



SUNNICA ENERGY FARM

EN010106

Volume 6

Environmental Statement

6.1 Chapter 8: Ecology and Nature Conservation

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Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and
Procedure) Regulations 2009



Planning Act 2008

**The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009**

Sunnica Energy Farm

Environmental Statement

Chapter 8: Ecology and Nature Conservation

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8 Ecology and Nature Conservation

8.1 Introduction

8.1.1 This chapter of this Environmental Statement (ES) identifies and proposes measures to address the potential impacts and effects of the Scheme on ecology and nature conservation (collectively referred to as biodiversity within this chapter) during construction, operation and decommissioning. It provides an evaluation of relevant important ecological receptors, including nature conservation designations, priority habitats, protected species and scheduled invasive non-native species (INNS) associated with the Scheme, with each being assigned a nature conservation value (sensitivity (value)). The Scheme's potential direct and indirect impacts and effects on ecological receptors and their conservation status, inter-relationships, and their contribution to local (and if appropriate county, regional and national) biodiversity are identified. This assessment takes into account impact avoidance design measures and management activities when determining the significance of potential effects. The requirement for any further mitigation measures is then described and mitigation and monitoring measures are also considered in the assessment of potential residual effects.

8.1.2 Consultation responses and scoping opinions, based on the EIA Scoping Report for the Scheme (Ref 8-1) and as part of the on-going consultation and engagement have been taken into account during the preparation of this chapter. Consideration is also given to other known projects and activities and specifically to the potential for interaction between the Scheme and other projects resulting in cumulative effects.

Supporting Information

8.1.3 This chapter is supported by the following appendices in **Volume 2** of this Environmental Statement [**EN010106/APP/6.2**]:

- a. Appendix 8A – Relevant legislation and policy;
- b. Appendix 8B – Preliminary Ecological Appraisal report;
- c. Appendix 8C – Terrestrial habitats and flora report;
- d. Appendix 8D – Terrestrial Invertebrate survey report;
- e. Appendix 8E – Aquatic Ecology report;
- f. Appendix 8F – Great Crested Newt survey report;
- g. Appendix 8G – Report on surveys for reptiles;
- h. Appendix 8H – Wintering bird survey report;
- i. Appendix 8I – Report on surveys for breeding birds;
- j. Appendix 8J – Report on surveys for bats;
- k. Appendix 8K – Badger survey report;
- l. Appendix 8L – Report on surveys for riparian mammals; and

- m. Appendix 8M – Habitats Regulations Assessment: Report to Inform an Appropriate Assessment.
- 8.1.4 Full details of the study areas, survey methodologies, survey dates and guidance used for each survey are available in the reports as detailed above (and included as technical appendices (**8B to 8L**)). A summary of survey findings is provided further on in this chapter.
- 8.1.5 A separate Habitat Regulations Assessment (HRA): Report to Inform an Appropriate Assessment (**Appendix 8M** of this Environmental Statement [**EN010106/APP/6.2**]) has been prepared in accordance with the requirements of The Conservation of Habitats and Species Regulations 2017 (Ref 8-2) to set out whether the Scheme is likely to have any significant effect on European designated sites and to provide the information to allow the Secretary of State to carry out an Appropriate Assessment of the Scheme.
- 8.1.6 This biodiversity chapter is also supported by an Outline Landscape and Ecology Management Plan (OLEMP) (**Appendix 10I** of this Environmental Statement [**EN010106/APP/6.2**]), the purpose of which is to set out the key measures required to avoid, mitigate and compensate for impacts and effects to terrestrial biodiversity and landscape from the construction and operation of the Scheme. The OLEMP will also provide management prescriptions aimed at ensuring the Scheme delivers a net gain for biodiversity over the long term.
- 8.1.7 A Framework Construction Environmental Management Plan (Framework CEMP) (**Appendix 16C** of this Environmental Statement [**EN010106/APP/6.2**]), Framework Operational Environmental Management Plan (Framework OEMP) (**Appendix F** of this Environmental Statement [**EN010106/APP/6.2**]) and Framework Decommissioning Environmental Management Plan (Framework DEMP) (**Appendix E** of this Environmental Statement [**EN010106/APP/6.2**]) have been prepared for the Scheme, to manage any environmental effects of the Scheme and to demonstrate compliance with environmental legislation.
- 8.1.8 Effects on ecological resources from infrastructure projects can arise from direct and indirect impacts upon designated sites, habitats or species, and be of a temporary or permanent nature. Indirect effects can occur through pollution of air and water and via changes in lighting, noise or hydrology, and this biodiversity chapter is therefore supported by information contained within the following chapters of this Environmental Statement [**EN010106/APP/6.1**]:
- a. Chapter 6: Climate Change;
 - b. Chapter 9: Water Environment;
 - c. Chapter 10: Landscape and Visual Amenity;
 - d. Chapter 11: Noise and vibration; and
 - e. Chapter 14: Air Quality.

- 8.1.9 This chapter is supported by the following figures in **Volume 3** of this Environmental Statement [EN010106/APP/6.3]:
- Figure 8-1: Statutory Designated Sites within 10km (International) and 2km (National) of the Order limits;
 - Figure 8-2: Non-statutory sites within 2km of the Order limits; and
 - Figure 8-3: Phase 1 Habitat Map.
- 8.1.10 This chapter should also be read in conjunction with Chapters 1 to 5 of this Environmental Statement [EN010106/APP/6.1].
- 8.1.11 Abbreviations and capitalised terms are defined in the Glossary, Chapter 0 of this Environmental Statement [EN010106/APP/6.1].

8.2 Legislation and Planning Policy

- 8.2.1 **Appendix 8A** of this Environmental Statement [EN010106/APP/6.2] identifies the legislation, policy, and guidance of relevance to the assessment of significant biodiversity effects of the Scheme.
- 8.2.2 Compliance with legislation may require obtaining relevant protected species licences prior to the implementation of the Scheme, which is considered further on in this chapter.

8.3 Assessment Assumptions and Limitations

- 8.3.1 Habitat and species information referenced in the assessment has been collected from site surveys undertaken on land within and around the Order limits between November 2018 and June 2021.
- 8.3.2 Specific assumptions and limitations relevant to each survey, including how any limitations have been overcome, are included within the relevant technical reports presented in **Appendices 8B to 8M** of this Environmental Statement. It is not considered that any of the survey specific constraints represent a significant limitation or data gap and that the baseline that has been established is suitably robust. Consequently, the assessment it has informed, presented in this chapter, is also adequately robust.
- 8.3.3 The desk study presented in this chapter was undertaken in 2019 and informed by the Order limits as submitted for Scoping in 2019. Since the Scoping process, the design of the Scheme has evolved and the Scheme is that described in **Chapter 3: Scheme Description** of this Environmental Statement [EN010106/APP/6.1]. The data has informed the scope of the detailed surveys undertaken in support of the DCO and fully cover the Order limits and appropriate receptor zones of influence.
- 8.3.4 The assessment of all the phases of the Scheme is based upon the parameters set out in Schedule 1 of the draft DCO [EN010106/APP/3.1] and shown on the Works Plans [EN010106/APP/2.2]. These are described in **Chapter 3: Scheme Description** of this Environmental Statement [EN010106/APP/6.1].

8.3.5 The assessment of the construction phase impacts has been based on a 24-month construction programme as outlined in **Chapter 5: EIA Methodology** of this Environmental Statement [EN010106/APP/6.1]. It is noted that the construction duration may extend beyond the 24 months or be phased. However, the impacts described in this chapter are a reasonable worst case and would be the same or lesser if the construction programme was extended or undertaken over a longer period. It has been assumed that the impacts on biodiversity features during decommissioning of the Scheme are likely to be the same as construction. Upon decommissioning, the physical infrastructure will be removed and the land within the Order limits returned to landowners, including established habitats. Management and use of the land will then be in the control of the then landowner.

8.4 Assessment Methodology

Study Area

8.4.1 The Scheme comprises the following key areas as shown on the illustrative parameter plan (Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3]), located within the administrative areas of West Suffolk Council (WSC) and East Cambridgeshire District Council (ECDC):

- a. Solar Farm Sites (including onsite substations and Battery Energy Storage Systems (BESS) and associated infrastructure):
 - i. Sunnica East Site A (within WSC and ECDC) (223ha);
 - ii. Sunnica East Site B (within WSC) (319ha);
 - iii. Sunnica West Site A (within ECDC) (373ha); and
 - iv. Sunnica West Site B (within ECDC) (66ha).
- b. Associated electrical infrastructure for connection to the national transmission system comprise:
 - i. Grid Connection Route A (for the purposes of this assessment Grid Connection Route A has been split into 'A1' and 'A2' as follows: 'A1' - connecting Sunnica East Site A with Sunnica East Site B (within WSC) and then 'A2' connecting to the Sunnica West Site A (predominantly within ECDC, with a small section in WSC));
 - ii. Grid Connection Route B (for the purposes of this assessment Grid Connection Route B has been split into 'B1' and 'B2' as follows: 'B1' - connecting Sunnica West Site A and Sunnica West Site B and 'B2' connecting to the Burwell National Grid Substation (all within ECDC)); and
 - iii. Burwell National Grid Substation Extension (within ECDC).

8.4.2 A description of the Scheme is provided in **Chapter 3: Scheme Description** of this Environmental Statement [EN010106/APP/6.1].

8.4.3 All designated sites, sensitive habitats, and species of importance that occur within the ecological Zone of Influence (Zoi) of the Scheme were considered in this assessment. The extent of Zoi varies according to the ecological receptor in question and with regard to the precautionary principle to ensure

sufficient data were gathered to meet any design iterations which may change the likely Zol used to undertake the impact assessment.

- 8.4.4 A desk study (see Sections 8.4.6 to 8.4.12 of this chapter) enabled the determination of appropriate study areas, within which all important biodiversity features requiring assessment, as well as biodiversity features that could be directly or indirectly affected by the Scheme, were subject to field survey. Table 8-1 presents the study (survey) areas used for each species (or species group) within the appropriate Zol.

Establishment of the Baseline Conditions

- 8.4.5 Establishment of the baseline environment, within the Zol, involved reference to existing data sources, consultation with statutory bodies and other organisations and field surveys.

Sources of information

- 8.4.6 A desk study was undertaken to identify sites designated for their biodiversity value and records of protected and, or, notable habitats and species (biodiversity features) and invasive non-native species that are potentially relevant to the Scheme.

- 8.4.7 The desk study included a search for:

- a. Sites of international conservation value (Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites) within 10 km of the Order limits as well as any SACs within 30km of the Order limits where bats are noted as the, or one of the, qualifying features;
- b. Statutorily designated sites of national nature and geological conservation value, e.g. Sites of Special Scientific Interest (SSSIs) and Local Nature Reserves (LNRs) within 2km of the Order limits;
- c. Non-statutorily designated sites of nature and geological conservation value, e.g. Local Wildlife Sites (LWSs) (which includes ancient woodland), within 2km of the Order limits;
- d. Ancient woodland and other notable habitats within 2km of the Order limits; and
- e. Records of protected or notable species within 2km of the Order limits.

- 8.4.8 The Cambridgeshire & Peterborough Environmental Records Centre (CPERC) and Suffolk Biodiversity Information Service (SBIS) were contacted in December 2018 to gain information on pre-existing ecological information (*i.e.* location of LWSs, records of protected and notable species and habitats within 2km of the Order limits as well as any invasive non-native species). These data (in respect of age and coverage) were used to inform the scope and extent of further ecological surveys.

- 8.4.9 Fish, macroinvertebrate and macrophyte species records were obtained from the Environment Agency (EA) Freshwater Fish Surveys Database (NFPD) via Ecology and Fish Data Explorer (Ref 8-3).

- 8.4.10 Online data resources that were reviewed included:
- Multi-Agency Geographic Information Centre (MAGIC) (Ref 8-3) for the location (and details) of statutorily designated sites, ancient woodland and notable habitats;
 - Joint Nature Conservation Committee (JNCC) website (Ref 8-4) for details of SACs and SPAs, including site information and designation details; and
 - National Biodiversity Network (NBN) Gateway (Ref 8-5) for details on any protected and/ or notable species.
- 8.4.11 Protected and notable habitats and species included those listed under Schedules 1, 5 and 8 of the Wildlife and Countryside Act, 1981 (as amended) (Ref 8-6); Schedules 2, 4 and 5 of the Habitat Regulations (Ref 8-2); and species and habitats of principal importance for nature conservation in England listed under Section 41 of the NERC Act (Ref 8-7). Other habitats and species have also been considered and assessed on a case by case basis, e.g. those included in national, regional or local Red Data Books and Lists but not protected by legislation. This is consistent with the requirements of relevant planning policy.
- 8.4.12 Records of invasive non-native species, as listed under Schedule 9 of the Wildlife & Countryside Act 1981, as amended (Ref 8-6) and the Invasive Alien Species (Enforcement and Prohibition) Order 2019 (Ref 8-8), were also collated and have been taken into account when assessing the potential ecological effects of the Scheme.

Field Surveys

- 8.4.13 The requirement for ecological field surveys was determined following the Preliminary Ecological Appraisal (PEA), which was undertaken in October 2018, subsequently updated through 2019 and 2020; and then between January and April 2021 to reflect changes in the Order limits (**Appendix 8B** of this Environmental Statement [**EN010106/APP/6.2**]).
- 8.4.14 The PEA consisted of four components: the desktop study data review, a walkover to assess the quality of aquatic habitats in local watercourses within 1km of the Scheme, a Phase 1 Habitat survey, and a scoping survey for protected species and other species of conservation concern.
- 8.4.15 The Phase 1 Habitat survey followed the standard method '*Handbook for Phase 1 habitat survey: A technique for environmental audit*' (JNCC, 2010) (Ref 8-9). In summary, this comprised walking over the habitat within the Order limits and recording the habitat types and boundary features present.
- 8.4.16 The aquatic scoping survey (included within **Appendix 8B** of this Environmental Statement [**EN010106/APP/6.2**]) of this Environmental Statement) was used to assess the potential for waterbodies to support protected or notable species and inform further survey work

- 8.4.17 A protected species scoping survey was carried out in conjunction with the Phase 1 Habitat survey. This led to the recommendation of field surveys for certain protected or notable habitats and species (**Appendix 8B** of this Environmental Statement [**EN010106/APP/6.2**]).
- 8.4.18 A number of Survey Areas were then defined and applied in the assessment, based on the consideration of the likely Zol of the Scheme on a given biodiversity feature.
- 8.4.19 The definition of Survey Areas was developed using a combination of professional judgement and guidance issued by the Chartered Institute of Ecology and Environmental Management (CIEEM) (Ref 8-10), which define the zone of influence as: “...*the area over which biodiversity features may be affected by biophysical changes as a result of the proposed project and associated activities*”.
- 8.4.20 In defining individual Survey Areas, consideration was given to the geographic location, nature and scale of the Scheme (see **Chapter 3: Scheme Description** of this Environmental Statement [**EN010106/APP/6.1**]).
- 8.4.21 Field surveys were then undertaken to characterise the ecological baseline within the relevant Survey Areas presented in **Table 8-1**. Further details regarding the definition of these Survey Areas and any limitations are presented in the associated survey reports within **Appendices 8B to 8M** of this Environmental Statement. The Survey Areas vary according to the spatial characteristics of each species or habitat potentially impacted but reflect standard professional good practice and the distances that statutory consultees would typically expect to be considered for identification of features external to the Scheme that could be affected. This is informed by published guidance and professional judgement. The scope of surveys and study areas were presented, discussed and agreed with consultees at ecology workshops. Further justification on these extents are included in the relevant technical appendices (**8B to 8M**).
- 8.4.22 **Table 8-1** presents details of the coverage, date and status of the field surveys undertaken to date within the relevant Survey Areas.
- 8.4.23 Formal surveys for Hedgehog *Erinaceus europaeus* and Brown Hare *Lepus europaeus* were not undertaken but consideration for their presence, or potential presence, is included further on in this chapter.

Table 8-1: Ecological field surveys completed

Survey and relevant technical appendix	Survey Area (see Section 8.4.4)	Survey Methodology	Date of Survey Period
Aquatic scoping surveys (Appendix 8B of this Environmental Statement [EN010106/APP/6.2])	All waterbodies identified within the Order limits and up to 1km from the Order limits.	Walking accessible and safe stretches of waterbody banks, noting physical habitat features such as riparian cover, channel substrate, habitat type, modifications and in-stream vegetation to assess the potential for waterbodies to support protected or notable species and inform further survey work.	August 2019 and January 2021
Phase 1 Habitat (Appendix 8B of this Environmental Statement [EN010106/APP/6.2])	Main habitats within the Order limits and to a maximum of 50m from the Order limits, where viewable or access permitted.	Walkover of the Order limits recording the habitat types and boundary features present followed the standard method ' <i>Handbook for Phase 1 habitat survey: A technique for environmental audit</i> ' (JNCC, 2010) (Ref 8-9).	Commenced in November 2018, with subsequent surveys as a result of changes to the Order limits, undertaken in 2019 and 2020
Terrestrial Habitats and Flora (including any invasive non-native species) (Appendix 8C of this Environmental Statement [EN010106/APP/6.2])	The areas of terrestrial habitat subject to further detailed survey were those identified from the initial Phase 1 habitat survey and desk study information, which have the potential to be affected by the Scheme. The Survey Area was the Order limits plus a 50m survey buffer from the Order limits, where access was available.	Grasslands were surveyed in accordance with the standard methodology for National Vegetation Classification (NVC) survey as detailed for grasslands in Rodwell (1992) (Ref 8-11). Surveys for arable flora involved walking field boundaries and comparable areas of marginal habitat to record notable species (Stroh <i>et al.</i> , 2015 (Ref 8-14), Mcleod <i>et al.</i> , 2017 (Ref 8-15), Byfield & Wilson, (2005) (Ref 8-16).	May and July 2019 on the Solar Farm Sites, with subsequent surveys in May and August 2020, to re-affirm baseline conditions. Surveys of the Grid Connection Routes undertaken in May 2021
Hedgerows (Appendix 8C of this Environmental Statement [EN010106/APP/6.2])	Hedgerows potentially affected by the Scheme within the Order limits.	Selected hedgerows subject to potential impacts, such as for Traffic Access Points, were surveyed and assessed for their 'importance' against the Wildlife and Landscape Criteria, detailed in the Hedgerow Regulations (Ref 8-17).	May and June 2021

Survey and relevant technical appendix	Survey Area (see Section 8.4.4)	Survey Methodology	Date of Survey Period
Terrestrial Invertebrates (including any invasive non-native species) (Appendix 8D of this Environmental Statement [EN010106/APP/6.2])	Order limits and to a maximum of 50m beyond the Order limits, where access permitted. Areas subject to further detailed surveys were those which have the potential to be affected by the Scheme.	Desk-based study using satellite imagery and the Phase 1 habitat map, was followed by three seasonal survey visits to evaluate the habitats on site and potential of those habitats to support protected or notable terrestrial invertebrates. Pitfall trapping and direct searching was then undertaken in areas of the most suitable habitats within the Order limits.	May to October 2019 and May to August 2020
Aquatic macrophyte and macro-invertebrate surveys, including the presence of any invasive non-native species (Appendix 8E of this Environmental Statement [EN010106/APP/6.2])	Aquatic habitats, such as ditches and rivers, within the Order limits that were identified for survey based on a review of desk study data, the aquatic scoping survey site walkover and Phase 1 Habitat survey mapping.	Survey methodology was based on the method 'A <i>Manual for the Survey and Evaluation of the Aquatic Plant and Invertebrate Assemblages of Grazing Marsh Ditch Systems, Version 6</i> ' (Buglife, 2013) (Ref 8-18).	September 2019
Fish including any invasive non-native species (Appendix 8E of this Environmental Statement [EN010106/APP/6.2])	All waterbodies within the Order limits and up to 1km from the Order limits.	Based on a review of Environment Agency Freshwater Fish Surveys Database (NFPD) (Ref 8-3).	January 2019, with subsequent check for updates to this database made in April 2021

Survey and relevant technical appendix	Survey Area (see Section 8.4.4)	Survey Methodology	Date of Survey Period
<p>Great Crested Newt <i>Triturus cristatus</i> (Appendix 8F of this Environmental Statement [EN010106/APP/6.2])</p>	<p>The desk study, using maps and aerial photography, identified a total of 38 waterbodies or watercourses within 500m of the Order limits, which were subject to a visual inspection or Habitat Suitability Index (HSI) survey.</p> <p>Further surveys were then undertaken, on waterbodies or watercourses most likely to support Great Crested Newt, with:</p> <ul style="list-style-type: none"> - eDNA samples taken and analysed for ten ponds / waterbodies; and - standard field survey techniques to determine presence or absence (and population size, if required) used for one pond. 	<p>HSI evaluated suitability of ponds for Great Crested Newt following the methodology developed by Oldham <i>et al.</i> (2000) (Ref 8-19).</p> <p>eDNA method strictly adhered to the standard survey technique for eDNA (Biggs, 2014) (Ref 8-20).</p> <p>Great Crested Newt presence or absence and population size surveys used torch, bottle-trapping and egg searching methods all recommended by Natural England (English Nature, 2001) (Ref 8-21).</p>	<p>HSI - Feb to May 2019; and December 2020</p> <p>eDNA - Apr to May 2019, June 2020 and April 2021</p> <p>Presence or absence and population surveys - March – June 2020</p>
<p>Reptiles (Appendix 8G of this Environmental Statement [EN010106/APP/6.2])</p>	<p>Order limits and to a maximum of 50m from the Order limits, where access permitted.</p>	<p>Reptile surveys involved recording reptile species using artificial refugia in accordance with Froglife's Advice Sheet 10 for Reptile Surveys (Froglife, 1999) (Ref 8-22) and Natural England's Standing Advice Sheet for Reptiles (Natural England, 2015) (Ref 8-23).</p>	<p>May to June 2019; with subsequent surveys in September to October 2019, following changes to the Order limits</p>
<p>Wintering (non-breeding) Birds (Appendix 8H of this Environmental Statement [EN010106/APP/6.2])</p>	<p>Order limits and to a maximum of 50m from the Order limits, where access permitted.</p>	<p>Wintering bird surveys utilised transect-based walkovers and vantage point surveys following methodology detailed in 'Bird Monitoring Methods' (Gilbert <i>et al.</i>, 1998) (Ref 8-24) and 'Bird Census Techniques' (Bibby <i>et al.</i>, 2000) (Ref 8-25).</p>	<p>November 2018 to March 2019 and October 2019 to March 2020, to reflect changes to the Order limits.</p>

Survey and relevant technical appendix	Survey Area (see Section 8.4.4)	Survey Methodology	Date of Survey Period
			Update Survey of complete Order limits, undertaken between November 2020 and March 2021
Breeding Birds (Appendix 8I of this Environmental Statement [EN010106/APP/6.2])	Order limits and to a maximum of 50m from the Order limits. Appropriate Scheme buffer extended out from the Order limits for species specific surveys, e.g. Stone-curlew <i>Burhinus oedichnemus</i> .	<p>Surveys for breeding birds, including farmland species, were based on standard territory mapping methods as detailed in 'Bird Monitoring Methods' (Gilbert <i>et al.</i>, 1998) (Ref 8-24) and 'Bird Census Techniques' (Bibby <i>et al.</i>, 2000) (Ref 8-25) and were adapted, where necessary, to include species-specific methods for surveying Woodlark <i>Lullula arborea</i>, as detailed in Gilbert <i>et al.</i>, 1998) (Ref 8-24).</p> <p>Species-specific methods used for specially protected species, including: 'Barn Owl <i>Tyto alba</i> Survey Methodology and Techniques for use in Ecological Assessment' (2011) (Ref 8-26); species-specific survey methods to determine the presence or absence of breeding Nightjar <i>Caprimulgus europaeus</i> detailed by Gilbert <i>et al.</i>, (Ref 8-24); and Stone-curlew survey methods, based on the RSPB Stone-curlew monitoring protocol (Ref 8-27)</p>	<p>March to June 2019 and March to June 2020, to reflect Order limit changes.</p> <p>Update survey of complete Order limits, undertaken between March and June 2021</p>

Survey and relevant technical appendix	Survey Area (see Section 8.4.4)	Survey Methodology	Date of Survey Period
<p>Bats (Appendix 8J of this Environmental Statement [EN010106/APP/6.2])</p>	<p>Order limits, to a maximum of 50m from the Order limits.</p>	<p>A preliminary roost assessment (PRA) was undertaken of buildings and structures and mature trees, following guidance as described in the Bat Conservation Trust (BCT) '<i>Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd Edition</i>' (Collins, J. (ed.), 2016) (Ref 8-28).</p> <p>Following this, surveying trees with potential to support roosting bats and only those to be impacted upon by the Scheme, following standard method for bat emergence/ re-entry surveys as described in the BCT guidelines (Ref 8-28).</p> <p>Surveys for bat activity were based on standard methodology for bat activity transect surveys as described in the BCT guidelines (Collins, 2016) (Ref 8-28). Advanced Bat Survey Techniques (ABST) undertaken within a selected woodland to identify the presence of <i>Myotis</i> bat species and rare woodland species such as <i>Barbastella barbastellus</i>.</p>	<p>PRA survey – April to October 2019, August 2020 and September 2021 (PRA at Burwell National Grid Substation Extension only); and May 2021 (PRA within the Grid Connection Routes). A re-assessment of the habitats present within the Order limits was undertaken in 2021, to confirm that the survey results from 2019 were still likely to be representative of bat activity across the Scheme.</p> <p>Bat activity - April to October 2019.</p> <p>Roost surveys -August to September 2021 (Option 1 and 2 for the Burwell National Grid Substation Extension area only).</p>
<p>Badger (Appendix 8K of this Environmental Statement [EN010106/APP/6.2])</p>	<p>Order limits and to a maximum of 50m from the Order limits, where access permitted.</p>	<p>Surveys for Badger involved a walkover survey searching for signs of Badger activity as described in the Mammal Society publication, Surveying Badgers (Harris <i>et al.</i>, 1989) (Ref 8-29), and in the National Badger Survey methodology (Cresswell <i>et al.</i>, 1990) (Ref 8-30).</p>	<p>February to April 2019; and subsequent updates in December 2019 and December 2020, following changes to the Order limits.</p> <p>Survey update to Order limits, undertaken in January 2021.</p>

Survey and relevant technical appendix	Survey Area (see Section 8.4.4)	Survey Methodology	Date of Survey Period
Riparian mammals (including invasive non-native species, such as Mink <i>Mustela vison</i>) (Appendix 8L of this Environmental Statement [EN010106/APP/6.2])	All waterbodies and watercourses, identified from Ordnance Survey maps, aerial photography, site walkovers and Phase 1 Habitat survey mapping as being potentially suitable for Water Vole and Otter within the Order limits and to a maximum of 100m from the Order limits, where access permitted.	Water Vole surveys involved searching watercourses for signs of Water Vole activity as described by Strachan <i>et al.</i> , (2011) (Ref 8-31) and Dean <i>et al.</i> , (2016) (Ref 8-32). Otter surveys involved searching watercourses for signs of Otter activity, following guidance in the New Rivers and Wildlife Handbook (RSPB, NRA & RSNC, 1994) (Ref 8-33); the Environment Agency’s Fifth Otter Survey of England 2009-2010 (Environment Agency, 2010) (Ref 8-34), and ‘ <i>Monitoring the Otter</i> ’ (Chanin, 2003) (Ref 8-35).	May to August 2019 within the principal sites; with subsequent surveys between June and July 2020, following changes to the Order limits. Surveys of the Grid Connection Routes undertaken in April 2021.

