Rosefield Solar Farm

Environmental Statement

Volume 4
Appendix 7.2: Bat Preliminary Roost Assessment Report (2022)

APFP Regulation 5(2)(a)

Planning Act 2008

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

EN010158/APP/6.4
September 2025
Rosefield Energyfarm Limited

Foreword

Survey information contained within **ES Volume 4, Appendix 7.2: Bat Preliminary Roost Assessment Report (2022) [EN010158/APP/6.4]** forms part of the Environmental Statement for information only. The Bat Preliminary Roost Assessment detailed within this appendix was undertaken in March 2022 and was based on a superseded version of the Order Limits. Therefore, the results detailed within this appendix were correct at the time of writing; however, certain aspects of this appendix are now outdated.

An updated Bat Preliminary Roost Assessment has been undertaken between November-December 2024, January 2025 and April 2025 based on the current Order Limits; the results of these surveys are presented in **ES Volume 4, Appendix 7.14: Bat Preliminary Roost Assessment Report (2025) [EN010158/APP/6.4]**. However, the information contained within this appendix has been used to inform the desk study element of the updated survey report.

Table of Contents

1. Introduction

1.1. Background

1.1.1. A Preliminary Ecological Appraisal Report (PEAR) **[Ref. 1]** was prepared by AECOM in September 2021 (and updated in May 2022) on behalf of Rosefield Energyfarm Ltd, to identify whether there are any known or potential ecological receptors (nature conservation designations, protected and notable habitats and species and scheduled invasive non-native species) that may constrain or influence the design and implementation of the Rosefield Solar Farm (hereafter referred to as the "Proposed Development").

1.1.2. The PEAR identified the need for follow-up ecological surveys and assessments to determine a baseline and potential impacts of the Proposed Development on protected and, or notable species. As part of this work, AECOM undertook a Preliminary Roost Assessment survey for bats (hereafter referred to as the "Bat PRA") within the Proposed Development boundary (hereafter referred to as the 'Site') (see Site Boundary and cable route on **Figure 1** (**Annex A**)).

1.1.3. This Bat PRA has been undertaken with reference to current good practice and forms part of the technical information commissioned by Rosefield Energyfarm Ltd in connection with the Proposed Development. The approach applied when undertaking this Bat PRA accords with the Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition) (Collins, 2016) **[Ref. 2]**.

1.2. Purpose of the Bat PRA

1.2.1. The PEAR **[Ref. 1]** identified bat species that could be a potential constraint to the works or influence the design and implementation of the Proposed Development. Bats are protected under UK and European legislation and are species of principal importance (listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) (see **Section 2**).

1.2.2. The objective of the Bat PRA, reported in this document, is to determine the presence or likely absence, of bat roosts, within the Site. Preliminary high-level recommendations are made on potential options for the avoidance, mitigation or compensation of the potential impacts of the Proposed Development (where known) on bat roosts. Further bat surveys and ecological impact assessments (including detailed mitigation measures) will be required in connection with a planning or Development Consent Order application or to contribute to an Environmental Impact Assessment once the Proposed Development proposals have been finalised and any further required bat surveys have been completed.

1.2.3. This report includes the following information:

a) Relevant legislation and policy;

b) Method for the field-based assessment undertaken in March 2022;

c) Limitations to the surveys undertaken and any assumptions made as a result of any incomplete data;

d) Survey results;

e) Conclusions; and

f) Recommendations.

1.3. Proposed Development

1.3.1. Rosefield Energyfarm Ltd is a proposed new solar energy farm, co-located with battery storage. The proposals include grid infrastructure to connect Rosefield Energyfarm Ltd to the National Grid via underground cable. The proposed generation capacity of the Proposed Development is above 50MW, which means it is a Nationally Significant Infrastructure Project (NSIP) and as such would require a Development Consent Order (DCO).

1.4. Site Description

1.4.1. The Proposed Development is located in three main sites (referred to hereafter as Parcel 1 (with a sub-parcel '1a'), Parcel 2 and Parcel 3) located in a triangle of Winslow, Steeple Claydon and Quainton, in the county of Buckinghamshire and in the geographical region of Aylesbury Vale. The Proposed Development is within the Upper Thames Clay Vales National Character Area (NCA), which comprises a broad belt of open, gently undulating lowland farmland on predominantly Jurassic and Cretaceous clays. There are contrasting landscapes, including enclosed pastures of the claylands with wet valleys, mixed farming, hedges, hedge trees and field trees and more settled, open, arable lands. Mature field oak trees give a parkland feel in many places.

1.4.2. Parcel 1 is centred at Ordnance Survey national grid reference SP703242 (Knowl Hill), Parcel 1a at SP708230, Parcel 2 at SP730229 and Parcel 3 at SP753255. Parcel 1 makes up the largest area of the Proposed Development, to the east of Calvert, and consists predominately of arable fields with livestock pastures and woodland blocks. A smaller section, referred to as Parcel 1a, lies to the immediate south of Parcel 1. Parcel 2 contains predominantly arable fields surrounded by woodland blocks. Parcel 3 contains two livestock fields and is located adjacent to the National Grid East Claydon Substation. The Sites are surrounded by arable, grassland and woodland.

1.4.3. A grid connection cable route is present within and outside these Sites that connects the Proposed Development to the National Grid (see **Figure 1** (**Annex A**)). Together these three Sites and the grid connection cable route is referred to as the 'Site'.

1.4.4. The location of the Site is shown in **Figure 1** (**Annex A**).

2. Legislation and Policy Context

2.1. Legislative Context

2.1.1. The following wildlife legislation is potentially relevant to bats in relation to the Proposed Development:

- Wildlife and Countryside Act 1981 (as amended) (the WCA) **[Ref. 3]**;
- Countryside and Rights of Way (CRoW) Act 2000 **[Ref. 4]**;
- Natural Environment and Rural Communities (NERC) Act 2006 **[Ref. 5]**; and
- Conservation of Habitats and Species Regulations 2017 (as amended) **[Ref. 6]**.

2.1.2. The above legislation has been considered when planning and undertaking the commissioned survey work using the methods described in **Section 3**; when identifying potential constraints to the Proposed Development; and when making recommendations for further survey, design options and mitigation, as discussed in **Section 5**. Compliance with legislation may require the attainment of relevant protected species licences prior to the implementation of the Proposed Development.

2.1.3. All bat species and their roosts are legally protected in the UK under the Conservation of Habitats and Species Regulations 2017 (as amended), which implements the EC Directive 92/43/EEC (the Habitats Directive). In addition, Barbastelle (*Barbastella barbastellus*), Lesser and Greater Horseshoe Bats (*Rhinolophus hipposideros* and *Rhinolophus ferrumequinum*) and Bechstein's Bat (*Myotis bechsteinii*) are listed in Annex II of the Habitats Directive, which requires sites to be designated in member states for their protection. Bats and their roosts are also protected under the WCA.

2.1.4. Taken together, the Conservation of Habitats and Species Regulations 2017 (as amended) and the WCA make it illegal to:

a) Deliberately capture or intentionally take a bat;

b) Deliberately or intentionally kill or injure a bat;

c) Be in possession or control of any live or dead bat or any part of, or anything derived from a bat;

d) Damage or destroy a breeding site or resting place of a bat;

e) Intentionally or recklessly obstruct access to any place that a bat uses for shelter or protection;

f) Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection; and

g) Deliberately disturb bats, in particular any disturbance which is likely to (i) impair their ability to survive, breed, reproduce or to rear or nurture their young; or in the case of hibernating or migratory species, to

hibernate or migrate; or (ii) affect significantly the local distribution or abundance of the species to which they belong.

2.1.5. A bat roost is defined as any feature within a structure or tree that a bat uses for breeding, resting, shelter or protection. It is important to note that since bats tend to re-use the same roost sites, current legal opinion is that a bat roost is protected regardless of whether or not the bats are present at a specific point in time.

2.1.6. Section 40 of the NERC Act 2006 places a legal obligation on public bodies in England to have regard to particular living organisms and types of habitat which are of the greatest conservation importance whilst carrying out their functions, whilst also having a general regard for protecting all biodiversity. The NERC Act 2006 Section 41 includes seven bats as species of 'principal importance': Barbastelle, Bechstein's bat, Noctule (*Nyctalus noctula*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Brown Long-eared Bat (*Plecotus auritus*), Lesser and Greater Horseshoe Bats.

2.1.7. Local Planning Authorities must be satisfied that favourable conservation status of bats (and other European Protected Species) can be maintained before granting planning permission. Demonstrating the maintenance of 'favourable conservation status' is one of three Habitats Directive "derogation tests" relating to European protected species that the Local Planning Authority must be satisfied are met in order to be able to grant planning permission.

2.1.8. The three "derogation tests" as set out in paragraph 53 of Conservation of Habitats and Species Regulations 2017 (as amended) are that:

a) "*The development must be either for "public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment*";

b) "*That there is no satisfactory alternative*"; and

c) "*That the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range*".

2.1.9. Favourable conservation status is defined in Article 1(i) of the Habitats Directive as when:

a) "*Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats*";

b) "*The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future*"; and

c) "*There is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long-term basis*".

2.2. European Protected Species Mitigation Licences

2.2.1. Although the law provides strict protection for bats, it also allows this protection to be set aside (derogated) under Regulation 53 of the Conservation of Habitats and Species Regulations 2017 (as amended) through the issuing of European Protected Species Mitigation Licences (EPSMLs) for the purpose of preserving public health; public safety; other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment. However, in accordance with the requirements of the Conservation of Habitats and Species Regulations 2017 (as amended) a licence can only be issued where the following requirements are satisfied:

a) There is no satisfactory alternative; and

b) The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

2.2.2. Natural England would expect any bat EPSML application to be accompanied by the data collected from the detailed bat surveys, which are used to determine the status of the structure or tree with regard to bats; specifically, the location of roost sites, the bat species utilising the roost and the type of roost (such as maternity, or transitional).

2.2.3. The application for an EPSML would need to include the production of a detailed method statement for the proposed works. This document would include details of working practices and mitigation measures to ensure that the favourable conservation status of the bats using the structure or tree is not adversely affected. A reasoned statement is normally required and prepared by the client or their planning advisors. The process of obtaining an EPSML from Natural England will normally take 30 working days after acceptance of the licence application.

2.3. Planning Policy

2.3.1. National and local planning policy relevant to nature conservation is provided in detail in the PEAR for the Proposed Development **[Ref. 1]**.

2.4. Local Biodiversity Action Plan Species

2.4.1. The Buckinghamshire & Milton Keynes Biodiversity Action Plan (“the BAP”) **[Ref. 7]** sets out the main issues impacting on wildlife in the county and some of the measures needed to help wildlife. The BAP includes agreed targets for the creation and restoration of our most biodiverse habitats (or priority habitats) such as wildflower meadows, chalk downland, woodlands and wetlands. This includes recommendations to encourage management and landscape planting for bat species including Bechstein’s, Barbastelle and Noctule bats.

3. Methods

3.1. Desk Study

3.1.1. A desk study to obtain records of bat species was undertaken in September 2021 through Buckinghamshire and Milton Keynes Environmental Records Centre (BMKERC) within a 2km radius of the Site as part of the PEAR **[Ref. 1]**. A search was made of relevant statutory site designations within 10km of the Site and other statutory or non-statutory nature conservation designations within 2km of the Site (including those of relevance to bats) as part of the PEAR **[Ref. 1]**.

3.1.2. A search was also undertaken of freely available resources including magic.gov.uk **[Ref. 8]** for bat designated Special Areas of Conservation (SACs) within 30km of the Proposed Development; and granted bat mitigation licences (EPSMLs) and organisational licences issued to HS2 Ltd **[Ref. 9]** in relation to bats within 2km of the Site.

3.2. Preliminary Roost Assessment

3.2.1. The field surveys were led by a competent ecologist, with over 20 years' experience of bat surveys, with the relevant Natural England bat survey class licence for the survey type, and a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

3.2.2. A preliminary roost assessment (PRA) survey was carried out on all relevant features identified within the Site, and up to 50m from the Site (where indirect impacts were possible, and suitable habitat existed), on 1st, 2nd, 3rd, 9th, 10th and 23rd March 2022. Where access was permitted the surveyors undertook an initial assessment of trees, woodlands and relevant buildings/structures, at ground level for their suitability for roosting bats (see **Figure 2** (**Annex A**)).

