

# Wintering Bird Survey



## Wintering Bird Survey: Land off South Fambridge Hall, Fambridge

**Date:** May 2020




**Submitted to:**

BSR Energy

**Prepared by:**

RSK ADAS Ltd  
Battlegate Road  
Boxworth  
Cambridgeshire  
CB23 4NN

## Quality Assurance

Author	Checked	Approved
Sam Reynolds BSc (Hons) MSc & Jennie Fincham BSc (Hons)	Emma Mundy BSc (Hons) MSc MCIEEM MCIWEM CEnv CWEM	James Simpson BSc(Hons) MSc CIEEM CEcol
		

The information which ADAS has prepared and provided is true, and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

## Disclaimer

RSK ADAS Ltd (ADAS) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and ADAS. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by ADAS for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

No part of this report may be copied or duplicated without the express permission of ADAS and the party for whom it was prepared.

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK ADAS Ltd.

## Revision History

Revision	Date	Amendment
1	10.03.2020	INITIAL REPORT

# Contents

<b>Summary</b> .....	<b>1</b>
<b>1 Introduction</b> .....	<b>2</b>
1.1 <i>Background and Survey Objectives</i> .....	2
1.2 <i>Site Description</i> .....	2
1.3 <i>Proposed Development</i> .....	3
<b>2 Legislation</b> .....	<b>4</b>
2.1 <i>Ramsar Convention</i> .....	4
2.2 <i>The Conservation of Habitats and Species Regulations 2017</i> .....	4
2.3 <i>The Birds Directive: Annex I (European Commission 2017)</i> .....	4
2.1 <i>Wildlife and Countryside Act 1981 (as amended)</i> .....	4
2.2 <i>Birds of Conservation Concern</i> .....	5
2.3 <i>UK Biodiversity Action Plan (UKBAP) Species (2007)</i> .....	5
2.4 <i>Natural Environment &amp; Rural Communities Act</i> .....	5
2.5 <i>Essex Biodiversity Action Plan</i> .....	6
<b>3 Methodology</b> .....	<b>7</b>
3.1 <i>Wintering Bird Survey</i> .....	7
3.2 <i>Limitations</i> .....	8
<b>3 Results</b> .....	<b>9</b>
3.1 <i>Designated Sites</i> .....	9
3.2 <i>Wintering Bird Survey</i> .....	9
3.2.1 <i>Bird Species and Numbers</i> .....	12
3.3 <i>Site Importance</i> .....	13
<b>4 Discussion</b> .....	<b>14</b>
<b>5 Recommendations and Enhancements</b> .....	<b>15</b>
5.1 <i>Recommendations</i> .....	15
5.2 <i>Habitat Improvement/Creation</i> .....	15

6 References ..... 16

## Appendices

**Appendix 1: Proposed Development**

**Appendix 2: Sites Vantage Point Locations**

**Appendix 3: Crouch and Roach Estuaries SPA, Ramsar and SSSI in relation to the site**

## Summary

ADAS was commissioned by BSR Energy Ltd to undertake wintering bird surveys on land south of Fambridge Hall, Fambridge, Essex. The client proposes to construct a solar farm on the existing arable land. Located c. 80m north of the site was the Crouch and Roach Estuaries, which is designated as a Special Protection Area (SPA), Ramsar and Site of Special Scientific Interest (SSSI). It also forms part of the Essex Estuaries Special Area of Conservation (SAC) and Blackwater, Crouch, Roach and Colne Estuaries Marine Coastal Zone (MCZ). Habitats within this designated area support internationally important numbers of dark bellied brent geese (*Branta bernicla*), and the purpose of the wintering bird survey is to assess whether this species is using the site.

ADAS ecologists carried out six surveys between October 2019 and March 2020. The results of these surveys are found in the following report.

A total of 17 species were recorded during the surveys, although none of the species for which the Crouch and Roach Estuary was designated were found to be present.

As no species listed as features of interest associated with the nearby site designations were recorded during the survey it is considered unlikely that the proposed development would have a negative impact on wintering birds associated with the Crouch and Roach Estuary. Given the diversity of species recorded and the numbers present on the site it's considered that overall the site is not a significant area in supporting overwintering population of birds.

Recommendations have been provided to mitigate against loss of ground nesting and foraging habitat alongside enhancements to improve the site for protected and common bird species.

