



Skylark Mitigation Plan

Land at Engine Lane, Grimethorpe, Barnsley, South Yorkshire S72 7BN

Enviormena Project Management UK Ltd

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1.0 Introduction and Context

Arbtech Consulting Ltd. was commissioned by Enviromena Project Management Ltd to produce a Skylark Mitigation Plan for site 2 of 3 - 2. Land at Engine Lane, Grimethorpe, Barnsley, South Yorkshire S72 7BN. This is required to inform for the construction of solar farm at existing arable and pasture field site.

The site is located at its centre at National Grid Reference SE 40243 09215 and has an area totalling approximately 90ha split into four parcels of land comprising of worked arable fields, hedgerows, scattered trees, hard standing and scattered buildings and pasture fields. It is surrounded by agricultural and arable fields, scattered trees and residential developments located to the east and west.

The proposed works will see a temporary complete disruption to all the fields during installation and change of land use. This could disrupt skylark nesting, destroy active nests and not provide suitable habitat for continued nesting post-construction

Consideration of the requirements of Skylark at both the population and individual level will be discussed, with the most up-to date research utilised to ensure a deliverable, bespoke strategy which can be successfully implemented to secure the long-term persistence of the species at the site

1.1 Survey Background

A Preliminary Ecological Survey was conducted by Arbtech Consulting Ltd in 2023 and identified the arable farmland areas as suitable breeding habitat for skylark birds. This was followed by full breeding bird surveys, also conducted by Arbtech Consulting in 2025. This involved 6 visits between March and July 2025. Skylarks were recorded within the first three site visits between March-early May, with breeding activity observed. However, from the end of May-early July, no further skylark activity was recorded. This could be due to crop height at this point, making the site unsuitable for further broods.

They were not an abundance, with only 5 territories noted in the 90ha landscape. These territories were in the arable-use fields, the modified grassland fields in the centre of the site had no skylark activity at all. This site was considered not a significant skylark population. A map showing skylark breeding areas are noted in Appendix 1. However, all territories will be lost with the proposed works.

A Skylark Mitigation Plan has been produced to specify mitigation, compensation and enhancement for skylarks for the site pre and post development

Skylark Mitigation Plan

2.0 Background of Skylark ecology

The Skylark is a bird of open countryside in the UK, inhabiting open habitats in both upland and lowland areas and can be found throughout the UK.

This species is known as a multi-brood species and in good seasons may have as many as four different broods in the year. One to two broods are the average expectance.

Courtship and establishment of nesting territories can begin in February if weather conditions are suited that year. More so in the south of the UK where climate improves sooner than the north. The main nesting period for this species is April-July with first eggs typically laid mid-May.

The incubation period for this species is 12-14 days, and chicks remain at the nest for another 11-15 days before fledgling. This is a short period and allows for multiple broods a year.

The female builds the nest alone, creating a thick layer of grass lined with finer vegetation in an excavated scrape or natural depression on the ground.

The species is best described as a generalist in terms of diet; during the winter Skylarks form small groups and are frequently found foraging in set-aside fields or stubble for grain (Gillings et al., 2005). Cereal stubble fields and fields that lack any boundary features, such as dense hedgerows and trees, are the most optimal forging habitats. (Geiger et al., 2013))

However, during breeding periods, invertebrate populations are required in order to supporting chick development. Field margins (Ottens et al., 2014) and undrilled or wide spaced rows support higher density of prey items (Smith et al., 2009). Access to areas where levels of invertebrate prey are consistent throughout the breeding season has been shown to be a key feature to maximise skylark breeding successes (Puttmanns et al., 2022).

2.1- Habitat preference.

Skylarks habitat preference differs based on upland or lowland areas throughout the UK. Lowland skylarks' population preference is for arable farmlands, with cereal crops deemed to most important crop type, though pasture grazing land are known to be utilised at times.

However, more recent trends of modern agriculture of winter-sown cereal crops' growth during the spring period would increase the crop height faster and earlier than spring-sown crops. This causes winter-sown crops to exceed more than 60cm faster. As skylarks do not nest in taller crops this can reduce nesting success, increase predation risks and lead to abandonment of the site later in the season. This could also reduce the success of number of broods, and may limit skylarks to just one or two broods a year, rather than three or four.