3.2.3. The aim of the survey was to undertake a rapid assessment to identify (a) the presence of bats or their roost(s), and/or (b) features that were suitable for roosting bats, but for which the presence/absence of bats or their roosts could not be determined.

3.2.4. Use of a GPS was made to accurately record the location of trees, woodlands and structures along with photos and notes recorded in line with guidance in the Bat Surveys: Good Practice Guidelines for Professional Ecologists 3rd Edition **[Ref. 2]** (see **Annex B**). Any trees and structures were viewed from the ground. During the surveys, signs of bats such as staining and droppings were searched for and recorded. Immature trees, hedges and woodland (i.e.: trees generally under 20cm diameter and with no roosting features) were not included in the survey.

3.2.5. Based on the overall suitability for use as a roost, each tree, woodland, or structure was classified as negligible, low, moderate or high roost suitability, or as a confirmed roost, in accordance with best practice guidelines **[Ref. 2]**. The results will help to inform the layout of the

Proposed Development and any requirement for more detailed survey work to confirm the presence or likely absence of bat roosts, where any roost features are likely to impacted. Note that it is currently assumed that none of these features will be impacted by the Proposed Development due to the embedded mitigation, on the basis of habitats being retained and a suitable buffer zone provided around potential roosting features to avoid roost loss or any significant disturbance. As such these assessments were carried out on a precautionary basis to inform any future amendments to the Proposed Development that may require further survey where roost disturbance or loss is required. Depending on the final layout of the Proposed Development there might be an impact to some features (e.g.: individual trees) for access or cabling routes.

3.3. Desk Study and Field Survey Limitations

3.3.1. The aim of a desk study is to help characterise the baseline context of the Proposed Development and provide valuable background information that would not be captured by a single site survey alone. Information obtained during the course of a desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular habitat or species does not necessarily mean that the habitats or species do not occur in the study area. Likewise, the presence of records for particular habitats and species does not automatically mean that these still occur within the area of interest or are relevant in the context of the Proposed Development.

3.3.2. Where habitat boundaries coincide with physical boundaries recorded on OS maps, the resolution is as determined by the scale of mapping. Where areas of habitat are given, they are approximate and should be verified by measurement on-site where required for design or construction. While indicative locations of trees are recorded, this does not replace requirements for a detailed specialist arboriculture survey to British Standard 5837:2012 Trees in Relation to Design, Demolition and Construction **[Ref. 10]**.

3.3.3. Access to trees with potential roosting feature located within fields containing crops was not possible due to the risk of trampling the crop. This was only relevant in a few locations within Parcel 2. These trees are identified on the Figures as ‘Not Surveyed”. Where these trees cannot be retained or suitably buffered (>15m) from the Proposed Development then a survey would be required.

3.3.4. There were no other limitations to the desk study or field survey.

4. Results

4.1. Desk Study

Bat Records

4.1.1. The data search in the PEAR returned 532 records of thirteen bat species within 2km, comprising, Bechstein's bat, Barbastelle, Noctule, Leisler's (*Nyctalus leisleri*), Serotine (*Eptesicus serotinus*), Whiskered bat (*Myotis mystacinus*), Daubenton's bat (*Myotis daubentonii),* Brown long-eared bat (*Plecotus auritus*), Natterer's bat (*Myotis nattereri*), Brandt's bat (*Myotis brandti*), Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Nathusius' Pipistrelle (*Pipistrellus nathusii)*. Most of these records are from adjacent woodlands including Sheephouse Wood Site of Special Scientific Interest (SSSI), Runts Wood, Finemere Wood SSSI, Quainton fishing lake and around Calvert landfill site.

Bat Mitigation Licences (EPSMLs)

4.1.2. Bat mitigation licences (EPSMLs) within 2km of the Proposed Development are as follows:

- 2019-43736-EPS-MIT-1 - Located c.300m southwest of Parcel 2 (just north of Finemere Wood SSSI) and covers damage to breeding and resting site of roosts used by Brown Long-eared bat, Whiskered bat, Common Pipistrelle and Soprano Pipistrelle.
- EPSM2012-5021 – Located at Boltoph Claydon (c.420m northeast of Parcel 2) and covers destruction of a resting place used by Brown long-eared bat.
- EPSM2012-4743 – At Greatmoor village (c.600m south of Parcel 1a), covers destruction of a resting site used by Brown long-eared bat, Whiskered bat, and Common Pipistrelle.
- 2021-52870-EPS-NSIP1 – (c.1.2km northwest of Parcel 1). Covers destruction of a resting place used by Brown long-eared bat and Noctule and destruction of a breeding site used by Daubenton's bat.
- 2019-43897-EPS-MIT - Located at Shipdon Lee (c.1.4km south of Parcel 2) and covers destruction of a resting site used by Brown long-eared bat, Whiskered bat and Common Pipistrelle.
- EPSM2012-4422 - Located south of Shipdon Lee (c.1.8km south of Parcel 2) and covers destruction of breeding and resting sites used by Brown long-eared bat, Natterer's bat, Brandt's bat, Whiskered bat and Common Pipistrelle.

Organisational Licences for HS2 Ltd

4.1.3. WML-OR32 – (c.300m south west of Parcel 1a) The licence facilitates the enabling and construction works for a high speed rail line between London

and Birmingham (Phase 1) and at Greatmoor Railway Sidings. It allows certain activities affecting Bechstein's bat, Brandt's bat, Daubenton's bat, Whiskered bat, Natterer's bat, Common pipistrelle bat, Soprano pipistrelle bat, Brown long-eared bat, and Noctule bat, European Protected Species that would otherwise be unlawful.

Statutory Designations

4.1.4. There are no statutory designations in relation to bats. There are three ancient woodlands within 2km of the Site that may provide habitat for roosting and foraging bats. The nationally rare Bechstein's bat is noted on the description for Sheephouse Wood SSSI, located immediately adjacent to Parcel 1. It is a large, well-structured block of ancient Pedunculate Oak (*Quercus robur*) woodland with a diverse woodland flora and invertebrate fauna.

4.1.5. The two other SSSI woodlands are Finemere Wood SSSI, located 154m south of Parcel 2 and Grendon and Doddershall Woods SSSI, located 1.36km to the west of Parcel 2.

Habitats within the Site Suitable for Roosting Bats

4.1.6. There is approximately 0.1ha of broad-leaved semi natural woodland within Parcel 1 (Shrubs Wood) and 200m^2 within Parcel 2 with bat roosting suitability. There is also 0.44ha of plantation woodland within Parcel 1, some of which contains trees with bat roosting suitability. Tree species within these areas identified within the Site included Pedunculate Oak, Ash (*Fraxinus excelsior*), Hazel (*Corylus avellana*), Blackthorn (*Prunus spinosa*), Field Maple (*Acer campestre*), Hawthorn (*Crataegus monogyna*) and Willow species (*Salix* species).

4.1.7. Sheephouse Wood SSSI, Romer Wood, Gretsea Wood, Balmour Wood and Runt's Wood located adjacent to the Site are all ancient semi-natural or ancient replanted woods and contain some priority woodland habitat. They have been identified as containing suitable bat roosting habitat.

4.1.8. There is approximately 6.2km of hedges with trees within the Site (many of which contain veteran and/or ancient oak and ash trees) that are suitable for roosting bats.

4.2. Preliminary Roost Assessment

4.2.1. The results of the preliminary roost assessment are summarised in **Table 1** below, on **Figure 2** (**Annex A**) and further details and photos in **Annex C**.

4.2.2. In summary, this initial assessment has found;

- 126 features with High Suitability for roosting bats,
- 44 features with Moderate Suitability,
- 89 features with Low Suitability; and

- 67 features with Negligible Suitability.

4.2.3. Of these features, 18 trees and adjacent woodland with high suitability have potential for hibernation. Some of these features, and most large woodlands, particularly those with moderate to high suitability are likely to contain roosting bats (as indicated by desk study records).

4.2.4. The majority of potential roost features are associated mature trees located along hedges, with a few individual trees within fields and within small woodland copses. Most of the adjacent woodlands have high suitability.

Table 1: Summary of preliminary roost assessment results

Feature Type	Negligible Suitability	Low Suitability	Moderate Suitability	High Suitability
Trees	54	77	41	106
Treeline/hedge with trees	6	6	2	5
Woodland/copse	7	4	1	15
Buildings	0	2	0	0

5. Conclusions and Recommendations

5.1. Conclusions

5.1.1. The desk study identified confirmed bat roosts close to the Site (including roosts of rare species such as Bechstein's bat and Barbastelle), and the PRA survey identified numerous trees, woodlands and buildings with suitability for roosting bats within and/or immediately adjacent to the Site.

5.1.2. Based on the Site and experience from other similar solar farm projects, if the recommended habitat buffer zones (as detailed in the PEAR **[Ref. 1]**, such as a minimum 25m buffer from woodland) can be incorporated into the Site, it is anticipated that impacts to potential roosts are likely to be avoided and that any further survey work relating to roosts, where required, is likely to be minor (e.g.: possibly work to some individual trees to facilitate access or cable routes) and on a precautionary basis. Surveys of commuting/foraging bat activity is recommended across the Proposed Development including an assessment of commuting routes used by rarer species.

5.1.3. Where avoidance of direct or indirect impacts to roosts is not possible, detailed roost presence/absence or characterisation surveys will be required to determine the biodiversity importance of roosts.

5.1.4. A full assessment of the biodiversity importance of the Proposed Development for roosting and foraging bats would be undertaken following any proposed bat activity surveys and any further roost surveys to inform the Biodiversity Chapter of the Environmental Statement.

5.2. Recommendations

5.2.1. The field survey identified numerous trees and woodlands that have suitable features to support bat roosts as well as other woodlands close to the Site with confirmed roosts and suitable roosting habitats.

5.2.2. It is recommended that features with roosting suitability are avoided and a minimum natural buffer of 25m is created between the Proposed Development and woodland, or mature trees, concordant with the requirements for avoidance of woodland habitats and in accordance with local planning policy for the avoidance of trees and woodland (Vale of Aylesbury Local Plan Policy NE8 **[Ref. 11]**. There should also be a buffer of 10m (with a minimum of 5m) from hedges. This would be part of any embedded mitigation within the Proposed Development to reduce and remove indirect impacts. If impacts to any trees, woodlands or buildings cannot be avoided then further detailed surveys to determine the presence of potential roost features and presence/absence surveys will be required to determine whether such features support roosting bats and inform mitigation and/or licensing requirements.

5.2.3. A Landscape and Ecology Management Plan (LEMP or similar document) and Biodiversity Net Gain (BNG) Assessment will be required to integrate

green infrastructure and biodiversity into the Proposed Development to meet requirements under the National Planning Policy Framework **[Ref. 12]** and Local Planning Policy **[Ref. 7, Ref. 11]**.

5.2.4. The following recommendations in relation to bats should also be considered.

- There are a high number of mature, ancient and/or veteran trees on Site mainly located along hedges and tree-lines and in small copses, along with a few individual trees located within fields. These trees represent an important landscape feature for bats in this predominantly farmland site.
- Maintaining tall trees with large diameter and crown area and micro-habitat features (i.e. potential roost features) are important particularly for Pipistrelle and Myotis species. Trees with potential roost features within 50m of woodland are particularly important for Barbastelle **[Ref. 13]** and should be retained with habitat connections (such as hedges).
- Enhancement for the Proposed Development should aim to encourage creation of a diversity of habitats including grassland, scrub, and restoration/creation of ponds to increase landscape heterogeneity as this positively influences bat activity. Suitable native planting or natural regeneration within the hedge and woodland buffer zones and infilled planting of gappy hedges and/or widening hedges is recommended. This would improve habitat connectively between ancient woodland blocks (such as Sheephouse Wood SSSI and Romer Wood).
- Maintaining the large numbers of trees through new planting of individual trees to increase the diversity and age structure of isolated trees will benefit the bat community.