# 1 Introduction

## 1.1 Background and Survey Objectives

ADAS was commissioned by BSR Energy Ltd. to undertake wintering bird surveys (WBS) within an arable farm on land south of Fambridge Hall, Fambridge, Essex, herein referred to as the site. The proposed development of the site is the installation of a solar park, covering c. 200 acres of the site. The objective of the survey was to ascertain whether dark bellied brent geese were utilising the site, as there are internationally important populations of this species within the Crouch and Roach Estuaries, designated as a Special Protection Area (SPA), Ramsar and Site of Special Scientific Interest (SSSI), situated c.80m north of the site boundary.

## 1.2 Site Description

The site was located to the east of South Fambridge. Fambridge Road transects the site in a north/south direction. The site comprises of nine separate fields, being predominantly arable crop land with a mosaic of dry and wet ditches, small pockets of scrub, scattered trees and semi improved grassland (see Figure 1). Hedgerows bordered a proportion of fields on the site. Marginal vegetation to the arable fields consisted of grassland and tall ruderal vegetation. A pond was present in the west of the site and a drain at the northern boundary of the site. The site was immediately surrounded by similar arable land in a west and east direction. A small rural village was located to the south of the site. The River Crouch lies to the north of the site, travelling in an easterly direction.



**Figure 1. Site location (site indicated by red boundary)**

**ADAS general mapping tool (May 2020)**

### 1.3 Proposed Development

The proposed development will involve the construction of a solar park on the site. The works will include installation of large number of 49MW DC solar PV panels across 200 acres of the site. A substation is proposed for installation in a field in the southern section of the site. An underground cable route is proposed for installation in a north easterly direction from this substation on site. It is assumed that the land (on site) around the proposed solar PV park will not be affected by the installation and development.

The indicative proposed area of development is presented within Appendix 1.



## 2 Legislation

### 2.1 Ramsar Convention

Ramsar sites are designated wetland sites which are critical importance for wildlife, especially wildfowl. Criteria for a Ramsar wetland are that it regularly supports more than 20,000 wildfowl, or more than 1% of the individuals in a population. Ramsar sites are subject to the same protection as European designated site but without recourse to the EU courts.

### 2.2 The Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats and Species Regulations 2017 transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law and transpose elements of the EU Wild Birds Directive in England and Wales. The Regulations provide for the designation and protection of 'European sites' (Special Areas of Conservation (SACs) and Special Protection Areas (SPAs)), the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites.

### 2.3 The Birds Directive: Annex I (European Commission 2017)

Annex I of the Birds Directive lists 193 species and sub-species which are:

- *in danger of extinction;*
- *vulnerable to specific changes in their habitat;*
- *considered rare because of small populations or restricted local distribution; and*
- *requiring attention for reasons of the specific nature of habitat.*

These species Member States must conserve their most suitable territories in number and size as Special Protection Areas (SPAs).

SPA's are areas which have been identified as being of European importance for the breeding, feeding, wintering or the migration of rare and vulnerable species of birds found within European Union Countries. They are European designated sites, classified under the Birds Directive.

### 2.1 Wildlife and Countryside Act 1981 (as amended)

All naturally occurring wild birds in Great Britain are protected from persecution. It is illegal to kill, injure or 'take' any wild bird, take or damage the nest of any wild bird whilst in use or being built. The eggs of all wild birds are also protected. If you have in your possession any live wild birds, egg(s) or any part of a wild bird you are committing an offence. The birds listed in Schedule 1 of the Wildlife and Countryside Act 1981 are further protected by Special Penalties all year round for those in Part 1 and during a specified closed season for those listed in Part 2. It is important to note that Sites of Special Scientific Interest



(SSSI's) are designated under the Wildlife and Countryside Act (1981) for their special interest of flora, flora (or geology or physiographical features). In England, Natural England is responsible for identifying and protecting these areas.

## 2.2 Birds of Conservation Concern

Birds of Conservation Concern (BoCC) are included on the Red and Amber Lists (Eaton, et al., 2015). Red-listed birds of 'high' conservation concern and includes species which:

- *have seen rapid (50% or greater) decline in their UK breeding population; or*
- *their UK breeding range over the last 25 years;*
- *are globally threatened; or*
- *have shown historical population declines in the UK between 1800 and 1995.*

On a larger scale, these declines are more commonly associated with changes in agricultural practices. Amber-listed birds are of 'medium' conservation concern and includes species which:

- *are rare breeders in the UK; or*
- *have shown moderate (25% to 49%) declines in their population and breeding range within the UK over the last 25 years.*

Green-listed birds include species where there have been no identified threats to the population status. Therefore, they are not considered to be a BoCC.