Impact Assessment Method

- 8.4.24 The impact assessment, detailed in this chapter, has been undertaken in accordance with best practice guidance for Ecological Impact Assessment (EclA), issued by CIEEM (the CIEEM guidelines) entitled '*Guidelines for Ecological Impact Assessment in the UK and Ireland Terrestrial, Freshwater, Coastal and Marine*' (Ref 8-10) as summarised below. The aims of the ecology assessment are to:
- a. Identify relevant ecological features (*i.e.* designated sites, habitats, species or ecosystems) which may be impacted;
 - b. Provide a scientifically rigorous and transparent assessment of the likely ecological impacts and resultant effects of the Scheme. Impacts and effects may be positive or negative;
 - c. Facilitate scientifically rigorous and transparent determination of the consequences of the Scheme in terms of national, regional and local policies relevant to nature conservation and biodiversity, where the level of detail provided is proportionate to the scale of the development and the complexity of its potential impacts; and
 - d. Set out what steps will be taken to adhere to legal requirements relating to the relevant ecological features concerned.
- 8.4.25 The principal steps involved in the CIEEM approach can be summarised as:
- a. Ecological features that are both present and might be affected by the Scheme are identified (both those likely to be present at the time works begin and those predicted to be present at a set time in the future) through a combination of targeted desk-based study and field survey work to determine the relevant baseline conditions;
 - b. The importance of the identified ecological features is evaluated, placing their relative biodiversity and nature conservation value into geographic context, which is then used to define the relevant ecological features that need to be considered further;
 - c. The changes or perturbations predicted to result as a consequence of the Scheme (*i.e.* the potential impacts) and which could potentially affect relevant ecological features are identified and their nature described. Established best-practice, legislative requirements or other incorporated design measures to minimise or avoid impacts are also described and are taken into account;
 - d. The likely effects (positive or negative) on relevant ecological features are then assessed, and where possible quantified;
 - e. Measures to avoid or reduce any predicted significant effects, if possible, are then developed in conjunction with other elements of the design (including mitigation for other environmental disciplines) and if necessary, measures to compensate for effects on features of nature conservation importance are also included;
 - f. Any residual effects of the Scheme are reported; and

- g. Scope for ecological enhancement is considered.
- 8.4.26 It is not necessary in the assessment to address all habitats and species with potential to occur in the relevant study area and instead the focus is on those that are “relevant” *i.e.* ecological features that are considered to be important and potentially affected by the Scheme. The CIEEM guidelines (Ref 8-10) makes clear that there is no need to “*carry out detailed assessment of ecological features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable*”. This does not mean that efforts should not be made to safeguard wider biodiversity and requirements for this have been considered. National and local planning policy documents emphasise the need to achieve net gains for nature and that a core principle for planning is that it should contribute to conserving and enhancing the natural environment and reducing pollution. These considerations have been applied to the assessment methodology in this chapter.
- 8.4.27 To support a focussed assessment, there is a need to determine the scale at which the relevant ecological features identified through the desk studies and field surveys undertaken for the Scheme are of value. The value of each relevant ecological feature has been defined with reference to the geographical level at which it matters.
- 8.4.28 The frames of reference used for this assessment, based on section 4.7 in the CIEEM guidelines (Ref 8-10) are:
- a. International (*i.e.* Ramsar Sites, SACs and SPAs), normally within the geographic area of Europe;
 - b. UK or national (Great Britain, but considering the potential for certain ecological features to be more notable (of higher value) in England, with context relative to Great Britain as a whole);
 - c. Regional (East of England) – however, a geographical area for Regional importance has not been defined. A feature is of Regional importance when it is of greater importance than within the county of Cambridgeshire or Suffolk but does not reach the threshold to be of National importance;
 - d. County (Cambridgeshire and Suffolk);
 - e. District (EADC and WSC); and
 - f. Local (biodiversity features that do not meet criteria for valuation at a district or higher level, but that have sufficient value to merit retention or mitigation *e.g.* for purposes of ensuring no net loss of biodiversity).
- 8.4.29 Species populations are valued on the basis of their size, recognised status (such as recognised through published lists of species of conservation concern and designation of Biodiversity Action Plan (BAP) status) and legal protection. For example, bird populations exceeding 1% of published information on biogeographic populations are considered to be of international importance, those exceeding 1% of published data for national populations are considered to be of national importance, and so on.

- 8.4.30 In assigning values to species populations, it is important to take into account the status of the species in terms of any legal protection. However, it is also important to consider other factors such as its distribution, rarity, population trends and the size of the population which would be affected. For example, whilst the Great Crested Newt is protected as a European protected species under the relevant legislation and therefore conservation of the species is of significance at an international level, this does not mean that every population of Great Crested Newt is internationally important. It is important to consider the particular population in its context. Therefore, in assigning values to species the geographic scale at which they are important has been considered. The assessments of value rely on the professional opinion and judgment of experienced ecologists.
- 8.4.31 Plant communities are assessed both in terms of their intrinsic value and as habitat for protected species whose habitat is also specifically protected and for species of nature conservation concern which are particularly associated with them.
- 8.4.32 Due regard will also be paid to the legal protection afforded to species during the development of mitigation and compensation measures to be implemented for the Scheme. For European protected species there is a requirement that the Scheme should not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.
- 8.4.33 Assessing the value of features requires consideration of both existing and future predicted baseline conditions. Therefore, the description and valuation of ecological features takes account of any likely changes, such as trends in the population size or distribution of species, likely changes to the extent of habitats and the effects of other proposed developments or land use changes; as explained in the 'Future Baseline' section below.
- 8.4.34 In line with section 1.21 in the CIEEM guidelines (Ref 8-10), the terminology used within the EclA draws a clear distinction between the terms 'impact' and 'effect'. For the purposes of this EclA these terms are defined as follows:
- a. Impact – actions resulting in changes to an ecological feature. For example, construction activities of a development removing a hedgerow; and
 - b. Effect – outcome resulting from impact acting upon the conservation status or structure and function of an ecological feature, e.g. the effects on a population of bats as a result of the loss of a bat roost.
- 8.4.35 When describing potential impacts (and where relevant the resultant effects) consideration is given to the following characteristics likely to influence this:
- a. Positive or negative - *i.e.* is the change likely to be in accordance with nature conservation objectives and policy and is that change:
 - i. Positive - a change that improves the quality of the environment, or halts or slows an existing decline in quality e.g. increasing the extent of a habitat of conservation value; or

- ii. Negative - a change that reduces the quality of the environment e.g. destruction of habitat.
- b. Spatial extent - the spatial or geographical area or distance over which the impact or effect may occur under a suitably representative range of conditions;
- c. Magnitude - the 'size', 'amount' or 'intensity' and 'volume' of an impact - this is described on a quantitative basis where possible;
- d. Duration - the time over which an impact is expected to last prior to recovery or replacement of the resource or feature. Consideration has been given to how this duration relates to relevant ecological characteristics such as a species' lifecycle. However, it is not always appropriate to report the duration of impacts in these terms. The duration of an effect may be longer than the duration of an activity or impact;
- e. Timing and frequency - *i.e.* consideration of the point at which the impact occurs in relation to critical life-stages or seasons; and
- f. Reversibility - *i.e.* is the impact temporary or permanent. A temporary impact is one from which recovery is possible or for which effective mitigation is both possible and enforceable. A permanent effect is one from which recovery is either not possible or cannot be achieved within a reasonable timescale, *i.e.* the 40 year lifespan of the Scheme (in the context of the feature being assessed).

Significance Criteria

- 8.4.36 For each ecological feature only those characteristics relevant to understanding the ecological effect of the Scheme and determining the significance are described. The determination of the significance of effects has been made based on the predicted effect on the structure and function, or conservation status, of relevant ecological features, as follows:
- a. Not significant - no effect on structure and function, or conservation status; and
 - b. Significant - structure and function, or conservation status is affected.
- 8.4.37 Sections 5.24 to 5.28 in the CIEEM guidelines (Ref 8-10) states that effects should be determined as being significant when "*an effect either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national / local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local. A significant effect is an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project. In broad terms, significant effects encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution)*".

- 8.4.38 Using this information and judgement, it is determined whether the effects will be significant or not on the structure and integrity (of site or ecosystems) or conservation status (of habitats and, or species) of each ecological feature and the impact significance is determined at the appropriate geographical scale.
- 8.4.39 There are a number of approaches for determining the significance of effects on ecological features. Whilst the CIEEM guidelines (Ref 8-10) recommend the avoidance of the use of the matrix approach for categorisation (major, moderate and minor), in order to provide consistency of terminology within this chapter, the findings of the CIEEM assessment have been translated into the classification of effects scale, as outlined in **Table 8-2**.

Table 8-2: Relating CIEEM assessment terms to those used in other EIA chapters

Effect classification terminology used in other EIA chapters	Equivalent CIEEM assessment
Major beneficial	Beneficial effect on structure / function or conservation status at regional, national or international level.
Moderate beneficial	Beneficial effect on structure/ function or conservation status at County level.
Minor beneficial	Beneficial effect on structure / function or conservation status at Local level.
Neutral / Negligible	No effect on structure / function or conservation status.
Minor adverse	Adverse effect on structure / function or conservation status at Local level.
Moderate adverse	Adverse effect on structure / function or conservation status at County level.
Major adverse	Adverse effect on structure / function or conservation status at Regional, National or International level.

Biodiversity Net Gain

- 1.1.1 The draft Environment Bill, published by the UK Government in October 2019 (Ref 8-11) includes proposals which will lead to a position where biodiversity net gain (BNG) will be a mandatory requirement within the planning system in England, including for NSIPs and will lead to a requirement for all developments to achieve a minimum 10% net gain in biodiversity units relative to the site's baseline biodiversity value.
- 8.4.40 BNG is a quantitative process applied to development and can be defined as "*development that leaves biodiversity in a better state than before and involves an approach where developers work with local governments, wildlife groups, land owners and other stakeholders in order to support their priorities for nature conservation*" (Ref 8-11).

- 8.4.41 The principle behind BNG is to ensure that any impacts on Biodiversity, arising from any development, are taken into consideration and compensated with equivalent or additional gains.
- 8.4.42 For a development to achieve BNG it is important that the principles of the mitigation hierarchy are followed. This process involves first trying to avoid adverse impacts on biodiversity before finding ways to minimise or mitigate effects, and as a last resort compensating for any residual effects.
- 8.4.43 There are four sequential steps that must be taken throughout the lifecycle of a project:
- a. Avoidance – actions taken to avoid causing impacts to the environment prior to beginning development (e.g. moving the development to a different location);
 - b. Minimisation – measures taken to reduce the duration, intensity, extent and/ or likelihood of the unavoidable environmental impacts caused by development (e.g. adapting the development design to minimise impacts);
 - c. Restoration or rehabilitation – actions taken to repair environmental degradation or damage following unavoidable impacts caused by development; and
 - d. Offsets – measures taken to compensate for any adverse environmental impacts caused by development which cannot be avoided, minimised and/ or restored (e.g. including habitat creation to offset losses).
- 8.4.44 Biodiversity metrics provide a measure of overall biodiversity value based on habitat type, area, condition and distinctiveness. The current approved metric is DEFRA’s Metric 3.0 and this metric is a tool that allows a value to be measured, in this case biodiversity, which is calculated pre- and post-development. The change in biodiversity units indicates either a net loss, a net gain or no change in biodiversity.

8.5 Stakeholder Engagement

- 8.5.1 Consultation undertaken to date in relation to ecology and nature conservation is outlined in the Consultation Report **[EN010106/APP/5.1]** submitted with the DCO application. **Table 8-3** outlines the matters raised within the Scoping Opinion and the key themes raised during statutory consultation, and how these have been addressed through the ES in relation to Ecology and Nature Conservation.

Table 8-3: Main matters raised within the Scoping Opinion and during Statutory Consultation

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
<p>Planning Inspectorate</p>	<p>Effects of the Grid Connection Routes A and B on ecological receptors during operation being scoped out not agreed:</p> <p><i>“Applicant’s proposed matters to scope out: Effects of the Grid Connection Routes A and B on ecological receptors during operation.</i></p> <p><i>The precise route, location, and area of land-take required for cabling associated with Grid Connection Routes A and B has not been fully defined in the Scoping Report; nor is the report clear on the extent of vegetation clearance/ tree removal that will be required to facilitate the proposed works. Therefore, the Inspectorate considers that there is insufficient information to support a decision to scope this matter out of the assessment. The ES should assess impacts to ecological receptors from the grid connection where significant effects are likely to occur.”</i></p>	<p>The EclA has considered the effects of all grid connection routes on ecological receptors during operation.</p>	<p>See Section 8.9 of this chapter.</p>
<p>Planning Inspectorate</p>	<p>Queried the extent of Study area for bats:</p> <p><i>“Study Area - Bats</i></p> <p><i>The desk study assessment includes a search for ‘international nature conservation sites’ within 10km of the proposed DCO boundary. The Inspectorate notes that within this area, the assessment identified records for a total of 13 bat species. The Scoping Report does not justify why the 10km study area is appropriate. The Inspectorate considers that the assessment study areas should be defined according to the extent of the anticipated impacts.</i></p>	<p>The EclA has considered appropriate zones of influence, including designated sites within 30km where bats are noted as the or one of the qualifying features (as per standard guidance).</p>	<p>See Section 8.4.7 of this chapter.</p>

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
	<p><i>The ES should identify whether there are any SACs where bats are a qualifying feature located beyond 10km that should be considered when defining the potential zone of influence. Effort should be made to identify whether there are any functionally-linked bat habitats (including habitats used for roosting, foraging, and/or commuting) that connect the Proposed Development to offsite SACs. The use of functionally-linked land by other qualifying interest features should also be considered within the ES, including functional land used by qualifying bird species of the Breckland SPA.</i></p> <p><i>The Applicant should make effort to agree study areas with the relevant consultation bodies. The assessment study areas should be described in the ES and depicted on a supporting plan”.</i></p>		
<p>Planning Inspectorate</p>	<p>Appropriate study area for statutory sites: <i>“Statutory Sites</i></p> <p><i>Paragraph 8.4.2 of the Scoping Report does not specify the total number of statutory designated sites that were identified as a result of the desk assessment; nor does it clarify what study area was used to identify statutory designated sites (in contrast to paragraph 8.4.3 for ‘Non-statutory sites’). The Applicant should make effort to agree the appropriate study area for statutory sites with relevant consultation bodies. The chosen study areas should be clearly presented in the ES”.</i></p>	<p>The EclA has considered appropriate zones of influence for statutory sites and these were presented to and accepted by relevant consultees.</p>	<p>See Section 8.4.7 of this chapter</p>

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
<p>Planning Inspectorate</p>	<p>The ES should assess potential direct and indirect impact from the Proposed Development on Chippenham Fen Ramsar and NNR, Chippenham Fen and Snailwell Poor's Fen SSSI, and Fenland SAC, particularly through any changes in local hydrology and water quality:</p> <p><i>“Statutory Sites - Chippenham Fen</i></p> <p><i>The Inspectorate notes that the Sunnica West (North) Site directly adjoins Chippenham Fen Ramsar and NNR, Chippenham Fen and Snailwell Poor's Fen SSSI, and Fenland SAC. The ES should assess potential direct and indirect impact from the Proposed Development (including cabling works) to the notified and qualifying features of this site, particularly through any changes in local hydrology and water quality where significant effects are likely”.</i></p>	<p>The EclA has considered potential direct and indirect impacts on all designations at Chippenham Fen and Fenland SAC, including changes to hydrology and water quality.</p>	<p>See Section 8.9 of this chapter and Chapter 9: Flood Risk, Drainage and Water Resources of this Environmental Statement [EN010106/APP/6.1].</p>
<p>Planning Inspectorate</p>	<p>Impacts to farmland birds should be assessed:</p> <p><i>“Additional Survey Requirements</i></p> <p><i>Given the scale and nature of the Proposed Development, the Inspectorate recommends that impacts to farmland birds should be assessed. If significant effects are identified, then appropriate options to mitigate these effects should be set out within the ES”.</i></p>	<p>The EclA has considered impacts to farmland birds, including Skylark <i>Alauda arvensis</i>, Corn Bunting <i>Emberiza calandra</i>, Yellowhammer <i>Emberiza citrinella</i> and Linnet <i>Linaria cannabina</i>.</p>	<p>See Section 8.9 of this chapter, Table 8 7 and Appendix 8H (wintering bird survey report) and Appendix 8I (report on surveys for breeding birds).</p>

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
<p>Planning Inspectorate</p>	<p>Statutory bird strike safeguarding zones surrounding RAF Mildenhall and RAF Lakenheath.:</p> <p><i>“Potential Effects and Mitigation</i></p> <p><i>The Scoping Report does not specifically consider the effects of solar panelling and associated infrastructure on birds, bats, and general ecology during the operation of the Proposed Development. The potential for the Proposed Development to attract or displace populations, and impacts associated with collision risk and barrier effects, should be assessed in the ES where significant effects are likely to occur.</i></p> <p><i>The Inspectorate also notes that (as further mentioned in ID 4.9.4 of this Opinion) the Proposed Development is located within the statutory birdstrike safeguarding zones surrounding RAF Mildenhall and RAF Lakenheath. Where significant effects are likely, the ES should assess the potential impacts of birdstrike on bird numbers and movements in the area.</i></p> <p><i>The ES should explain whether such risks may be minimised through the appropriate siting of infrastructure, appropriate timing of construction and maintenance, as well as biodiversity mitigation measures”.</i></p>	<p>The Scheme will not create habitat that will attract significant numbers of flocking birds that may pose a strike risk for aviation. The site also is not on a path connecting areas supporting significant numbers of birds that pose a risk to aviation, e.g. waterbirds.</p>	<p>See Section 8.6 and Table 8-7 of this chapter which sets out the ornithological baseline conditions. See also Appendix 8H (wintering bird survey report) and Appendix 8I (report on surveys for breeding birds).</p>

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
<p>Planning Inspectorate</p>	<p>Demonstrate the effort made to sensitively locate solar panels and associated infrastructure in order to avoid direct impacts on species and from habitat loss:</p> <p><i>“Assumptions</i></p> <p><i>The Scoping Report states that “A precautionary approach has been taken at this stage which assumes that all habitats within the footprint of the solar PV modules and associated solar and battery storage infrastructure will be permanently lost during construction”.</i></p> <p><i>The Scoping Report does not address how the Proposed Development will be sited or managed in order to avoid (and where unavoidable, minimise) impacts to protected species and their habitats. The proposed DCO boundary (Figure 1-2) transects a number of important habitats such as hedgerows and woodland, which the Inspectorate considers could be avoided through considered siting of infrastructure and deviation of cable routes.</i></p> <p><i>The ES should demonstrate the effort made to sensitively locate solar panels and associated infrastructure in order to avoid direct impacts on species and from habitat loss. Any habitat lost as a result of the Proposed Development should be identified according to type and the area of loss which should include any anticipated vegetation/ tree clearance. Any avoidance or mitigation measures proposed should be described in the ES and details provided to explain how such measures will be secured”.</i></p>	<p>The mitigation hierarchy (as defined by CIEEM) has been followed when developing the Scheme design and parameters, e.g. by appropriate siting of the Scheme and retaining woodland and boundary features such as hedgerows.</p>	<p>See Section 8.8 of this chapter which sets out the embedded mitigation, including avoidance measures and the parameters set out in Schedule 1 of the draft DCO [EN010106/APP/3.1] and shown on the Works Plans [EN010106/APP/2.2] and illustrated on Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3].</p>

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
<p>Planning Inspectorate</p>	<p>The Scoping Report states that construction activities may include the upgrade or construction of crossing points (bridges/culverts) over drainage ditches. No information is provided in relation to the scale and dimensions of these structures, or detail of the nature of any associated construction works.</p> <p>The ES should describe where bridge/ culvert structures are proposed and demonstrate that there is sufficient detail regarding the design as to inform a meaningful assessment of effects on watercourse hydraulics and ecology.</p>	<p>The mitigation hierarchy (as defined by CIEEM) has been followed when developing the Scheme design and parameters, e.g. by appropriate siting of the Scheme and minimising the need for new bridge structures/culverts.</p>	<p>See Section 8.8 of this chapter which sets out the embedded mitigation, including avoidance measures and the parameters set out in Schedule 1 of the draft DCO [EN010106/APP/3.1] and shown on the Works Plans [EN010106/APP/2.2] and illustrated on Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3]. These are described in Chapter 3: Scheme Description of this Environmental Statement [EN010106/APP/6.1].</p> <p>An assessment of the water environment is provided in Chapter 9: Water Environment of this Environmental Statement [EN010106/APP/6.1].</p>
<p>East Cambridgeshire District Council</p>	<p>Full surveys for all species mentioned in the Scoping Report.</p>	<p>Full surveys for ecological receptors have been undertaken.</p>	<p>See Section 8.4 of this chapter and Table 8-1.</p>

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
East Cambridgeshire District Council	Scope in how the proposal will lead to an ecological net gain.	The Scheme has incorporated the principles of biodiversity net gain.	A biodiversity net gain analysis has been included within the Biodiversity Net Gain Assessment [EN010106/APP/6.7] and the principle will be enshrined through the measures in the OLEMP which will be secured through the DCO.
Environment Agency	Planting of native hedges on site to provide habitat and wildlife corridors.	Native hedgerow planting has been incorporated throughout the Scheme.	See Section 8.8 of this chapter which sets out the embedded mitigation and Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3] which set out the illustrative environmental masterplan for the Scheme and which will be enshrined through the measures in the OLEMP which will be secured through the DCO.

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Ministry of Defence	The development site also occupies the statutory bird strike safeguarding zones surrounding both RAF Mildenhall and RAF Lakenheath.	The Scheme will not create habitat that will attract significant numbers of flocking birds that may pose a strike risk for aviation. The Sites are not on a path connecting areas supporting significant numbers of birds that pose a risk to aviation, e.g. waterbirds.	See Section 8.6 and Table 8-7 of this chapter which sets out the ornithological baseline conditions.
Natural England	The potential impact of the proposal upon features of nature conservation interest and opportunities for habitat creation/enhancement should be included within this assessment in accordance with appropriate guidance.	The EclA has considered the potential impacts of the Scheme on nature conservation interest and opportunities for habitat creation and enhancement.	Throughout this chapter.
Natural England	EclA is the process of identifying, quantifying and evaluating the potential impacts of defined actions on ecosystems or their components.	The EclA has followed CIEEM guidance for EclA.	See Section 8.4 of this chapter.
Natural England	The NPPF sets out guidance in paragraphs 174-177 on how to take account of biodiversity interests in planning decisions and the framework that local authorities should provide to assist developers.	The EclA has considered all relevant biodiversity legislation and policy.	See Appendix 8A of this Environmental Statement [EN010106/APP/6.2] .
Natural England	The requirement and extent of ecological surveys will be informed by the desk study data and the PEA, together with AECOM's professional judgement and local knowledge of the geographical area and range of important ecological features.	Full surveys for ecological receptors have been and will continue to be undertaken.	See Section 8.4 of this chapter.

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Natural England	ES to thoroughly assess the potential impacts to designated sites, including candidate sites.	All designated and proposed European sites including candidate sites have been considered in the EclA.	See Sections 8.4.7 and 8.9 of this chapter.
Natural England	Appropriate assessment needs to be undertaken in respect of any plan or project which is likely to have a significant effect on a European site.	A Habitats Regulations Report accompanies the DCO application.	See Appendix 8M of this Environmental Statement [EN010106/APP/6.2] .
Natural England	We are satisfied that section 8.4.2 and Table 8-1 of the Scoping Report has scoped in the relevant nature conservation sites for detailed consideration through the EIA.	These sites have been considered in the EclA.	See Section 8.6 onwards, of this chapter.
Natural England	Chippenham Fen - The ES will need to carefully assess potential direct and indirect impacts to the notified and qualifying features of this site, particularly through any changes in local hydrology and water quality.	The EclA has considered potential direct and indirect impacts on Chippenham Fen, including changes to hydrology and water quality.	See Section 8.9 of this chapter and Chapter 9: Flood Risk, Drainage and Water Resources of this Environmental Statement [EN010106/APP/6.1] .
Natural England	A full assessment of the direct and indirect effects of all aspects of the development.	The EclA has considered the effects of all aspects of the Scheme on ecological receptors.	See Section 8.9 of this chapter.

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Natural England	Assessment of impacts to functionally linked land for Breckland SPA birds.	The Ecology and Nature Conservation chapter of this Environmental Statement and Habitats Regulation Assessment (HRA) has considered impacts on the Breckland SPA and functionally linked habitat.	See Section 8.6 and Table 8-7 for baseline conditions and Section 8.9 of this chapter, along with Appendix 8M of this Environmental Statement [EN010106/APP/6.2] .
Natural England	Preparation of a Framework CEMP and framework OLEMP to accompany the DCO application.	A Framework CEMP and an OLEMP has been submitted with the DCO application.	See Appendix 16C and Appendix 10I of this Environmental Statement [EN010106/APP/6.2] .
Natural England	Notes the proposal to prepare an HRA Screening Report in accordance with the requirements of the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations) and that this will be provided with the DCO application.	An HRA accompanies the DCO application.	See Appendix 8M of this Environmental Statement [EN010106/APP/6.2] .
Natural England	Support the proposal to consider the effects of the proposed scheme on relevant local wildlife sites.	The EcIA has considered the potential impacts on local wildlife sites.	See Sections 8.4.7 and 8.9 of this chapter.
Natural England	Welcomes the applicant's proposal to meet with the local Wildlife Trusts, and other relevant stakeholders, to seek their advice on the Proposed Scheme.	Workshops, with Natural England and other relevant stakeholders (including the Wildlife Trust) in attendance, held in July 2019 December 2019 and March 2021.	Not covered in this chapter.

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Natural England	Impacts to farmland birds should be assessed.	The EclA has considered impacts to farmland birds as part of breeding and wintering (non-breeding) bird surveys.	See Section 8.6 and Table 8-7 of this chapter which sets out the ornithological baseline conditions and Section 8.9. See also Appendix 8H (wintering bird survey report) and Appendix 8I (report on surveys for breeding birds).
Natural England	Records of protected species should be sought from appropriate local biological record centres, nature conservation organisations, groups and individuals.	The EclA has collated relevant data from appropriate sources.	See Section 8.4 of this chapter.
Natural England	European Protected Species (EPS) mitigation licences prepared in draft for advisory comment from Natural England, all of which will form part of the DCO application for the Scheme.	The requirement for EPS mitigation licences is addressed in the EclA.	The EclA concludes that no EPS licences are required.
Natural England	Assess the impact of the proposals on habitats and/ or species listed as 'Habitats and Species of Principal Importance' within the England Biodiversity List and Local Biodiversity Action Plans.	The EclA has considered the effects of all aspects of the Scheme on national and local priority species.	See Section 8.9 of this chapter.
Natural England	Advises that a habitat survey (equivalent to Phase 2) is carried out on the site, in order to identify any important habitats present. In addition, ornithological, botanical and invertebrate surveys should be undertaken.	Full surveys for ecological receptors have been undertaken within the Order limits site, equivalent to Phase 2.	See Section 8.4 of this chapter and Table 8-1 . See also Appendix 8C (terrestrial habitats and flora report).

