

Heckington Fen Solar Park

EN010123

Non-Technical Summary

Applicant: Ecotricity (Heck Fen Solar) Limited

Document Reference: 6.4

Pursuant to: APFP Regulation 5(2)(a)

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NON-TECHNICAL SUMMARY

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Environmental Statement Non-Technical Summary

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INTRODUCTION

This document provides a Non- Technical Summary (NTS) of the Environmental Statement (ES) (document reference 6.1) which has been prepared on behalf of Ecotricity (Heck Fen Solar) Limited (the “Applicant”) and forms part of a suite of documents supporting an application under Section 37 of the Planning Act 2008 to the Secretary of State for the Department for Energy Security and Net Zero (DESNZ) for a Development Consent Order (DCO) for Heckington Fen Solar Park.

The Environmental Impact Assessment (EIA) presents the findings of the development proposal in relation to a DCO application for the construction, operation (including maintenance), and decommissioning of a ground mounted solar photovoltaic (PV) electricity generation and energy storage facility (hereafter referred to as “the Energy Park”), cable route to, and above and below ground works at, the National Grid Bicker Fen Substation (hereafter referred to as “the Proposed Development” (inclusive of Energy Park)) on land at Six Hundreds Farm, Six Hundreds Drove, East Heckington, Sleaford, Lincolnshire.

The ES assesses the Energy Park, Cable Route Corridor for the grid connection and the above and below ground works needed for connection to the National Grid Bicker Fen Substation.

By virtue of its potential generating capacity, which stands at over 50MW, this project constitutes a Nationally Significant Infrastructure Project (NSIP). Therefore, instead of applying to the local authority for Planning Permission, the application must be made to the Secretary of State (SoS) for the Department for Energy Security and Net Zero (DESNZ) for a DCO pursuant to the Planning Act 2008. An EIA is required to be undertaken for the Proposed Development and as such The Infrastructure Planning (Environmental Impact

Assessment) Regulations 2017 (Reference 1¹) (hereafter referred to as “the EIA Regulations”) apply.

The Energy Park is located within the county of Lincolnshire on an area of agricultural land approximately 3.7km east of the village of Heckington and 8.9km west of the town of Boston. The connecting cable route extends approximately 8.5km in length from the Energy Park onsite substation to the connection point at the National Grid Bicker Fen Substation. The land within the Order limits that forms the subject of the ES extends to approximately 644.79ha, encompassing the entire Proposed Development.

Heckington Fen Solar Park, as the project title for the draft Development Consent Order document, is interchangeably referenced as Heckington Fen Energy Park within the ES documentation as the Energy Park main site includes an energy storage element.

The Order Limits location is shown on **Figure 1** (document reference 6.2.1).

THE APPLICANT

Ecotricity was founded in 1995 as the world’s first green energy company and now supplies customers across the UK from a growing portfolio of wind and sun parks, with all its electricity supply coming from 100% renewable energy. Ecotricity is a high technology business, developing cutting edge green technology and energy for a low carbon future.

Ecotricity (Heck Fen Solar) Limited, an Ecotricity company, has been formed to create and develop the Heckington Fen Energy Park.

¹ Full list of References can be seen on Page 67

KEY
 Order Limits

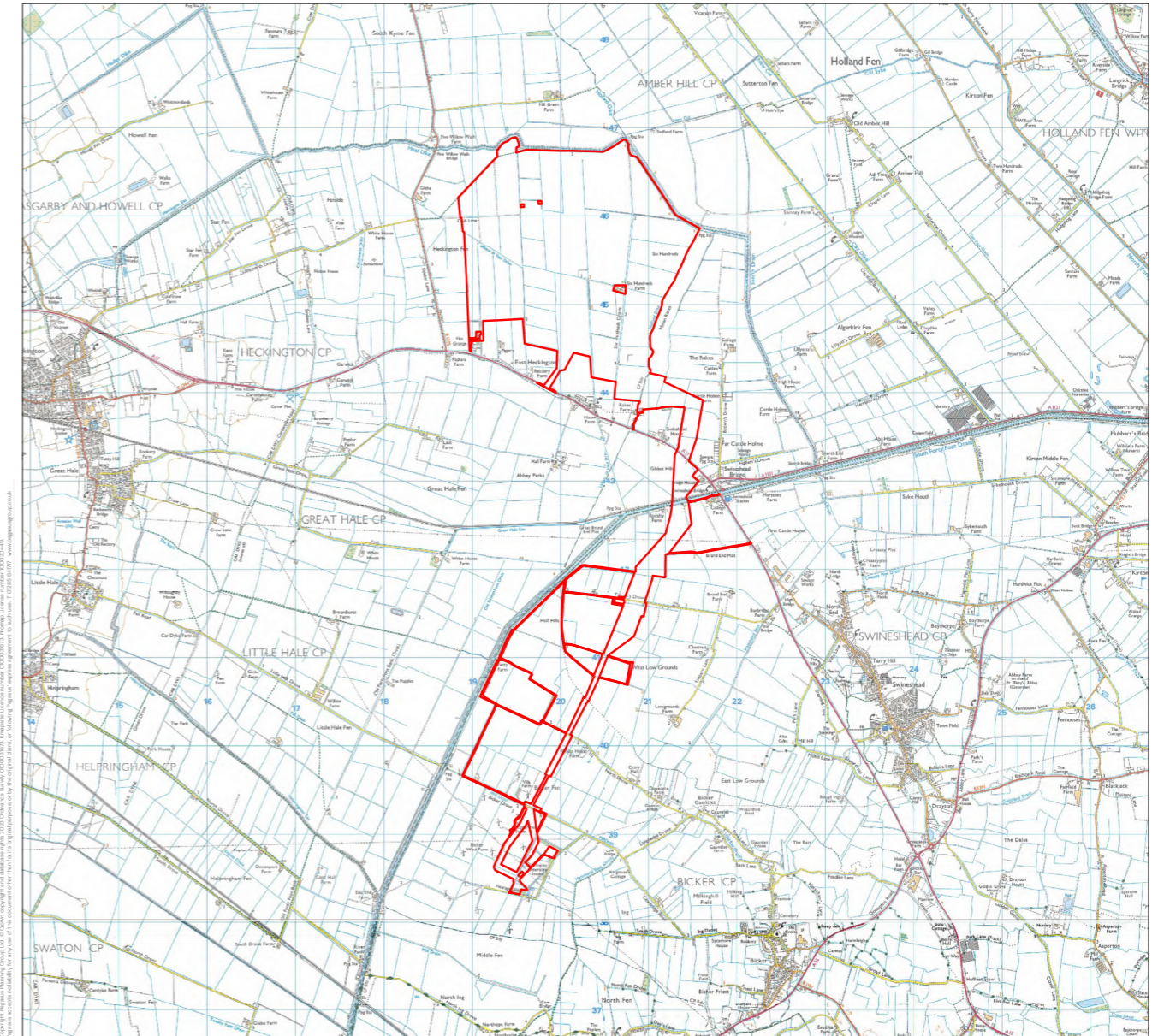


FIGURE 1: DCO ORDER LIMITS

LEGISLATIVE AND PLANNING POLICY CONTEXT

Heckington Fen Solar Park represents a significant planning project and is defined as a NSIP in accordance with the Planning Act 2008 (Reference 2). The Proposed Development falls within the definition of an onshore generating station in England exceeding 50 megawatts (MW) and therefore represents an NSIP under section 14 and 15 of the Planning Act 2008.

