



POWER
FOR GOOD

Steeple Renewables Project

Design and Access Statement

On behalf of Steeple Solar Farm Limited

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Steeple Solar Farm

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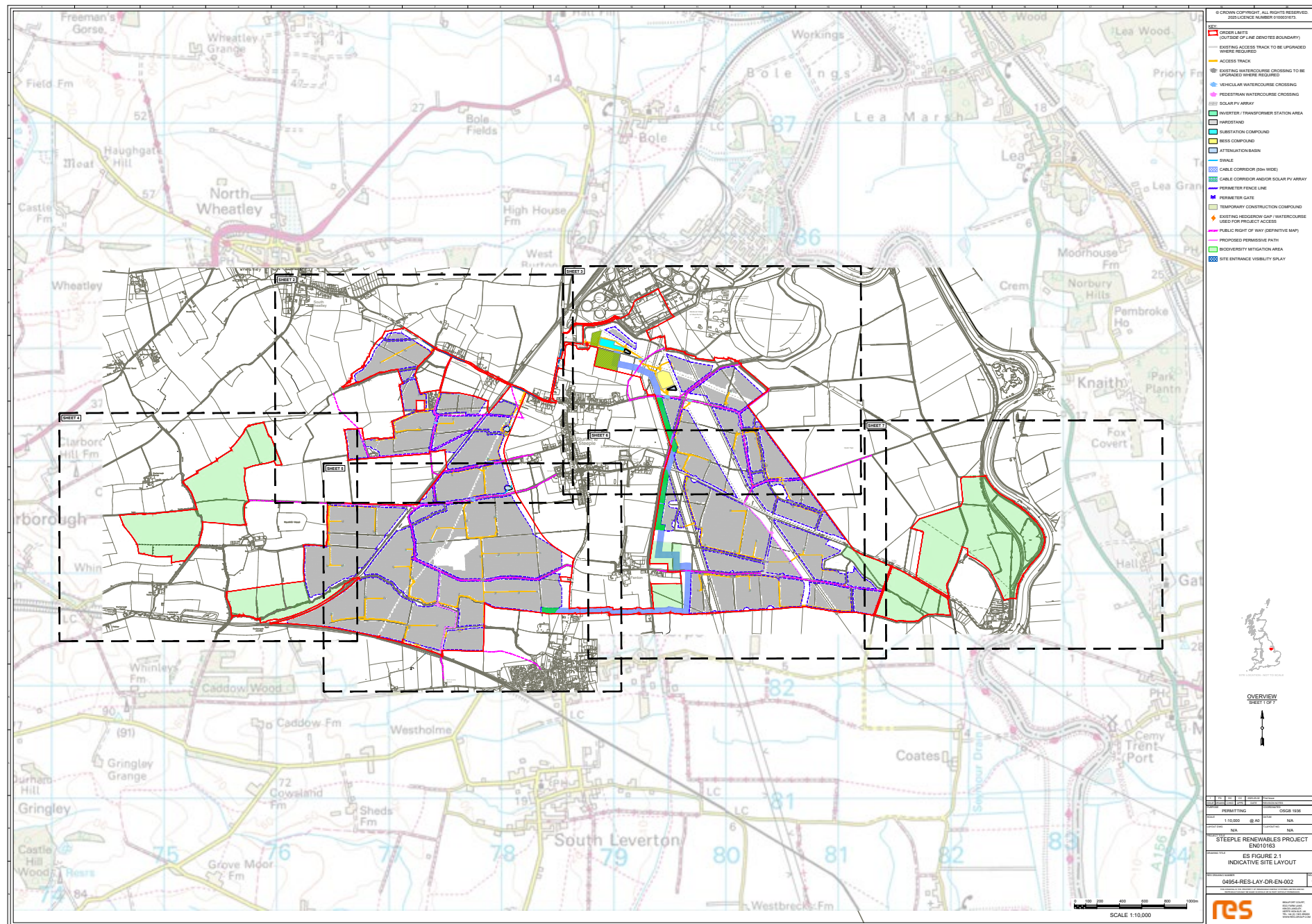
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Executive Summary

- This Design and Access Statement ('DAS') has been prepared on behalf of Steeple Solar Farm Limited (the 'Applicant') in relation to an application for a Development Consent Order ('DCO') for the Steeple Renewables Project (the 'Proposed Development'). The Proposed Development comprises the installation of a ground mounted solar energy generating station, associated Battery Energy Storage System ('BESS'), and associated development comprising substation and a grid connection integral to the construction, operation (including maintenance) and decommissioning of the development for the delivery of over 50 Megawatts ('MW') of electricity. The Proposed Development has a design life of 40 years, after which time it will be decommissioned.
- The DCO Application Order limits comprises 888.31 hectares ('ha') of land (the 'Site') located on land to the east and west of Sturton-le-Steeple, south of West Burton Power Station, within the county of Nottinghamshire.
- The Applicant has submitted an application for the Proposed Development to make a significant contribution to the production, supply and storage of a renewable and more sustainable form of energy.
- The design evolution process that has been adopted for the Proposed Development, which has culminated in the proposals that are the subject of the application, is described within this DAS.
- The project design team is comprised of qualified and experienced professionals, including solar energy specialists, highway and drainage engineers, planners, landscape, heritage consultants and ecologists. The contributions of all disciplines have been crucial to informing the design approach to the Proposed Development; they have worked collaboratively with local stakeholders, residents, and other consultees to ensure that the design has been informed by local knowledge and expertise.
- The overarching vision of the Proposed Development is to contribute to renewable energy policy targets and objectives; responding to site context, baseline analysis and assessment of potential impacts through the delivery of design that responds to local context whilst delivering potential substantial benefits to energy production, climate change and biodiversity enhancements. Negative impacts to local environment and residents have been mitigated where necessary and kept to a minimum. To achieve this, the Applicant and project team set several design objectives as follows:
 - » Delivery of significant amounts of affordable renewable energy to support policy objectives and national targets for reducing carbon emissions to net zero by 2050;
 - » Delivery of improved energy resilience, affordability and security by diversifying energy production and stored energy;
 - » Contribution towards strategy improvements to local ecology and biodiversity;
 - » Develop a Proposed Development sensitive to surrounding landscape, limiting impact on views for key landscape receptors, residential properties and recreational routes;
 - » Develop a Proposed Development sensitive to heritage assets and settings;
 - » Safeguard surrounding hydrological systems and resilience to flooding without increasing flood risk elsewhere taking into account impacts of climate change;
 - » Develop a Proposed Development sensitive to existing land quality; and
 - » Provide safe access, minimise impact on the local highway network; and protect and enhance existing Public Rights of Way ensuring continued safe use.

1 | Introduction



- 1.1 This DAS has been prepared on behalf of Steeple Solar Farm Limited in relation to an application for a DCO for the Steeple Renewables Project. The Proposed Development comprises the installation of a ground mounted solar energy generating station, BESS, and associated development comprising substation and grid connection integral to the construction, operation (including maintenance) and decommissioning of the development. The Proposed Development has a 40-year design life, after which time it will be decommissioned.
- 1.2 The DCO application will be submitted under Section 37 of the Planning Act 2008 (the 'Act') to the Secretary of State ('SoS') for Department for Energy Security and Net Zero ('DESNZ'). As the Proposed Development comprises an onshore generating station in England, which does not generate electricity from wind, with a generating capacity of over 50MW of electricity it is defined as a Nationally Significant Infrastructure Project ('NSIP') under 14(1)(a) and 15(2) of the Act.
- 1.3 The National Policy Statements ('NPS') in particular EN-1 and EN-3 are the primary decision-making policy documents for the SoS on NSIPs. The NPS includes policy in respect of criteria for good design of energy infrastructure.
- 1.4 In support of providing good design principles within NSIP schemes the National Infrastructure Commission ('NIC') has published design guidance in the form of the document "Climate People Places Value – Design Principles for National Infrastructure" (2020) and this has informed the Planning Inspectorate guidance note on "Nationally Significant Infrastructure Projects: Advice on Good Design" (2024). This guidance has informed the design process undertaken for the DCO proposal, which is explained in this Statement.
- 1.5 Land to the east and west of Sturton-le-Steeple within the county of Nottinghamshire and shown within the Order limits [EN010163/APP/2.3] has been selected to

- host the Proposed Development. It will connect into the National Grid substation at the former West Burton Power Station, which is located adjacent to the north of the site.
- 1.6 The design evolution process of the Proposed Development is described in this DAS and has been undertaken to formulate the proposals which are the subject of the application. Information regarding the context of the Proposed Development's location; how the design has been influenced by planning policy; stakeholder engagement; and the proposed outline design solution, including access are also included. The fundamental principles of good design are set out within this Statement, which describes how they have been embedded in the Proposed Development. DCO application documents as referenced in-text should be read in conjunction with this statement.
- 1.7 The spatial extent of the Proposed Development is referred to as the "Order limits" as shown on the Order limits Plan [EN010163/APP/2.4] accompanying the DCO application. The Environmental Impact Assessment (EIA) presented in the **Environmental Statement (ES) [EN010163/APP/6.2.0 to 6.2.19]** is based on the maximum extents of each of the Work numbers described in Schedule 1 to the Draft DCO as shown on the Works Plans. This approach, known as use of a 'Rochdale Envelope', arises from case law and is described in footnote 106 to paragraph 4.3.12 of NPS EN-1:
- "while it is not necessary or possible in every case to specify the precise details of development, the information contained in the ES should be sufficient to fully assess the project's impact on the environment and establish clearly defined worst case parameters for the assessment. This is sometimes known as 'the Rochdale Envelope'".*
- 1.8 Technology within the solar photovoltaics and energy storage system sectors is rapidly evolving. To account for this in-built flexibility allows the most up-to-date technology to be utilised for the Proposed Development with detailed design to be managed post-consent through Requirements set out in Schedule 2 of the **Draft DCO [EN010163/APP/2.3]**.
- 1.9 The DAS should be read in conjunction with accompanying documents submitted in support of the DCO application. **The Planning Statement [EN010163/APP/7.1]** includes further details regarding the need for the Proposed Development and the planning policy context in which the application is made. The site selection process details are provided in **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [EN010163/APP/6.2.3]**.
- 1.10 The following sections comprise the remainder of this DAS:
- **Section 2: Good Design – Policy and Guidance** – provides policy context and guidance relating to large scale energy infrastructure including Design Objectives and strategies, and definitions of what constitutes 'good design'.
 - **Section 3: Order limits and Site Context** – provides an overview of the Order limits and their surroundings is presented in Section 3 including identification of characteristics and key environmental features that have informed the development of the Design Objectives identified in Section 4.
 - **Section 4: Design Vision and Guidance** – sets out the overarching vision and objectives that have guided and informed the iterative design process. The Design Objectives set out how the Proposed Development will deliver the overall vision taking account of the character of the site development limits and context and with reference to the policy and guidance.
 - **Section 5: Design Evolution** – sets out the iterative design process, showing how the Proposed Development has evolved, influenced by baseline desktop and field-based survey analysis and consultation feedback from stakeholders.
 - **Section 6: The DCO Design Approach, Masterplan and Works packages** – details how the development addresses the site context and Proposed Development objectives in respect of its use, location, materials, appearance, landscaping and access with reference to the Design Masterplan and works numbers.
 - **Section 7: Access** – sets out the access strategy for construction and operational traffic to the Site along with the identification of existing Public Rights of Way (PRoW), the nature of temporary diversions or closures, and the creation of new permissive routes as part of the Proposed Development.
 - **Section 8: Commitments** – sets out delivery of the design features and commitments presented in this document will be secured by the DCO.
 - **Section 9: Conclusion** – The final section of the statement provides conclusions.



2 | Good Design – Policy and Guidance

Overview

- 2.1 Guidance and policy relevant to the design of major energy infrastructure is considered in this section including policies set out in the NPSs for Energy, the National Planning Policy Framework ('NPPF') as well as relevant local planning policies. Other sections of this DAS and the supporting plans demonstrate how the Proposed Development complies with these policies, as supported by the **Planning Statement [EN010163/APP/7.1]**.

National Policy

- 2.2 Overarching National Policy Statement for Energy ('NPS EN-1') The Overarching National Policy Statement for Energy (hereafter 'NPS EN-1') sets out the UK Government's policy for delivery of major energy infrastructure. NPS EN-1 is clear regarding the urgent need for renewable energy infrastructure of all types to be developed in order to achieve the Governments decarbonisation targets.
- 2.3 Section 4.7 of NPS EN-1 sets out the criteria for good design for energy infrastructure.
- 2.4 Paragraph 4.7.1 of NPS EN-1 identifies both visual appearance of a piece of infrastructure and its functionality, including fitness for purpose and sustainability, as being equally important factors in good design.
- 2.5 Paragraph 4.7.2 of NPS EN-1 states:
"Applying good design to energy projects should produce sustainable infrastructure sensitive to place, including impacts on heritage, efficient in the use of natural resources, including land-use, and energy used in their construction and operation, matched by an appearance that demonstrates good aesthetic as far as possible" and "that the nature of much energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area".

- 2.6 Paragraph 4.7.3 of NPS EN-1 advises that good design can meet NPS policy objectives, for example, in terms of siting, use of appropriate technologies, modern methods of construction and sustainable design practices.
- 2.7 Paragraph 4.7.4 of NPS EN-1 states that:
"applicants should consider how good design can be applied to a project during the early stages of the project lifecycle".
- 2.8 Footnote 122 to paragraph 4.7.5 of NPS EN-1 states:
"Design principles should take into account any national guidance on infrastructure design, this could include for example the Design Principles for National Infrastructure published by the National Infrastructure Commission, the National Design Guide and National Model Design Code, as well as any local design policies and standards".
- 2.9 Paragraph 4.7.6 of NPS EN-1 acknowledges that:
"Whilst the applicant may not have any or very limited choice in the physical appearance of some energy infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting relative to existing landscape character, land form and vegetation" and "Applicants should also, so far as is possible, seek to embed opportunities for nature inclusive design within the design process".
- 2.10 Paragraph 4.7.7 of NPS EN-1 states:
"Applicants must demonstrate in their application documents how the design process was conducted and how the proposed design evolved. Where a number of different designs were considered, applicants should set out the reasons why the favoured choice has been selected".
- 2.11 Paragraph 4.7.10 of NPS EN-1 requires energy infrastructure developments to be satisfactorily

sustainable and be as "attractive, durable, and adaptable (including taking account of natural hazards such as flooding) as they can be", taking into consideration both functionality and aesthetics, and potential limitations of choice in available energy infrastructure designs.