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Natural England	The development should seek if possible, to avoid adverse impact on sensitive areas for wildlife within the site, and if possible, provide opportunities for overall wildlife gain.	<p>The mitigation hierarchy (as defined by CIEEM) has been followed when developing the Scheme design and parameters, e.g. by retaining woodlands and boundary features, such as hedgerows.</p> <p>The Scheme has incorporated the principles of biodiversity net gain.</p>	<p>See Section 8.8 of this chapter which sets out the embedded mitigation, including avoidance measures and Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3].</p> <p>A biodiversity net gain analysis is included within the ES.</p>
Natural England	Natural England does not hold local information on local sites, local landscape character and local or national biodiversity priority habitats and species.	The EclA has collated relevant data from appropriate sources including Cambridgeshire & Peterborough Environmental Records Centre (CPERC) and Suffolk Biodiversity Information Service (SBIS).	See Section 8.4 of this chapter.
Natural England	The assessment should take account of the risks of air pollution and how these can be managed or reduced.	Air quality is considered in the EclA, including traffic construction emissions and dust, for which a risk assessment and mitigation measures will be covered within the Framework CEMP, specifically referring to ecological receptors.	See Section 8.8 of this chapter and Chapter 14: Air Quality of this Environmental Statement [EN010106/APP/6.1]

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Natural England	The England Biodiversity Strategy published by Defra establishes principles for the consideration of biodiversity and the effects of climate change. The ES should reflect these principles and identify how the development's effects on the natural environment will be influenced by climate change, and how ecological networks will be maintained.	Climate change has been considered when finalising details of mitigation and enhancement to ensure that habitats and species are resilient to future climatic conditions.	See Section 8.6 for predicted future ecological baseline of the Order limits and Section 8.8 of this chapter for the how the Scheme has embedded climate resilient mitigation and enhancement.
Natural England	Opportunities for landscaping, biodiversity enhancements and habitat management in areas around the arrays and on other land within the Scheme Boundary.	Opportunities for biodiversity enhancement have been embedded within the Scheme.	See Section 8.8 of this chapter which sets out the embedded mitigation and Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3] which set out the illustrative environmental masterplan for the Scheme and which will be enshrined through the measures in the OLEMP which will be secured through the DCO.
Natural England	Demonstrate delivery of significant net biodiversity gain.	The Scheme has incorporated the principles of biodiversity net gain.	A biodiversity net gain analysis is included within the Biodiversity Net Gain Assessment [EN010106/APP/6.7] .

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Natural England	Delivery of landscape scale biodiversity enhancements.	Opportunities for biodiversity enhancement at appropriate landscape scales have been embedded within the Scheme.	See Section 8.8 of this chapter which sets out the embedded mitigation and Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3] which set out the illustrative environmental masterplan for the Scheme and which will be enshrined through the measures in the OLEMP which will be secured through the DCO.
Suffolk County Council / West Suffolk Council	Consider the need to include survey of agricultural field margins for rare plants within the scope of the additional survey.	Botanical surveys including those for arable flora and arable margins, undertaken.	See Section 8.4 and Table 8-1 of this chapter. See also Appendix 8C (terrestrial habitats and flora report).
Suffolk County Council / West Suffolk Council	Site-specific plan for managing biodiversity.	The Strategic Environmental Masterplan is shown on the illustrative parameter plans in Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3] . A OLEMP has been submitted with the DCO application.	See Section 8.8 of this chapter which sets out the embedded mitigation and Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3] which set out the illustrative environmental masterplan for the Scheme and which will be enshrined through the measures in the OLEMP which will be secured through the DCO.

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Suffolk County Council / West Suffolk Council	EclA process and potential impacts.	The EclA has followed CIEEM guidance for EclA. The EclA has considered the effects of all aspects of the Scheme on ecological receptors.	See Sections 8.4 and 8.9 of this chapter.
Suffolk County Council / West Suffolk Council	Appropriate mitigation strategies and post construction monitoring programme.	The EclA has considered appropriate mitigation strategies relevant to ecological features present. A post construction monitoring programme will be developed and submitted with the ES as part of the OLEMP, Framework OEMP and Framework DEMP ([EN010106/APP/6.2]) .	See Section 8.8 of this chapter.
Suffolk County Council / West Suffolk Council	All records should be submitted to relevant Records Office	All records will be shared with the relevant Records Office following submission of the DCO application.	-

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Suffolk County Council / West Suffolk Council	A LEMP, for the lifetime of the project should be submitted.	The Strategic Environmental Masterplan is shown on the illustrative parameter plans in Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3] . A OLEMP Appendix 10I of this Environmental Statement [EN010106/APP/6.2] has been submitted with the DCO application.	See Section 8.8 of this chapter which sets out the embedded mitigation and Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3] which set out the illustrative environmental masterplan for the Scheme and which will be enshrined through the measures in the OLEMP which will be secured through the DCO.
Suffolk County Council / West Suffolk Council	Demonstrate delivery of significant net biodiversity gain.	The Scheme has incorporated the principles of biodiversity net gain.	A biodiversity net gain analysis is included within the Biodiversity Net Gain Assessment [EN010106/APP/6.7] .
The Wildlife Trust for Bedfordshire, Cambridgeshire & Northamptonshire	Significant and meaningful level of biodiversity net gain.	The Scheme has incorporated the principles of biodiversity net gain.	A biodiversity net gain analysis is included within the Biodiversity Net Gain Assessment ([EN010106/APP/6.7])

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
The Wildlife Trust for Bedfordshire, Cambridgeshire & Northamptonshire	Following the mitigation hierarchy for County Wildlife Sites.	The mitigation hierarchy (as defined by CIEEM) has been followed when developing the Scheme design and parameters. This has included avoiding impacts on County Wildlife Sites.	See Section 8.8 of this chapter which sets out the embedded mitigation and Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3] which set out the illustrative environmental masterplan for the Scheme which will be enshrined through the measures in the OLEMP which will be secured through the DCO.
Local planning authorities S47 responses	Concerns that sufficient light will pass through the solar PV panel tables to support plant growth below.	The panel arrays are between 2m to 11m apart, which will result in suitable conditions for grassland growth between panel arrays.	See Section 8.8 of this chapter which sets out the embedded mitigation and Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3] which set out the illustrative environmental masterplan for the Scheme and which will be enshrined through the measures in the OLEMP which will be secured through the DCO.

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Local planning authorities	Concerns that there has been insufficient adherence to the Mitigation Hierarchy, specifically with respect to the avoidance of important habitats and species.	The mitigation hierarchy (as defined by CIEEM) has been followed when developing the Scheme design and parameters.	See Section 8.8 of this chapter which sets out the embedded mitigation and Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3] which set out the illustrative environmental masterplan for the Scheme which will be enshrined through the measures in the OLEMP which will be secured through the DCO.
Local planning authorities	Opportunities to deliver enhancements and benefits should be explored and incorporated into the final submitted scheme	The Scheme has incorporated the principles of biodiversity net gain.	See Section 8.8 of this chapter which sets out the embedded mitigation and Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3] which set out the illustrative environmental masterplan for the Scheme which will be enshrined through the measures in the OLEMP which will be secured through the DCO. A biodiversity net gain analysis is included within the Biodiversity Net Gain Assessment [EN010106/APP/6.7] .

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Local planning authorities	Fields found to support nesting stone curlew should be retained alongside appropriate areas of connected foraging habitat.	The Scheme has been designed with embedded areas for Stone-curlew. This has been informed by detailed surveys of Stone-curlew within the Order limits and surrounding area.	See Section 8.8 of this chapter which sets out the embedded mitigation and Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3] which set out the illustrative environmental masterplan for the Scheme which will be enshrined through the measures in the OLEMP which will be secured through the DCO.
Local planning authorities S47 responses	Areas for habitat creation should be designed to deliver a coherent and connected network of habitats, specifically designed to deliver for biodiversity.	The Scheme has been designed to deliver a coherent and connected network of habitats.	See Section 8.8 of this chapter which sets out the embedded mitigation and Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3] which set out the illustrative environmental masterplan for the Scheme which will be enshrined through the measures in the OLEMP which will be secured through the DCO.

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Local planning authorities	Details requested on the timing of when the replacement/compensatory habitats will be available for breeding birds	The Scheme will create habitats throughout the duration of the construction and operation. Where required, habitats will be created prior to construction commencing.	See Section 8.8 of this chapter which sets out the embedded mitigation and Figures 3-1 and 3-2 of this Environmental Statement [EN010106/APP/6.3] which set out the illustrative environmental masterplan for the Scheme which will be enshrined through the measures in the OLEMP which will be secured through the DCO.
Freckenham Parish Council Snailwell Parish Council	The ecology assessment should consider vibration effects	Potential effects arising during construction are considered in the Environmental Statement. No effects of vibration on biodiversity features present within in the Order limits have been identified.	See Section 8.9 of this chapter.
Kennett Parish Council Fordham Parish Council	Concerns about the effects on protected species and other wildlife	The EcIA has considered the effects of all aspects of the Scheme on ecological receptors.	See Section 8.9 of this chapter.

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Natural England S47 responses	The Scheme should provide a biodiversity net gain	The Scheme has incorporated the principles of biodiversity net gain.	A biodiversity net gain analysis is included within the Biodiversity Net Gain Assessment [EN010106/APP/6.7] .
S47 responses	Concerns about the effect of the solar panels on migration routes for birds	The Scheme will not create habitat that will attract significant numbers of flocking birds. The site also is not on a migratory route for birds of on a path connecting areas supporting significant numbers of birds, e.g. waterbirds.	See Section 8.6 and Table 8-7 of this chapter which sets out the ornithological baseline conditions. See also Appendix 8H (wintering bird survey report) and Appendix 8I (report on surveys for breeding birds).
Natural England S47 responses	The benefits of the Scheme must not be outweighed by the impact on wildlife and the local area.	<p>The Scheme has followed the mitigation hierarchy and avoided important ecological features, where possible. Extensive mitigation and enhancement have been embedded to avoid any significant effects on biodiversity.</p> <p>The Scheme has incorporated the principles of biodiversity net gain.</p>	Throughout this chapter.

8.6 Baseline Conditions

8.6.1 This section describes the baseline environmental characteristics of the Order limits and Study Areas with specific reference to important ecological features.

Existing Baseline

Sites statutorily designated for their biodiversity value

- 8.6.2 There are 17 statutory sites for nature conservation within the Zol set out in section 8.4.7 of this chapter. These sites, designated for biodiversity reasons, are detailed in **Table 8-4** and are listed in descending order, with those closest to the Order limits listed first. The locations of those statutory sites relevant to the Scheme are shown in **Figure 8-1** of this Environmental Statement [EN010106/APP/6.3]. Site designation details are summarised in **Table 8-4** and are taken from citation documents, published online by JNCC for the individual sites.
- 8.6.3 Fenland SAC, Chippenham Fen Ramsar/NNR and Chippenham Fen and Snailwell Poor's Fen SSSI are directly adjacent to the north of Sunnica West Site B; and Snailwell Meadows SSSI is directly adjacent to the south of Sunnica West Site B.
- 8.6.4 There are no international statutory site designations for bats within 30km of the Order limits and there are no statutory sites for geological conservation within 2km of the Order limits.

Table 8-4: Sites statutorily designated for the biodiversity value within 10km (international) and 2km (national) of the Order limits

Statutory site Name and Designation	Description	Distance (metres / kilometres) and direction from the closest point of the Order limits	Importance
Fenland SAC, Chippenham Fen Ramsar / NNR, Chippenham Fen and Snailwell Poor's Fen SSSI	A spring-fed calcareous basin mire with a long history of management, which is partly reflected in the diversity of present-day vegetation. The invertebrate fauna is very rich, partly due to its transitional position between Fenland and Breckland. The site supports diverse vegetation types, rare and scarce plants. The site is the stronghold of Cambridge Milk Parsley <i>Selinum carvifolia</i> .	Directly adjacent to the north of Sunnica West Site B.	International / National
Snailwell Meadows SSSI	The meadows support a range of grassland community types ranging from dry calcareous pasture through wet neutral grassland to marshy grassland with acidic influences typical of fen edge pastures. Such community types are essentially southern in their national distribution and are rare in a Cambridgeshire context.	Directly adjacent to the south of Sunnica West Site B.	National
Brackland Rough SSSI	A damp valley woodland, the site holds stands of Alder <i>Alnus glutinosa</i> , a woodland type rare in Cambridgeshire and becoming scarce throughout its natural range in lowland Britain.	Approximately 160m north of the Grid Connection Route B2 and approximately 350m north-west of Sunnica West Site B.	National
Red Lodge Heath SSSI	This site supports a nationally important assemblage of invertebrates, including nationally rare Five-banded Digger Wasp <i>Cerceris quinquefasciata</i> .	Approximately 750m south east of Sunnica East Site B and approximately 740m east of Grid Connection Route A2.	National

Statutory site Name and Designation	Description	Distance (metres / kilometres) and direction from the closest point of the Order limits	Importance
Cherry Hill and The Gallops, Barton Mills SSSI	The site lies on calcareous soils at the southern edge of Breckland. The soil is a typical flinty Breckland sand with fragments of chalk. Unimproved calcareous grassland has developed on the wide roadside verges within the site. The species-rich grassland flora includes an outstanding assemblage of nationally rare plants.	Approximately 1.0km east of Sunnica East Site B.	National
Newmarket Heath SSSI	This site lies on the Middle Chalk near Newmarket and is by far the largest expanse of unimproved chalk grassland remaining in Cambridgeshire. Newmarket Heath is of particular importance for the presence of areas of chalk heath, a rare vegetation type in Britain as a whole. This is the sole Cambridgeshire example and is of great geographical importance in providing a link between the Brecklands heaths and the chalk heaths of the Chilterns. There is a high diversity of flowering plants, including a large population of a nationally rare species listed in the British Red Data Book and at least five nationally uncommon species.	Approximately 1.1km south-west of Sunnica West Site A.	National
Isleham LNR	The site is a disused railway with species rich chalk grassland and hedgerows.	The CWS lies approximately 1.3km west of Sunnica East Site A.	County
Barton Mills LNR	The Riverside Reserve is a mosaic of six different habitats. Reedbeds, sedge areas, alder carr, willow carr, river valley habitat.	The CWS lies approximately 1.4km north east of Sunnica East Site B.	County
Devil's Dyke SSSI	The site holds one of the best and most extensive areas of species-rich chalk grassland in Cambridgeshire and a similarly extensive area of chalk scrub grading into woodland to the east.	Approximately 1.4km south west of Burwell National Grid substation extension.	National
Breckland SPA and Breckland Forest SSSI	The site is used regularly by 1% or more of the UK breeding populations of Stone-curlew, Nightjar <i>Caprimulgus europaeus</i> and Woodlark <i>Lullula arborea</i> .	Approximately 1.4km east of Sunnica East Site B.	International and National

Statutory site Name and Designation	Description	Distance (metres / kilometres) and direction from the closest point of the Order limits	Importance
Wicken Fen Ramsar and Wicken Fen SSSI, NNR (just outside 2km study area)	The site supports diverse vegetation types, rare and scarce plants, including one species of British Red Data Book plant, Fen Violet <i>Viola persicifolia</i> , which survives at only two other sites in Britain. It also contains eight nationally scarce plants and 121 British Red Data Book invertebrates.	Approximately 2.1km north west of the Grid Connection Route B2 and approximately 2.6km north west of the Burwell National Grid Substation Extension.	International and National
Rex Graham Reserve SAC and Rex Graham SSSI (outside of the 2km study area)	This long-disused chalk-pit supports the largest wild population of a nationally rare plant given special protection under Section 13 of the Wildlife and Countryside Act 1981.	Approximately 3.0km north east of Sunnica East Site B.	International and National
Breckland SAC	The site is designated primarily for its inland dunes, natural eutrophic lakes, European dry heaths and semi-dry grasslands, and also alluvial forests and Great Crested Newt.	Approximately 3.1km east of Sunnica East Site B.	International
Devil's Dyke SAC	The site holds one of the best and most extensive areas of species-rich chalk grassland in Cambridgeshire and a similarly extensive area of chalk scrub grading into woodland to the east.	Approximately 4.5km south west of Burwell National Grid Substation Extension.	International

Sites non-statutorily designated for their biodiversity value

- 8.6.5 There are 29 non-statutory sites designated for nature conservation within 2km of the Order limits (as per the study area in Section 8.4.7 of this chapter), along with two Local Geological Sites (LGS); Carter's Pit and The Spring, in Burwell. Of these, 26 sites have been designated as County Wildlife Sites (CWS) for their biodiversity value at a county level (see section 8.4.28) and are known to have supporting value to a wide variety of protected and ecologically important species and/or habitats; two sites designated as Protected Road Verge (PRV) for their ecological importance and one Roadside Nature Reserves (RNR). The locations of these non-statutory sites, relevant to the Scheme are shown in **Figure 8-2** of this Environmental Statement [EN010106/APP/6.3]. These sites are detailed in **Table 8-5** and are listed in descending order, with those closest to the Order limits listed first. Both geological sites are approximately 1km from the Order limits and will not be impacted by the Scheme, so are not considered further in this assessment.

Table 8-5: Sites non-statutorily designated for their biodiversity value within 2km of the Order limits

Non-statutory site Name and Designation	Description	Distance (metres) and direction from the closest point of the Order limits	Importance
Havacre Meadows and Deal Nook CWS	This site contains semi-improved grassland, woodland, scrub and open water in close association. The site also contains willow carr of the NVC Alder <i>Alnus</i> – Stinging Nettle <i>Urtica dioica</i> woodland community (W6).	The cable route corridor for Grid Connection Route A2 runs through the CWS.	County
Badlingham Lane CWS	Verges within this site support species-rich flora characteristic of a breckland habitat including Sainfoin <i>Onobrychis</i> which is listed as near threatened within Suffolk's Rare Plant Register (SRPR). The site also supports a small population of Sand Catchfly <i>Silene conica</i> , a plant listed in the Red Data Book and as nationally scarce within SRPR.	The CWS lies within the northern section of Sunnica East Site B.	County
Worlington Heath CWS	The site contains lowland heathland (Priority habitat) and dry grassland that has had historical records of Marsh Stitchwort <i>Stellaria palustris</i> (Priority species included within SRPR). Wet hollows within the site also support Bog Pimpernel <i>Anagallis tenella</i> and Marsh Speedwell <i>Veronica scutellata</i> (locally scarce and included within the SRPR). The site also contains small pockets of scrub and mature hedge (priority habitat).	The CWS lies within the northern section of Sunnica East Site B.	County
Chippenham Gravel Pit CWS	The site supports populations of Nationally Scarce vascular plant species (Bearded Fescue <i>Vulpia ciliate</i> subspecies <i>ambigua</i> , Fine-leaved Fumitory <i>Fumaria parviflora</i> and Bur Medick <i>Medicago minima</i>) and County Rare vascular plant species (Smooth Cat's-ear <i>Hypochaeris glabra</i> , Small Cudweed <i>Filago minima</i> and Clustered Clover <i>Trifolium glomeratum</i>). The site also qualifies as a Grade C Site in the JNCC Invertebrate Site Register.	The CWS is adjacent to Sunnica West Site A.	County

Non-statutory site Name and Designation	Description	Distance (metres) and direction from the closest point of the Order limits	Importance
Snailwell Grasslands and Woods CWS	The site forms a habitat mosaic more than ten hectares in size which contains three or more of the listed habitats in close association. The marshy grassland contains more than 0.05 ha of a good example of the NVC M22 Blunt-flowered Rush <i>Juncus subnodulosus</i> – Marsh Thistle <i>Cirsium palustre</i> community. The woodland contains approximately 0.5 ha of the NVC Alder – Stinging Nettle community.	The CWS (River Snail section) runs through the western section of Sunnica West Site B.	County
Halfmoon Plantation Pit CWS	The site supports populations of Nationally Rare Smooth Rupturewort <i>Herniaria glabra</i> , Nationally Scarce vascular plant species and rare county vascular plant species.	The CWS is directly adjacent to the north of Sunnica West Site A.	County
Chippenham Avenue Fields CWS	Two arable fields. Grass-poly <i>Lythrum hyssopifolia</i> (Nationally Rare vascular plant species) is found in about half a dozen hollows in the two fields.	The CWS is directly adjacent to Sunnica West Site A.	County
Worlington Golf Course and Surrounding Habitat CWS	The site supports areas of considerable botanical interest and support a range of Breckland plants including Spanish Catchfly <i>Silene otites</i> (biodiversity priority species) and Bastard Toadflax <i>Comandra umbellata</i> (two nationally rare species). Other biodiversity priority species recorded on-site include rare-spring sedge <i>Carex ericetorum</i> and purple milk-vetch <i>Astragalus danicus</i> . Mixed woodland with dense shrub layer supports Nightingales <i>Luscinia megarhynchos</i> and Goldcrest <i>Regulus</i> . Additionally, arable field margins (biodiversity priority habitat) buffer the golf course along its eastern and south-western edges. Lowland heath/Breck grassland, pond/open water, hedge/scrub, marshy grassland, semi-natural and plantation woodland and wet woodland (biodiversity priority habitats) can be found on and neighbouring the golf course.	The CWS lies adjacent to (within 10m) the northern section of Sunnica East Site B.	County

Non-statutory site Name and Designation	Description	Distance (metres) and direction from the closest point of the Order limits	Importance
Joan's Meadow CWS	A lowland heathland site (biodiversity priority habitat) and a valuable example of short open Breckland grassland. Species include Sickle Medick <i>Medicago falcata</i> , Small Scabious <i>Scabiosa columbaria</i> , Field mouse-ear <i>Cerastium arvense</i> and Basil Thyme <i>Acinos arvensis</i> (included within SRPR the latter also being a biodiversity priority species). Lichens, butterflies, owls, House Martin <i>Delichon urbicum</i> , Yellowhammer (biodiversity priority species) and bats have all been associated with this site.	The CWS lies approximately 15m from the northern section of Sunnica East Site B.	County
Barton Mills Chalk Pit CWS	This active chalk quarry and landfill site supports calcareous grassland, a scarce and decreasing (biodiversity priority) habitat in Suffolk. Additionally, records of Basil thyme (biodiversity priority species) have been recorded here.	The CWS lies approximately 35m east of Sunnica East Site B.	County
The Limekilns and Adjacent Areas CWS	The site supports at least 0.05 ha of CG3 Upright Brome grassland and 0.05 ha of MG5 Crested Dog's-tail <i>Cynosurus cristatus</i> – Black Knapweed <i>Centaurea nigra</i> grassland. Also supports six or more strong calcareous grassland indicator species and a vascular plant species which is rare in the county.	The CWS is approximately 70m to the south of Sunnica West Site A, on the southern side of the A14.	County
Chippenham Park CWS	The site contains more than 0.05 ha of NVC Common Knapweed – Crested Dog's-tail grassland community and pasture woodland with more than five mature and over mature trees per hectare. The grassland also meets species richness criteria, with frequent numbers of eight neutral grassland indicators.	The CWS lies approximately 90m west of Sunnica West Site A.	County
Red Lodge Warren CWS	The site supports a valuable Breckland grassland community that includes Purple Fescue <i>Vulpia ciliata</i> variety <i>ambigua</i> , a nationally scarce plant (recorded in 15 100 km squares in the UK).	The CWS lies approximately 405m east of Sunnica East Site B.	County
Old Rectory Meadows CWS	The site supports frequent numbers of at least eight neutral grassland indicator species.	The CWS lies approximately 430m west of Sunnica West Site A.	County

Non-statutory site Name and Designation	Description	Distance (metres) and direction from the closest point of the Order limits	Importance
Worlington Chalk Pit CWS	The site supports a diverse flora typical of an herb-rich chalk grassland. Many of the species recorded here are rare in Suffolk such as Cat Mint <i>Nepeta</i> , Night-flowering Catchfly <i>Silene noctiflora</i> and Basil thyme all of which are included within SRPR and the latter is also a biodiversity priority species. Broad-leaved cudweed <i>Filago pyramidata</i> also recorded here is a biodiversity priority species, included with the SRPR and considered endangered and only found in this location. Invertebrate interest is high and of particular note are the Scarce-four-dot Pin-palp beetle <i>Bembidion quadripustulatum</i> and Cinnabar Moth <i>Tyria jacobaeae</i> , both of which are biodiversity priority species.	The CWS lies approximately 435m south of Sunnica East Site B.	County
New River and Monk's Lode CWS	The site supports more than ten submerged, floating, emergent and wet bank species per 20m stretch. Also, both ends of the site are well managed and continue to display a good flora that meets the qualifying criteria.	The CWS lies approximately 615m north of Grid Connection Route B2.	County
Burwell Brick Pit CWS	The site supports naturally regenerating grasslands, scrub, marshy, grassland, swamp and open water.	The CWS lies approximately 665m north west of Grid Connection Route B2.	County
Snailwell (south of the stud to the railway) PRV	Neutral / calcareous grassland, presence of a local red data book species.	The PRV is located approximately 700m west of Sunnica West Site A.	County
Spring Close CWS	The site supports frequent numbers of at least eight neutral grassland indicator species.	The CWS lies approximately 840m south east of Burwell National Grid Substation Extension.	County
Criteria 1 - Cherry Hill & the Gallops SSSI RNR	Flat bank with rare Breckland plants	The RNR lies approximately 980m east of Sunnica East Site B.	County

Non-statutory site Name and Designation	Description	Distance (metres) and direction from the closest point of the Order limits	Importance
Kennett Churchyard CWS	The site supports frequent numbers of at least eight neutral grassland indicator species.	The CWS lies approximately 1,080m east of Sunnica West Site A.	County
Chippenham PRV	This protected road verge contains Neutral grassland	The PRV lies approximately 1,180m south of Sunnica East Site A.	County
Freckenham Road RSV CWS	This site supports populations of Nationally Rare (Spanish Catchfly <i>Silene otites</i>) and Nationally Scarce (Sickle Medick <i>Medicago sativa</i> ssp. <i>Falcata</i>) vascular plant species.	The CWS lies approximately 1,180m south of Sunnica East Site A.	County
Norah Hanbury-Kelk Memorial Meadows CWS	The sites provide suitable conditions for a rich assemblage of wetland wildlife. Snipe <i>Gallinago</i> , Gadwall <i>Anas strepera</i> , Lapwing <i>Vanellus vanellus</i> and Redshank <i>Tringa totanus</i> breed here. Of particular value on this site is a colony of Early Marsh Orchid <i>Dactylorhiza incarnata</i> , an uncommon plant in Suffolk and a biodiversity priority species. Other biodiversity priority species include, Reed Bunting <i>Emberiza schoeniclus</i> , Bullfinch <i>Pyrrhula pyrrhula</i> , Yellowhammer, Common Toad <i>Bufo bufo</i> , Grass Snake <i>Natrix helvetica</i> and Water Vole.	The CWS lies approximately 1,135m north of Sunnica East Site B.	County
Pauline's Swamp CWS	The site contains at least 0.25 ha of the NVC Meadowsweet <i>Filipendula ulmaria</i> – Wild Angelica <i>sylvestris</i> mire community (M27). It also has a pond with beds of Stoneworts <i>Charales</i> .	The CWS lies approximately 1,215m south of Burwell National Grid Substation Extension.	County
Mildenhall Woods CWS	Mixed woodland and grassland	The CWS lies approximately 1,435m north-east of Sunnica East Site B.	County

Non-statutory site Name and Designation	Description	Distance (metres) and direction from the closest point of the Order limits	Importance
Burwell Disused Railway CWS	The site contains at least 0.05 ha of the NVC Upright Brome <i>Bromus erectus</i> grassland community (CG3) and supports a population of a Nationally Rare vascular plant species. Additionally, it also supports frequent numbers of at least 6 strong and 16 strong or weak calcareous grassland indicator species. The site also supports one of the five largest colonies in the county of nationally declining Small Blue <i>Cupido minimus</i> and Chalk-hill Blue <i>Polyommatus coridon</i> butterflies.	The CWS lies approximately 1,440m south of Burwell National Grid Substation Extension.	County
Barton Mills Meadows CWS	The site supports a rich assemblage of wetland plants including the Scarce Adder's-tongue Fern <i>Ophioglossum vulgatum</i> , Heath Spotted Orchid <i>Dactylorhiza maculata</i> , Water Avens <i>Geum rivale</i> and Early Marsh Orchid (the latter included within SRPR and considered locally scarce). The site also supports 38 species of moth including eight biodiversity priority species.	The CWS lies approximately 1,850m north east of Sunnica East Site B.	County
RNR 96 CWS	Wild Grape Hyacinth <i>Muscari neglectum</i>	The CWS lies approximately 1,915m east of Sunnica East Site B.	County

Species Records

- 8.6.6 The data search, obtained in December 2018 from CPERC and SBIS to inform the scope of detailed ecological surveys, returned records of protected and notable species using the 2km search radius from the Site and from the preceding ten years. These protected and notable species, including species of conservation importance, can be reviewed in **Appendix 8B** of this Environmental Statement [EN010106/APP/6.2].

