of the Proposed Development of Construction [APP-034] is proposed to commence in 2027. This introduces a potential issue, should there be further delays to the substation application or in the event that it is not granted planning consent, as the Solar Farm's mobilisation and construction may in these scenarios start before the planning consent for the proposed High Marnham substation is secured. It is therefore important to clarify how the two projects would align if there are delays in the substation's timeline or if it does not proceed as planned.

8.7 Paragraph 7.1.4 of the Grid Connection Statement [APP-174] states that the applicant is not aware of any reason why the substation TCPA application should not be obtained this assumption could cause potential issue wherein the applicant is reliant upon a substation that has no certainty of approval.

8.8 Certainty of a grid connection and therefore the deliverability of this project is a concern to the Council. There is a potential risk for negative environmental impacts to occur from the One Earth development commencing without the benefits of generation which would be relied upon for the grant of any consent being secured. Should the SoS be minded to grant the DCO, the Council are of the view that the DCO should make provision through a requirement to restrict the commencement of the One Earth development until a particular point has been reached with the High Marnham Substation, which we consider should be more than a material start, so that it can be said with certainty that this necessary infrastructure will be delivered in line with the assumptions made in the ES. The Council would draw the SoS attention to requirement 33 of the Keadby 3 (Carbon Capture Equipped Gas Fired Generating Station) Order 2022 which imposes a restriction on commencement until an

environmental permit is in place. Whilst this requirement relates to an environmental permit need it has similarities in that it was the case that negative environmental effects could occur if the control was not in place.

8.9 A further consideration is the effect on the validity of the ES should there be a slippage in timescales for the One Earth development due to not being able to connect to the grid by the connection dates indicated, for example, ecology surveys becoming out of date or overlaps with the construction phases of future projects which were not envisaged to be constructed at the same time as One Earth, due to optimistic assumptions within the ES not coming to fruition.

9. Landscape and Visual

9.1 NPS EN-1 at paragraph 5.10.37 states that the SoS should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to minimise harm to the landscape, including by appropriate mitigation.

9.2 Paragraph 5.10.35 of EN-1 states that the 'scale of energy projects means that they will often be visible across a very wide area'. It goes on to stress that the SoS 'should judge whether any adverse impact on the landscape would be so damaging that it is not offset by the benefits (including need) of the project'. Paragraph 5.10.36 then sets out that the SoS should 'consider whether any adverse impact is temporary, such as during construction, and/or whether any adverse impact on the landscape will be capable of being reversed in a timescale that the Secretary of State considers reasonable'.

9.3 Paragraph 5.10.5 of EN-1 states that 'virtual all nationally significant energy infrastructure projects will have adverse effects on the landscape, but there may also be beneficial landscape character impacts arising from mitigation'.

9.4 Paragraph 5.10.6 then goes on to state that 'projects need to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints the aim should be to minimise harm to the landscape, providing reasonable mitigation where possible and appropriate'.

9.5 The specific guidance relating to Solar Photovoltaic Generation in section 2.10 of EN-3 at paragraph 2.10.94 notes that 'Solar farms are likely to be in low lying areas of good exposure and as such may have a wider zone of visual influence than other types of onshore energy infrastructure'. Paragraph 2.10.95 states that '*whilst it may be the case that the development covers a significant surface area, in the case of ground-mounted solar panels it should be noted that with effective screening and appropriate land topography, the area of a zone of visual influence could be appropriately minimised*'.

9.6 Local Policies:

- CLLP Policy 1: The Spatial Strategy and Settlement Hierarchy
- CLLP Policy S5: Development in the Countryside
- CLLP Policy S14: Renewable Energy
- CLLP Policy S53: Design and Amenity
- CLLP Policy S62: Area of Outstanding Natural Beauty and Areas of Great Landscape Value
- CLLP Policy S66: Trees, Woodland and Hedgerows

9.7 CLLP Policy 1 (The Spatial Strategy and Settlement Hierarchy) focuses on delivering sustainable growth for Central Lincolnshire to meet the needs for homes and jobs, regenerates places and communities, and supports necessary improvements to facilities, services and infrastructure. Development regarded as being in the countryside (unless supported by other policy) is restricted to agricultural, infrastructure renewable energy or minerals and waste.

9.8 CLLP Policy S5(Development in the Countryside) - Part E: Non-residential development in the countryside supports non-residential development providing that it does not result in conflict with neighbouring uses and is of a size and scale commensurate with the proposed use and with the rural character of the location. Part F: Agricultural Diversification – supports farm based diversification to non-agricultural activities or operations providing it supports the farm enterprise and is in an appropriate location and scale with regard to the location of business need.

9.9 CLLP Policy S14 (Renewable Energy) supports proposals for renewable energy schemes subject to the direct, indirect, individual and cumulative impacts of development on, amongst other things, landscape character and visual amenity being acceptable or capable of being made acceptable.

9.10 CLLP Policy S53 (Design and Amenity) expects all development to achieve high quality sustainable design which contributes positively to the local character and landscape. Development proposals should, amongst other things, be based on a sound understanding of the context, integrate into the surrounding, relate well to the site, protect any important local views into, out of or through the site, reflect the identity of area and contribute to the sense of place and maintain landscape quality and minimise adverse visual impacts through high quality building and landscape design.

9.11 CLLP Policy S62: Area of Outstanding Natural Beauty and Areas of Great Landscape Value. Areas of Great Landscape Value (AGLV) are locally designated landscape areas recognised for their intrinsic character and beauty and their natural, historic and cultural importance. Development proposals within, or within the setting of, AGLV shall seek to conserve, protect and enhance (where possible) the quality and distinctiveness of locally important landscapes, wildlife and historic features.

9.12 CLLP Policy S66: Trees, Woodland and Hedgerows states that planning permission will only be granted if the proposal provides evidence that it has been subject to adequate consideration of the impact of the development on any existing trees and woodland found on-site. Proposals for new development will also be expected to retain existing hedgerows where appropriate and integrate them fully into the design, having regard to their management requirements.

9.13 The Council commissioned AAH Landscape Consultants to assist in the consideration and review of the landscape and visual elements of the One Earth proposal and have engaged and provided feedback and advice to the Applicant's design team on behalf of the Council throughout the pre-application stage. A full copy of the report prepared by AAH is attached as an Appendix A which has reviewed the DCO application documentation, and the following summary and conclusions is based on those comments and should be read in conjunction with the full document. It should also be noted that AAH Landscape Consultants are providing landscape and visual advice and support for NCC and NSDC in addition to the Council, as such the content of their response is substantially the same for each of these authorities.

9.14 The LVIA and the associated figures, appendices and documents provide a thorough analysis of the Development and is appropriate to the scale and context of the Site. The process of assessment is thorough and well explained in the volumes, which include a clear summary of findings and identification of significant effects on the landscape and visual baseline. There are some parts of the assessment that have highlighted issues, which are summarised below.

9.15 By reason of its mass and scale, the Development would lead to significant adverse effects on landscape character and visual amenity at all main phases of the scheme (construction, operation year 1, operation year 15). The Development has the potential to transform the local landscape by altering its character on a large scale across an extensive area. This landscape change also has the potential to affect a wider landscape character, at a regional scale, by replacing large areas of agricultural or rural land with solar development, affecting the current openness, tranquillity and agricultural character that are identified as defining characteristics of the area. We also judge that this would likely be classed as a permanent project in regards to landscape and visual matters, spanning several generations. As such, the likely effects may be understated as the author has deemed residual effects would be partly reversable.

9.16 The scale and extent of development would also lead to significant adverse effects on views from receptors, by altering views from within an agricultural or rural landscape to that of a landscape with large scale solar development. We have highlighted some issues with the visual assessment within the LVIA and compliance with the recent Landscape Institute *Technical Guidance Note LITGN-2024-01*; the assessment is

structured around static views rather than the experience of the visual receptor which should include for sequential and varying views. This should be reviewed further as part of the DCO examination, as the extent of visual effects do not appear to have been fully considered.

9.17 The cumulative landscape and visual effects of the Development have the potential to bring about significant landscape and visual effects, however adjacent schemes identified within the ES are relatively small in comparison with the wider One Earth order limits scheme. We have concerns regarding effects on the national, county and regional landscape character areas from the extent of renewable and energy infrastructure proposed across the county. The mass and scale of these projects combined has the potential to lead to adverse effects on landscape character over an extensive area across these published character areas. The landscape character of the local, and potentially regional area, may be completely altered over the operational period through an extensive area of land use change, and introduction of energy infrastructure in an area that is predominantly agricultural. This would also be an issue when experienced sequentially for visual receptors travelling through the landscape and experiencing these schemes across potentially several kilometres, albeit with gaps between the schemes. This is a clear and marked change to landscape character.

9.18 Tree and vegetation removal associated with the Development, including wider highways improvements and access for construction, must be clarified through the examination process, and subsequently any works (such as lopping or pruning), or removal of trees and hedgerows must be agreed prior to any works commencing. Prior to any construction activities, all tree and hedgerow protection methods associated with that phase of construction should also be clarified and subsequently agreed with the appropriate authority (in this case the local planning authority). This would be to BS:5837 Trees in Relation to Construction and any subsequent arboriculture method statements, again this should be approved by the appropriate authority. In particular this should ensure existing trees, and associated root protection areas, are suitably protected throughout the entire construction period. This would also likely include areas within the order limits, but away from construction activity, such as storage areas for materials which may suffer from tracking by plant that would damage tree root protection zones.

9.19 While the submission includes landscape proposals (as shown on *Figure 2.7: Illustrative Masterplan* and the *Mitigation Plan* within Appendix A of the OLEMP [APP-179], secured via Work Order 8 on the Works Plans and DCO), these are of a high level and it would be expected that if the project proceeds much more detailed plans would to be submitted and subsequently agreed with the appropriate authority prior to the commencement of any works and secured through requirements of the DCO. This would include clear detail of the areas of landscape mitigation, location and types of planting (species), as well as number, density and specification. The

mitigation illustrated on the *Outline Landscape and Ecology Management Plan* has been utilised to assess the landscape and visual effects of the scheme, therefore we would expect any detailed landscape proposals to consist of the area and extent shown on these plans as a minimum.

9.20 Therefore, the Council concludes that the proposed development would have **negative** landscape and visual impacts.

10. Ecology

10.1 Section 5.4 of NPS EN-1 covers biodiversity and geological conservation. The government's policy for biodiversity in England is set out in the Environmental Improvement Plan 2023, the National Pollinator Strategy and the UK Marine Strategy. The aim is to halt overall biodiversity loss in England by 2030 and then reverse loss by 2042, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people. Healthy, naturally functioning ecosystems and coherent ecological networks will be more resilient and adaptable to climate change effects. Failure to address this challenge will result in significant adverse impact on biodiversity and the ecosystem services it provides (paragraph 5.4.2).

10.2 Paragraph 5.4.39 states that the SoS 'should have regard to the aims and goals of the government's Environmental Improvement Plan 2023 and any relevant measures and targets, including statutory targets set under the Environment Act or elsewhere'. Paragraph 5.4.41 goes on to state that 'the benefits of nationally significant low carbon energy infrastructure development may include benefits for biodiversity and geological conservation interests and these benefits may outweigh harm to these interests. The SoS may take account of any such net benefit in cases where it can be demonstrated'. Paragraph 5.4.43 states 'If significant harm to biodiversity resulting from a development cannot be avoided (for example through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then the SoS will give significant weight to any residual harm'.

10.3 Paragraph 5.4.46 advises that development proposals provide many opportunities for building-in beneficial biodiversity or geological features as part of good design and the SoS should give appropriate weight to environmental and biodiversity enhancements, but any weight given to gains provided to meet a legal requirement (for example under the Environment Act 2021) is likely to be limited.

10.4 Local Policies:

- CLLP Policy S14: Renewable Energy
- CLLP Policy S59: Green and Blue Infrastructure Network
- CLLP Policy S60: Protecting Biodiversity and Geodiversity
- CLLP Policy S61: Biodiversity Opportunity and Delivering Measurable Net Gains

- CLLP Policy S66: Trees, Woodland and Hedgerows

10.5 CLLP Policy S60 (Protecting Biodiversity and Geodiversity) states that development proposals will be considered in the context of the relevant Local Authority's duty to promote the protection and recovery of priority species and habitats. Where adverse impacts are likely, development will only be supported where the need for and benefits of the development clearly outweigh these impacts. In such cases, appropriate mitigation or compensatory measures will be required.

10.6 CLLP Policy S61 (Biodiversity Opportunity and Delivering Measurable Net Gains) states that all qualifying development proposals must deliver at least a 10% measurable biodiversity net gain (BNG) attributable to the development. The net gain should be calculated using Natural England's Biodiversity Metric and be provided on-site where possible. Unless specifically exempted by Government, a biodiversity gain plan should be submitted providing clear and robust evidence for biodiversity net gains and losses. This plan should also include details of the pre-development biodiversity value of the onsite habitat, the post-development biodiversity value of the onsite habitat following implementation of the proposed ecological enhancements/interventions, and an ongoing management strategy for any BNG proposals.

10.7 CLLP Policy S66 (Trees, Woodland and Hedgerows) states that planning permission will only be granted if the proposal provides evidence that it has been subject to adequate consideration of the impact of the development on any existing trees and woodland found on-site. Proposals for new development will also be expected to retain existing hedgerows where appropriate and integrate them fully into the design, having regard to their management requirements.

10.8 The Council has reviewed the submitted information concerning the assessment of potential ecological effects of the proposed development. 6.6 Chapter 6: Biodiversity of the ES [APP-035] and associated appendices set out the the biodiversity and ecological elements of the Applicant's ES. The Council considers that information included in APP-035 and its appendices provides a reasonable summary of ecological interest features and likely significant effects, mitigation, and residual effects of the proposed development.

Statutory Designated Sites

10.9 There are no internationally important sites designated for biodiversity within 10km of the proposal, however, transmission cables would be installed via horizontal directional drilling to cross the River Trent meaning it is in hydrological continuity with the Humber Estuary SSSI, SAC and Ramsar site. The Applicant considers the potential impacts on designated features of the Humber Estuary in 5.2 Shadow Habitat Regulation Assessment [APP-165].

10.11 There is one nationally important site designated for biodiversity just over 2km from the Order limits within Nottinghamshire.