## 2.3 UK Biodiversity Action Plan (UKBAP) Species (2007)

The four scientific criteria that were used to select the UK BAP terrestrial/ freshwater species were:

- *international threat*
- *international responsibility + moderate decline in the UK*
- *marked decline in the UK*
- *other important factors – where quantitative data on decline are inadequate but there is convincing evidence of extreme threat.*

## 2.4 Natural Environment & Rural Communities Act

Section 40 of the NERC Act 2006 places a duty upon all local authorities in England to promote and enhance biodiversity in all of their functions. Section 41 lists habitats and species of principal importance to the conservation of biodiversity. Fifty-six habitats and 943 species of Principal Importance for Conservation are included on the Section 41 list and draws upon the UK BAP List of Priority Species and Habitats.

## 2.5 Essex Biodiversity Action Plan

The Local Habitat and Species Action Plans were first produced in 1999, and were reviewed in 2003 and 2008. A complete review of all the Biodiversity Action Plans (BAPs) nationally took place in 2007, and local BAPs are now monitored in a nationwide database, the Biodiversity Action Reporting System. A list of all species occurring within the Essex Biodiversity Action Plan 2010-2020 can be found online at [[https://www.rochford.gov.uk/sites/default/files/planning\\_EssexBiodiversityActionPlan.pdf](https://www.rochford.gov.uk/sites/default/files/planning_EssexBiodiversityActionPlan.pdf)].

## 3 Methodology

### 3.1 Wintering Bird Survey

Vantage point surveys were used to carry out the wintering bird surveys. The site was surveyed from three distinct vantage points (vantage points 1, 2 and 3) which allowed scope to view and assess the whole site (see Appendix 2). The three vantage points remained the same throughout the six surveys.

Birds were recorded if they were seen grounded within the site or birds flying low over the site (flying low is categorised as 3m or less from ground height). Birds observed outside the boundary of the site were not recorded. Surveyors remained at each vantage point for a minimum of one hour, and surveys were timed where possible to include high tide when birds were more likely to utilise the fields surrounding Crouch and Roach Estuaries. Two surveyors undertook each survey. Equipment used to survey each vantage point was a telescope and 42 x 8 binoculars. Dates for surveys were chosen to make surveying around high tide feasible. Survey dates also avoided days of particularly heavy rain or wind, as this could deter birds from travelling and using the surrounding environment from the designated site.

The value of the survey area for wintering birds was assessed on a scale from local to national importance, based on a criteria of exceeding 1% of the geographical category, to give the following scale:

- International = SPA qualifying criteria:
  - Site used regularly by 1% of the national population of an Annex 1 species of the EC Birds Directive;
  - Site used regularly by 1% of the biogeographical (international) population of a regularly occurring migratory species (other than those listed in Annex I of the EC Birds Directive) in any season;
  - Site used regularly by over 20,000 waterfowl or 20,000 sea birds in any season
- National
  - Site used regularly by 1% of the national population of a species
- County
  - Site used regularly by 1% of the county population of a species
  - Site meets County Wildlife Site criteria for birds
- Local
  - Site supports a population of a species, or a species assemblage of birds, notable for their protected or conservation concern status (Schedule 1 of Wildlife and Countryside Act 1981 (as amended), Annex 2 of EC Birds Directive, Species of Principal Importance, Local BAP, Red List BoCC)

To establish the abundance criteria of the above, each bird species was considered in the context of Essex County. This is taken from The Essex Birdwatching Society website.

**Table 1: Survey Dates and Weather Conditions**

Survey	Weather Conditions				
	Cloud Cover <sup>1</sup>	Rain <sup>2</sup>	Wind <sup>3</sup>	Temperature	High Tide
30/10/2019	2	0	1	3°C	15:00
19/11/2019	0	0	0	1°C	17:05
11/12/2019	0	0	7	9°C	12:00
09/01/2020	1	0	7	12°C	11:31
07/02/2020	1	0	4	7°C	11:08
12/03/2020	3	2	5	6°C	12:37

1: Okta scale. 0 (sky completely clear) – 9 (sky obstructed from view).