Habitats

- 8.6.7 The Order limits area is 1,113ha and the land use dominated by arable fields (873.1ha, 78%) (see **Table 8-6**). There are mature trees and hedges, small wooded copses and ponds. The surrounding habitat is mainly arable and mature broadleaved woodland (plantation, semi-natural). There are individual and clusters of residential properties located within and adjacent to the Site boundary.
- 8.6.8 The terrestrial and aquatic habitats present within the Order limits, were recorded during the Phase 1 Habitat surveys in 2019, 2020, and 2021 and are further defined by detailed habitat surveys undertaken in 2020 and 2021. These habitats are summarised in **Table 8-6**, alongside area calculations (taken from digitised maps of the Phase 1 Habitats) and their biodiversity importance. The locations of these habitats are shown in **Figure 8-3** of this Environmental Statement [EN010106/APP/6.3] and included in **Appendix 8B** of this Environmental Statement [EN010106/APP/6.2]. No ancient woodland or veteran trees were identified as part of the data search; therefore, these aren't considered further in this chapter.
- 8.6.9 Data required to calculate the biodiversity net gain (BNG) or net loss were collected in the Phase 1 Habitat survey and subsequent surveys (such as arable flora and hedgerow surveys) to ensure a comprehensive baseline of data for the assessment.

Table 8-6: Broad habitat types within the Order limits

Broad habitat type	Area (ha) / length (m)	% of Site area	Notable Habitat?	Biodiversity Importance	Rationale
Woodland - Broad-leaved plantation	6.33ha	0.57	No	Local	Not a habitat of principal importance
Woodland - Coniferous plantation	5.54ha	0.50	No	Local	Not a habitat of principal importance
Woodland - Broad-leaved semi-natural	12.42ha	1.12	Local Biodiversity Action Plan (LBAP) Habitat; Lowland Mixed Deciduous Woodland – Habitat of Principal Importance	Up to District	Isolated pockets of semi-natural woodland throughout the Order limits, but unlikely to meet County importance due to small extent within the Order limits and that this habitat is present more widely beyond the Zol in the local area.
Scrub - Dense	3.46ha	0.3	No	Local	Not a habitat of principal importance
Scrub - Scattered	2.20ha	0.2	No	Local	Not a habitat of principal importance
Coniferous Parkland	0.23ha	0.23	No	Local	Not a habitat of principal importance
Woodland - Mixed plantation / semi-natural	16.91ha	1.52	No	Local	Not a habitat of principal importance
Grassland - Unimproved Acid/ Semi-improved acid	12.2ha	1.0	LBAP, Habitat of principal importance	Up to County	Sunnica East Site B - Lowland dry acid grassland priority habitat including U1 <i>Festuca ovina-Agrostis capillaris-Rumex acetosa</i> grassland and SD10 <i>Carex arenaria</i> dune community (see also Appendix 8B of this Environmental Statement [EN010106/APP/6.2] for locations and further details). Three Nationally Scarce species recorded during the

Broad habitat type	Area (ha) / length (m)	% of Site area	Notable Habitat?	Biodiversity Importance	Rationale
					survey in these areas; Bearded Fescue, Sand Catchfly and Bur Medick and a species of principal importance (SPI) I: Annual Knawel <i>Scleranthus annuus</i> . Meets the criteria for Suffolk BIS, 2010 (Ref 8-36) Habitat and SPI within Section 41 of the NERC Act (Ref 8-7). Plant species associated with this habitat type are considered as receptors in Table 8-7 .
Grassland – Semi-improved neutral grassland	0.75ha	<0.1	No	Local	Not a habitat of principal importance
Grassland - Semi-improved calcareous	0.91ha	<0.1	LBAP, Habitat of Principal Importance	County	Sunnica East Site B - Approximately 1 ha of tall unmanaged grassland and ruderal herbs with calcareous influences, with two Nationally Scarce species present on banks of agricultural reservoir. Whilst not matching an NVC community type, it contains characteristic species and is an example of lowland calcareous grassland priority habitat (as defined under Section 41 of the NERC Act) (Maddock, 2011).
Grassland - Improved	52.27ha	4.70	No	Below Local	A number of agricultural fields consisted of Perennial Ryegrass <i>Lolium perenne</i> dominated improved grasslands.

Broad habitat type	Area (ha) / length (m)	% of Site area	Notable Habitat?	Biodiversity Importance	Rationale
Grassland – Marshy	3.98ha	0.36	LBAP, Habitat of Principal Importance	District	Sunnica East Site A and Sunnica West Site B - Due to its small size, neither of these grassland parcels meet County Wildlife Site level criteria (Cambridgeshire & Peterborough Panel, 2014) (Ref 8-37), but it is of higher than local importance due to the lack of this type of habitat within the Order limits.
Grassland - Poor semi-improved grassland	21.86ha	1.96	No	Local	Not a habitat of principal importance
Grassland – semi-improved	15.53ha	1.40	No	Local	Not a habitat of principal importance
Tall ruderal	4.14ha	0.37	No	Local	Not a habitat of principal importance
Arable (including arable flora)	873.07ha	78.45	LBAP, Habitat of Principal Importance	Up to County	Arable field margins with rare/scarce arable flora species, including Corn Spurrey <i>Spergula arvensis</i> and Corn Marigold <i>Glebionis segetum</i> listed as Vulnerable in the UK and England recorded, Fine-leaved Fumitory <i>Fumaria parviflora</i> classified as Vulnerable in the UK and Near Threatened in England and Corn Chamomile <i>Anthemis arvensis</i> classified as Endangered in the UK and England, (Stroh <i>et al.</i> 2015 (Ref 8-14), Mcleod <i>et al.</i> 2017) (Ref 8-15). Arable flora present in field margins of Sunnica West Site A and Sunnica East Site B is considered as a receptor in Table 8-7 .

Broad habitat type	Area (ha) / length (m)	% of Site area	Notable Habitat?	Biodiversity Importance	Rationale
Reedbed /swamp	0.11ha	<0.1	Habitat of Principal Importance Reedbed	District	Sunnica East A – A drain in the north of this Site with a small area of S4 <i>Phragmites australis</i> swamp and reed-beds. Due to its small size, it would not meet County Wildlife Site level criteria (Cambridgeshire & Peterborough Panel, 2014) (Ref 8-37), but it is of higher than local importance due to the lack of this type of habitat within the Order limits.
Running water	1.84ha (507m)	0.17	Including a network of ditches and rivers; Rivers are habitat of Principal Importance	County	River Snail, River Kennett and Lee Brook all within the Order limits.
Standing water	1.63ha	0.15	LBAP Habitat; Lakes and Ponds of certain criteria are a Habitat of Principal Importance	Local	Ponds can be defined as permanent (or seasonal) waterbodies up to 2ha in extent and qualify as being a priority habitat if they meet one or more criteria for UKBAP classification, including supporting species of high conservation importance. The majority of ponds within the Order limits are either dry or have little to no macrophytes / aquatic vegetation and have little other ecological value. Furthermore, they are not stand-alone habitats within the wider area, as similar habitats can be found in the surrounding area. Therefore, the ponds within the Order limits do not reach the required levels to fulfil the criteria of a priority habitat and are of no more than local importance.

Broad habitat type	Area (ha) / length (m)	% of Site area	Notable Habitat?	Biodiversity Importance	Rationale
Ephemeral /short perennial	4.74ha	0.43	No	Local	Not a habitat of principal importance
Bare ground	59.58ha	5.35	No	Below Local	Not a habitat of principal importance
Buildings	0.39ha	<0.1	No	Below Local	Not a habitat of principal importance
Hard surface	12.38ha	1.11	No	Below Local	Not a habitat of principal importance
Tree-line (scattered trees)	1,634m	n/a	No	Local	Not a habitat of principal importance
Hedge - defunct (species poor)	1,928m	n/a	LBAP, Habitat of Principal Importance	Local	Does not meet guidance in LWS Selection Criteria in Suffolk (Ref 8-36) or Cambridgeshire (Ref 8-37), due to lack of species diversity, gaps in the hedges and lack of trees.
Hedge - intact (species poor)	18,803m	n/a	LBAP, Habitat of Principal Importance	Local	Does not meet guidance in LWS Selection Criteria in Suffolk (Ref 8-36) or Cambridgeshire (Ref 8-37), due to lack of species diversity, gaps in the hedges and lack of trees.
Hedge - with trees (species poor)	1,685m	n/a	LBAP, Habitat of Principal Importance	Local	Does not meet guidance in LWS Selection Criteria in Suffolk (Ref 8-36) or Cambridgeshire (Ref 8-37), due to lack of species diversity, gaps in the hedges and lack of trees.
Hedge - with trees (species rich)	570m	n/a	LBAP, Habitat of Principal Importance	County	Habitat of principal importance
Fence	5,149m	n/a	No	Below Local	Not a habitat of principal importance
Dry ditch	955m	n/a	No	Local	Not a habitat of principal importance

Protected and Notable Species

- 8.6.10 A summary of protected or notable species that have been identified during the ecological surveys as present, or potentially present, within the Order limits and survey areas and an evaluation including importance / value (sensitivity) and rationale of the ecological features for each species is presented in **Table 8-7**. Full descriptions of the baseline conditions are given in **Appendix 8B to 8M** of this Environmental Statement [EN010106/APP/6.2] and accompanying figures, as indicated in **Table 8-7**.
- 8.6.11 The assessment of biodiversity importance of species has been made for the entirety of the Order limits. Where the biodiversity importance of a receptor is specific to a particular area of the Order limits, then this is specified, with population size or specific species, in **Table 8-7**. Where a receptor is specifically referenced within an area of the Order limits, then the receptor is present in this area only and not throughout the Order limits.

Table 8-7: Summary of baseline details for legally protected and notable species alongside assessment of biodiversity importance of ecological features

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
Arable Flora (Appendix 8C of this Environmental Statement [EN010106/APP/6.2])	Arable field margins with rare/scarce arable flora species, including Corn Spurrey and Corn Marigold listed as Vulnerable in the UK and England recorded, Fine-leaved Fumitory <i>Fumaria parviflora</i> classified as Vulnerable in the UK and Near Threatened in England and Corn Chamomile classified as Endangered in the UK and England, (Stroh <i>et al</i> 2015 (Ref 8-14), Mcleod <i>et al</i> 2017) (Ref 8-15).	Sunnica East Site A – Arable flora of local importance found in three fields. Sunnica East Site B – Arable flora of district importance found in five fields and arable flora of local importance found in four fields. Sunnica West Site A – Arable flora of county importance found in one field, arable flora of district importance found in one field and arable flora of local importance found in four fields. Sunnica West Site B – Arable flora of local importance found in one field.	Sunnica East Site A – Arable flora assemblage of Local Importance Sunnica East Site B – Arable flora assemblage of up to District Importance Sunnica West Site A - Arable flora assemblage of up to County Importance Sunnica West Site B – Arable flora assemblage of Local Importance	Based on standard assessment methodology, based on Byfield and Wilson (2005) (Ref 8-16).
Other Flora (Appendix 8C of this Environmental Statement [EN010106/APP/6.2])	Sunnica East Site B - Three Nationally Scarce species present in dry acid grassland in these areas; Bearded Fescue, Sand Catchfly and Bur Medick and a NERC Act Section 41 species Annual Knawel.	Notable species present in lowland dry acid grassland priority habitat.	Sunnica East Site B – Lowland dry acid grassland and SPI of County Importance	SPI under Section 41 of the NERC Act (Ref 8-7).

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
<p>Terrestrial Invertebrates (Appendix 8D of this Environmental Statement [EN010106/APP/6.2])</p>	<p>Sunnica East Site B - 610 species were recorded during the survey visits. Eighty-two of these species are designated as Nationally Scarce (Notable, NS) and fifteen species are designated as Nationally Rare (Red Data Book, NR).</p> <p>Four taxa were recorded that are either Nationally Threatened or Near Threatened under IUCN criteria (Ref 8-38). These are the dung beetle <i>Labarrus (Aphodius) lividus</i> (IUCN Vulnerable), the liocranid spider <i>Agroeca cuprea</i> (IUCN Near Threatened), the ground beetles <i>Harpalus froelichii</i> and <i>Harpalus pumilus</i> (both Near Threatened).</p> <p>Three NERC (Ref 8-7) species were recorded: one spider, one beetle and one moth (research only).</p> <p>A second British population of the leafhopper <i>Arocephalus languidus</i> was identified within the Order limits.</p> <p>No legally protected species were found during the survey.</p>	<p>Notable terrestrial invertebrate species and assemblages, associated with several of the short turf breck grassland areas.</p>	<p>Sunnica East Site B – Terrestrial invertebrate assemblage of up to Regional Importance</p>	<p>Sunnica East Site B - Notable species and assemblages.</p>

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
<p>Aquatic Macrophytes (Appendix 8E of this Environmental Statement [EN010106/APP/6.2])</p>	<p>No macrophyte species of conservation importance were recorded in waterbodies surveyed within the Order limits, with the sampled communities typical of nutrient rich waterbodies associated with an agricultural landscape. Narrow-leaved Water plantain <i>Alisma lanceolatum</i> was present in all three ditches surveyed in the Sunnica East Site A and is considered a Suffolk Rarity, however, it is not a priority species and is common throughout England. The following main waterbodies/watercourses either present within the Order limits or ZoI, whilst not subject to detailed surveys, are known or likely to support notable macrophyte species and assemblages:</p> <ul style="list-style-type: none"> a. Lee Brook; b. River Kennett; c. River Snail; d. New River; e. Catchwater Drain; and f. Burwell Lode. 	<p>Aquatic macrophyte community in the watercourses across the Order limits.</p>	<p>The majority of minor waterbodies present within the Order limits, e.g. agricultural drainage ditches and storage reservoirs, are of no more than Local importance, however the following waterbodies are considered to support notable macrophyte species and assemblages of up to County Importance:</p> <ul style="list-style-type: none"> a. Lee Brook; b. River Kennett; c. River Snail; d. New River; e. Catchwater Drain; and f. Burwell Lode. 	<p>No aquatic macrophyte species of conservation importance. A similar macrophyte assemblage is expected to be common in the wider landscape.</p> <p>The following watercourses are known, or likely to, support notable macrophyte species and assemblages:</p> <ul style="list-style-type: none"> a. Lee Brook; b. River Kennett; c. River Snail; d. New River; e. Catchwater Drain; and f. Burwell Lode.

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
<p>Aquatic macro-invertebrates (Appendix 8E of this Environmental Statement [EN010106/APP/6.2])</p>	<p>Three species with a Local distribution were recorded at Sunnica East Site A; the Hairy Dragonfly <i>Brachytron pratense</i>, the snail Leach's Bithynia <i>leachii</i>. and caddisfly <i>Agrypnia pagetana</i>. One species with a Local distribution was recorded at the Sunnica West Site B; the diving beetle <i>Ilybius quadriguttatus</i>. None of these are Red Data Book species or species of conservation importance.</p> <p>The community composition across all the surveyed sites is considered to be of moderate conservation value under the CCI index.</p> <p>The invasive Signal Crayfish <i>Pacifastacus leniusculus</i> was recorded in the desk study of Lee Brook. The remains of this species were also found in a ditch within the Sunnica East Site A.</p> <p>The following main waterbodies/watercourses either present within the Order limits or ZoI, whilst not subject to detailed surveys, are known or likely to support notable aquatic macro-invertebrate species and assemblages:</p> <ul style="list-style-type: none"> a. Lee Brook; b. River Kennett; 	<p>Aquatic macroinvertebrate communities in watercourses across the Order limits.</p>	<p>The majority of minor waterbodies present within the Order limits, e.g. agricultural drainage ditches and storage reservoirs, are of no more than Local importance, however the following waterbodies are considered to support notable aquatic macro-invertebrate species and assemblages of up to County Importance:</p> <ul style="list-style-type: none"> a. Lee Brook; b. River Kennett; c. River Snail; d. New River; e. Catchwater Drain; and f. Burwell Lode. 	<p>Similar aquatic macroinvertebrate assemblages expected to be common across the wider landscape. There were no local BAP species recorded during any of the surveys.</p> <p>The following watercourses are known, or likely to, support notable aquatic macro-invertebrate species and assemblages:</p> <ul style="list-style-type: none"> a. Lee Brook; b. River Kennett; c. River Snail; d. New River; e. Catchwater Drain; and f. Burwell Lode.

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
	c. River Snail; d. New River; e. Catchwater Drain; and f. Burwell Lode.			
Fish (Appendix 8E of this Environmental Statement [EN010106/APP/6.2])	Environment Agency data returned the following records of protected fish species: Brook Lamprey <i>Lampetra planeri</i> and Bullhead <i>Cottus gobio</i> : River Snail (Sunnica West Site B). Brook Lamprey, Bullhead, and Brown Trout <i>Salmo trutta</i> : Lee Brook (Sunnica East Site A). European Eel, Bullhead and Spined Loach <i>Cobitis taenia</i> in Burwell Lode which is connected to Catchwater Drain (Grid Connection Route B2).	Brook Lamprey and Bullhead in the River Snail (Sunnica West Site B). Brook Lamprey, Bullhead, and Brown Trout in the Lee Brook (Sunnica East Site A). Desk study records of European Eel, Bullhead and Spined Loach in Burwell Lode which is connected to Catchwater Drain (Grid Connection Route B2).	Brook Lamprey, European Eel and Spined Loach - Regional Importance Bullhead and Brown Trout – County Importance All other species – Local Importance	Brook Lamprey is an Annex II species under the Habitats Directive (Ref 8-39). European Eel is listed as a SPI and a LBAP priority species in Cambridgeshire (Ref 8-40). It is also critically endangered under the IUCN Red List (Ref 8-38) of Threatened Species.

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
				<p>European Bullhead is an Annex II species under the Habitats Directive (Ref 8-39) which means they are a species of Community interest (i.e. endangered, vulnerable, rare or endemic in the European Community) whose conservation requires the designation of special areas of conservation. Bullhead is also listed as a SPI.</p> <p>Brown/Sea Trout are listed as a SPI.</p> <p>None of the other fish species recorded are rare, notable or protected species.</p>

<p>Amphibians (Appendix 8F of this Environmental Statement [EN010106/APP/6.2])</p>	<p>No records of Great Crested Newt (GCN) were returned by the data search. Common Toad was recorded within 2km of the Burwell National Grid Substation Extension. GCN is a qualifying species for Fenland SAC (taken from the SAC citation)), with Chippenham Fen (a component part of the SAC) adjacent to and ecologically connected to the Sunnica West Site B. However, no GCN have been recorded within Chippenham Fen (NE site manager <i>per comms.</i>)</p> <p>The suitability of all waterbodies for GCN was assessed by collecting specified data which were used to calculate a Habitat Suitability Index (HSI) for each waterbody. Water samples taken from those waterbodies within 250m of the Order limits, which had been assessed as being suitable for GCN, were analysed for environmental DNA (eDNA); or field surveys were undertaken to determine the presence or absence of GCN in these waterbodies.</p> <p>There was one positive eDNA result for GCN, from a waterbody in Worlington approximately 150m north of Sunnica East Site B. There are also unverified reports from Worlington residents of GCN in garden ponds. There is a population of GCN north of Sunnica East Site B (confirmed through positive eDNA) and this population likely uses suitable waterbodies and any seasonally available standing water in the</p>	<p>Great Crested Newt presence just outside of the Sunnica East Site B boundary.</p>	<p>Local Importance</p>	<p>Great Crested Newt is listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (Ref 8-6), which affords them protection under Section 9, as amended by the Countryside Rights of Way Act (2000) (Ref 8-41). They are also protected under Regulation 41 of the Conservation of Habitats and Species Regulations 2017 (Ref 8-2). They are listed on Annex II and VI of the EC Habitats Directive (Ref 8-39) and are included as a SPI under Section 41 of the NERC Act (Ref 8-7). However, the surveys only returned a positive eDNA result in a single waterbody in Worlington, approximately 150m north of Sunnica East Site B. There were no data search records of GCN within 2km of the</p>
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Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
	<p>vicinity of Worlington. There are a number of ditches on the southern side of Worlington, which if wet during early spring could be used by breeding GCN. At their closest these waterbodies are approximately 70m from the Order limits.</p>			<p>Order limits and no GCN recorded elsewhere within the Order limits. Notwithstanding the international legislation that protects the species, due to presence within a single pond outside the Order limits, a Great Crested Newt population of only Local Importance is considered to be present within the survey area.</p>

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
<p>Reptiles (Appendix 8G of this Environmental Statement [EN010106/APP/6.2])</p>	<p>Two species of reptile, Common Lizard <i>Zootoca vivipara</i> and Grass Snake, were recorded within the Sunnica West Site B boundary during field surveys.</p> <p>No reptiles recorded from field surveys in suitable areas of habitat within Sunnica West Site A, Sunnica East Site A or Sunnica East Site B.</p> <p>There is no suitable habitat for reptiles within the Grid Connection Routes A1 or B1.</p> <p>The habitat within the Burwell National Grid Substation Extension area for Option 1 and Option 2, Grid Connection Routes A2 and B2 is of limited value for reptiles but was not subject to field surveys. The habitat within these areas is a mixture of ditches, grassland and scrub and could be suitable for small, isolated populations of Grass Snake, Common Lizard and Slow Worm <i>Anguis fragilis</i>. Adder <i>Vipera berus</i> is unlikely to occur in these areas, due to geographical range and the lack of woodland and bracken habitats, favoured by this species.</p>	<p>Common Lizard and Grass Snake confirmed as present within Sunnica West Site B.</p> <p>Presumed potential Low population of Common Lizard, Grass Snake and Slow worm within Burwell National Grid Substation Extension area, Grid Connection Route A2 and Grid Connection Route B2.</p>	<p>Local Importance</p>	<p>Whilst reptiles are protected from injury or killing within the Wildlife and Countryside Act 1981 (as amended) (Ref 8-6) and are SPI under Section 41 of the NERC Act (Ref 8-7), a low population of two common and widespread species were confirmed within one Order limits area.</p>

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
<p>Non-breeding (wintering) birds (Appendix 8H of this Environmental Statement [EN010106/APP/6.2])</p>	<p>A total of 79 bird species recorded during the wintering bird surveys during the survey period. Of these 79 bird species, 40 species meet at least one of a range of criteria relating to conservation importance were recorded.</p>	<p>Assemblage of wintering birds</p>	<p>Species diversity for the Order limits is of county importance. Note – individually, the component sites of Order limits only support a species diversity of Local Importance.</p> <p>Wintering population of Skylark in Sunnica West Site A is of District Importance.</p>	<p>No wintering bird population approaches the 1% level of the national population, which would constitute a nationally significant wintering bird population.</p> <p>Five species, listed on Annex I of the EC Birds Directive (2009) (Ref 8-42) were recorded within the survey area: Little Egret <i>Egretta garzetta</i>, Red Kite <i>Milvus milvus</i>, Hen Harrier <i>Circus cyaneus</i>, Peregrine <i>Falco peregrinus</i> and Golden Plover <i>Pluvialis apricaria</i>.</p> <p>Fifteen SPI under Section 41 of the NERC Act (Ref 8-7) were recorded within the survey area.</p>

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
				<p>Nineteen species, included on the BoCC Red List (Ref 8-43) and 18 species, included on the BoCC Amber list (Ref 8-43), were recorded within the survey area. The remaining species are all included on the Green list and are of least conservation concern.</p>
<p>Breeding Birds (Appendix 8I of this Environmental Statement [EN010106/APP/6.2])</p>	<p>A total breeding bird assemblage of 73 species was recorded within the Order limits between 2019 and 2021, with a breeding assemblage of 66 species recorded in 2019/2020 and 59 species in 2021. However, the maximum breeding assemblage in any given year is 66 species as there are fluctuations in the species assemblages within the survey area over the three year survey period. From the breeding assemblages of 66 bird species (2019/2021) and 59 species (2021), 41 species meet at least one of a range of criteria relating to conservation importance.</p>	<p>An assemblage of notable birds breeding on the arable land within the survey area (Order limits). Note – individually, the component sites of the Order limits only support breeding bird assemblages of Local Importance.</p>	<p>County Importance</p>	<p>The arable land within the Order limits supports a number of notable species during the breeding season, including Yellowhammer, Linnet, Reed Bunting and Skylark <i>Alauda arvensis</i>; all are BoCC Red or Amber list species (Ref 8-43), and/or listed as SPI under Section 41 of the NERC Act (Ref 8-7).</p>

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
	<p>Territories of two Annex 1 species (Stone-curlew <i>Burhinus oedichnemus</i> and Woodlark <i>Lullula arborea</i>) and six WCA Schedule 1 species (Stone-curlew, Hobby <i>Falco subbuteo</i>, Quail <i>Coturnix coturnix</i>, Little Ringed Plover <i>Charadrius dubius</i>, Barn Owl <i>Tyto alba</i> and Woodlark) confirmed within the survey area.</p>	<p>Common nesting bird species throughout the Order limits.</p>	<p>Local Importance</p>	<p>All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended) (Ref 8-6).</p> <p>Habitat present across the extent of the Order limits supports nesting birds.</p>

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
		Territories of Stone-curlew and Woodlark	Stone-curlew County Importance part of a nationally important population Woodlark District Importance	Specially protected species owing to inclusion on Annex 1 of the EU Birds Directive (Ref 8-42) and Schedule 1 species on the Wildlife and Countryside Act 1981 (as amended) (Ref 8-6). Whilst the Stone-curlew population occurring within the Order limits is considered to be functionally linked to the Breckland SPA, and therefore a component of a nationally important population, the population does not exceed 1% of either the national or regional (East Anglia) populations and is therefore considered to be of County Importance (i.e. >1% of the Suffolk population).