Non-Statutory Designated Sites

10.12 There are 34 non-statutory sites designated for biodiversity importance either within or within 2km of the Order limits. Only one of these lie within the Order limits and all of the non-statutory sites are within Nottinghamshire. The locations of these non-statutory sites are set out in Figure A-1 of 6.21 Appendix 6.2 Ecology Desk Study [APP-085]. Where necessary avoidance, compensation and mitigation measures are proposed.

Habitats Regulations

10.13 A Shadow Habitats Regulation Assessment (HRA) report has been submitted [APP-165] and concludes that there will be no Adverse Effects on the Integrity (AEOI) of the Humber Estuary SAC and Ramsar site. Other recent proposals in the area have assessed similar methodologies for crossing the River Trent and have also concluded that there will be no AEOI on the Humber SAC. The Applicant also commits to collaborating in a study to monitor the effects of electromagnetic fields on river and Sea Lamprey with the Environment Agency and other developers in the area.

10.14 The Council has no reason to disagree with the conclusion of the Shadow HRA for this proposal. The Planning Inspectorate will need to satisfy itself that sufficient information has been submitted by the Applicant to enable this conclusion to be reached.

Existing biodiversity value

10.15 A range of both desk-based studies and field surveys has been undertaken to establish the suite of habitats present within the DCO site boundary. These are described in APP-035 and associated appendices. A suite of habitat types of local importance and above were identified. The Council is of the opinion that the level of survey effort, survey methods and desk-study research undertaken to identify important habitats and establish the baseline biodiversity value is appropriate.

10.16 APP-035 identifies a range of ecological impacts. These potential impacts include both permanent and temporary or damage to habitats, including the potential for the spread of invasive non-native species (INNS). The project relies on a package of avoidance, mitigation and enhancement measures to address the ecological impacts. To this end, the Applicant has prepared an outline Construction Environmental Management Plan (oCEMP) [APP-176], a oLEMP [APP-179], an outline Operational Environmental Management Plan (oOEMP) [APP-177] and an outline Decommissioning Environmental Management Plan (oDEMP) [APP-178]. Measures proposed in the oCEMP, oLEMP, oOEMP and oDEMP will need to be secured in the DCO.

10.17 A Commitments Register [APP-187] has also been prepared which provides a helpful summary of the mitigation identified for the project including embedded mitigation measures, which have been designed into the project. The Council agrees with the Applicant's approach and considers that the proposed impact avoidance and mitigation measures for construction, operational and decommissioning phases of the development are appropriate and will also need to be secured in the DCO.

Protected and priority species

10.18 A suite of both desk-based studies and field surveys has been undertaken to identify protected and priority species likely to occur within the DCO site boundary. These are described in APP-035 and associated appendices. The Council has reviewed the application in accordance with Natural England's standing advice for protected species. Having considered APP-035 the Council considers that the survey methods used were appropriate. The Council notes that further surveys are proposed for great crested newt and breeding birds. Assuming these surveys take place and given the work that has already taken place, the Council considers that the survey effort deployed has been appropriate. Impact avoidance measures, mitigation measures and enhancement measures are proposed to avoid significantly negative effects.

10.19 Without mitigation, the proposed development has the potential to result in negative effects on the populations of a number of species / species groups including badger, otter, water vole, Schedule 1 breeding birds as well as populations of both breeding and wintering birds ranging between national and local levels of importance.

10.20 Where protected species will be affected by the proposed development, a licence from Natural England will be sought and mitigation will be secured as part of the licensing process. The Council agrees with this approach.

10.21 Subject to the results of additional surveys proposed for 2025 and appropriate management, the Council agrees that the proposed mitigation measures are appropriate and should ensure significant negative effects on protected and priority species are avoided. Delivery and appropriate management of the proposed mitigation for construction, operational and decommissioning phases of the development will need to be secured in the DCO.

Biodiversity Net Gain (BNG)

10.22 The delivery of at least 10% BNG is not currently mandatory for NSIPs however it is considered best practice. Given the scale and nature of the proposed development the Council will expect the project to deliver significantly more than 10% BNG.

10.23 The Applicant presents their approach to BNG in 6.21 Appendix 6.10 Biodiversity Net Gain Assessment [APP-093]. At paragraph 3.14 the Applicant states that "*The calculations summarised below demonstrate that a BNG of well in excess of 10% can be achieved within the proposed Order Limits based on the current parameter /*

illustrative plans." In addition to this at paragraph 2.13 in APP-179, the Applicant states that they will "… *provide at least 10% BNG as part of the Proposed Development, however it is likely that BNG significantly higher than 10% will be delivered for habitat, hedgerow and watercourse units*. LCC welcomes the Applicant's commitment to delivering BNG.

10.24 Based on the current assessment, the Scheme is predicted to result in a net gain of 113.17% for area-based habitat units, 92.49% for hedgerow units and 57.75% for watercourse units. The Council considers that if BNG is to be given positive weight in the planning balance a specific commitment in the DCO to delivering more than 10% BNG will be required. The nearby Cottam Solar Project included a requirement (Requirement 9) which sets out specific details of levels of BNG that will be delivered by the development. This approach resulted in ecology and BNG for that development being afforded moderate positive weight in the planning balance. The Council therefore encourages the applicant to provide greater clarity around the level of BNG that will be delivered by the scheme at the earliest opportunity.

10.25 The Council also encourages the Applicant to work with other developers and stakeholders in the area to identify opportunities to deliver BNG strategically and welcomes continued engagement with the Applicant in relation to BNG.

Cumulative Effects

10.26 There are a number of development proposals of varying scales in the vicinity of this proposal. These range from small scale housing developments to NSIP scale energy developments. A list of projects included in APP-047. A detailed assessment of the cumulative impacts of these proposals on sensitive ecological receptors in the area will be required. Details of the approach to cumulative effects are presented in APP-047.

10.27 The assessment concludes that given mitigation proposed for this development and likely standard / good practice mitigation proposed for other nearby developments there will be no significant adverse effects on these receptors arising from cumulative impacts. Assuming that proposed mitigation for this proposal is adequately secured in the DCO, the Council agrees with the applicant's conclusions in relation to cumulative effects on ecology.

Ecological Steering Group

10.28 The Council suggests that consideration is given to the establishment of an Ecological Steering Group or similar for the Proposed Development. This group should consist of key ecological stakeholders (both statutory and non-statutory). The remit of the group would be to receive updates on project progress and to advise on issues encountered during construction as well as to refine delivery of required ecological mitigation and enhancement measures. Meetings should be held at an appropriate

frequency to ensure good communication between both the developer and stakeholders.

10.29 Establishing such a group is also likely to yield benefits by assisting with the identification of opportunities for strategic working with other solar NSIP developers in the vicinity. This is particularly the case in relation to the delivery of BNG where strategic delivery could result in significant benefits for species groups such as ground nesting birds.

Overall impact of the development on ecology and biodiversity

10.30 The Applicant's ES identifies a series of potential impacts on ecology arising from the development. These range from minor adverse impacts to significant adverse impacts depending on the species, habitat or site concerned. Measures to address these impacts are proposed and should be secured in the DCO. If the mitigation measures are secured and delivered as proposed the Council considers that the development would have a minor, temporary, negative impact on ecology during the construction phase.

10.31 The Applicant has indicated an intention to deliver ecological enhancement measures and BNG as part of the proposal. Final details of these measures are subject to confirmation of final scheme designs, however, if currently predicted levels of BNG are delivered, the Council considers that overall, the development could have a **positive** impact on biodiversity and ecology. Commitments to deliver more than 10% BNG should be specifically secured in the DCO if BNG is to be given positive weight in the planning balance.

11. Traffic and Transport

11.1 Paragraph 5.14.18 of EN-1 sets out that the SoS should consider the substantial impacts of traffic and therefore should ensure 'that the applicant has sought to mitigate these impacts, including during the construction phase of the development'. Where the proposed mitigation measures are insufficient to reduce the impact on the transport infrastructure to acceptable levels, the SoS should consider requirements to mitigate adverse impacts on the transport networks arising from the development. Development consent should not be withheld where applicants are willing to enter planning obligations for funding infrastructure or where requirements can be imposed mitigating adverse impacts (paragraph 5.14.20).

11.2 Paragraph 5.14.14 of EN-1 states that the SoS may attach requirements to a consent where there is likely to be substantial HGV traffic that control numbers of HGV movements to and from the site in a specified period during its construction and possibly on the routing of such movements, make sufficient provision for HGV parking including to avoid prolonged queuing on approach roads and ensuring satisfactory arrangements for reasonably foreseeable abnormal disruption.

11.3 The NPPF at paragraph 116 states that "Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios."

11.4 Local Policies:

- CLLP Policy S47: Accessibility and Transport

11.5 CLLP Policy S47 (Accessibility and Transport) states that development proposals are required to contribute towards an efficient and safe transport network. All developments should demonstrate, where appropriate, that they have regard to the need to minimise additional travel demand through the use of travel planning, safe and convenient public transport, walking and cycling links, and integration with existing infrastructure. This policy also states that any development that has severe transport implications will not be granted planning permission unless deliverable mitigation measures have been identified, and arrangements secured for their implementation, which will make the development acceptable in transport terms.

11.6 The Council in its capacity as Local Highway Authority has reviewed the application documents and has been involved in meetings with the Applicant pre-submission. The Council considers that the assessment within ES Volume 2 - Chapter 12 (Traffic and Access) [APP-041], Appendix 12.2: Transport Assessment [APP-136] and the Outline Construction Traffic Management Plan (oCTMP) [APP-181] is appropriate and provides a reasonable estimate of HGV and car traffic that would be associated with the development.

11.7 As a cross boundary development, both LCC and NCC road network would be impacted by the development, particularly during the construction phase. The majority of the Order Limits fall within NCC. Table 12.12 within Chapter 12 of the ES summarises the significant effects of construction traffic, Crabtree Lane and Polly Taylor's Road are highlighted – both of which fall outside of Lincolnshire's jurisdiction.

11.8 Construction traffic would access the development site via specified point along the A57/A1133. Access to the eastern development parcel (located within Lincolnshire) would mainly be via the A1133, and Roadwood Lane. Out of 10 access points across the development three are located within Lincolnshire. The construction traffic has been estimated from first principles and the Council considers that the methodology is acceptable, the impacts are summarised in Table 5 [APP-136], these show that the proposals would not cause a severe impact nor an unacceptable safety impact on LCC's network.

11.9 Paragraph A12.3.38 of APP-136 confirms that the applicant would submit and pay fees for any Section 184 agreements under the Highways Act needed for the new access points.

11.10 Layouts and swept paths depicted for accesses within Lincolnshire, Access Drawings (Street ROW Access Plans) [APP-024] for accesses 2, 3, 4 and 5 are considered acceptable in principle. Further detail can be addressed at the S184 stage.

11.11 The applicant has also provided a cumulative development review within Appendix D of the Transport Assessment [APP-136]. Wherein a long and short list of cumulative developments have been reviewed for inclusion with a cumulative sensitivity review. The assessment considers a short list of committed projects within the ZOI for traffic and access. It is noted however, that the proposed substation at High Marnham that this project would connect into has not been included within the shortlist. High Marnham substation proposals have not yet been submitted to Bassetlaw District Council and traffic data is not yet available. The substation will be assessed by the appropriate Highway Authority, including its cumulative impact with other developments, when the application is submitted.

11.12 In terms of traffic and transport effects, the Local Highway Authority, considers the assessment in the Traffic and Transport chapter to be reasonable, however, mitigation measures are required for this development and these need to be secured through the DCO. Subject to the necessary mitigations being secured and implemented, the Council concludes that traffic and transport impacts during the construction phase would be **negative** but not severe in the context of NPS EN-1 and the NPPF. Traffic and Transport impacts during operation, and decommissioning would be **neutral**.

12. Public Rights of Way (PRoW)

12.1 Section 2.10 of EN-3 makes several recommendations in relation to accessibility and PRoW, noting at 2.10.35 that the suitability of the access routes to the proposed site for both the construction and operation of the solar farm must be considered, with the former likely to raise more issues. EN-3 advises that applicants should keep, as far as is practicable and safe, all PRoW that cross the proposed development site open during construction and protect users accordingly. They are also encouraged to design the layout and appearance of the site to ensure continued recreational use of PRoW, where possible during construction, and in particular during operation, and to provide enhancements to PRoW and the adoption of new PRoW through the site.

12.2 Local policies:

- CLLP Policy S48: Walking and Cycling Infrastructure
- CLLP Policy S54: Health and Wellbeing
- CLLP Policy S59: Green and Blue Infrastructure Network

12.3 The theme of the CLLP policies relates to the protection, maintenance, and availability of public rights of way, specifically on the grounds that they provide public access to green/natural spaces as well as provide places for exercise, health, and wellbeing.

12.4 Lincolnshire PRoW that lie within or intersect the site include:

- LL|NwOT|97/4 – Public footpath on the eastern bank of the River Trent running in a north/south direction.
- LL|NwOT|99/1 – Public footpath running north to south adjacent to Bubble Dyke.

12.5 It is noted that no PRoW within Lincolnshire are planned to be temporarily diverted. The Council appreciates the inclusion of the Outline Public Right of Way Management Plan [APP-086], however paragraph 3.2.3 states that gates would be BS5709 compliant. This should be BS5709:2018. BS5709:2018 advocates that the least restrictive option should be chosen. The Council would therefore stress that rather than gating off the PRoW, a gap should be the preference, and instead the haul road should be gated, allowing unobstructed access for path users.

12.6 PRoW enhancement proposals have been included within the oLEMP [APP-179]. These enhancements within Lincolnshire take the form of new permissive paths that would be available for public use for the lifetime of the development until decommissioning. The applicant has identified the lack of access to the wider PRoW network from Newton-on-Trent. As such the applicant has proposed a new permissive path that runs approximately 2.5km from south of the A57, (new permissive path connecting into the southern end of Southmoor Lane) and connects to the Trent Valley Way and Sustrans Cycle Route. These enhancements to the PRoW network are welcomed, notwithstanding that there would be a potentially negative impact on the amenity of users of the PRoW from a visual amenity perspective, walking through open fields vs walking through a solar farm is a significant difference for the path user, the enhancements to the network would provide a longer term positive benefit.

12.7 Subject to the above being addressed, the proposed mitigation measures and the requirement to submit a Public Rights of Way Management Plan in the draft DCO, the Council conclude that from a network perspective the proposed enhancements would be beneficial and that the impact on the PRoW network would be **positive**.