Another option skylarks will undertake is to seek out bare patches with the taller winter crops, such as access tramlines. This puts nest at risk of destruction when agriculture vehicles return to crop maintenance, throughout the years. Being in close proximity to taller crop height within narrow tramways are also at higher risk of predation as this is easily ambushed.

Skylarks also prefer a crop height area of 20-50cm surrounding the nest sites, though the nest site itself should be close to bare ground as possible.

Skylarks have been known to use pasture fields, heathlands, lowland marshes, but population densities are often lower than arable farming landscapes.

Skylarks in upland areas are known to use a range of habitat types, with main preference areas being open moorland and bogs.

Skylarks also have a preference to be in areas which either have no boundary features or low boundary features. (Wilson et al., 1997) In fields where features are present, nesting locations are best situated 50m away from boundary features. Skylarks do not like to be overshadowed by taller features.

2.2- Conservation Status.

In the UK the breeding population decreased between 1970 and 2013 by 60% (Hayhow et al., 2015). There is also a recorded 9% decrease between 1995-2023 (BTO 2025) there are estimated 1.6 million territories remaining in the UK (Harris et al., 2022) Due to conservation efforts, some areas have seen slight recovery of populations, since 2015 but the species is still at high risk. There has been a 1.9% reduction in distribution for this species as well (BTO 2025)

Due to the declines, the species is now listed as a Red-listed species on the Bird of Conservation Concern. Species on the red listed are noted as of most urgent conservation concern and should be a priority species of focus.

Skylarks are noted as one of the 19 species that make up the UK Farmland Bird Indicator Group.

Skylark is also listed under Annex 1 of the Birds Directive (2009 as amended) and is a UK Biodiversity Action Plan (BAP) species as it is one of a number of species identified as being threatened and therefore requiring targeted conservation action to reverse the species declines.

This bird is noted as a bird of focus on the Barnsley Metropolitan Borough Councils BAP

2.3- Legislation

All breeding wild birds, including Skylark, are protected under the Wildlife and Countryside Act 1981 (as amended). Under the Wildlife and Countryside Act, a wild bird is defined as any bird of a species that is resident in or is a visitor to the European Territory of any member state in a wild state. All birds, their nests and eggs are protected and it is thus an offence, with certain exceptions to:

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built;
- intentionally take or destroy the egg of any wild bird;
- have in one's possession or control any wild bird, dead or alive, or any part of a wild bird, which has been taken in contravention of the Act or the Protection of Birds Act 1954;
- have in one's possession or control any egg or part of an egg which has been taken in contravention of the Act or the Protection of Birds Act 1954;
- use traps or similar items to kill, injure or take wild birds; and - have in one's possession or control any bird of a species occurring on Schedule 4 of the Act unless registered, and in most cases ringed, in accordance with the Secretary of State's regulations.

3.0 Mitigation

3.1- Objective-

The objective of the mitigation scheme is to create suitable foraging habitat for Skylark in the locality of the site, compensating for the potential loss of Skylark territories within the development area.

The construction of the solar array on arable and grassland pasture farmland will reduce the available nesting habitat for skylark.

Skylark are deterred from locating their nest in areas that are directly overlooked by tall structures, both natural ones such as woods, mature trees and tall hedges and man-made ones such as buildings and, in this case, arrays of solar panels.

Though they may be deterred from nesting beneath solar arrays (Solar Energy UK, 2023) they will continue to forage there amongst the sown grassland (Shotton, 2018

As a result of the nesting deterrence effect of structures, it is predicted that all of the skylark territories within the Proposed Solar Areas identified from the field survey will be initially lost/reduced. However, some open areas will be retained in the southwest corner fields within the wider landownership.

To mitigate this impact, options are being explored for habitat enhancements within parts of the Site to provide alternative nesting areas, as well as manage the landscape to provide a key foraging area for surrounding skylarks territories.

Land that remains is limited in its suitability for skylarks, this is due to the site having good quality tree and hedgerow boundaries that surround every field. As well as providing a few plots, the site will focus on creating good foraging quality habitat, not only to support skylarks at the site, but provide a key supporting foraging site for skylarks that may be nesting in the adjacent farmland.

