Mallard Pass
Solar Farm

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Environmental Statement Volume 2 Appendix 7.2: Ecology and Biodiversity - Assessment Methodology

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Appendix 7.2: Ecology and Biodiversity Assessment Methodology

1.1. Baseline Surveys

1.1.1. The following baseline surveys, which are detailed in full in ***Appendix 7.4: Ecology Baseline Report*** of the ES **[EN010127/APP/6.2],** *were undertaken to establish Ecology and Biodiversity baseline.*

1.1.2. The following survey was scoped out of the assessment in agreement with Leicestershire County Council (see ***Appendix 7.3: Consultation*** of the ES):

a. Fish and aquatic invertebrates

1.2. Study Area

1.2.1. With the exception of the wintering birds, where the field surveys were extended to neighbouring large fields up to approximately 200 m from the Order limits to gather contextual information on mobile species, the field surveys were carried out to inform the baseline conditions covered the Solar PV Site and Mitigation and Enhancement Areas. This is due to the contained nature of the Proposed Development and the type of development, which will have a very limited Zone of Influence (ZoI), in so far as ecological impacts are concerned. The Proposed Development is highly unlikely to have wider ranging impacts, such as additional recreational activities which might have an adverse effect on habitats in the wider area. However, to help gain a better understanding of the ecological context of the Site a desk study included searches for records of protected or notable species and nationally designated and statutory and non-statutory sites within 2km and for an internationally important designated site within 10km and internationally designated sites for bats within 30 km. This wider search area was used to gather contextual information and is proportionate for the nature and type of development proposed as the proposals would not result in adverse effects at a larger scale.

1.3. Determining the Ecological Significance of Effects

1.3.1. The potential effects of the Proposed Development are considered during the construction, operation and decommissioning phases.

1.3.2. The evaluation and assessment within this chapter has been undertaken with reference to relevant parts of the 2018 Guidelines for Ecological Impact Assessment in the United Kingdom developed by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018) (Ref 1). Although this is recognised as the current best practice for ecological assessment, the guidance itself recognises that it is not a prescription about exactly how to undertake an ecological impact assessment (EcIA); rather, it aims to "provide guidance to practitioners for refining their own methodologies".

1.3.3. The assessment presented within the ES **[EN010127/APP/6.1]** has taken into account embedded design mitigation as described in ***Chapter 5: Project Description*** of this ES, aimed at avoiding or reducing ecological impacts that have been identified during preliminary assessments carried out at the design stage and measures included to avoid breaches of the legislation.

1.3.4. Once potential ecological impacts have been identified any resulting effects on ecological resources or features (e.g. a reduction or increase in population size) can be assessed. Impacts can be direct or indirect and beneficial or adverse. Direct impacts include loss/damage of habitats through activities such as site clearance and building demolition. Indirect impacts can include the effects of artificial lighting on bats, pollution events and changes in existing levels, and hydrological changes.

1.3.5. The nature of each impact is characterised with reference (as appropriate) to the following factors:

a. Direction (adverse, beneficial or neutral/negligible)

b. Magnitude (i.e. the 'size' or 'amount' of an impact which is quantified where possible)

c. Extent (area in hectares, linear metres)

d. Duration (in time or related to species life-cycles)

e. Reversibility (i.e. is the effect permanent or temporary); and

f. Timing and frequency (e.g. related to breeding seasons).

1.3.6. The EcIA Guidelines (Ref 1) states that impacts should be determined as having a significant ecological effect when they have an adverse or beneficial impact on the integrity of a defined site or ecosystem and/or the conservation status of habitats or species within a given geographical area. This constitutes the guiding principle in determining whether an effect is ecologically significant, and if so at what level. The levels used are adapted from the EcIA Guidelines (Ref 1)[1] are as follows:

a. International (Europe)

b. National (England)

c. Regional (East Midlands)

d. County (Leicestershire and Rutland / Lincolnshire),

e. District (Rutland / South Kesteven)

f. Site (The Order limits)

1.3.7. Professional judgement is used to determine if an effect is significant or not in relation to the integrity of the defined site or ecosystem(s) and/or the conservation status of habitats or species within a given geographical area, which relates to the level at which it has been valued. If an effect is found not to be significant at the highest geographical level at which the resource or feature has been valued, it may be significant at a lower geographical level. By way of example, limited impacts on a woodland of county importance might be assessed as being significant at a district level of importance. Once the potential effects of the Proposed Development have been assessed as

[1] The geographical step between Site and District has been removed for the purposes of this assessment due to the size of the Order limits.

per the geographic scale set out above, an effect at District level or below to an ecology feature is considered not significant in terms of the EIA process.

1.3.8. The integrity of a protected/designated site is defined in relation to the CIEEM guidance given in connection with Habitats Directive (Ref 2) as the coherence of its ecological structure and function across its whole area that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified.

1.3.9. The conservation status for habitats is determined by the sum of the influences acting on the habitat and its typical species that may affect its long-term distribution, structure and functions as well as the long-term survival of its typical species within a given geographical area. The conservation status for species is determined by the sum of influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within a given geographical area.

1.3.10. Features which require mitigation in order to ensure legal compliance are considered to be important features, even if their conservation value is low or not applicable (e.g. badger, which is not a rare species but which receives legal protection on animal welfare grounds).

1.4. References

Ref 1 CIEEM (2018). Guideline for ecological impact assessment in the UK and Ireland - Terrestrial, Freshwater, Coastal and Marine.

Ref 2 EC (1992). Habitats Directive 92/43/EEC