6. References

Ref. 1 AECOM, 2021. Rosefield Solar Farm Preliminary Ecological Appraisal.

Ref. 2 Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Ref. 3 HMSO. (1981). Wildlife & Countryside Act 1981 (as amended). https://www.legislation.gov.uk/ukpga/1981/69

Ref. 4 HMSO. (2000). Countryside and Rights of Way Act 2000. https://www.legislation.gov.uk/ukpga/2000/37/contents

Ref. 5 HMSO. (2006). Natural Environment and Rural Communities Act 2006. https://www.legislation.gov.uk/ukpga/2006/16/contents

Ref. 6 HMSO. (2018). Conservation of Habitats and Species Regulations 2017 (as amended). HMSO, London. https://www.legislation.gov.uk/uksi/2017/1012/contents/made

Ref. 7 Buckinghamshire Council (2020) Local Plan https://www.buckinghamshire.gov.uk/planning-and-building-control/local-development-plans-info/local-development-scheme/plans-we-will-work-on/

Ref. 8 GOV.UK (2021) Multi-Agency Geographic Information for the Countryside https://magic.defra.gov.uk/.

Ref. 9 http://publications.naturalengland.org.uk/publication/5103754723721216

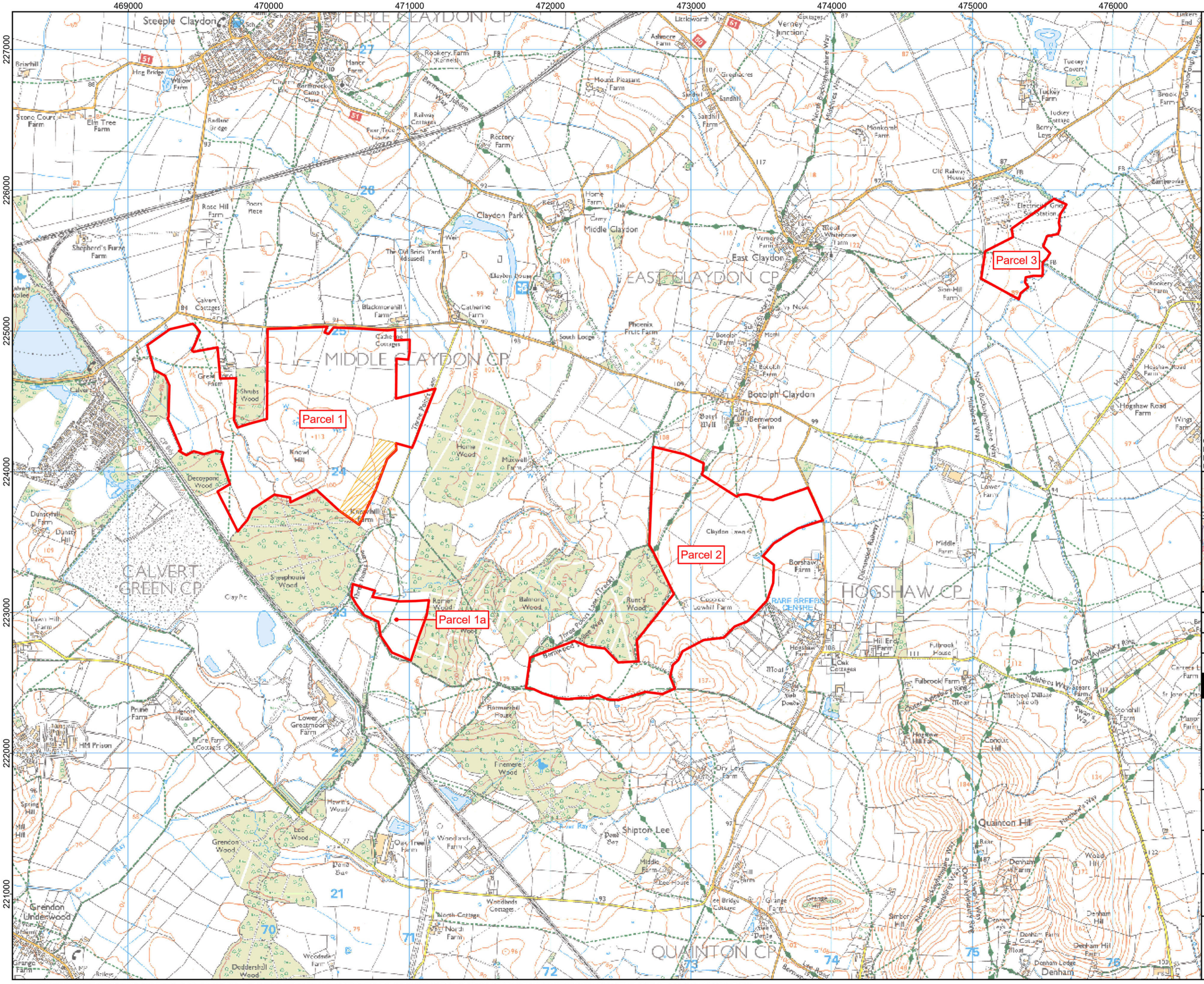
Ref. 10 BSI Standards Publication, (2012) British Standard 5837:2012 Trees in Relation to Design, Demolition and Construction.

Ref. 11 Buckinghamshire Council (2021) Vale of Aylesbury Local Plan (adopted 2013-2033) https://buckinghamshire-gov-uk.s3.amazonaws.com/documents/Aylesbury_local_plan_L46JWaT.pdf

Ref. 12 National Planning Policy Framework 2021. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2

Ref. 13 Froidevaux, J, Laforge, A, Larrieu, L, Barbaro, L, Park, K, Fialas, P, Jones, G (2022) Tree size, microhabitat diversity and landscape structure determine the value of isolated trees for bats in farmland Biological Conservation Volume 267, March 2022.

Annex A: Figures



LEGEND:

- Site boundary
- BNG - NO SOLAR

NOTES:
Reproduced from Ordnance Survey digital map data © Crown copyright 2024. All rights reserved. Licence number 0100031673.

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter

Rev	Date	Description	Drn	Chk	App
00	23/04/2024	Final	HW	BF	NS

Rosefield Solar Farm

Rosefield Solar Farm

DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Site Location

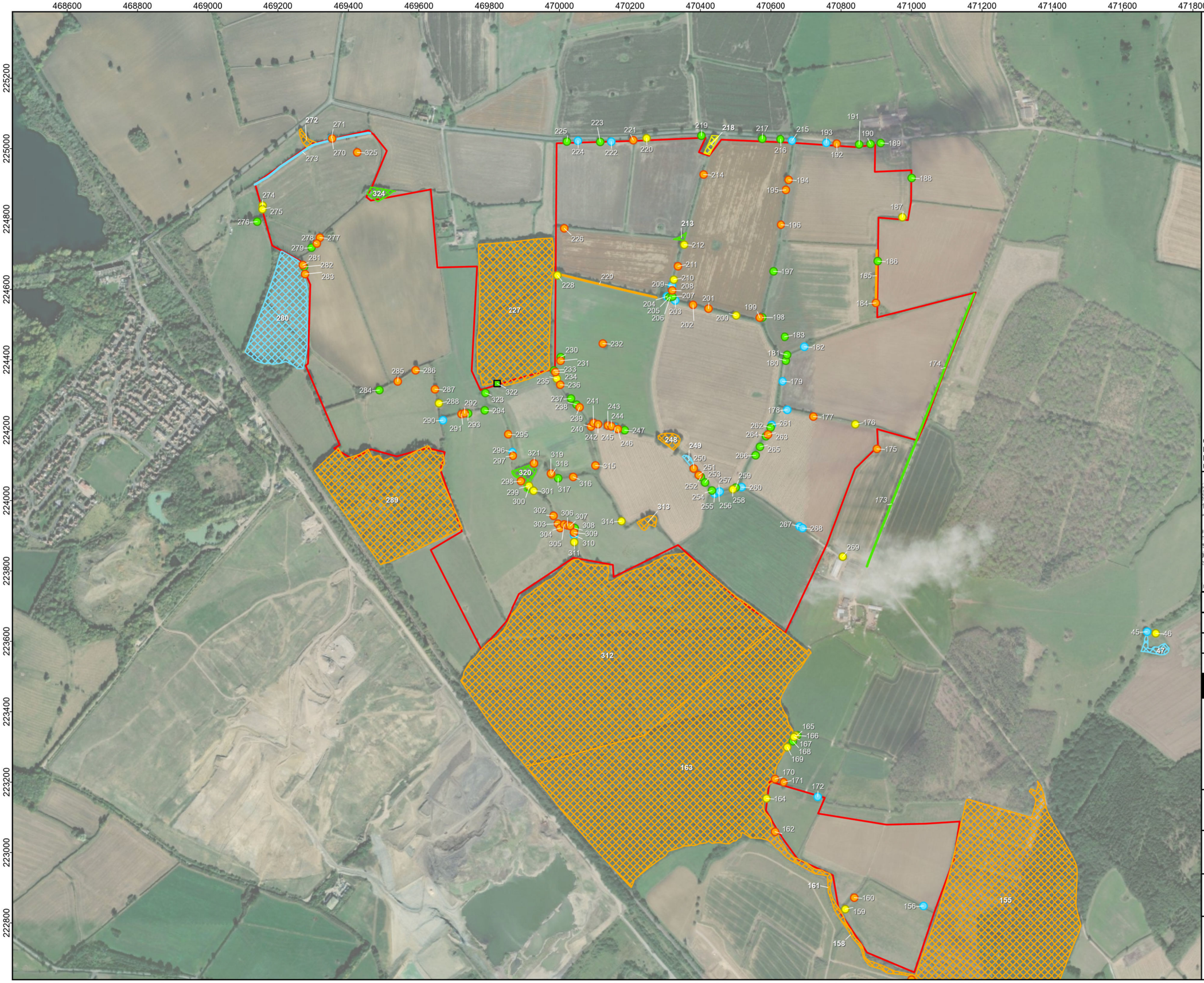
FIGURE NUMBER:
Figure 1

0 0.5 1
Kilometers
Scale: 1:25,000 @ A3

REV 00

Path: W:\Active Projects\Custodian Energy Solar Farm\GIS\Reformat\01_Maps\Custodian_SiteLocation.aprxMap

Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri, National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.



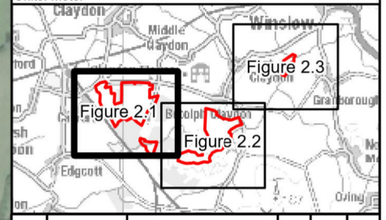
LEGEND:

- Site boundary
- Tree, bat roost potential
  - High
  - Moderate
  - Low
  - Negligible
- Building, bat roost potential
  - Low
- Hedge with trees or treeline, bat roost potential
  - High
  - Low
  - Negligible
- Woodland, copse or plantation, bat roost potential
  - High
  - Moderate
  - Low
  - Negligible

NOTES:
Contains Ordnance Survey Data © Crown Copyright and database right 2024.

Maxar, Microsoft

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



Rev	Date	Description	Drn	Chk	App
00	25/04/2024	Final	HW	BF	NS

Rosefield Solar Farm

Rosefield Solar Farm

DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Bat Preliminary Roost Assessment, Parcel 1 and 1a

FIGURE NUMBER:
Figure 2.1

0 0.2 0.4
Kilometers
Scale: 1:10,000 @ A3

REV 00

Path: W:\Active Projects\Custodian Energy Solar Farm\GIS\Reformat\01_Maps\Custodian_PRA.aprx\Map

471400 471600 471800 472000 472200 472400 472600 472800 473000 473200 473400 473600 473800 474000 474200 474400 474600

224200 224000 223800 223600 223400 223200 223000 222800 222600 222400 222200 222000 221800 221600

Maxar, Microsoft

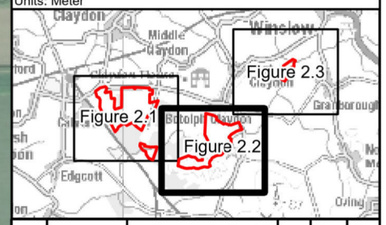
LEGEND:

- Site boundary
- Tree, bat roost potential
  - High
  - Moderate
  - Low
  - Negligible
  - Not surveyed (no access)
- Building, bat roost potential
  - Low
- Hedge with trees or treeline, bat roost potential
  - High
  - Moderate
  - Low
- Woodland, copse or plantation, bat roost potential
  - High
  - Low
  - Negligible

NOTES:
Contains Ordnance Survey Data © Crown Copyright and database right 2024.