13. Flood Risk, Drainage and Surface Water

13.1 Paragraph 5.16 of NPS EN-1 focuses on water quality and resources. In the decision-making process, the SoS should note that activities that discharge to the water environment are subject to pollution control. Moreover, the SoS will '*need to give*

impacts on the water environment more weight where a project would have an adverse effect on the achievement of the environmental objectives established under the Water Framework (Water Framework Directive) (England and Wales) Regulations 2017' (paragraph 5.16.12).

13.2 EN-1 also states that the SoS should consider '*whether appropriate requirements should be attached to any development consent and/or planning obligations are necessary*' to mitigate adverse effects on the water environment (paragraph 5.16.16).

13.3 Paragraph 5.8.7 of EN-1 notes that new energy infrastructure should only be permitted by exception in flood risk areas (for example where there are no reasonably available sites in areas at lower risk), and that it should be safe for its lifetime without increasing flood risk elsewhere and, where possible, should reduce flood risk overall. It should also be designed and constructed to remain operational in times of flood. Paragraphs 5.8.9 and 5.8.10 confirm the requirement for the flood risk sequential and exception tests to be applied.

13.4 NPS EN-3 paragraph 2.10.154 advises that "water management is a critical component of site design for ground mount solar plants. Where previous management of the site has involved intensive agricultural practice, solar sites can deliver significant ecosystem services value in the form of drainage, flood attenuation, natural wetland habitat, and water quality management."

13.5 Local Policies:

- CLLP Policy S12: Water Efficiency and Sustainable Water Management
- CLLP Policy S21: Flood Risk and Water Resources
- CLLP Policy S59: Green and blue infrastructure network
- West Linsdey Strategic Flood Risk Assessment (2009)

13.6 CLLP Policy S12 (Water Efficiency and Sustainable Water Management) states that in addition to the wider flood and water related policy requirements of Policy S21, all residential or other development comprising new buildings with outside hard surfacing, must ensure such surfacing is permeable (unless there are technical and unavoidable reasons for not doing so).

13.7 CLLP Policy S21 (Flood Risk and Water Resources) states that all development proposals will be considered against the NPPF, including application of the sequential and, if necessary, the exception test. Proposals should demonstrate that they are informed by and take account of the best available information from all sources of flood risk and by site specific flood risk assessment where appropriate; that the development will be safe during its lifetime taking into account the impacts of climate change; how the wider scope for flood risk reduction has been positively considered; and that they have incorporated Sustainable Drainage Systems

(SuDS)/Integrated Water Management into the proposals, unless they can be shown to be inappropriate.

13.8 CLLP Policy S59 (Green and Blue Infrastructure Network) states that proposals that cause loss or harm to the green and blue infrastructure network will not be supported unless the need for and benefits of the development demonstrably outweigh and adverse impacts.

13.9 ES Chapter 7, Hydrology and Hydrogeology [AS-053] and Appendix 7.2, Flood Risk Assessment (FRA) and Outline Drainage Strategy [AS-051] consider the likely effects generated by the proposed development during construction, operation (including maintenance), and decommissioning in relation to water quality and resources.

13.10 A section of the River Trent is encompassed within the Order Limits as the cable route corridor requires the crossing of the river via horizontal directional drilling (HDD) to connect the eastern extent of the site to the substation located at High Marnham. Also located within the Lincolnshire extent of the Order Limits is an unnamed ordinary watercourse, a tributary of Foss Dyke which connects to the River Trent 4km north of the Order Limits. AS-053 concludes within Table7.4 that the likely significant effects to existing watercourses would be neutral and not significant for construction, operation and decommissioning.

13.11 A FRA has been prepared for this development as large areas of the site are located within flood zones 2 and 3. The FRA assesses the development against the risk of flooding, from multiple sources and has concluded that an overall medium to high risk of fluvial and tidal flooding, and a low risk of flooding from sewers, groundwater, artificial sources and surface water.

13.12 AS-051 states that no built development is proposed within the functional floodplain and a sequential approach has been taken to the development layout ensuring sensitive equipment including battery storage and substations are located outside the of the design flood extent. It is noted that the eastern BESS (within Lincolnshire) lies outside the breach flood extent.

13.13 Due to the extent of the site, the applicant has stated that some development including panels and inverters are required to be located within the design flood extent.

13.14 The applicant has stated that where this is necessary inverters would be raised on platforms above the designed flood level, allowing storage and flow of floodwater ensuring a negligible impact on floodplain storage. Panel height across the development site has been designed to vary dependant upon flooding extent. The flooding of this equipment has been assessed appropriately and the applicant states that the operational impact that would occur as a result is acceptable.

13.15 The applicant has stated that solar farms are not considered to result in significant increases in run-off in comparison to the existing greenfield situation. The substation and BESS location represent areas of higher hardstanding where surface water run off has the potential to increase surface water flood risk.

13.16 The Council in its capacity as Lead Local Flood Authority (LLFA) has reviewed the application documents for this proposal. In terms of flood risk and drainage, the LLFA considers for the main solar farm, the surface water flood risk is appropriately addressed in AS-053. The eastern BESS is located in Lincolnshire and the proposed surface water drainage is outlined satisfactorily in AS-051 with the Surface Water Drainage Strategy Plans (A7) showing impermeable areas for BESS and access roads used in the assessment, along with required attenuation volumes and areas.

13.17 Subject to the development being carried out as proposed within the DCO application documents, the outlined mitigation measures being implemented and further surface and foul water drainage details being agreed as part of subsequent DCO requirements, as proposed in the draft DCO [APP-007] requirement 12, the Council as LLFA for Lincolnshire, is of the view that impacts of this proposal would be **neutral**.

13.18 The One Earth Solar Farm straddles the River Trent with approximately 56% of the site being within Flood Zones 2 and 3 (Planning Statement, paragraph 2.3.2 [APP-168]). This also appears to be the case in the portion of the solar farm located within Lincolnshire.

13.19 Paragraph 5.8.21 of EN-1 requires a Sequential Test to be followed to ensure that a sequential, risk-based approach is followed to steer new development to areas with the lowest risk of flooding, taking all sources of flood risk and climate change into account. Even where a flood risk assessment shows the development can be made safe throughout its lifetime without increasing risk elsewhere, the Sequential Test still needs to be satisfied. Where it is not possible to locate development in low-risk areas, the Sequential Test should go on to compare reasonably available sites: within medium risk areas; and then, only where there are no reasonably available sites in low and medium risk areas, within high-risk areas.

13.20 Planning Practice Guidance (024 Reference ID: 7-024-20220825) states that '*If, following application of the Sequential Test, it is not possible, (taking into account wider sustainable development objectives), for the project to be located in areas of lower flood risk the Exception Test can be applied*'. Planning Practice Guidance Paragraph: 027 Reference ID: 7-027-20220825 also states that '*For nationally or regionally important infrastructure the area of search to which the Sequential Test could be applied will be wider than the local planning authority boundary.*' and that

'*Such lower-risk sites do not need to be owned by the applicant to be considered 'reasonably available"*.

13.21 Currently the methodology appears to discount land which is not capable of being leased by the applicant and a wider search area above the 10km radius from the High Marnham substation does not appear to have been considered. As such there is considered to be insufficient information / evidence provided in the One Earth DCO application to properly interrogate the assertion that the sequential test has been passed with regard to site selection. Further evidence is therefore required to ensure the sequential and exception tests have been appropriately applied.

14. Cultural Heritage (Built Heritage and Archaeology)

14.1 Paragraphs 5.9.22 to 5.9.36 of NPS EN-1 set out the key considerations for determining applications where there is potential for adverse impacts on the historic environment above, at and below the surface of the ground. It requires the SoS to identify and assess the particular significance of any heritage asset that might be affected by the development, including setting.

14.2 The NPPF Chapter 16 (Conserving and enhancing the historic environment) places a requirement on applicants to describe the significance of any heritage assets affected, including any contribution made by their setting. Similar to EN-1 it requires Local Planning Authorities to identify and assess the particular significance of any heritage asset that may be affected by a proposal. Paragraphs 212 to 216 of the NPPF align with EN-1 and require great weight to be given to conserving heritage assets and any harm or loss to a heritage asset requires clear and convincing justification. In cases where the proposal would lead to substantial harm or total loss of a heritage would result consent should be refused unless certain criteria are met, this includes where the harm or loss is necessary for sustainable public benefit. Where less than substantial harm to the significance of the heritage asset would occur it should be weighed against the public benefits. For non-designated heritage assets a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

14.3 Local Policies:

- CLLP Policy S57: The Historic Environment
- LMWLP Policy DM4: Historic Environment

14.4 Policy S57 (The Historic Environment) states that development proposals should protect, conserve, and seek opportunities to enhance the historic environment of Central Lincolnshire. Proposals will be supported where they protect the significance of heritage assets (including where relevant their setting) and consider the desirability of sustaining and enhancing non-designated heritage assets and their setting. In instances where a development proposal would affect the significance of

a heritage asset (where designated or non-designated), the applicant will be required to undertake and provide information on the significance of the asset; the impact of the proposed development on the significance and special character of the asset; and a clear justification for the works so that the harm can be weighed against public benefits.

14.5 This policy also states that where development proposals would result in less than substantial harm to a designated heritage asset, permission will only be granted where the public benefits, including, where appropriate, securing its optimum viable use, outweigh the harm. In addition to this, development affecting archaeological remains, whether known or potential, designated or undesignated, should take every practical and reasonable step to protect and, where possible, enhance their significance.

14.6 Planning applications for such development should be accompanied by an appropriate and proportionate assessment to understand the potential for and significance of remains, and the impact of development upon them. If initial assessment does not provide sufficient information, developers will be required to undertake field evaluation in advance of determination of the application. This may include a range of techniques for both intrusive and non-intrusive evaluation, as appropriate to the site.

14.7 Wherever possible and appropriate, mitigation strategies should ensure the preservation of archaeological remains in-situ. Where this is either not possible or not desirable, provisions must be made for preservation by record according to an agreed written scheme of investigation submitted by the developer and approved by the planning authority.

14.8 Policy DM4 (Historic Environment) reiterates Policy S57, and states that proposals with the potential to affect heritage assets including features of historic or archaeological importance (whether known or unknown) should be accompanied by an assessment of the significance of the assets and the potential impact of the development proposal on those assets and their settings. Where any impact on heritage assets is identified, the assessment should provide details of the proposed mitigation measures that would be implemented. These should include details of any conservation of assets to be lost and provision for the results to be made publicly available.

14.9 NPS EN-1 paragraph 5.9.21 states that where there is high probability (based on an adequate assessment) that a development site may include yet undiscovered heritage assets with archaeological interests then requirements should be considered to ensure that appropriate procedures are in place for the identification and treatment of such assets discovered during construction. This is largely carried through in NPS EN-3.

Built Heritage

14.10 The Council notes that there are no designated (Listed Buildings, Conservation Areas, Registered Parks and Gardens) nor non-designated heritage assets within the extent of the Order Limits located within Lincolnshire. The closest are located within Newton-on-Trent and consist of Grade II and Grade II* Listed Buildings. These are listed below:

- 1147213 – Hall Farmhouse – Grade II
- 1359489 – Old Hall Farmhouse – Grade II
- 1308608 – 30 High Street – Grade II
- 1359469 – The Reindeer - Grade II
- 1147202 – White House Farmhouse - Grade II
- 1064109 – Church of St Peter – Grade II*

14.11 A full list of sensitive receptors is contained within Table 10.6 of Chapter 10 Cultural Heritage [APP-039]. The table identifies these receptors as having a high to medium importance. Environmental measures referred to within section 10.5 of APP-039 and contained within various management plans, oCEMP [APP-176]; oLEMP [APP-179]; oCTMP [APP-181] and are furthermore listed within the commitments register [APP-187] aim to mitigate against the environmental impacts of the development.

14.12 The applicant has confirmed substantial setbacks have been incorporated and removal of developable land to the south of Newton on Trent and west of Thorney to reduce visual impact and likely significant effects on settings of heritage assets in the vicinity.

14.13 Paragraphs 10.6.79 to 10.6.88 [APP-036] consider the designated and non-designated assets scoped into the assessment of likely significant effects. It is concluded that the magnitude of impact on these heritage assets would range from nil to very low, whilst the effect would range from nil to minor neutral.

14.14 As stated within our Relevant Representation the Council is satisfied that our previous recommendations and concerns at the Scoping and Statutory Consultation stage in relation to built heritage and historic landscape have been addressed to an appropriate degree.

14.15 In particular, the Council is satisfied with the confirmation that cabling would cross the River Trent via trenchless HDD, subsequentially avoiding the historic Fledborough Viaduct and satisfactorily mitigating the potential for harm to this non-designated heritage asset and the associated national cycle route (Sustrans Route 647).

14.16 Although the proposed development would inevitably alter the setting of the historic railway corridor as it crosses the site, the design incorporates sufficient mitigation —

including setbacks and landscape planting — to retain the route's legibility and reduce harm to an acceptable level.

14.17 With regard to Kettlethorpe Hall, its former parkland and Park Farm, the Council notes that while these assets have been considered through the assessment process, they are now being scoped out of further detailed assessment. Nonetheless, the wider historic context of the area has been recognised and measures to retain openness and maintain rural character along settlement edges are welcomed, responding positively to the issues previously raised.

14.18 Overall, and noting that much of the scheme lies outside LCCs jurisdiction, the Council is satisfied that the proposals are acceptable in terms of their approach to built heritage and the historic landscape.

14.19 Subject to the development being carried out as proposed within the DCO application documents and the outlined mitigation measures being the Council is of the view that impacts of this proposal would be **neutral**.

Archaeology

14.20 As stated in the Councils Relevant Representation response, it is acknowledged that the Applicant's assessment work to date includes a desk-based assessment (DBA), geophysical survey (magnetometry) and some targeted evaluation trenching. There is however a significant degree of further information required to adequately understand the nature of the archaeological resource which would be impacted by development works.

14.21 As it currently stands the Applicant's desk-based assessment and geophysical survey have resulted in the identification of twenty-nine areas of significant archaeological potential. Twenty of these have yet to be adequately evaluated and will need to be subject to trial trench evaluation in order to determine the presence, depth, character, date, state of preservation and significance of surviving archaeology. The trenching results will provide the baseline evidence for fit for purpose mitigation to deal effectively with the impacts of the development.