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
		Territories of Quail, Hobby and Little Ringed Plover	County Importance	Specially protected species owing to inclusion on Schedule 1 on the Wildlife and Countryside Act 1981 (as amended) (Ref 8-6).
Bats (Appendix 8J of this Environmental Statement [EN010106/APP/6.2])	<p>Sunnica East Site A and East Site B - Very low to high bat activity (depending on the season and location) of at least eight species on both sites: Common Pipistrelle <i>Pipistrellus pipistrellus</i>, Soprano Pipistrelle <i>Pipistrellus pygmaeus</i>, Noctule <i>Nyctalus noctula</i>, Leisler's bat <i>Nyctalus leisleri</i>, <i>Myotis</i> species, Brown Long-eared bat <i>Plecotus auritus</i>, Serotine <i>Eptesicus serotinus</i> and Barbastelle <i>Barbastella barbastellus</i>. A few barns at Sunnica East Site A with roosting potential and observed foraging activity along the watercourses and hedges.</p> <p>Highest activity at Sunnica East Site B over the reservoir to the south and along Badlingham Lane, but also foraging in fields particularly in the summer (e.g. over maize crops). Numerous potential roost features in mature trees.</p>	<p>Foraging/commuting common and scarce/rarer bats present</p> <p>Foraging/commuting activity throughout with potential for roosts within and adjacent to the Order limits.</p> <p>Precautionary principle of presumed presence of roosting and foraging/commuting bats within the Grid Connection Routes A2 and B2.</p> <p>Two bat roosts, supporting 1-2 individual bats, identified in two trees at the Burwell National Grid Substation and surrounding area.</p>	Up to County Importance (depending on species)	Biodiversity importance of foraging and commuting bats based on species rarity, numbers, presence of nearby roosts and type/complexity of community/foraging features. All potential roosts to be retained and not disturbed.

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
	<p>Sunnica West Site A - Very low to high bat activity (depending on the season and location within the site) of at least eight species; Common Pipistrelle, Soprano Pipistrelle, Noctule, Leisler's bat, <i>Myotis</i> species (including Natterer's bat <i>Myotis nattereri</i> identified from netting survey), Brown Long-eared bat, Serotine and Barbastelle. Foraging observed along tracks, field margins and adjacent to woodland. Numerous potential roost features in mature trees and farm buildings.</p> <p>Sunnica West Site B - Moderate to high bat activity of at least eight species; Common Pipistrelle, Soprano Pipistrelle, Noctule, Leisler's bat, <i>Myotis</i> species, Brown Long-eared bat, serotine and barbastelle. Highest number of bat passes on the static detector at this site along central hedge with 68 passes per hour in summer 2019. Numerous potential roost features in mature trees along central hedge, and in scattered mature trees in southern field.</p> <p>The habitat within the Grid Connection Routes A2 and B2 was not surveyed for bat activity, although a PRA survey was undertaken in these areas.</p>			

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
	<p>Roost surveys at the Burwell National Grid Substation Extension area identified two day roosts (trees) used by two species of bat (Common and Soprano Pipistrelle).</p>			
<p>Badger (Appendix 8K of this Environmental Statement [EN010106/APP/6.2])</p>	<p>Nine Badger setts, in active use were identified within the Order limits.</p> <p>Of these nine active setts:</p> <ul style="list-style-type: none"> a. six setts were well-used main setts; b. one sett is a well-used outlier sett; and c. two setts are partially used outlier setts. <p>Furthermore, a well-used main sett was recorded c.150m from the Order limits and four outlier setts, no longer in use, were recorded within the Order limits.</p>	<p>At least six separate Badger social groups present within or in the vicinity of the Order limits.</p>	<p>Local Importance</p>	<p>Badgers are legally protected under The Protection of Badgers Act 1992 (Ref 8-44), however, they still remain common and widespread throughout Cambridgeshire and Suffolk.</p>
<p>Water Vole (Appendix 8L of this Environmental Statement [EN010106/APP/6.2])</p>	<p>Water Vole presence recorded in ditches within Sunnica West Site B, within ditches in Grid Connection Route B2 and in peripheral ditches of Sunnica East Site A and B.</p>	<p>Change or loss of riparian habitat used by Water Vole.</p>	<p>District Importance</p>	<p>Water Vole protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) (Ref 8-6).</p>

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
				A low population size recorded but in consideration of this species' declining status in a national and county context, the population of Water Vole is potentially of district importance.
<p>Otter (Appendix 8L of this Environmental Statement [EN010106/APP/6.2])</p>	<p>Otter presence recorded in six peripheral watercourses and within ditches in Grid Connection Route B2. No Otter holts, couches or resting sites recorded within the Order limits.</p>	<p>Change or loss of riparian habitat used by Otter.</p>	<p>Local Importance</p>	<p>Otter is protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (Ref 8-6) and under The Conservation of Habitats and Species Regulations 2017 (as amended) (Ref 8-2).</p>

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
				<p>Otters have an estimated British population of 11,000 and are increasing in population size and range. They are of IUCN Least Concern Status in England (Ref 8-38). The absence of holts, couches or resting sites within the survey area means the land within the Order limits is likely to only support an Otter Population of Local Importance.</p>
<p>Hedgehog <i>Erinaceus europaeus</i></p>	<p>An assessment of the mix of scrub, hedgerow and grassland habitat present within the Order limits and likelihood for Hedgehog to occur, concluded that Hedgehog is likely to be present within the Order limits.</p>	<p>Assumed presence within Order limits.</p>	<p>Local Importance</p>	<p>SPI in England (Ref 8-7).</p>

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
				<p>No surveys were undertaken for Hedgehog. However, when considering the habitat quality within the Order limits, an assumption has been made this species is likely to be present across the whole Scheme.</p> <p>Hedgehog is widespread and abundant in the UK and in Cambridgeshire and Suffolk.</p>

Biodiversity feature and relevant technical appendix	Baseline Detail	Nature Conservation Receptor	Assessment of Biodiversity Importance	Rationale
<p>Brown Hare <i>Lepus europaeus</i></p>	<p>An assessment of the arable habitat within the Order limits and likelihood for Brown Hare to occur, concluded that Brown Hare is likely to be present within the Order limits</p>	<p>Assumed presence within Order limits.</p>	<p>Local Importance</p>	<p>SPI in England (Ref 8-7) and Local BAP species in Cambridgeshire (Ref 8-40) and Suffolk (Ref 8-45). No surveys were undertaken for Brown Hare. However, Brown Hare were recorded in arable land during other ecological surveys and is likely to be present throughout the Order limits.</p> <p>Brown Hare is widespread and abundant in the UK and in Cambridgeshire and Suffolk.</p>

Future Baseline

- 8.6.12 This section considers those changes to the baseline conditions described above that might occur during the time period over which the Scheme will be in place. It also considers changes that might occur in the absence of the Scheme being constructed.
- 8.6.13 The habitat within the Order limits and up to 50m from the Order limits, is largely arable farmland, cropped on rotation, bordered by hedgerows, scrub, woodland and connecting ditches. In the short to medium term, in absence of the Scheme, these habitats have and will continue to provide a number of species with potential habitat such as arable farmland for ground-nesting breeding birds and ditches for Water Vole. In the long term, in the absence of the Scheme, habitats on site will be under agricultural management and therefore the distribution of some species will change in response to cropping, whilst the assemblages may remain broadly the same. Any changes to the baseline between now and the future scenario have been taken into account in the assessment and when determining mitigation measures.

Construction Period (2024)

- 8.6.14 If the Scheme did not proceed, the majority of existing habitats are likely to continue being present, although some changes in habitat extent, composition and structure will occur as a result of ecological succession e.g. the gradual establishment of tree and shrub seedlings. These resultant gradual changes in habitat composition are unlikely to materially alter the ecological baseline and therefore the habitats and species present are very unlikely to undergo significant change prior to the start of construction in summer 2023 at the earliest.

Opening and Operation (2025 and 2065)

- 8.6.15 Based on available information, there are no reasons to expect that there would be any marked change in the habitats associated with the Scheme between opening in 2025 at the earliest and 2065, if the Scheme did not progress. It is noted however, that changing climatic conditions resulting from climate change may influence the resilience of certain habitats and species, such as unimproved grasslands, wetlands and their associated faunal communities. Whilst there may be changes in species composition within these habitats these will not significantly alter the basis of the assessment. Habitats such as broad-leaved trees and scrub will be more mature but are likely to support a broadly similar species assemblage and arable farmland will also be managed accordingly, maintaining broadly similar species assemblages.

Decommissioning (2065 at the earliest)

- 8.6.16 The future baseline conditions at 2065 at the earliest are likely to be similar to those at the start of construction in summer 2023 at the earliest, although habitats such as plantation woodland would have matured further, though

some may have been felled or partially cropped. Species assemblages are also likely to have changed in accordance with the site conditions. Changes in biodiversity are likely to occur if climate change continues at its current pace. Adverse effects could include changes in species habitats and compositions and consequently changes in species assemblages and distribution. A Framework DEMP has been prepared to support the DCO submission and will be finalised prior to the decommissioning phase as outlined in **Chapter 3: Scheme Description** of this Environmental Statement [EN010106/APP/6.1]. The measures included in the Framework DEMP will be able to accommodate climate related changes in the environment present within the Order limits at the time of decommissioning.

Summary of Important Ecological Features

8.6.17 **Table 8-8** summarises the important ecological features that are relevant to the Scheme and to which specific part of the Scheme. Based on CIEEM guidelines (Ref 8-10) and using professional judgement, features of local and site importance *i.e.* less than district importance, are not considered further in the assessment process, unless legislation requires their consideration. In recognition of the protected status of species occurring at a local level (e.g. reptiles), the Scheme has embedded appropriate mitigation to minimise impacts in line with the relevant legislation.

Table 8-8: Summary of important ecological features

Important ecological feature	Relevant to which part of the Scheme area	Reason for valuation	Level of biodiversity value
Seven sites of international importance (SPA, SAC or Ramsar)	Throughout the Order limits	Statutory site of nature conservation importance	International
Nine sites of national importance (SSSI, NNR)	Throughout the Order limits	Statutory site of nature conservation importance	National
31 sites of county importance (CWS, LNR, PRV or RNR)	Throughout the Order limits	Non-statutory site of nature conservation importance	County
Woodland - Broad-leaved semi-natural	Throughout the Order limits	LBAP Habitat; Lowland Mixed Deciduous Woodland – Habitat of Principal Importance	Up to District

Important ecological feature	Relevant to which part of the Scheme area	Reason for valuation	Level of biodiversity value
Grassland - Unimproved and Semi-improved Acid	Sunnica East Site B	Lowland dry acid grassland priority habitat and notable species that meets criteria for CWS selection in Suffolk.	Up to County
Grassland - Semi-improved calcareous	Sunnica East Site B	LBAP, Habitat of Principal Importance. Due to its small size, it would not meet CWS level criteria	District
Grassland – Marshy	Sunnica West Site B	LBAP, Habitat of Principal Importance. Two Nationally Scarce species present	County
Reedbed	Sunnica East Site A	Habitat of Principal Importance. Due to its small size, it would not meet CWS level criteria	District
Arable (including arable flora)	Sunnica East Site B and Sunnica West Site A	Arable field margins with rare/scarce arable flora species.	Up to County
Running water	Sunnica East Site A; Grid Connection Route A2; Sunnica West Site B	River Snail, River Kennett and Lee Brook all within Order limits	County
Hedgerows	Throughout the Order limits	Between 20 and 25km length of hedgerows across the Order limits	Up to County
Other Flora	Sunnica East Site B	Three Nationally Scarce species present in dry acid grassland	County
Aquatic Macrophytes and Macro-invertebrates	Throughout the Order limits	The following watercourses are known, or likely to, support notable macrophyte species and assemblages: <ul style="list-style-type: none"> - Lee Brook; - River Kennett; - River Snail; - New River; - Catchwater Drain; and - Burwell Lode. 	Up to County
Terrestrial Invertebrates	Sunnica East Site B	Notable terrestrial invertebrate species and assemblages.	Up to Regional
Fish	Sunnica West Site B	Population of Brook Lamprey and Bullhead in River Snail	Regional

Important ecological feature	Relevant to which part of the Scheme area	Reason for valuation	Level of biodiversity value
		Population of Brook Lamprey in Lee Brook	Regional
	Sunnica East Site A and B	Population of Bullhead and Brown Trout in Lee Brook	County
		Species diversity in Lee Brook	County
		Population of European Eel and Spined Loach in Burwell Lode.	Regional
	Grid Connection Route B2	Population of Bullhead (in Burwell Lode	County
		Species diversity in Burwell Lode	County
An assemblage of notable birds breeding on the arable land within the survey area.		County	
Breeding Birds	Throughout the Order limits	Population of breeding Stone-curlew	County
	Sunnica East Sites A and B	Population of breeding Quail, Hobby and Little Ringed Plover	County
	Sunnica East Sites A and B	Hobby	County
	Sunnica West Site A	Population of wintering birds -species diversity	County
Wintering Birds	Throughout the Order limits	Wintering population of Skylark	District
Bats	Sunnica West Site A and Sunnica East Site A.	Foraging/ commuting common and scarce/rarer bat species, with potential for roosts within and adjacent the Scheme.	Up to County
Water Vole	Throughout the Order limits	Present along watercourses throughout the Scheme.	District

8.7 Potential Impacts and Effects

8.7.1 The construction, operation and decommissioning of the Scheme could potentially result in the following impacts and effects:

Construction (2023-2025 at the earliest)

8.7.2 Impacts on biodiversity features during construction of the Scheme are likely to include:

- a. Habitat loss or gain – direct impacts associated with changes in land use resulting from the Scheme, for example temporary works associated with site clearance, and permanent land-take (mainly arable land) associated with the installation of the solar farm.
- b. Fragmentation of populations or habitats – indirect impacts due to the Scheme dividing a habitat, group of related habitats, site or ecological network, or the creation of partial or complete barriers to the movement of species, with a consequent impairment of ecological function.
- c. Disturbance – indirect impacts resulting from a change in normal conditions (e.g. light, noise, vibration and human activity) that result in individuals or populations of species changing behaviour or range.
- d. Habitat degradation – direct or indirect impacts resulting in the reduction in the condition of a habitat and its suitability for some or all of the species it supports, for example changes in chemical water quality or changes in surface flow or groundwater.
- e. Species mortality – direct impacts on species populations associated with mortalities due to construction activities, for example site clearance.

Operation (2025-2065 at the earliest)

8.7.3 Impacts on biodiversity features during the operational phase of the Scheme are likely to include:

- a. Changes to foraging and commuting habitats, e.g. from agriculture (arable crops/cattle grazing) to grassland (potentially cut or grazed);
- b. Potential attraction to or avoidance by species such as bats and birds to the solar panels from potential increases in prey (i.e. flying insects), potential noise attraction/disturbance from BESS, onsite substations extension, operational compound and solar panels, barrier effects;
- c. Potential for nesting and/or roosting in new infrastructure; and
- d. Indirect beneficial impacts through a possible reduction of agriculture chemical inputs to soil and watercourses, reduction in pesticide use on crops within the local area resulting in an increase in prey availability.

Decommissioning (2065 at the earliest)

8.7.4 Impacts on biodiversity features during decommissioning of the Scheme are likely to be the same as construction. Upon decommissioning, the physical infrastructure will be removed and the land within the Order limits returned to landowners, including established habitats. Management and use of the land will then be in the control of the then landowner.

8.8 Embedded Design Mitigation

- 8.8.1 Primary mitigation measures are embedded within the Scheme, as illustrated within the OLEMP (see **Appendix 10I** of this Environmental Statement [EN010106/APP/6.2]), Framework CEMP (see **Appendix 16C** of this Environmental Statement [EN010106/APP/6.2]), Framework OEMP (see **Appendix 16F** of this Environmental Statement [EN010106/APP/6.2]), Framework DEMP (see **Appendix 16E** of this Environmental Statement [EN010106/APP/6.2]), the development of all of which are secured by the DCO. Embedded design measures are shown on the illustrative parameter plans (see **Figures 3-1** and **3-2** of this Environmental Statement [EN010106/APP/6.3]) and secured through the limits of deviation and parameters set out in the DCO and on the Works Plans. This embedded mitigation is needed to successfully integrate the Scheme within the context of the existing landscape and prevent or reduce any adverse effects on ecological features.
- 8.8.2 For the purposes of BNG the Scheme will result in an overall net gain of 83% for habitat units, 16% for hedgerow units and 1% for river units. The results of the BNG assessment are summarised in the **Biodiversity Net Gain Assessment** [EN010106/APP/6.7]. Whilst, the majority of habitat lost is of low ecological value and of no more than local importance, e.g. arable farmland, any important ecological features (such as natural/semi-natural grasslands) have been taken forward for further assessment (see **Table 8-8**) and embedded design measures described below ensure no net loss in these important habitat types.
- 8.8.3 The following Scheme design, impact avoidance and embedded mitigation measures have been incorporated into the Scheme design.

Habitat avoidance, creation and replacement

- 8.8.4 The Scheme has been designed so that impacts upon important habitats (comprising woodland, grassland, hedgerow and ponds) are avoided or reduced, where reasonably practicable, and compensated for where not, through the retention of existing habitat and the creation of replacement habitat. Further detail on the Scheme location factors, Scheme layout and alternative layouts and design evolution can be found in **Chapter 4: Alternatives and Design Evolution** of this Environmental Statement [EN010106/APP/6.1] and the **Planning Statement** [EN010106/APP/7.2] which accompanies the DCO.
- 8.8.5 A Framework CEMP [EN010106/APP/6.2] has been produced and requires that the perimeter security fence around the Scheme be implemented early in the construction phase to secure the Order limits. The fence design will include gaps to allow mammals to pass underneath at strategic locations. This fence will also prevent construction activity in proximity to retained vegetation, in particular designated sites (CWS) within and adjacent the Order limits and where required specific tree protection measures will be implemented, including fencing and construction exclusion zones. All designated sites within the Order limits will be retained as part of the Scheme

design and will remain undeveloped, as secured through the limits of deviation shown on the Works Plans.

- 8.8.6 Throughout the Scheme, a range of new habitats will be provided including bare ground, grassland, hedgerow, tree and scrub planting, all of which will increase the biodiversity of the Site, as set out in the OLEMP. Grassland will be provided adjacent to and beneath the solar panels to increase the diversity of flora in comparison to existing intensive agriculture and provide new habitat and niches to encourage other fauna such as birds and invertebrates. Vegetation would be established through natural regeneration or from seed collection from the grasslands identified within the relevant Scheme areas and through a suitable long-term habitat management regime. Consideration will be paid to microclimatic conditions when considering appropriate species. Management will be undertaken in a variety of ways to ensure maximum biodiversity gains. This will include creating disturbed open bare ground areas to promote annual seed-bearing plant species to benefit declining farmland birds such as Turtle Dove *Streptopelia turtur*. Grassland will be managed by either low intensity grazing or infrequent hay cutting to allow plant species to flower and seed.
- 8.8.7 A total of 99.3ha within Sunnica East Site A and 67.1ha within Sunnica East Site B will not be subject to development (as secured through the Works Plans) and these areas have been set aside within the Scheme design for creation of biodiverse habitats, as set out in the OLEMP. This will include at least 30.9ha of dry acid grassland creation on current arable land. The management of dry acid grassland would aim to maintain a sward height of 1 to 5 cm with approximately 15% bare ground. This will utilise conservation (low intensity) grazing by sheep. The remaining area will be managed as biodiverse grassland, suitable for foraging Stone-curlew and breeding farmland birds, e.g. Lapwing and Skylark.
- 8.8.8 A total of 87.4ha within Sunnica West Site A and 38.25ha within Sunnica West Site B will not be subject to development (as secured through the Works Plans) and have been set aside within the Scheme design for creation of biodiverse habitats, as set out in the OLEMP. This will include the reversion of 26.5ha of arable farmland to marshy grassland within Sunnica West Site B along with the rewilding through natural regeneration of an undeveloped buffer adjacent Chippenham Fen and the River Snail at Sunnica West Site B. The remaining area will be managed as biodiverse grassland, suitable for breeding farmland birds, e.g. Lapwing and Skylark and providing landscape scale benefits for pollinators through increased habitat provision and connectivity.
- 8.8.9 Areas throughout the Scheme where notable arable flora has been recorded will be subject to the provision of disturbed field margin strips to provide suitable conditions for annual species. Parts of the Order limits will continue to be cultivated to allow rare arable plants to persist within the Scheme following the cessation of arable farming. The following areas within the Order limits, where notable species were recorded, will be managed for

arable plants (refer to the illustrative parameter plans (see **Figures 3-1** and **3-2** of this Environmental Statement **[EN010106/APP/6.3]**):

- a. Sunnica East Site B: 4 3x20m wide strips in field E30 and 4 3x10m wide strips in field E17/18
- b. Sunnica West Site A: 3 3x10m wide strips in field W09.

8.8.10 For all arable plant areas there will be no routine application of herbicides, but where a pernicious weed burden becomes an issue, targeted herbicide application and or hand pulling will be necessary. No seed or crop will be added to these areas, to encourage the existing seed bank to germinate, grow and re-seed. The management will be in accordance with that described within Natural England Entry Level Stewardship Option EF11. The strips will be cultivated in either spring (February-March) or autumn (September-November) each year for the lifetime of the Scheme, to a depth of 150mm to establish a firm, fine tilth. This will then be left undisturbed to naturally regenerate. The cultivation depth can be adjusted to control germination of problematic weeds. The disturbed strips located in Sunnica East Site B will also benefit specialist terrestrial invertebrate species which require disturbed bare ground. These strips will be disturbed using disc harrowing to a depth of between 80-180cm. Disc-harrowing will occur in February with the vegetation left to naturally regenerate within the strips.

8.8.11 The southern section of field W09 (refer to the illustrative parameter plans (see **Figures 3-1** and **3-2** of this Environmental Statement **[EN010106/APP/6.3]**) will be sown with a winter bird cover crop. This will extend the existing cover crop present in the field and provide a greater resource during the winter months for farmland bird species. Management prescriptions will follow those set out in Natural England Entry Level Stewardship Option EF2, with the aim of maximising the production of small seeds suitable as bird food in either annual or annual/biennial mixtures.

8.8.12 Gaps in currently defunct hedges will be planted with suitable native species to improve habitat connectivity of with, for example, broad-leaved woodland within the Sites and linked to habitat beyond the Sites. New areas of tree planting around infrastructure will be provided to provide both screening from Scheme infrastructure and to improved habitat connectivity as well the increase the area of hedge/woodland habitat on Site. Hedgerows and trees will be allowed to grow tall and wide to provide maximum benefits for biodiversity and this natural regeneration will encourage a mosaic of successional habitats, forming broad habitat corridors throughout the Scheme. The following woodland and hedgerow planting and infilling have been embedded in the Scheme:

- a. 37.9ha of tree planting to reinforce the existing vegetation patterns, with the use of native species of local provenance, including Pedunculate Oak, English Elm, Field Maple, Birch and Scots Pine.
- b. 7.4km of hedgerow infill planting and creation, including species such as Blackthorn, Hazel and Hawthorn.

- 8.8.13 Further information on these proposals is set out in the OLEMP (see **Appendix 10I** of this Environmental Statement **[EN010106/APP/6.2]**).
- 8.8.14 Post-construction, any habitat loss within the Grid Connection Routes will be restored.
- 8.8.15 Throughout the Scheme, undeveloped buffers have been included to protect all hedgerows, mature trees, ponds and woodland during construction and operation as shown on the Parameter Plans and secured through the Works Plans. Other areas will be managed as grassland.
- 8.8.16 It will be ensured that existing designated sites within the Order limits are avoided and measures embedded within the Scheme design will ensure that they are not impacted during construction, operation and decommissioning, e.g. through siting construction routes away from and out with designated sites and buffer zones. Further information is set out in the Construction Traffic Management Plan (CTMP) (see **Appendix 13C** of this Environmental Statement **[EN010106/APP/6.2]**) and the Framework DEMP. Following decommissioning the land within the Order limits will be returned to landowners, including established habitats. Management and use of the land will then be in the control of the then landowner.

Protected and notable species

- 8.8.17 The following measures have been incorporated into the design of the Scheme to mitigate impacts and effects on protected and, or notable species, some of which have a direct relationship to the standard mitigation measures for protected species that will be implemented prior to, or during construction (see further on in this chapter). These have been included in the OLEMP Framework CEMP, Framework OEMP and Framework DEMP (see **Appendix 16C, 16E** and **16F** of this Environmental Statement **[EN010106/APP/6.2]** and the Stone-curlew breeding plot specification [DOC REF].
- 8.8.18 A maximum of ten 2ha nesting/foraging plots for Stone-curlew will be created in advance of construction and of the Stone-curlew breeding season *i.e.* November to February, in fields where Stone-curlew have been recorded during surveys. Details of plot creation and management of nesting plots has drawn on best practice guidance, such as the RSPB information Note 'Managing nest plots for Stone-curlews' (Ref 8-46) and further requirements set out in the Countryside Stewardship Higher Tier 'AB5: Nesting plots for Stone-curlew' guidance note. To maximise the potential for take up two plots have been allocated per pair. Plots unoccupied for nesting will contribute an important resource for foraging pairs. Three are proposed in ECO1, three in ECO2 and four across ECO3.
- 8.8.19 As well as the bare ground plots, approximately 108ha of predominantly arable farmland have been embedded within the Scheme for reversion to grassland, specifically managed to create a close-cropped sward, suitable for Stone-curlew. Small areas of existing acid grassland have also been

retained within the Scheme design in Sunnica East Site B and these will form the basis of reverting adjacent areas in Sunnica East Site B to semi-natural grassland, characteristic of the Breckland heaths. In time this will provide a high quality habitat, offering both nesting and foraging opportunities for Stone-curlew. The disturbed plots will be retained within these established grassland areas for the lifespan of the project.

- 8.8.20 Within Sunnica East Site A the offsetting area will be sown with a chalk grassland mix and managed specifically for Stone-curlew, i.e. maintaining a close-cropped sward. The plots will be retained within these established grassland areas for the lifespan of the project.
- 8.8.21 Construction will be phased so that areas within 500m of the new habitat provisions are developed outside the Stone-curlew breeding season of March to October and that the replacement provisions are ready for use by Stone-curlew by the breeding season at the start of construction. All construction staff working within Sunnica East Sites A and B will also be given a toolbox talk regarding the sensitivity of Stone-curlew.
- 8.8.22 Precautionary methods of working will be adopted for vegetation clearance within areas where reptiles or amphibians are, or could be, present.
- 8.8.23 Due to the presence of Badger setts within the Order limits, it will be necessary to permanently exclude Badgers under licence from Natural England. Any setts within the Scheme will need to be closed prior to construction, and outside of the Badger breeding season (30 November until 30 June). One artificial sett is currently required to mitigate for the loss of a main sett and this will be delivered within existing territories of these Badger clans, although the location of this is not specifically provided in this application due to confidentiality. Mitigation to prevent injury to Badger (and other mammals) during construction works will include the provision of ramps into any open excavations to allow any Badger that have fallen in to escape. Any retained setts within the Scheme will have an appropriate exclusion zone of 30m around the sett to prevent disturbance and accidental damage. Pre-construction surveys for Badger will be undertaken to determine baseline conditions remain the same as currently recorded and whether there have been any changes to Badger distribution. Where this occurs, Natural England licences and mitigation measures will be updated accordingly. Offsetting habitats have been embedded into the Scheme in areas where operational access will not be required. All operational staff working within 500m of the offsetting areas created for breeding Stone-curlew will be given a toolbox talk regarding the sensitivity of the species and, where possible, maintenance within 500m of the offsetting areas will be scheduled between November and February to avoid nesting Stone-curlew. This measure is included in the OEMP and will be finalised prior to operation in accordance with that outline. With these measures in place it is considered that no operational-related disturbance of nesting Stone-curlew will occur since they will not be present in areas subject to operational maintenance visits.