Maxar, Microsoft

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



Rev	Date	Description	Drn	Chk	App
00	25/04/2024	Final	HW	BF	NS

Rosefield Solar Farm

Rosefield Solar Farm

DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Bat Preliminary Roost Assessment, Parcel 2

FIGURE NUMBER:
Figure 2.2

0 0.2 0.4
Kilometers
Scale: 1:10,000 @ A3

REV 00

Path: W:\Active Projects\Custodian Energy Solar Farm\GIS\Reformat\01_Maps\Custodian_PRA.aprx\Map

473800 474000 474200 474400 474600 474800 475000 475200 475400 475600 475800 476000 476200 476400 476600 476800 477000

226800 226600 226400 226200 226000 225800 225600 225400 225200 225000 224800 224600 224400 224200

Maxar, Microsoft

LEGEND:

- Site boundary

Tree, bat roost potential
- High
- Moderate
- Low
- Negligible

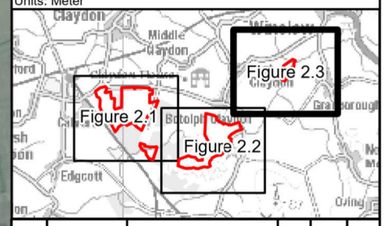
Hedge with trees or treeline, bat roost potential
- Low
- Negligible

Woodland, copse or plantation, bat roost potential
- High
- Low
- Negligible

NOTES:
Contains Ordnance Survey Data © Crown Copyright and database right 2024.

Maxar, Microsoft

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



Rev	Date	Description	Drn	Chk	App
00	25/04/2024	Final	HW	BF	NS

Rosefield Solar Farm

Rosefield Solar Farm

DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Bat Preliminary Roost Assessment, Parcel 3

FIGURE NUMBER:
Figure 2.3

0 0.2 0.4
Kilometers

Scale: 1:10,000 @ A3

REV 00

Path: W:\Active Projects\Custodian Energy Solar Farm\GIS\Reformat\01_Maps\Custodian_PRA.aprx\Map

Annex B: Bat PRA Method

Annex B: Bat PRA Method

Table 2: Survey methodology for assessing the potential roost features (PRFs) of trees and buildings

Trees

Surveys can be undertaken at any time of year but should preferably be carried out when the trees are not in full leaf, to aid the viewing of PRFs. Any constraints to surveys should always be noted.

The scoping survey to identify the existence of PRFs should include checks for the presence of the following features that bats might be able to use to determine features with the potential to support bats in accordance with criteria in **Table 3**:

- natural holes (*e.g.*, knot holes) arising from naturally shed branches, or branches previously pruned back to the branch collar;
- man-made holes (*e.g.*, cavities that have developed from flush cuts) or cavities created by branches tearing out from parent stems;
- woodpecker holes;
- cracks/splits in stems or branches (both vertical and horizontal);
- partially detached or loose, platy bark;
- cankers (caused by localized bark death) in which cavities have developed;
- other hollows or cavities, including butt rots;
- compression forks with included bark, forming potential cavities;
- crossing stems or branches with suitable space between for roosting;
- ivy stems with diameters in excess of 50mm with suitable roosting space behind (or where a roosting space can be seen where a mat of thinner stems has left a gap between the mat and the trunk);
- bird and bat boxes on trees; or other features that offer a place of shelter.

NOTE Roosts of some species can occur very low on trees so PRFs can be found at all heights.

Buildings

Bats utilise many different features in buildings for places of shelter and roosting. Features associated with each building are visually inspected for their suitability for use by roosting bats. Equipment includes close focusing binoculars and powerful spot-lamps are used to study the walls, eaves and roofs of the buildings. Inspection mirrors and endoscopes are used as required.

Features that should be observed, noted and graded (in accordance with criteria in **Table 3**) during the External and Internal survey of buildings includes:

- bats are able to enter a roosting cavity through a small gaps at least 20mm wide. However, bats usually also require an area to land that is adjacent to

the entrance hole and has a rough surface. Such features are looked for during the inspection.

- features include: gaps in ridge tiles (where mortar is missing) gaps under roof tiles or slates, lead flashing around chimney stacks and around dormer windows, gaps under the fascia's and soffits, weatherboarding, missing mortar from joints in stone/brickwork, roof valleys and hips.
- the most effective method of determining the presence of bat activity within a building is by the presence of their droppings. Bats deposit droppings in both roost and social areas, but the use of such sites by bats can change due to prevailing weather conditions or the time of year. Special attention should be paid to the areas directly below any potential access/egress point in an attempt to identify any accumulation of bat droppings.

No work involving multi-sectional ladders over 5m in height was undertaken as part of the survey. No access inside properties was undertaken.

Table 3: Criteria used to describe the level of suitability of a Potential Roost Feature (PRF) to support roosting bats.

Suitability	Description of Roosting Habitats
NEGLIGIBLE	Structure or tree with no or very limited roosting opportunities for bats. Feature may be isolated from foraging habitat.
LOW	Structure or tree one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (*i.e.* unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRF(s) but with none seen from the ground or features seen with only very limited roosting potential with a limited number of roosting opportunities. Low proximity and connectivity to low or moderate quality foraging habitat.
MODERATE	Structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed). Often will have some connectivity and proximity to moderate or high quality foraging habitat.
HIGH	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially longer periods of time due to their

Suitability	Description of Roosting Habitats
	size, shelter one or more species of bat. With good connectivity to high quality foraging habitat.
CONFIRMED ROOST	Presence of bats or evidence of bats. Confirmation of roost status may require further Roost Classification Survey.

Notes:

Collins, 2016 uses the terms negligible, low, moderate and high to assess habitat suitability for bats as per the levels shown in the table above. In the absence of an industry standard this table can be used to help the ecologist determine the level of Habitat Suitability of PRFs to provide suitable roosting opportunities for bats.

The NEGLIGIBLE category is used where a feature has been inspected and found not to contain any features of use to bats, and hence provides confirmation that a feature has been inspected or considered.

For building/structures PRFs assessed at LOW to HIGH Suitability further surveys are likely to be required (in accordance with standard survey guidance to attempt to determine roost presence/absence). For tree PRFs assessed at MODERATE to HIGH Suitability further surveys are likely to be required (in accordance with standard survey guidance to attempt to determine roost presence/absence (Collins, 2016).

CONFIRMED ROOSTS would require Roost Characterisation Surveys to inform planning/mitigation requirements if impacts are predicted.

Annex C: Bat PRA Results

Annex C: Bat PRA Results

Bat PRA Results March 2022

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
Date:	**01/03/2022**			**Site: 3**		**Weather: 8 C, overcast, north wind 3**		
1	Quercus robur	20	100	Standard	1	Minor callus folds around dead boughs, various locations, quite shallow, limited suitability	L	Y
2	Quercus robur	20	80	Standard	2	Decay cavity on a southeast bough 8m high, dead wood in crown & north bough	M	N
3	Populus x canescens	30	120	Standard	3	Hazard beam high up in crown (c.10m), some ivy cover	M	Y
4	Populus x canadensis	25-30	20-50	80 to 100 semi-mature trees in plantation (linear feature)	4	Minor bark splits. No other features visible.	L	Y
5	Salix fragilis	12	40	Standard	5	Small hole 5m high on trunk, shaded	L	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
6	Salix species	10	30	Pollard	6	Hole, inspected but no signs	N	n/a
7	Populus x canescens	25	90	Standard	7	Hole in trunk, 5m high southwest side. Hole in bough 10m high west side.	H	Y
8	Populus x canescens	25	60	Standard	8	Ivy *Hedera helix*, no visible features	L	Y
9	Populus x canescens	25	60	Standard	9	Ivy, no visible features	L	Y
10	Populus x canescens	25	60	Standard	10	Ivy, no visible features	L	Y
11	Populus x canescens	25	70	Standard	11	Woodpecker hole 12m high on south side	H	Y
12	Populus x canescens	24	75	Standard	12	Ivy and minor bark splits	L	Y
13	Line of trees	18 to 25	30 to 60	Six Populus x canescens trees within a hedge	13	Ivy, no visible features	N to L	Y
14	Populus x canescens	20	70	Standard	14	Large cavity on north facing side, old corvid nest	H	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
15	Line of trees	15 to 20	30 to 50	Five Populus x canescens trees within a hedge	15	Ivy, a few small shallow holes	L	Y
16	Salix species	10	70	Pollard multi-stem tree	16	Large hole 2.5m high on east side	M	N
17	Salix species	12	50	Standard leaning on side	17	Transverse split with cavity on underside on trunk	M	N
18	Line of trees	10 to 15	30 to 40	Four Salix trees	18	None	N	n/a
19	Fraxinus excelsior	10	40	Standard	19	Decay hole 4m high on east side	M	Y
20	Fraxinus excelsior	10	40	Standard	20	None	N	n/a
21	Line of trees	15 to 20	30 to 40	10m line of four Populus x canescens multi-stem trees	21	None	N	n/a
22	Populus x canescens	25	70	Standard	22	Ivy, minor callus folds, minor splits	L	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
23	Populus x canescens	25	80	Standard	n/a	Ivy, minor wound hole on trunk 5m high, shallow.	L	Y
24	Populus x canescens	20	70	Standard	23	Tear out with cavity on north side of trunk	H	Y
25	Line of trees	20	60 to 80	Line of four Populus x canescens trees	24	Ivy, no visible features	N to L	Y
26	Populus x canescens	20	70	Standard	25	Ivy, some lifted bark	L	Y
27	Line of trees	20	50 to 70	Two adjacent Populus x canescens trees	26	Minor ivy, no features	N	n/a
28	Populus x canescens	20	80	Standard	27	Transverse split with hole, 10m high on west bough, minor ivy cover	H	Y
29	Salix fragilis	20	100	Pollard	28	Numerous decay holes and central cavity	H	N
30	Line of trees	15 to 20	30 to 50	Line of four Salix species	29	None	N	n/a

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
31	Woodland	n/a	n/a	n/a	n/a	Red Kite *Milvus milvus* nest	n/a	n/a
32	Woodland	n/a	n/a	13 mature trees Quercus robur and Populus species, scattered scrub.	30, 31	Tear outs, woodpecker holes. Adjacent to Site, not surveyed in detail.	H	Y
33	Populus x canescens	25	80	Standard	32	Woodpecker hole 20m high trunk north side, ivy cover	H	Y
34	Populus x canescens	25	80	Standard	33	Thick ivy cover, deep bark fissures and a broken limb with crevices	M	Y
35	Fraxinus excelsior	15	70	Standard	34	Three large pruning cut holes	H	Y
36	Quercus robur	12	50	Standard	35	A few minor crevices in the bark	N	Y
37	Quercus robur	12	50	Standard	36	None	N	n/a
38	Woodland	15	20 to 40	Young Poplar Plantation with	37	None	N	n/a

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
				three rows of c.100 trees.				
39	Quercus robur	15	80	Standard	38	Thick ivy stem possible gap behind for summer roosting	L	Y
40	Quercus robur	15	90	Standard	39	Lifted bark plates, desiccation crack and hole at top of trunk	H	N
41	Quercus robur	15	90	Standard	40	Large tear out hole 5m high on the east side, another hole exposed to rain	H	Y
42	Quercus robur	15	80	Standard	41	One limb of south side with two large holes but exposed to rain/water ingress	L	N
43	Woodland	10 to 15	10 to 30	Young plantation with Quercus, Crataegus monogyna and Populus species. Game cover. C.80 to 100 trees	42	None	N	n/a