14.22 Given the essential nature of adequate evaluation as the basis to deal appropriately with the developmental impact NCC and LCC are deeply concerned regarding the outstanding work and would expect the Applicant to provide details on when the evaluation and assessment process will be completed. Care will need to be taken to ensure the results are available in good time to inform a reasonable mitigation strategy which must be agreed prior to the commencement of any development or enabling works.

14.23 Whilst the Council appreciate that Applicants for large schemes would prefer not to have significant pre-determination expenses, once consent has been granted for

effective risk management and project management the work programme should be informed by sufficient field evaluation to ground-truth surviving archaeology which will be impacted by the development. Insufficient trenching would mean that the subsequent work timetable and budget must correspondingly expand to adequately accommodate dealing with unexpected archaeology during the work programme.

14.24 Chapter 9: Buried Heritage of the Environmental Statement [APP-038] paragraph 9.3.39 states that this chapter has been guided by the Rochdale Envelope. Please be advised that as stated in NSIPs - Advice Note Nine paragraph 5.2[2]: *'Implementation of the Rochdale Envelope assessment approach should only be used where it is necessary and should not be treated as a blanket opportunity to allow for insufficient detail in the assessment. Applicants should make every effort to finalise details applicable to the Proposed Development prior to submission of their DCO application. Indeed, as explained earlier in this Advice Note, it will be in all parties' interests for the Applicant to provide as much information as possible to inform the Pre-application consultation process.'*

14.25 Where the developer proposes the Rochdale Envelope in dealing with their application, it is essential that an understanding of the archaeological resource is achieved to allow for informed and proportionate mitigation. This can only be achieved through adequate trenching evaluation of the full impact zone and the timely provision of the results to provide the baseline evidence to inform a fit for purpose mitigation strategy. Ideally this should be in advance of the determination and certainly the results are needed in advance of the work programme commencing in any of the areas not currently sufficiently evaluated.

14.26 Paragraph 9.3.40 provides a list of below ground disturbance however this list is incomplete. It does not for example include the groundworks specified in the Ecology Management Plan [APP-179] where paragraph 1.2.3 lists '*Areas of habitat management comprising landscape and biodiversity enhancement measures; habitat creation and management, including earthworks, landscaping, means of enclosure, and laying and construction of drainage infrastructure.'* The provision of detail for the proposed impacts is essential for understanding how the proposed development works will impact on surviving archaeologically significant areas.

14.27 Paragraph 9.5.2 makes reference to further trenching as part of a mitigation strategy. Given that the mitigation strategy itself needs to be informed by the trenching results it would be advisable for adequate trenching to be undertaken first thus allowing the results to form the baseline evidence necessary for the creation of an informed mitigation strategy.

[2] Nationally Significant Infrastructure Projects - Advice Note Nine: Rochdale Envelope - GOV.UK

14.28 Paragraph 9.5.8 states that in Areas of Archaeological Constraint (AAC) '*where necessary and practicable, the mounting structure for solar arrays will involve micrositing of piles in order to avoid specific archaeological features and/or it will be supported by concrete footings rather than piles, avoiding ground intrusive impact*.' The Council objects to the use of the phrase '*where necessary and practicable*,' it is unenforceable and unacceptable. It will also depend on the nature, depth, state of preservation and sensitivity of the archaeology as to whether concrete footings would be appropriate and would not damage or destroy surviving archaeology without allowing it to be preserved by record.

14.29 Paragraph 9.5.9 discusses preservation in situ. All management plans must include the specific mitigation measures required to ensure the preservation in situ areas are protected from development works such as machine tracking or plant storage which could damage or destroy the surviving archaeology.

14.30 The full extent of the archaeological areas must be determined through ground-truthing by trial trenching, and each area must be fenced off and subject to a programme of monitoring throughout the construction, operation and the decommissioning phases. There will be no ground disturbance whatsoever which may disturb or affect the archaeological remains, including plant movement or storage. The fencing will need to remain in place and be maintained throughout the lifetime of the scheme.

14.31 Paragraph 9.5.11 states that '*An Archaeological Clerk of Works (ACoW) will be appointed for the Construction Phase who will be reviewing and monitoring all works in the Order Limits*.' The Council do not consider this to be acceptable.

14.32 There will be development works during the Maintenance and Decommissioning phases as well as the Construction phase as well as any enabling works which could damage and destroy surviving archaeology. An appointed Archaeological Clerk of Works will therefore need to be appointed prior to the commencement of any groundworks or plant movement. They will be responsible for monitoring archaeological mitigation measures for the preservation in situ areas and any unevaluated areas which have yet to be subject to agreed mitigation. This will need to be included in an agreed Archaeological Management Plan to ensure that protective measures stay in place and are adhered to throughout the development.

14.33 This will need to be included in all management plans and an Archaeological Clerk of Works will need to be appointed to ensure adequate mitigation measures are taken for archaeology which would otherwise be destroyed without identification or recording by the development works.

14.34 Paragraph 9.5.12 states that '*It is not considered that traffic or access of heavy machinery (such as plants) and the associated weight loading/ vibration for the*

construction operations for the Proposed Development may cause impacts on buried heritage assets that are in excess of the impacts arising from the current agricultural activities within the Order Limits, including the use of farm/agricultural machines.' The Council does not agree. Unexpected Saxon skeletons in a very delicate state were found 20cm below the ground surface during trenching on another NSIP solar scheme (Cottam in Lincolnshire). Areas of very significant archaeology such as this survive in land where agricultural practices have reduced the overburden of soil which have protected the archaeology. Tracking and compaction would have destroyed these individuals without recording or preservation.

14.35 Paragraph 9.5.14 states that '*When appropriate and practicable, the locations of BESS, substation, ancillary works, construction compounds and the grid connection cable routes will consider buried heritage constraints as part of the detailed design*.' The use of the phrase 'when appropriate and practicable' is unenforceable and unacceptable.

14.36 Paragraph 9.5.15 includes archaeological mitigation through record or detailed excavation and that *'A programme of archaeological monitoring and recording may be undertaken during the construction works.'* We recommend that preservation in situ is also included in the range of archaeological mitigation, it is discussed in paragraph 9.5.9.

14.37 Paragraph 9.5.15 goes on to say that 'Where non-intrusive trenching methods are proposed for cable routes, the CEMP(s) will include a contingency for archaeological intervention/mitigation in the event that unplanned activities threaten the preservation of known buried heritage remains.' Please clarify what specifically is meant by 'unplanned activities.' The full extent of proposed impact of the cable route like the rest of the redline boundary extent of the site will need adequate assessment and evaluation to inform reasonable mitigation of currently surviving archaeology which would be damaged or destroyed by the development.

14.38 Paragraph 9.5.16 states that '*These are industry standard (mitigation) and good practice responses to discovered (and important) buried archaeological remains and these responses are secured by the requirements to the DCO (by reference to the CEMP and the need for the WSI).*'

14.39 Given that further trenching will be required to inform this scheme post-consent, NCC and the Council will be requesting that the Archaeological Requirement includes a trenching WSI with the results to inform the subsequent final (that is, the mitigation) WSI. The proposed requirement 12 in the draft DCO is considered to be acceptable in this respect.

14.40 Paragraph 9.5.22 states that '*Decommissioning is anticipated to commence in 2090, and the majority of the Order Limits would be returned to its original use after*

decommissioning and will be available for its original use.' Details are required on how this will be undertaken in order to understand the ground impacts. If it will revert to agricultural land for example, will the hundreds of thousands of piles be removed, what ground impacts would occur for cabling, would tree planting for ecological mitigation and landscaping be retained or pulled out?

14.41 Paragraph 9.5.24 states that '*A well-designed decommissioning process would not cause any ground disturbance in excess of the construction phase, and any element associated with the Proposed Development will be removed using methods and extents similar to that of the construction phase. As a result, buried archaeological remains already removed during construction would not experience any further effects as a result of decommissioning*.' We agree that archaeological remains which have been removed would not experience any further effects. We are concerned that as there is no detail on the ground impacts of decommissioning there can be no understanding or effective mitigation measures to protect archaeology that survives across this landscape. Other solar NSIP schemes have provided indications that decommissioning will include works which would impact on surviving archaeology such as removal of all concrete, hardstanding areas, infrastructure foundations and internal tracks will be removed to a depth of up to 1m, or at if necessary temporary bunding and/or settlement ponds will be installed to allow for isolation and onsite treatment of any sediment laden or contaminated water prior to discharge to the drainage system.

14.42 Paragraph 9.5.25 states that '*The specific method of decommissioning is uncertain at present as the engineering approaches to decommissioning will evolve over the operational life of the Proposed Development.*'

14.43 Paragraph 9.5.26 states that '*Any potential harm to buried archaeological assets unknown at the time of writing will be discussed with the relevant stakeholders and assessed prior to the commencement of the decommissioning phase*.'

14.44 See our response to paragraph 9.5.24. Once the Applicant provides details on the ground impacts of decommissioning and we have an understanding of the site-specific impacts we can recommend appropriate mitigation to deal with the impacts on surviving archaeology.

14.45 Paragraph 9.5.27 states that 'Where specific embedded environmental measures cannot be employed or are not deemed sufficient to avoid or reduce the impact on buried heritage assets, where reasonably practicable significant adverse effects will be offset through the implementation of a programme of archaeological mitigation measures.' Again, 'where reasonably practicable' is an unmeasurable unenforceable phrase which is unacceptable and inappropriate for the NSIP planning process.

14.46 Paragraph 9.5.28 lists archaeological mitigation and again leaves out preservation in situ although it is discussed in Section 9.5. It too is an *'industry-wide recognised archaeological mitigation measure.'*

14.47 Paragraph 9.5.29 states that 'To inform the nature and the extent of the required mitigations, a proportionate and targeted post-consent archaeological evaluation will be considered where appropriate…It is expected that this will target some of the areas of known archaeological potential identified by the geophysical survey and DBA, which have not been yet evaluated, when likely significant effects are expected on those areas.' The phrase 'will be considered where appropriate' again, is unenforceable and unacceptable. LCC and NCC do not agree.

14.48 Please be advised that as stated above all of the twenty-nine archaeologically sensitive areas identified from the DBA and geophysical survey along with any other significant archaeological areas identified during further trenching phases and during assessment of the cable route corridor will require sufficient evaluation to allow enough understanding for reasonable mitigation measures.

14.49 The statement *'when likely significant effects are expected on those areas'* is deeply concerning. No works including plant movement, storage, drainage, ecological or landscaping measures, reprofiling, habitat creation or any other works which would cause destruction to surviving archaeology can be undertaken until the area is sufficiently evaluated to determine whether mitigation is required to record or protect significant archaeology.

14.50 Paragraph 9.5.30 makes reference to 'an Archaeological Mitigation Strategy which will be submitted for approval and secured through a Requirement of the draft DCO.' Recommend remove the word draft.

14.51 Paragraph 9.6.4 rates impacts of enabling and construction works upon buried heritage assets to a degree that is reductive and unfounded. For example full removal of archaeology is total destruction and therefore cannot be a 'medium' impact, and compression or 'partial removal' of archaeology is not negligible: it is the damage and destruction of surviving archaeology without recording.

14.52 Regarding the assessment of individual archaeological sites which follows from paragraphs 9.6.6 to 9.6.224, the weighting of impacts is as unrealistic as that expressed in paragraph 9.6.4 with the importance of archaeological sites and the extent of impacts from developmental works both dismissively low. In any case the listed impacts are incomplete, please see below for the Councils comments on the FRA and Drainage Strategy.

14.53 In order to have 'Negligible to Minor' Significance of Effect on archaeological sites which have 'High' Magnitudes of Impact, evaluation and mitigation would need to be very extensive.

14.54 As a single example ROO4, the Roman settlement of Ragnall, is assessed as having high magnitudes of impact and there is no detail provided on how these will transform to 'Negligible to Minor' Significance of Effect. These will have a Significance of Effect of 'Negligible to Minor.' In order for this to happen the full extent of the site will need to be determined by robust ground-truthing by trenching and if the type of archaeological mitigation measure is by record this important the site will need to be totally excavated in advance of any groundworks or any other development impact including plant movement.

14.55 To give an understanding of just how difficult this would be in archaeological terms, paragraph 9.7.2 in the Summary of this report states that '*Of the 527 trenches carried out for the evaluation, 387 were designed to investigate areas where neither the DBA nor the geophysical survey suggested the presence of archaeology. Of these trenches, 94 recorded archaeological features not previously identified, 86 of which located in the area of the Sunken Roman Village of Ragnall alone.'* So out of the trenches undertaken so far to ground-truth so-called 'blank' areas, 86 trenches had positive results, and Ragnall is much more extensive than previously understood.

14.56 Paragraphs 9.6.225 and 9.6.226 state that there will be no likely significant effects during Operation and Maintenance phases or during the Decommissioning phase in excess of the construction phase. The Council does not agree. There is no information on the specific ground impacts of how for example infrastructure and the solar arrays will be removed or information regarding the impacts of refits throughout the 60 year lifetime of the scheme.

14.57 Paragraph 9.7.4 states that 'The information collected during the trial trenching evaluation also confirmed that any effect arising from the construction of the Proposed Development on buried heritage deposits can be successfully mitigated to a non-significant level by a combination of embedded environmental measures and a proportionate and targeted archaeological mitigation.' The Council does not agree with the use of the phrase 'non-significant level,' it is subjective and unenforceable.

14.58 Regarding Table 9.8: Summary of Likely Significant Environmental Effects, the Councils comments are as previously stated in our PEIR response for this scheme. To reduce developmental impacts of this magnitude to 'Negligible' on significant archaeology, field evaluation would need to be virtually total.

14.59 This approach, while laudable, is virtually impossible. The whole of the redline boundary would need intensive intrusive evaluation work to identify every surviving archaeological feature in the impact zone. The more usual and more workable

approach is to undertake reasonable proportionate evaluation across the redline boundary to have sufficient understanding of the locations, extent, depth and significance of archaeologically sensitive areas and to move through an appropriate fit for purpose mitigation strategy to ensure that significant archaeology is preserved either in situ or by record. The rest of the site is then subject to development.

14.60 To cite a single example of impacts included in the submission documents which are not included in this chapter we refer to the FRA and Drainage Strategy [APP-095]. This document makes reference to '*the drainage system and SuDS features*' (p45) and that *'Attenuation will be provided within attenuation basins at natural low points'* (p51). There will be swales which are 1m deep and they *'will be incorporated wherever appropriate to provide additional SuDS benefits and aid in the management and conveyance of surface water runoff'* (p42). There will be Detention Basins of 0.8m with Ecological Enhancement Ponds with an additional depth of 100mm to 300mm (depths from the Surface Water Drainage Strategy Eastern BESS Compound figure). All of these works will go below the archaeological horizon, and for land which has been in agricultural use surviving archaeology can be very near to the current ground surface. No information has been provided in the Buried Heritage Chapter to either illustrate the necessary detail of the proposed groundworks or to show an understanding of its impact or the mitigation measures required for this work occurring in areas of archaeological sensitivity.

