ECOLOGICAL ADVICE SERVICE

TO: ***Matthew Durling***

FROM: ***Emma England***

DATE: ***05 November 2024***

SUBJECT: ***22/00668/AS / Land South of M20, Aldington***

The following is provided by Kent County Council's Ecological Advice Service (EAS) for Local Planning Authorities. It is independent, professional advice and is not a comment/position on the application from the County Council. It is intended to advise the relevant planning officer(s) on the potential ecological impacts of the planning application; and whether sufficient and appropriate ecological information has been provided to assist in its determination. Any additional information, queries or comments on this advice that the applicant or other interested parties may have must be directed in every instance to the Planning Officer, who will seek input from the EAS where appropriate and necessary.

Comments on Additional Information for Appeal

Application 22/00668/AS was refused planning permission on 29th April 2024. Reason for refusal 4 is relevant to this advice note:

4 By reason of the insufficient information provided regarding the mitigation and enhancement measures for badgers, breeding birds and brown hare, the applicant has failed to demonstrate that the proposed development would have an acceptable impact on protected species. The development would therefore be contrary to policies ENV1 and ENV10 of the Ashford Local Plan 2030, policy AB10 of the emerging Aldington and Bonnington Neighbourhood Plan 2030 and the provisions of the National Planning Policy Framework.

Since the decision notice was issued, additional information has been provided by the appellant concerning ecology matters. Our comments concerning the additional information in the context of all the submitted information is provided overleaf.

Biodiversity Net Gain

The Statement of Case from the appellant includes a statement concerning a quantitative biodiversity net gain to address the evolution of Policy AB1 (Green and Blue Infrastructure and Delivering Biodiversity Net Gain) in the Aldington and Bonnington Neighbourhood Plan:

"A. Proposals should be designed to create, conserve, enhance and manage green and blue spaces. They should connect chains of green and blue infrastructure, as identified on the Policies Maps, with the aim of delivering a measurable biodiversity net gain of 20%, where possible, but at a minimum, a net gain of at least 10%. The measurable biodiversity net gain must be demonstrated by utilising the current DEFRA biodiversity metric. Where this is not demonstrated, permission for planning or for change should be refused unless other material planning considerations demonstrate the need for development.

B. Measures to secure Biodiversity Net Gain will be approved by the Borough Council, in consultation with the Parish Council and other consultees, and will include arrangements for the monitoring of post-development habitat management for a minimum of 30 years, in accordance with the Environment Act 2021. Where net gain cannot be delivered on site, locations off-site within the neighbourhood area (as identified in Figures 4 and 5) should be sought in the first instance, in advance of seeking biodiversity net gain credits.

C. Proposals that seek to improve the connectivity between wildlife areas and green spaces will be encouraged, to enhance the green infrastructure of the neighbourhood area. Proposals that support the enhancement and management of the identified biodiversity opportunity areas (Figures 5 and 6) will be supported. Conversely, proposals that threaten to damage such connectivity will be strongly resisted".

The appellant has provided a biodiversity net gain assessment report as part of the appeal submission, but I have not seen a copy of the excel spreadsheet calculation tool and so I cannot fully comment regarding whether the proposed 116.84% net gain of area habitats and 230.36% net gain in hedgerow habitats is realistic. However, typically for this type of development, a biodiversity net gain is possible.

It should be noted that biodiversity metric principles (as set out in the user guide[1]) should be used to inform use of the biodiversity metric tool. Principle 3 states that the "*biodiversity metric should be used in accordance with established good practice guidance and professional codes*". The Chartered Institute of Ecology and Environmental Management (CIEEM) produced a Biodiversity Net Gain: Good practice principles for development document in 2019[2]. Principle 7 of this guidance is "*Be additional*": "*Achieve nature conservation outcomes that demonstrably exceed existing obligations (i.e. do not deliver something that would occur anyway)".*

The Department for Environment Food and Rural Affairs (Defra) provided guidance on this principle of 'additionality' in its '*Consultation outcome: Government response and summary of responses*' (updated 21st February 2023)[3]. This principle requires that "*at least 10% of the total (110+%) post-development biodiversity score should be from measures which are not*

[1] The Statutory Biodiversity Metric (publishing.service.gov.uk)
[2] Biodiversity-Net-Gain-Principles.pdf (cieem.net)
[3] Government response and summary of responses - GOV.UK (www.gov.uk)

undertaken to address impacts on protected species or protected sites (e.g. nutrient mitigation). For example, if a development has a baseline score of 10 biodiversity units and needs to achieve a score of 11 units, at least 1 unit should come from separate activities (such as an onsite habitat or the wider market for biodiversity units)". Government standing advice[4] supports this position and indicates that protected species mitigation can contribute up to no net loss, but cannot be used to produce a biodiversity net gain[5,].