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
44	Woodland	10 to 15	10 to 30	Plantation and semi-natural broadleaved woodland with 50 to 60 trees	43	A few small holes in trees	L	Y
Date:	**02/03/2022**			**Site: 2**		**Weather: 7 C, overcast/showers N wind 3**		
45	Quercus robur	20	50	Standard	44	None	N	n/a
46	Acer campestre	15	35	Standard	45	Vertical split on north side and hazard beam 3m high	M	Y
47	Woodland	5 to 10	5 to 20	Young copse with dense scrub	46	None	N	n/a
48	Woodland	n/a	n/a	Mixed plantation and broadleaved semi-natural woodland, >200 trees with Acer campestre, Corylus avellana,	47	Adjacent woodland, not surveyed	H	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
				Quercus robur, Chamaecyparis species.				
49	Quercus robur	20	70	Standard	48	Minor wound holes and deep bark fissures	M	Y
50	Quercus robur	20	70	Standard	49	Some dead limbs and crevices and lifted bark, ideal for summer roosting Barbastelle	H	Y (avoid lifted bark)
51	Quercus robur	22	60	Standard	50	Minor bark crevices only	L	Y
52	Line of trees	15	40 to 60	Two adjacent standard Quercus robur	51	Lifted bark plates, desiccation crack	L to M	Y
53	Fraxinus excelsior	10	50	Standard with decay	52	Large rotten trunk cavity, no signs of bats, quite exposed to wind/rain	N	N
54	Quercus robur	20	70	Standard	53	Minor gaps around pruning cuts	L	Y
55	Fraxinus excelsior	10	50	Standard with decay	54	Various decay holes, tear outs, 3m high on south side	H	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
56	Quercus robur	20	70	Standard	55	Vertical desiccation splits, butt rot hole, extending high into trunk with good suitability and transverse split along bough.	H	Y
57	Quercus robur	20	70	Standard	56	Dead wood, small hazard beam and transverse split on bough	M	Y
58	Fraxinus excelsior	8	30	Standard with decay	57	Numerous decay holes in dead wood in the crown	H	N
59	Quercus robur	18	60	Standard	58	Minor lifted bark, gaps around callus folds and a few decay holes	M	Y
60	Line of trees	15	30	Two adjacent standard Quercus robur	59	None	N	n/a
61	Woodland	n/a	n/a	Runts Wood, broad-leaved semi-natural woodland	60	Adjacent woodland, not surveyed	H	Y
62	Quercus robur	20	100	Standard	61	Hazard beam with cavity 5m high on southeast side	H	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
63	Quercus robur	15	60	Standard	62	Minor bark fissures	L	N
64	Woodland	n/a	n/a	Scrub with four mature oaks	63	Adjacent woodland, not surveyed	H	Y
65	Woodland	n/a	n/a	Ancient woodland copse	64	Adjacent woodland, not surveyed	H	Y
66	Fraxinus excelsior	16	50	Standard	65	None	N	n/a
67	Fraxinus excelsior	15	50	Standard	66	Shallow wound hole 4m high on southwest side	L	Y
68	Quercus robur	18	50	Standard	67	None	N	n/a
69	Quercus robur	20	60	Standard	68	None	N	n/a
70	Quercus robur	15	50	Standard	69	Minor gaps around 2 dead branches	L	Y
71	Quercus robur	15	70	Standard	70	None	N	n/a

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
72	Quercus robur	15	80	Standard	71	Decay gaps around dead branches, minor holes and tear out.	H	N
73	Quercus robur	16	60	Standard	72	Minor bark crevices	L	Y
74	Quercus robur	10	60	Standard	73	Hole and large vertical split in trunk	H	Y
75	Quercus robur	16	90	Standard	74	Lifted bark, butt rot hole extends high into trunk, ivy cover	H	Y
76	Quercus robur	8	80	Standard	75	Large decay cavity in trunk with good shelter and features for roosting. Hibernation suitability.	H	N
77	Woodland	10 to 15	40 to 60	Woodland/scrub with three mature oaks	76	Numerous splits and lifted bark, cavity in east tree and woodpecker hole	H	Y
78	Quercus robur	10	80	Standard	77	Some lifted bark with small gaps	L	Y
79	Fraxinus excelsior	10	30	Standard	78	Wound hole 3m high on north side	H	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
80	Quercus robur	15	100	Standard	79	Three callus fold features with small gaps around dead limbs and some lifted bark	M	Y
81	Quercus robur	16	80	Standard	80	None	N	n/a
82	Quercus robur	22	120	Standard	81	None	N	n/a
83	Fraxinus excelsior	10	40	Standard	82	None	N	N
84	Fraxinus excelsior	18	70	Standard with a second twisted stem (unusual feature)	83	Two holes in bough at 5m and 8m on northeast side, hazard beam type gap behind second twisted stem.	H	N
85	Quercus robur	20	60	Standard	84	Minor split in bough on southeast side	L	Y
86	Quercus robur	18	60	Standard	85	None	N	N
87	Quercus robur	20	80	Standard	86	Vertical split, lifted bark, possible small gap 5m high on south side.	L	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
88	Fraxinus excelsior	8	90	Standard with decay	87	Open rotten trunk with suitable crevices for roosting, butt rot cavity and decay holes 2m high.	H	N
89	Salix fragilis	18	40 to 50	Multi-stemmed tree	88	Split and twisted trunk, two exposed holes with limited suitability	L	N
90	Line of trees	n/a	n/a	Trees and hedge, c. 200m with 8 mature Quercus robur and Salix species trees	89	Various splits, holes and dense ivy cover	H	N
91	Fraxinus excelsior	10	30	Standard	90	Large decay cavity 4m high on east side	H	N
92	Building			Farm Shelter/barn, asbestos concrete sheet roof, concrete beams, open sided.	91/92	Some gaps behind asbestos cladding and block wall. A few gaps between roof beam joints. Dead Kestrel *Falco Tinnunculus*.	L	n/a

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
93	Quercus robur	18	70	Standard	93	Desiccation splits in dead wood and some holes in dead wood	H	N
94	Woodland	5 to 10	10 to 20	Young broad-leaved trees covering approximately 3000m2	94	No obvious features, adjacent to site and not surveyed in detail.	N to L	N
95	Quercus robur	20	80	Standard	95	Minor gap around dead branch, some lifted bark	L	Y
96	Fraxinus excelsior	12	40	Standard	96	Two small holes in trunk c. 5m high, one with a blue tit roosting, possibly nesting.	M	Y
97	Line of trees	10 to 12	40 to 50	Three Quercus robur trees in a line	97	Ivy potentially covering a feature and a recent tear out with only limited suitability	N to L	Y
98	Populus x canescens	15	40	Standard	98	None	N	Y
99	Populus x canescens	15	35	Standard	99	None	N	Y
100	Quercus robur	18	80	Standard	100	None	N	n/a