14.61 This document also refers to ecological measures including 'a new ditch is proposed to be dug in the ecological mitigation area (floodplain grazing marsh) near the River Trent, Works to desilt the watercourses…(and) Ecological enhancement in the form of scrapes to create wetland habitat' (p16).

14.62 These types of works would impact upon any surviving archaeology not only in terms of groundworks but in the subsequent spreading of spoil which would irradicate any earthworks and redeposit archaeological artefacts within the ploughzone.

14.63 The provision of sufficient baseline information to identify and assess the impact on known and potential heritage assets is in accordance with the National Planning Statement Policy EN1 (Section 5.8), the National Planning Policy Framework and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 which states that *"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))

14.64 From the above it is clear that there is considerable uncertainty over the extent of buried heritage assets due to the inadequate amount of trial trenching undertaken. There is a real possibility that remains of more than local/regional significance could be found. Consequently, given this uncertainty, it is not yet possible to understand or quantify the level of impact upon buried heritage significance within the Order limits.

14.65 There is therefore a negative construction impact upon the archaeological remains in relation to the Order limits with the degree of harm as yet unquantifiable due to the insufficient evaluation undertaken so far.

14.66 Overall, the Council concludes that the proposed development would have a **negative** impact on heritage assets.

15. Land, Soil and Groundwater

15.1 Local policies

- CLLP Policy S14: Renewable Energy
- CLLP Policy S21: Flood Risk and Water Resources
- CLLP Policy S67: Best and Most Versatile Agricultural Land
- LMWLP Policy DM12: Best and Most Versatile Agricultural Land.

15.2 Under the subheading 'additional matters for solar based energy proposals', CLLP Policy S14 (Renewable Energy) states that proposals for ground-based photovoltaics and associated infrastructure, including commercial large scale proposals, will be under a presumption in favour unless, amongst other things, the proposal is (following a site specific soil assessment) to take place on BMV agricultural land and does not meet the requirements of Policy S67.

15.3 CLLP Policy S67 (Best and Most Versatile Agricultural Land) states that proposals should protect BMV agricultural land so as to protect opportunities for food production and the continuance of the agricultural economy. Significant development resulting in the loss of BMV agricultural land will only be supported if:

- The need for the proposed development has been clearly established and there is insufficient lower grade land available;
- The benefits and/or sustainability considerations outweigh the need to protect such land, when taking into account the economic and other benefits of the BMV agricultural land;
- The impacts of the proposal upon ongoing agricultural operations have been minimised through the use of appropriate design solutions; and
- Where feasible, once any development which is supported has ceased its useful life, the land will be restored to its former use.

15.4 NPS EN-1 at paragraph 5.11.12 provides similar advice that applicants should seek to minimise impacts on the BMV agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification (ALC)) and preferably use land in areas of poorer quality (grades 3b, 4 and 5). Paragraph 5.11.34 of EN-1 states that the SoS *"should ensure that applicants do not site their scheme on the BMV agricultural land without justification."* Where it is sited on BMV, it should *"take into account the*

economic and other benefits of that land" and where it is demonstrated necessary, areas of poorer quality should be preferred to higher quality land.

15.5 Under the heading of 'Solar Photovoltaic Generation', paragraph 2.10.29 of the NPS EN-3 states that "'While land type should not be a predominating factor in determining the suitability of the site location applicants should, where possible, utilise suitable previously developed land, brownfield land, contaminated land and industrial land. Where the proposed use of any agricultural land has been shown to be necessary, poorer quality land should be preferred to higher quality land avoiding the use of "Best and Most Versatile" agricultural land where possible."

15.6 Paragraph 2.10.30 notes that 'Whilst the development of ground mounted solar arrays is not prohibited on agricultural land classified 1, 2 and 3a, or sites designated for their natural beauty, or recognised for ecological or archaeological importance, the impacts of such are expected to be considered and are discussed under paragraphs 2.10.73 - 2.10.92 and 2.10.107 - 2.10.126.'

15.7 Paragraph 2.10.31 acknowledges that it is likely that applicants' developments may use some agricultural land, however that 'Applicants should explain their choice of site, noting the preference for development to be on brownfield and non-agricultural land.'

15.8 Paragraph 2.10.32 goes on to state that where sited on agricultural land, consideration may be given as to whether the proposal allows for continued agricultural use and/or can be co-located with other functions (for example, onshore wind generation, or storage) to maximise the efficiency of land use.

15.9 Paragraph 2.10.145 reiterates that the SoS should take into account 'the economic and other benefits of the best and most versatile agricultural land' and that 'The Secretary of State should ensure that the applicant has put forward appropriate mitigation measures to minimise impacts on soils or soil resources.'

15.10 On 15 May 2024, a Written Ministerial Statement ("WMS") was published on solar infrastructure and protecting food security and BMV land. The Council notes that the 15 May 2024 WMS emphasises elements of the 2024 NPSs. In particular the 2024 WMS emphasises that when considering whether planning consent should be granted for solar development the cumulative impacts where several proposals come forward in the same locality should be considered, with the WMS specifically referencing these issues in Lincolnshire '*we are increasingly seeing geographical clustering of proposed solar developments in some rural areas, such as in Lincolnshire'*.

15.11 The potential impacts on BMV agricultural land in respect of the One Earth proposal and cumulatively with other projects (both NSIP and Town and Country Planning

Applications (TCPA)) that are emerging/known about in Lincolnshire are of significant concern to the Council. The Council will seek to protect high quality agricultural land in Lincolnshire (Grades 1, 2 and 3a) from development in accordance with its Energy Infrastructure Position Statement adopted 5 December 2023. This statement acknowledges that Lincolnshire has a high proportion of BMV agricultural land, which is the basis for its prosperous agricultural industry. The Council will object to proposals on Grade 1, 2 and 3a agricultural land.

15.12 Lincolnshire has the largest combinable crop output of any UK county, with about 12% of England's arable crop area. The county's combination of climate, soil type and topography make the county ideal for a variety of crops with 437,591ha of land given over to agriculture and horticulture, and producing by value circa 10% percent of England's cereal, 25% of vegetables and 14% of industrial crops (sugar beet, oil seed rape and protein crops). This has led to the area having the UK's leading concentration of fresh produce processors, traders and technology suppliers. This high level of production is vital to the county's economy, which in 2023 amounted to a total crop output of over £1,564 million and a total livestock output of £555 million.

15.13 To preserve fresh produce and minimise supply chain distance, highly productive food hubs have built up in the south of the county. The importance of this sector for the local economy is reflected in the number of jobs it generates with an agricultural workforce of 12,000. If this food supply chain is included alongside food retail and catering in the county, the number of employees exceeds 100,000.

15.14 Landscope Consultants have been commissioned by the Council to assist in the consideration and review the Agricultural land and Soils aspects of the One Earth proposal and have engaged and provided feedback and advice to the Applicant's design team on behalf of the Councils throughout the pre-application stage. A full copy of the report prepared by Landscope is attached as an Appendix B which has reviewed the DCO application documentation and the following summary and conclusions incorporates comments of Landscope and should be read in conjunction with the full document.

15.15 The Council has reviewed the ES documents relating to land and soils, ES Chapter 8 – Land and Soils [APP-037] and associated figures, Appendix 18.2 Other Development Long List Stages 1 and 2 [APP-146] and Appendix 18.3 - Summary of Other Developments included within the Cumulative BMV Assessment [APP-147]. The Council notes the slight discrepancy in numbering within Appendix 18.3 wherein the tables are labelled as Appendix 18.2. When referred to below these are stated as Appendix 18.3 Table 1 etc as this is the document in which they are contained.

15.16 The ALC land surveyed represents a total area of 1240ha across the whole development area. Land classified as BMV occupies a total area of 660.9 ha which equates to 53.3% of the surveyed land within the Order Limits. The results contained

within the ALC reports are considered as reliable, they have been undertaken by qualified professionals and Natural England have been consulted in relation to the methodology.

15.17 The Outline Soil Management Plan oSMP [APP-182] considers construction, operation (including maintenance) and decommissioning as would be expected. The Council considers the oSMP to be broadly in line with national guidance.

15.18 The Council would also highlight the potential need for a supervisory agriculture soils specialist, particularly in regard to drainage management. The applicant addresses land drainage within ES Chapter 8, paragraphs 9.3.7 – 9.3.8 and consider necessary actions regarding impact upon agricultural drainage. Land drainage is a key factor in assessing both land classification and the impact on land restoration particularly along any cable or grid connection route, where trenches are dug, or where soils are stripped even temporarily. The Council is of the opinion it would be beneficial to provide post construction monitoring of soil quality where drainage has been re-provided to ensure that any drainage issues do not impact on soil quality.

15.19 The split of BMV vs non-BMV across the area assessed in the ALC reports (1240ha), is 579.5ha (46.7%) of non-BMV land (ALC classification 3b) and 660.9ha (53.3%) of BMV land. The Order Limits encompass 1409ha, 206ha of which is in the Councils jurisdiction. Of the BMV land identified there is 244.8ha of Grade 2 land and 416.1ha of Subgrade 3a land. In regard to solar areas, 57% of this land is identified as BMV, with 43% non-BMV. Table 2 within Appendix 18.3 [APP-147] indicates that 137.6ha of the 660.9ha BMV land is located within Lincolnshire.

15.20 ES Chapter 18 Cumulative Effects [APP-047] states that over the full development site 170.81ha of BMV land would be permanently removed from use due to construction of the BESS and substation facilities and ecological enhancement measures. Of the land which is defined as ecological enhancement areas and mitigation, such as habitat suitable for skylark nesting 42% of this is identified as BMV, with 58% non-BMV. For areas allocated for substations and BESS sites, 81% of this land is identified as BMV, with 19% non-BMV. According to the Institute of Environmental Management & Assessment (IEMA) Guide 'A New Perspective on Land and Soil in Environmental Impact Assessment' (February 2022) 'the permanent loss, or reduction in quality, of more than 20ha of agricultural land due to development is of very high magnitude' which is acknowledged as 'major' in Table 11.7.

15.21 The difference between Grade 3a and 3b agricultural land is however quite small in this instance and there is a degree of subjectivity about the difference, although the ALC findings are not disputed.

15.22 Soil structure can be significantly damaged during the construction phase due to heavy vehicle traffic. If this work is done when soils are wet, there can be significant

damage. While much of this damage can be remedied post-construction, but not all and it is possible that long-term drainage problems may occur.

15.23 The scale of the project and the amount of BMV land, makes the impact significant at both District and County level. The cumulative effect is significant for Lincolnshire and the District. There are several other large solar schemes proposed or approved across the wider area that contribute to this impact.

15.24 The 2024 UK Food Security Report[3] identifies that 'Water and land, important agricultural inputs, are under increasing human and geopolitical competition and are being used at an unsustainable rate. The food system's essential natural resources continue to be depleted without being recovered for future use.' By reducing the amount of BMV land available by incrementally removing land for large infrastructure projects puts additional pressure on the remaining land to keep agricultural production supply stable, or alternatively more food will have to be imported with the sustainability implications of food miles and associated carbon emissions.

15.25 Within ES Chapter 18, Cumulative Effects [APP-047] inter project effects are assessed wherein the likely significant effects of the Proposed Development on the environment resulting from cumulation of effects with other existing and, or approved projects are considered, one of which being BMV agricultural land. The zone of influence (ZOI) identified within Table 18.2 indicates a regional study area for the long list of developments to appropriately assess the potential inter project effects. The Council agrees with this approach.

15.26 Table 1 of Appendix 18.3 [APP-147], the Council is pleased to see the majority of NSIP solar developments within Lincolnshire are listed within this table however notably absent are Meridian and Leoda Solar Projects, the Council is of the opinion that these schemes should also be assessed within any BMV cumulative assessment.

15.27 The Council has recently undertaken a review of BMV land impacted by Solar development within Lincolnshire, whilst it is noted that the applicant has assessed cumulative effects on BMV under differing criteria the Council considers highlighting the extent of solar developments within the county to be relevant.

15.28 Using data from the Renewable Energy Planning Database: quarterly extract[4] for Lincolnshire, which has been updated to include information up to 23 June 2025, TCPA ground mounted solar farms of 1MW or above which are operational, under construction, granted planning permission and/or approved at appeal, cover 1584ha of BMV land in Lincolnshire, in addition to the 3555.87ha of BMV land covered by

[3] https://www.gov.uk/government/news/uk-food-security-report-2024-published

[4] Renewable Energy Planning Database: quarterly extract - GOV.UK

NSIP solar developments. Where there is no quantification of BMV, the provisional ALC maps have been used to make an informed estimate and where Grade 3 is shown, an assumption has been made that 50% will be subgrade 3a and 50% subgrade 3b.

15.29 Whilst loss of BMV land under the solar PV panels is considered as temporary, 60 years is a considerable amount of time. In addition to this temporary loss, there would be permanent loss of BMV land as a result of this proposal due to ecological enhancement measures and the land area required for the High Marnham substation.

15.30 Nevertheless, the whole area is productive farmland, which would be removed from mainly arable farming for 60+ years and at best, a lower intensity grass based system would replace it. The loss of arable production is considered locally significant and in view of other projects in the wider District and County potentially cumulatively significant. For context, the total arable crops and uncropped arable land in Lincolnshire is 385,930ha according to figures published by DEFRA[5], the total land proposed to be covered by solar farms, NSIP (order limits) and TCPA applications, is approximately 13,620 ha. On the assumption that the majority of land proposed for solar farms is arable land (solar land take being around 3.5% of the arable total) and based on the total crop output figure of £1,564 million for 2023, the potential loss of crop output could be in the region of £50 million.

15.31 Should development go ahead, there would be a significant loss of the best classifications of agricultural land, with a significant loss of economic and other benefits. This loss of BMV land is contrary to national policy in the NPS EN1 and EN3 and Policy S67 of the Central Lincolnshire Local Plan.