3.2- Pre-development

Prior to and during works Ahead of and during the construction phase of the development, the following considerations will be adopted to reduce impacts to Skylarks and other birds breeding on site.

Skylark Mitigation Plan

Timings or works It is recommended that works are undertaken outside of the breeding season (March – August inclusive) to avoid the risk of committing an offence by damaging or destroying nests or young of birds actively breeding on site. Where groundworks cannot be undertaken outside of the breeding season, works should be subject to supervision or a nesting bird check by a qualified ecologist.

3.3- Supervision.

Requirement for an Ecological Clerk of Works (ECoW) will be needed If works are to be undertaken within the breeding season (March – August inclusive). The ECoW will be suitably experienced person and will undertake a nesting bird check of all areas to be impacted – this includes areas suitable for ground-nesting birds such as Skylark. If any nests are located at this point, it is recommended that the position of these are made known to all on site, and that a suitable exclusion zone so as to safeguard the nest is installed.

Buffer zones for these species should be about 15-20m minimum, as ground nesting birds have a greater disturbance range due to exposure. If the birds show signs of distress and risks nest abandonment, this should be increased.

3.4- Identification of skylark suitable habitat within the site.

The results of the habitat survey and breeding bird surveys conducted at the site were reviewed to identify areas of suitable size, with as few deterrent boundaries features possible and areas with evidence of a current use by a low density of skylark (i.e., with best potential for improvement) in order to provide skylark plots for supporting nesting pairs.

Identification of the mitigation areas for skylark; and separately those other habitat creation will also be suitable for skylark but have not been created specifically for skylark. For example, areas of habitat created at the site to fulfil Biodiversity Net Gain targets. While not created for skylarks in mind, these improvements could benefit skylarks, such as providing key invertebrate areas.

It can also identify if any proposed habitat creation could provide further hinderance- such as planting of trees and hedgerow boundaries which may deter skylarks long-term.

The most southwestern fields of the project will not be used for solar arrays and will be used as area of land to include some skylark plots.

4.0 Enhancements

Plots will be created following the RSPB promoted guidance to farmers.

Each plot will be located at least 50 m from any field boundary with a hedge or tree (open farm tracks acting as boundaries are discounted as there will be no deterrent effect from these) and at least 50 m from any adjacent woodland. These will also not be created directly adjacent, or underneath any solar panels and will be similarly buffered.

The location of land where plots will be established is noted in Appendix 2 as a result of the criteria.

Each plot will be at least 3-4 m wide, will have a minimum area of 16 square metres, will not be connected to the tramlines and will be created by turning off the drill during sowing any grassland creation at the site. As shown in Figure 1 below. If not alternatively the plots can be ploughed and scoured to remove plant from the plots and return to bare soil.

A total of 4 plots will be created at the site. These will be stationed as far apart as possible, so clashing of territories will not occur.

Plots will be required to be maintained each year and can be done by scouring or ploughing the plots yearly in Dec-Jan to reduce the establishing ruderal and grasses.



Figure 1 Skylark plots create in an arable field- Source Birdguides 2012

4.1- Manamgent of site- grassland meadow.

The following requirements are needed to ensure that the compensation area of the site remains suitable for breeding Skylark for the duration of the solar scheme if maintained as meadow under the BNG

- All land identified within the compensation area retained as meadow and grazing pastures, must be managed for any appropriate conservation target- Such as BNG targets.
- Stocking density will be determined by the livestock type used, and the stock rate must not exceed the unit per ha ratios set out in Table 1.

- Livestock must not be present within the compensation or isolated skylark areas between 01 April and 01 June to maximise Skylark breeding success in this period.
- The impact of livestock density must be reviewed to avoid over or under grazing of areas. A matrix of short sward, longer grasses and areas of tussocky grassland provide the best opportunities for breeding and foraging birds including Skylark. Cattle are the best livestock choice for this method.
- Re-surveying the site long-term after construction and the use of livestock will be undertaken to assess success of skylark nesting success and adjust accordingly.
- Wherever possible, any mechanical operations should be timed before or after the breeding season in fields with ground-nesting birds.
- If any areas within the compensation area are being cut, rather than grazed. This must not be cut between April- June and any subsequent cuts after this if required must be at least seven weeks apart to enable success of later nests.
- Hedgerows will be managed around the boundaries to ensure that the skyline remains mostly unbroken. Hedges will be cut between January and March to ensure that winter foraging opportunities for other species are not lost, and impacts to breeding birds utilising the hedges are avoided.