- 2.12 Paragraph 4.7.12 of NPS EN-1 expects the Secretary of State to consider the "ultimate purpose of the infrastructure" and bear in mind its "operational, safety and security requirements which the design has to satisfy" in considering whether good design can be demonstrated.
- 2.13 NPS EN-1 identifies adapting to climate change as a key consideration of design. Specifically, paragraph 4.10.8 of NPS EN-1 requires applicants to consider the impacts of climate change "when planning the location, design, build, operation and, where appropriate, decommissioning of new energy infrastructure".
- National Policy Statement for Renewable Energy Infrastructure ('NPS EN-3')
- 2.14 National Policy Statement for Renewable Energy Infrastructure (hereafter 'NPS EN-3') sets out expectations on good design for renewable energy schemes and photovoltaic generation.
- 2.15 Section 2.5 of NPS EN-3 reiterates criteria for good design set out in section 4.7 of NPS EN-1. Paragraph 2.5.2 of NPS EN-3 states:
"Proposals for renewable energy infrastructure should demonstrate good design, particularly in respect of landscape and visual amenity, opportunities for co-existence/co-location with other marine and terrestrial uses, and in the design of the project to mitigate impacts such as noise and effects on ecology and heritage".
- 2.16 Paragraph 2.10.98 provides design guidance for solar and states:

	<i>"Applicants should follow the criteria for good design set out in Section 4.7 of EN-1 when developing projects and will be expected to direct considerable effort towards minimising the landscape and visual impact of solar PV arrays especially within nationally designated landscapes".</i>	<i>mature trees within boundaries".</i>	associated infrastructure" (paragraph 161), and for new development to be planned such that it is sufficiently resilient to the impacts of climate change (paragraph 164).
2.17	Paragraph 2.10.60 of NPS EN-3 states that: <i>"applicants will consider several factors when considering the design and layout of sites, including proximity to available grid capacity to accommodate the scale of generation, orientation, topography, previous land-use, and ability to mitigate environmental impacts and flood risk".</i>	Other policy and Guidance National Planning Policy Framework ('NPPF') (2025)	Nationally Significant Infrastructure Projects: Advice on Good Design (2024)
2.18	Paragraphs 2.10.61 to 2.10.64 of NPS EN-3 acknowledge a number of design requirements for efficient delivery of solar energy generation, including: <ul style="list-style-type: none"> • type, spacing and aspect of panel arrays will depend on the physical characteristics of the site such as site elevation; • favouring a south-facing arrangement of panels to maximise output although other orientations may be chosen; and • Design considerations for the provision of cabling between electrical assets, including provision of method statements for cabling trench design. 	2.21 Whilst the NPPF is not the primary policy for determination of DCO applications it is noted that the NPPF sets out the UK Government's planning policies for England and how these should be applied. Chapter 12 of the NPPF is concerned with how development can achieve well-designed places. 2.22 Good design is described in paragraph 131 of the NPPF. It explains that: <i>"the creation of high quality, beautiful and sustainable buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities".</i>	2.25 The "Nationally Significant Infrastructure Projects: Advice on Good Design (2024)" document provides guidance for applicants and other stakeholders involved in the design of NSIPs. It emphasises good design is a material consideration in decision-making and should be an integral part of a proposal from the onset. The document clarifies that good design extends beyond aesthetics, encompassing functionality, sustainability, and the projects contribution to the quality of the surrounding area. National Infrastructure Commission: Design Principles for National Infrastructure (2020)
2.19	Paragraph 2.10.98 of NPS EN-3 acknowledges the role of good design in minimising landscape and visual effects of solar arrays.	2.23 The NPPF goes on to define well-designed places at paragraph 139, with an emphasis given to ensure developments are reflective of "local design policies and government guidance on design, taking into account any local design guidance and supplementary planning documents such as design guides and codes". The NPPF also expects applicants to proactively engage with local planning authorities and communities during the evolution of development proposals, so that they can be more favourably considered.	2.26 As referred to in NPS EN-1, The NIC "Design Principles for National Infrastructure" identifies that the purpose of the design process is "to bring together technical and creative expertise to produced infrastructure which provides good value and works well for climate, people and places". The guidance sets out four thematical principles to shape the design of NSIP projects. It sets out how each principle should be used to appreciate the wider context, engage meaningfully, and continually measure and improve. The four principles are: <ul style="list-style-type: none"> • Climate: Mitigate carbon emissions and adapt to climate change; • People: Reflect what society wants and share benefits widely; • Places: Provide a sense of identity and improve our environment; and
2.20	Paragraph 2.10.100 of NPS EN-3 sets out that applicants: <i>"should consider as part of the design, layout, construction, and future maintenance plans how to protect and retain, wherever possible, the growth of vegetation on site boundaries, as well as the growth of existing hedges, established vegetation, including</i>	2.24 The NPPF specifically demonstrates its requirement for the planning system to "shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources including the conversion of existing buildings; and support renewable and low carbon energy and	



- Value: Achieve multiple benefits and solve problems well.

2.27 These principles aim to promote a holistic approach to infrastructure design that improves environmental performance whilst focussing design measures around improving the scope of beneficial impacts infrastructure can bring.

National Design Guide ('NDG') (2021)

2.28 The NPS and the NSIP Advice on Good Design reference the approach to design principles adopted in the NDG being of assistance in ensuring good design outcomes are secured.

2.29 The NDG is a comprehensive document published by the UK Government that outlines principles and practice of creating well-designed, response environments. It sets out characteristics of well-designed places and demonstrates what good design means in practice. The guide is based on NPS, practice guide, and objectives for good design in the NPPF.

Solar Energy UK: 11 Commitments on Solar Farms

2.30 Solar Energy UK is a non-profit trade association which represents a significant portion of the UK's solar energy businesses. Members of the association are expected to comply with best practice industry guidance through the adoption of 11 key commitments on their solar sites (Solar Energy UK: 11 Commitments on Solar Farms (2020)). Those related directly to design are:

- for design measures to enhance the biodiversity and natural capital value of all solar sites,
- being sensitive and complementing nationally and locally protected landscapes and nature conservation areas;
- deliver multi-functional land use by proposing co-location with agriculture and/or nature recovery projects for solar and energy storage developments;

- accommodate needs for rights of way and sites of archaeological importance; and
 - minimise visual impact where possible, making visual enhancements, including appropriate screening.
 - BRE: Planning guidance for the development of large-scale ground mounted solar PV system
- 2.31 The Building Research Establishment ('BRE') provides research, advice, training, testing, certification and standards for both public and private sector organisations in the UK and abroad within the construction sector.
- 2.32 The BRE have published guidance on the development of large-scale solar farms (BRE Planning Guidance for the Development of Large-Scale Ground Mounted Solar PV Systems (2013)), which addresses documents that need to be provided within a planning application, as well as relevant considerations to the determination of planning applications for large scale solar.
- Local Policy**
- 2.33 Whilst the NPS is the primary determining policy relating to NSIP development and would take precedence over any local planning document, where there is a conflict, local context matters may be informed by consideration of the local plan policy. NPS EN-1 sets out developments should also be guided by local design policies and standards. Bassetlaw District Council and Nottinghamshire County Council do not currently have any local design standards documents (Supplementary Planning Documents) which relate to large scale ground mounted solar or BESS energy developments. The Planning Statement [ENO10163/APP/7.1] sets out the detailed consideration of the important and relevant considerations arising from the local plan policies, an overview of those relating to design is provided below.
- 2.34 Policy ST33 (Design Quality) states that developments must be of a high-quality design that "has a clear function, character and identity based upon a robust understanding of local context, constraints and distinctiveness, while reflecting the principles of relevant national and local design guidance". The policy goes on to set out the ways in which new developments can achieve high quality design.
- 2.35 Policy ST35 (Landscape character) sets out that the Council will be supportive of proposals that contribute to the nature and quality of Bassetlaw's landscapes, where it can be demonstrated they protect and enhance the distinctive qualities of the relevant landscape character zone.
- 2.36 Policy ST37 (Green and blue infrastructure) covers the importance of enhancing, extending and managing the connectivity, quality, multifunctionality, biodiversity and amenity value of the green and blue infrastructure network. The policy sets out the ways in which this can be achieved, including providing for biodiversity net gain, protecting and enhancing ancient and mature woodland and hedgerows, and applying climate change mitigation and adaptation measures.
- 2.37 Policy ST38 (Biodiversity and Geodiversity) sets out that:
- "in line with national legislation, all new development should make provision for net biodiversity gain on site, or where it can be demonstrated after following the mitigation hierarchy that this is not practicable, off site provision will be considered. Management for a minimum of 30 years in accordance with a maintenance scheme will be sought to manage the biodiversity assets in the long term."*
- 2.38 Policy ST39 (Trees, woodlands and hedgerows) states that proposed developments that will adversely affect trees or hedgerows must provide a tree survey and arboriculture assessment, along with details of protective measures to be implemented to ensure the health and safety of each specimen and hedgerow to be retained, a strategy for replacement planting for those being lost and a management plan providing details of maintenance arrangements for the next 10 years.
- 2.39 Policy ST46 (Protecting Amenity) states that:
- "Proposals for development should be designed and constructed to avoid and minimise impacts on the amenity of existing and future users, individually and cumulatively, within the development and close to it". Proposals are expected to: "a) not have a significant adverse effect on the living conditions of existing and new residents and future occupiers of the proposed development through loss of privacy, excessive overshadowing or overbearing impact; and b) not generate a level of activity, noise, light, air quality, odour, vibration or other pollution which cannot be mitigated to an appropriate standard."*
- 2.40 Policy ST49 (Renewable Energy Generation) states that:
- "Development that generates, shares, transmits and/or stores zero carbon and/or low carbon renewable energy including community energy schemes will be supported subject to the satisfactory resolution of all relevant site specific and cumulative impacts upon:*
- a) location, setting and position in the wider landscape, resulting from its siting and scale;*
 - b) natural and heritage assets and their settings;*
 - c) air and water quality;*
 - d) hydrology and hydrogeology;*
 - e) the best and most versatile agricultural land;*
 - f) existing highway capacity and highway safety;*
 - g) noise, light, glare, smell, dust, emissions or flicker;*
 - h) aviation and radar; and*

i) recreation and local amenity.

Proposals must take into account operational and approved developments, as well as any proposed intensification to operational or approved proposals.”

2.41 The policy also states that:

“All renewable energy development will be expected to provide details of the expected power generation based upon expected yield or local self-consumption to enable effective monitoring of the district’s contribution to the national zero carbon targets” and that “A decommissioning programme applied by a Condition to any planning permission granted will be required to demonstrate that the site can be returned to an acceptable state, three years after cessation of operations”.

2.42 Sturton Ward covers the parishes of North and South Wheatley, North Leverton with Hablesthorpe, South Leverton, and Sturton-le-Steeple including Bole and West Burton. This therefore covers the Order limits of the DCO including its grid connection point at West Burton National Grid Substation.

2.43 The Sturton Ward Neighbourhood Plan Review (2024) sets out the requirement for development outside the defined development boundaries to be carefully controlled in accordance with national and local planning policies in Policy 1: Sustainable development, infill and the development boundary.

2.44 Policy 2a: Protecting the landscape character, significant green gaps and key views – requires development to protect the positive attributes of the open countryside and landscape character as appropriate to their scale, nature and location, and should demonstrate they have regard to the guidance in the Sturton Ward Design Code (2020).

2.45 Policy 5: Design Principles – sets out that developments should demonstrate a high design quality that will contribute positively to the character of the Ward as appropriate to their scale, nature and location. Furthermore, developments should respond to the local character, demonstrate sensitive positioning, scale and form, provide a clear rationale of response to history and design quality, use native trees and hedgerows where possible in landscaping schemes, use a sensitive colour palette, be of a scale and mass that is sympathetic to heritage assets and their setting.

2.46 The Clarbrough and Welham Parish comprises two villages whose centres are 1 mile apart. The Parish extends to 900 hectares and the western boundary runs up to the built edge of Retford. Part of the CWNP falls within part of the western extremity of the Order limits near its western boundary.

2.47 Policy 5: Reducing the Risk of Flooding – sets out the requirements in terms of ensuring development does not increase flood risk and encouraging the use of sustainable urban drainage systems and permeable surfacing.

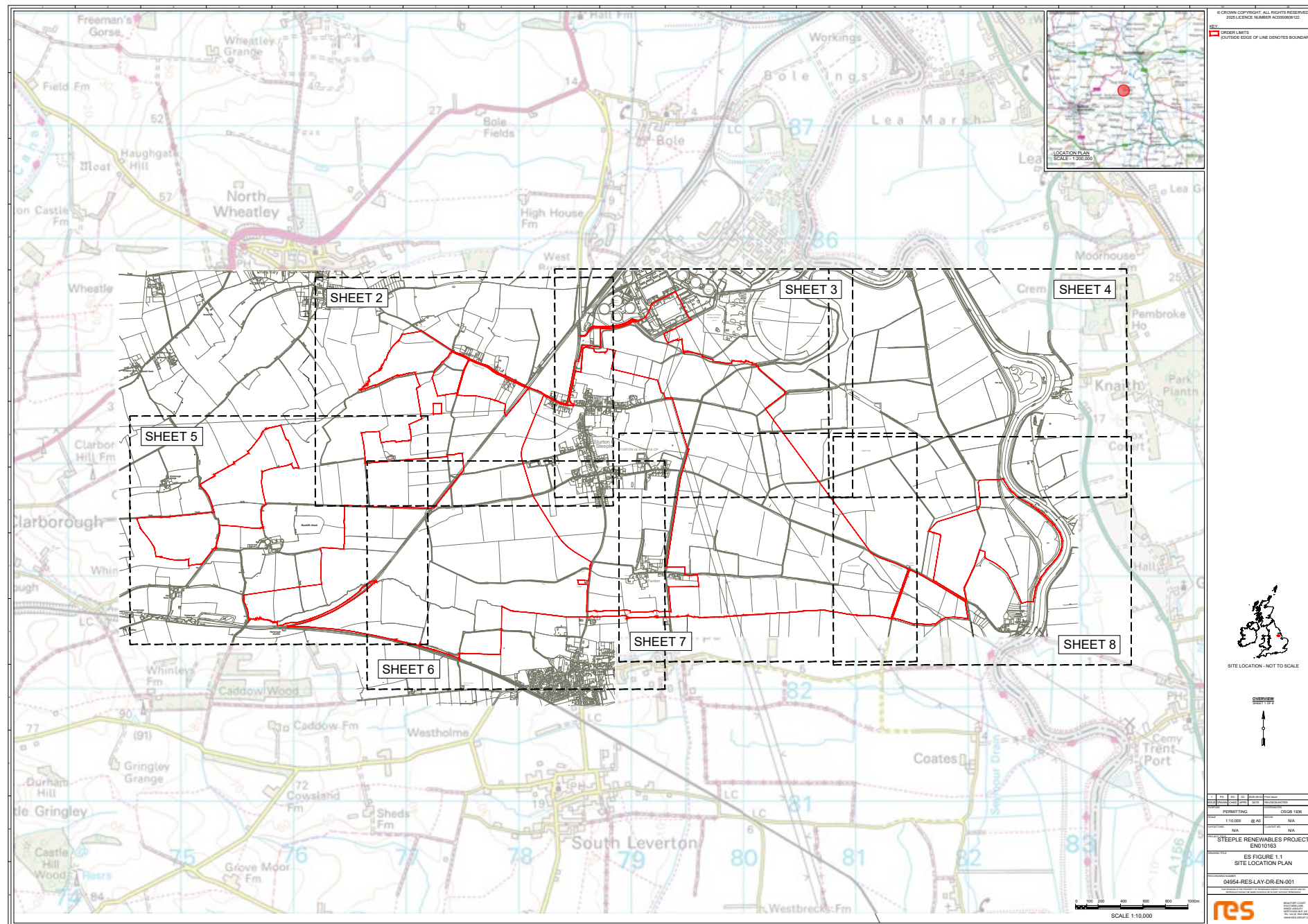
2.48 Policy 6: Improving Green Infrastructure and the Natural Environment – focuses on improving green infrastructure and the natural environment, protecting landscape character and ecological value, protecting and enhancing biodiversity and improving access to local wildlife sites. The policy requires development proposals to demonstrate how they protect and enhance existing green infrastructure assets affected by the development and show the opportunities taken to improve linkages both to existing and new green infrastructure assets and to residential areas.

Summary

2.49 The Applicant has considered the design of the Proposed Development from the outset and the following sections of this DAS demonstrate how good design has been embedded into the Proposed Development visions and principles, it has influenced the overall siting and aesthetics of the Proposed Development, and how it has been considered and will be taken forward at the detailed design stage.

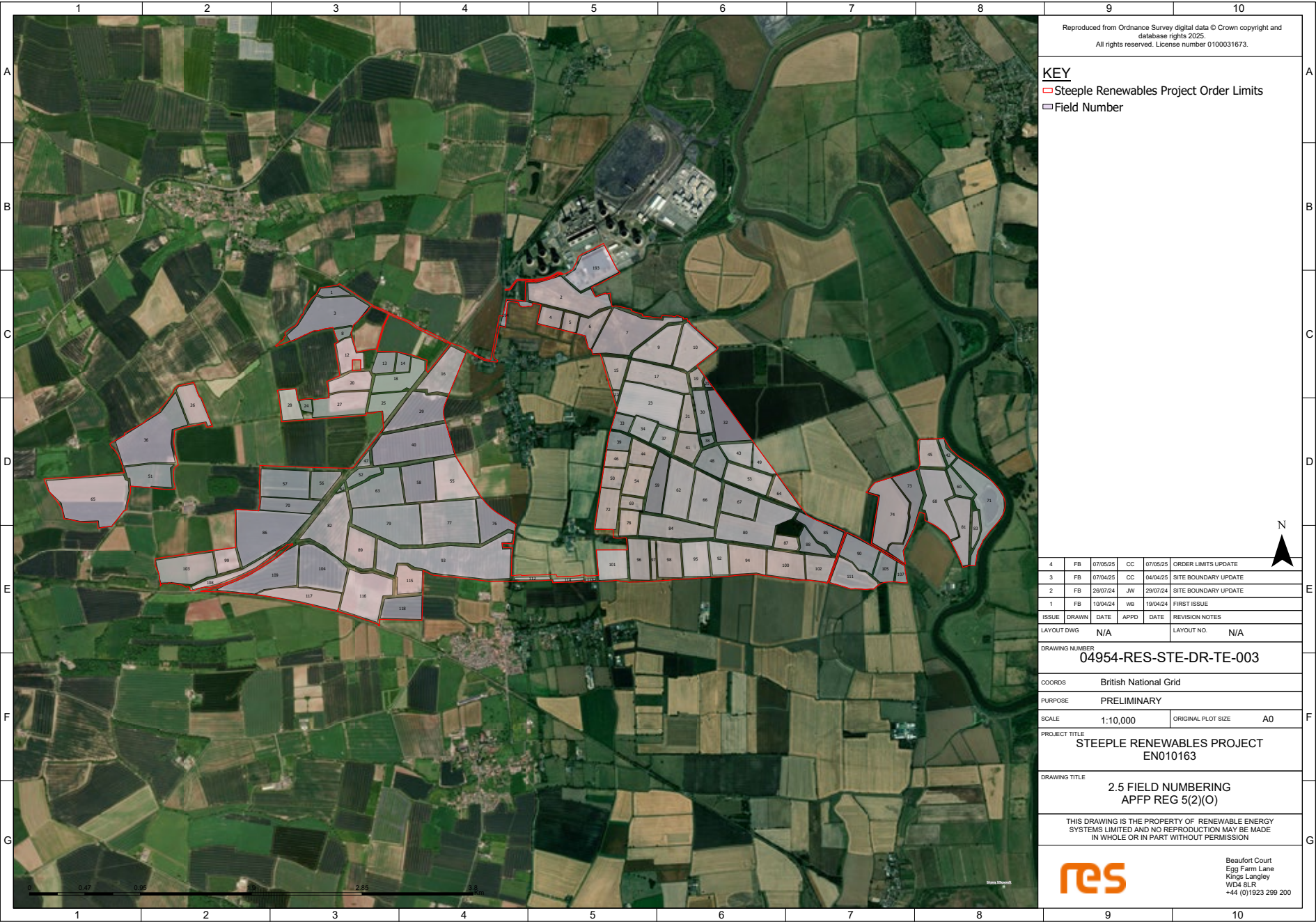
2.50 The design evolution of the Proposed Development is also explained within the DAS including how the Proposed Development has been through an iterative process and evolved as constraints and opportunities have emerged over time, through various stages of assessment work and consultation.