2: 0 (no rain) – 3 (heavy rain).

3: Beaufort scale for wind measurement. 0 (calm) – 12 (hurricane).

### 3.2 Limitations

The last survey in March 2020 had moderate rain fall during the survey of the site which may have reduced the likelihood of birds travelling far from the designated site.

## 3 Results

### 3.1 Designated Sites

Crouch and Roach Estuaries designated site (see Appendix 3) holds importance as a SPA, Ramsar and SSSI due to a number of geographical features that make it suitable for supporting internationally and nationally important numbers of bird species. The site comprises of the river crouch and roach intertidal zones, creating a narrow strip of tidal mud adjacent to saltmarsh and grazing marsh. The sites habitats are of major importance especially as feeding and roosting sites for large numbers of waders and wildfowl. Wintering dark-bellied brent geese regularly occur in internationally important numbers, whilst wintering black-tailed godwit (*Limosa limosa*), common shelduck (*Tadorna tadorna*) and northern shoveler (*Anas clypeata*) regularly occur in nationally important numbers.

### 3.2 Wintering Bird Survey

During the six site surveys between October 2019 and March 2020, no dark bellied Brent geese were observed on the site or using the site. There were other bird species recorded as shown in Table 2 which summarises the key findings of the wintering bird survey, listing the species recorded over the six surveys at each of the three vantage points on site.

In the UK, the conservation status of all bird species are regularly assessed, and each species assigned to a list (red, amber, green) depending on its level within the list of Birds of Conservation Concern (BoCC) (Eaton, et al., 2015). The red list includes species with the highest concern, amber covers medium conservation concern, and green used for species of low conservation concern.

**Table 2: Survey results – max bird count per survey**

Species	Relevant Legislation	October 2019			November 2019			December 2020			January 2020			February 2020			March 2020		
		VP 1	VP 2	VP 3	VP 1	VP 2	VP 3	VP 1	VP 2	VP 3	VP 1	VP 2	VP 3	VP 1	VP 2	VP 3	VP 1	VP 2	VP 3
Little egret ( <i>Egretta garzetta</i> )	Birds Directive Annex 1	1	0	0	2	0	0	4	0	0	1	0	0	0	0	0	0	0	0
Herring gull ( <i>Larus argentatus</i> )	UKBAP, BoCC red/amber	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Black-headed gull ( <i>Chroicocephalus ridibundus</i> )	BoCC red	5	0	0	3	0	0	1	0	0	1	0	0	0	1	0	0	1	0
Oystercatcher ( <i>Haematopus ostralegus</i> )	BoCC amber	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Starling ( <i>Sturnus vulgaris</i> )	UKBAP, BoCC red	0	25	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Lapwing ( <i>Vanellus vanellus</i> )	UKBAP, BoCC red	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0
Buzzard ( <i>Buteo buteo</i> )	Bern A3	0	3	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0
Kestrel ( <i>Falco tinnunculus</i> )	Birds Directive Annex 1	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
Barn Owl ( <i>Tyto alba</i> )	WCA1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Grey heron ( <i>Ardea cinerea</i> )	Bern A3	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Redwing ( <i>Turdus iliacus</i> )	WCA1, BoCC red	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Fieldfare ( <i>Turdus pilaris</i> )	WCA1, BoCC red	30	30	0	0	0	0	0	0	0	0	0	30	0	0	0	0	0	0

Species	Relevant Legislation	October 2019			November 2019			December 2020			January 2020			February 2020			March 2020		
		VP 1	VP 2	VP 3	VP 1	VP 2	VP 3	VP 1	VP 2	VP 3	VP 1	VP 2	VP 3	VP 1	VP 2	VP 3	VP 1	VP 2	VP 3
Skylark ( <i>Alauda arvensis</i> )	UKBAP, BoCC red, Essex BAP	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0
Golden Plover ( <i>Pluvialis apricaria</i> )	Birds Directive Annex 1; Bern A3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50+	0
Pheasant ( <i>Phasianus colchicum</i> )		0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Carrion crow ( <i>Corvus corone</i> )		0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wood pigeon ( <i>Columba palumbus</i> )		0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Legislation Key:

Annex 1= Species covered under Annex 1 of the Birds Directive 2009

UKBAP= Species protected under the UK Biodiversity Action Plan

BoCC red = birds of 'high' conservation concern which: have seen rapid (50% or greater) decline in their UK breeding population, or their UK breeding range over the last 25 years, are globally threatened, or have shown historical population declines in the UK between 1800 and 1995.