Livestock type	Livestock units per Ha
Cow and suckling calf	1.0
Cattle > 24 months	1.0
Cattle 6-24 months	0.6
Ewes/ Ewes with lambs	0.15

Table 1- Livestock density for conservation grazing methods- Source - FAS, 2017; KWT, 2012; DEFRA, 2022; EU 2009

4.3- Wider site management

As part of the overall site proposal, the site has undergone a BNG assessment by Arbtech Consulting Ltd in 2024 ,with that areas underneath the solar establishment will be planted and managed as meadow grassland, there are also proposed shrub planting areas, as well as hedgerows and shade-tolerant meadows in several areas of the site.

These will be managed under BNG to ensure they reached the required conditions over a 30-year period. The management of these meadows will create an invertebrate rich-habitat, and would serve as a vital and very large foraging area. An invertebrate population is vital for nesting, as skylark chicks rely on being fed invertebrates. Not only would this support skylarks nesting at the site but also provide a key foraging area for skylarks and many other species that would be in the surrounding landscape.

This will also benefit hedgerow and tree nesting species at the site, by providing a higher quality invertebrate foraging area.

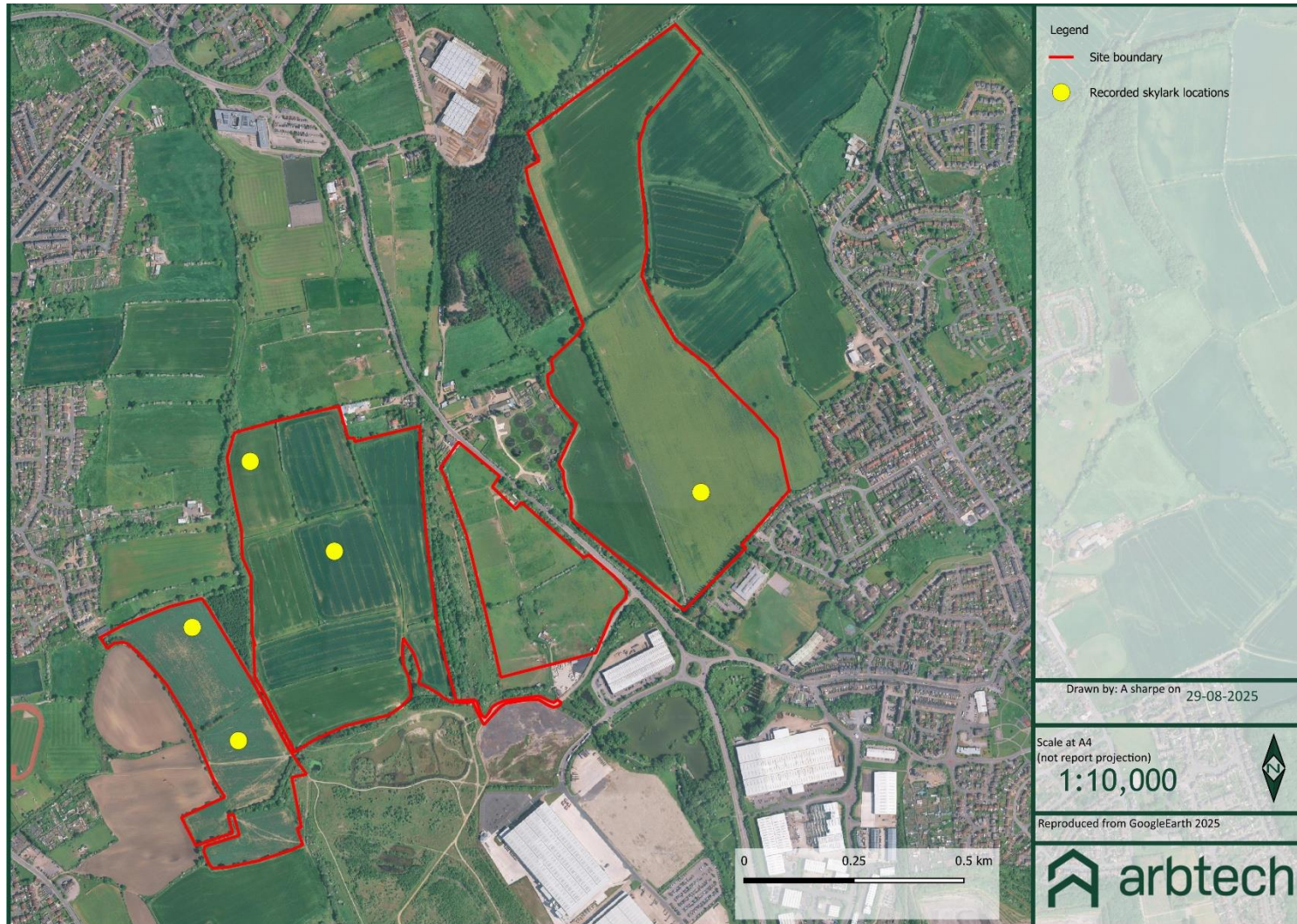
Seeds generated from grasses and flowers will also aid in supporting adult foraging.