3 | Location, Order Limits and Site Context



Order limits

- 3.1 The Order limits, which include all of the land falling within the Site boundary, are shown on the Order limits Plan [EN010163/APP/2.4] and attached at: Figure 1 of this DAS.
- 3.2 All the land required to develop, operate (and maintain) and decommission the Proposed Development are included within the Order limits.
- 3.3 The site totals 888.31 ha in area and is located on land to the east and west of Sturton-le-Steeple wholly within Bassetlaw District in the county of Nottinghamshire. The developable area containing solar panels (467ha), associated BESS (2.9ha), substation (2.4ha), access tracks/ access points and visibility splays (8.5ha) as well as associated infrastructure such the grid connection point etc (200.67ha). The remaining area (199.9 ha) is set aside for landscape and ecological mitigation. These areas are shown on the **Layout Plan [EN010163/APP/2.6]**.



Site and Surrounding Context

- 3.4 The Site contains over 100 fields, as shown on the **Field Numbering Plan [EN010163/APP/2.5]**. The Order limits mainly include agricultural land, a small part of the existing West Burton Power Station (a prominent feature un the surrounding area) covering the area around the existing 400kV substation, and a number of local roads (sections of Wheatley Road; Station Road; Gainsborough Road, and Wood Lane in the north-western portion of the Site; and Littleborough Road, and Common Lane, in the eastern portion of the Site).
- 3.5 Agricultural land within and surrounding the Order limits is generally relatively large, regular shaped arable fields, with some dividing hedgerows and individual trees. A small rectangular area located in the north-western portion of the Site has been excluded from the Site; this area is part of a separate development which has secured consent for solar development (under planning permission reference 20/00117/FUL). Small woodland plantations are located within some of the fields. Individual properties are also located close to the boundaries of the Site and within the wider surrounding area.
- 3.6 The River Trent, a tributary of the Humber Estuary, lies adjacent to the eastern boundary of the Site. The Great Central Railway eastern main line runs through the western part of the Order limits and Great Central Railway line adjoins the southern boundary of the Order limits.
- 3.7 There are no listed buildings, Conservation Areas or Schedule Monuments within the Site. There are also no statutory or non-statutory ecological designations, ancient woodland, nationally designated landscape or landscape of local value within the Order limits of the Proposed Development.



3.8 For further information on the surrounding historic, landscape and environmental statutory and non-statutory designated sites please refer to **ES Chapter 6: Landscape and Visual Impact and Residential Amenity** [EN010163/APP/6.2.6], **ES Chapter 7: Ecology and Biodiversity** [EN010163/APP/6.2.7] and **ES Chapter 9: Cultural Heritage** [EN010163/APP/6.2.9].

Renewable Energy Constraints and Opportunities

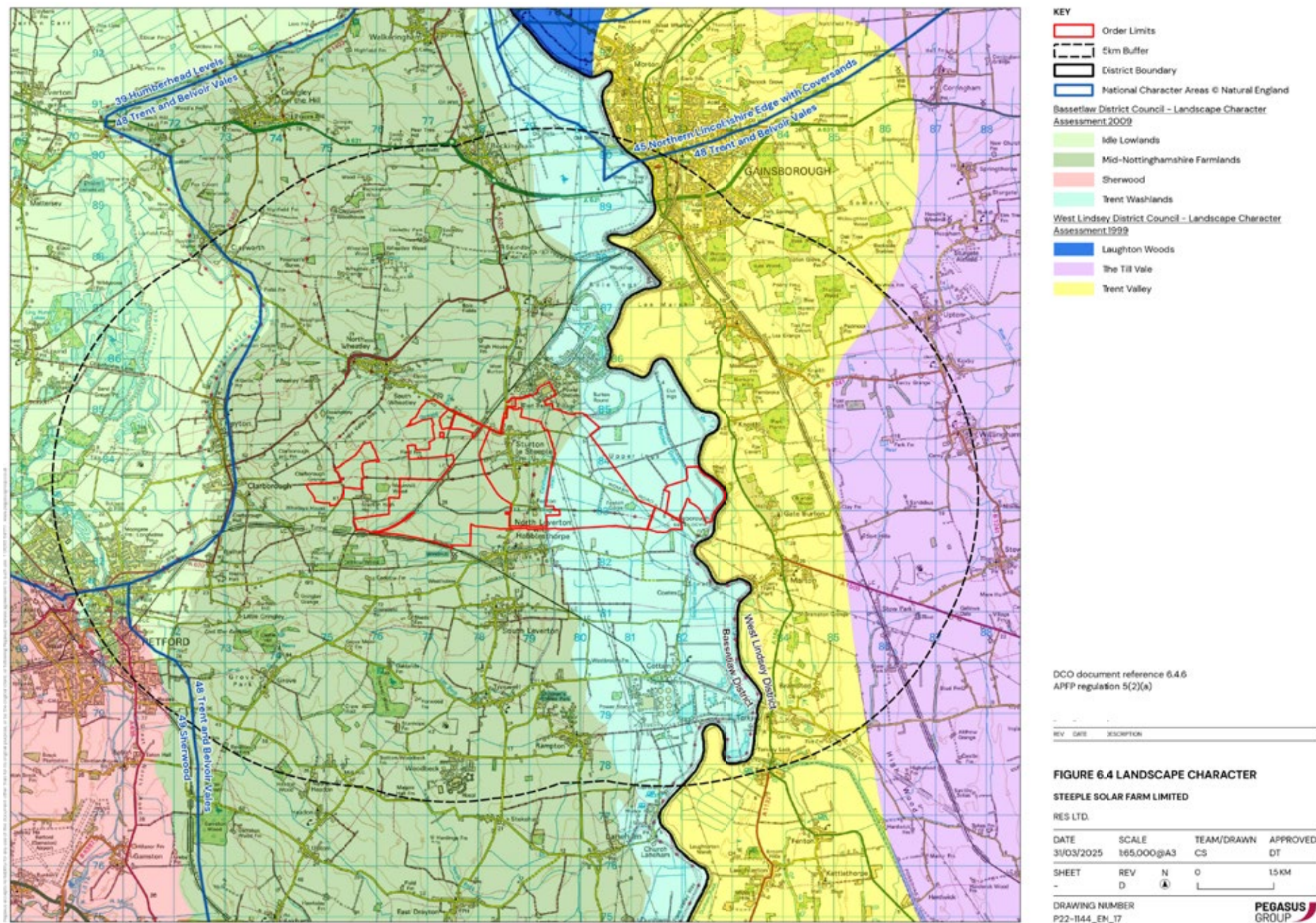
3.9 The land characteristics of the area (described below) and the Proposed Development's location are well suited for the generation of renewable solar energy due to flat or gently sloping topography predominantly (or capable of being) well screened from short- and long-range views. Good levels of solar irradiance are received by the Site allowing energy to be produced by the Proposed Development. The local highway network will enable suitable construction, maintenance and decommissioning access. A National Grid connection point with sufficient capacity is located within very 1km resulting in a short cable connection corridor.

Context Mapping

3.10 Constraints and features in the local context are illustrated in Figures 2–5 relating to the following subsections.

Landscape Character and Green Infrastructure

- 3.11 The Site lies towards the northern extent of National Character Area (NCA) 48: Trent and Belvoir Vales. The NCA is described as a 'gently undulating and low-lying landform in the main, with low ridges dividing shallow, broad river valleys, vales and flood plains'. Amongst the key characteristics of the NCA it notes that: "Immense coalfired power stations in the north exert a visual influence over a wide area, not just because of their structures but also the plumes that rise from them and the pylons and power lines that are linked to them".
- 3.12 At the district level, BDC's Landscape Character Assessment identifies the Site as lying across both the 'Mid Notts Farmlands' and 'Trent Washlands' character areas.
- 3.13 As shown by ES Figure 3.2 Topographical Survey **[ENO10163/APP/6.4.3]** the Site generally slopes from west to east, towards the River Trent. Levels along the eastern boundary are at approximately 3m Above Ordnance Datum ('AOD'), rising gradually westwards towards the village of Sturton-le-Steeple at approximately 10m AOD, then rising more steeply to high ground at approximately 75m AOD along the western boundary. A vegetated earth bund (flood defence) runs along the eastern Site boundary with a crest level of approximately 7m AOD and a height 3-4m above adjacent land.
- 3.14 A step-by-step site selection process has been undertaken that confirms the location of the Proposed Development is suitable to accommodate a large-scale solar farm. Sensitive landscape and environmental designations have been avoided in confirming site suitability as well as consideration of alternative sites confirmed within **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [ENO10163/APP/6.2.3]**.
- 3.15 Priorities that have influenced the design include:
- Residential properties with a minimum 100m off set from domestic curtilages (garden areas);
 - Key visual receptors and views identified;
 - Approximately 4.3m, 6.6m and 10m from the 11 kilovolt ("kV"), 132kV and 400kV overhead electricity transmission / distribution lines respectively;
 - Approximately 20m from aviation fuel lines and 5m from water mains pipelines. Fencing, access tracks and cabling is proposed to cross the aviation fuel line. The fencing will allow access to the fuel line at all times for the operators;
 - Approximately 10m setback distance has been applied to the wet ditches / streams / rivers and 5m setback distance has been applied to the dry ditches within the Site. These setback distances allow for the ongoing maintenance of these assets;
 - Public Right of Ways and Permissive Paths approximately 7.5m either side of the centre of the pathway to the fence line, and a further 3m to any infrastructure;
 - Approximately 5m set back distance to railway lines;
 - Approximately 15m set back distance to trees and woodland and 5m to hedgerows; and
 - Minimum 5m from any perimeter fencing to allow for operational maintenance.
- 3.16 New supplementary planting and management of existing hedges will improve visual screening and ecological value where existing hedgerows and field-edge tree belts within the Order limits are fragmented. Additional benefits include diversifying age, plant species and inclusion of native species.
- 3.17 Due to the scale of the Proposed Development, several valuable landscape features, such as woodland blocks and watercourses, are within, bordered by, or encircled by the Order limits. Through the design of the Proposed Development, care has been taken to avoid and reduce effects on such elements through adherence to minimum offsets and provide enhancement where possible. Offsets have been determined through baseline ecological and landscape assessments secured through the **Works Plans [ENO10163/APP/2.2], Outline Design Principles (ES Appendix 4.5) [ESO10163/APP/6.3.4]** and **Outline Landscape and Environmental Management Plan (ES Appendix 7.14) [ENO10163/APP/6.3.7]**. Character area maps are shown at Figures 2 and 3.



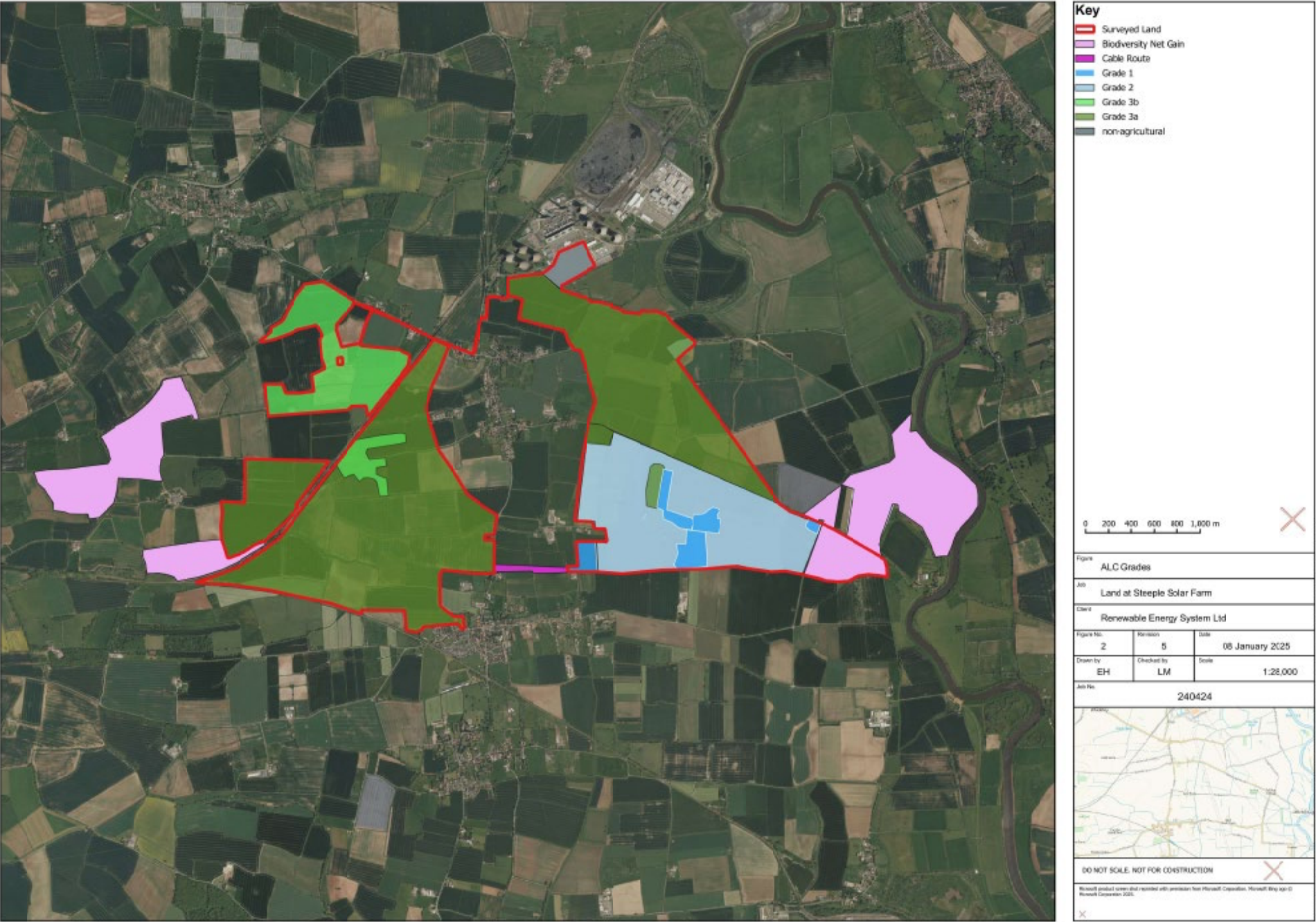
Agricultural Land

3.18 Paragraph 5.11.12 of NPS EN-1 advises applicants should seek to minimise impacts on best and most versatile ('BMV') agricultural land (land in Grades 1, 2 and 3a of the agricultural land classification ('ALC')) and preferably use land in areas of poorer agricultural quality (land in Grades 3b, 4 and 5) or brownfield land. Grade 1 ALC land is the highest rated as 'Excellent' and Grade 5 the lowest rated as 'Very Poor'. Applicants should seek to minimise impacts on soil quality, taking account of any mitigation measures proposed.