Standard mitigation measures

- 8.8.24 The Framework CEMP (**Appendix 16C** of this Environmental Statement [EN010106/APP/6.2]) sets out the measures that will be implemented prior and during construction of the Scheme to mitigate construction-related effects on biodiversity associated with dust deposition, air pollution, pollution incidents, water quality, light, noise and vibration. Similarly, the Framework OEMP (**Appendix 16F** of this Environmental Statement [EN010106/APP/6.2]) and Framework DEMP (**Appendix 16E** of this Environmental Statement [EN010106/APP/6.2]) sets out measures to mitigation operational and decommissioning related effects on biodiversity, respectively. These measures are secured through the DCO.
- 8.8.25 Pre-construction surveys will be undertaken to validate and, where necessary, update the baseline survey findings. The purpose of these pre-construction surveys is to ensure mitigation during the construction phase is based on the latest protected species information. This will also be required for any protected species licensing that may be identified as being necessary at detailed design stage.
- 8.8.26 Pre-construction surveys will be undertaken to update on the presence and location of any invasive species, the findings of which will inform the implementation of measures to prevent their spread into the wild. This will include production of a Biosecurity Management Plan which will set out procedures to ensure that no invasive species are brought onto the Site (e.g. Wildlife & Countryside Act 1981 (as amended) Schedule 9 species (Ref 8-6)). In the event that any future infestations of invasive non-native species are identified prior to and, or during the development process, exclusion zones will be established around them and the Ecological Clerk of Works (ECoW) contacted for advice as detailed.
- 8.8.27 The Scheme will involve construction works within 100m of Chippenham Fen Ramsar/Fenland SAC/Snailwell Poor's Fen SSSI. Due to the sensitivity of the vegetation, the proximity of the works and the potential for dust generating activities, specific mitigation measures have been embedded. Considerable effort has been devoted over the years by various bodies to developing measures to control dust generation and dissemination. There is high confidence in the effectiveness of these measures based upon many years of practice. The measures that will be deployed on this Scheme are incorporated in the Framework CEMP (**Appendix 16C** of this Environmental Statement [EN010106/APP/6.2]) and secured through the DCO. The measures include:
- a. Implement wetting of dust generating activities, which are usually incorporated into a Dust Management Plan (where necessary) produced by the contractor.
 - b. Increase the frequency of inspections when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.

- c. Locate dust causing activities away from receptors, as far as is possible.
- d. Use intelligent screening where possible – e.g. locating site offices between potentially dusty activities and the receptors.
- e. Erect solid screens or barriers around the site boundary if necessary.
- f. Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period where operations are within 100m of receptors.
- g. Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site.
- h. Depending on the duration that stockpiles will be present and their size, cover, seed, fence or water to prevent wind whipping.
- i. Sheet vehicles carrying dusty substrates.
- j. Ensure all vehicles switch off engines when stationary, i.e. no idling vehicles.
- k. Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on un-surfaced haul roads and work areas.
- l. Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction.
- m. Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
- n. Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible.
- o. Use enclosed chutes, conveyors and covered skips, where practicable.
- p. Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
- q. Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

8.8.28 The following measures will be implemented during construction to protect retained vegetation, designated sites, protected species and other areas of biodiversity value from disturbance, damage and accidental pollution:

- a. The design of the Scheme will comply with industry good practice and environmental protection legislation during both construction and operation e.g. prevention of surface and ground water pollution, fugitive dust management, noise prevention or amelioration;
- b. Throughout the Scheme, the use of motion detection security lighting to avoid permanent lighting will be utilised and the inward distribution of light will avoid light spill on to existing boundary features;

- c. The implementation of the Framework CEMP (**Appendix 16C** of this Environmental Statement [EN010106/APP/6.2]) is secured through the DCO to manage the environmental effects of the Scheme and to demonstrate compliance with environmental legislation, which will then be implemented by the selected construction contractor and overseen by an ECoW, where required;
- d. No works will be undertaken within 10m of watercourses which is considered sufficient to mitigate for potential hazards such as chemical and soils spills into watercourses. New drainage systems on site will also mitigate for potential chemicals reaching watercourses during flood events;
- e. The crossing of watercourses where the presence of Otter and Water Vole have been determined, as well as the River Kennett, River Snail, Lee Brook, New River and Burwell Lode, will be undertaken using boring, micro-tunnelling or moling methods, with appropriate setbacks from the top of the banks (depending on habitats and other individual ecological constraints). A full list detailing crossing methods and an explanation of these techniques is provided in **Chapter 9: Flood Risk, Drainage and Water Resources** of this Environmental Statement [EN010106/APP/6.1];
- f. Vegetation clearance will be undertaken in advance of construction and at an appropriate time of year so as to avoid incidental injuring or killing of reptiles and amphibians. There will be no need to undertake any relocation of reptiles;
- g. Preparation of mitigation strategies for protected species and where required, application for species licences from Natural England for translocation of animals away from construction areas sufficiently in advance of the works to meet with the optimum time for mitigation and to minimise any changes to the construction programme;
- h. Avoidance of the nesting bird period i.e. March to August (inclusive) for vegetation clearance. Any vegetation clearance proposed within the nesting bird period will be checked for the presence of any nests by a suitably qualified ornithologist, prior to vegetation removal, and if active nests are found, then appropriate buffer zones would be put in place and the area monitored until the young birds have fledged;
- i. Reasonable avoidance measures along the cable corridors, including appropriate buffers (of greater than 30m) around any identified Badger setts, or trees with bat roost potential (a buffer of greater than 15m). These avoidance measures are set out in the Framework CEMP (**Appendix 16C** of this Environmental Statement [EN010106/APP/6.2]) which is secured through the DCO; and
- j. Implementation of measures to avoid animals being injured or killed within construction working areas, through excluding them from such areas and preventing them falling into and becoming trapped in excavations.

8.9 Assessment of likely Impacts and Effects on relevant ecological features

- 8.9.1 This section describes the impacts and potential effects of the Scheme on relevant ecological features in the absence of any mitigation over and above that which is embedded in the design (as described above).
- 8.9.2 Relevant ecological features are those that are considered to be important and have the potential to be affected by the Scheme. An initial consideration of potential impacts and effects arising from the construction and operation phases of the Scheme on the important ecological features identified in **Table 8-8** is provided in **Table 8-9** to **Table 8-10**, to set the requirements for the more detailed impact assessment that follows.
- 8.9.3 Whilst this section addresses potential impacts arising from construction and operation of the Scheme, it has been assumed that decommissioning impacts will be similar to those occurring during construction, and any impacts mitigated fully in line with relevant legislative and policy requirements. It is anticipated that the existing protected species legislation would remain in place.

Sites statutorily and non-statutorily designated for their biodiversity value

- 8.9.4 The statutory and non-statutory designated sites that have been considered are included in **Table 8-9**. Where there is the potential for significant effects this is stated and the relevant receptors assessed in Section 8.10 of this chapter.

Table 8-9: Determination of relevant ecological features – designated sites

Ecological feature	Biodiversity importance	Potential impacts / effects	Potential for significant effects?
	International / National	<p>Construction:</p> <p>These statutory designated sites are directly adjacent to the north of Sunnica West Site B and there are ecological and hydrological connections between the designated sites and Sunnica West Site B.</p> <p>The construction of the Scheme will not directly impact on habitat within the Chippenham Fen and Snailwell Poor’s Fen designated sites and measures to prevent incursion during construction to the SAC/Ramsar/SSSI will be put in place, e.g. security fencing early on in the construction process.</p>	No

Ecological feature	Biodiversity importance	Potential impacts / effects	Potential for significant effects?
Chippenham Fen and Snailwell Poor's Fen, including Fenland SAC, Chippenham Fen Ramsar / NNR, Chippenham Fen and Snailwell Poor's Fen SSSI		<p>The construction of the Scheme may result in contamination from surface water pollution; soil and groundwater contamination from operating heavy machinery, increased traffic to the construction site and accidental spills in storage areas. Intrusive works during construction could disrupt or change baseflows and inflows of groundwater to and from the designated sites. Chapter 9: Flood Risk, Drainage and Water Resources of this Environmental Statement [EN010106/APP/6.1] and the Water Framework Directive assessment (Appendix 9B of this Environmental Statement [EN010106/APP/6.2]) do not predict any significant adverse effects to Chippenham Fen or the River Snail. These assessments conclude that there will be no significant effects on the Chippenham Fen designated sites from construction. A number of tributaries drain Chippenham Fen into the River Snail, which runs along the western boundary of Sunnica West Site B, however Chippenham Fen is upstream of Sunnica West Site B and thus surface water impacts will not occur. With reference to Chapter 3: Scheme Description of this Environmental Statement [EN010106/APP/6.1], the solar PV panels will be mounted upon a steel structure with strut foundations. These are steel set in the ground similar to small piles. These strut will be up to 3.5m in depth depending on ground conditions and installation method (e.g. ramming, ground screw). The installation of struts to a depth of up to 3.5m below ground does not constitute a significant risk due to the mobilisation of contaminants, creating a contaminant pathway or risking infiltration to the water table. Other small but permanent structures such as the battery compound and substation would be placed on a concrete slab up to 1m thick, with some structures requiring excavation up to 1m and filling with a gravel base layer. The ground level at Sunnica West Site B is approximately 12-15m AOD, with a water table depth at approximately 5-7m below ground level. All structures will be above the Chalk aquifer water table and would not affect groundwater flow to Chippenham Fen. The installation of Grid Connection Route B through the north of Sunnica West Site B will require the cable to be set into trenches backfilled with gravel at a depth of approximately 2m and above the Chalk aquifer water table. The installation of cabling does not constitute a significant risk to the mobilisation of contaminants, creating a contaminant pathway or risking infiltration to the water table.</p>	

Ecological feature	Biodiversity importance	Potential impacts / effects	Potential for significant effects?
		<p>Chippenham Fen is adjacent to the northern boundary of Sunnica West Site B and therefore, the site could be affected by indirect light pollution due to night-time activities during the construction phase. With reference to Chapter 3: Scheme Description of this Environmental Statement [EN010106/APP/6.1] construction working hours will be 7am until 7pm Monday to Saturday and during construction in the winter months, mobile lighting towers with a power output 8kVAs will be used. The closest developable area within Sunnica West Site B is approximately 200m south of cited habitats within Chippenham Fen. The southern boundary of the designated site consists of a buffer of semi-improved neutral grassland and broad-leaved woodland, with the calcareous fen to the north of this. Therefore, it is unlikely that indirect light pollution will significantly affect the integrity of cited habitats. The direction of required construction lighting (facing away from the designated site and into the Scheme) and existing boundary features (woodland/hedgerows) will also reduce the potential for light spill on sensitive habitats from construction activities.</p> <p>The Scheme will involve construction works within 100m of Chippenham Fen. Dust emissions during construction could therefore affect the fenland plant communities interest features within those parts of Chippenham Fen that lie relatively close to the works (i.e. within 200m), by coating vegetation and thus affecting evapotranspiration and photosynthesis. Due to the sensitivity of the vegetation, the proximity of the works and the potential scale of dust generating activities, specific mitigation measures have been embedded in the Framework CEMP (Appendix 16C of this Environmental Statement [EN010106/APP/6.2]) and will be secured through the DCO. These measures are outlined in section 8.8 and are long-standing tried and tested measures, which are explicitly recommended in guidance produced by the Institute of Air Quality Management as being measures that will normally reduce dust effects to an insignificant level. Hence, a high level of confidence can be placed in a conclusion of no adverse effect on integrity with their deployment.</p>	

Ecological feature	Biodiversity importance	Potential impacts / effects	Potential for significant effects?
		<p>The breeding bird assemblage associated with the designated sites could be affected by construction related noise and visual movement of the workforce. With reference to the Appendix 11D of this Environmental Statement [EN010106/APP/6.2] and Figures 11-2 and 11-3 [EN010106/APP/6.3] it is likely that predicted construction noise levels will not exceed 40 dB L_{Aeq,T} for the majority of fen, with periphery habitats on the southern boundary of the site still only likely to be exposed to worse case levels of 50-55 dB L_{Aeq,T}. Chippenham Fen is notable for its fenland specialists such as Snipe <i>Gallinago</i>, Woodcock <i>Scolopax rusticola</i>, and Grasshopper Warbler <i>Locustella naevia</i>. Taking into account that construction activities will be approximately 200m from fenland habitats within Chippenham Fen supporting notable breeding birds, and with the southern boundary of the designated site consisting of a buffer of semi-improved neutral grassland and broad-leaved woodland there is very limited pathway for effects from noise and visual disturbance to the breeding bird assemblage associated with Chippenham Fen Ramsar.</p> <p>There will be no fragmentation of habitats, or of populations of species using habitats, within the designated sites during construction.</p> <p>There will be no species mortality of any species associated with these designated sites, during construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon the integrity or functioning of these statutory designated sites.</p>	
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss or disturbance to designated site features such as through noise, water quality, air quality, lighting or visual), during operation of the Scheme which could affect these statutory designated sites. There will be no lighting of the perimeter fence at Sunnica West Site B and maintenance visits will be undertaken as outlined in Framework OEMP (Appendix 16F of this Environmental Statement [EN010106/APP/6.2]) and secured through the DCO.</p>	No

Ecological feature	Biodiversity importance	Potential impacts / effects	Potential for significant effects?
		<p>It has been noted that research has demonstrated that insects that lay their eggs in water may mistake solar panels for water bodies and try to lay their eggs on them, which could affect their reproductive biology. The Chippenham Fen Ramsar Information Sheet cites 12 nationally important invertebrate species occurring at Chippenham Fen: <i>Deltote bankiana</i> (a moth), <i>Clubiona rosserae</i> (a spider), <i>Parochthiphila spectabilis</i> (an aphid fly), <i>Cyrturella albosetosa</i>, <i>Thaumatomyia sp.</i> (grass flies), <i>Gyrophanaea pseudonana</i> (a rove beetle), <i>Tasciocera collini</i> (a true fly), <i>Scrobipalpa pauperella</i> (a moth), <i>Heterosphilus fuscehilis</i> (an Ichneumon wasp), <i>Phrudus badensis</i> (an Ichneumon wasp), <i>Blacometeorus pusillus</i> (an Ichneumon wasp), <i>Entedon marci</i> (a wasp). With the exception of the Dolichopodidae species none are associated with egg laying in water. These species are unlikely to fly at heights where the solar panels are and when considered in the context that the solar panels will be located approximately 200m from areas of wetland within Chippenham Fen, be south facing, i.e. away from the fen and there is an existing mature tree line between the Order limits and fen, there are no pathways for significant effects on invertebrates associated with Chippenham Fen Ramsar.</p>	
Snailwell Meadows SSSI	National	<p>Construction:</p> <p>This statutory designated site is directly adjacent to the south of Sunnica West Site B and there are ecological and hydrological connections between the designated sites and Sunnica West Site B.</p> <p>The construction of the Scheme will not directly impact on habitat within the Snailwell Meadows SSSI, with measures to prevent incursion during construction to the SSSI put in place, e.g. security fencing early on in the construction process.</p> <p>Chapter 9: Flood Risk, Drainage and Water Resources of this Environmental Statement [EN010106/APP/6.1] does not predict any significant adverse effects to the River Snail given implementation of industry good practice measures set out in the Framework CEMP (Appendix 16C of this Environmental Statement [EN010106/APP/6.2]) and secured through the DCO.</p> <p>There will be no fragmentation of habitats, or of populations of species using habitats, within the designated sites during construction.</p>	No

Ecological feature	Biodiversity importance	Potential impacts / effects	Potential for significant effects?
		<p>Any construction within the vicinity of River Snail and Snailwell Meadows SSSI may require temporary lighting, which has the potential to spill into the designated sites. Artificially lighting these habitats may disrupt species' movements. With reference to Chapter 3: Scheme Description of this Environmental Statement [EN010106/APP/6.1] construction working hours will be 7am until 7pm Monday to Saturday and during construction in the winter months, mobile lighting towers with a power output 8kVAs will be used. Any lighting that is required for the construction of the Scheme will be directed away from existing retained and sensitive habitats to minimise light disturbance to species associated with these habitats. Any requirements for task-specific lighting during construction will be designed to be downward directional and will only be used for the duration of the task. All temporary lighting will need to satisfy health and safety requirements, as well as minimising potential effects on the surrounding areas by minimising sky glow, glare and light spillage. The direction of required construction lighting (facing away from the designated site and into the Scheme) and existing boundary features (woodland/hedgerows) will also reduce the potential for light spill on sensitive habitats from construction activities.</p>	

Ecological feature	Biodiversity importance	Potential impacts / effects	Potential for significant effects?
		<p>During construction, there is potential for pollutant spills and surface runoff into the River Snail and other connected watercourses, that have the potential to adversely affect habitats and species associated with Snailwell Meadows SSSI. Unmitigated, these indirect effects will adversely affect the integrity of the designated site. The impact, whilst short term during the period of construction, may result in medium term effects to important ecological features associated with the designated site. For example, the aquatic environment may take a number of years to recover from the result of a pollution spill during construction. However, as discussed in section 8.8, standard environmental protection measures will be implemented and adopted during construction. These are set out in the framework CEMP (Appendix 16C of this Environmental Statement [EN010106/APP/6.2]) and secured through the DCO. formalised through a CEMP, and these measures will include dust suppression and pollution prevention. With reference to Chapter 14: Air Quality of this Environmental Statement [EN010106/APP/6.1] Snailwell Meadows SSSI is further than 200m from the Heavy Duty Vehicles (HDV) routes and supplied traffic network. As such the SSSI is not considered to be at risk from emissions from road traffic, as contributions from road sources drop to background levels by this distance. While the SSSI is adjacent to the Order limits it is not considered that emissions from Non-Road Mobile Machinery (NRMM) will cause adverse impacts as there is no unusual or excessive use of NRMM planned on site. However, the SSSI will continue to be considered in the CEMP to ensure no changes to site layout lead to effects on the SSSI. Consequently, indirect effects (such as disturbance and habitat degradation) to the Snailwell Meadows during construction will not occur and there will be no effect to the integrity of the SSSI.</p> <p>There will be no species mortality of any species associated with this SSSI, during construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon the integrity or functioning of this SSSI.</p>	
		<p>Operation:</p>	No

Ecological feature	Biodiversity importance	Potential impacts / effects	Potential for significant effects?
		<p>There are no pathways (e.g. habitat loss or disturbance to designated site features such as through noise, water quality, air quality, lighting or visual) during operation of the Scheme which will affect this SSSI. Chapter 9: Flood Risk, Drainage and Water Resources of this Environmental Statement [EN010106/APP/6.1] does not predict any significant adverse effects to the River Snail given implementation of a drainage strategy for management of surface water during operation (via SuDS treatment for attenuation of flows and treatment of water quality prior to discharge of any water to the Snail or its tributaries).</p>	
Brackland Rough SSSI	National	<p>Construction:</p> <p>This statutory designated site is 157m north of the Grid Connection Route B2 and approximately 350m north of Sunnica West Site B and there are ecological connections between the designated sites and Sunnica West Site B.</p> <p>The construction of the Scheme will not directly impact on habitat within the Brackland Rough SSSI. There will be no fragmentation of habitats, or of populations of species using habitats, within these designated sites during construction.</p> <p>Preparation of the site and the construction of the Scheme will result in dust generation, along with noise and visual disturbance. Noise and visual disturbance will not impact on the integrity or the functioning of the SSSI, which is designated for habitats. The implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, will be adopted and these measures will be formalised into an CEMP. Consequently, pollution (including impacts to air quality) during construction will not affect the integrity of the SSSI.</p> <p>There will be no species mortality of any species associated with this SSSI during construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon the integrity or functioning of this SSSI.</p>	No
		<p>Operation:</p>	No

Ecological feature	Biodiversity importance	Potential impacts / effects	Potential for significant effects?
		There are no pathways (e.g. habitat loss or disturbance to designated site features such as through noise, water quality, air quality, lighting or visual) during operation of the Scheme which will affect this SSSI.	
Red Lodge Heath SSSI Cherry Hill and The Gallops, Barton Mills SSSI	International and National	<p>Construction:</p> <p>These statutory designated sites are all 750m or more from the Order limits and there are no ecological or hydrological connections between these designated sites and the Scheme.</p> <p>The construction of the Scheme will not directly impact on habitat within these designated sites.</p> <p>There will be no fragmentation of habitats, or of populations of species using habitats, within these designated sites during construction.</p> <p>Preparation of the site and the construction of the Scheme will result in dust generation, along with noise and visual disturbance. Noise and visual disturbance will not impact on the integrity or the functioning of SAC, SPA, NNR or SSSI sites, owing to the distance between these sites and the Order limits. Furthermore, the construction of the majority of the Scheme will be screened by existing vegetation and the topography.</p> <p>The implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, will be adopted and these measures will be formalised into a CEMP. Consequently, dust generation during construction will not affect the integrity of any statutory designated sites. With reference to Chapter 14: Air Quality of this Environmental Statement [EN010106/APP/6.1] all these designated sites are further than 200m from the HDV routes and supplied traffic network. As such they are not considered to be at risk from emissions from road traffic, as contributions from road sources drop to background levels by this distance. Red Lodge Heath SSSI is further than 200m from the HDV route (the A11), however it is adjacent to Turnpike Road. It is possible that site workers may drive along Turnpike Road to access the Sites, which will be discouraged within the CEMP to minimise any impact on air quality concentrations at Red Lodge Heath. Consideration of a precautionary assessment in Chapter 14: Air Quality of this Environmental Statement [EN010106/APP/6.1] of the traffic impacts on NO_x at Red Lodge Heath SSSI leads to a conclusion that there is no adverse impact on NO_x concentrations at Red Lodge Heath SSSI.</p>	No
Newmarket Heath SSSI			
Devil's Dyke SSSI			
Breckland SPA			
Breckland Forest SSSI			
Wicken Fen Ramsar, Fenland SAC Wicken Fen SSSI, NNR (just outside 2km study area)			
Rex Graham Reserve SAC, SSSI			

Ecological feature	Biodiversity importance	Potential impacts / effects	Potential for significant effects?
Breckland SAC		<p>There will be no species mortality of any species associated with these designated sites, during construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon the integrity or functioning of these statutory designated sites.</p>	
Devil's Dyke SAC		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss or disturbance to designated site features such as through noise, water quality, air quality, lighting or visual), during operation of the Scheme which will affect these designated sites.</p>	No
Havacre Meadows and Deal Nook CWS	County	<p>Construction:</p> <p>This CWS is within the footprint of the Grid Connection Route A2.</p> <p>The construction of the Scheme will not directly impact on habitat within this designated site and measures to ensure incursion during construction to designated sites will be put in place, e.g. security fencing and buffer zones early on in the construction process. The construction of the Scheme for the Grid Connection will utilise boring, micro-tunnelling or moling methods and as such, will not directly impact habitats within this CWS, through loss of habitat.</p> <p>There will be no fragmentation of habitats, or of populations of species using habitats, within the River Kennett during construction. Boundary vegetation, such as hedgerows connecting woodland sites will be retained, which will allow for connectivity across the Order limits.</p>	No

Ecological feature	Biodiversity importance	Potential impacts / effects	Potential for significant effects?
		<p>During construction, there is potential for pollutant spills and surface runoff into River Kennett, which have the potential to adversely affect habitats associated with the CWS and, consequently, species associated with them. Unmitigated, these indirect effects will adversely affect the integrity of the CWS. The unmitigated impact, whilst short term during the period of construction, would result in medium term effects to important ecological features associated with these sites. Noise and visual disturbance will not impact on the integrity or the functioning of the CWS, which are designated for habitats. However, as discussed above, standard environmental protection measures will be implemented and adopted during construction, formalised through a CEMP, and these measures will include dust suppression and pollution prevention. Buffer zones between the CWS and any development is embedded into the Scheme. With the buffer and measure in the CEMP it is predicted, there will be no indirect impacts to the CWS.</p> <p>There will be no species mortality of any species associated with this CWS, as a result of construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon the integrity or functioning of this CWS.</p>	
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss or disturbance to site features such as through noise, air quality, water quality, lighting or visual), during operation of the Scheme which will affect this CWS.</p>	No
Badlingham Lane CWS	County	<p>Construction:</p> <p>This CWS is within the footprint of Sunnica East Site B but will be retained as part of the Scheme design and will remain undeveloped, as secured through the limits of deviation shown on the Works Plans.</p> <p>The construction of the Scheme will not directly impact on habitat within this designated site and measures to ensure incursion during construction to designated sites will be put in place, e.g. security fencing and buffer zones early on in the construction process.</p>	No

Ecological feature	Biodiversity importance	Potential impacts / effects	Potential for significant effects?
		<p>There will be no fragmentation of habitats, or of populations of species using habitats, during construction. Boundary vegetation, such as hedgerows and grassy margins will be retained, which will allow for connectivity across the Order limits.</p> <p>During construction, there is potential for pollutant spills and dust deposition onto the CWS, which have the potential to adversely affect habitats associated with the CWS and, consequently, species associated with them. Unmitigated, these indirect effects will adversely affect the integrity of the CWS. The unmitigated impact, whilst short term during the period of construction, would result in medium term effects to important ecological features associated with these sites. However, as discussed above, standard environmental protection measures will be implemented and adopted during construction, formalised through a CEMP, and these measures will include dust suppression and pollution prevention. Buffer zones between the CWS and any development is embedded into the Scheme. With the buffer and measures in the CEMP it is predicted, there will be no indirect impacts to the CWS. Consequently, dust generation during construction will not affect the integrity of the CWS.</p> <p>There will be no species mortality of any species associated with this CWS, as a result of construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon the integrity or functioning of this CWS.</p>	
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss or disturbance to site features such as through noise, air quality, water quality, lighting or visual), during operation of the Scheme which will affect this CWS.</p>	No
Worlington Heath CWS	County	<p>Construction:</p> <p>This CWS is within the footprint of Sunnica East Site B but will be retained as part of the Scheme design and will remain undeveloped, as secured through the limits of deviation shown on the Works Plans.</p> <p>The construction of the Scheme will not directly impact on habitat within this designated site and measures to ensure incursion during construction to designated sites will be put in place, e.g. security fencing and buffer zones early on in the construction process.</p>	No

Ecological feature	Biodiversity importance	Potential impacts / effects	Potential for significant effects?
		<p>There will be no fragmentation of habitats, or of populations of species using habitats, during construction. Boundary vegetation, such as hedgerows and grassy margins will be retained, which will allow for connectivity across the Order limits.</p> <p>During construction, there is potential for pollutant spills and dust deposition onto the CWS, which have the potential to adversely affect habitats associated with the CWS and, consequently, species associated with them. Unmitigated, these indirect effects will adversely affect the integrity of the CWS. The unmitigated impact, whilst short term during the period of construction, would result in medium term effects to important ecological features associated with these sites. However, as discussed above, standard environmental protection measures will be implemented and adopted during construction, formalised through a CEMP, and these measures will include dust suppression and pollution prevention. Buffer zones between the CWS and any development is embedded into the Scheme. With the buffer and measures in the CEMP it is predicted, there will be no indirect impacts to the CWS. Consequently, dust generation during construction will not affect the integrity of the CWS.</p> <p>There will be no species mortality of any species associated with this CWS, as a result of construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon the integrity or functioning of this CWS.</p>	
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss or disturbance to site features such as through noise, air quality, water quality, lighting or visual), during operation of the Scheme which will affect this CWS.</p>	No

<p>Chippenham Gravel Pit CWS, Snailwell Grasslands and Woods CWS, Halfmoon Plantation Pit CWS, Chippenham Avenue Fields CWS, Worlington Golf Course and Surrounding Habitat CWS, Chippenham Park CWS, Joan's Meadow CWS, Barton Mills Chalk Pit CWS, The Limekilns and Adjacent Areas CWS, Red Lodge Warren CWS, Old Rectory Meadows CWS, Worlington Chalk Pit CWS, New River and Monk's Lode CWS, Burwell Brick Pit CWS, Snailwell (S of the study to the railway) PRV,</p>	<p>County</p>	<p>Construction:</p> <p>These non-statutory designated sites are all outside of the Order limits.</p> <p>The construction of the Scheme will not directly impact on habitat within these designated sites and measures to ensure incursion during construction to designated sites within 50m will be put in place, e.g. security fencing early on in the construction process.</p> <p>Preparation of the Sites and the construction of the Scheme will result in dust generation, along with noise and visual disturbance. Noise and visual disturbance will not impact on the integrity or the functioning of sites, owing to the distance between these sites and the Order limits. Furthermore, the construction of the majority of the Scheme will be screened by existing vegetation and the topography.</p> <p>During construction, there is potential for pollutant spills and dust deposition onto the designated sites, which have the potential to adversely affect habitats associated with these sites and, consequently, species associated with them. Unmitigated, these indirect effects could adversely affect the integrity of the designated sites. The unmitigated impact, whilst short term during the period of construction, would result in medium term effects to important ecological features associated with these sites. However, as discussed above, standard environmental protection measures will be implemented and adopted during construction, formalised through a CEMP, and these measures will include dust suppression and pollution prevention. Where adjacent to the Order limits buffer zones between the designated site and any development is embedded into the Scheme. With the buffer and measures in the CEMP it is predicted, there will be no indirect impacts to the designated sites. Consequently, dust generation and pollution during construction will not affect the integrity of the designated sites.</p> <p>The implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, will be adopted and these measures will be formalised into a CEMP. Consequently, dust generation during construction will not affect the integrity of any statutory designated sites.</p> <p>There will be no species mortality of any species associated with these designated sites, as a result of construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon the integrity or functioning of these designated sites.</p>	<p>No</p>
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Ecological feature	Biodiversity importance	Potential impacts / effects	Potential for significant effects?
Spring Close CWS, Cherry Hill & the Gallops RNR, Kennett Churchyard CWS, Norah Hanbury-Kelk Memorial Meadows CWS, Chippenham PRV, Freckenham Road RSV, Pauline's Swamp CWS, Mildenhall Woods CWS, Burwell Disused Railway CWS, Barton Mills Meadows CWS, RNR 96		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss or disturbance to site features such as through noise, air quality, water quality, lighting or visual), during operation of the Scheme which will affect these non-statutory designated sites.</p>	No

Habitats and Species

8.9.5 The relevant ecological features that have been considered are included in **Table 8-10** below. Where there is the potential for significant effects this is stated, and the relevant receptors assessed in section 8.10.