Additionality needs to be clearly acknowledged when considering how biodiversity net gain is being achieved. One way to do this is to submit two different metrics, with one detailing the 'compensation measures being included only' – to clearly show what has been included but not beyond the equivalent of no net loss. It is not clear within the submitted biodiversity net gain assessment that the additionality principle has been considered as part of calculations.

Badgers

Badgers are protected under the Protection of Badgers Act 1992. It is noted that works are proposed within 20m and 10m of an active badger sett. It is further noted that it is believed unlikely that badger setts will be directly damaged by works. However, the report stated that indirect disturbance related impacts are possible. A Natural England badger licence may be required for disturbance related impacts.

We have reviewed the additional information submitted in support of the appeal. We consider that it is likely that avoidance and mitigation measures for badgers can be dealt with by appropriately worded conditions for a Construction Ecological Management Plan, detailed soft landscaping plans and a Landscape and Ecological Management Plan.

Brown Hare

Brown hare is a species listed as a Species of Principal Importance (or 'priority' species) under Section 41 of the Natural Environment and Rural Communities Act (2006). Local planning authorities are required to have regard for the conservation of Section 41 species as part of planning decisions under their biodiversity duty. Brown hare has experienced a dramatic and ongoing decline in numbers across England.

Evidence of the presence of brown hare near the site has been made available to KCC EAS and we consider that the site would provide suitable habitat for the species. The updated information provided by the applicant does seem to acknowledge the presence of brown hare at the site and indicates that there will be adverse effects from the development during construction, but beneficial effects during operation.

Adverse effects on brown hare could be mitigated for during construction through an appropriate CEMP. This would need to consider the predator avoidance behaviour of brown hare, which is to 'sit tight' and puts them, especially the leverets, at risk from machinery[6].

There is some evidence that solar farms can be beneficial to brown hare[7,8]. However, the landscaping plans and a landscape and ecological management plan would need to include

[4] What you can count towards a development's biodiversity net gain - GOV.UK (www.gov.uk)
[5] Biodiversity Net Gain FAQs - Frequently Asked Questions | Local Government Association
[6] https://hare-preservation-trust.com/species-status/brown-hare-history-status/
[7] https://solarenergyuk.org/news/solar-farms-can-be-wildlife-havens/

provision for sensitive management for brown hare to secure a benefit for the species. Monitoring would need to include monitoring for brown hare to allow for remedial measures as necessary, and to inform other similar projects.

Bats

It is understood that lighting is not required during operation of the site; if this changes, then a bat sensitive lighting strategy will be required to demonstrate that any potential impacts upon bats have been effectively mitigated for. A bat sensitive lighting strategy, secured by condition, should consider guidance provided by the Institute of Lighting Professionals and the Bat Conservation Trust[9].

Skylark and Lapwing

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places a general duty on all public authorities, including the local planning authorities, to conserve and enhance biodiversity. Lapwing and skylark[10] are listed as species of principal importance (priority species) for conservation under Section 41 of the Act, 2006. Natural England guidance on '*Wild birds: advice for making planning decisions',* published 14 January 2022, states '*you must have regard for the conservation of Section 41 species as part of your planning decision*.'

It is noted that mitigations are proposed in one ~7.5ha field on-site (part of the 12.53 ha arable field and shown outlined in yellow in Figure 1, below) for up to three pairs of skylark and two pairs of lapwing. It is understood that the existing hedgerow along the eastern boundary of this area will be planted up and maintained at 3m height, with new hedgerow planting to the north of this area to be maintained at ~3m high. The hedgerow to the east of this area may be enhanced.

Figure 1: Location of proposed mitigation for skylark and

[8] https://lightsourcebp.com/uk/project/mcguigan-wilburton-farm/
[9] Guidance Note 8 Bats and Artificial Lighting | Institution of Lighting Professionals (theilp.org.uk)
[10] Skylark | BTO - British Trust for Ornithology

The site is currently understood to comprise three large arable fields (estimated 22.17 ha, 38.24 ha, and 12.53 ha) and two sheep grazed fields (estimated 13.14 ha and 6.76 ha). The site also includes part of a small field estimated to be 5.47 ha in its entirety, but the part of the field within the site is considerably less than this figure. The habitat within this land is shown as modified (improved) grassland within submitted documents. A Phase 1 Habitat Survey was carried out 7th April 2021 and identified wheat crop or bare earth in the arable fields. The total area of arable land within the site is estimated to be 78.41 hectares. The total area of sheep grazing in the site is estimated to be 19.85 hectares.