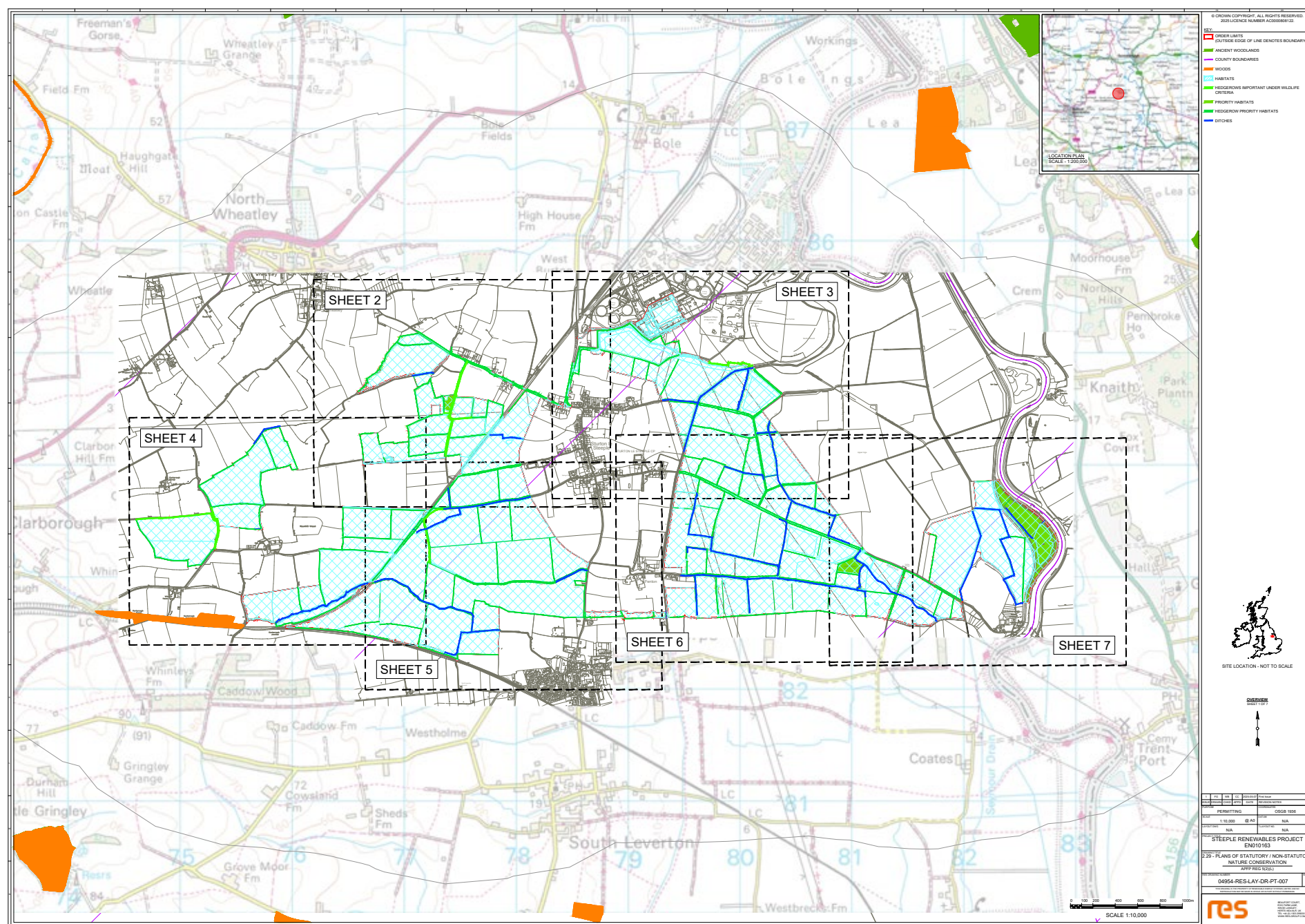
3.19 **ES Chapter 15: Land Use and Agriculture [EN010163/APP/6.2.15]** confirms the ALC grades of the Site are as follows:

- Grade 1 – 6.3%;
- Grade 2 – 17.3%;
- Grade 3a – 48.5%;
- Grade 3b – 9.2; and
- 18.7% not surveyed due to fact this part of the Order limits would be used for ecological enhancement.

3.20 Thus, approximately 72.1% of the land within the Order limits is BMV agricultural land. These areas are identified in Figure 3. Potential impacts of the Proposed Development on the land are reviewed in detail within ES Chapter 15: Land Use and Agriculture [EN010163/APP/6.2.15], which concludes no significant impacts are likely.

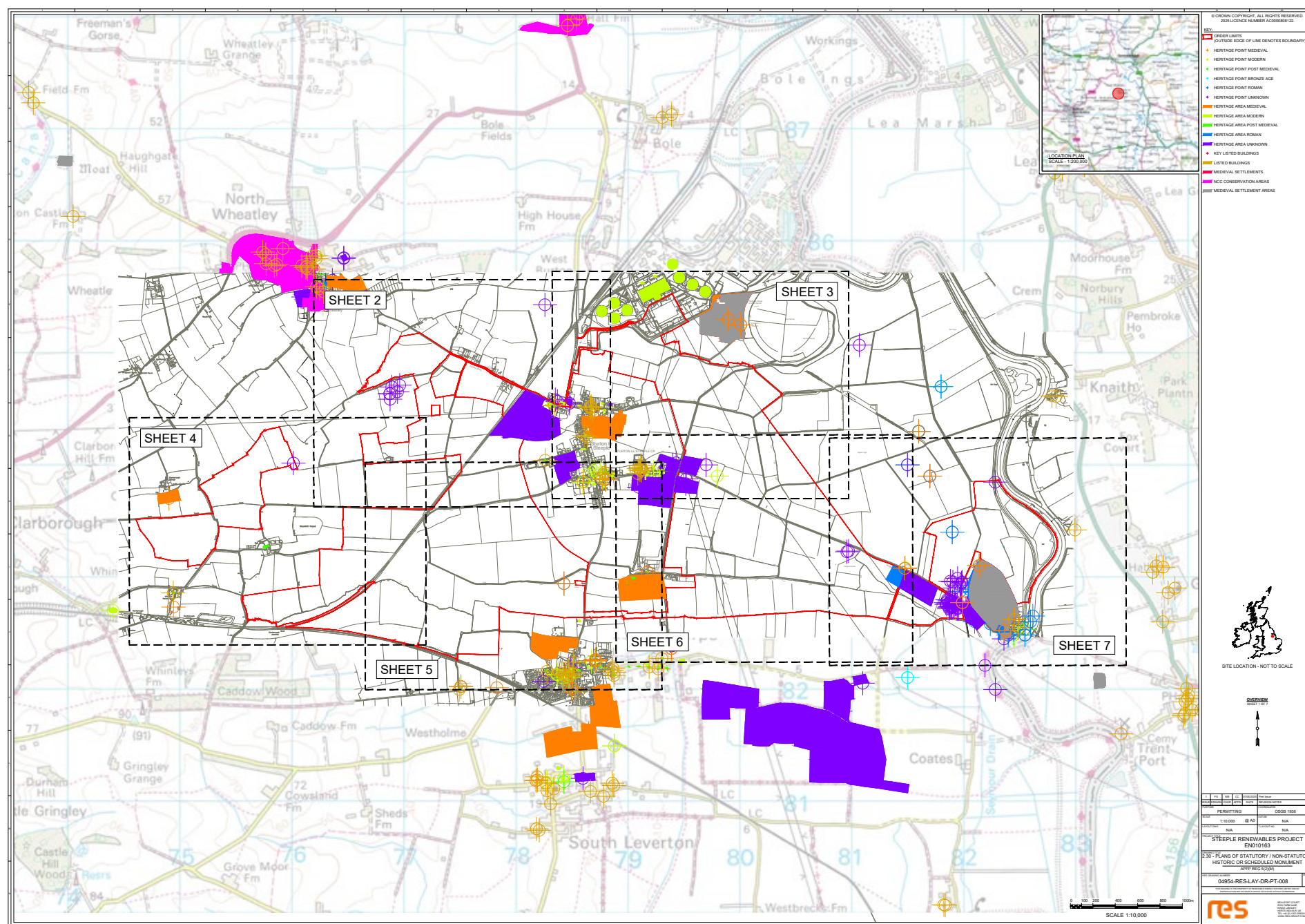


3.21 The Proposed Development has avoided large areas of highest quality (grades 1 and 2 amounting to 23.6%), as priority in the design of the Proposed Development. Whilst BMV land is used this was not certain until soil analysis was undertaken in particular to distinguish between 3a and 3b (67.2% of the site), which is not shown on Natural England's publicly available Regional Agricultural Land Classification Maps. Furthermore, arable land within the Order limits would only temporarily be removed from arable production if the DCO is granted and will in effect have a dual use serving as grazing land for livestock such as sheep thus retaining an element of agricultural use. After decommissioning the land will be returned to the landowner and made available for agricultural use.



Ecology and Biodiversity

- 3.22 10% Biodiversity Net Gain ('BNG') will be secured through the implementation of onsite habitat enhancement.
- 3.23 Areas of known ecological value, or are of local, national, or international ecological designation are identified in Figure 4.
- 3.24 The following opportunities and priorities have influenced the design of the Proposed Development include:
- Avoidance of national ecological designations;
 - Proximity to local designations and sensitive receptors – minimum 20m offset designated area;
 - Proximity to major watercourses – minimum 20m offset;
 - Proximity to minor watercourses and ditches – minimum 8m offset;
 - Proximity to badger setts – minimum 30m offset;
 - Proximity to Great Crest Newts – minimum 50m offset;
 - Proximity to trees with low, medium or high bat roost potential – minimum 8m, 12m, 20m offset; and
 - Proximity to ancient and veteran trees 15m as well as root protection area for all other trees.



Cultural Heritage

- 3.25 Details of the heritage assets in the study area are presented and assessed in full in **ES Chapter 9: Cultural Heritage [ENO10163/APP/6.2.9]**.
- 3.26 Several designated and non-designated built heritage assets are located within the site or within the study area of the solar array Sites. These cultural heritage assets are identified in Figure 5.
- 3.27 No designated heritage assets lie within the Order limits. Nevertheless, the 3km study area, as set out in the **ES Chapter 9: Cultural Heritage [ENO10163/APP/6.2.9]** contains 6no. Scheduled Monuments, 9no. Grade I Listed Buildings, 8no. Grade II* Listed Buildings and 123no. Grade II Listed Buildings, and 2no. Conservation Areas. There are no Registered Parks and Gardens, Registered Battlefields or World Heritage Sites located within the 3km study area.
- 3.28 The following priorities were identified to be taken forward through the design process:
- Avoidance of national cultural heritage designations;
 - Areas of significant archaeology to be avoided;
 - Areas of moderate archaeology to be limited to restricted loading and non-penetrative foundations; and
 - Context of cultural heritage assets to be considered.

3.29 ES Chapter 9: Cultural Heritage [ENO10163/APP/6.2.9] addresses archaeological assessment and discusses the embedded mitigation measures that have been identified and adopted as part of the evolution of the project design at Section 9.7. This includes moving panels away from especially sensitive heritage receptors and creating more substantial buffer zones and avoiding areas identified as having the greatest potential for significant archaeological remains. Landscaping proposals also represent embedded mitigation, as these will provide screening and manage and enhance existing hedgerows, add new native trees to existing hedgerows, and introduce new, native hedge/tree lines reflective of local landscape pattern.

Hydrology

- 3.30 The western half of the Proposed Development is at low-risk of flooding (Flood Zone 1). However, most of the eastern half is within medium and high-risk Flood Zones 2 and 3.
- 3.31 The latest EA published Flood Zone map shows that the western c.50% of the Site lies within Flood Zone 1, c.5% of the Site lies within Flood Zone 2, and c.45% of the Site (the eastern part of the site) falls within Flood Zone 3. The flood risk in this area is primarily fluvial but there is a degree of tidal influence on the River Trent. Flood defences are present along the River Trent.
- 3.32 Areas of known fluvial or pluvial flooding are identified in the Flood Risk Assessment and Drainage Strategies at **ES Appendices 8.1–8.3 [ENO10163/APP/6.3.8]**.
- 3.33 These assessments have been prepared for the Site to assess the flood risk from all sources before and after development. The impacts of the Proposed Development are assessed in ES Chapter 8: Hydrogeology, Flood Risk and Drainage [ENO10163/ APP/6.2.8].

- 3.34 The following design priorities were identified:
- Avoidance of flood storage areas; and
 - Avoidance of areas of surface water flooding greater than 1m depth.
- 3.35 The design of the Proposed Development seeks to avoid the construction of vulnerable infrastructure in areas at risk of flooding. Less vulnerable infrastructure will be designed to ensure it can be resilient to flooding, and that its placement in areas of flood risk does not increase the risk of flooding elsewhere.
- 3.36 An opportunity for enhancement has been identified through the design and installation of 2no. SuDS basins solely for the retention of runoff derived up-gradient of the Site, with the aim of alleviating the reported flooding issues within Sturton-le-Steeple. This is not a policy requirement and is not required to mitigate the effects of the Proposed Development. Instead, an opportunity has been identified to set aside part of the Proposed Development's area to attenuate surface water flows that pass over the Site in an attempt to alleviate flooding off-site within Sturton-le-Steeple. The 2no. SuDS basins are additional to and separate from the SuDS measures that are required for incorporation into the Proposed Development to manage runoff and ensure no increase in runoff from the Proposed Development. Further details of these retention basins are provided in **ES Appendix 8.2 Surface Water Drainage Strategy [ENO10163/APP/6.3.8]**.

Access and Movement

- 3.37 Given the scale of the development, multiple access points will be required during the construction phase. The local highway network has been assessed as being suitable for traffic associated with the Proposed Development at all phases.

- 3.38 ES Chapter 13: Transport and Access [ENO10163/ APP/6.2.13]** details the accesses required to construct and maintain the Proposed Development.
- 3.39 The Public Rights of Way that will be impacted by the Proposed Development are identified within **table 13.7 of ES Chapter 13: Transport and Access [ENO10163/ APP/6.2.13]**. The Proposed Development has been designed so that it does not cause a permanent diversion or closure of a PRow or make it so that the PRow is unsuitable or undesirable for use.
- 3.40 Where feasible, the design of the Proposed Development considers where additional accessibility, such as 2no. permissive paths or links between PRow can be introduced to perform a level of community benefit or to enhance the walking and cycling network in the locality.

4 | Design Vision and Objectives

Vision

- 4.1 The Applicant's vision for the Proposed Development is to make a significant contribution to the production of renewable energy that will assist in tackling the climate emergency, help the UK Government meet its target for net zero emissions by 2050 and reduce UK's reliance on foreign energy supplies. Potential impacts on the surrounding environment have been carefully considered and where possible mitigated. For example, the Proposed Development has taken full account of site baseline analysis and assessed potential impacts whilst delivering an urgently needed contribution to the UK's energy system should consent for the DCO be granted. This will assist the UK in achieving legally binding renewable energy targets and policy objectives.
- 4.2 The Applicant's vision is underpinned by eight key Design Objectives that have acted as a set of decision-making reference points and informed the DCO application up to submission. These objectives, set out below, align with design principles published by NIC 1) Climate (mitigate greenhouse gas emissions and adapt to climate change), 2) People (reflect what society wants and share benefits widely) and 3) Places (provide a sense of identity and improve our environment).
- 4.3 NIC Design Principle 4 Value (achieve multiple benefits and solve problems well) is not explicitly addressed through a single Design Objective for the Proposed Development. However, its aim of achieving multiple benefits and solving problems generally underpins the Vision and Objectives of the Proposed Development more broadly and is an overarching project aim.

Objectives

Objective 1) Delivery of significant amounts of affordable renewable energy to support policy objectives and national targets for reducing carbon emissions to net zero by 2050.