15.32 As such the Council concludes that the proposals would have a **negative** impact on agricultural land.

16. Socioeconomics

16.1 Key Policies:

- CLLP Policy S48: Walking and Cycling Infrastructure
- CLLP Policy S54: Health and Wellbeing
- CLLP Policy S59: Green and Blue Infrastructure Network

[5] Structure of the agricultural industry in England and the UK at June: English Geographical Breakdowns County/unitary authority https://www.gov.uk/government/statistical-data-sets/structure-of-the-agricultural-industry-in-england-and-the-uk-at-june

16.2 NPS EN-1 section 5.12 deals with the socio-economic effects of major energy infrastructure and requires applications to include an assessment of relevant impacts including:

- The creation of jobs and training opportunities.
- The provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities;
- Effects on tourism.
- The impact of a changing influx of workers during the different construction, operation, and decommissioning phases of the energy infrastructure.
- Cumulative effects.

16.3 NPS EN-1 makes reference to a list of potential impacts to consider which mirror those set out above, with an additional reference to the contribution to low carbon industries. It also refers to the need for the SoS to require the approval of an employment and skills plan.

16.4 ES Chapter 17 – Socio-economics [APP-046] provides an assessment of the likely effects of the development on socio-economics throughout the schemes lifetime.

16.5 The ES assessment expects a net additional employment average of approx. 17 FTEs in Lincolnshire during the operation phase to arise from the development, with the bulk of FTE coming in a 2 year span during construction. When placed against other strategic opportunities such as STEP fusion and industrial decarbonisation, this is small. Some scope on the nature of the long term operational requirements in terms of skills would therefore be welcomed.

16.6 In terms of construction employment the APP-046 paragraph 17.6.5 estimates and average of 554 to 750 FTE peak jobs for 2 years would be supported by the development. While it is appreciated that efforts are to be made to resource a local workforce, this number of jobs would result in a significant temporary workforce either commuting to or staying in Lincolnshire particularly when accumulated with other schemes. There could be significant resultant demographic changes, changes to housing demand, changes to other local public and private services, and socio-cultural impacts. An example would be a concentration of workers in any one place creating needs on NHS services. Better understanding on the size and social make-up of likely temporary workforce would allow better understanding of these impacts

16.7 Paragraphs 17.6.9 to 17.6.13 of APP-046 considers the temporary impacts on tourism and recreational assets, potentially sensitive receptors have been highlighted within table 17.5.

16.8 The Council disagrees with the conclusions within Paragraph 17.6.13, the Council notes that the landscape and visual effects from the solar panels and ancillary

structures would likely deter tourists and create disinterest with the locality. It is right to note that amenity would be affected during construction and that this could also impact tourism – the scale of construction, loss of vegetation, movement of soil and erection of construction compounds would make a significant difference to this environment that is currently characterised by agricultural fields.

16.9 The socio-economic benefits of the scheme are identified in paragraph 17.5.1 of APP-046. The Council's position is that local communities should benefit from NSIP proposals sited in Lincolnshire. Access to local energy supply from electricity generating schemes is both a local and strategic priority. Analysis commissioned by the Council demonstrates that current energy capacity is stretched, impacting on growth, environment, delivery of net zero and fuel poverty. There is a reasonable expectation that NSIP proposals in Lincolnshire should seek to provide investment and opportunities to help resolve these restrictions.

16.10 In relation to the One Earth Solar Farm consultation, further dialogue with the Council on the expected community (including business) benefits from such a development as one of a number creating a cumulative impact on Lincolnshire business and residents, is welcome. The Council would like to explore with the developer the potential for local communities (including the wider Lincolnshire area) to benefit from this development to deliver against the challenges we have in energy infrastructure and the Council will continue to engage with the Applicant in this respect. LCC has provided guidance to the applicant on the type and level of community benefits that we would expect this development to produce, which includes improved direct energy supply to local businesses to help achieve growth, funding for energy projects that would deliver against LCC's strategic priorities and local demand and employment, training and skills opportunities.

16.11 The applicant has produced an Outline Skills, Supply Chain and Employment Plan (oSSCEP) [APP-180]. The Council has engaged with the applicant throughout the pre-application stage of development as stated within Paragraph 3.2.2 [APP-180]. The Council's Adult Learning & Skills Team hosts two Regional Adult Skills Groups (one for Lincoln / West Lindsey / South and North Kesteven regions, and one for Boston / South Holland /East Lindsey regions) where providers meet on a bi-annual basis. The aims of these groups are to raise awareness of projects on the horizon, discuss opportunities for collaboration and identify and gaps in provision. It would be beneficial to include information on the Regional Adult Skills Groups in the oSSCEP. The Council's Adult Learning & Skills Team would welcome further engagement.

16.12 Given the commitment to skills, employment and the local supply chain set against the temporary nature of the majority of the employment, the more specialist nature of solar specialist suppliers, on balance the Council considers the impacts associated with matters on socio-economic impact to be **neutral** notwithstanding the potential economic impact to agricultural land however remains negative as concluded above.

17. Public Health

17.1 Paragraph 1(8) of Schedule 4 to the EIA Regulations requires consideration to be given to the risks of major accidents and disasters but does not include a definition of these terms.

17.2 Paragraph 4.4.1 of NPS EN-1 states that 'energy infrastructure has the potential to impact on the health and well-being ("health") of the population. Access to energy is clearly beneficial to society and to our health as a whole. However, the construction of energy infrastructure and the production, distribution and use of energy may have negative impacts on some people's health'.

17.3 Paragraph 4.2.15 of EN-1 identifies the approach to be taken for non-Habitat Regulations Assessment (HRA) residual impacts of CNP infrastructure, it states that *"Where residual non-HRA or non-MCZ impacts remain after the mitigation hierarchy has been applied, these residual impacts are unlikely to outweigh the urgent need for this type of infrastructure. Therefore, in all but the most exceptional circumstances, it is unlikely that consent will be refused on the basis of these residual impacts. The exception to this presumption of consent are residual impacts onshore and offshore which present an unacceptable risk to, or unacceptable interference with, human health and public safety, defence, irreplaceable habitats or unacceptable risk to the achievement of net zero."*

17.4 Paragraph 4.2.16 goes on to state that "as a result, the SoS will take as the starting point for decision-making that such infrastructure is to be treated as if it has met any tests which are set out within the NPS's or any other planning policy, which requires clear outweighing of harm, exceptionality, or very special circumstances."

17.5 Local Policies:

- CLLP Policy S54: Health and Wellbeing

17.6 The Council is pleased to see the inclusion of a standalone Human Health chapter within the ES, Chapter 16 - Human Health [APP-045].

17.7 Undertaking a health impact assessment commensurate with Central Lincolnshire Local Plan Policy S54: Health and Wellbeing would have been preferred. However, the Human Health chapter of the ES has developed and has brought together potential positive and adverse health effects successfully. The Council notes that the design has evolved through ongoing public engagement with the intention of alleviating residents' anxieties about the development.

17.8 The ES has identified older people, unemployed people (the area around the development is more deprived in terms of employment), and people with poor

mental or physical health. However, it is not clear how the proposal has developed to reflect the local demography. The ExA must be satisfied that there are no specific groups (e.g., autistic people) residing or accessing day services in the development area.

17.9 The Public Health Division is satisfied that air quality, noise, and glint and glare issues during all phases of the development have been considered in relevant chapters of the ES. However, the ExA should be guided by the opinion of WLDC Environmental Health Services and the UK Health Security Agency (UKHSA) on these issues.

17.10 Offsets from individual properties and community assets are welcomed as it does appear that the solar arrays and associated fencing are further away from people's homes and better screened. However, the fields used for solar arrays are still very close to North Carlton and appear to encircle some small hamlets and individual properties, which may leave residents feeling enclosed. This proximity to built up areas is a concern. The impact on households where their current view is significantly altered, must be adequately addressed or mitigated. Some land not used for solar PV panels has been redesignated for accessible green space and nature, the Council welcomes this, although consider that more could potentially be made available for community growing (contributing to good diet and nutrition) and other community gains.

17.11 The ES recognises that fuel poverty is higher in West Lindsey than the rest of the study area and England but there is then no direct benefits to residents impacted by the development (e.g., offsetting energy costs for residents targeted at households living in fuel poverty); instead the benefit is the longer term expectation that energy costs will fall given largescale renewal electricity production across the United Kingdom.

17.12 The Applicant makes reference to a One Earth Community Fund within Paragraph 16.5.11 of ES Chapter 16 – Human Health [APP-045]. Paragraph 16.6.17 states that the applicant has established a new community fund to support local projects led by registered community groups, local charities, social enterprises and parish councils within the Local Study Area and the Wider Study Area. It is also stated here that the fund is currently being administrated by Nottinghamshire Community Foundation (NCF).

17.13 The proposed Community Fund could contribute to these community gains and other health improvement agendas. Public Health would like to influence the allocation of the future Community Fund if the DCO is granted, particularly if the Fund for the whole development area is administered by the NCF. Consideration should be given to splitting the Fund between the Lincolnshire Community Foundation (LCF) and the NCF and an appropriate mechanism for securing and delivering these funds and subsequent benefits.

17.14 The Council is pleased to see that PRoWs would be maintained through diversions during construction and decommissioning phases, and would be retained with green space enhancements, further connected through permissive paths (especially connecting Newton on Trent to Sustrans' national cycle route), during the operational period. There may be potential for improvements to be made such as hard surfaces to enable inclusivity and new bridges crossing streams.

17.15 The Council appreciates the applicant's consideration of Electromagnetic Fields (EMF) with appendix 2.4 [APP-083] and assessment as not significant and note that EMF from the operation will be below exposure levels specified in health protection guidelines from the International Commission on Non-Ionizing Radiation Protection (ICNIRP).

17.16 The Council welcomes the design changes made to mitigate Significant Negative effects on Landscape and Visual, and the comprehensive chapter on this. Landscaping and new planting (trees and hedgerows) should be maximised, including contributing to new accessible woodland. It is accepted that new hedgerows and woodland in general can be beneficial. However new woodland should be accessible to the public, where feasible and it would not affect construction or operation. New planting should take place as early in the project phases as possible, so that trees and hedgerows are established sooner into the construction and/or operation phase(s) than 15 years reference in the ES.

17.17 Land around and under the panels could potentially still be used for some arable food growing. Where it is not, grazing land or wildflower meadows could be considered rather than grass to continue food production and/or contribute to biodiversity improvements.

17.18 The Council's public health comments should be read in conjunction with responses submitted by the Office for Health Improvement and Disparities (OHID) and the UKHSA.

17.19 Whilst there are enhancements through this development that may lead to a neutral position on health and wellbeing; overall, it is felt this is a large-scale development fitted around built-up areas, and there is more that needs to be done to mitigate the potential mental health effect on the local communities; therefore, on balance the Council considers the impacts associated with health to be **negative**.

18. Minerals and Waste

Minerals

18.1 Paragraph 5.11.19 of NPS EN-1 states, "Applicants should safeguard any mineral resources on the proposed site as far as possible, taking into account the long-term potential of the land use after any future decommissioning has taken place."

18.2 The NPPF paragraph 222 emphasises the importance of a sufficient supply of minerals to provide infrastructure, building, energy and goods that the country needs. It goes on to say at paragraph 223 (c) that planning policies should safeguard mineral resources by defining MSA and Mineral Consultation Areas (MCA); and adopt appropriate policies so that known locations of specific minerals resources of local and national importance are not sterilised by non-mineral development where this should be avoided (whilst not creating a presumption that the resources defined will be worked).

18.3 Local Policies:

- LMWLP Policy M11: Safeguarding of Mineral Resources
- LMWLP Policy M12: Safeguarding of Existing Mineral Sites and Associated Minerals Infrastructure

18.4 LMWLP Policy M11 (Safeguarding of Mineral Resources) requires proposals for development within a mineral safeguarding area (MSA) to be accompanied by a Minerals Assessment and will only be granted where it can be demonstrated that it would not sterilise a mineral resource. Where this is not the case then proposals will need to demonstrate compliance with a range of criteria.

18.5 LMWLP Policy 12 (Safeguarding of Existing Mineral Sites and Associated Mineral Infrastructure) safeguards existing mineral sites that supply minerals in the county from development that would unnecessarily sterilise the sites and infrastructure or prejudice or jeopardise their use by creating incompatible and uses nearby.

18.6 Parts of the One Earth order limits are situated within a Sand and Gravel MSA within the LCC administrative boundary and a safeguarded mineral site (Newton on Trent Oil site) is surrounded the order limits boundary.

18.7 A minerals safeguarding Assessment [APP-175] has been submitted with the application which the Council has reviewed. The report provides an assessment of the proposed development against LMWLP policies M11 and M12.

18.8 Policy M11 (Safeguarding of Mineral Resources) sets out criteria that would need to be met by a developer where the non-mineral development would sterilise minerals in an MSA in order for planning permission to be granted. These criteria include (but are not limited to) demonstrating that:

- prior extraction of the mineral would be impracticable and that the development could not be reasonably sited elsewhere; or
- there is an overwhelming need for this development, which could not reasonably be sited elsewhere; or
- the development is temporary in nature and that the site can be restored to a condition that does not inhibit extraction within the timescale that the mineral is likely to be needed.

18.9 The applicant considers that there is an overwhelming need for the development in this location and there is not a suitable alternative location elsewhere.

18.10 Due to the temporary nature of the development (proposed 60-year operational life), the applicant considers that the proposal would be reversible and would not permanently sterilise the resource or hinder future extraction. The solar PV development would be decommissioned and removed. The land would be restored to its former use and potentially be available for mineral extraction should there be a need.

18.11 In terms of the safeguarded Newton on Trent Oil site, safeguarding measures include a 250-metre buffer zone around the site to protect the existing operations and any future use of land or associated infrastructure (Policy M12: Safeguarding of Existing Mineral Sites and Associated Minerals Infrastructure). The safeguarding report states that the proposals would not impact operations of the Oil site and notes that the proposed development of a temporary nature, and after 60 years, the land would be returned to its existing use.

18.12 In relation to mineral resource safeguarding and the requirements of policy M11, it is noted that the majority of the development site within the LCC administrative boundary is located in the MSA. In the absence of the applicant undertaking any detailed assessment of the mineral resources to demonstrate otherwise, it has to be assumed that there are viable mineral resources in the underlying land. The potential for mineral sterilisation is therefore significant, albeit temporary in nature. The Council would stress that although the development is considered to be temporary, 60 years is a significant duration, and further applications could come forward to extend this timeframe.