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
101	Woodland	3 to 8	5 to 20	Young plantation with pond, scrub and young trees including Populus species, Prunus spinosa and Crataegus monogyna, covering c.0.3 hectares	101	None	N	Y
102	Tree line	12 to 15	40 to 60	Line of six trees along a hedgerow, comprising Quercus robur and Salix species, c.100m length NE of waypoint 1234.	102	Ivy cover obscuring potential roost features, minor dead wood on the oaks and some lifted bark.	M	N
103	Fraxinus excelsior	9	60	Standard with decay	103	Large central cavity providing suitable roosting features and shelter. Hibernation suitability.	H	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
104	Fraxinus excelsior	14	30 to 50	Multi-stemmed tree	104	Numerous small splits and gaps under bark	M	N
105	Tree line	5 to 12	5 to 40	Treeline with 20 trees extending c.400m, including Fraxinus excelsior and Quercus robur	105	Large cavity in the Fraxinus excelsior with high suitability, others mainly Negligible or Low	N to H	Y
106	Quercus robur	12	40	Standard	106	Minor butt rot with no features suitable for roosting	N	Y
107	Quercus robur	10	40	Standard	107	None	N	Y
108	Quercus robur	14	60	Standard	108	Minor hole in split bough 5m high on east side	L	Y
109	Quercus robur	14	60	Standard	109	None	N	Y
110	Quercus robur	10	40	Standard	110	None	N	Y
111	Quercus robur	12	40	Standard	111	None	N	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
112	Tree line	12 to 18	30 to 70	Line of 18 Quercus robur trees along a hedge c.480m in length alongside Clayton Road	112, 113	Various features, decay holes, callus folds around dead limbs, bark fissures, retained hedge outside site along road, not surveyed in detail	N to H	N
113	Tree line	12 to 20	40 to 60	Hedge with 18 mature Quercus robur trees	114, 115	Outside site not surveyed in detail, numerous features, decay holes, some lifted bark, ivy cover	N to H	Y
114	Quercus robur	15	50	Standard	116	Tear out on south side 5m high, dead wood, hole at top of crown in trunk	H	N
115	Quercus robur	8	35	Standard	117	None	N	n/a
116	Quercus robur	12	60	Standard	118	Callus fold over dead wood with small gaps, hole N side on broken bough halfway high trunk	M	N
117	Quercus robur	10	50	Standard	119	Small hole with lifted bark	M	N
118	Quercus robur	12	110	Standard	120	Hole 4m high on west side, large cavity on south side of trunk	H	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
119	Quercus robur	8	50	Standard	121	Desiccation split on west side, gaps around callus folds around dead wood	H	N
120	Quercus robur	15	70	Standard	122	Woodpecker hole, desiccation crack with new callus growth surrounding creating gaps, dead bough with splits on north side	H	N
121	Fraxinus excelsior	6	30	Standard with severe decay	123	Numerous decay holes, but water ingress makes less suitable for roosting	M	N
122	Populus x canadensis	12	40	Standard	124	Small holes 3m high on southwest side, probably too exposed for roosting	L	N
123	Quercus robur	15	100	Standard	125	Decay hole S side, 6m high trunk, desiccation cracks high in dead wood	H	N
124	Quercus robur	10	40	Standard	126	None	N	n/a
125	Quercus robur	15	90	Standard	127	Hole at base on trunk on south side, some deep bark fissures	H	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
126	Quercus robur	12	70	Standing dead tree	128	Possible lightning strike, dead trunk with new callus growth surrounding with gaps and desiccation splits	H	N
127	Quercus robur	10	100	Standard with dead wood in crown	129	Desiccation splits but exposed to rain so less suitable for roosting	L	N
128	Quercus robur	10	60	Standard with dead wood in crown	130	Woodpecker hole 6m high, south side	H	N
129	Quercus robur	6	70	Standing dead tree	131	Large cavity access hole into trunk, 2.5m high north side.	H	N
130	Quercus robur	10	70	Standard	132	Large cavity in trunk, hole around a wound on the 5m high south side.	H	N
131	Quercus robur	14	70	Standard	133	Minor splits throughout. Wound hole 5m high south side.	H	N
132	Quercus robur	12	60	Standard	134	Woodpecker hole, 3m high northeast side	H	N
133	Quercus robur	4	50	Standing dead tree	135	Desiccation split at top of trunk, possibly too exposed for roosting	L	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
134	Quercus robur	7	40	Standard	136	Minor hole in bough 6m high, possible too exposed	L	N
135	Quercus robur	12	35	Standard	137	None	N	n/a
136	Quercus robur	10	60	Standard with dead wood in crown	138	Gaps under lifted bark plates, desiccation split from base upwards	H	N
137	Quercus robur	18	100	Standard	139	Minor bark crack around pruning cut	L	N
138	Fraxinus excelsior	15	35	Standard	140	None	N	n/a
Date:	**09/03/2022**			**Site: 2**		**Weather: 14 C, sunny, S wind 2**		
139	Woodland	n/a	n/a	Broadleaved plantation strip c.100 to 150 with some mature Quercus robur.	141	Not surveyed as outside site (note pond present in woodland)	H	Y
140	Quercus robur	20	90	Standard	142	Large tear out cavity 4m high on south side. Dead wood with	H	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
						numerous splits, cracks and holes.		
141	Quercus robur	18	70	Standard	143	Minor wound hole from pruning cut, 3m high on southside side. Likely too shallow for roosting.	L	Y
142	Quercus robur	15	60	Standard	144	Cavity in trunk quite exposed to rain, woodpecker hole below, possible water ingress so less suitable.	M	N
143	Quercus robur	18	70	Standard	145	Lifted bark, callus folds with some gaps beneath, minor areas of dead wood with splits.	M	Y
144	Fraxinus excelsior	8	30	Standard	146	Numerous rot holes on trunk, gaps behind new growth 6m high all around trunk.	H	N
145	Quercus robur	12	80	Standard, large amount of decay	147	Dead trunk with vertical desiccation splits, lifted bark plate from base upwards and numerous holes.	H	N
146	Quercus robur	10	35	Standard	148	None	L	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
147	Quercus robur	12	40	Standard	149	None	N	N
148	Quercus robur	15	80	Standard	150	Wound hole at top of the trunk, 10m high, gaps around pruning cut callus, transverse split on dead bough	H	Y
149	Quercus robur	18	80	Standard	151	Collar of lifted bark around dead brank, transverse split in dead bough., Hole in centre of pruning cut 5m high on south west side.	N	n/a
150	Quercus robur	20	110	Standard	152	Large gaps around dead branches, new vertical split and old horizontal splits in numerous boughs	H	Y
151	Quercus robur	16	40	Standard	153	Minor wound hole, but no bat access possible	N	n/a
152	Quercus robur	12	40	Standard	154	Minor lifted bark and small upward facing hole	L	Y
153	Quercus robur	18	60	Standard	155	Minor split 5m high on east side, low suitability only	L	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
154	Quercus robur	16	60	Standard	156	Small hole 10m high on south west side on dead bough. Minor transverse split	H	Y
Date:	**09/03/2022**			**Site: 1a**		**Weather: 14 C, sunny, S wind 2**		
155	Woodland	n/a	n/a	Young/semi-mature mixed plantation with Pinus sylvestris, Quercus robur, Salix species. Estimated 400 to 500 trees.	157	Adjacent woodland not surveyed. Potential roost features in some mature oak and a few mature pines, most of the trees have no suitable roost features.	H	Y
156	Quercus robur	14	50	Standard	158	Upward facing split, shallow rot hole from pruning cut on north side.	N	n/a
157	Quercus robur	15	75	Standard in woodland	159	Hollow area 3m high on trunk. Holes around some bosses at 5m high formed from a lost bough	H	Y
158	Woodland	n/a	n/a	A 20 to 30m strip of 20 semi-mature Quercus robur within	160	Not surveyed as outside Site. Highly suitable hazard beam feature in one of the oak trees.	H	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
				scrub, footpath through middle.				
159	Quercus robur	15	60	Standard	161	Minor gap around dead branch, 5m high on southeast side, a few minor bark splits	M	Y
160	Quercus robur	15	70	Standard	162	Large hole, 4m high on south side. Minor hole 2.5m high on north facing bough	H	Y
161	Woodland	n/a	MP	Woodland trip with 10 mature Quercus robur, with Crataegus monogyna, Salix species and Prunus spinosa scrub.	163, 164	Numerous holes around dead boughs, not surveyed in detail	H	Y
162	Quercus robur	14	20 to 40	Triple stem tree	165	Hazard beam 6m high with suitable gap inside	H	Y
163	Woodland	n/a	n/a	Sheephouse Wood, ancient oak woodland	166	Not surveyed, standing dead wood, lifted bark plates, many other features (confirmed roosts from desk study data)	H	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
164	Quercus robur	12	50	Standard	167	Shallow wound hole 6m high on west side. Other minor holes and flaking bark with gaps underneath	M	N
165	Quercus robur	12	50	Standard	168	Minor ivy cover and some flaking bark 8m high on south side	L	N
166	Quercus robur	18	70	Standard	169	Shallow woodpecker hole 5m high on east side, minor splits in dead bough	M	Y
167	Quercus robur	16	70	Standard	170	Minor split in dead bough 6m high south side	M	Y
168	Quercus robur	16	50	Standard	171	Very minor splits in numerous dead boughs	L	Y
169	Quercus robur	16	60	Standard	172	Lifted bark collar around dead branch 5m high on south side	M	Y
170	Quercus robur	14	50	Standard	173	Cavity with dead heart wood and gap above at 2.5m high on east side. Dead wood at 5 to 6m with numerous gaps. Hibernation suitability.	H	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
171	Quercus robur	20	80	Standard	174	Hazard beam on northeast side, numerous small knot holes and minor splits	H	Y
172	Salix fragilis	10	5-20	Multi-stemmed tree	175	None	N	n/a
173	Line of trees	15-20	30-40	Parallel line of Populus sp both sides of road, three Fraxinus excelsior and one Quercus robur	176	Minor lifted bark	N-L	N
174	Line of trees	10-20	30-40	Parallel line Populus sp both sides of road and two Quercus robur	177	Minor dead wood on oak, nothing on Poplars	N-L	N
175	Fraxinus excelsior	12	40	Standard	178	Woodpecker hole 6m high on west side	H	Y
176	Fraxinus excelsior	8	35	Standard	179	Vertical void in hazard beam 3m high on west side, small decay hole 4m high on south side	M	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
177	Fraxinus excelsior	8	40	Standard	180	Numerous decay holes and small woodpecker damage holes in trunk, large cavity 5m high on west side	H	N
178	Fraxinus excelsior	10	40	Standard	181	None	N	n/a
179	Fraxinus excelsior	8	20-30	Multi-stemmed tree	182	None	N	n/a
180	Fraxinus excelsior	10	15-25	Multi-stemmed tree	183	Small hollows from decay and tear-out 2m high to south side, no signs of bats	L	N
181	Fraxinus excelsior	10	40	Standard	184	Hollow trunk inspected, no signs of bats and limited shelter inside.	L	N
182	Fraxinus excelsior	12	30	Standard	185	None	N	n/a
183	Fraxinus excelsior	13	40	Standard	186	Minor decay holes, shallow/exposed therefore limited suitability.	L	Y
184	Quercus robur	15	60	Standard	187	Hole 5m high on south branch, minor decay holes and pruning	H	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
						cut with decay hole 4m high on west side.		
185	Line of trees	12-18	30-70	10 x Quercus robur along a 100m length north up to tree 186	188, 189	Numerous dead wood splits, holes, lifted bark and gap around pruning cut.	H	Y
186	Quercus robur	20	80	Standard	190	Split under broken 7m high south side, minor decay	L	Y
187	Quercus robur	18	70	Standard	191	Small gaps around dead branches, shallow hole in trunk	M	Y
188	Quercus robur	8	10-30	Standard	192	Gaps from hazard beam 1m high, no signs	L	N
189	Quercus robur	20	80	Standard	193	Minor decay holes from lost branches 6m high on west side	L	N
190	Quercus robur	20	80	Standard	194	Minor lifted bark, ivy cover	L	N
191	Quercus robur	16	50	Standard	195	Thick ivy cover, no obvious features	L	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
192	Quercus robur	20	70	Standard	196	Hole in bough at 6m and 7m high on southwest side, ivy cover.	H	N
193	Quercus robur	16	40	Standard	197	None	N	n/a
194	Quercus robur	18	50	Standard	202	Minor lifted bark 10m high on east side	L	Y
195	Quercus robur	20	90	Standard / Veteran?	198	Gaps around dead branches, 6m high southwest side desiccation split, callus folds with gap below.	H	Y
196	Quercus robur	15	80	Standard	199	Five decay holes and vertical desiccation splits in dead heart wood.	H	N
197	Fraxinus excelsior	12	70	Standard	200	Large decay holes in west bough and main trunk	H	N
198	Fraxinus excelsior	10	40	Standard	201	Minor decay hole from pruning cut 6m high south side	L	Y
199	Fraxinus excelsior	8	40	Standard	203	Large cavity with callus fold with gap under and possible features inside cavity for hibernation.	H	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
200	Quercus robur	12	45	Standard	204	Gap around dead branch 4m high on south side and lifted bark	M	Y
201	Quercus robur	10	100	Standard	205	Main trunk decay hollow with numerous gaps inside possible hibernation and hazard beam on north branch.	H	N
202	Quercus robur	12	100	Standard, Veteran?	206	Six decay holes in main trunk and large boughs. South facing transverse split in dead bough.	H	Y
203	Fraxinus excelsior	12	35	Standard, Veteran	207	None	N	n/a
204	Quercus robur	20	70	Standard	208	None	N	n/a
205	Quercus robur	12	50	Standard	209	Small shallow holes and small hazard beam 2m high on east side.	L	Y
206	Quercus robur	12	35	Standard	210	None	N	n/a
207	Fraxinus excelsior	7	30	Standard	211	Hollow trunk with water ingress, minor lifted bark	L	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
208	Fraxinus excelsior	12	60	Standard	212	Large hole from tear out 4m high on east side, two other small decay holes on branches	H	N
209	Fraxinus excelsior	12	40	Standard	213	None	N	n/a
210	Fraxinus excelsior	10	40	Standard	214	Hole in trunk, small tear out 4m high on south side	M	Y
211	Fraxinus excelsior	9	45	Standard	215	Decay holes in trunk and lifted bark	H	Y
212	Fraxinus excelsior	15	90	Standard	216	Hazard beam 5m high on east side, minor cracks and lifted bark	M	Y
213	Woodland	10 to 12	30 to 50	3 Quercus robur, 1 Fraxinus excelsior and scrub in field corner	217	Minor holes and lifted bark in oaks	L	Y
Date:	**10/03/2022**			**Site: 1**		**Weather: 15 C, sunny, S wind 2**		
214	Fraxinus excelsior	8	50	Standard	218	Woodpecker hole 5m high on north side, minor decay hole	H	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
215	Quercus robur	10	40	Standard	219	Light ivy cover, no features	N	n/a
216	Quercus robur	10	40	Standard	220	Proliferation of small branches and minor dead wood high up.	L	N
217	Quercus robur	15	80	Standard	221	Minor lifted bark and splits in small dead boughs	L	N
218	Woodland	20	10 to 60	Plantation with 40 to 50 trees including Quercus robur, Acer pseudoplatanus, Populus species and Corylus avellana	222, 223	Not surveyed in detail as outside site, includes minor wound features in Populus x canescens, lifted bark on Quercus robur.	N to M	N
219	Quercus robur	6	30	Standard	224	Thick ivy cover and minor flaking bark	L	N
220	Quercus robur	16	70	Standard	225	Split in dead branch, 6m high on north side, lifted bark	M	N
221	Quercus robur	16	60	Standard	226	Large transverse split in bough 6m high on south side	H	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
222	Quercus robur	10	30	Standard	227	None	N	N
223	Quercus robur	10	35	Standard	228	Minor lifted bark, small gap around dead branch on east side.	L	N
224	Quercus robur	8	30	Standard	229	None	N	N
225	Quercus robur	12	40	Standard	230	Small hazard beam feature 6m high on south side with limited suitability	L	N
226	Fraxinus excelsior	10	40	Standard	231	Three holes 7m high in southern branch and lifted bark under a bough 5m high on west side	H	Y
227	Woodland	n/a	n/a	Broad-leaved semi-natural woodland and new planting, scrub. Possibly ancient, old Quercus robur.	232	Not surveyed outside of site but standing dead wood and woodpecker holes observed	H	Y
228	Quercus robur	18	90	Standard	233	A few small decay holes notably 6m high on south side. Minor lifted bark with gaps.	M	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
229	Line of trees	10 to 15	30 to 60	Line of 11 trees comprising Quercus robur and Fraxinus excelsior.	234, 235	Large hollow in ash trunk, numerous decay features in ash, not surveyed in detail.	N to H	Y
230	Quercus robur	12	60	Standing dead tree	236	Minor gap 2m to 3m high on trunk around pruned branches	L	N
231	Fraxinus excelsior	8	50	Standard	237	Butt rot cavity on south side from base to 2m high extending up in leaning tree. Hibernation suitability. Hole at 4m high on west side.	H	Y
232	Quercus robur	15	75	Standard	238	Not assessed fully as in field with no access. Large hole on south facing branch view through binoculars	H	Y
233	Fraxinus excelsior	15	40	Standard	239	Minor decay holes and lifted bark	L	Y
234	Fraxinus excelsior	11	60	Standard	240	Large cavity hollow extending upwards providing good shelter. Hibernation suitability.	H	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
235	Fraxinus excelsior	12	50	Standard	241	Small decay hole 5m high on south-east side.	M	Y
236	Fraxinus excelsior	14	70	Standard	242	Decay hole from pruning cut 5m high on south-west side, other holes	H	Y
237	Quercus robur	10	60	Standard	243	Small gaps 4m high on south side around decayed branch, inspected and no signs of bats.	L	Y
238	Quercus robur	12	50	Standard	244	Minor split in pruning cut on south-west side 5m above ground.	L	Y
239	Fraxinus excelsior	7	30	Standard	245	Hollow in bough on the east side	H	N
240	Fraxinus excelsior	12	70	Standard	246	Decaying trunk hollow and numerous holes. Hibernation suitability.	H	N
241	Fraxinus excelsior	15	80	Standard	247	Large vertical split at top of trunk, lifted bark and gaps around dead branches	H	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
242	Quercus robur	14	80	Standard	248	Decay holes, vertical desiccation splits, large cavity hole 5m high on south-east side, lifted bark.	H	N
243	Quercus robur	18	90	Standard	249	Splits and callus fold of west bough with gaps and numerous other splits	H	Y
244	Quercus robur	16	80	Standard	250	Large central cavity on south side providing good shelter, including hibernation suitability.	H	Y
245	Quercus robur	15	60	Standard	251	None	N	n/a
246	Quercus robur	16	100	Standard	252	Hole into trunk 4m high on west side. Splits in dead boughs	H	Y
247	Quercus robur	16	90	Standard	253	Recently lost limbs, minor transverse split in dead branch 4m high on east side.	L	Y
248	Woodland	16 to 20	40 to 90	13 mature Quercus robur	254	Minor holes, splits and lost branches not surveyed in detail	H	Y
249	Woodland	12 to 15	15 to 60	3 Cedrus libani and 2 Pinus sylvestris	255	None	N	n/a