- 4.4 The Proposed Development has been designed to have a capacity of over 50MW with the Proposed Development having a total expected capacity of 450MW of renewable solar energy generation and 150MW of associated energy storage for a maximum of 40 years. This will replace approximately 20% of the former generation capacity of the coal powered West Burton A Power Station.
- 4.5 In terms of carbon emission removal, the Proposed Development equates to saving 3.12 million tonnes of carbon emissions to the atmosphere as calculated in **ES Chapter 12: Climate Change [EN010163/APP/6.2.12]**. This carbon reduction supports policy objectives and national targets to each net zero by 2050, NPS EN-1, NPS EN-3 and NP2-EN-5 as well as NPPF.
- 4.6 The generation of a substantial renewable energy capacity connected to the National Electricity Transmission System positively contributes to the UK's delivery of net zero by 2050.
- 4.7 This Objective relates to NIC Design Principle 1: Climate. Objective 2) Delivery of improved energy resilience by diversifying energy production and facilitating stored energy.
- 4.8 Electricity generation through solar generation reduces the need for fossil-fuel based energy production and therefore improves national energy resilience and security by creating a resilient supply of energy helping fulfil domestic energy demand less sensitive to price volatility. Solar energy production is independent of, and not influenced by, international energy market pricing and or supply fluctuations often affected by world events.
- 4.9 The inclusion of BESS into the design of the Proposed Development will enable energy produced on site to be stored on site or surplus from the national grid released back to the grid at peak demand times or

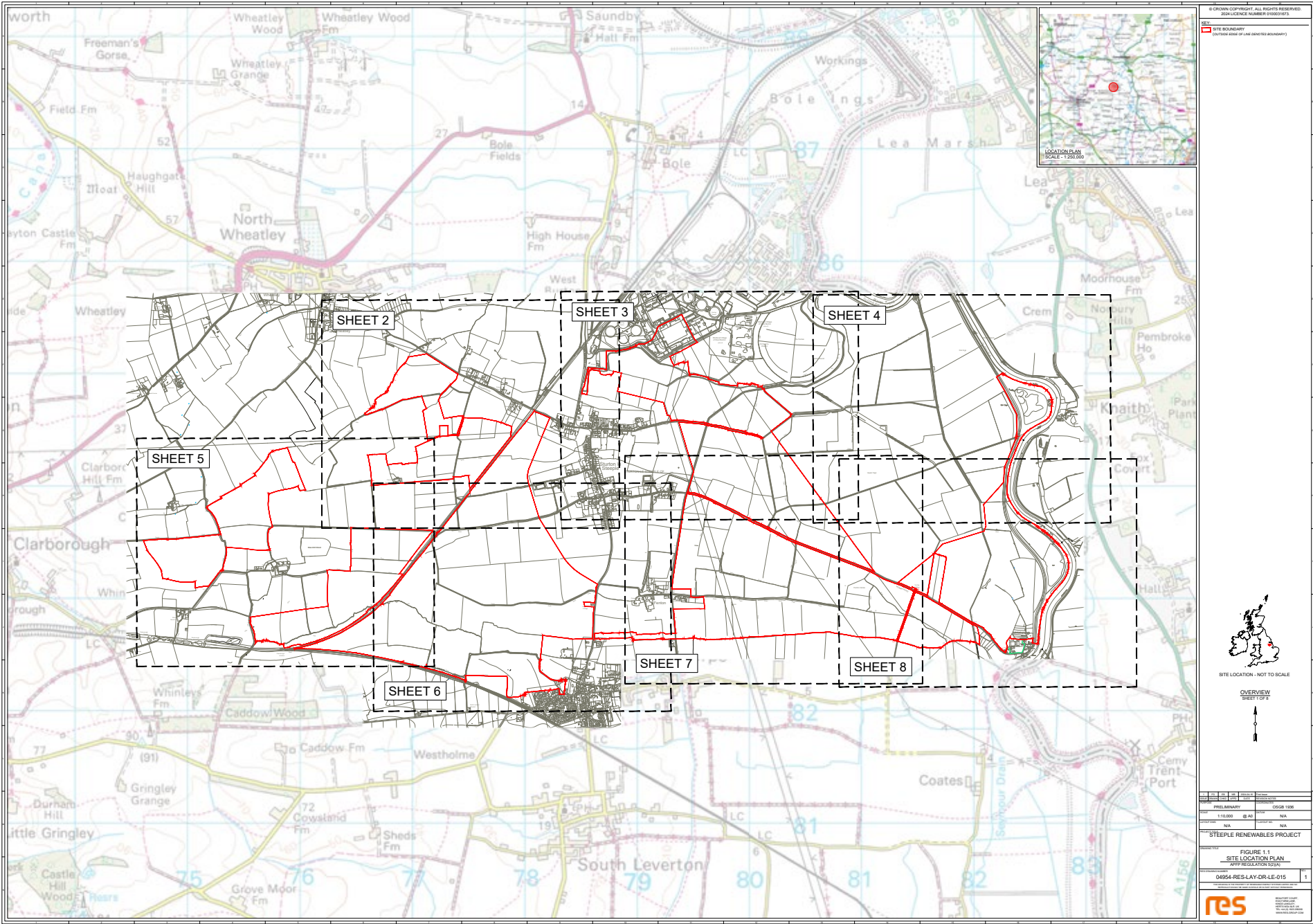
energy deficit. This also enables predict needs of the energy market to be met and provides opportunity to respond to advancements in solar panel and BESS technology. This supports policy objectives for delivery of renewable energy by reducing demand for non-renewable energy at peak times, producing grid balancing services and increase in the resilience of electricity distribution network.

- 4.10 Objective 2 relates to NIC Design Principle 1: Climate. **Objective 3) Contribution towards strategy improvements to local ecology and biodiversity.**
- 4.11 The Proposed Development should seek opportunities to enhance biodiversity through the protection and enhancement of existing green infrastructure as well as the creation of new habitat.
- 4.12 The design and landscape strategy for the Proposed Development has been informed by the assessment of potential significant effects on ecological and ornithological features, including species specific surveys and assessments presented in **ES Chapter 7: Ecology and Biodiversity [EN010163/APP/6.2.7]**.
- 4.13 Most of the Proposed Development consists of low biodiversity agricultural land as well as fragmented areas of good quality ecological habitats. Through design, areas of ecological significance with green infrastructure interventions will be supported, enhanced and linked by the Proposed Development. New planting will increase local biodiversity. BNG will also be delivered as set out in **ES Chapter 7: Ecology and Biodiversity [EN010163/APP/6.2.7]**. High value linear habitats such as hedgerows, ditches, watercourses and woodland will be retained and enhanced through significant planting of new hedgerows and trees. Additionally, sensitive and higher value ecological features outside the Site have been protected within the design through adoption of

	generous ecological buffer zones that along with other safeguard measures and large scale reversion of arable land to grassland will be sympathetically managed to maximise biodiversity value as outlined in ES Appendix 7.14 Outline Landscape and Ecological Management Plan (OLEMP) [EN010163/APP/6.3.7] .		planting and landscape improvements as set out within ES Appendix 7.14 outline Landscape and Ecological Management Plan (OLEMP) [EN010163/APP/6.3.7] .		heritage assets have been avoided by the Proposed Development's design, preserving the setting of heritage assets within and surrounding the Order limits. A number of measures will ensure the impact on heritage assets are avoided as set out in ES Appendix 4.1 outline Construction Environmental Management Plan [EN010163/APP/6.3.4] .
4.14	Extensive embedded habitat creation to diversify and strengthen biodiversity interest of the Proposed Development and neighbouring areas also forms part of the Landscape Strategy. ES Chapter 7: Ecology and Biodiversity [EN010163/APP/6.2.7] and ES Appendix 7.14 outline Landscape and Ecological Management Plan (OLEMP) [EN010163/APP/6.3.7] set out how the landscape strategy translates into the establishment and management of various vegetation and habitat types in addition to features of the Site.	4.19	Measures provided in the OLEMP include planning improvements and management; woodland and shelterbelt planting and management; scattered trees with native shrub planning and management; buffer areas including flower rich strips and successor scrub beneath panels; and bird mitigation habitats including wetland and set aside.	4.25	Measures include provision for archaeological mitigation are detailed in ES Appendix 9.4 outline Written Scheme of Investigation for Pre-Determination Trial Trenching [EN010163/APP/6.3.9] and ES Appendix 9.5 outline Written Scheme of Investigation for Post-Determination Archaeological Works [EN010163/APP/6.3.9] ; use of concrete feet in areas as required to be laid out by a surveyor in accordance with the requirements of the WSI; archaeological works to be undertaken by qualified and experienced archaeological specialist; archaeological work undertaken in line with national guidance; and archaeological project management or Heritage Team monitor completion of works in accordance with the WSI.
4.15	Objective 3 relates to NIC Design Principle 1–3: Climate, People and Place. Objective 4) Develop a Proposed Development sensitive to surrounding landscape, limiting impact on views for key landscape receptors, residential properties and recreational routes.	4.20	ES Chapter 11: Noise and Vibrations [EN010163/APP/6.2.11] describes how the Proposed Development has been designed to ensure noise remains low during all phases of development. Best Practice Means ('BMP') are proposed to be used during construction and decommissioning as detailed within ES Appendix 4.1 Outline Construction Environmental Management Plan (OCEMP) [EN010163/APP/6.3.4] and ES Appendix 4.2 Outline Decommissioning Plan (ODP) [EN010163/APP/6.3.4] . No mitigation beyond implementation of construction and decommission BPM is required.	4.26	Objective 5 relates to NIC Design Objectives 2 and 3: People and Place. Objective 6) Safeguard surrounding hydrological systems and improve resilience to flooding without increasing flood risk elsewhere taking into account impacts of climate change.
4.16	The Proposed Development sensitively integrates into the landscape setting as well as avoids and minimises adverse landscape and visual effects where possible.	4.21	A Statutory Nuisance Statement [EN010163/APP/5.4] has also been prepared, which concludes the Proposed Development will not give rise to any statutory nuisance through its design.	4.27	The Proposed Development should be resilient to flooding now and in the future, without increasing flood risk elsewhere and without contamination of the water environment.
4.17	A Landscape and Visual Impact Assessment, as present in ES Chapter 6: Landscape and Visual Impact and Residential Amenity [EN010163/APP/6.2.6] , has informed the design of the Proposed Development and demonstrates how the landscape strategy and design of the Proposed Development has been prepared to mitigate impacts on the surrounding context.	4.22	Objective 4 primarily relates to NIC Design Principle 2 and 3: People and Place. Objective 5) Develop a Proposed Development sensitive to heritage assets and settings	4.28	As set out in ES Chapter 8: Hydrology, Hydrogeology, Flood Risk and Drainage [EN010163/APP/6.2.8] the Proposed Development has been designed to be safe without increasing flood risk elsewhere. Design mitigation measures include an appropriate sequential
4.18	The scale and siting of the Proposed Development can be accommodated into the local landscape due to its design and mitigations measures against direct impacts by enhancing existing landscape features through	4.23	The design of the Proposed Development has evolved to reduce potential effects upon heritage assets as set out in ES Chapter 9: Cultural Heritage [EN010163/APP/6.2.9]. For example, Segelocum Scheduled Monument, remains of a roman town have been removed from the Order limits.		
		4.24	Direct impacts on above and below ground		

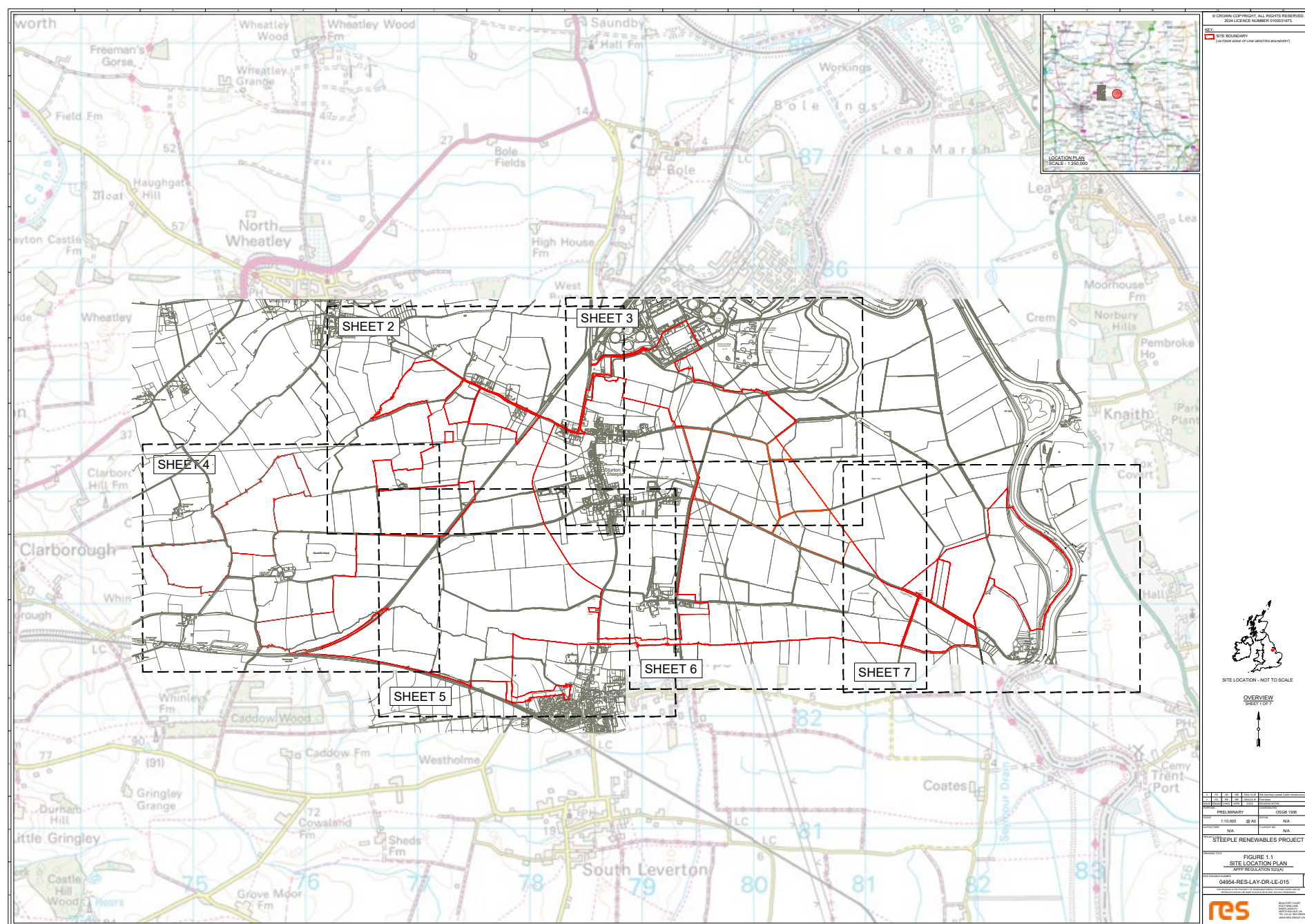
- design of the site to ensure onsite infrastructure avoids, as far as possible, areas of elevated flood risk and incorporates flood resilient and resistance measures so that equipment can remain operational during times of elevated flood risk. This includes integration of earth bunds to protect the on-site substation and BESS, whilst solar panels and inverters are located above the design flood level.
- 4.29 Pollution prevention measures are included in the Proposed Development's design such as containment of firewater at the BESS compound and construction compounds with designated refuelling areas. Surface water drainage details include SuDSs that include attenuation basins, permeable surfacing, gravel filled trenches, and filter drains.
- 4.30 Two large detention basins have been strategically placed within the Proposed Development on land to the west (up-gradient) of Sturton-le-Steeple. Their locations and sizes have been carefully designed to intercept overland flows generated up-gradient of the site, with water held in the basins before being released at a controlled rate to the existing drainage ditches after the peak of the rainfall event. The two basins combined would provide an attenuation capacity of approximately 4300m³ to potentially address the flooding issue reported by the local residents.
- 4.31 In the highly unlikely event of a fire, **ES Appendix 4.3 Outline Fire Risk Management Plan (OFRMP) [ENO10163/APP/4.3]** describes the drainage strategy for the BESS compound to ensure any potential contaminants in firewater can be contained and will not contribute to the wider water environment through a bund around the BESS area and attenuation basins designed to capture runoff from the BESS (and substation) areas, with water released to local drainage ditches at a controlled greenfield rate, with the ability to shut off the outlet for the BESS in the event of a fire or other pollution incident. The attenuation basins in the BESS and substation areas will be lined to prevent infiltration.
- 4.32 The Proposed Development will improve resilience to climate change and changes to hydrological systems will not be exacerbated by the Proposed Development. Mitigation measures have been built into the Proposals design with regards to flood risk and drainage
- 4.33 Objective 6 relates to NIC Design Objectives 1-3: Climate, People and Place.
Objective 7) Develop a Proposed Development sensitive to existing land quality
- 4.34 Where the use of BMV agricultural land cannot be avoided, disturbance has been minimised through local structures which require creation of hardstanding away from this land and through 'no dig' solutions.
- 4.35 ES Chapter 15: Land Use and Agriculture [ENO10163/APP/6.2.15] has had regard to agricultural land quality and identified the grade of land within the Order limits. **ES Appendix 15.1 Agricultural Land Classification Report [ENO10163/APP/6.3.15]** provides more detail of the land classification within the Order limits and **ES Appendix 15.2 Outline Soli Management Plan [ENO10163/APP/6.3.15]** details how soil within the Order limits will be managed for the lifetime of the Proposed Development.
- 4.36 Approximately 72.1% of the land within the Order limits forms BMV agricultural land. The Applicant has sought to minimise impacts on BMV agricultural land through layout design of the Proposed Development by siting hardstanding on lower grade land where possible.
- 4.37 At the start of construction arable management of land within the Order limits will cease for a temporary reversible time limit.
- 4.38 During operation, grass below and between the panels will need to be managed such as through grazing by livestock where appropriate.
- 4.39 Upon decommissioning above ground physical infrastructure will be removed, the Site reinstated to its current state and BMV grade and returned to the landowners.
- 4.40 4.40 Objective 7 relates to NIC Design Objectives 1-3: Climate, People and Place.
Objective 8) Provide safe access, minimise impact on the local highway network; and protect and enhance existing Public Rights of Way ensuring continued safe use
- 4.41 ES Chapter 13: Transport and Access [ENO10163/APP/6.2.13] and **ES Appendix 13.1 Transport Assessment [ENO10163/APP/6.3.13]** describe how the construction traffic route has been chosen to utilise the most appropriate roads available, avoid designated or protected areas, height and weight restrictions as well as residential areas.
- 4.42 A total of 26 access points will be used for the construction phase with details provided in **ES Chapter 13: Transport and Access [ENO10163/APP/6.2.13]**. 2no. will serve primary construction compounds and 3no. will serve secondary construction compounds. The remaining 21no. access points will serve the dedicated haul routes. 5no. construction access will be used during operation. Traffic during the decommissioning phase is currently proposed to egress the site using the inverse of the construction route(s), but this will be agreed in advance of the decommissioning phase in accordance with the DCO Requirements.
- 4.43 PRoWs will be safeguarded by the Proposed Development's design by preventing unnecessary diversion or closures, ensuring they are protected, integrated into the Proposed Development, enhanced by planting and greater connectivity by 2no. permissive paths. The safety of the public highways will also be protected ensuring desirability of all users. Public Rights of Way will be managed during construction through **ES Appendix 4.1 Outline Construction Environmental Management plan (OCEMP) [ENO10163/APP/6.3.4]**.
- 4.44 Objective 8 relates to NIC Design Objectives 2 and 3: People and Place.