18.13 In terms of the need for Sand and Gravel, the latest draft Lincolnshire Local Aggregate Assessment (reporting 2023 data) identifies a landbank at the end of 2023 of 8.68 years[6] with a further six planning applications pending determination.

18.14 The Lincolnshire Minerals and Waste Local Plan is being updated and additional reserves will be required to cover the proposed new plan period up to 2041. Work on the plan is progressing, with consultation carried out in Summer 2024 on the preferred approach to updating the plan. The preferred approach consultation document identifies several 'preferred' sites to meet identified requirements. The outcome of the preferred approach consultation will inform the next stage of the plan-making process which will be a further 6-week consultation on a final 'proposed submission' draft of the new plan, in advance of the formal public examination process.

[6] https://www.lincolnshire.gov.uk/downloads/file/9598/draft-local-aggregate-assessment-2023

18.15 The proposed 60 year operational life of the proposed development would however extend significantly beyond the proposed plan period for the updated LMWLP and further sand and gravel resources are therefore likely to be required in Lincolnshire during the life of the proposals, beyond any that may be identified in the new plan.

18.16 The Council therefore does not agree with the statement at paragraph 4.8.2. of the Minerals Assessment that "There is no need for any additional permitted provision to be made for the foreseeable future."

18.17 It is acknowledged that the applicant has also put forward an argument regarding the overriding need for the project, in line with the criteria set out under Policy M11. However part of this test requires that the development could not reasonably be sited elsewhere. Whilst the Council notes the reasons given for the selection of the proposed site, minerals safeguarding does not appear to have been given any consideration as part of the site selection process.

18.18 Given the nature and scale of the proposals the Council acknowledges that it would not be possible to completely avoid sterilisation of some mineral resources. However, minerals are a finite resource and the fact that MSAs extend beyond the order limits does not preclude the need to meaningfully assess the impact of the proposals on potential sterilisation of resources.

18.19 It is also noted that underground cables may remain in situ following decommissioning, which could potentially therefore lead to the permanent sterilisation of mineral resources through introduction of a constraint on potential future extraction in surrounding land. This should be given due consideration when determining the final route/method of the grid connection. Wherever possible the cable route should follow existing constraints and infrastructure corridors such as roads, railways, drainage routes or existing pipelines or cable routes or alternatively follow the edge of significant landscape features rather than directly crossing open fields. This would ensure minimal sterilisation of resources.

18.20 With regard to Policy M12 and the safeguarded Newton on Trent Oil site, this site is surrounded on all sides by the proposed Order limits, and whilst the site is currently inactive, it has extant planning permission and could recommence operations at any time until the end-date of June 2036. The Council are of the view that insufficient information has been provided in the assessment undertaken to demonstrate that the proposed development would not prejudice or detrimentally impact upon the operation of the safeguarded site. Relevant issues to consider may include (but are not limited to):

- access and highways;
- health and safety (including fire safety);
- screening/boundary treatments;

- dust
- site buffers; and
- the need to protect any associated utilities and infrastructure etc.

18.21 The Council suggest contacting the site operators and relevant experts such as the Health and Safety Executive, the Environment Agency and local Environmental Health Officers to accurately determine the detailed matters that should be considered and any necessary mitigation. At this stage, the Council has not seen any evidence that such engagement has been undertaken and would wish to see further evidence to confirm that such engagement has taken place, and a satisfactory outcome achieved.

18.22 The council also wish to raise concerns with the statement in paragraph 3.4.14 of the submitted minerals assessment which states *"It is therefore clear that the direction of travel for LCC as the relevant Minerals Authority is to resist fossil fuel extraction where possible"* This statement is misleading and pre-judges the Council's emerging policy position in the updated Minerals and Waste Local Plan. This statement reflects the position of the Central Lincolnshire Joint Strategic Planning Committee which acknowledges it is not a mineral planning authority, not Lincolnshire County Council in its role as Mineral Planning Authority.

18.23 As discussed above, in the absence of satisfactory information to the contrary the current assessment of impact on minerals would be **negative.** The Council will review this position once the applicant has provided further information in order to demonstrate that the proposed development would not prejudice or detrimentally impact upon the operation of the safeguarded sites.

Waste

18.24 NPS EN-1 states at paragraph 5.15.4 that "All large infrastructure projects are likely to generate hazardous and non-hazardous waste. The EA's Environmental Permitting regime incorporates operational waste management requirements for certain activities. When an applicant applies to the EA for an Environmental Permit, the EA will require the application to demonstrate that processes are in place to meet all relevant Environmental Permitting requirements."

18.25 Paragraphs 5.15.14 and 5.15.15 of NPS EN-1 outline that during decision making consideration should be given to the extent the Applicant has proposed an effective system for managing hazardous and non-hazardous waste arising from the construction operation and decommissioning of the proposed development. Waste should be properly managed, both on-site and off-site and can be dealt with appropriately by the waste infrastructure which is, or is likely to be, available. Waste arisings should not have an adverse effect on the capacity of existing waste

management facilities and steps should be taken to minimise the volume of waste arisings.

18.26 The Council has reviewed the application in respect of waste matters and whilst waste has been scoped out of the ES as a separate chapter, Chapter 5: Description of the Proposed Development of the ES [APP-034] sets out the arrangements that are proposed for managing any waste produced by the development, following the waste hierarchy. More specific measures are set out in the outline CEMP [APP-176], outline OEMP [APP-177], outline DEMP [APP-178] and outline Site Waste Management Plan (oSWMP) [APP–184]. However, further details of expected waste arisings, and of their proposed fate, from all phases of the project will need to be included in the final SWMP.

18.27 As with other solar NSIP's the Council has serious concerns about the lack of current capacity for recycling solar panels, particularly at decommissioning but also with operational failures given the 60 year lifetime, weather related impacts (note the impact of Storm Darragh on the Porth Wen Solar Farm on Anglesey) and the cumulative impacts alongside other proposed NSIP-scale solar farms, particularly in terms of waste management capacity. The impact of adverse weather or other event which would require replacement of panels significantly earlier in the project lifetime would create issues given the lack of current capacity for recycling solar panels. There is no certainty that sufficient capacity for recycling solar panels will be available in 60 years' time. This has the potential to become a significant issue.

18.28 In respect of Policy W1 of the LMWLP this requires the Council to make provision for sites to meet predicted future capacity gaps for waste arisings. Currently there are no waste facilities locally to process discarded solar infrastructure as it is replaced during the lifetime of the development and at the decommissioning stage. When combined with the other solar projects in the county and region, cumulatively this will potentially present a significant issue and additional facilities to ensure these products are sustainably disposed of will be needed. The developer needs to be mindful that local facilities for recycling solar waste don't exist at present and this needs to be taken in account as part of any decommissioning plan. The ES Appendix 2.3 Materials and Waste Impact Assessment, Table 1-4 'Indicative Design Life of Proposed Development Components' assumes a 25-40 year lifespan for Solar PV compared to a 60 year operational lifetime for the project which, alongside a potential failure rate (both individually and cumulatively alongside other solar farms) would impact on recycling capacity and capability but also on its estimation of emissions.

18.29 The Council notes the applicant's commitment at paragraph 2.8.2 of the outline CEMP [APP-176] that a SWMP would be prepared and agreed prior to commencement of construction and the requirement (20) in the draft DCO [APP-007] to submit a DEMP. However, it will be necessary for a mechanism to be incorporated

that requires a waste management strategy to be submitted which demonstrates the expected quantity of solar infrastructure that would be discarded during the operational and decommissioning phases and the arrangements to be put in to ensure adequate facilities are available to sustainably dispose/recycle these items in the future.

18.30 The Council has concerns about some aspects of the Applicant's assessment and consider that further work is needed in order to adequately demonstrate that the impact of the development in terms of waste would not be significant. The Council wish to raise the following points:

- The applicant should be aware that, whilst PV panel recycling facilities may be available in time to process the quantities of waste panels generated by this project, this is by no means certain. Thus, the applicant needs to indicate what they propose to do if such capacity is not forthcoming and assess the impacts accordingly.
- Particular consideration needs to be given to the cumulative quantities of waste arising from this and other proposed large-scale solar infrastructure nearby. This includes the significant overall failure rate of PV panels during the operational phase.
- The need for a commitment that the applicant will set out, and regularly review, their forecasts for, and proposed fate of, all wastes arising in each phase of the project – commissioning, operational and decommissioning.

18.31 The Council would also draw attention to safeguarded waste sites in proximity to the Order Limits. This includes Land Opposite Park Farm Cottage, Kettlethorpe, which houses ST01 a safeguarded sewage treatment works (STW). The STW is approximately 70m from the northern boundary of the Order Limits.

18.32 Also notable is Hall Water Treatment Works, this site, whilst omitted from the Order Limit red line boundary is surrounded by it. This site is not defined as safeguarded under policy W8 within the MWLP, as it is relatively new. However, the Council is of the opinion that in the spirit of the policy Hall Water Treatment works, should be approached as if safeguarded and mitigations should be in place to ensure the proposed development would not prejudice or detrimentally impact upon the operation of this site or ST01.

18.33 On the basis of the above and until such time as the applicant can provide further information, the Council consider the development would have a **negative** impact in terms of waste. The Council would be happy to engage further with the Applicant regarding these matters, including through the SoCG.

19. Cumulative Effects

19.1 The EIA Regulations at Schedule 4 require that an ES should include "a description of the likely significant effects on the environment resulting from, inter alia, (e) 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."

19.2 NPS EN-1 in section 4 (Assessment Principles), paragraph 4.1.5 states "In considering any proposed development, in particular when weighing its adverse impacts against its benefits, the Secretary of State should take into account: its potential adverse impacts, including on the environment, and including any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce, mitigate or compensate for any adverse impacts, following the mitigation hierarchy."

19.3 Whilst the development plan for the area does not contain any specific stand-alone policies for the consideration of cumulative impacts, CLLP Policy S14 (Renewable Energy) is of relevance for this proposal as it requires cumulative impacts to be taken into consideration when considering the acceptability of development proposals.

19.4 Policy S14 (Renewable Energy) outlines proposals for renewable energy schemes, including ancillary development, will be supported where the direct, indirect and cumulative impacts on the following considerations are, or will be made acceptable. The following tests will have to be met:

i. The impacts are acceptable having considered the scale, siting and design, and the consequent impacts on landscape character; visual amenity; biodiversity; geodiversity; flood risk; townscape; heritage assets, their settings and the historic landscape; and highway safety and rail safety; and
ii. The impacts are acceptable on aviation and defence navigation system/communications; and
iii. The impacts are acceptable on the amenity of sensitive neighbouring uses (including local residents) by virtue of matters such as noise, dust, odour, shadow flicker, air quality and traffic.

19.5 The Applicant's assessment of cumulative effects is set out in ES Chapter 18 - Cumulative Effects [APP-047]. It considers in combination effects (intra-project) and inter-project effects with other development as a result of the development. For inter-project effects, a criteria based approach was used to establish the final Long List and included Tier 1, 2 or 3 projects within 10km of the proposed project and beyond 10km for any other Battery Energy Storage System (BESS) or Solar Farm Schemes as set out in paragraph 18.3.21.

19.6 APP-146 Volume 3: Technical Appendices Supporting ES Volume 2 Appendix 18.2: Other Development Long List Stages 1 and 2 contains the long list as developed in line with the criteria based approach described in Chapter 18 [APP-047] paragraph

18.3.21 and includes nine NSIP solar schemes within Lincolnshire. It is noted that the cut off date for the assessment is 14 January 2025 however 2 solar farms for which DCO applications had not yet been submitted to PINs have been included on the long list, namely Fosse Green and Beacon Fen, which is welcomed. Please note Meridian Solar Farm (scoping submitted to PINs 31/05/2024) has been omitted from the long list despite a scoping request being submitted to PINS on 31/05/2024. Leoda Solar Farm (scoping submitted to PINS 31/01/2025) should also be included in any updates. The Council will therefore expect to see the applicant's cumulative assessment updated accordingly to include these proposals.

19.7 The short list of cumulative development is contained within Table 18.3 and based on the proposed ZOI for each environmental impact within their ES aspect chapters and set out in Table 18.2. The applicant however has clarified that the ZOI for the cumulative assessment is used in a somewhat different way to that in the aspect specific assessments. The ZOI is used to guide the assessment as a way of identifying the Other Developments that might generate environmental effects that could combine with an effect(s) of the Proposed Development. Although, a wider study area has been applied for cumulative effects with regard to BMV land wherein the Regional impacts are assessed. The short list does not include any Solar NSIP schemes within Lincolnshire. I].

19.8 The nature and scale of current and emerging proposals relating to large scale solar developments in Lincolnshire is unprecedented. At the time of writing this report 5 NSIP scale solar schemes have been granted a DCO in Lincolnshire and a further 8 schemes (including One Earth) that are either progressing through examination or are at pre application stage. There is a cluster of NSIP scale solar developments around Gainsborough which includes Tillbridge, Cottam, Gate Burton and West Burton. Three of which have already been granted consent, also within close proximity is Steeple Renewables located within Nottinghamshire. The cumulative impacts of the One Earth solar farm, combined with the other developments identified could be significant. These impacts include landscape and visual effects, construction-related traffic and transport movements, waste and the long-term loss of BMV agricultural land. Such changes are likely to negatively affect the local community's amenity. Although noted that these developments are not contained within the short list of 'other developments' assessed, the Council is of the view that at a minimum these NSIPs/DCOs should be included on the short list. As conveyed in their PEIR response the Council '*is pleased to see the consideration of projects that have not yet been approved and are still in the application process*' and that '*whilst the principal sites are located outside of the proposed 15km ZOI wider implications, particularly traffic and transport may have some interactivity and cumulative impact*'. The 'scoping out' of NSIPs/DCOs from the short list is of significant concern to the Council. The assessment of inter-project cumulative effects should be kept under review as the OESF project progresses through examination and the lists and assessments updated as information becomes available.

19.9 The in combination landscape and visual effects of the OESF alongside other solar developments around Gainsborough and in Nottinghamshire could significantly impact the landscape character at national, county, and regional levels. The combined mass and scale of these projects may lead to adverse effects over a large area, altering the predominantly agricultural landscape. This change would be noticeable to visual receptors when traveling through the area, experiencing the NSIP/DCO schemes sequentially across several kilometres.