5.0- Monitoring.

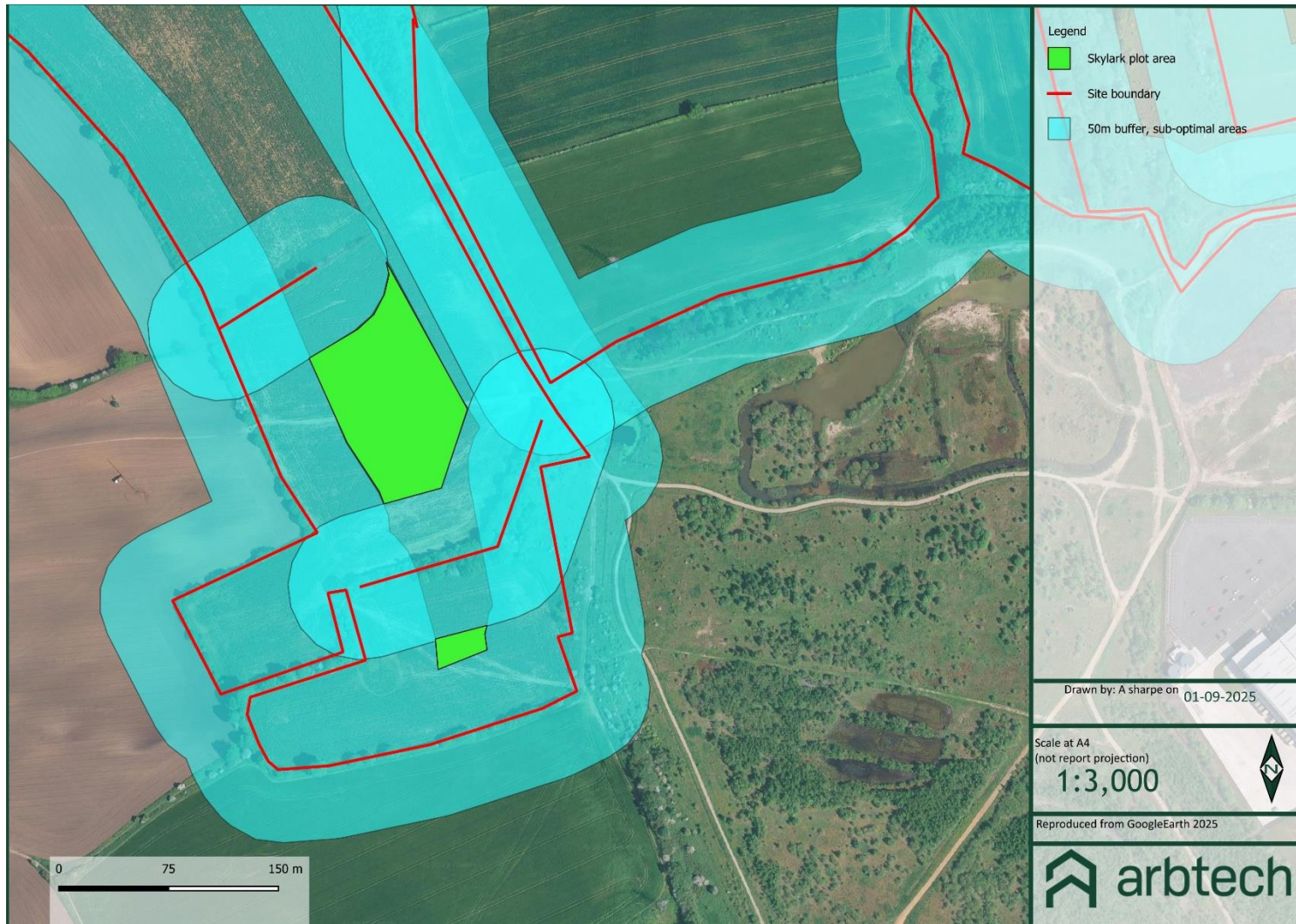
To check the implementation of the above management prescriptions and monitor whether these have been successful in terms of providing suitable Skylark habitat, monitoring surveys will be undertaken by a suitably qualified ecologist in years 2, 5 and 10 following implementation of the scheme. This will comprise a single visit each monitoring year during the peak breeding season (April to June) with a walkover of the mitigation areas to record any Skylarks and note habitat management.