BoCC amber = birds of 'high' conservation concern which are rare breeders in the UK, or have shown moderate (25% to 49%) declines in their population and breeding range within the UK over the last 25 years.

WCA1= Wildlife and Countryside Act Schedule 1 species

Essex BAP= Essex Biodiversity Action plan

Berne A3 = protected under Annex III respectively of the Bern Convention on the Conservation of European Wildlife and Natural Habitats



### 3.2.1 Bird Species and Numbers

A total of 17 species were observed within the site, recorded over the three vantage points during the bird surveys.

#### 3.2.1.1 *Raptors*

Three species of raptors were present at the site; kestrel, buzzard and barn owl. All species were observed utilising the site for hunting from vantage points 2 and 3.

#### 3.2.1.2 *Wading birds*

Five species of waders were present at the site; little egret, oystercatcher, grey heron, golden plover and lapwing. An oystercatcher was flying over observed flying low towards the drain in the north boundary of the site, and was only recorded during the November survey. Lapwing were heard at vantage point 2 in November 2019 and March 2020, possibly using the site as a breeding ground due to suitable ground nesting habitat present. A large flock of over 50 golden plover were recorded in March at vantage point two. Little egret was observed on three separate surveys and a grey heron on one survey.

#### 3.2.1.3 *Wildfowl*

No wildfowl were recorded at the site. It is unlikely this will negatively impact these species as more suitable feeding and roosting areas are present in the surrounding area (within the designated site). It is important to note that in November and February large flocks of over 50 dark bellied brent geese were observed beyond the sites northern boundary at Vantage Point 1 over the opposite side of the river. The distance from the north site boundary was c. 250m at a minimum.

#### 3.2.1.4 *Gulls*

Two species of gulls were present at the site; herring gull and black-headed gull. Both species were observed either flying over site, or stationary as observed from vantage point 1.

#### 3.2.1.5 *Other species*

A total of seven other bird species were present at the site. The observation of skylarks in February and March suggests this species is likely to use the site for nesting. Large aggregations of Fieldfare were present at the site feeding on winter stubble within the arable fields, as well as an individual Redwing, both classified as Schedule 1 under the Wildlife and Countryside Act 1981 (as amended) and red listed as species of conservation concern. Fieldfare and Redwing are only known to breed in Scotland and northern England and therefore records of these species will be of those on winter migration.

#### 3.2.1.6 *Wintering bird assemblage*

Of the birds identified using the site over the winter period no species was identified as being of greater than 1% of the population for the county.

### 3.3 Site Importance

The survey area as a site of importance for wintering birds is assessed based on the criteria of exceeding 1% of the geographical category which is assessed on a scale from local to national importance as described in the methodology. For the 17 bird species observed, the site was of negligible importance due to the low bird numbers observed that were <1% of the species population at a county level.

## 4 Discussion

A total of 17 species of birds were present during the wintering period.

The site held wintering flocks of two species, fieldfare (maximum count 30) and golden plover (50+). Fieldfare were recorded from vantage point 2 as were golden plover. These species were seen utilising the winter stubble covering the arable field.

The six surveys only yielded 14 bird species and 34 individuals (not counting the flocks of field fare and golden plover), which is comparatively low relative to the survey effort and the large land area observed. The vantage point that produced the highest diversity of species was vantage point 1 with eight species present. The lowest diversity was recorded in vantage points 2 and 3, where four species were present respectively.

The bird assemblage for the site supported a relatively low diversity of potential wintering birds and of the birds present none were recorded in particularly high numbers to suggest that the site supported a significant number of over-wintering populations of relatively common place species. It is considered likely that those bird species that were recorded were opportunistic rather than using the site as a regular roosting or feeding ground.

Although the surveys were timed to coincide with high tides where possible, no species for which the Crouch and Roach Estuary (SSSI, SPA, Ramsar) is designated for (primarily internationally important numbers of dark-bellied brent geese), were present on site, and therefore the impact of the development on the interest features of the designations is considered to be negligible. It is likely that the combination of a lack of suitable habitat on site and ample suitable habitats elsewhere within the vicinity were the key factors influencing the absence of these species. However it is important to note that protected and notable species observed on site will be affected by a change of land use and solar farm installation. Therefore further recommendations are required prior to construction on site.