The Planning Act 2008 dictates that the Secretary of State is responsible for determining the application for a DCO, with the power to appoint the Planning Inspectorate to manage and examine the application. In this role, the Planning Inspectorate will examine the application through an appointed Examining Authority for the Proposed Development and make a recommendation to the Secretary of State who will then decide whether to grant a DCO which authorises and permits the development.

The EIA takes account of the following policy documents:

- Overarching National Policy Statement for Energy (EN-1) (Reference 3)
- National Policy Statement for Renewable Energy (EN-3) (Reference 4)
- National Policy Statement for Renewable Energy (EN-5) (Reference 5)
- Draft National Policy Statement for Energy (EN-1) (Reference 6)
- Draft National Policy Statement for Renewable Energy Infrastructure (EN-3) (Reference 7)
- Draft National Policy Statement for Renewable Energy (EN-5) (Reference 8)
- Renewable Energy Framework (Reference 9)
- Energy White Paper (December 2020) (Reference 10)

- The Carbon Budget Order (June 2021) (Reference 11)
- Net Zero Strategy: Build Back Greener (October 2021) (Reference 12)
- British Energy Security Strategy (2022) (Reference 13)
- National Planning Policy Framework (Reference 14)
- National Planning Policy Guidance
- Local Planning Policy

PURPOSE OF THE ENVIRONMENTAL STATEMENT

The ES is a document that sets out the findings of an EIA. An EIA is a process for identifying the likely significance of environmental effects (beneficial or adverse) arising from a Proposed Development, by comparing the existing environmental conditions prior to development (the baseline) with the environmental conditions during/following the construction, operational and decommissioning phases of a development should it proceed. The baseline for the assessment has been derived from surveys and studies within and around the Order limits. The ES has also considered measures to avoid, reduce, or mitigate any significant adverse effects on the environment and, where possible, enhance the environment. It has then identified residual effects, which are defined as the effects that remain on receptors following the implementation of mitigation measures. The EIA is carried out prior to the submission of a planning application.

The full findings of these studies and planning application documents will be available to view on the National Infrastructure Planning website <https://infrastructure.planninginspectorate.gov.uk/>. The website is managed by the Planning Inspectorate, the government agency responsible for examining applications for NSIPs.

Additional copies of the NTS (no charge) and ES Main Text/ Technical Appendices (£0.35p per sheet to cover printing costs) are available from Pegasus Group. The complete ES can also be obtained in digital CD format or USB stick for £15. For copies of any of these please contact:

Pegasus Group Limited
33 Sheep Street
Cirencester
Gloucestershire
GL7 1RQ

Telephone: 01285 641717

Email: Cirencester@pegasusgroup.co.uk

When ordering, please quote reference **P20-2370**

ENVIRONMENTAL STATEMENT ASSESSMENT SCOPE AND METHODOLOGY

SCOPING

In order to determine the content of the EIA, the EIA Regulations make provision for, but do not statutorily require, an applicant to request that the Planning Inspectorate (on behalf of the Secretary of State) to provide a written opinion as to the information to be provided (i.e. 'scoped') within the ES- in EIA terms, this is referred to as a Scoping Opinion.

A request for a Scoping Opinion, which included information regarding the proposed scope and methodology of the technical studies to be included within the ES, was submitted on behalf of the Applicant on the 7th of January 2022 to the Planning Inspectorate. The Planning Inspectorate provided a Scoping Opinion on the 17th of February 2022. The Scoping Opinion confirmed that the topics proposed were generally acceptable and appropriate.

PRELIMINARY ENVIRONMENTAL INFORMATION REPORT

Prior to the completion of the ES, a Preliminary Environmental Information Report (PEIR) was prepared to support statutory consultation. The PEIR was published in June 2022 to inform the public and stakeholders of the Applicant's preliminary assessment of the likely significant environmental effects of the development proposal at the point of writing.

The PEIR has been further developed following completion of the design work and environmental assessment and has been used to inform the ES, which this NTS summarises.

CONSULTATION

Further targeted consultation was undertaken in November 2022. The Applicant sought the views of consultees on the information contained within the PEIR, and there was an opportunity within the process up to submission of the DCO application for both the EIA and the project design to have regard to comments received. All issues raised during consultation on the PEIR has been considered during the EIA process and used to inform the final impact assessment for the ES.

The Application was accepted for Examination on the 13th March 2023. Since the Application was submitted, as a result of ongoing discussions with National Grid Electricity Transmission (NGET), a Change Application request was required for Additional Works at Bicker Fen Substation to connect the project. The Applicant has undertaken a targeted consultation in July–August 2023.

THE ORDER LIMITS AND ENVIRONMENTAL CONTEXT

The Order limits is a term that is used to describe the land required to deliver the components of the Proposed Development. The land within the Order limits that forms the subject of the ES extends to approximately 644.79 hectares (ha) encompassing the entire Proposed Development, shown in **Figure 1** (document reference 6.2.1). The Energy Park extends to approximately 524 ha as one site and is shown on **Figure 2** (documents reference 6.2.1).

The Energy Park is comprised of agricultural land subdivided into rectilinear parcels by long linear drainage ditches. The Energy Park is located within East Heckington, approximately 3.7km east of the village of Heckington and 8.9km west of the town of Boston, Lincolnshire. The closest major city is Lincoln approximately 32km north-west of the Proposed Development. The village of Heckington is separated from the Energy Park site by agricultural land within the surrounding fenland landscape. The Energy Park is bound by Head Dike to the north, a smaller watercourse to the east, further agricultural land to the south and B1395 Sidebar Lane/agricultural land to the west.

The Energy Park site lies wholly within the administrative district of North Kesteven, abutting Boston Borough Council administrative boundary along the eastern edge of the Energy Park site. The Cable Route Corridor spans across Boston Borough Council and North Kesteven District Council administrative area, with a section within the Energy Park running from the Onsite Substation in the Energy Storage Compound, south through the Energy Park site and then off-site for a short distance once it has left the Energy Park site. At this point it leaves the administrative boundary of North Kesteven and enters Boston Borough Council.