It is understood that proposals are for native grassland and wildflower mixes under the proposed solar panels, with 13.6 ha of wildflower meadow on Bested Hill (Southern Array). The locations of the proposed arrays are shown in Figure 2, below.

All areas of grassland are proposed to be managed as wildflower meadows with an annual hay cut between September and October, with all arisings removed from the site. Low intensity grazing is then proposed between September and March. The seed mix chosen will need to be designed so that the height of the grasses and wildflowers does not cause shading of the solar panels. Usually, sward height needs to be kept below 70cm[11].

Figure 2: Locations of proposed solar arrays.

[11] https://solarenergyuk.org/wp-content/uploads/2022/05/NCBPG-Solar-Energy-UK-Report-web.pdf

Available information indicates that three breeding bird surveys of the site were undertaken (8th April, 6th May and 11th June 2021). Standard practice is now to carry out six breeding bird survey visits, unless suitable justification is provided for a reduced number of visits[12].

Appendix 10.2 of the Environmental Statement and Chapter 10 – Ecology of the Environmental Statement indicates the following with regards to lapwing and skylark on-site (reportedly 103.9 ha in size; with solar arrays proposed over approximately 65.49 ha):

- Lapwing – "*Two pairs of birds seen on all surveys in the south-east corner of the Northern Array. Agitated behaviour recorded on the May visit which would indicate likely presence of chicks present within the arable crop";*
- Skylark – "*Adult birds seen on all surveys and adults seen carrying food on the May and June surveys. Considered to be between 2 and 3 pairs within the application site*". *"…breeding confirmed within the large arable fields of the Southern Array (Bested Hill)…This species was not recorded within the Northern or Eastern Arrays*".

The approximate location of Bested Hill is shown below (Figure 3). However, it is not clear where exactly the breeding birds were recorded as no plan (as per best practice) has been provided.