## 5 Recommendations and Enhancements

Recommendations are required to ensure compliance with national and local policy as well as species legislation in regards to the birds using the site. Enhancements focus on species observed during the surveys which would also be available for utilisation by species from the designation of Crouch and Roach Estuary as an SPA, SAC, Ramsar site and SSSI.

### 5.1 Recommendations

Suitable habitat for wintering and resident birds was observed on site within the areas proposed for development (see Appendix 1). Nine of the 14 fields on site are currently not proposed for any solar park installation, with the majority of the land for development within the observation of vantage point 2 (which yielded a low number of species). Due to the available fields surrounding development and the low number of birds observed relative to the survey effort, the recommendations require mitigation to ensure suitable habitat exists for birds during the operational stage of development on site. This will require consultation with an ecologist during the landscape design of the proposed solar park farm to ensure appropriate habitat availability through planting of grassland species and the retention/maintenance of arable field margins. A management plan for the site should also be created to ensure optimum landscape availability for observed protected bird species (Table 2) to use, that require specific features for nesting and survival, such as specific grass height for nesting during March-August.

### 5.2 Habitat Improvement/Creation

It is unknown whether the surrounding land which is not proposed for solar farm development, will continue to be managed as arable farm land. If the surrounding non solar installed fields continue as arable farm land then enhancement measures will involve;

- An increase of field margin width. This will allow more land area for ground nesting birds that require lightly managed grassland.
- Continued management of arable fields to ensure winter stubble remains for species to utilise such as skylark.
- Hedgerow planting along field boundaries without an existing hedge. This will require planting of native species such as hazel (*Corylus avellana*), common hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), dogwood (*Cornus sanguinea*) and elder (*Sambucus nigra*). This will provide greater cover for common and protected bird species as well as providing a food source.
- Installation of a barn owl and kestrel box in an appropriate location on site due to observations of these species during the surveys.

## 6 References

**ADAS (2019)** Preliminary Ecological Assessment: Land off South Fambridge Farm, Fambridge, Essex

**Balmer D, Gillings S, Caffrey B, Swann B, Downie I, Fuller R (2014)**. The Bird Atlas 2007–2011 is the definitive statement on breeding and winter bird distributions in Britain and Ireland. HarperCollins UK

**Chartered Institute of Ecology and Environmental Management (2017)** *Guidelines for Ecological Report Writing*. Technical Guidance Series [www.cieem.net](http://www.cieem.net)

**Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015)** Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 108, 708–746.

**Essex Bird Watching Society (2018)** The Essex bird report.

**Natural England**. Crouch and Roach Estuaries (SSSI)

<https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1002160>

# Appendix 1: Proposed Development

See following page.



Notes: Unless otherwise stated, this drawing is for information only. Do not scale. Use figured dimensions only. Check all dimensions on site and advise of any discrepancies before commencing work on site.

Digital Transmissions: This data is supplied only as a means to aid you in the production of your work. The data should always be checked against the hard copy of the drawing. Some of the data may have been produced by importing data from external sources. Discrepancies may have occurred during this procedure. BSR cannot accept responsibility for any discrepancies within the CAD data file. No third party shall issue BSR data/drawings without the written approval of BSR. BSR check all data for viruses but cannot accept responsibility for any loss incurred by any third party as a result of installing data.

OS License No. :- 100022432

- Key:**
- Site Boundary
  - Access Track
  - Fence
  - Solar Arrays
  - Inverter Station
  - Private Switch
  - Spares Container
  - Welfare Unit
  - CCTV Camera
  - HV Cable Route (private)
  - HV Cable Route (UKPN)
  - HV Compound (UKPN)

- Fenced Area (Approx) : 139 acres
- Red Line Area (Approx) : 155 acres
- Red Line Area (Approx) : 62.73 hectares

Rev:	Revision History:	Date:	By:
01	Initial Issue	11/09/19	AK
02	Layout revised for fixed frame system	29/04/20	MB
03	Re-design to meet FRA concerns	28/05/20	MB
04	Re-design for additional field	09/06/20	MB

35 and 35a The Maltings  
 Lower Charlton Trading Estate,  
 Shepton Mallet,  
 Somerset, BA4 5QE  
 United Kingdom