The management strategy will be reviewed following each monitoring visit, and any required actions will be notified to the management.

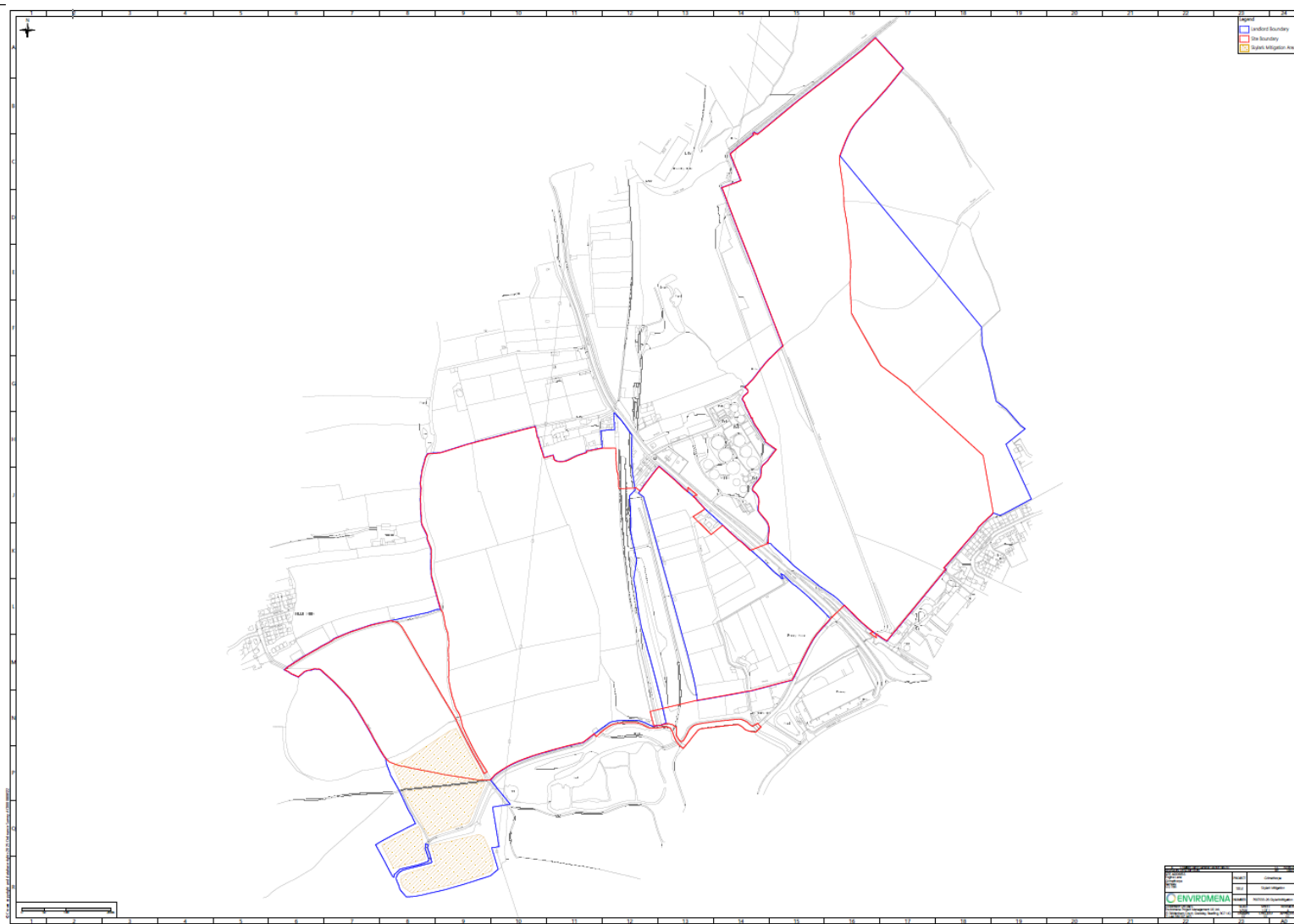
Appendix 1- Skylark location map- Breeding bird survey result- 2025