Table 8-10: Determination of relevant ecological features - habitats and species

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
Woodland -Broad-leaved semi-natural	Up to District	<p>Construction:</p> <p>All woodland present within the Order limits will be retained and measures embedded within the Scheme design to protect retained habitats during construction, such as that security fencing will be established at an early stage to protect retained habitats from incursion during construction. There will be no direct loss of woodland habitat.</p> <p>There will be no fragmentation of habitats, or of populations of species using woodland habitats, during construction as a result. Boundary vegetation, such as mature hedgerows connecting woodland sites, will be retained as much as is practicable which will allow for connectivity across the Order limits.</p> <p>During construction, there is the potential that preparation of the Order limits and construction of the Scheme will result in dust and other pollutants (such as emissions from construction vehicles and oil-spills) which may impact woodland habitats. The implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, will be adopted and these measures will be formalised into a CEMP. Consequently, pollution during construction will not affect the integrity of the retained woodland.</p> <p>Woodland habitats across the Order limits will be retained and there will be no species mortality of any species using woodland habitats during construction of the Scheme. Where individual trees are removed (e.g. for access), the implementation of standard mitigation measures (such as nesting bird checks), will ensure there is no species mortality.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon woodland habitats.</p>	No

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss, disturbance of habitats or pollution), during operation of the Scheme which could affect retained habitats.</p>	No
Grassland - Unimproved Acid and Semi-improved Acid and associated notable plant species.	County and District	<p>Construction:</p> <p>All unimproved acid grassland present within the Order limits will be retained and measures embedded within the Scheme design to protect retained habitats during construction, such as that security fencing will be established at an early stage to protect retained habitats from incursion during construction. There will be no direct loss of unimproved acid grassland habitat. Construction activities are predicted to result in the direct loss of or damage to 0.8 ha of semi-improved acid grassland (priority habitat).</p> <p>During construction, there is the potential that preparation of the Site and construction of the Scheme will result in dust and other pollutants (such as emissions from construction vehicles and oil-spills) which may impact grassland habitats. The implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, will be adopted and these measures will be formalised into a CEMP. Consequently, pollution during construction will not affect the integrity of the retained grassland.</p>	Yes
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss, disturbance of habitats or pollution), during operation of the Scheme which could affect acid grassland.</p>	No
Grassland - Semi-improved calcareous	District	<p>Construction:</p> <p>All calcareous grassland present within the Order limits will be retained and measures embedded within the Scheme design to protect retained habitats during construction, such as that security fencing will be established at an early stage to protect retained habitats from incursion during construction. There will be no direct loss of calcareous grassland habitat.</p>	No

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
		<p>During construction, there is the potential that preparation of the Site and construction of the Scheme will result in dust and other pollutants (such as emissions from construction vehicles and oil-spills) which may impact grassland habitats. The implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, will be adopted and these measures will be formalised into a CEMP. Consequently, pollution during construction will not affect the integrity of retained grassland habitats.</p> <p>Calcareous grassland across the Order limits will be retained and there will be no species mortality of any species using this habitat during construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon calcareous grassland.</p>	
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss, disturbance of habitats or pollution) during operation of the Scheme which could affect calcareous grassland.</p>	No
Grassland – Marshy/swamp	District	<p>Construction:</p> <p>Construction activities will result in the direct loss of 0.2 ha of marshy grassland. Although, 11.9ha of land has been embedded within the Scheme for creation of new and replaced marshy/tussocky grassland, this will take time to develop and therefore, there is likely to be a temporary and short-term adverse effect on this habitat type.</p> <p>All retained marshy grassland present within the Order limits will be protected during construction, through measures such as that security fencing will be established at an early stage to protect retained habitats from incursion during construction.</p>	Yes

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
		<p>During construction, there is the potential that preparation of the Site and construction of the Scheme will result in dust and other pollutants (such as emissions from construction vehicles and oil-spills) which may impact grassland habitats. The implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, will be adopted and these measures will be formalised into a CEMP. Consequently, pollution during construction will not affect the integrity of retained grassland habitats.</p> <p>The implementation of standard mitigation measures (such as nesting bird checks), will ensure there is no species mortality of any species using marshy grassland during construction of the Scheme.</p>	
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss, disturbance of habitats or pollution), during operation of the Scheme which could affect marshy grassland.</p>	No
Reedbed	District	<p>Construction:</p> <p>All reedbed present within the Order limits will be retained and measures embedded within the Scheme design to protect retained habitats during construction, such as that security fencing will be established at an early stage to protect retained habitats from incursion during construction. There will be no direct loss of reedbeds.</p> <p>During construction, there is the potential that preparation of the Site and construction of the Scheme will result in dust and other pollutants (such as emissions from construction vehicles and oil-spills) which may impact reedbed habitats. The implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, will be adopted and these measures will be formalised into a CEMP. Consequently, pollution during construction will not affect the integrity of retained reedbed habitats.</p> <p>Reedbed across the Order limits will be retained and there will be no species mortality of any species using this habitat during construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon reedbed.</p>	No

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss, disturbance of habitats or pollution), during operation of the Scheme which could affect reedbed.</p>	No
Arable Flora	Up to County	<p>Construction:</p> <p>Construction activities will result in the direct loss of arable farmland and associated flora. Although, land has been embedded within the Scheme for creation of replacement arable flora habitat, this may take time to develop and therefore, there is likely to be a temporary and short-term adverse effect on this habitat type. However, construction activities in some areas may have a short-term temporary beneficial effect by creating conditions suitable for arable plants.</p> <p>During construction, there is the potential that preparation of the Site and construction of the Scheme will result in dust and other pollutants (such as emissions from construction vehicles and oil-spills) which may impact arable flora. The implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, will be adopted and these measures will be formalised into a CEMP. Consequently, pollution during construction will not affect the integrity of retained arable flora.</p> <p>The implementation of standard mitigation measures (such as nesting bird checks), will ensure there is no species mortality of any species using arable flora during construction of the Scheme.</p>	Yes
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss or pollution) during operation of the Scheme which could affect arable flora. A suitable management programme will be embedded in the Scheme's OLEMP to ensure that conditions suitable for arable plants are maintained during operation.</p>	No
Hedgerows	County	<p>Construction:</p>	Yes

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
		<p>Whilst the embedded mitigation includes the retention and avoidance of the majority of hedgerows, there will be a loss of small sections of hedgerow during construction, to facilitate access routes, grid connection cable and new fencelines. These habitats will be restored, post-construction, but there is likely to be a temporary and short-term adverse effect on this habitat type.</p> <p>During construction, there is the potential that preparation of the Site and construction of the Scheme will result in dust and other pollutants (such as emissions from construction vehicles and oil-spills) which may impact hedgerows, however, no important hedgerows will be impacted upon. The implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, will be adopted and these measures will be formalised into a CEMP. Consequently, pollution during construction will not affect the integrity of retained hedgerows.</p> <p>The implementation of standard mitigation measures (such as nesting bird checks), will ensure there is no species mortality of any species using hedgerows during construction of the Scheme.</p>	
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss or pollution) during operation of the Scheme which could affect hedgerows.</p>	No
Aquatic Macrophytes	County	<p>Construction:</p> <p>All waterbodies present within the Order limits will be retained and measures embedded within the Scheme design to protect retained habitats during construction, such as that security fencing will be established at an early stage to protect retained habitats from incursion during construction. There will be no direct loss of standing water habitat and no direct impacts to macrophytes.</p> <p>During construction, there is the potential that preparation of the Order limits and construction of the Scheme will result in dust and other pollutants (such as emissions from construction vehicles and oil-spills) which may impact waterbodies, through surface water run-off. Implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, will be adopted and these measures will be formalised into a CEMP. Consequently, pollution during construction will not affect the integrity of waterbodies and of macrophytes within waterbodies.</p>	No

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
		<p>Where cable needs to be laid throughout the Scheme and this has to cross a waterbody, boring, micro-tunnelling or moling methods will be utilised to avoid direct impacts.</p> <p>Aquatic habitats across the Order limits will be retained and indirect impacts to these habitats avoided through standard environmental protection measures. Therefore, there will be no species mortality of aquatic macrophytes during construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon aquatic macrophytes.</p>	
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss, disturbance of habitats or pollution), during operation of the Scheme which could affect aquatic macrophytes.</p>	No
Aquatic Macroinvertebrates	District	<p>Construction:</p> <p>All waterbodies present within the Order limits will be retained and measures embedded within the Scheme design to protect retained habitats during construction, such as that security fencing will be established at an early stage to protect retained habitats from incursion during construction. There will be no direct loss of standing water habitat and no direct impacts to macroinvertebrates.</p> <p>During construction, there is the potential that preparation of the Order limits and construction of the Scheme will result in dust and other pollutants (such as emissions from construction vehicles and oil-spills) which may impact waterbodies, through surface water run-off. Implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, will be adopted and these measures will be formalised into a CEMP. Consequently, pollution during construction will not affect the integrity of waterbodies and of macroinvertebrates within waterbodies.</p> <p>Where cable needs to be laid throughout the Scheme and this has to cross a waterbody, boring, micro-tunnelling or moling methods will be utilised to avoid direct impacts.</p>	No

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
		<p>Aquatic habitats across the Order limits will be retained and indirect impacts to these habitats avoided through standard environmental protection measures. Therefore, there will be no species mortality of aquatic macroinvertebrates during construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon aquatic macroinvertebrates.</p>	
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss, disturbance of habitats and pollution), during operation of the Scheme which could affect aquatic macroinvertebrates.</p>	No
Terrestrial Invertebrates	Up to Regional	<p>Construction:</p> <p>Construction activities will likely result in the direct loss of habitats used by notable terrestrial invertebrate species and assemblages, in particular approximately 0.8ha of acid grassland supporting an important assemblage of 'brecks' invertebrates, with a number of rare species. Although, land has been embedded within the Scheme for creation of replacement habitats suitable for these species and assemblages these will take time to develop and therefore, there is likely to be a temporary and short-term adverse effect on some species. However, significant areas of habitat will be retained and their quality improved (through positive management and reinforced planting), which will mitigate in the short-term for the loss of other habitats and whilst mitigation areas develop.</p> <p>All retained habitats present within the Order limits will be protected during construction, and security fencing will be installed at an early stage to protect retained habitats from incursion during construction.</p> <p>During construction, there is the potential that preparation of the Site and construction of the Scheme will result in dust and other pollutants (such as emissions from construction vehicles and oil-spills) which may impact habitats supporting terrestrial invertebrates. The implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, will be adopted and these measures will be formalised into a CEMP. Consequently, pollution during construction will not affect the integrity of retained habitats supporting terrestrial invertebrates.</p>	Yes

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss, disturbance of habitats or pollution), during operation of the Scheme which could affect terrestrial invertebrates. Where there is a change of land use from low value habitats (such as intensively managed arable) to grassland habitat, or where habitats are newly created, then these areas are likely to be of benefit to terrestrial invertebrates.</p>	No
Fish	Regional to County	<p>Construction:</p> <p>All watercourses present within the Order limits will be retained and measures embedded within the Scheme design to protect retained habitats during construction, such as, security fencing will be established at an early stage to protect retained habitats from incursion during construction. Where cable needs to be laid throughout the Scheme and this passes through a main watercourse, boring, micro-tunnelling or moling methods will be utilised to avoid direct impacts. A full list detailing crossing methods and an explanation of these techniques is provided in Chapter 9: Flood Risk, Drainage and Water Resources of this Environmental Statement [EN010106/APP/6.1].</p> <p>During construction, there is the potential that preparation of the Site and construction of the Scheme will result in dust and other pollutants (such as emissions from construction vehicles and oil-spills) which may impact water quality and in turn, fish. The implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, will be adopted and these measures will be formalised into a CEMP. Consequently, pollution during construction will not affect water quality and therefore, fish.</p> <p>With the implementation of embedded and essential mitigation measures, there will be no species mortality of any fish species within aquatic habitats during construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon fish.</p>	No
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss, disturbance of habitats or pollution), during operation of the Scheme which could affect fish.</p>	No

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
Breeding Bird Assemblage – Order limits	County	<p>Construction:</p> <p>The construction of the Scheme will lead to the loss of arable habitat, used by breeding bird species such as Skylark, although the amount of permanent habitat loss has been minimised as far as reasonably practicable. The loss of any arable habitat is likely to result in temporary displacement of ground-nesting breeding bird species reliant on this habitat and will require replacement habitat.</p> <p>Retained habitats, such as hedgerows and woodland, will maintain occupation of species using them and therefore the majority of breeding bird species found across the Site will not be affected.</p> <p>The construction of the Scheme will be undertaken over many months and will not impact upon retained habitats used by breeding birds, such as woodland and mature hedgerows, which will maintain connectivity across the Site for the majority of breeding bird species. Therefore, there will be no fragmentation of habitats used by breeding birds.</p> <p>Best practice construction methods as detailed in the CEMP will include implementation of measures to minimise noise, lighting and vibration disturbance to breeding birds to ensure that, where construction of the Scheme is undertaken within the bird breeding season (typically March to August inclusive), then disturbance to breeding birds in adjacent and retained habitats will not occur.</p> <p>The construction of the Scheme, if undertaken within the bird breeding season (typically March to August inclusive) has the potential to cause mortality to breeding birds in habitats that are to be removed. Where construction cannot avoid nesting birds, then nesting bird checks will need to be undertaken by an ornithologist prior to construction (where this occurs within the breeding season) to ensure there is no species mortality. Therefore, there will be no species mortality of any breeding bird species associated during construction of the Scheme.</p>	Yes
		<p>Operation:</p>	No

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
		<p>There are no pathways (e.g. habitat loss or disturbance to breeding birds such as noise, lighting or visual), during operation of the Scheme which could affect breeding birds. Whilst existing arable habitat within the Scheme will be lost during construction (see above), arable habitat between the solar arrays will be converted to grassland habitat, which will be beneficial to invertebrates and species, such as Skylark, that prey on them. Grassland habitat will also provide long-term opportunities for Skylark (and other ground-nesting species) to forage and nest.</p>	
Population of breeding Stone-curlew on Sunnica East Sites A and B	County	<p>Construction:</p> <p>The construction of the Scheme will result in the loss of habitat forming breeding territories for Stone-curlew within Sunnica East Sites A and B. The Scheme has been designed to incorporate sufficient areas to offset the loss of any nesting and foraging habitat for Stone-curlew through the creation of specific plots which will be provided in advance of the loss of any habitat.</p> <p>There is the potential for temporary displacement of breeding Stone-curlew during construction, through increased visual and noise disturbance such as increased vehicular movements and human disturbance, as well as construction lighting. However, the construction will be phased so that areas within 500m of any new habitat provisions are developed outside the Stone-curlew breeding season (typically March to October) and that the replacement habitats are ready for use by Stone-curlew by the breeding season at the start of construction. Furthermore, all construction staff working within Sunnica East Sites A and B will be given a toolbox talk regarding the sensitivity of Stone-curlew..</p> <p>The construction of the Scheme, if undertaken within the Stone-curlew breeding season (typically March to October inclusive) has the potential to cause mortality to breeding Stone-curlew in habitats that are to be removed. However, nesting bird checks will need to be undertaken by an ornithologist prior to construction (where this occurs within the breeding season) to ensure there is no species mortality. Therefore, there will be no species mortality of any breeding Stone-curlew associated during construction of the Scheme.</p>	Yes
		<p>Operation:</p>	No

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
		<p>There are no pathways arising from habitat loss or disturbance to breeding Stone-curlew such as noise, lighting or visual which could affect breeding Stone-curlew during operation of the Scheme. However, maintenance visits have the potential to disturb nesting Stone-curlew, if undertaken during the breeding season (typically March to August inclusive). Offsetting habitats have been embedded into the Scheme in areas where operational access will not be required. All operational staff working within 500m of the offsetting areas created for breeding Stone-curlew will be given a toolbox talk regarding the sensitivity of the species and, where possible, maintenance within 500m of the offsetting areas will be scheduled between November and February to avoid nesting Stone-curlew. This measure is included in the Framework OEMP submitted with the DCO application and will be finalised prior to operation in accordance with that outline. With these measures in place it is considered that no operational-related disturbance of nesting Stone-curlew will occur since they will not be present in areas subject to operational maintenance visits.</p>	
<p>Breeding Quail, Hobby and Little Ringed Plover on Sunnica East Sites A and B</p>	<p>County</p>	<p>Construction:</p> <p>The construction of the Scheme will result in habitat loss for Quail and Little Ringed Plover.</p> <p>There will be no direct loss of habitat used by breeding Hobby during construction of the Scheme. Hobby rely on woodland, scrub and hedgerow habitats for nesting. All such habitats (where found on Site) will be retained during construction.</p> <p>There will be no fragmentation of habitats used by Hobby during construction of the Scheme. Hobby feed on small birds and insects (such as dragonflies), which are taken on the wing. Therefore, construction of the Scheme will not impair this species' ability to hunt.</p> <p>Hobby were located breeding within Order limits. Construction of the Scheme, where undertaken during the bird breeding season (typically March to August, inclusive) is likely to result in temporary disturbance to this species. Chapter 11: Noise and Vibration of this Environmental Statement [EN010106/APP/6.1] identifies that there will be increased noise levels during construction works, e.g. site clearance and installation of plant at the substation/battery sites, which may cause some disturbance however this would be temporary with no permanent residual effect.</p>	<p>Yes</p>

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
		<p>With the implementation of embedded and essential mitigation measures ,there will be no species mortality of Quail, Hobby and Little Ringed Plover during construction of the Scheme as there are no impacts that could cause mortality.</p>	
		<p>Operation:</p> <p>There are no pathways arising from habitat loss, or disturbance through noise, lighting or visual, which could affect breeding Quail, Hobby or Little Ringed Plover during operation of the Scheme. It is unlikely that maintenance visits would result in disturbance to these species, given their breeding ecology and location of nesting sites.</p>	No
Breeding Hobby on Sunnica West Site A	County	<p>Construction:</p> <p>There will be no direct loss of habitat used by breeding Hobby during construction of the Scheme. Hobby rely on woodland, scrub and hedgerow habitats for nesting and all such habitats (where found on Site) will be retained during construction.</p> <p>There will be no fragmentation of habitats used by Hobby during construction of the Scheme. Hobby feed on small birds and insects (such as dragonflies), which are taken on the wing. Therefore, construction of the Scheme will not impair this species' ability to hunt.</p> <p>Hobby were located breeding just outside of the Order limits in Sunnica West Site A. Construction of the Scheme, where undertaken during the bird breeding season (typically March to August, inclusive) is likely to result in temporary disturbance to this species. Chapter 11: Noise and Vibration of this Environmental Statement [EN010106/APP/6.1] identifies that there will be increased noise levels during construction works, e.g. site clearance and installation of plant at the substation/battery sites, which may cause some disturbance however this would be temporary with no permanent residual effect.</p> <p>There will be no species mortality of Hobby during construction of the Scheme as there are no impacts that could cause mortality.</p>	Yes
		<p>Operation:</p>	No

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
		There are no pathways (e.g. habitat loss or disturbance (noise, lighting or visual)) which could affect breeding Hobby during operation of the Scheme. It is unlikely that low frequency of maintenance visits would result in disturbance to these species, given their breeding ecology.	
Wintering bird assemblage – Order limits	County	<p>Construction:</p> <p>The construction of the Scheme will lead to the loss of arable habitat, although the amount of permanent habitat loss has been minimised as far as reasonably practicable, with hedgerows and woodland areas retained, and creation of new grassland habitats meaning the majority of wintering bird species using the Order limits will not be affected. The loss of any arable habitat, which in turn will lead to the displacement of wintering bird species reliant on this habitat, will be mitigated through the creation of new grassland / cover crops both around the infrastructure and within undeveloped fields.</p> <p>The construction of the Scheme will be undertaken over many months and will not impact upon hedgerows and other boundary features, which will retain connectivity across the Site for non-breeding bird species. Therefore, there will be no fragmentation of habitats used by non-breeding birds.</p> <p>Best practice construction methods, as detailed in the CEMP, will include implementation of measures to minimise noise, lighting and vibration disturbance to wintering birds.</p> <p>There will be no species mortality during construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon wintering birds.</p>	No
		<p>Operation:</p> <p>There are no pathways which could have an adverse effect on wintering birds (e.g. habitat loss or through disturbance to breeding birds such as noise, lighting or visual) during operation of the Scheme. The inclusion of cover crops <i>i.e.</i> the use of sacrificial crop consisting of seed rich plant species, as part of the embedded mitigation will conserve a similar assemblage of wintering birds to that noted pre-construction.</p>	No
	District	Construction:	No

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
Wintering population of Skylark - Order limits		<p>The loss of arable habitat, which in turn will lead to the displacement of wintering Skylark reliant on this habitat, will be avoided and mitigated through the retention of existing grassland/cover crops and undeveloped mitigation areas.</p> <p>Good industry practice construction methods as detailed in the CEMP will include implementation of measures to minimise noise, lighting and vibration disturbance to wintering birds.</p> <p>There will be no species mortality during construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon the wintering population of Skylark.</p>	
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss or disturbance to breeding birds such as noise, lighting or visual) during operation of the Scheme which could affect wintering Skylark. The inclusion of cover crops as part of the embedded mitigation will conserve the existing wintering population of Skylark.</p>	No
Bats	Up to County, depending on species	<p>Construction:</p> <p>The construction of the Scheme will avoid features used by roosting and foraging / commuting bats, based on the current baseline conditions. There will be no loss of habitats identified as being important for bats anywhere within the Order limits. Pre-commencement surveys prior to construction starting will need to be undertaken to confirm that is assessment is still accurate.</p> <p>The construction of the Scheme will not impact upon mature, species-rich hedgerows and other boundary features, which will retain connectivity across the Order limits for commuting and foraging bats. Therefore, there will be no fragmentation of habitats used by bats.</p> <p>During construction, there is potential for disturbance and light pollution which could adversely affect habitats used by bats. However, standard environmental protection measures will be implemented and adopted during construction, formalised through a CEMP, and these measures will include dust suppression, pollution prevention, screening of important habitats and measures to control light spill. Consequently, indirect effects to habitats supporting bats during construction will be avoided.</p>	No

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
		<p>With the implementation of embedded and essential mitigation measures, there will be no species mortality during construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon bats.</p> <p>Operation:</p> <p>There are no pathways (e.g. habitat loss or disturbance (noise, lighting or visual)) during operation of the Scheme which could affect bats. Where there is a change of land use from low value habitats (such as intensively managed arable) to grassland habitat, or where habitats are newly created, then these areas are likely to be of benefit to terrestrial invertebrates, which in turn will provide increased foraging opportunities for bats.</p>	No
Water Vole	District	<p>Construction:</p> <p>The construction of the Scheme will avoid ditches and watercourses in Sunnica West Site B where Water Vole were recorded, and these will be retained. There will be no loss of habitat used by Water Vole anywhere within the Order limits. The construction of the Scheme will be offset (>10m) from any peripheral watercourses, used by Water Vole, as detailed in the embedded design mitigation. These offsets will prevent disturbance to riparian habitats and any Water Vole using them.</p> <p>The construction of the Grid Connection will utilise boring, micro-tunnelling or moling methods to cross under watercourses, where Water Vole have been recorded, and utilisation of these non-intrusive measures for construction (with appropriate setbacks) will therefore avoid disturbance to species, habitat loss and direct mortality for Water Vole.</p> <p>During construction, there is potential for pollutant spills and surface runoff into watercourses which could adversely affect habitats and species. However, standard environmental protection measures will be implemented and adopted during construction, formalised through a CEMP, and these measures will include dust suppression and pollution prevention. Consequently, indirect effects to watercourses supporting Water Vole during construction will not occur, providing the environmental protection measures are implemented.</p>	No

Ecological feature	Value	Potential impacts / effects	Potential for significant effects?
		<p>With the implementation of embedded and essential mitigation measures, there will be no species mortality during construction of the Scheme.</p> <p>Therefore, there are no impact pathways, either directly or indirectly, that would impact upon Water Vole.</p>	
		<p>Operation:</p> <p>There are no pathways (e.g. habitat loss or disturbance (noise, lighting or visual)) which could affect Water Vole during operation of the Scheme.</p>	<p>No</p>

8.10 Significance of Effects

- 8.10.1 Taking into account the committed avoidance and mitigation measures as detailed in section 8.8 of this chapter, the potential for the Scheme to generate effects on important ecological features was evaluated using the methodology as detailed in section 8.4 of this chapter. The aim of the evaluation was to identify potentially significant effects and determine the need for bespoke mitigation measures additional to those detailed in section 8.8 of this chapter.
- 8.10.2 Accordingly, the evaluation has identified the following impacts on important ecological features that have been taken forward for further assessment:

Construction

- a. Direct loss of d semi-improved acid grassland (priority habitat) in Sunnica East Site B;
- b. Direct loss of marshy grassland in Sunnica West Site B;
- c. Direct loss of arable habitat supporting notable arable flora in Sunnica East Site B and Sunnica West A;
- d. Direct loss of hedgerows across the Scheme, to facilitate access, grid connection cable and new fence-lines;
- e. Direct loss of habitat supporting notable terrestrial invertebrate species and assemblages in Sunnica East Site B;
- f. Temporary loss of habitat on the breeding bird assemblage across the Order limits;
- g. Temporary loss of habitat for breeding Stone-curlew in Sunnica East Site A and Site B;
- h. Disturbance to breeding Stone-curlew in Sunnica East Site A and Site B;
- i. Temporary loss of habitat for breeding Quail and Little Ringed Plover on Sunnica East Sites A and B;
- j. Disturbance to breeding Hobby in Sunnica West Site A; and,
- k. Disturbance to breeding Quail, Little Ringed Plover and Hobby on Sunnica East Sites A and B.