The Cable Route leaves the Energy Park on the southeastern boundary crossing agricultural land as it travels towards National Grid Bicker Fen Substation. To reach the Substation the Cable Route Corridor

crosses the Viking Link and Triton Knoll connections before heading south towards National Grid Bicker Fen Substation. Within the Cable Route Corridor crossings are required for the A17, the South Forty Foot Drain, the railway, a high-pressure gas pipe and a number of watercourses.

A new generator bay will be located in the south-western corner of the National Grid Bicker Fen Substation site. This area of land is currently an area of rough grassland with a section of plantation woodland to the south. A proportion of the tree plantation will be removed to accommodate additional substation infrastructure required to enable the Energy Park's connection. Additional land of 0.9ha has been included in the Order Limits in the Change Application to accommodate Bicker Fen Substation Extension Works. The additional land south of the existing Bicker Fen Substation is referred to as "AW1". A new cable sealing end (CSE) is also required on land immediately west of the existing Bicker Fen Substation as a connection point between underground cable and above ground apparatus. This area of land currently has a covering of scrub planting, which would be cleared before development took place. This additional land west of the existing Bicker Fen Substation is referred to as "AW2".

In terms of landform, the Energy Park site is very flat and low-lying at between 2m and 3m Above Ordnance Datum (AOD) across the entire Energy Park site. The Energy Park is situated on the Lincolnshire Fens, a coastal plain in the east of England which comprises a large area of broad flat marshland supporting a rich biodiversity.

The Agricultural Land Classification (ALC) for the Energy Park site show over 80% of the site is Grade 3, comprising 30.5% Grade 3a (160 ha) and 50.6% Grade 3b (265 ha). Grade 3b is considered to be poorer quality land. Grades 1, 2 and 3a are considered to Best and Most Versatile thereby totalling 49% of the site Grade 1 – 11.1%

KEY
 Energy Park Boundary

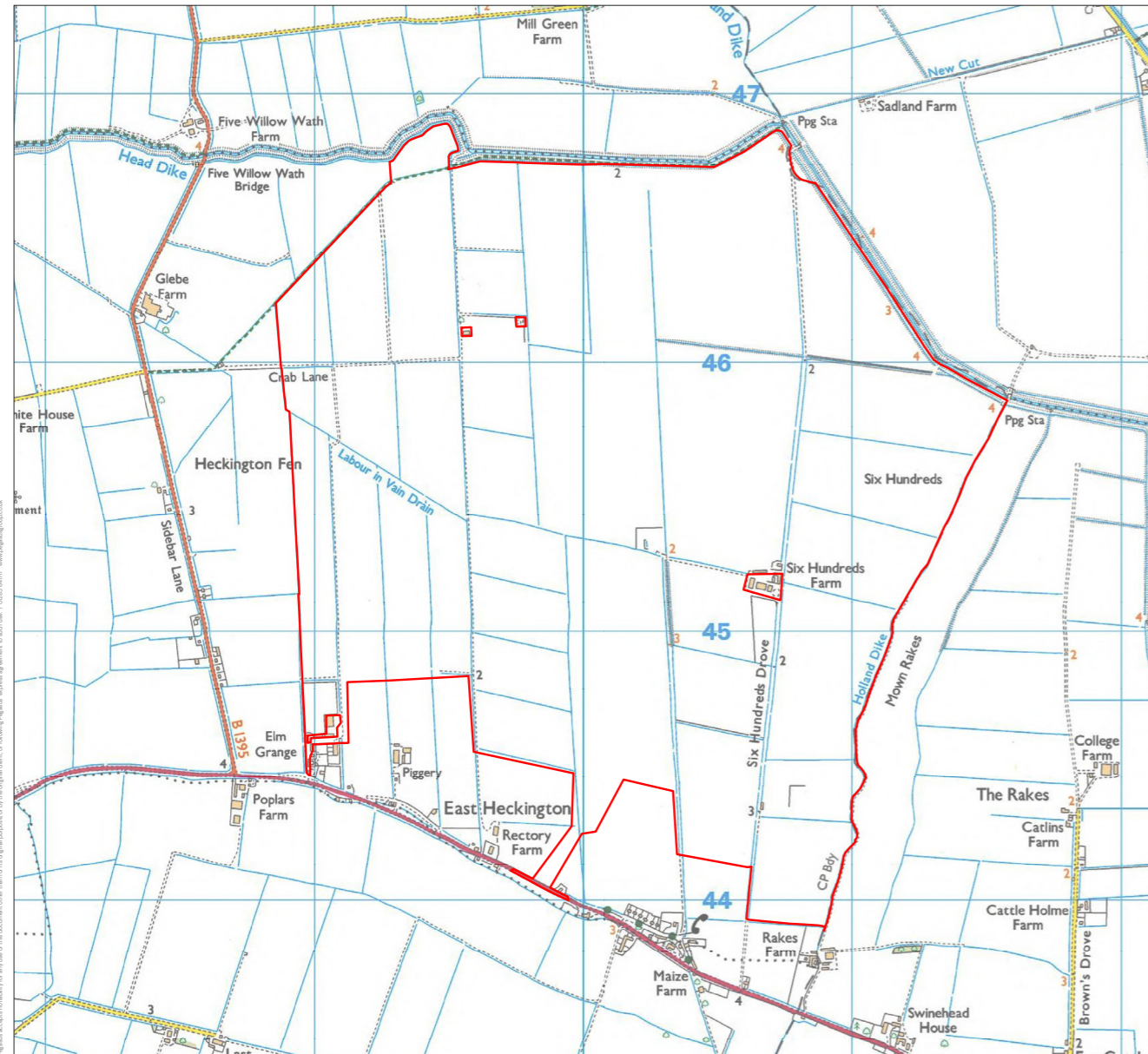


FIGURE 2: ENERGY PARK BOUNDARY

(58 ha); Grade 2 – 7.4% (39 ha) and Grade 3a – 30.5%. The remaining land is considered Non-Agricultural land – 0.4% (2 ha) and comprises woodlands and agricultural units.

Overhead lines supported on wooden poles traverse the Energy Park, running parallel to Six Hundreds Drive and the A17 in the south, and near the north-western boundary of the Energy Park. An underground gas pipeline bisects the Energy Park, extending south-north to the east of Rectory Farm.

One public right of way (PROW) footpath HECK/15/1 runs along the northern boundary, crossing a small part (c.280m) of the Energy Park, this will not require a diversion or closure as part of the proposals; no other PROW occurs within the Energy Park.