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
250	Quercus robur	7	80	Standard	256	Tear out with gap at 2.5m south facing	H	N
251	Quercus robur	16	80	Standard	257	Callus roll around dead branch 5m high on northwest side. Decay hole 7m high on south side.	H	Y
252	Quercus robur	12	30	Standard	258	Minor decays holes 2m and 3m high no signs of bats	L	Y
253	Quercus robur	15	60	Standard	259	Split in bough 5m high on south side, limited suitability	L	Y
254	Quercus robur	14	50	Standard	260	Minor split 6m high on south side with limited suitability	L	Y
255	Quercus robur	12	50	Standard	261	None	N	n/a
256	Fraxinus excelsior	8	40	Standard	262	None	N	n/a
257	Fraxinus excelsior	8	40	Standard	263	None	N	n/a
258	Fraxinus excelsior	7	30	Standard	264	Hollow trunk, hole at 1.5m on east side with bird nest, no signs	M	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
						but suitable further up into cavity, including for hibernating bats.		
259	Fraxinus excelsior	7	35	Standard	265	Upward facing hole 5m high on north side, rain ingress	L	N
260	Quercus robur	8	30	Standard	266	None	N	n/a
261	Quercus robur	10	40	Standard	267	None	N	n/a
262	Fraxinus excelsior	8	40	Standard	268	Cracks/splits from lost branches 4m high on south side, no signs possible too exposed.	L	N
263	Fraxinus excelsior	6	50	Standard	269	Two central cavity decay holes, hibernation possible.	H	N
264	Fraxinus excelsior	8	40	Standard	270	Central split exposed, minor lifted bark and decay 1.5m high no signs	L	N
265	Fraxinus excelsior	7	40	Standard	271	Open central cavity too exposed to wind/rain	L	N
266	Fraxinus excelsior	6	30	Standard	272	Open cavity on north side exposed, minor lifted bark	L	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
267	Fraxinus excelsior	7	30	Standard	273	None	N	n/a
268	Fraxinus excelsior	6	30	Standard	274	None	N	n/a
269	Fraxinus excelsior	6	30	Standard	275	Central cavity 2m high on west side, no signs	M	N
Date:	**23/03/2022**			**Site: 1**		**Weather: 16 C, sunny, south wind 3**		
270	Fraxinus excelsior	12	20-50	Twin-stemmed tree	276	Large central cavity 4m high on west side, suitable for hibernation.	H	Y
271	Salix species	8	40	Standard	277	None	N	n/a
272	Woodland	15 to 20	20 to 60	8 Quercus robur and scattered Crataegus monogyna	278	Woodpecker holes, minor decay holes	H	L
273	Tree line	5 to 10	5 to 15	200m hedge with trees including Ulmus species,	279	None	N	n/a

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
				Crataegus monogyna and Prunus spinosa				
274	Fraxinus excelsior	12	30	Standard	280	Rotten cavity 3m high on south side on branch, two small decay holes on main trunk 5m high	M	N
275	Fraxinus excelsior	8	30	Standard	281	Woodpecker hole, exposed from above, small hole 6m high in southwest branch	M	M
276	Quercus robur	12	40	Standard	282	Minor splits in dead branch 5m up on south side, minor shallow holes limited suitability	L	Y
277	Quercus robur	12	40	Standard	283	Hole 3m high on southwest branch, minor bark splits	H	Y
278	Quercus robur	10	40	Standing dead tree	284	Numerous decay holes/fissures throughout	H	N
279	Quercus robur	12	45	Standard	285	Minor callus fold gaps around dead branch in crown and 3m high on southwest side, limited suitability	L	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
280	Woodland	15 to 20	10 to 50	Young Populus species plantation	286	None	N	n/a
281	Fraxinus excelsior	16	40	Standard	287	Large hollow 10m high on east side, extends up, minor holes, hibernation suitability. Red kite nests.	H	Y
282	Quercus robur	14	60	Standard	288	Minor desiccation split in north branch exposed to rain.	L	Y
283	Fraxinus excelsior	15	40	Standard	289	Woodpecker holes 10m high on south-east side and upward facing hole	H	Y
284	Quercus robur	14	40	Standard	290	Minor bark splits in trunk and dead limbs	L	Y
285	Quercus robur	10	50	Standard	291	Gaps under dead branch, new callus growth and various splits/holes in branches	H	N
286	Quercus robur	12	70	Standard	292	Decay holes 10m high on west branch, vertical desiccation split in dead trunk and lifted bark	H	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
287	Quercus robur	12	80	Standard	293	Large open central cavity, major lifted bark, hole 3m high on west side, hazard beam 7m high on southwest side, hibernation suitability.	H	Y
288	Quercus robur	14	100	Standard	294	Vertical desiccation split and overlapping 5m high on east side branch.	M	Y
289	Woodland	n/a	n/a	Decoy Pond Wood. Ancient broadleaved woodland dominated by Quercus robur	295	Not accessed	H	Y
290	Fraxinus excelsior	12	30	Standard	296	None	N	n/a
291	Fraxinus excelsior	15	65	Standard	297	Numerous decay holes and callus rolls 8 to 10m high on southeast side	H	Y
292	Fraxinus excelsior	12	60	Standard	298	Large decay hole 10m high east side, some lifted bark and other small holes.	H	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
293	Quercus robur	12	60	Standard	299	Minor gaps under bark around dead branches	L	Y
294	Quercus robur	8	35	Standard	300	Gap around dead branch 3m up south side and new callus growth above no signs	L	Y
295	Fraxinus excelsior	12	50	Standard	301	Two holes 4m high on west side, large cavities on two branches 5 to 6m high on south and east side, vertical splits on east side.	H	Y
296	Fraxinus excelsior	7	30	Standard	302	None	N	n/a
297	Acer campestre	6	30	Standard	303	Hole 1m high extending up into trunk on west side, hibernation suitability, no signs of bats	H	Y
298	Quercus robur	15	90	Multi-stemmed tree	304	Gaps around dead branches, 4m to 6m high southwest side, lifted bark and dead wood in crown	H	Y
299	Crataegus monogyna	7	30-40	Multi-stemmed tree	305	Hollow in stem 1m high on south side, no signs but not fully inspected.	M	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
300	Crataegus monogyna	7	30	Standard	n/a	Minor holes but no signs and low suitability.	L	Y
301	Quercus robur	12	70	Standard	306	Overlapping bark on dead branches 6m high on west side, some dead wood with splits in crown.	M	Y
302	Quercus robur	15	80	Standard	307	Large decay hole in bough 10m high on west side, lifted bark.	H	Y
303	Quercus robur	12	100	Standard	308	Decay hole from tear out 5m high on west side. Holes in dead bough, lifted bark and hazard beam 8 to 10m high on west side.	H	Y
304	Fraxinus excelsior	10	80	Standard, severe decay	309	Large central cavity, numerous crevices and holes throughout. Potential for hibernation.	H	N
305	Quercus robur	14	90	Standard	310	Butt rot cavity, hazard beam/weld 6m up on east side, split bough 5m high on south-west side	H	N
306	Fraxinus excelsior	10	50	Standard	311	Decay hole 4m high on west side, extends into trunk, suitable for hibernation	H	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
307	Fraxinus excelsior	11	40	Standard	312	Hole in upper bough 8m high on south-west side, decay cavity but too exposed to rain for roosting	H	Y
308	Fraxinus excelsior	10	40	Standard	313	Minor shallow hole 4m high on west side	L	Y
309	Quercus robur	12	60	Standard	314	Desiccation split 4m high on north side on dead branch, callus roll around dead branch in crown and other small gaps.	H	Y
310	Fraxinus excelsior	14	40	Standard	315	None	N	n/a
311	Fraxinus excelsior	12	50	Standard	316	Hole 5m high in south-west bough, possibly too shallow for roosting, climb to check.	M	Y
312	Woodland	n/a	n/a	Sheephouse Wood, ancient oak woodland	317	Not accessed retained woodland, lots of features including standing dead wood	H	Y
313	Woodland	n/a	n/a	6 Quercus robur and 5 Fraxinus excelsior	318	Various features, Woodpecker hole, tear outs, rot holes, not accessed retained woodland	H	Y

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
314	Fraxinus excelsior	12	50	Standard	319	Minor pruning cut hole 6m high on west side, lifted bark and exposed central cavity (water/wind ingress)	M	Y
315	Quercus robur	15	70	Standard	320	Split and lifted bark 10m high on west side, minor wound holes	H	Y
316	Fraxinus excelsior	10	50	Standard	321	Major central decay cavity with holes 5m high on northeast and south sides	H	N
317	Fraxinus excelsior	12	40	Standard	322	Minor vertical split 8m high on southwest side, potentially too shallow for roosting	L	N
318	Quercus robur	14	90	Standard	323	One holes 8m high on south side	M	Y
319	Quercus robur	14	80	Standard	324	Numerous holes and splits from broken limbs and lifted bark plates	H	Y
320	Woodland	n/a	n/a	Small plantation with some mature trees including Acer campestre,	325	A few minor decay holes in more mature trees, mostly negligible.	N to L	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
				Quercus robur, Fraxinus excelsior, Crataegus monogyna and scrub, c. 100 young trees.				
321	Fraxinus excelsior	15	90	Standard	326	Large central cavity with callus rolls, hibernation potential	H	N
322	Building	n/a	n/a	Timber frame, open sided barn with corrugate steel roof, c.20x4m	327, 328, 329	Potential features behind timbers on northeast and west sides, close to woodland. No signs of roosting.	L	n/a
323	Fraxinus excelsior	16	80	Standard	330	Minor holes, 10m high on east side	L	Y
324	Woodland	n/a	n/a	Small copse mainly young plantation with a few mature trees. Salix species, Populus	331	Minor decay features on Salix species by pond, no other features visible	N to L	N