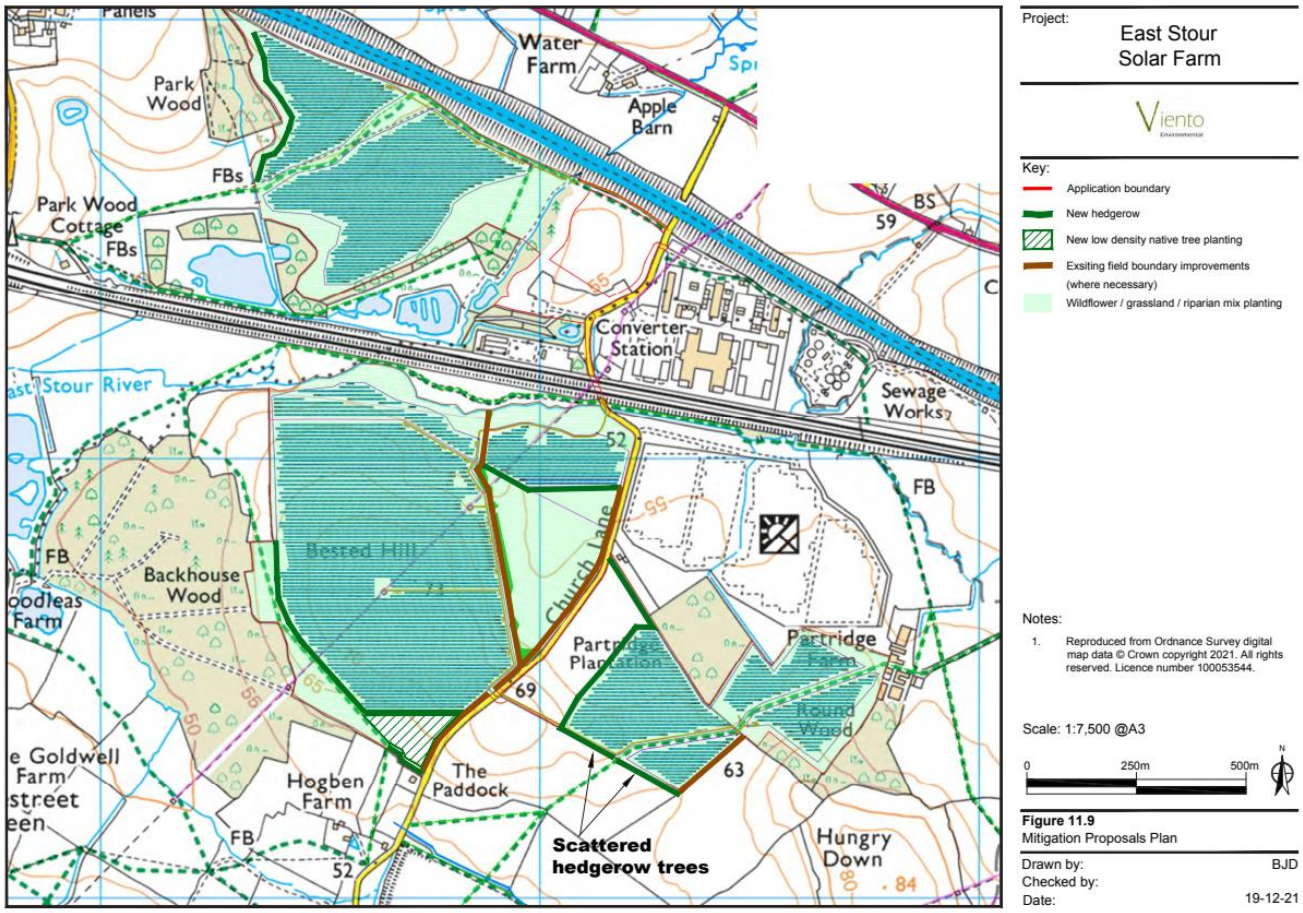

Figure 3: Location of proposed solar arrays, wildflower grassland and Bested Hill.

[12] https://birdsurveyguidelines.org/methods/survey-method/

Skylark Habitat Requirements and Nesting Densities

During the breeding season, skylarks feed mainly on invertebrates captured on the ground, while during winter skylarks are mainly vegetarian (Donald, 2004 cited in Miguet *et al.,* 2013). Skylarks can have multiple broods and breed from mid-April to mid-July (Browne *et al.,* 2000).

The Royal Society for the Protection of Birds (RSPB) advice contained within '*A management guide to birds of lowland farmland'* (Winspear and Davies, 2005) suggests that '*skylarks generally avoid small fields. The best fields to use are ones of at least 5 ha if bounded by open field boundaries or short hedges, or fields of at least 10 ha if bounded by tall hedges or woodland*.' Other sources corroborate this[13,14]. Winspear and Davies (2005) on page 80 of '*A management guide to birds of lowland farmland*' state that tall hedges are over 4m tall and short hedges are up to 2m tall. By default, it is assumed that hedges between 2 and 4m tall are intermediate in height. Research by the British Trust for Ornithology (BTO) indicates that tall structures such as hedgerows and woodland edge reduce the area of a field that skylark will use[15].

The proposed skylark mitigation area is at least 5 ha in size, although it will be bounded by relatively tall hedges, and tapers towards the south, making at least part of the field likely unusable by nesting skylarks. The proposed mitigation area does not therefore represent optimal mitigation.

With regards to the proposed habitat type, grassland fields have the potential to support more nesting skylark territories than arable fields, although this will depend on the grassland management, and it must be born in mind that grasslands associated with hedgerows are often avoided (Miguet *et al.,* 2013).

With up to three recorded nesting pairs, the 103.9 ha site currently supports 0.03 skylark territories per hectare (ha) across the entire site, but 0.04 across the arable land, and 0 within the grazing land. The nesting densities recorded on-site are below that recorded in scientific literature for winter and spring cereals in England and Wales (0.1 territories per ha) or on improved grassland (0.05 territories per ha). Research indicates that habitat changes within farmland might achieve between 0.2-0.5 territories per ha (five-year set aside land[16,17]) and 1 territory per ha (fallow land[18]). The figure of 1 territory per ha is based on research from Germany and may not be fully applicable to the UK.