There are no European statutory designated sites (Ramsar, Special Areas of Conservation (SAC) & Special Protection Areas (SPA)) or national sites (Site of Special Scientific Interest (SSSI), National Nature Reserve (NNR), Local Nature Reserve (LNR)) within 10km of the Energy Park site, but there is one within 10km of the Cable Route Corridor and National Grid Bicker Fen Substation. The nearest SSSI to the Energy Park is Horbling Fen SSSI located 11.5km to the southwest of the Energy Park site and 14.7km from the Cable Route Corridor, designated for its geological interest. The Wash SSSI/SPA/SAC/Ramsar and NNR, is situated approximately 17km to the southeast of the Energy Park site at its nearest point and 4.9km from the Cable Route Corridor.

There are no non-statutory designations within the Energy Park site. The South Forty Foot Drain Local Wildlife Site (LWS) is located approximately 1km to the south of the Energy Park site. This is a man-made watercourse with bankside vegetation comprising rough neutral grassland, scrub, and trees. The Cable Route Corridor passes through this LWS – but will be undergrounded under the Drain so to reduce any impacts on it.

There are no designated heritage assets located within the Energy Park site. One Scheduled Monument to the west and four Grade II Listed Buildings lie within a 2km radius of the Energy Park site. There are no Listed Buildings or other known heritage assets in close proximity to the Cable Route Corridor. There are no designated archaeological remains, e.g., Scheduled Monuments, located within the Energy Park site. Known and potential non-designated built and archaeological remains located within the Energy Park site comprise:

- Upstanding post-medieval/modern buildings of Six Hundreds Farm;
- Upstanding post-medieval/modern brick boundary wall to the west of Elm Grange;
- Upstanding remains of a post-medieval/modern drainage pump close to Head Dike to the north-east;
- Buried remains of a post-medieval duck decoy to the east;
- Buried remains of former outfarms and field boundaries in various locations, some but not all of which are shown on historic maps;
- Buried remains of a possible enclosure of uncertain origin to the west of centre; and
- Buried remains of a possible enclosure and circular and linear features of uncertain origin to the east.

The majority of the Energy Park site is within Flood Zone 3, with some sections of the Energy Park falling within Flood Zone 2 and Flood Zone 1.

The Proposed Development is located approximately 11.3km west of its nearest Air Quality Management Area (AQMA), 'Haven Bridge AQMA' which is located in Boston Borough Council's (BBC) administrative area, and which has been declared for exceedances of the annual mean nitrogen dioxide (NO2) air quality objective (AQO).

The Order limits and surrounding context is shown on the Environmental Designations Plan at **Figure 3** (document reference 6.2.3).

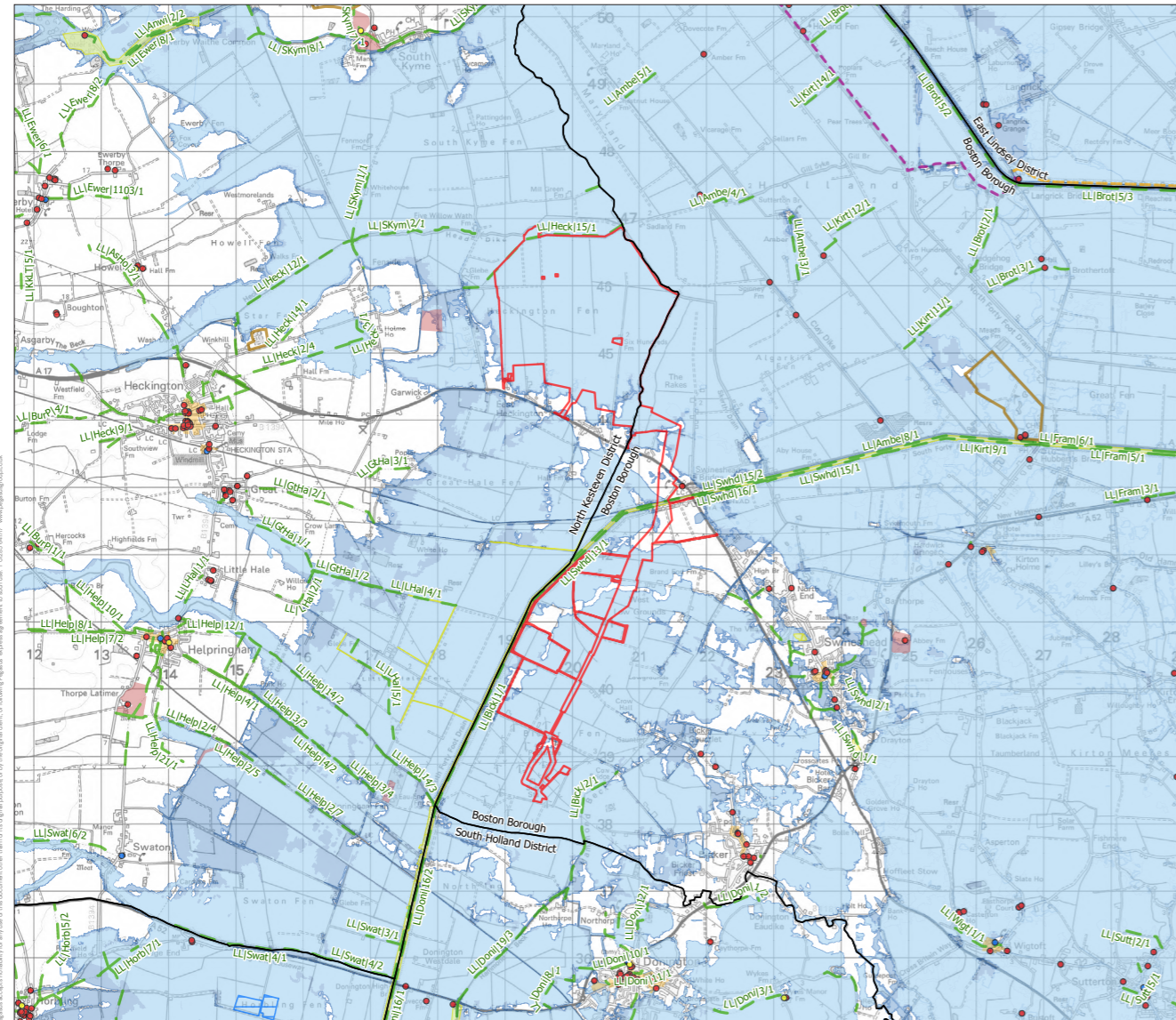
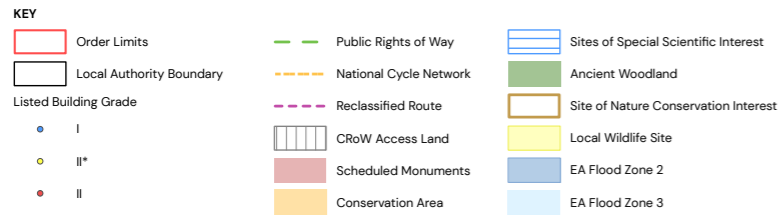


FIGURE 3: ENVIRONMENTAL DESIGNATIONS PLAN



PROPOSED DEVELOPMENT

The development description is as follows:

“Development Consent Order Application for Ground Mounted Solar Panels, Energy Storage Facility, Below Ground Grid Connection to, and extension at, Bicker Fen Substation and all associated infrastructure works.”