Einfo@britishrenewables.com  
 T:01458 224900  
 W:www.britishrenewables.com

Project:  
**Fambridge Solar Park**

Location:  
 Fambridge Road  
 South Fambridge  
 Rochford  
 SS4 3LS

Title:  
**Planning Layout**

Scale: 1:5000 @A3

Issue Notes:  
 Re-design for additional field

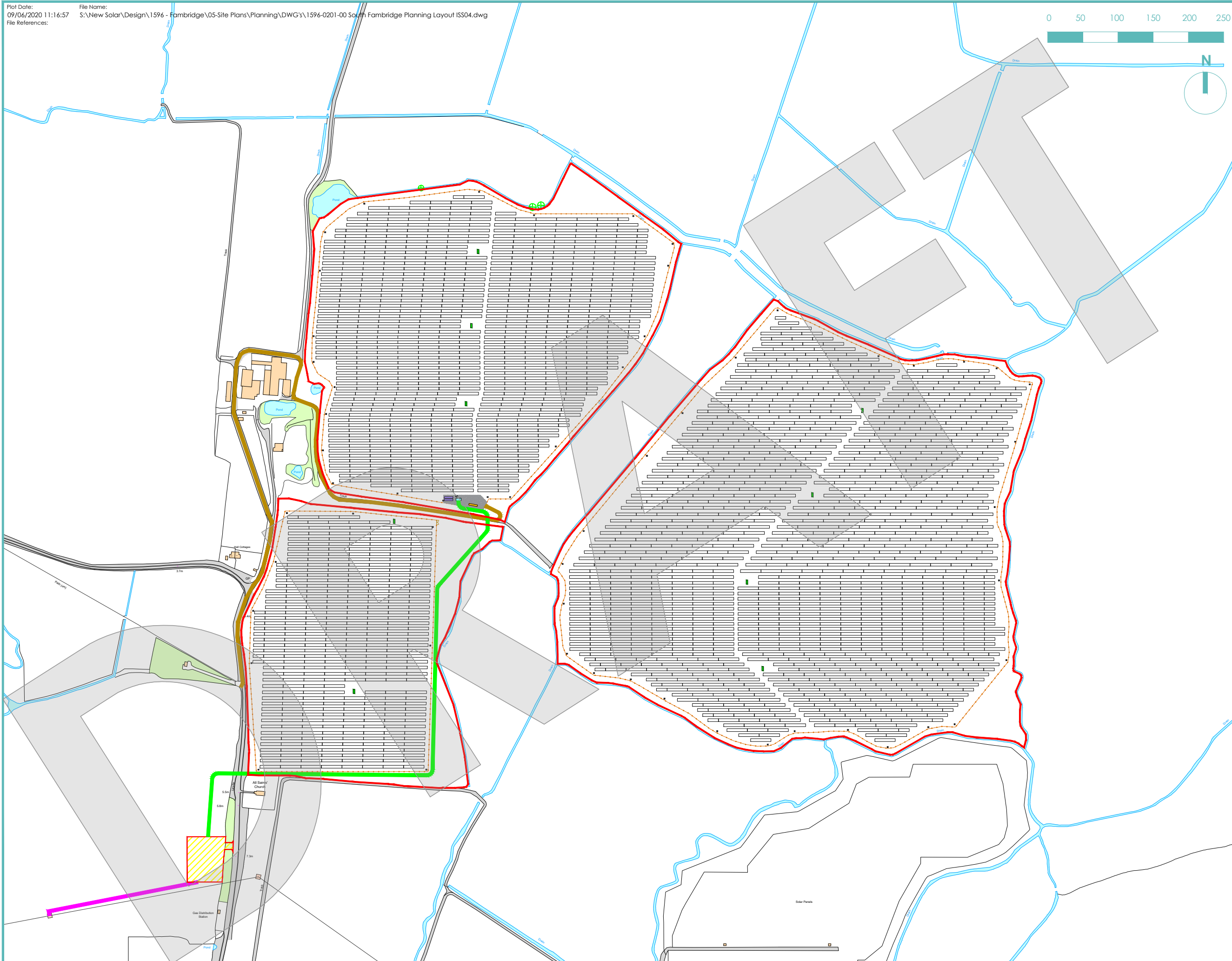
Drawn By:  
 MB Issue Date:  
 09/06/20

Checked By:  
 RM Checked Date:

Approved By:  
 RM Approved Date:

Drawing Number:  
**1596-0201-00**

Drawing Status:  
 Issued For Approval Issue:  
 04

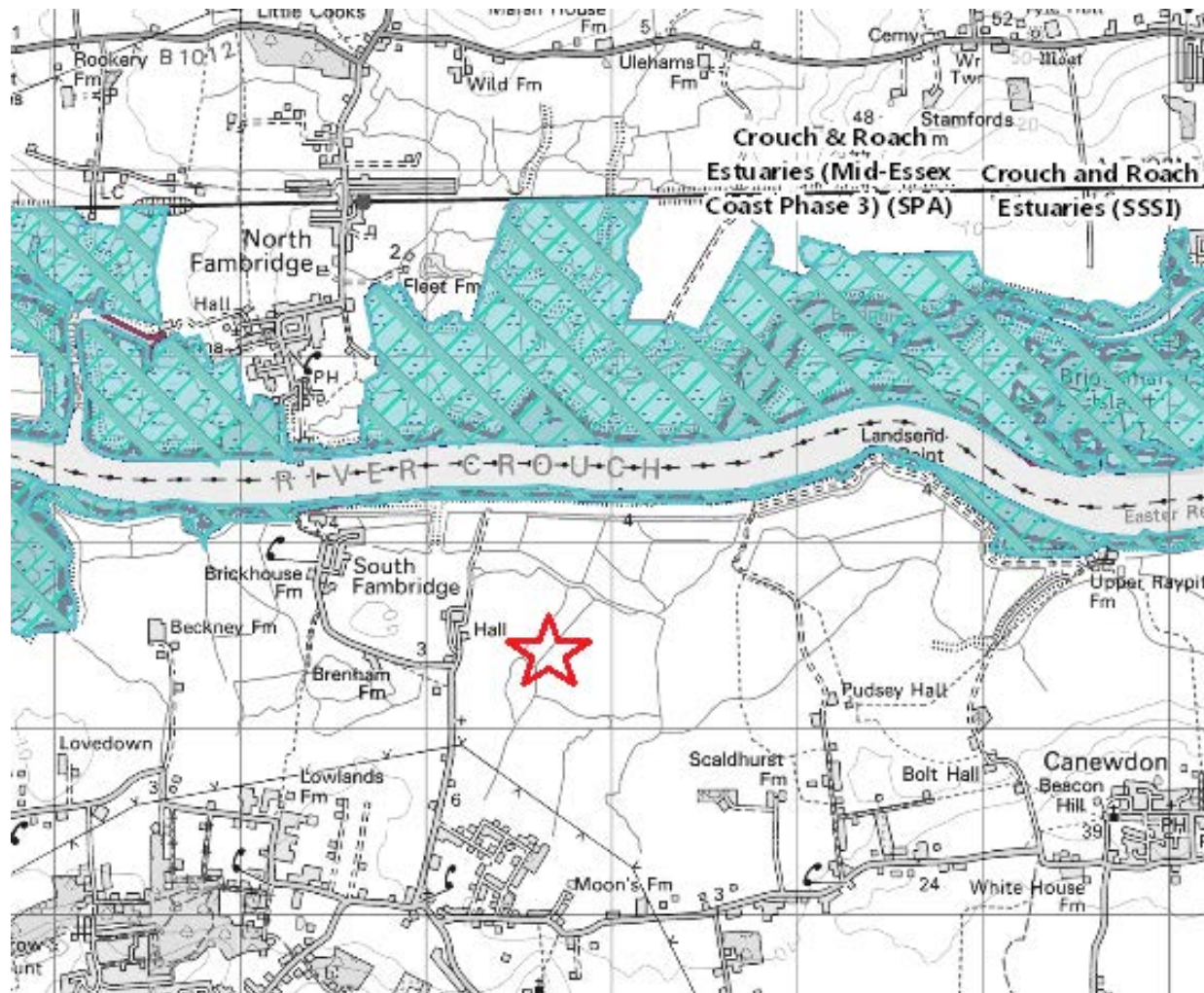




## Appendix 2: Sites Vantage Point Locations



### Appendix 3: Crouch and Roach Estuaries SPA, Ramsar and SSSI in relation to the site



Red star = centre point of the site