Based on available literature, it is indicated that the 7.5 ha of mitigation land could provide for up to 7.5 pairs of nesting skylark, although 1.5 to 3.75 territories is likely to be more realistic. It is therefore possible that the proposed mitigation land could provide sufficient mitigation for the loss of skylark territories on-site, but it must be born in mind that the proposed hedgerows could decrease the potential of the land to provide suitable mitigation. The success of the land as mitigation for skylarks would be very much dependent on appropriate

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[13] Skylark plots – CFE Online
[14] rr129.pdf (bto.org)
[15] rr129.pdf (bto.org)
[16] rr129.pdf (bto.org)
[17] Densities and population estimates of breeding Skylarks Alauda arvensis in Britain in 1997: Bird Study: Vol 47, No 1
[18] Territory density of the Skylark (Alauda arvensis) in relation to field vegetation in central Germany - Toepfer - 2001 - Journal of Ornithology - Wiley Online Library

management. For the grassland to be managed to be suitable for skylark, the species would have a preference for vegetation around 20-50cm in height. Lightly grazed pastures and hay meadows can be suitable (Winspear and Davies, 2005). Skylark like to be 50-100m from the nearest woodland or hedgerow[19] and this will therefore reduce the available nesting space within the proposed mitigation area, especially if hedgerow planting and changes to management to increase hedgerow sizes are implemented.

With the proposed increase in hedgerows around the boundaries of the site, long-term monitoring and the option to secure off-site remedial measures may be necessary to secure compensation into the future.

Lapwing Habitat Requirements and Nesting Densities

Breeding lapwings have somewhat different habitat requirements to skylark. They prefer short grassland (average sward height around 5cm) with occasional scattered taller tussocks (<10% of the area). Chicks are often moved to feed at damper flushes and the edges of temporary or permanent pools (Winspear and Davies, 2005).

Male lapwing can be monogamous or polygamous, having 2-3 nesting females in their territory. Each male is estimated to need a territory of between 1.1 ha and 2.0 ha for nesting. Lapwings can tolerate other nesting lapwings within 200m (Berg, 2014[20]).

Winspear and Davies (2005) also state: "*The main factors in site selection are vegetation height and density, and accessibility of surface and sub-surface invertebrates. Lapwings prefer short swards for nesting. They will tolerate swards up to 15cm high in sparse arable crops or unimproved grassland, but may require shorter swards in thicker vegetation, such as improved grasslands. Short, unimproved pasture with scattered tussocks to provide some cover is the ideal grassland habitat. Rough, cultivated fallow is the best arable nesting habitat[21,22]*".

The sward height recorded on-site during the lapwing nesting season is not available for review. However, it is interesting that the recorded breeding lapwings were recorded in the south-east corner of the northern array. Despite the absence of plans, this is assumed to be relatively near several large waterbodies, and it is possible (but not certain) that lapwing may be moving their chicks near to the water to feed. Alternatively, the waterbodies may be indicative of lower lying land in this general area, and indicate that at least part of the arable field is wet/damp during the breeding season. This would aid the lapwings in foraging for invertebrates. This explanation may be more likely as there is research to support that lapwing like flooded tillage (Berg, 2014[23]). Additionally, the usual behaviour of lapwings is to "*…generally avoid nesting in enclosed fields of less than 5 ha or close to field boundaries that can harbour predators, or in an area in the immediate vicinity of trees or other features that can act as predator perches*" (Winspear and Davies, 2005). The ponds south of the proposed northern array are surrounded by woodland/scrub. It is not clear how close the nesting lapwings were recorded to the site boundaries.

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[19] NCBPG-Solar-Energy-UK-Report-web.pdf
[20] https://www.researchgate.net/figure/Proportion-of-the-main-habitats-within-20-lapwing-territories-light-bars-and-40-random_fig3_259299024
[21] Lapwings on arable farmland - Game and Wildlife Conservation Trust
[22] Lapwing plots – CFE Online
[23] https://www.researchgate.net/figure/Proportion-of-the-main-habitats-within-20-lapwing-territories-light-bars-and-40-random_fig3_259299024

Winspear and Davies (2005) indicate that lapwings show a "*clear preference for spring tillage and rough grazing…In all situations they show a strong association with grazing livestock…Where available, they select moist soils where there is easy access to soil invertebrates through the summer…Birds nesting on spring-tilled arable land generally require open, grazed pasture on adjacent or nearby fields to rear chicks. This may be because the arable crop will grow too tall to maintain all round visibility, or because of greater availability of invertebrates in the grassland*".

There is currently grazing land within 900m of the proposed southern array and lapwings have been shown to forage outside their nesting territory during breeding (Berg, 2014[24]). Some grazing land will be lost post-development, although some grazing land to the south of the eastern array may remain post-development but is assumed to be outside the appellant's control.