5 | Design Evolution



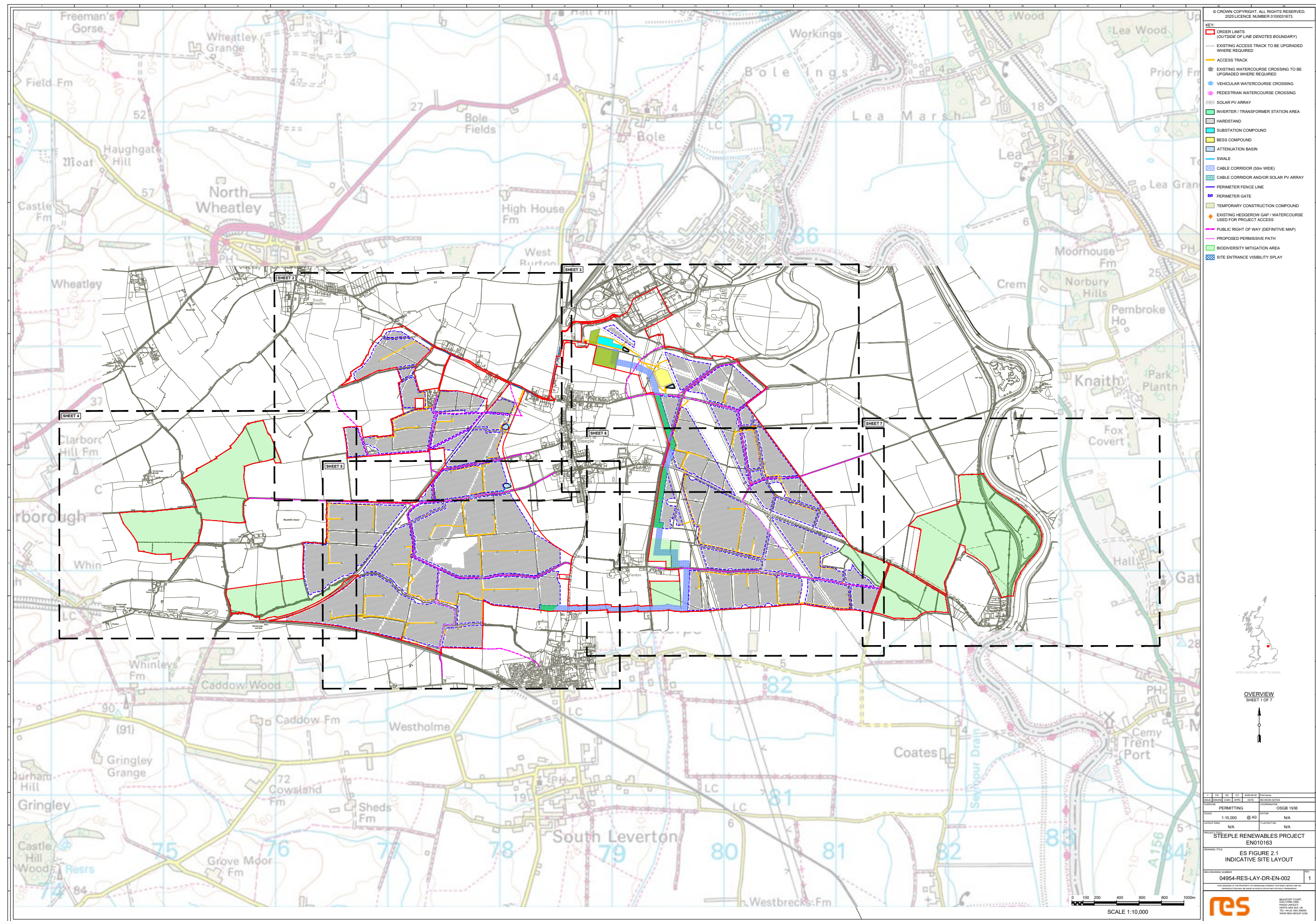
Introduction

- 5.1 Design evolution of the Proposed Development has been through an iterative process involving the Applicant, design and environmental consultation team informed by considered feedback from stakeholders, statutory consultees, host authorities, local communities, residents and through the EIA process following various forms of consultation including EIA scoping, Non-Statutory and Statutory Consultation process.
- 5.2 3.42 A summary of the Proposed Development’s design evolution is provided below, and the detail is set out in **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [EN010163/APP/6.2.3]**. Also see Figures 6–8.
- Stage 1 – Non-Statutory Consultation (23 October and 6 December 2023)**
- 5.3 The identification and consideration of site constraints were considered as part of the early feasibility work in 2022 and 2023.
- 5.4 Following a grid offer by National Grid at the National Grid West Burton Power Station, primary site selection was undertaken by the Applicant. The site was selected by the Applicant based on a suitable point of connection, accessibility, and avoiding known specific landscape, heritage and ecological designations. The proposal at this stage was initially developed through Applicant and landowner parameters, desk-based assessment work for outline objectives and areas required primarily for investigation



Stage 2 – EIA Scoping (19 April to 02 June 2024)

- 5.5 The first formal stage of engagement with statutory bodies occurred at the EIA Scoping stage of the Proposed Development involving publication of the outline design presented alongside desk-based and initial field assessments. See Figure 6.
- 5.6 To help the project team predict likely significant effects as part of the EIA, a maximum capacity layout was produced. Their initial findings were presented to the Planning Inspectorate and statutory bodies for comment on the scope of assessment.
- 5.7 The substation and BESS were positioned near the grid connection point due to the fact the West Burton Substation adjoined the site. A significant area of land was dismissed due to potential residential amenity impacts from the Substation and BESS, and three main areas were chosen for siting the substation and BESS to the southwest, southeast as well as within West Burton Power Station adjacent to the point of connection.



Stage 4 – Submission Layout (May 2025)

5.9 Stage 4, the final design stage, took account of feedback received during statutory consultation from members of the public, statutory consultees and the landowner. It also acted on opportunities to mitigate impacts on residential amenity and heritage assets and to enhance the hydrology, landscape, and ecology of the Site, which has cumulated in the site layout masterplan submitted as part of the DCO application.

5.10 In summary, design developments from statutory consultation to DCO submission are as follows:

- Amendments to proposed site entrance points off public highway:
 - ◊ Micro-siting of existing entrance points;
 - ◊ Removal of entrance points from:
 - » Thornhill Lane to project southeast; and
 - » Off Main Street to project southwest.
- Design of site entrances from / across public rights of way within site; designed to minimise traffic exposure to rights of way.
- Amendments to site boundary:
 - ◊ Removal of reserve site access corridor to south of western parcel; and
 - ◊ Removal of 2no triangular areas of biodiversity mitigation land within east of eastern parcel.
- Design and siting of project substation within field adjacent to West Burton Power Station.
- Design and siting of BESS facility within a northern field of eastern parcel.
- Design of panels including reduced top panel height from 3.6 to 3 metres, reduced maximum tilt angle to 26 degrees and associated development within proposed PEIR stage parameters.

- Removal of panels and inverters from central corridor through eastern parcel, to accommodate existing / proposed utilities and provide permissive path.
- Removal of panels and inverters from corridor between 2no existing 400kV OHLs that cross the west of the eastern parcel.
- Removal of all infrastructure from area within western parcel, and smaller area within eastern parcel, to protect potential archaeologically significant assets as indicated by geophysical survey.
- Removal of all panels and inverters from within:
 - ◊ 20m of jet fuel pipeline;
 - ◊ 6m of water main;
 - ◊ 5m of foul sewers / rising mains;
 - ◊ Electrical OHLs:
 - » 5m of <132kV OHL;
 - » 10m of ≥132kV OHL; and
 - » Inverters and HV electrical components within 20m of all electrical OHLs.
 - ◊ Watercourses:
 - » 9m of IDB owned watercourses; and
 - » 5m of other watercourses.
 - ◊ 10m of public rights of way.
- Removal of infrastructure from 40–55m corridor along east of western parcel to reduce visual impact of development upon edge of settlement.
- Design of rainwater attenuation basins:
 - ◊ 2no serving project substation and BESS due to associated hardstanding areas; and
 - ◊ 2no within east of western parcel to reduce existing flooding within Sturton-le-Steeple village.

- Design of other drainage infrastructure serving all development areas.
- Addition of permissive paths connecting PRow off Mill Lane south of western parcel, to PRow on Dog Holes Lane across centre of western parcel.
- Amendments to construction compound locations:
 - ◊ Micro-siting of existing proposed compounds; and
 - ◊ Addition of compound area adjacent to south of substation.

6 | The DCO Design Approach, Masterplan and Works packages

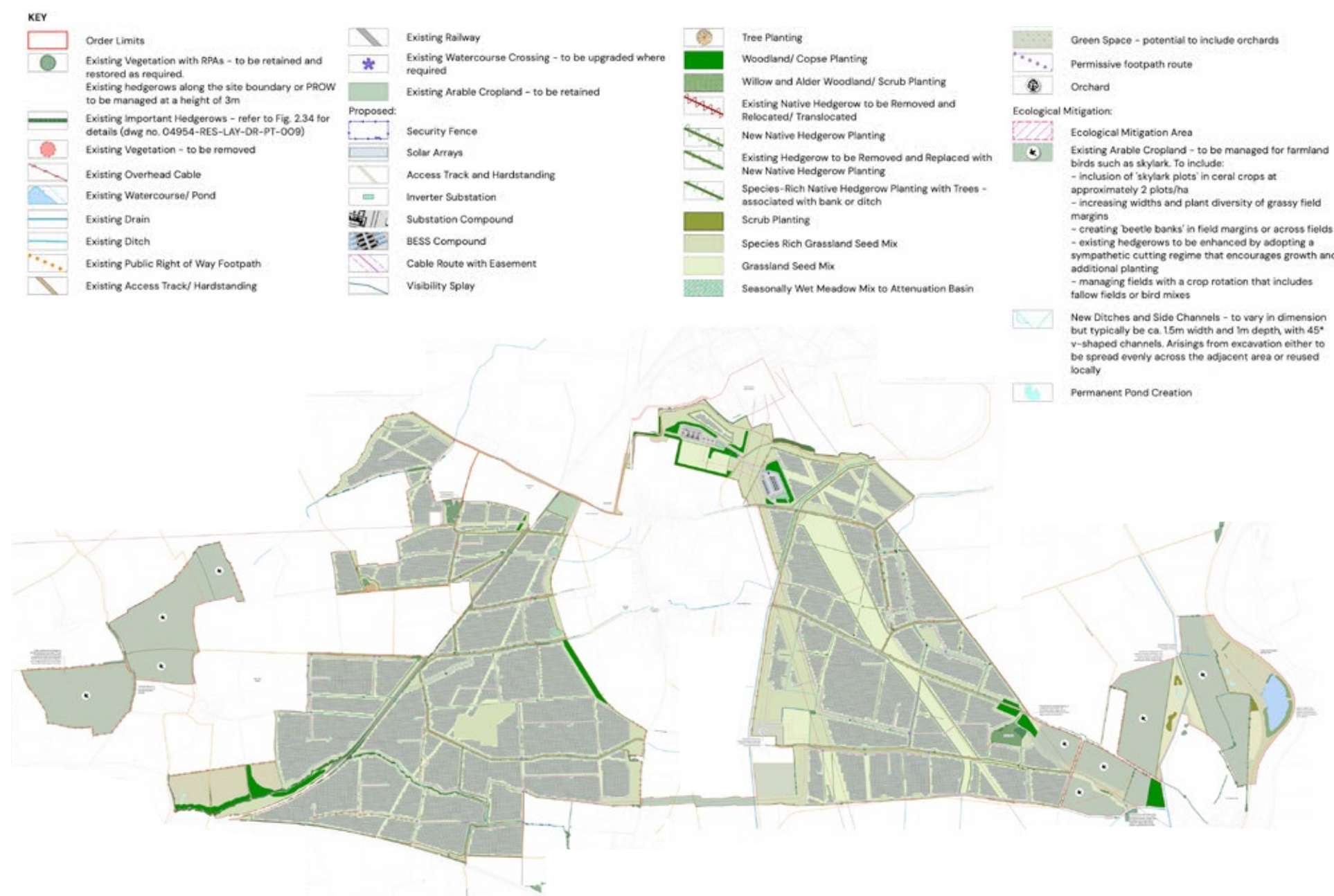


- 6.1 This section of the DAS details how the Proposed Development addresses the site context and Design Objectives in respect of its use, location, materials, appearance, landscaping and access with reference to the Design Masterplan and work numbers.

Use

- 6.2 The key aspect of the Proposed Development is the construction, operation (including maintenance) and decommissioning of a ground mounted solar farm, associated BESS, substation and associated development including connection cable and grid connection point.
- 6.3 The operational period sought for the solar farm is a maximum of 40 years from the date of final commissioning.
- 6.4 The phased construction period will run for a period of 24 months in accordance with **ES Appendix 4.1 outline Construction Environmental Management Plan (oCEMP) [EN010163/APP/6.3.4.1]**.
- 6.5 The detailed design of the Proposed Development will follow a successful tender process. This is to allow for flexibility to accommodate changes in technological advancements. The need for flexibility in design, layout and to address uncertainties in developing technology is acknowledged within the relevant NPSs. This is particularly pertinent to the solar and energy storage sector which continues to see constant advancement in technology. Accordingly, the Applicant is seeking to ensure a degree of flexibility (through the accepted 'Rochdale Envelope' approach) within the DCO to allow for changes in equipment and materials.

Requirement 4 of the draft DCO secures the detailed design of the Proposed Development to be submitted and approved in writing by the relevant planning authority before development commences.



Design Masterplan

- 6.6 The Design Masterplan is indicative and consists of a plan set showing how the site has developed up to the point of submission; see Figures 9 and 10.
- 6.7 The Proposed Development's Design Masterplan has considered findings from the multi-disciplinary baseline study, environmental assessment, input from the local community, stakeholders and technical consultants representing completing of an extensive exercise from design concept to DCO application submission. This demonstrates how the Applicant has achieved the Design Objectives set out in section 4 and achieved an exemplar solar development providing benefits to local communities and significant contribution to renewable energy generation whilst been sensitive to its environment and mitigating its impacts.