The Proposed Development comprises of an Energy Park with solar PV and Energy Storage System (ESS) infrastructure. Solar PV and ESS are rapidly evolving and as a result the DCO application will require a degree of flexibility to allow the latest technology to be utilised at the time of construction.

Given the flexibility applied for and in order to ensure a robust assessment of the likely significant environmental effects of the Proposed Development, the EIA has been undertaken adopting the principles of the ‘Rochdale Envelope’. This involves assessing the maximum (and where necessary the minimum) parameters of the Proposed Development where flexibility needs to be retained. This approach sets worst case parameters for the purpose of the assessment but does not constrain the Proposed Development for being built in a manner that would lead to lower environmental impacts. The draft DCO secures the likely worst-case parameters, providing certainty that the impacts of the Proposed Development will be no worse than those assessed as part of the Environmental Statement.

It is anticipated the Energy Park could create renewable energy to power 100,000 homes and would prevent 75,000 tonnes of carbon dioxide (CO₂) per year from entering the atmosphere. The calculations for these numbers can be seen in Appendix 1 of the Consultation Report (document reference 5.1). The Proposed Development includes the following key components as shown on **Figure 4** Indicative Site Layout (document reference 6.2.2):

- Solar PV panels: these convert sunlight into electrical current. The solar panels will be fixed onto a mounting structure and the panels are typically 2–2.5m long and 1–1.5m wide.
- PV module mounting structures: the solar panels will be fixed into these mounting structures which would have a maximum height of 3.5m in the northeast section of the energy park and a maximum of height of 3m for the remainder of the park.
- Inverters and transformers: these are required to convert low voltage DC electricity generated by the PV modules into high voltage alternating current (AC) which allows the electricity to be exported to the National Grid. The unit itself tends to be containerised with associated control, switchgear equipment and transformer within a 13m x 4m x 4m (maximum dimensions) container and will be distributed throughout the Energy Park site. The inverters can also be mounted in a box onto the underside of the solar panels, these are known as string inverters.
- Cabling (including extra high, high, and low voltage power, earthing, communication, and control) – below ground for the grid connection to Bicker Fen, and in trenches and/or behind the panels on the Energy Park.
- Energy Storage Systems (ESS): proposed to be located in the central section of the Energy Park site and will be housed in a series of individual containers. A maximum of 5.3ha is set aside for this element of the development and the maximum dimensions of each individual container is 13m x 4m x 6m. The ESS is likely to include energy storage containers, inverters / transformers and system controllers but its final design has not yet been determined.

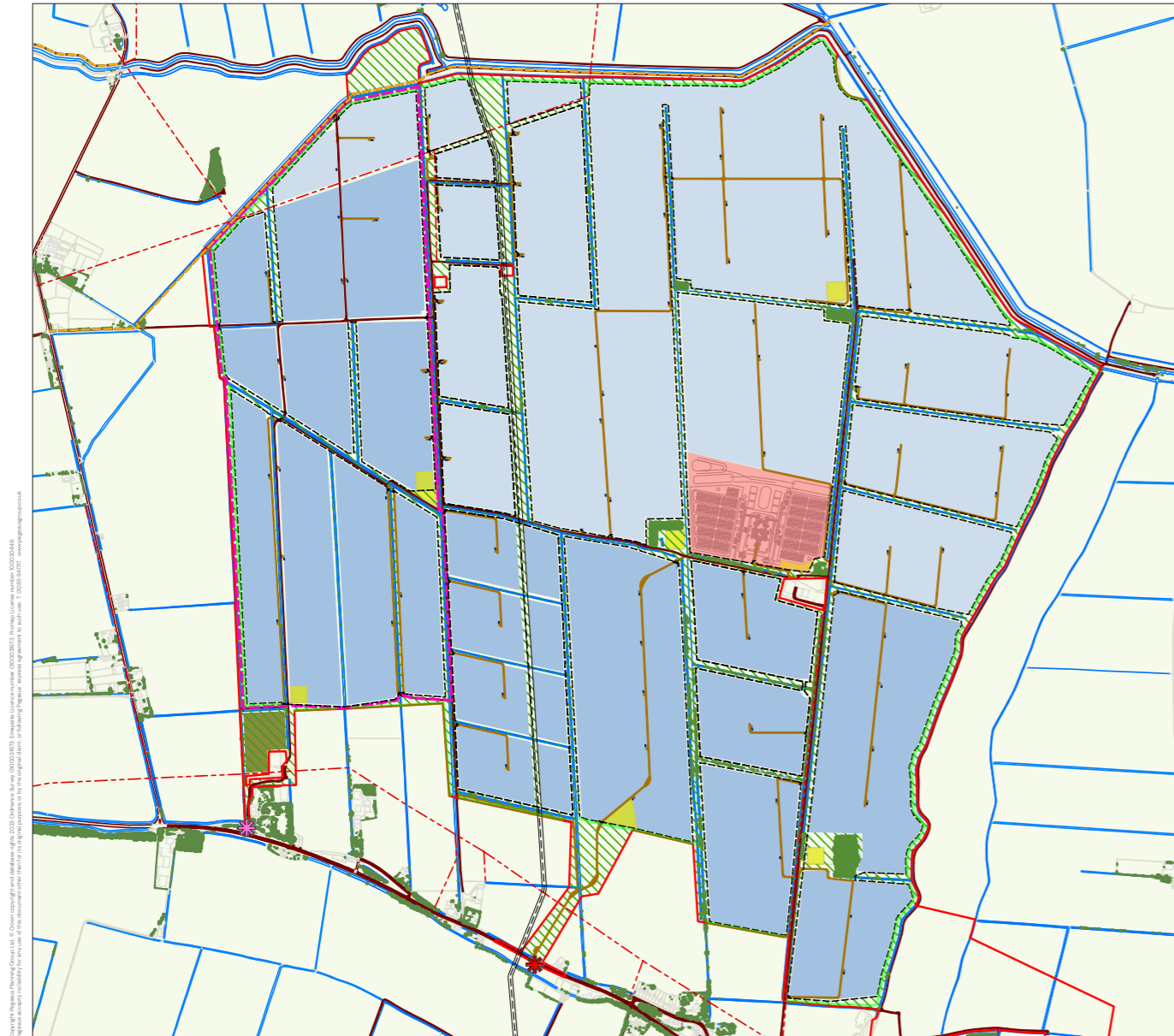


FIGURE 4: INDICATIVE SITE LAYOUT



KEY

- Order Limits
- Security Fence
- Proposed Site Entrance
- Temporary Access
- Existing Road / Track
- Access Tracks
- Solar Park Zone Max Height 3.5m
- Solar Park Zone Max Height 3m
- Public Right of Way
- Proposed Permissive Footpath
- Habitat Enhancement Area
- Existing Vegetation
- Community Orchard
- Water Feature / Ditch
- Culvert
- Gas Pipeline
- 11kV Overhead Lines
- Inverters and Transformation Station
- Site Main Substation / Energy Storage Compound
- Construction and Operational Compounds
- Proposed Hedge