19.10 The Council is also concerned about the cumulative impact of development, particularly large scale solar development, on agricultural land. Please note both the Meridian and Leoda solar farms (as previously referenced above) have been omitted from Figure 18.9 Best and Most Versatile (BMV) Agricultural Land and Other Developments [APP-147]. Paragraph 18.5.14 states that '*If all the 'reasonably foreseeable' schemes within Lincolnshire proceed, the change in land use would be 0.26% (including temporary and permanent schemes*)'. The Council would request the calculations which sit behind this percentage, as from our own tracking of solar development NSIPs and TCPA permissions, these developments appear to cover circa 3.5% of the arable cropped and uncropped land in Lincolnshire.

19.11 As the waste planning authority, the Council is also concerned about the impact from waste arising from solar developments and the lack of existing waste capacity as described above. The waste arisings from these proposals combined both during the operational and decommissioning phases is potentially significant. It must be highlighted that as there is no Waste chapter in the ES having been scoped out. Waste management is included in the outline CEMP [APP-176], outline OEMP [APP-177], outline DEMP [APP-178] and oSWMP [APP–184]. These documents however only consider how to address waste arising from this development rather than the cumulative impact of solar panels, particularly at decommissioning but also with operational failures and repowering, particularly in terms of waste management capacity.

19.12 The potential for significant inter-projects effects to arise from this development in combination with other developments is of particular concern and as such the Council's position on cumulative impacts in the overall balance is **negative**. The Council will make further comments on the potential cumulative impact of the development with other NSIP proposals as further information on the other projects comes forward.

19.13 The Council in its Relevant Representation put forward a request that the ExA adopt a mechanism as supported by the ExAs for the solar projects in western Lincolnshire (Cottam, Gate Burton, West Burton and Tillbridge) and also for the Outer Dowsing offshore wind proposal in the east of the County, where each applicant was required to produce an inter- relationship report at the start of their examination and then

subsequently updated at each deadline during the examination. For the reasons set out above the Council would wish to see a similar approach adopted for the One Earth proposal.

20. Fire Safety

20.1 Key Policies:

- CLLP Policy S21: Flood Risk and Water Resources
- CLLP Policy S53: Design and Amenity
- CLLP Policy S54: Health and Wellbeing

20.2 Part (7) of CLLP policy S53 'Design and Amenity' requires development to avoid adverse impacts associated with noise, dust and air quality, and part (9) requires schemes to minimise the need for resources both in construction and operation of buildings and be easily adaptable to avoid unnecessary waste production. One of the 15 objectives of the CLLP as set out in paragraph 1.5.2, under the heading of 'Waste' is 'To minimise the amount of waste generated across all sectors and increase the reuse, recycling and recovery rates of waste materials'.

20.3 Policy S54 seeks to ensure that where any potential adverse health impacts are identified the developer will be expected to demonstrate how these will be addressed and mitigated.

20.4 No specific chapter in the ES is dedicated to the impact of fire, however an Outline Battery Management Safety Plan [APP-183] has been submitted as part of the examination documentation which examines the fire safety risks associated with the BESS installations.

20.5 In recognition of the emerging technology of Battery Energy Storage Systems (BESS) and the challenges this poses to Fire and Rescue Services the National Fire Chiefs Council circulated a letter to all Chief Fire Officers on the 22 August 2023 drawing attention to the updating of Renewable and Low Carbon Energy Planning Policy Guidance that was updated in August 2023 by the Department of Levelling Up, Housing and Communities to include reference to BESS[7].

20.6 The planning policy guidance encourages planning authorities to consult with their local Fire and Rescue Service as part of formal planning consultations and directs developers to the National Fire Chiefs Council guidance on BESS schemes. From discussion with Lincolnshire Fire Service (LFR) who have developed standing advice for BESS[8] based on national guidance, a program of monitoring and risk assessment has been identified as necessary once the BESS has been established to ensure it

[7] Planning Practice Guidance: Renewable and low carbon energy: Paragraph: 032 Reference ID: 5-032-20230814 to Paragraph: 036 Reference ID: 5-036-20230814

[8] Battery Energy Storage Systems (online)

complies with the Battery Management Safety Plan and Emergency Response Plan. During the first year of operation this will involve 21 days of work for the Fire Service and then two days in each subsequent year for the lifetime of the development.

20.7 The need for this monitoring and assessment will enable early engagement to ensure the required standards are being complied with; to ensure the BESS is constructed to the correct standards with support from the Fire Service; early development of emergency response plans; familiarisations of the BESS for local fire crews and overview by the Fire Service; development of on-going maintenance and updating risk information; and assurance for local residents and communities that the BESS are being independently inspected and monitored to reduce the risk of a fire.

20.8 To enable the Fire and Rescue Service to undertake the necessary monitoring to ensure the BESS is in accordance with the relevant requirement (currently requirement 7 of the draft DCO [APP-007]) a financial contribution is required via a Protective Provision within the DCO for the Fire Service so that it has sufficient resources in place to undertake monitoring of the BESS connected to this project. This approach has been agreed as part of the recently approved Gate Burton, West Burton and Cottam DCO, therefore there is a precedent for this approach to be followed for this application.

Outline Battery Safety Management Plan

20.9 Lincolnshire Fire and Rescue (LFR) has reviewed APP-183 and are satisfied that the Plan links to national standards and requirements and have provided the following points at this stage:

- LFR note that the proposed distance between BESS containers will be reduced with supporting rationale
- LFR will require further evidence of test data to be able to comment on suitability of the spacing

20.10 Section 4 (General Fire Safety) of the Plan acknowledges that the developer will need to continue to engage with LFR as the development progresses and further information is made available. LFR wish to retain the right to provide further comments as further specific details are submitted and are satisfied that all other remaining appear compliant at this stage of the development.

21. Other topics

21.1 The Council may wish to make further representations as appropriate during the examination and at issue specific hearings relating to matters that are not contained within this LIR. Therefore, the comments contained above are provided without prejudice to the future views that may be expressed by the Council in its capacity as an Interested Party in the examination process.

22. Draft Development Consent Order

22.1 In addition to the comments provided under the relevant topic chapters above in respect of the draft DCO [APP-007], at this stage the Council wishes to raise the following additional points:

DCO Ref	Reason	Suggested amendment/wording
Part 6 (Miscellaneous and General), Article 39	As currently written Article 39 allows for the felling, lopping or cutting back of roots of any tree near any part of the development if believed to be necessary (excluding highways hedgerows and trees which require prior consent of the highway authority). This power is considered to be excessive. As the detailed design is not provided as yet under the Rochdale Envelope the impact on trees is unknown, therefore a blanket power could cause significant impact. It is noted that the Arboricultural Impact Assessment [APP-134] states at paragraph 4.2.2 'Once the design is finalised and before construction takes place, an AMS may need to be compiled, detailing the location and nature of protective fencing, signage, timings and methods of works and other protection measures' Some hedgerows and hedgerow trees are identified for removal in Schedule 11 of the draft DCO but no acknowledgement is made for trees. The inclusion of vegetation removal plans in appendix C of the oLEMP [APP-179] are noted, however, given that	A schedule of trees known to be required to be removed to be included in the DCO and referenced in Article 39. Subsequent approval of the Relevant Planning Authority should be required for any further tree removal beyond those trees identified in the schedule and as shown on the removal plans in the oLEMP. The Council are of the view that paragraph 5.3.6 the oLEMP could be amended to incorporate requirements to update the removal plans in the final LEMP which would be the subject of approval under Requirement 8 of the DCO.

	there could be further losses to the environment on the basis of the current lack of detailed design, the Council would wish to see this power linked to a schedule of trees and approval required for further removal beyond those trees identified in the schedule and on the removal plans. This would bring this element of the project into line with the approach to the ecological and archaeological elements of the project where post consent approvals are required. It is not appropriate for this power to be included on a precautionary basis The blanket power for the removal of trees would also not allow for BNG loss to be calculated appropriately using the Defra metric, as the trees to be removed are an unknown quantity and quality.	
Part 6 (Miscellaneous and General), Article 40	As currently written Article 40 provides deemed consent to fell, lop or cut back of roots of any tree subject to a TPO where the TPO was made after November 2024. Advice Note 15, section 5.8.22, para 22.2 states: 'Applicants may also wish to include powers allowing them to fell, lop or cut back roots of trees subject to a Tree	The Arboricultural Impact Assessment Report [APP-134] does not identify any TPOs within the development boundary. The report does identify quite a few Grade A trees / groups either within or near the boundary that may over the course lifetime of the site come to be worthy of TPO consideration (Section 3.1). The Council therefore consider it would be appropriate for the article to be amended to require consultation with the relevant planning authority prior to the removal of any trees that may become subject to a TPO in the future. There should also be an expectation of

	Preservation Order (TPO). This power can extend to trees which are otherwise protected by virtue of being situated in a conservation area. To support the ExA, inclusion of this power should be accompanied by a Schedule and plan to specifically identify the affected trees.'	replacement of any TPO tree removed, and an obligation that the relevant planning authority Tree Officer should be informed where any tree subject to a post February 2025 TPO is pruned/ felled, to allow records to be updated. The ExA is referred to the wording of article 40 for The A38 Derby Junctions DCO 2023 which provides for consultation with the relevant planning authority and seeks to ensure replacement of felled TPO trees. Suggested wording for article 40(2): (2) In carrying out any activity authorised by paragraph (1)— (a) the undertaker must do no unnecessary damage to any tree or shrub and must pay compensation to any person for any loss or damage arising from such activity; (b) the duty contained in section 206(1)(a) (replacement of trees) of the 1990 Act is not to apply although where possible the undertaker is to seek to replace any trees which are removed; and (c) the undertaker must consult the relevant planning authority prior to that activity taking place
Schedule 2 (Requirements), Requirements 3, 4, 5 and 20	The Council would wish to be a consultee on these requirements.	
Schedule 2 (Requirements), Requirement 9	The Council considers that the requirement should contain relevant percentages of BNG to be committed to.	Proposed BNG Requirement 1. The authorised development may not commence until a biodiversity net gain strategy has been submitted to and approved by the relevant planning authority, in consultation with the relevant statutory nature conservation body. 2. The biodiversity net gain strategy must include details of how the strategy will secure a minimum of xx% biodiversity net gain in area habitat units and a minimum of yy% in hedgerow units and zz% in watercourse units for all of the authorised development

		during the operation of the authorised development, and the metric that has been used to calculate that those percentages will be reached. 3. The biodiversity net gain strategy must be substantially in accordance with the outline landscape and ecological management plan and must be implemented as approved and maintained throughout the operation of the authorised development to which the plan relates.
Schedule 16 (Procedure for Discharge of Requirements Article 3	Further information and consultation (6)(a) requires that a requirement consultee should provide comments on an application to the relevant planning authority within 10 working days of receipt.	Due to the capacity and availability of consultees, it is requested that (6)(a) to 15 working days.
Schedule 16 (Procedure for Discharge of Requirements Article 5 (Fees)	The Council consider that the fee schedule should be update to reflect the fees due to be introduced in April 2025 and requests that a proportionate increase is reflected in the fees set out in Schedule 16.	5. (1) Where an application is made to the relevant planning authority for a discharge, a fee is to apply and must be paid to the relevant planning authority for each application. (2) The fee payable for each application under sub-paragraph (1) is as follows— (a) a fee of £2,578 for the first application for the discharge of each of the requirements 5, 7, 8, 10, 12, 13, 14, 18 and 19; (b) a fee of £588 for each subsequent application for the discharge of each of the requirements listed in paragraph (a) and any application under requirement 5 in respect of the requirements listed in paragraph (a); and (c) a fee of £298 for any application for the discharge of— (i) any other requirements not listed in paragraph (a); (ii) any application under requirement 4 in respect of requirements not listed in paragraph (a); and (iii) any approval required by a document referred to by any requirement or a document approved pursuant to any requirement.

Schedule 14	There is currently no Protective Provision for The Protection of Lincolnshire Fire and Rescue included within the DCO.	Heckington Fen approved DCO Schedule 13 Part 9, para 104 to 107 includes appropriate wording. FOR THE PROTECTION OF LINCOLNSHIRE FIRE AND RESCUE Interpretation 104.— (1) For the protection of Lincolnshire Fire and Rescue as referred to in this Part of this Schedule the following provisions have effect, unless otherwise agreed in writing between the undertaker and Lincolnshire Fire and Rescue. (2) In this Part of this Schedule— "Index Linked" means an increase in the sums payable on an annual basis or pro rata per diem in accordance with the most recent published figure for the Consumer Price Index, or during any period when no such index exists the index which replaces it or is the nearest equivalent to it; and "Lincolnshire Fire and Rescue" means Lincolnshire County Council in its capacity as a fire and rescue authority pursuant to section 1(2)(a) of the Fire and Rescue Services Act 2004. Site visits 105.— (1) The undertaker must, prior to the date of final commissioning of Work No. 2, use reasonable endeavours to facilitate a site familiarisation exercise in connection with Work No. 2 of the authorised development for Lincolnshire Fire and Rescue for the purposes of providing the necessary assurance to Lincolnshire Fire and Rescue that all the required systems and measures are in place in accordance with the battery safety management plan. (2) Following the first anniversary of the date of final commissioning of Work No. 2 of the authorised development, the undertaker must use reasonable endeavours to facilitate an annual review of Work No. 2 by Lincolnshire Fire and Rescue at the reasonable request of Lincolnshire Fire and Rescue, up until the year in which the undertaker commences decommissioning of Work No. 2. Costs

		106.— (1) Pursuant to the provisions set out at paragraph 105, the undertaker must pay to Lincolnshire Fire and Rescue— (a) £16,665 in the first year of operation of the authorised development for, or in connection with Lincolnshire Fire and Rescue's attendance at the site familiarisation exercise facilitated by the undertaker pursuant to paragraph 105(1), such sum to be paid within 30 days following the date of the site familiarisation exercise; and (b) £1,530 in each subsequent year of operation of the authorised development until the date of decommissioning of Work No. 2, such sums to be paid within 30 days of the date of the annual review for that year, if in that year an annual review has taken place pursuant to paragraph 105(2). (2) The costs payable under this sub-paragraph (1)(b) are to be Index Linked. Arbitration 107. Any difference or dispute arising between the undertaker and Lincolnshire Fire and Rescue under this Part of this Schedule must be determined by arbitration in accordance with article 38 (arbitration).

Appendix A: Landscape and Visual Review of the Development Consent Order (DCO) Application for One Earth Solar Farm

Appendix B: LIR Assessment (Agriculture and Soils) Land at One Earth Solar