Principle Design Considerations for the Components of the Proposed Development

- 6.8 All of the works that are part of the Proposed Development are listed in Schedule 1 of the **draft DCO [EN010163/APP/3.1]**. A summary of the work packages is set out below. The extent of each Work Number is shown on the **Works Plan [EN010163/APP/2.2]**:
- Work No. 1 – a ground mounted solar photovoltaic generating station;
 - Work No. 2 – a BESS compound;
 - Work No. 3 – works in connection with a new 400/33kV onsite substation;
 - Work No. 4 – works to install 400kV electrical cables;
 - Work No. 5 – connection and installation works to the existing transmission network substation;
 - Work No. 6 – works to facilitate project access and cabling;
 - Work No. 6A – works to install 33kV cabling;
 - Work No. 7 – general works;
 - Work No. 8 – works for areas of habitat management;
 - Work No. 9 – works to implement new permissive paths through the Order limits; and
 - Work No. 10 – temporary construction and decommissioning of site compounds Outline Landscape and Ecological Management Plan (OLEMP).
- 6.9 The Proposed Development presents considerable opportunities for landscape and biodiversity mitigation and enhancement. The OLEMP **ES Appendix 7.14 outline Landscape and Ecological Management Plan (OLEMP) [EN010163/APP/6.3.17]** sets out landscape and biodiversity proposals with the purpose of establishing overarching principles for the promotion of sensitive management approaches that protects, manages and enhances the Site for the benefit of
- habitats, landscape character and visual amenity long-term as well as during construction works.
- 6.10 The main aims for landscape management of the Site, informed by the Landscape Management Considerations within published Landscape Character Assessments, are as follows:
- Ensure new development is sensitively located to allow for green infrastructure, a contribution to biodiversity and maintaining long views;
 - Diversify habitats in arable areas by creation of grassland habitat network, field margins, waterside buffets etc. This will further help diversify habitats for insects and birds.
 - Protect and improve public enjoyment of the landscape by retaining and improving the existing PRow;
 - Restore and enhance wetland habitats, including introduction of emergent species;
 - Create new woodlands to complement existing woodland pattern and provide valuable habitat for wildlife and local corridors for biodiversity;
 - Enhance existing hedgerows to maintain landscape structure; and
 - New development should be sited to take advantage of existing screening and in order to retain more open, long views.
- 6.11 Prior to commencement of each phase of the Proposed Development a LEMP covering that phase will be submitted to and approved by the local planning authority, as secured by way of a DCO.



Operational Lifespan

- 6.12 The operation lifespan of the Proposed Development is a maximum of 40 years starting from the date of final commissioning.
- 6.13 Once operational, activities on Site are expected to consist of maintenance activities such as servicing plant and equipment, including solar panels, invertors, transformers, BESS and substation compound as well as vegetation management and livestock husbandry. Movement within the site (discussed in section 7 of this DAS) is likely to be minimal and undertaken by quad bike or small farm utility vehicles as outlined in **ES Appendix 7.14 Outline Landscape and Ecological Management Plan (OLEMP) [EN010163/APP/6.3.17]**.

Statutory Undertakers

- 6.14 The provisions of easements for existing services that transverse the Site are incorporated into the layout design as shown on the **Site Layout Plan [EN010163/APP/2.6]**. No arrays will be erected in the agreed easements, allowing access at all times. Internal access track roads crossing any existing underground services, the crossing method will be agreed with the asset owner in advance including agreement of Risk Assessments and Method Statements.

Decommissioning

- 6.15 Following cessation of energy generation and exportation at the Site all PV modules, mounting structures, cabling, inverters and transformers will be removed and recycled or disposed of in accordance with good practise and market conditions at that time. Decommissioning is anticipated to take approximately 12 months.
- 6.16 Mitigation measures for the Proposed Development's decommissioning phase are set out in **ES Appendix 4.2 Outline Decommissioning Plan [EN010163/APP/6.3.4]**.

Requirements

- 6.17 Various outline management plans and documents are intended to be detailed and finalised post-consent secured through the discharge of Requirements including:
- Phasing of the Proposed Development;
 - Detailed design of the Proposed Development;
 - Landscape and Ecological Management Plan (LEMP);
 - Construction Environmental Management Plan (CEMP);
 - Construction Traffic Management Plan (CTMP);
 - Operational Environmental Management Plan (OEMP);
 - Soil Management Plan (SMP);
 - Written Scheme of Investigation for Pre-Determination Trial Trenching;
 - Written Scheme of Investigation for Post-Determination Archaeological Works;
 - Fire Risk Management Plan; and
 - Decommissioning Plan.

7 | Access

Overview

- 7.1 Safe access to and from the Order limits through the construction, operational and decommissioning phases of the Proposed Development has been formulated through development of an Access Strategy. The following documents have been submitted in support of the Proposed Development, addressing and securing access and accessibility through the DCO application.
- **Streets, Access and Rights of Way Plan [EN010163/APP/2.3];**
 - **ES Chapter 13: Transport and Access [EN010163/APP/6.2.13];**
 - **ES Appendix 13.2 Outline Construction Traffic Management Plan (OCTMP) [EN010163/APP/6.3.13];**
 - **ES Chapter 4: Proposed Development [EN010163/APP/6.2.4];**
 - **ES Appendix 4.1 Outline Construction Environmental Management Plan (OCEMP) [EN010163/APP/6.3.4];**
 - **ES Appendix 4.2 Outline Decommissioning Plan (ODP) [EN010163/APP/6.3.4].**
- 7.2 The Streets, Access and Rights of Way Plan provides a visual representation of all vehicular, cycling and pedestrian movements in the Order limits. The outline CTMP, CEMP and Decommissioning Plan ensure feasibility of construction traffic movements, safety of public and workers on site maintained at all phases of the Proposed Development (construction, operation (including maintenance) and decommissioning).
- 7.3 Access points to Public Rights of Way within the Order limits have also been illustrated at Figure 11 and 12.

Construction Access

- 7.4 Construction phase traffic movements can be broken

down into the following three main phases:

- Construction Worker Traffic Movements (this refers to refer to the flow of vehicles, machinery and people within and around the Site during the construction phase);
- Construction HGV movements (this refers to the transportation of materials equipment and personnel from the site using HGVs); and
- Abnormal Indivisible Loads (this refers to cargo that cannot be reasonable be split into smaller, manageable pieces without causing significant damage or requiring undue expense).

- 7.5 A total of 26no. access points will be used for the construction phase with details provided in **ES Chapter 13: Transport and Access [EN010163/APP/6.2.13]**. 2no. will serve primary construction compounds and 3no. will serve secondary construction compounds. The remaining 21no. access points will serve the dedicated haul routes. 5no. construction access will be used during operation.
- 7.6 Traffic flows are expected to take place over 730 construction period working days and during a peak construction phase day traffic vehicle trips will consist of staff car, shuttle bus and LGV as well as HGV.
- 7.7 It is estimated that the construction of the Proposed Development would result in around 12,887 one-way (25,774 two-way) delivery construction vehicle movements, and 42,000 one-way (84,000 two-way) workforce construction vehicle movements over the full 24-month (730 days) construction period. This equates to an Average Annual Daily Traffic (AADT) value of 152 vehicles (comprising 36 delivery trips and 116 workforce trips) based on 109,774 trips divided by 730 days (equivalent of 24 months construction period).
- 7.8 **ES Chapter 13: Transport and Access [EN010163/APP/6.2.13]** has assessed the impact of vehicle

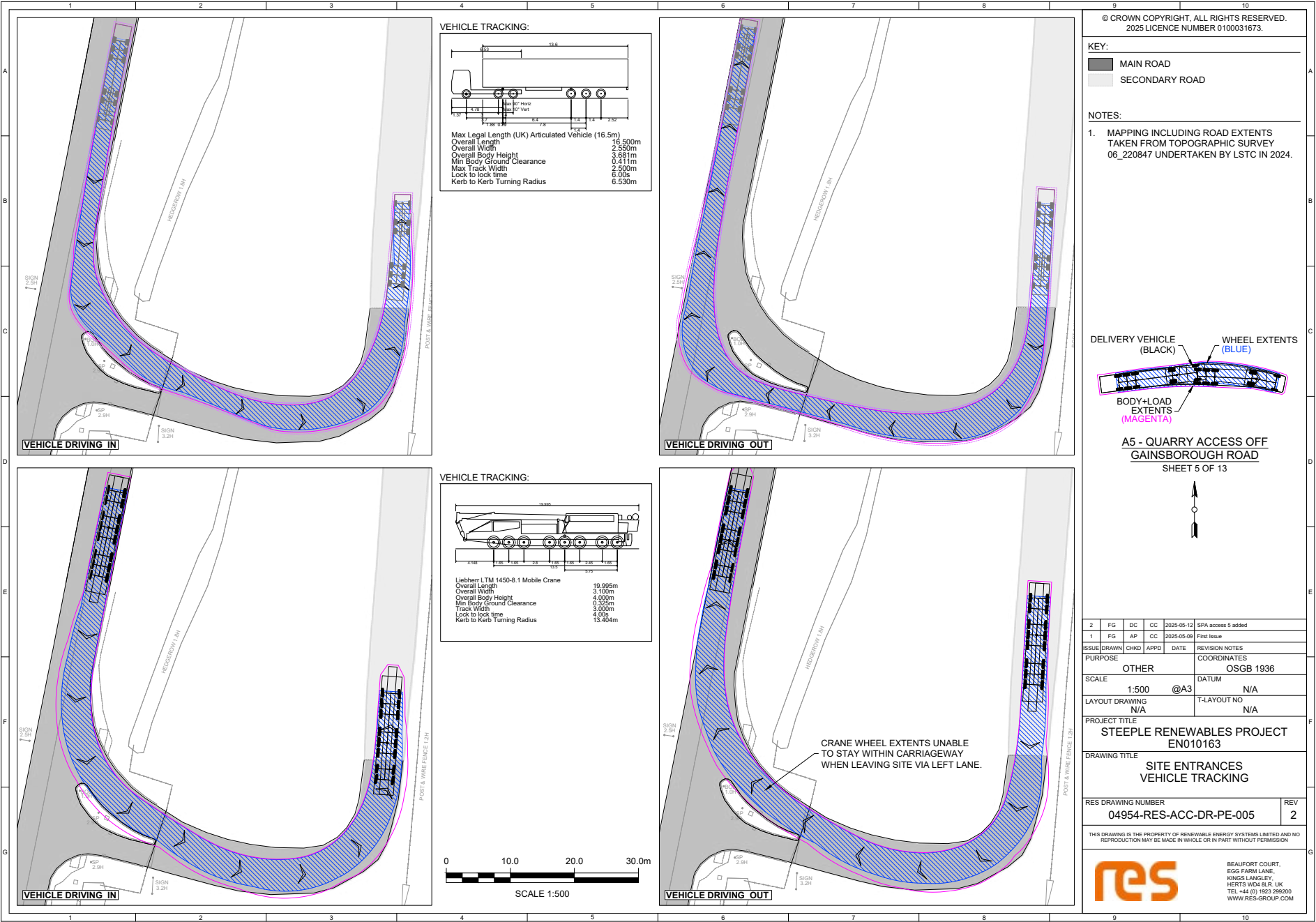
movements generated by the Proposed Development in terms of severance; driver delay; pedestrian delay; pedestrian and cyclist amenity; fear and intimidation; accidents and safety; abnormal and hazardous loads. There are not expected to be any significant residual effects to Transport and Access. Cumulative effects are not expected to change compared to residual effects.

- 7.9 **ES Appendix 13.2 Outline Construction Traffic Management Plan (OCTMP) [EN010163/APP/6.3.13]** includes measures to manage construction vehicle access and routing to the Order limits. This includes traffic routing avoiding Sturton-le-Steeple village and routing for abnormal loads to ensure access roads are suitable for transportation of components to the site. Delivery of a detailed CTMP is secured by a DCO Requirement.

- 7.10 A Construction Worker Plan is also included in **ES Appendix 13.2 Outline Construction Traffic Management Plan (OCTMP) [EN010163/APP/6.3.13]** setting out measures and controls for staff vehicles. This includes measure to discourage and limit access to Order limits by car, use of shuttle bus from local worker accommodation and encourage car sharing to minimise additional vehicles on local roads.

Operation Access

- 7.11 **ES Chapter 13: Transport and Access [EN010163/APP/6.2.13]** has also assessed the operational phase of the Proposed Development. During operation, staff will not be permanently based on the Site. There will be approximately seven trips per day by engineers for maintenance typically by 7.5t van or 4x4 vehicles. Should large replacement parts be required, this may require an ad-hoc HGV delivery.



7.12 In light of this, effects on accidents and highway safety, severance, driver delay, pedestrian delay and amenity and hazardous loads during the operational phase of the Proposed Development are considered to be negligible, not significant and no cumulative impacts are anticipated.

Decommissioning Access

7.13 Traffic during the decommissioning phase is currently proposed to egress the Site using the inverse of the construction route(s) but will be agreed in advance of the decommissioning phase following the 40-year lifetime of the proposed solar farm, BESS and associated infrastructure.

7.14 Vehicle trips are not expected to exceed the number set out in the construction phase. Effects will be short term, temporary, equivalent to or no worse than negligible or minor construction phase impacts – they are not significant in EIA terms. In light of this, effects on accidents and highway safety, severance, driver delay, pedestrian delay and amenity and hazardous loads during the decommissioning phase of the Proposed Development are considered to be negligible, not significant and no cumulative impacts anticipated.

7.15 Mitigation measures are the same as the construction phase. This includes a Public Right of Way Management Plan as well as Traffic Management Measures including signage and a Stage 1 Road Safety Audit at all access junctions.

7.16 A Decommissioning Plan will be submitted to the Local Planning Authority for approval prior to decommissioning secured by a DCO Requirement should consent be granted and based on measures in **ES Appendix 4.2 Outline Decommissioning Plan (ODP) [EN010163/APP/6.3.4]**.

Access Locations

7.17 Access point locations for construction, operation and decommissioning are listed below in Table 7.1 below and shown in Figure 11.

Table 7.1: Access to the Proposed Development

Scheme Access Ref	Location	Type and Phase Use of Access	Scheme Access Ref	Location	Type and Phase Use of Access	Scheme Access Ref	Location	Type and Phase Use of Access
Primary Compound A	Located off Gainsborough Road just south of the West Burton Power station site and is the existing quarry access road. It is located approximately 340 metres to the north of the Gainsborough Road / Station Road junction.	Primary vehicles access for the eastern part of the site used for all three phases and shared with neighbouring Sturton-le-Steeple quarry.	Secondary Compound A	Located within the Eastern Parcel. It is located off an internal Haul Route which is accessed from Littleborough Road.	Used for Construction and anticipated for decommissioning phases. All trips from Primary Compound A will be decanted and transferred to Secondary Compound A before being distributed within the Eastern Parcel fields.	Secondary Compound C	Located within the north-western section of the Western Parcel located off Wood Lane which is accessed via an internal Haul Route from Primary Compound B.	Used for Construction and anticipated for decommissioning phases. All deliveries to Secondary Compound C will be from Primary Compound B. Deliveries will be decanted and transferred from Primary Compound B before being distributed between Secondary Compounds B and C and the Eastern Parcel fields.
Primary Compound B	Located off Station Road to the west of Sturton-le-Steeple village. The existing field access is located approximately 320 metres to the west of the Gainsborough Road / Station Road junction.	Primary vehicle access used for all three phases for the western part of the site.	Secondary Compound B	Located within the south-western section of the Western Parcel off Springs Lane (which leads into High House Road) which is accessed via an internal Haul Route from Primary Compound B.	Used for Construction and anticipated for decommissioning phases. All deliveries to Secondary Compound B will be from Primary Compound B. Deliveries will be decanted and transferred from Primary Compound B before being distributed between Secondary Compounds B and C and the Eastern Parcel fields.	Haul Route – GR-PCB	Gainsborough Road – Station Road Westbound – Primary Compound B	Construction and possible decommissioning phases – Western Parcel.
						Haul Route – IHRW	Internal Haul Road (West)	Construction and possible decommissioning phases – Western Parcel.