- Onsite 400kV Substation comprising a substation and control buildings: the Main Substation area will include up to 3no. main step up Transformers (15m x 10m x 12m), one of which will be an on-site spare; 4no. Auxiliary Transformers (4m x 4m x 4m); 4no. Distribution Substations (15m x 5m x 4m); 8 lighting column each less than 1m in area with a height of up to 6m; 1no. substation control room (12m x 5m x 4m).
- Fencing, gatehouses, and security measures: the fence will enclose the operational areas of the Energy Park site and is likely to be a metal mesh fence of approximately 3m in height.
- Internal access tracks.
- Community orchard.
- Permissive path.
- Construction of new access point onto highway.
- Landscaping including creation of new habitat areas.
- Construction areas, worker facilities, temporary compounds, and infrastructure.
- Digging of cable trench and laying cables for connection to the National Grid Bicker Fen Substation.
- Installing access points along the Cable Route Corridor for the grid connection.
- Extension of National Grid Bicker Fen Substation (including the Additional Works (AW1/AW2) and installation of above ground equipment.

ONSITE AND OFFSITE CABLE ROUTE CORRIDOR

The onsite cabling will connect the solar panels and the ESS to the onsite 400kV substation. There will also be cabling connecting buildings and equipment. All of this cabling will be laid below ground. It is estimated that there will be approximately 50km of onsite cabling laid through this Proposed Development.

Cables will then leave the substation (400kV) and run to National Grid Bicker Fen Substation via the Offsite Cable Route Corridor. Areas of landscaping that may need to be removed related to sections within the Offsite Cable Route Corridor have been assessed in the LVIA Chapter.

ACCESS

There are number of access points into the Energy Park site from the A17, the existing access point near the 'Build-A-Future East Heckington' facility at Elm Grange is proposed to be used for the initial phase of construction. The initial phase of construction will include the construction of a new point of access onto the Energy Park Site also from the southern boundary and would form a new access point off the A17. This new access point will be used for the remaining stages of the construction process and the operational activities for the Energy Park site. The access was approved for the wind turbine application but not built out. It offers a greater distance from properties compared to using one of the existing site accesses.

The proposed access is shown on **Figure 5** (document reference 6.2.4).

BICKER FEN SUBSTATION WORKS

The electricity generated will be exported via a connection from the Energy Park Site to the existing National Grid Bicker Fen Substation. This will be done via an underground cable laid within the Offsite Cable Route

Corridor.

The connection will require an extension to the existing substation at the National Grid Bicker Fen Substation. This extension will be to the south-west of the existing substation site. The area of land required for the Heckington Fen element of the extension has an approximate footprint of 27160m² (subject to National Grid Electricity Transmission (NGET) design). This extension will include a new generation bay, a new generation bay control room, cable sealing end amid a section of perimeter access road. Within the new Generation Bay will be electrical equipment required for connection to the Transmission system. Detailed design work for the extension by NGET is yet to commence and so flexibility in land use is required. Two design options are under consideration including Air Insulated Switchgear (AIS) and Gas Insulated Switchgear (GIS). Only one of these design options would be built. The new equipment will look similar to the equipment already installed at the National Grid Bicker Fen Substation site, however if a GIS solution is brought forward, it would be partly housed in a barn structure. The approximate area of land required for all items within the GIS solution would be 75m x 75m x 15m, and the GIS barn structure dimensions within that area are 30m x 20m x 15m. NGET have committed that no SF6 gas will be used in a GIS solution if pursued. An AIS solution would be an approximate footprint of 14112m².

As part of the Additional Works (AW2) a cable sealing end (CSE) will be installed on land immediately west of the National Grid Bicker Fen Substation. This is a connection point to transition between underground cable and above ground apparatus such as electrical bus-bars or overhead lines. The new equipment will look similar to the equipment already installed at the Bicker Fen Substation. The approximate area of land required for the CSE would be 9041m², and 15m in height.

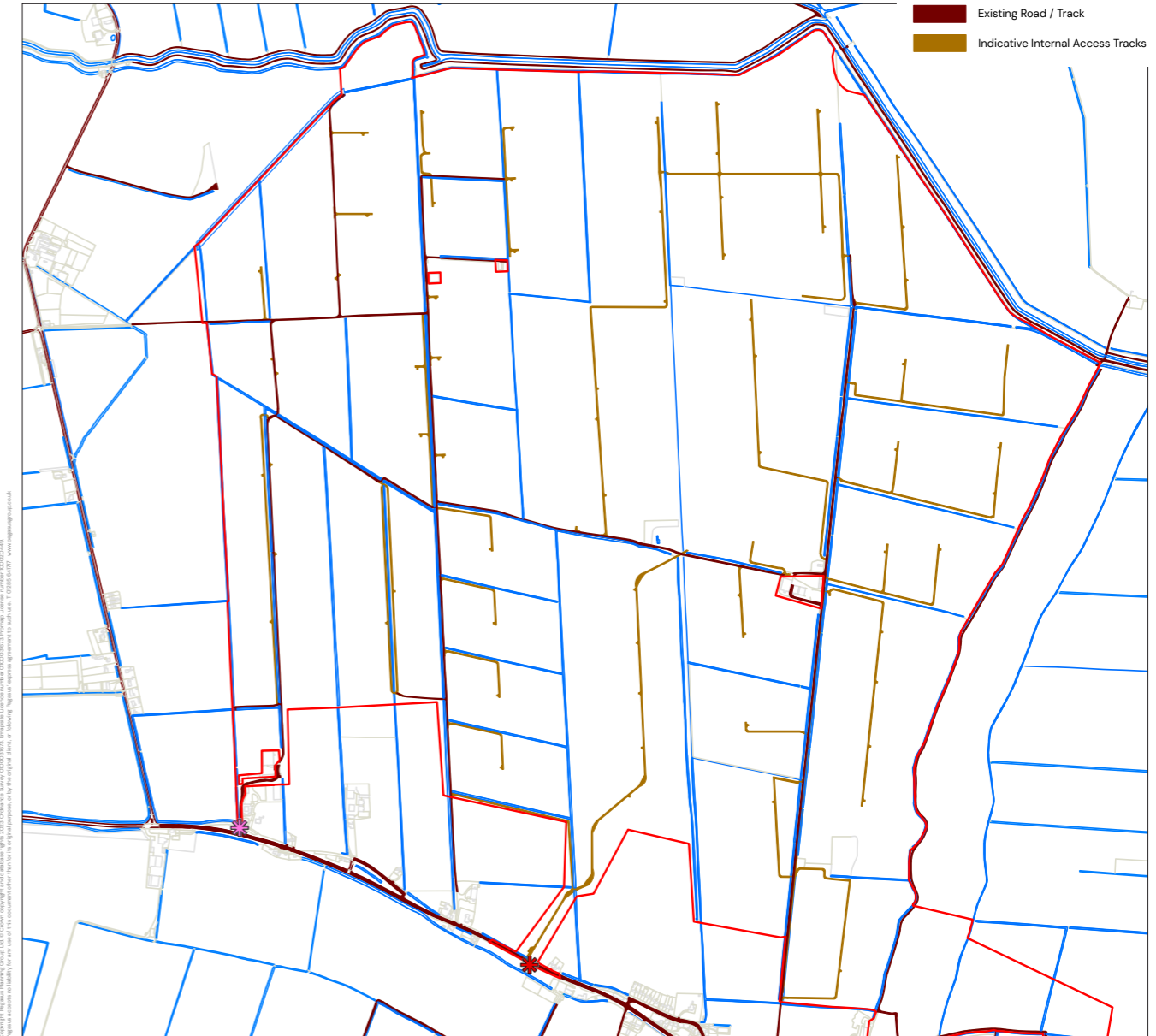
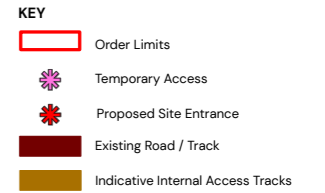