Operation

- 8.10.3 There are no impacts on important ecological features during the operation of the Scheme.
- 8.10.4 Taking account of embedded mitigation, no impacts are predicted on important ecological features associated with the Grid Connection Route A, Grid Connection Route B and both Option 1 and 2 for the proposed Burwell National Grid Substation Extension during all phases of the Scheme and therefore, have not been considered further in this assessment.

Construction

Sunnica East Site A and Site B

Direct loss of semi-improved acid grassland in Sunnica East Site B

- 8.10.5 Construction activities are predicted to result in the direct loss of or damage to 0.8 ha of semi-improved acid grassland. Although, land has been embedded within the Scheme design for creation of 30.9ha of dry acid grassland on current arable land, this will take time to develop and therefore, there is likely to be a temporary and short-term adverse effect on this priority habitat type. However, 6.4ha of unimproved and 5.0ha of semi-improved acid grassland will be retained and protected during construction with their quality improved (through positive management), which will help mitigate in the short-term for the loss of other areas of acid grassland and whilst mitigation areas develop. Further to this, the area of acid grassland to be lost will be subject to a translocation, with the turf and top soil stripped and translocated to a suitable area within the mitigation zone in Sunnica East Site B. This will help consolidate the existing fragmented areas of acid grassland retained within Sunnica East Site B and aid the reversion from arable farmland. Once established the Scheme will provide an approximate net gain in biodiversity of 83% for habitat units, 16% for hedgerow units and 1% for river units and the overall impact will be beneficial.
- 8.10.6 Taking into account embedded protection measures and Scheme design to minimise the impact of construction activities causing direct loss of areas of unimproved (and semi-improved) acid grassland, this impact has been assessed as temporary low adverse, which results in a temporary **minor adverse** effect, that is not considered significant.

Direct loss of arable habitat supporting notable arable flora in Sunnica East Site B

- 8.10.7 Construction activities are predicted to result in the direct loss of arable habitats, supporting notable arable flora in their field margins. Although, land has been embedded within the Scheme for creation of habitats for arable flora this may take time to develop and therefore, there is likely to be a temporary and short-term adverse effect on this habitat type in some areas. However, it is possible that construction activities will create ground disturbance that may benefit arable flora during the construction in certain areas, *i.e.* disturbance of the soil and clearance of arable crops may encourage arable plant species present in the seedbank to colonise. This will help mitigate the temporary loss of some areas for arable plants. Once new habitats areas establish, and positive management is in place, the Scheme will be able to deliver a net gain in this habitat and the overall impact will be beneficial.
- 8.10.8 Taking into account embedded protection measures and Scheme design to minimise the impact of construction activities causing direct loss of areas of arable habitats, plus the potential for construction activities to create disturbed ground conditions beneficial to arable flora, it is assessed that this impact will be temporary low adverse, which results in a temporary **negligible** effect, that is not considered significant.

Direct loss of habitat supporting notable terrestrial invertebrate species and assemblages in Sunnica East Site B

- 8.10.9 Notable terrestrial invertebrate species and assemblages are associated with the acid grassland habitats identified above. As with sensitive grassland habitats, the Scheme will retain most of the key areas for terrestrial invertebrates, including 6.4ha of unimproved and 5.0ha of semi-improved acid grassland. However, construction activities are predicted to result in the direct loss of habitats supporting notable terrestrial invertebrate species and assemblages, notably 0.8ha of semi-improved acid grassland. Although, land has been embedded within the Scheme for creation of biodiverse habitats, notably the creation of 30.9ha of dry acid grassland on current arable land, these will take time to develop and therefore, there is likely to be a temporary and short-term adverse effect on associated invertebrate species. To minimise the impact of this the area of acid grassland to be lost will be subject to a translocation, with the turf and top soil stripped and translocated to a suitable area within the mitigation zone in Sunnica East Site B. Timing of this translocation will consider how to appropriately ensure that terrestrial invertebrate larvae are also moved with the turfs to minimise mortality and loss of species associated with this acid grassland parcel. As noted above the majority of unimproved and semi-improved acid grassland present, will be retained and protected during construction with their quality improved (through positive management), which will help mitigate in the short-term for the loss of other areas and whilst mitigation areas, notably the 30.9ha of dry acid grassland on current arable land, develop. Once established the Scheme will be able to deliver a net gain in this habitat required to support a range of terrestrial invertebrate species and assemblages and the overall impact will be beneficial.
- 8.10.10 Taking into account embedded protection measures and Scheme design to minimise the impact of construction activities causing direct loss of grassland habitats supporting notable terrestrial invertebrate species and assemblages, this impact has been assessed as temporary low adverse, which results in a temporary **minor adverse** effect, that is not considered significant.

Temporary loss of habitat for breeding Stone-curlew in Sunnica East Site A and Site B

- 8.10.11 Construction activities are predicted to result in the direct loss of habitats supporting the breeding territories of Stone-curlew. Approximately 108ha of land has been embedded within the Scheme design for creation of Stone-curlew breeding and foraging habitat, focussing on avoiding areas where breeding territories have been recorded during surveys in 2019, 2020 and 2021. Where avoidance for these areas hasn't been possible, alternative nesting and foraging sites have been identified and will be secured and prepared in advance of the Stone-curlew breeding season, so that appropriate alternatives are in place during construction. These areas will be retained and managed throughout the lifespan of the project, pursuant to the OLEMP and the Stone-curlew breeding plot specification.
- 8.10.12 Taking into account embedded protection measures and Scheme design to minimise the impact of construction activities causing direct loss of habitats for breeding Stone-curlew, this impact has been assessed as temporary low adverse,

which results in a temporary **minor adverse** effect, that is not considered significant.

Disturbance to breeding Stone-curlew in Sunnica East Site A and Site B

- 8.10.13 Construction activities have the potential to disturb Stone-curlew, a sensitive breeding species listed on Schedule 1 of the WCA (Ref 8-6) and a component part of the Breckland SPA. Pre-commencement surveys for Stone-curlew will be undertaken in advance of the works commencing and through the CEMP, suitable measures will be delivered to ensure disturbance to Stone-curlew is avoided in line with the relevant legislation. The creation of a maximum of ten 2ha nesting/foraging plots will also be delivered in advance of the Stone-curlew breeding season, as discussed above. These alternative breeding sites will be protected from noise and visual disturbance during construction, including the provision of seasonal restrictions between March and October, inclusive, where disturbance may arise. Construction noise predictions are provided in **Figures 11-2** of this Environmental Statement [**EN010106/APP/6.3**] and support the need for seasonal restrictions on construction activities within 500m of the alternative breeding locations.
- 8.10.14 Construction activities will be scheduled so that areas within 500m of any newly created habitat are developed outside the Stone-curlew breeding season (March to October) and that the replacement provisions are ready for use by Stone-curlew by the breeding season at the start of construction. Taking into account these embedded protection measures delivered through the CEMP (see section 8.8.21), alternative breeding locations and Scheme design to minimise the impact of construction activities causing disturbance to habitats used by breeding Stone-curlew (i.e. impacts will not occur as Stone-curlew will not be present when the most potentially disturbing works take place), this impact has been assessed as temporary low adverse, which results in a temporary **minor adverse** effect, that is not considered significant.

Temporary loss of habitat for breeding Quail and Little Ringed Plover on Sunnica East Sites A and B

- 8.10.15 As with grassland habitats the Scheme will embed key areas for Quail and Little Ringed Plover across Sunnica East Sites A and B, both within existing grassland areas and other retained areas. However, construction activities are predicted to result in the direct loss of habitats supporting both Quail and Little Ringed Plover. Although, land has been embedded within the Scheme for creation of biodiverse habitats these will take time to develop and therefore, there is likely to be a temporary and short-term adverse effect on breeding Quail and Little Ringed Plover. However, as approximately 108ha of undeveloped grassland habitats will be created, as well as the diverse grasslands delivered within the solar arrays fields, once established the Scheme will be able to deliver a net gain in habitats required to support Quail and Little Ringed Plover and the overall impact will be beneficial in the long term, *i.e.* the life time of the Scheme.
- 8.10.16 Taking into account embedded protection measures and Scheme design to minimise the impact of construction activities causing direct loss of habitats supporting Quail and Little Ringed Plover, this impact has been assessed as temporary low adverse, which results in a temporary **minor adverse** effect while habitats establish, that is not considered significant. Over the lifetime Scheme

habitat creation is assessed as having a beneficial effect on breeding populations of Quail and Little Ringed Plover.

Disturbance to breeding Quail, Little Ringed Plover and Hobby on Sunnica East Sites A and B.

8.10.17 Construction activities have the potential to disturb Quail, Little Ringed Plover and Hobby, all sensitive breeding species listed on Schedule 1 of the WCA (Ref 8-6). Pre-commencement surveys for sensitive breeding birds, *i.e.* those listed on Schedule 1 of the WCA, will be undertaken in advance of the works commencing and through the CEMP, suitable measures will be delivered to ensure disturbance to sensitive breeding birds is avoided in line with the relevant legislation. There is likely to be a temporary and short-term adverse effect from disturbance on breeding Quail, Little Ringed Plover and Hobby, if construction is undertaken during the bird breeding season (March to August inclusive). However, through appropriate monitoring and management during construction, impacts will be avoided, in line with legislative requirements.

8.10.18 Taking into account embedded protection measures and delivery of a robust CEMP, the impact of construction activities causing disturbance to Quail, Little Ringed Plover and Hobby, this impact has been assessed as temporary low adverse, which results in a temporary **negligible** effect, that is not considered significant.

Summary of Magnitude of Impact and Significance of Effect for Sunnica East Sites A and B

8.10.19 Table 8-11 summarises the sensitivity (value) of important ecological features, impacts and effects resulting from construction for Sunnica East Sites A and B.

Table 8-11: Summary of magnitude of impact and significance of effect for Sunnica East Sites

Receptor	Sensitivity (value)	Description of impact	Magnitude of impact	Effect category	Significant effect (Yes / No)
Grassland - unimproved (and semi-improved) acid	Medium (county)	Loss of habitat	Low adverse	Minor adverse	No
Arable flora	Medium (county)	Loss of habitat	Low adverse	Negligible	No
Terrestrial invertebrate species and assemblages	Medium (county)	Loss of habitat	Low adverse	Minor adverse	No
Stone-curlew	Medium (county)	Loss of habitat	Low adverse	Minor adverse	No

		Disturbance and displacement when breeding.			
Quail, Little Ringed Plover and Hobby	Medium (county)	Loss of habitat	Low adverse	Minor adverse	No
		Disturbance and displacement when breeding.		Negligible	

Sunnica West Sites A and B

Direct loss of marshy grassland in Sunnica West Site B

- 8.10.20 Construction activities will result in the direct loss of 0.2ha of marshy grassland. Although, 11.9ha of current arable land has been embedded within the Scheme for creation of marshy/tussocky grassland this will take time to develop and there is likely to be a temporary and short-term adverse effect on this habitat type. Once new habitats are established the Scheme will be able to deliver a net gain in this habitat and the overall impact will be beneficial.
- 8.10.21 Taking into account embedded protection measures and Scheme design to minimise the impact of construction activities causing direct loss of areas of marshy grassland, this impact has been assessed as temporary low adverse, which results in a temporary **negligible** effect, that is not considered significant.

Direct loss of arable habitat supporting notable arable flora in Sunnica West Site A

- 8.10.22 Construction activities will result in the direct loss of arable habitats, particularly field margins, supporting notable arable flora. Although, land has been embedded within the Scheme for creation of habitats for arable flora this may take time to develop and therefore, there is likely to be a temporary and short-term adverse effect on this habitat type in some areas. However, it is possible that construction activities will create ground disturbance that may benefit arable flora during the construction in certain areas, i.e. disturbance of the soil and clearance of arable crops may encourage arable plant species present in the seedbank to colonise. This will help mitigate the temporary loss of some areas for arable plants. Once new habitats areas establish, and positive management is in place, the Scheme will be able to deliver an increase in arable flora and the overall impact will be beneficial.
- 8.10.23 Taking into account embedded protection measures and Scheme design to minimise the impact of construction activities causing direct loss of areas of arable habitats, plus the potential for construction activities to create disturbed ground conditions beneficial to arable flora, it is assessed that this impact will be temporary low adverse, which results in a temporary **negligible** effect, that is not considered significant.

Disturbance to breeding Hobby on Sunnica West Site A.

- 8.10.24 As with construction-related disturbance on Sunnica East Sites A and B, construction activities on Sunnica West Site A have the potential to disturb Hobby, a sensitive breeding species listed on Schedule 1 of the WCA (Ref 8-6). Pre-commencement surveys for sensitive breeding birds, i.e. those listed on Schedule 1 of the WCA, will be undertaken in advance of the works commencing and through the CEMP, suitable measures will be delivered to ensure disturbance to sensitive breeding birds is avoided in line with the relevant legislation. There will be a temporary and short-term adverse effect from disturbance on breeding Hobby, if construction is undertaken during the Hobby breeding season (March to August, inclusive). However, through appropriate monitoring and management during construction impacts will be avoided, in line with legislative requirements.
- 8.10.25 Taking into account embedded protection measures and delivery of a robust CEMP, the impact of construction activities causing disturbance to Hobby, this impact has been assessed as temporary low adverse, which results in a temporary **negligible** effect, that is not considered significant.

Summary of Magnitude of Impact and Significance of Effect for Sunnica West Sites A and B

- 8.10.26 Table 8-12 summarises the sensitivity (value) of important ecological features, impacts and effects resulting from construction for Sunnica West Sites A and B.

Table 8-12: Summary of magnitude of impact and significance of effect for Sunnica West Sites

Receptor	Sensitivity (value)	Description of impact	Magnitude of impact	Effect category	Significant effect (Yes / No)
Grassland – Marshy	Medium (county)	Loss of habitat	Low adverse	Negligible	No
Arable flora	Medium (county)	Loss of habitat	Low adverse	Negligible	No
Hobby	Medium (county)	Disturbance and displacement when breeding.	Low adverse	Negligible	No

Order limits wide receptors

Direct loss of hedgerows across the Scheme to facilitate access

- 8.10.27 Construction activities will result in the direct loss of small sections of hedgerow and recently planted hedgerow, i.e. less than 4 years old. Although, the majority of hedgerows across the Scheme will be avoided and replanting has been embedded within the Scheme design for creation of hedgerows, this may take time to develop and therefore, there is likely to be a temporary and short-term adverse effect on this habitat type in some areas. Lengths of new, species rich, hedgerow would be

planted to compensate for any lost. Once hedgerows establish, the Scheme will be able to deliver a net gain in this habitat and the overall impact will be beneficial.

8.10.28 Taking into account embedded protection measures and Scheme design to minimise the impact of construction activities causing direct loss of areas of hedgerows, it is assessed that this impact will be temporary low adverse, which results in a temporary **negligible** effect, that is not considered significant.

Temporary loss of habitat on the breeding bird assemblage across the Scheme

8.10.29 The Scheme will retain key areas for breeding birds across the Order limits both within existing grassland areas, but also by ensuring the majority of boundary features (hedgerows, trees and woodland) are retained and protected during construction. However, construction activities will result in the direct loss of arable habitats supporting notable breeding bird assemblages. Although, land has been embedded within the Scheme design for creation of biodiverse habitats these will take time to develop and therefore, there is likely to be a temporary and short-term adverse effect on the breeding bird assemblage particularly those species associated with arable farmland. However, as significant areas of grassland habitats, along with boundary features (hedgerows, trees and woodland), will be retained and protected during construction with their quality improved (through positive management), which will help mitigate in the short-term for the loss of other areas and whilst mitigation areas develop. Once established the Scheme will be able to deliver a net gain in habitats required to support a diverse breeding assemblage similar to that currently present, but at an increased population size and the overall impact will be beneficial.

8.10.30 Taking into account embedded protection measures and Scheme design to minimise the impact of construction activities causing direct loss of habitats supporting a notable breeding bird assemblage, this impact has been assessed as temporary low adverse, which results in a temporary **minor adverse** effect, that is not considered significant.

Summary of Magnitude of Impact and Significance of Effect for Order limits wide Receptors

8.10.31 Table 8-13 summarises the sensitivity (value) of important ecological features, impacts and effects resulting from construction for receptors identified as important throughout the Scheme.

Table 8-13: Summary of magnitude of impact and significance of effect for Order limit wide receptors

Receptor	Sensitivity (value)	Description of impact	Magnitude of impact	Effect category	Significant effect (Yes / No)
Hedgerows	Medium (county)	Loss of Habitat	Low adverse	Negligible	No
Breeding Bird assemblage	Medium (county)	Loss of Habitat	Low adverse	Minor adverse	No

Decommissioning (2065)

Sunnica East Site and West Site

- 8.10.32 Decommissioning impacts are predicted to be similar to those arising during the construction period, although important ecological features may vary.
- 8.10.33 As in sections 8.10.5 to 8.10.30 of this chapter, habitats and protected or notable species are likely to be subject to temporary loss of habitat or disturbance during decommissioning activities and appropriate measures will need to be put in place to minimise direct loss of habitat and disturbance. An Outline DEMP (**Appendix 16E** of this Environmental Statement [**EN010106/APP/6.2**]) has been prepared and will be submitted with the DCO application and finalised prior to decommissioning. The DEMP will include suitable control measures to reduce potential impacts and suitably qualified ecologists will be in place to oversee compliance.
- 8.10.34 Taking into account that relevant legislation and policy will need to be adhered to when decommissioning takes place and appropriate measures will be put in place to monitor and manage this the impact of decommissioning activities on important ecological features has been assessed as temporary low adverse, which results in a temporary **minor adverse** effect, that is not considered significant.

8.11 Additional Monitoring, Mitigation and Enhancement Measures

- 8.11.1 The Scheme design has embedded sufficient mitigation to avoid significant adverse effects to important ecological features, without additional mitigation measures being required.
- 8.11.2 The Scheme will look to deliver significant enhancements for biodiversity in line with national and regional policies and biodiversity priorities. A robust monitoring programme is also provided in the DCO submission (see **OLEMP: Appendix 10I** of this Environmental Statement [**EN010106/APP/6.2**]) to ensure mitigation and enhancement measures are delivered successfully.

8.12 Residual Effects

- 8.12.1 As no additional mitigation measures identified, the residual effects remain as identified after the implementation of embedded mitigation measures. Accordingly, no significant residual effects on ecological features are predicted during construction, operation or decommissioning of the Scheme.

8.13 Cumulative Effects

- 8.13.1 This section presents an assessment of cumulative effects between the Scheme and other proposed and committed plans and projects including other developments.
- 8.13.2 This assessment has been made with reference to the methodology and guidance set out in **Chapter 5: EIA Methodology** of this Environmental Statement [**EN010106/APP/6.1**], of this Environmental Statement and shortlist of cumulative

schemes identified in **Appendix 5A** of this Environmental Statement **[EN010106/APP/6.2]**.

8.13.3 This cumulative effect assessment identifies for each receptor those areas where the predicted effects of the Scheme could interact with effects arising from other plans and, or projects on the same receptor based on a spatial and, or temporal basis.

8.13.4 The Schemes identified in **Appendix 5A** of this Environmental Statement **[EN010106/APP/6.2]** have been screened for spatial and temporal overlaps with the Scheme. Where potential spatial and, or temporal overlap of ecological receptors was thought to occur, the specific ecological receptors that fall within any area of overlap were identified. If the ecological receptors identified were considered to be sensitive, the overlapping development was taken forward for cumulative assessment. There is no potential for cumulative effects where the Scheme has a negligible effect, so this assessment has only considered those minor adverse effects reported in section 8.10. These were then considered with the cumulative schemes where the Zols overlapped. The schemes in **Table 8-14** were given particular consideration owing to their proximity to the Scheme, application status and potential for cumulative effects, due to similar impacts on important ecological receptors.

Table 8-14: Summary of Relevant Schemes considered for Cumulative Effects

Application reference	Application for 'other development' and brief description	Distance from Order limits	Potential for Cumulative Effects
17/02205/FUL	Development of a 49.9MW battery storage facility, bridge and associated infrastructure	50m South of the Burwell National Grid substation	No – the Applicant for the 'other development' has provided sufficient mitigation on their site and no significant impacts have been reported.
19/00155/FUL	Application for the construction and operation of a 49.9MW battery storage facility, fencing, landscape planting and site access on land adjacent to the operational Burwell 400kV substation	50m South of the Burwell National Grid substation	No – the Applicant for the 'other development' has provided sufficient mitigation on their site and no significant impacts have been reported
15/00723/ESF	Installation and operation of a solar farm and associated infrastructure	800m north of the Burwell	No – the Applicant for the

Application reference	Application for 'other development' and brief description	Distance from Order limits	Potential for Cumulative Effects
		National Grid substation and cable route	'other development' has provided sufficient mitigation on their site and no significant impacts have been reported
19/01576/SCREEN	SCREENING OPINION - Proposed Solar Farm	1.5km West of Sunnica West site B	No – the Applicant for the 'other development' has provided sufficient mitigation on their site and no significant impacts have been reported
F/2013/0257/HYB	Hybrid application: Outline application - demolition of Hundred Acre Farm and the construction of up to 268 dwellings, new public open space, drainage ditches, associated access, landscaping, infrastructure and ancillary works on land East of Red Lodge and the construction of up to 225 square metres of Class A1 retail floorspace on land forming part of Phase 4a Kings Warren, as amended. Full application - (Phase A): construction of 106 dwellings (including the relocation of 3 committed dwellings from Phase 4a), new public open spaces, associated access, landscaping, infrastructure and ancillary works on land East of Red Lodge. Restoration of open Breck grassland on land South East of Herringswell, as amended.	3.2km South East of Sunnica East site	No – the Applicant for the 'other development' has provided sufficient mitigation on their site and no significant impacts have been reported
20/00557/ESF	Proposed Development of a Solar Farm and Ancillary Development	<1km west from Sunnica West site B	No – the Applicant for the 'other development' has provided sufficient mitigation on their site and no significant impacts have been reported

Application reference	Application for 'other development' and brief description	Distance from Order limits	Potential for Cumulative Effects
21/00062/SCREEN	SCREENING OPINION - Proposed development for a solar farm with site area of c.73 hectares (excluding grid connection and access)	2.7km West of Sunnica West Site B	No – the Applicant for the 'other development' has provided sufficient mitigation on their site and no significant impacts have been reported
20/01081/SCOPE	SCOPING OPINION Bexwell to Bury St Edmunds Pipeline	Cuts across cable route	No – the Applicant for the 'other development' has provided sufficient mitigation on their site and no significant impacts have been reported
21/00062/SCREEN	SCREENING OPINION - Proposed development for a solar farm with site area of c.73 hectares (excluding grid connection and access)	2.7km West of Sunnica West Site B	No – the Applicant for the 'other development' has provided sufficient mitigation on their site and no significant impacts have been reported
DC/21/0217/FUL	Planning application - a. Commercial polyhouses with office and welfare area; b. hardstanding and loading bays, car parking, reservoir, landscaping and associated works; c. new access	adjacent to Sunnica East Site B	No – the Applicant for the 'other development' has provided sufficient mitigation on their site and no significant impacts have been reported
21/00706/ESF	Proposed Development of a Solar Farm and Ancillary Development	3.1km West from Sunnica West Site B	No – the Applicant for the 'other development' has provided sufficient mitigation on their site and no significant impacts have been reported

8.13.5 No plans or projects identified in **Appendix 5A** of this Environmental Statement **[EN010106/APP/6.2]** are considered in combination to impact important ecological features identified in this assessment and considered in Section 8.9. Therefore, the main potential for ecological impacts during construction, operation and decommissioning of the Scheme is considered within the Order limits itself. Other schemes are not likely to contribute to the effects on protected species identified in this chapter and therefore the effects are not significant.

8.14 References

- Ref 8-1 AECOM, 2018. Sunnica Energy Farm Environmental Impact Assessment Scoping Report. Chapter 9, Section 9.3.
- Ref 8-2 HMSO (2018). Conservation of Habitats and Species Regulations 2017 (as amended). HMSO, London.
- Ref 8-3 Environment Agency (2021) Freshwater fish survey (NFPD). Online resource available.
- Ref 8-4 JNCC (2020) Special Protection Areas – List of Sites. Online resource available.
- Ref 8-5 National Biodiversity Network Atlas (2021). Online resource available.
- Ref 8-6 HMSO (1981). The Wildlife & Countryside Act 1981. HMSO, London.
- Ref 8-7 HMSO (2006). The Natural Environment and Rural Communities Act. HMSO, London.
- Ref 8-8 HMSO (2019) The Invasive Alien Species (Enforcement and Permitting) Order 2019
- Ref 8-9 JNCC (2010) Handbook for phase 1 habitat survey – a technique for environmental audit. Joint Nature Conservation Committee, Peterborough
- Ref 8-10 CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine, second Edition. Chartered Institute of Ecology and Environmental Management..
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