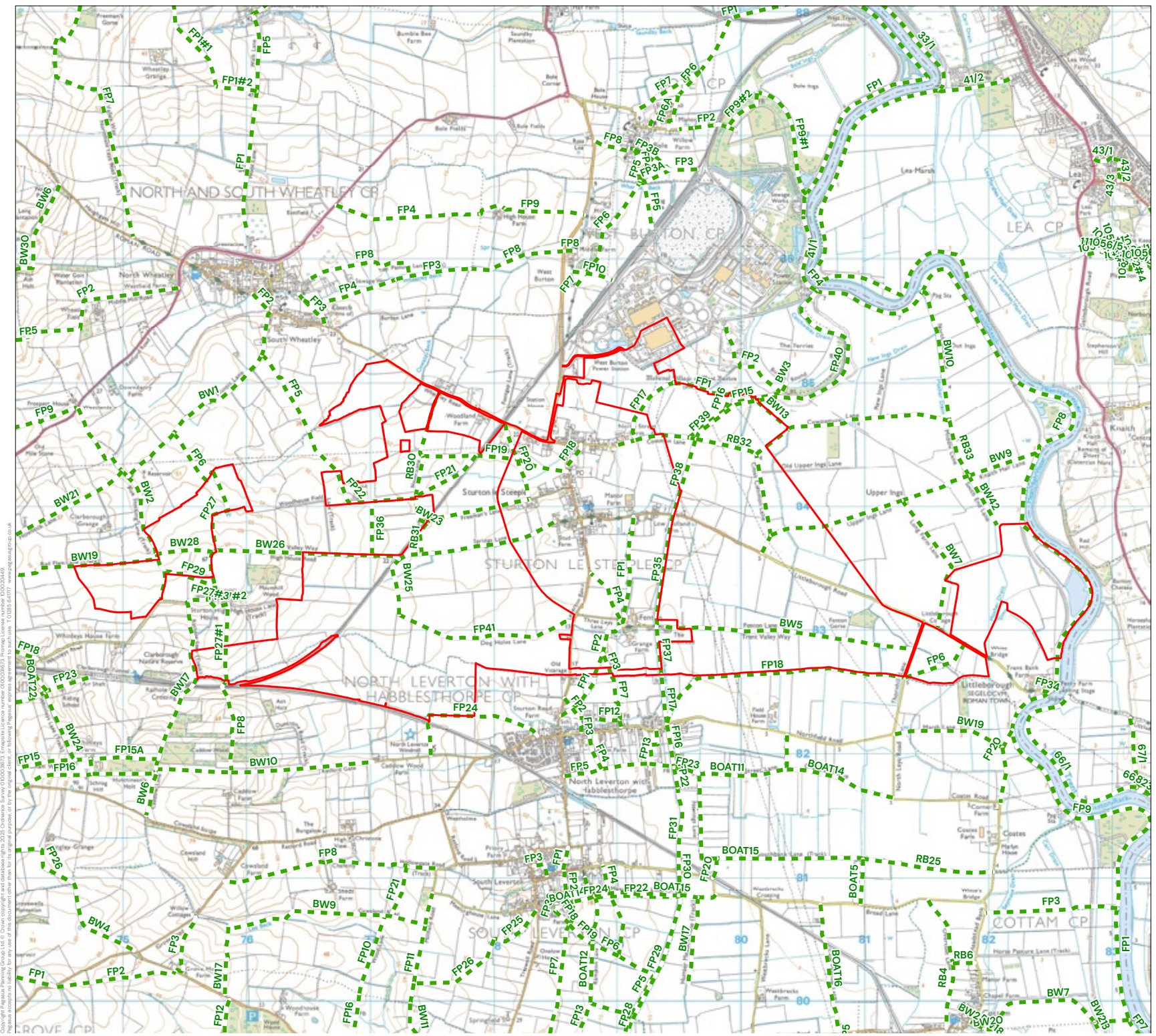
Scheme Access Ref	Location	Type and Phase Use of Access
Haul Route – WR	Wheatley Road	Construction and possible decommissioning phases – Western Parcel.
Haul Route – WR-WL	Wheatley Road – Wood Lane	Construction and possible decommissioning phases – Western Parcel.
Haul Route – FL	Freeman’s Lane (New Road Crossing)	Construction and possible decommissioning phases – Western Parcel.
Haul Route – FL-HHR	Freeman’s Lane (New Road Crossing) – Springs Lane – High House Road (Railway Bridge)	Construction and possible decommissioning phases – Western Parcel.
Haul Route – FL-SL	Freeman’s Lane – Springs Lane	Construction and possible decommissioning phases – Western Parcel.

Scheme Access Ref	Location	Type and Phase Use of Access
Haul Route – GR-PCA	Gainsborough Road-Quarry Access-Primary Compound A	Construction and possible decommissioning phases – Eastern Parcel.
Haul Route – IHRE	Internal Haul Road (East)	Construction and possible decommissioning phases – Eastern Parcel.
Haul Route – CL	Common Lane	Construction and possible decommissioning phases – Eastern Parcel.
Haul Route – CL-UIL	Common Lane – Cross Common Lane – Upper Ings Lane	Construction and possible decommissioning phases – Eastern Parcel.
Haul Route – CL-LR	Common Lane – Cross Common Lane – Upper Ings Lane – Littleborough Road	Construction and possible decommissioning phases – Eastern Parcel.

Scheme Access Ref	Location	Type and Phase Use of Access
Haul Route – CL-FL	Common Lane – Cross Common Lane – Upper Ings Lane – Littleborough Road – Fenton Lane	Construction and possible decommissioning phases – Eastern Parcel.
Haul Route – CL-TL	Common Lane – Cross Common Lane – Upper Ings Lane – Littleborough Road – Thornhill Lane	Construction and possible decommissioning phases – Eastern Parcel.

Public Rights of Way ('PRoW') and Highways

- 7.8 A number of PRoWs and highways will be directly and indirectly impacted by the Proposed Development due to the fact it covers a large geographical area. PRoWs and highways that fall within or immediately adjacent to the Order limits are shown on the **Streets, Access and Rights of Way Plan [ENO10163/APP/2.3]**.
- 7.9 The Proposed Development has been designed to avoid PRoW closures and diversions unless unavoidable for health and safety reasons. PRoWs and highways within the Order limits are shown in Table 7.2 and Table 7.3 below. Table 7.2 confirms the PRoWs location, type and Proposal Access Reference. Table 7.3 confirms the highway name, location and highway detail.



KEY

Order Limits

Public Rights of Way

DCO document reference 6.4.3
APFP regulation 5(2)(a)

REV	DATE	DESCRIPTION
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FIGURE 3.3 PUBLIC RIGHTS OF WAY PLAN

STEEPLE SOLAR FARM LIMITED

RES LTD.

DATE	SCALE	TEAM/DRAWN	APPROVED
31/03/2025	1:30,000@A3	CS	DT

SHEET	REV	N	0	0.5 KM
-	A	▲		

DRAWING NUMBER
P22-1144 EN 37



Table 7.2: Public Rights of Way within or Bounded by the Order limits

Scheme Access Ref	Type of Public Right of Way	Location	Scheme Access Ref	Type of Public Right of Way	Location
Sturton-le-Steeple FP22	Footpath	Western Parcel	Sturton le Steeple FP17	Footpath	Eastern Parcel
Sturton-le-Steeple RB30	Restricted Byway	Western Parcel	Sturton le Steeple RB32	Restricted Byway	Eastern Parcel
Sturton-le-Steeple FP21	Footpath	Western Parcel	Sturton le Steeple FP38	Footpath	Eastern Parcel
Sturton-le-Steeple FP19	Footpath	Western Parcel	Sturton le Steeple FP39	Footpath	Eastern Parcel
Sturton-le-Steeple RB31	Restricted Byway	Western Parcel	Sturton le Steeple RB33	Restricted Byway	Eastern Parcel
Sturton-le-Steeple BW25	Bridleway	Western Parcel	Sturton le Steeple BW5	Bridleway	Eastern Parcel
Sturton-le-Steeple FP41	Footpath	Western Parcel			
North Leverton with Habbleshthorpe FP24	Footpath	Western Parcel			
Sturton-le-Steeple FP20	Footpath	Western Parcel			

Table 7.3: Highways Used for Construction (and anticipated Decommissioning) Phases

Name	Location	Highway Detail	Name	Location	Highway Detail	Name	Location	Highway Detail
A1(M)	Construction traffic will access the site via the A1(M) Junction 34 Blyth Interchange, which forms part of the Strategic Road Network (SRN).	The A1(M) provides a high-capacity route for vehicular traffic, facilitating efficient connections to regional and national destinations.	A631	The A631 provides a connection between the A620 at Beckingham, with the A368 at Bawtry via a signalised junction, around 13.3 kilometres to the west.	A631 is a predominantly single carriageway route, with two short extents (total 1.7 kilometres) of dual carriageway. In the vicinity of Bawtry, it serves several dwellings and commercial units. It is predominantly subject to a 50mph speed limit, which reduces to 30mph through built-up areas such as Everton. Footways of varying width are provided in brief extents in the vicinity of the built-up areas.	Sturton Road / Gainsborough Road	Sturton Road / Gainsborough Road provides a connection between the A620 in the north, with Station Road / Wheatley Road in the south via a priority junction arrangement.	Sturton Road / Gainsborough Road is a single carriageway road measuring around 6.5 metres in width and is subject to a 50mph speed limit for the majority of its extent, reducing to a 30mph speed limit on the approach to Sturton-le-Steeple, around 220 metres to the north of the junction with Station Road / Wheatley Road. The route is unlit, and footways are generally not provided. It serves as the primary access and egress for the West Burton power station to the north of Sturton-le-Steeple. Sturton Road / Gainsborough Road already accommodates HGV movements associated with the West Burton power station. The carriageway is subject to a restriction for vehicles weighing 18 tonnes or less except for access, commencing around 275 metres to the north of the junction with Station Road / Wheatley Road.
Bawtry Road (A614) / Great North Road (A638)	Bawtry Road (A614) in conjunction with a short section of Great North Road (A638) provides a route between the A1(M) Junction 34 Blyth Interchange and Bawtry and lies in a northeast to southwest alignment.	Bawtry Road (A614) and Great North Road (A638) are single-carriageway roads with Bawtry Road measuring circa 7.3m in width and Great North Road measuring circa eight metres. Bawtry Road is subject to variable speed restrictions ranging from 30-40 mph within one kilometre of Blyth interchange and subject to 60mph speed restriction for the rest of the route. Both roads form part of the form part of the Major Road Network (MRN).	A620 (Gainsborough Road / Saundby Road)	The A620 provides a connection between the A631 in the north (in the vicinity of Beckingham), with Sturton Road / Gainsborough Road to the south in the vicinity of the hamlet of Bole.	A620 (Gainsborough Road / Saundby Road) is a single carriageway route which is predominantly unlit and is subject to a 40mph speed limit from the A631 junction to the approach to the roundabout junction with Sturton Road, where it increases to 50mph. The carriageway measures around six metres in width.			

Name	Location	Highway Detail
Sturton Road / Gainsborough Road	Sturton Road / Gainsborough Road provides a connection between the A620 in the north, with Station Road / Wheatley Road in the south via a priority junction arrangement.	<p>Sturton Road / Gainsborough Road is a single carriageway road measuring around 6.5 metres in width and is subject to a 50mph speed limit for the majority of its extent, reducing to a 30mph speed limit on the approach to Sturton-le-Steeple, around 220 metres to the north of the junction with Station Road / Wheatley Road. The route is unlit, and footways are generally not provided. It serves as the primary access and egress for the West Burton power station to the north of Sturton-le-Steeple.</p> <p>Sturton Road / Gainsborough Road already accommodates HGV movements associated with the West Burton power station. The carriageway is subject to a restriction for vehicles weighing 18 tonnes or less except for access, commencing around 275 metres to the north of the junction with Station Road / Wheatley Road.</p>
Station Road / Wheatley Road	Station Road / Wheatley Road is a single carriageway route within the built-up extent of Sturton-le-Steeple.	Station Road / Wheatley Road is a single carriageway route which is lit and subject to a 30mph speed limit within the built-up extent of Sturton-le-Steeple, increasing to around 40mph around 185 metres to the west of the junction with Sturton Road / Gainsborough Road. The carriageway measures around six metres in width and a footway measuring around 1.5 metres wide is provided on the north side of the carriageway. Station Road / Wheatley Road serves a small number of residential dwellings and is subject to the 18-tonne weight restriction (except for access) which commenced on Sturton Road / Gainsborough Road.

Permissive Paths

- 7.10
- Two new permissive paths are secured by way of Work No. 9 in Schedule 1 of the **draft DCO [EN010163/APP/3.1]** to improve connectivity and recreational walking in both the eastern and western half of the site. They have been included in the Proposed Development following consultation between the EIA Scoping and Statutory Consultation Periods.

8 | Commitments

Project Flexibility and Concept Design Parameters

- 8.1 NSIPs are acknowledged in the NPSs to involve uncertainty regarding the exact design, layout and technology to be used by these projects.
- 8.2 To this end the Proposed Development has adopted a maximum design ('Rochdale Envelope', as acknowledged by NPS EN-1, and worst-case scenario to assess environmental impacts. This has enabled the Proposed Development to be framed in a set of parameters that are assessed to provide flexibility and ensure all likely significant effects (positive or adverse) are considered.
- 8.3 Key areas of optionality include:
- PV panel type – whilst the proposed panel type is not fixed the top panel height, due to design evolution, has been reduced from 3.6 to 3 metres and the maximum tilt from 30 to 26 degrees.
 - Fire Suppression – Each BESS enclosure will have a dedicated fire protection system, comprising flammable gas detection and venting, fire detection and alarm, and an automatic fire suppression system. Water will be stored on site in close proximity to the energy storage system in open attenuation basins. As part of the Proposed Development, a leak detection system and alarm will be fitted to the cooling system, and the drainage strategy for the BESS area includes provision for the automatic retention of any contaminated fire-fighting runoff in the event of a fire. A bund around the BESS area will prevent surface water from other areas entering the BESS areas. The attenuation basins have been designed to capture runoff from the BESS and substation areas, with storage provided for the 1 in 100 year plus climate change event (plus an additional volume for firefighting water for the BESS area). Runoff would be released to local drainage ditches at a controlled greenfield rate, with the option to shut off the outlet

for the BESS in the event of a fire or other pollution incident. The attenuation basins in the BESS and substation areas will be lined to prevent infiltration.

- 8.4 The **Work Plans [EN010163/APP/2.2]** show the maximum extents of components within the Proposed Development (panels, substation, energy storage, cabling) and the parameters within which each Work Number comprising the authorised development may be constructed.
- 8.5 The Site Layout Plan **[EN010163/APP/2.6]** represents how areas of the Proposed Development will be developed. Micro-siting during construction is an important consideration and necessary for changes in plant design, shape or technological advancement to be incorporated. The detailed design of the Proposed Development is secured by way of Requirement in the draft DCO and is subject to the approval of the local planning authority.
- 8.6 Therefore, the final design of the Proposed Development will remain within the parameters of the outline **Design Principles [EN010163/APP/4.5]** and Rochdale Envelope assessed in the **Environmental Statement [EN010163/APP/6.2.0 to 6.2.19]**.
- The DCO**
- 8.7 The draft DCO seeks development consent for the Works set out in Schedule 1 of the DCO, which defines the "authorised development". Work numbers are specifically allocated to key elements of the Proposed Development with Schedule 2 of the DCO setting out Requirements of how the Proposed Development must be constructed, operated, maintained and decommissioned. This includes a commitment that detailed design of the Proposed Development is subject to the approval of the relevant local planning authorities.

Environmental Commitments

- 8.8 **ES Appendix 7.14 outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7]** will deliver landscape and ecological features of the design described in the statement. **ES Appendix 8.2 Surface Water Drainage Strategy [EN010163/APP/6.3.8]** as well as **ES Appendix 4.1 outline Construction Environmental Management Plan [EN010163/APP/6.3.4.1]** will secure and deliver flood risk mitigation and drainage details. Requirements attached to the DCO, should consent be granted, will secure delivery of commitments set out in these documents.

Detailed Design Process

- 8.9 Finalised design of the Proposed Development cannot occur until the tendering process for design has been completed and approved in advance of the Proposed Development commencing (or first phase thereof). A framework, guidance and commitment for the detailed design is provided within this DAS.

9 | Conclusions

- 9.1 The design approach of the Proposed Development has followed that set out within the NIC Design Principles and the Design Objectives to deliver good design outcomes that have evolved throughout the DCO application process. The design team has taken account of and been informed by the baseline, refined technical studies and through the consultation process. This has resulted in a proposal which reflect the aims vision for the project and the engagement with the local community, officers of the respective local planning authorities and other stakeholders. The detailed design of the Proposed Development will accord with the Design Principles and Objectives.
- 9.2 As per the Design Objectives, the adopted approach to design sought to avoid and minimise adverse impacts wherever possible and to take opportunities to deliver enhancement, including matters such as biodiversity and green infrastructure and through the provision of two additional permissive paths. The adoption of the “Rochdale Envelope” approach has ensured that the Proposed Development incorporates the required degree of flexibility whilst ensuring certainty within the DCO process and robustness in the assessment of impacts.
- 9.3 The careful and successful design approach adopted has resulted in a high-quality Proposed Development which will deliver substantial decarbonised renewable energy (its first objective). Additionally, it would provide a number of environmental, social and economic benefits over the operational period of 40 years, whilst ensuring that the development is undertaken in a sustainable manner, minimising and mitigating adverse impacts.

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