FIGURE 5: PROPOSED SITE ACCESS AND INTERNAL TRACKS



CONSTRUCTION

It is currently anticipated that (subject to the necessary consents being granted) construction work will commence, at the earliest in the Spring of 2025 and will run for 30 months. The extension works at Bicker Fen Substation alone are estimated to have a construction timescale of 60 weeks. The earliest the Proposed Development will commence commercial operation is anticipated to be Autumn 2027.

The types of construction activities that may be required include (but are not limited to):

- Importing of construction materials;
- Culverting some ditches on the Energy Park site;
- The establishment of the construction compound(s) – these will likely move over the course of the construction process as each phase is built out, a maximum of 6 are proposed;
- Creation of a new access point for the Site (A17) – this will be one of the first items within the construction programme to ensure that the majority of the construction traffic enters the Energy Park site from this new access point;
- Installing the security fencing around the Energy Park site;
- Importing the PV panels and the energy storage equipment;
- Erection of PV frames and modules;
- Digging cable trenches and laying cables onsite;
- Installing inverter/transformer cabins;
- Construction of onsite electrical infrastructure for the export of generated electricity
- New habitat creation;
- Creation of the permissive path;
- Digging of cable trench and laying cables for connection to the National Grid Bicker Fen Substation within the Cable Route Corridor;

- Installing above ground grid cable access points along the offsite Cable Route Corridor;
- Improving existing access points off Highways for construction access for Cable Route Corridor;
- Clearance of plantation woodland on land south of the National Grid Bicker Fen Substation;
- Installing new technical equipment within an extension to the National Grid Bicker Fen substation; – required for both AIS and GIS design;
- Planting new Community Orchard; and
- Creating new ecological habitats within the Habitat Enhancement Areas.

OPERATION AND DECOMMISSIONING

Once operational human activity on the Energy Park site will be minimal and would be restricted principally to vegetation management, equipment maintenance and servicing, replacement of any components that fail, monitoring to ensure the continued effective operation of the Proposed Development and the shepherd gaining access to the Energy Park site for managing the flock. The operational life of the Proposed Development is to be 40 years and decommissioning is therefore estimated to take place no earlier than 2067. Decommissioning is expected to take in the region of 6–18 months and will be undertaken in phases. All PV modules, mounting poles, cabling above 1m below ground (on and off site) (any cabling buried 1m+ below ground will not be removed at decommissioning), substations, energy storage equipment, inverters, transformers etc would be removed from the Proposed Development. These items would be recycled or disposed of in accordance with good practice and market conditions at the time. It is anticipated that after the 40 years of operation the whole of the Energy Park site will revert to its current use and be used by the Landowner, likely for agricultural operations of their choice, and determined by the global markets at that time.

ALTERNATIVES

The layout of the Proposed Development has evolved iteratively taking into consideration environmental effects, the planning and environmental policy objectives and scheme functionality as well as feedback from stakeholders and non-statutory public consultation (informal and formal) between October 2021 and December 2022.

The EIA Regulations note the provision for **“A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects”**.

The main alternatives to the Proposed Development which the Applicant has considered comprise:

- The ‘No Development’ Alternative;
- Alternative Designs/layouts;
- Alternative Sites;
- Alternative Cable Route Corridors; and
- Alternative Technologies.

The ‘No Development’ alternative would result in the loss of opportunity for providing much needed renewable energy generation within the UK and the Energy Park site would continue to be in primarily agricultural use. No further assessment has been undertaken for the ‘No Development’ scenario because this option is not considered a reasonable alternative to the Proposed Development as it would not deliver the additional electricity generation and electricity storage proposed.

A back-check and review of some thirteen sites with associated cable routes were considered for the location of the Proposed Development, however none of these were considered to offer a viable alternative. The Energy Park site was chosen as a suitable site for a number of reasons including; a landowner agreement

already being in place, the Energy Park site is neatly contained with a single landowner, the orientation of the land and its open nature makes the Energy Park site suitable for efficient energy generation, there are no environmental designations within or in close proximity to the Energy Park Site and the site provides an economically achievable grid connection.

Alternative technologies which have been considered include onshore wind, ground mounted solar with a tracking panel system, agrivoltaics (with the possibility of growing crops underneath the solar panels), tidal power, offshore wind and hydroelectric storage. These technologies were assessed against the site and were not considered feasible due to the nature and location of the site or were not considered economically viable for the Energy Park site.

As part of the iterative EIA and design process, the design of the Proposed Development has evolved to take account of various environmental constraints and opportunities over many years, including previously approved planning applications. In this respect, environmental desktop and on-site reviews, interim assessments of the emerging Proposed Development and relevant knowledge gained from environmental baseline surveys and extensive consultation with consultees, have influenced the evolution of the proposals. In adopting this iterative design process, this has enabled the early identification of mitigation measures which have then become inherent in the design.

In essence, over the period of the development of Indicative Site Layout (document reference 6.2.2), shown in **Figure 4**, and the associated environmental work, the design of the Proposed Development has been influenced by the key constraints and opportunities, which in turn have helped refine and structure the scheme to the parameters now seeking approval.