On a 59 km^2 site of mixed farmland (dry tillage, seasonally flooded tillage (mostly spring sown), seasonally flooded meadows and sown pasture and ley, and small areas of scrub), the density of nests varied between years, but 4.3 nests/km^2 (0.043 nests/ha) was recorded in one study year, with colonial nesting at preferred sites (Berg, 2014[25]). Using 0.043 nests per ha, it can be estimated that 7.5 ha could support 0.32 lapwing nests. It does however need to be acknowledged that although it is possible to get a figure of nests per hectare based on the aforementioned research, birds are unlikely to be spread evenly across an area. Taking into account the territory sizes of lapwings during nesting, 7.5 ha could support the necessary number of nests, provided suitable habitats are available within the area.

The proposed hedgerows bounding the 7.5 ha mitigation land are sub-optimal, and it is not clear that the land will have adequate provision of wet areas to support lapwing. Detailed designs may be able to increase the wetness of the soil during the nesting season within the mitigation area, although this is unclear. Skylark are able to make use of floodplain meadows[26].

Conclusion

If it is accepted that it may be possible to accommodate two pairs of lapwing and three pairs of skylark on the proposed mitigation area, it would need to be acknowledged that there is a level of uncertainty regarding the likely success of mitigation on this land. This is due to the size, shape, boundary features of the area proposed, and its ability to provide suitably wet soils during the breeding season, as well as uncertainty regarding whether it can provide for the required numbers of lapwing and skylark. To account for the uncertainty, if the appeal is allowed, provision should be made for regular monitoring of the mitigation land, including any remedial changes to habitat management carried out on-site. Any conditions attached to a planning permission should make provision that if remedial measures on-site are not successful, off-site measures will be implemented.

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[24] https://www.researchgate.net/figure/Proportion-of-the-main-habitats-within-20-lapwing-territories-light-bars-and-40-random_fig3_259299024

[25] https://www.researchgate.net/figure/Proportion-of-the-main-habitats-within-20-lapwing-territories-light-bars-and-40-random_fig3_259299024

[26] https://www.floodplainmeadows.org.uk/about-meadows/wildlife/birds

If the appeal is allowed, we advise that conditions securing the implementation of ecological mitigations and enhancements are attached to the decision notice. The conditions should be for:

- A Construction Environmental Management Plan (CEMP) for the site;
- Detailed ecologically sensitive soft landscaping plans along with planting details, details of enhancements such as the make/model of bat and bird boxes, and information regarding number and placement (location/height/aspect);
- The long-term, appropriate management of created/retained habitat features on-site secured through a Landscape and Ecology Management Plan (LEMP);
- Provision for remedial actions should the proposed mitigations prove unsuccessful.

We can provide suggested condition wording on request.

If you have any queries regarding our comments, please do not hesitate to get in touch.

Emma England
Biodiversity Officer

This response was submitted following consideration of the following documents:

Browne, S., Vickery, J., and Chamberlain, D. (2000) Densities and population estimates of breeding Skylarks Alauda arvensis in Britain in 1997. Bird Study, 47:1, 52-65, DOI: 10.1080/00063650009461160

Engena (Undated) SEI Chapter 10 - Ecology.

Engena (April, 2022) East Stour Solar Farm Environmental Statement (ES) Volume 2A – Written Statement, Chapter 10.

Engena (April, 2022) East Stour Solar Farm Environmental Statement (ES) Volume 3 – Figures 12.2 to 14.4.

Engena (April, 2022) East Stour Solar Farm Environmental Statement (ES) Volume 3 – Figures 1.1 to 12.1.

Eversheds Sutherland (Undated) Statement of Case on behalf of the Appellant.

Miguet, P., Gaucherel, C., and Bretagnolle, V. (2013) Breeding habitat selection of Skylarks varies with crop heterogeneity, time and spatial scale, and reveals spatial and temporal crop complementation. Ecological Modelling, 266, 10-18.

Natural England (accessed August 2022) Guidance – Wild birds: advice for making planning decisions. Available here.

RSPB (accessed August 2022) Lapwing breeding and nesting habits. Available here.

RSPB (accessed August 2022) Hay meadows. Available here.

Toepfer, S., and Stubbe, M. (2001) Territory density of the skylark (Alauda arvensis) in relation to field vegetation in central Germany. Journal of Ornithology, 142(2): 184-194.

Turnstone Ecology (August 2024) East Stour PV: Supplementary Ecology Information. Rev02.

Turnstone Ecology (Undated) Extract from Chapter 10 – Section 3. Results. Ecological Assessment – Rev01.

Winspear, R., and Davies, G (2005) A management guide to birds of lowland farmland. The RSPB, Sandy.