Appendix 2- Site plan – skylark plot location- Southwestern field.



Appendix 3- Site plan – skylark mitigation field locations.- In orange



Version control			
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Draff	1	Annabel Sharpe, Bsc (Hons) Consultant ecologist,	29/08/2025
Final	2	Annabel Sharpe, Bsc (Hons) Consultant ecologist,	2/09/02025

References

Bird Survey & Assessment Steering Group. (2023). 'Bird Survey Guidelines for assessing ecological impacts, v.1.1.1'. Available at <https://birdsurveyguidelines.org>

Biodiversity Net Gain assessment (2024) Arbtech Consulting Ltd

Breeding bird survey (2025) Arbtech Consulting Ltd

British Trust for Ornithology (2023) Birdfacts: Skylark. Available online at: <https://www.bto.org/understanding-birds/birdfacts/skylark> date accessed 14/04/2023

Department for Environment, Food and Rural Affairs (2022) Graze with Livestock to maintain and improve habitats. Available online at: <https://defrafarming.blog.gov.uk/graze-with-livestock-to-maintainand-improve-habitats/>

Donald, P.F. and Vickery, J.A. (2000). The importance of cereal fields to breeding and wintering Skylarks *Alauda arvensis* in the UK. pp140-150 of: Aebischer, N.J., Evans A.D., Grice P.V. and Vickery, J.A. (eds), Ecology and Conservation of Lowland Farmland Birds. British Ornithologists' Union, Tring.

Donald, P.F., Evans, A.D., Buckingham, D.L., Muirhead L.B. and Wilson J.D. (2001). Factors affecting the territory distribution of Skylarks *Alauda arvensis* breeding on lowland farmland. *Bird Study* 48: 271-278. Donald P.F., Evans A.D., Muirhead L.B., Buckingham D.L., Kirby W.B. and Schmitt, S.I.A. (2002)

Farm Advisory Service (2017) Technical Note TN686: Conservation Grazing for Semi-Natural Habitats. Available online at: <https://www.fas.scot/downloads/tn686-conservation-grazing-semi-natural-habitats/>

Gieger, F., Hegemann, A., Gleichman, M., and Flinks, H. (2013) Habitat use and diet of Skylarks (*Alauda arvensis*) wintering in an intensive agricultural landscape of the Netherlands. *Journal of Ornithology* 155(2)

Gillings, S., Newson, S.E., Noble, D.G. & Vickery, J.A. (2005) Winter availability of cereal stubbles attracts declining farmland birds and positively influences breeding population trends. *Proceedings of the Royal Society B* 272: 733–739

Survival rates, causes of failure and productivity of Skylark *Alauda arvensis* nests on lowland farmland. *Ibis* 144:652–664. Donald P.F. and Morris T.J. (2005).

Saving the sky lark: new solutions for a declining farmland bird. *British Birds* 98: 570-578. Eaton, M.A., et al. (2021).

The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114: 723-747

Shotton, R. (2018) <https://community.rspb.org.uk/ourwork/b/biodiversity/posts/bird-use-of-solarfarms-interim-results>

Solar Energy UK (2023). *Solar Habitat: Ecological trends on solar farms in the UK*. Solar Energy UK, London.