LANDSCAPE AND VISUAL AMENITY

The Landscape and Visual Amenity chapter of the ES (document reference 6.1.6) has sought to determine the effects upon the identified landscape character and visual receptors and determine whether such effects would be significant. In line with best practice and policy requirements, it considers the effects during the construction, operation, and decommissioning stages.

The Proposed Development encompasses the Energy Park, including the Onsite Substation and Energy Storage System and Cable Route Corridor, Off-site Cable Route Corridor, and National Grid Bicker Fen Substation Extension Works (including the Additional Works areas south and west of the Substation – AW1 and AW2). The Energy Park comprises solar modules infrastructure, onsite cabling, ancillary infrastructure, and the Onsite Substation and Energy Storage System, and is located to the north of the A17 across Heckington Fen. The Off-site Cable Route Corridor and National Grid Bicker Fen Substation Extension Works are located south of the A17 and within Bicker Fen.

This Chapter of the ES (document reference 6.1.6) has considered the Proposed Development in terms of its maximum parameters: the extent and height of the solar modules, substation elements, and fencing. This Chapter (document reference 6.1.6) has also set out the main policies and guidance relevant to landscape and visual matters based on the Overarching National Policy Statement for Energy (EN-1) and National Policy Statement for Renewable Energy Infrastructure (EN 3) and their current drafts. In addition, policies provided in the National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG) have also been reviewed to inform the approach and assessment work. The provided assessment is based on established best practice methodologies.

BASELINE CONDITIONS

The Proposed Development is not located within any national statutory protected landscape designations. It does not lie within any regional or local non-statutory landscape designations, either. It is not considered to be of high value in the context of the National Planning Policy Framework (NPPF).

The Order limits falls within National Character Area 46 The Fens.

The North Kesteven Landscape Character Assessment, prepared by David Tyldesley and Associates for North Kesteven District Council, has been reviewed. The Energy Park has been identified as falling within the medium sensitivity The Fens Regional Landscape Character Type in the east of the district, and the Fenland Landscape Character Sub-Area.

The Off-site Cable Route Corridor, and National Grid Bicker Fen Substation Extension Works has been identified as being located within the medium sensitivity Landscape Type (LT) A Reclaimed Fen and more specifically its Landscape Character Area (LCA) A1 Holland Reclaimed Fen, as identified within the Landscape Character Assessment of Boston (2009) published by Boston Borough Council.

With regard to the visual receptors, receptors in East Heckington, road users associated with Sidebar Lane and the A17, the railway line between Heckington to the west and Boston to the east, and nearest PRoWs have been considered relevant, based on the preliminary assessment carried out at the PEIR stage and as confirmed in this Chapter of the ES (document reference 6.1.6).

The assessment has reviewed the local PRoWs, shown on **Figure 6**, located at varying distances and offering a variety of views. Those that have been judged to be relevant to this process have been listed below:

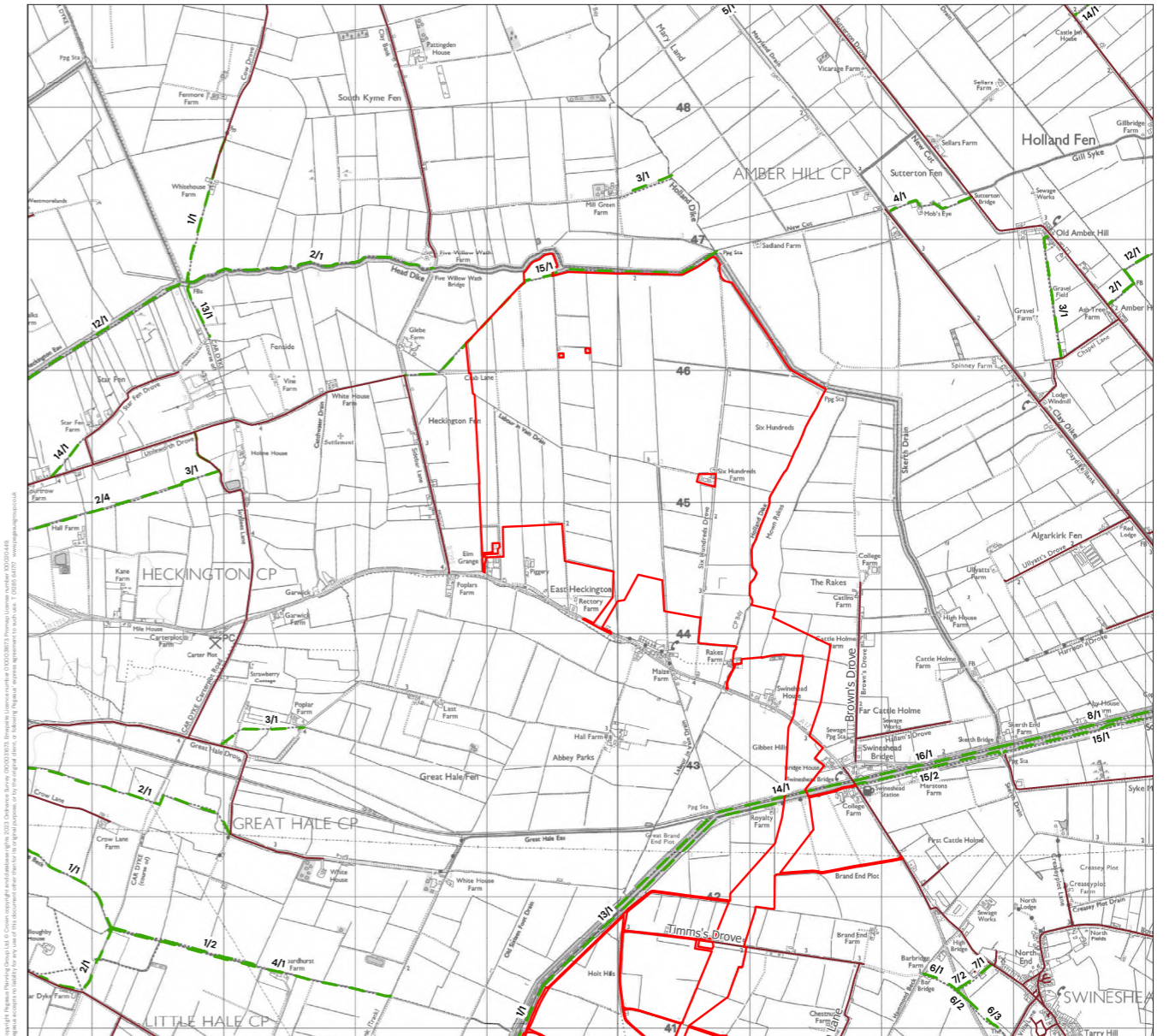


FIGURE 6: VISUAL RECEPTORS PLAN - ENERGY PARK