Feature ref.	Tree species/ Feature	Height (m)	DBH (cm)	Tree/woodland description	Photo ref.	PRF description/bat signs	Roost suitability (NLMH)*	Climbable?
				species, Fraxinus excelsior and Quercus robur.				
325	Salix species	10	40	Standard	332	Cavity in trunk 2.5m high on east side extends up, hibernation suitability. Minor woodpecker holes in trunk west facing.	H	Y
326	Woodland	n/a	n/a	Young plantation with scrub and young trees including Populus species, Prunus spinosa and Crateagus monogyna, covering c.0.4 hectares	333	None	N	Y

Bat PRA Photos March 2022


1


2


3


4


5


6


7


8


9


10


11


12


13


14


15


16


17


18


19


20


21


22


23


24


25


26


27


28


29


30


31


32


33


34


35


36


37


38


39


40


41


42


43

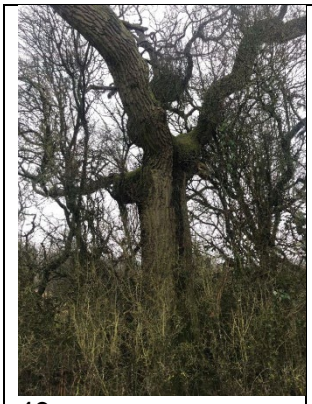

44


45


46


47


48


49


50


51


52


53


54


55


56


57


58


59


60


61


62


63

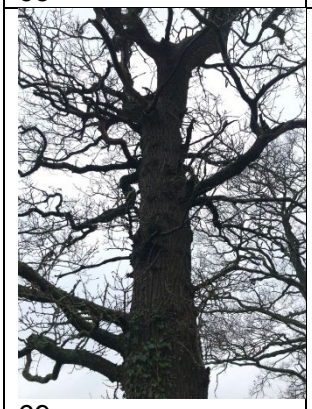

64


65


66


67


68


69


70


71

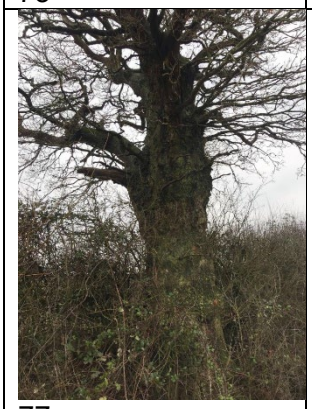

72


73


74


75


76


77


78


79

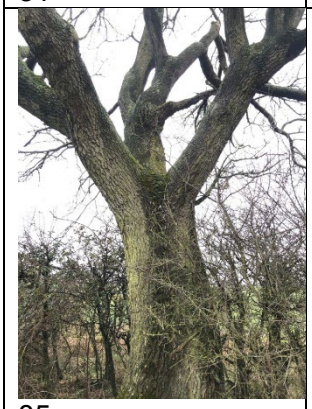

80


81


82


83


84


85


86


87


88


89


90


91


92


93


94


95


96


97


98


99


100


101


102

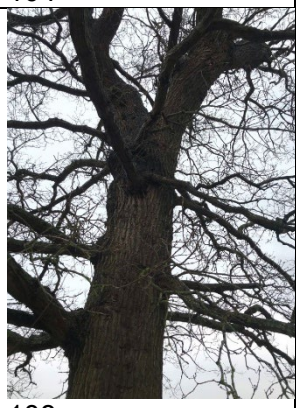

103


104


105


106


107


108


109


110


111

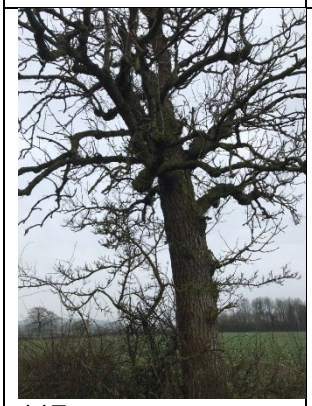

112


113


114


115


116


117


118


119


120


121


122


123


124


125


126


127


128


129


130


131

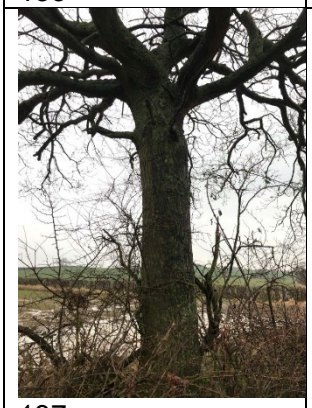

132


133


134


135


136


137


138


139


140

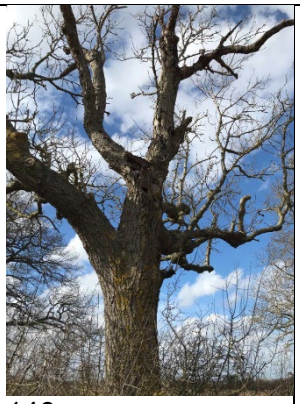

141


142


143


144


145


146


147


148

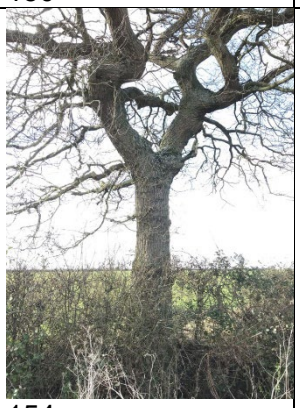

149


150


151


152

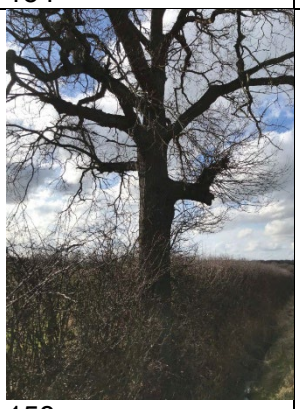

153


154


155

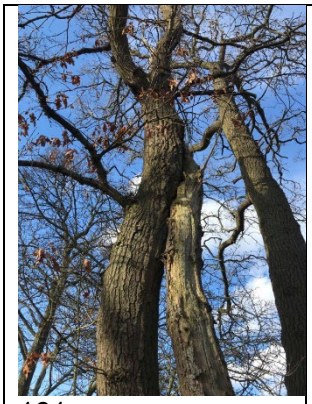

156


157


158


159


160


161


162


163


164


165


166


167


168


169


170


171


172


173


174


175


176


177


178


179


180

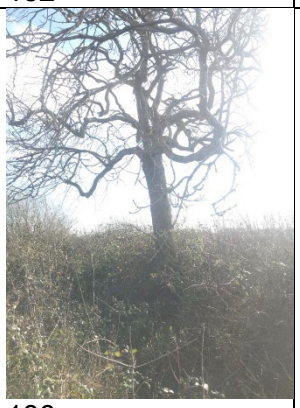

181


182


183


184


185


186


187


188


189


190


191


192


193


194


195


196


197


198


199


200


201


202


203


204


205


206


207


208


209


210


211


212


213


214


215


216


217


218


219


220


221


222


223


224

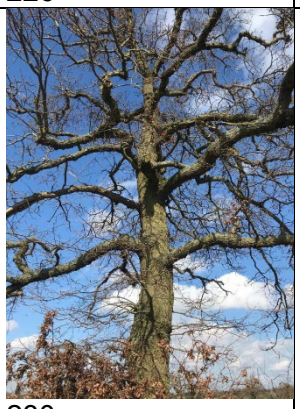

225


226


227


228


229


230


231

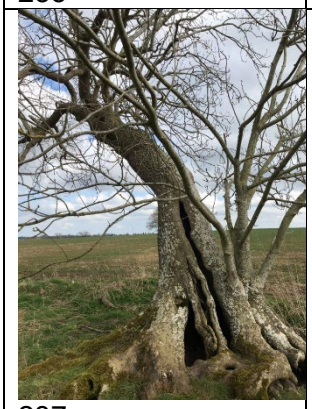

232


233


234


235

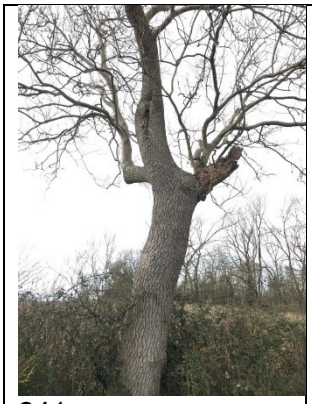

236

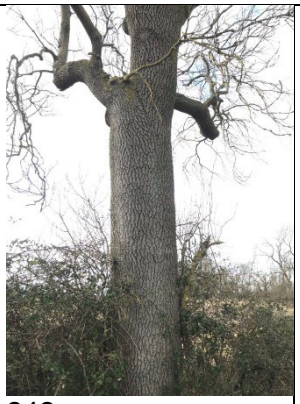

237


238


239


240


241


242


243


244


245


246


247


248


249


250


251


252


253


254


255


256


257


258


259


260


261


262

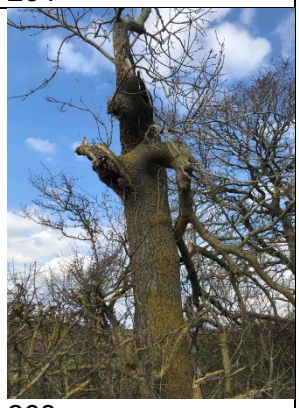

263


264


265


266


267


268


269


270


271


272


273


274


275


276

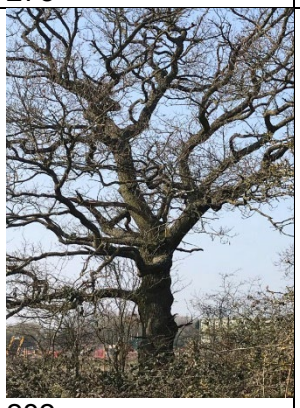

277


278


279


280


281


282


283

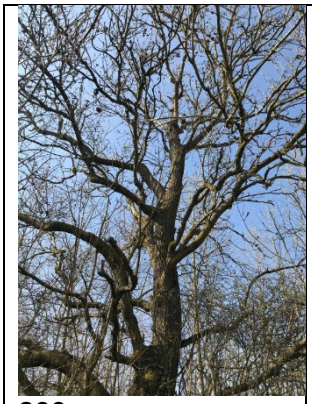

284


285


286


287


288


289


290


291


292


293


294


295

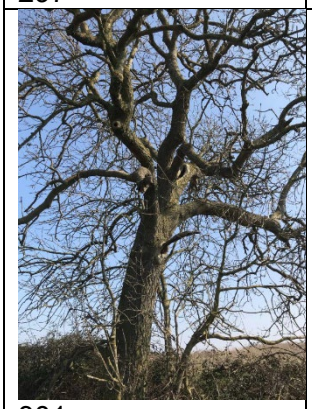

296


297


298


299


300


301


302


303


304


305


306


307

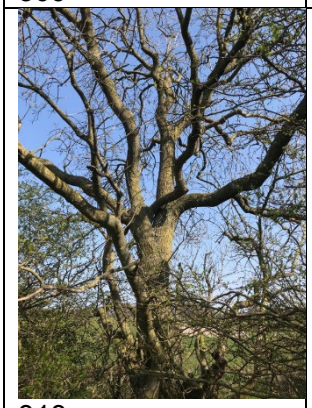

308


309

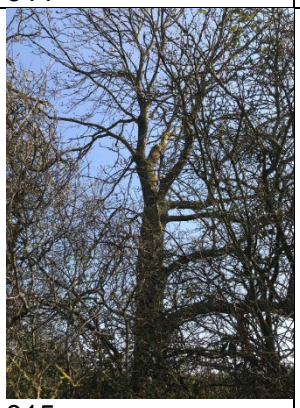

310


311


312


313


314


315


316

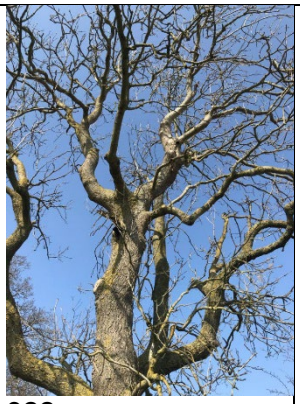

317

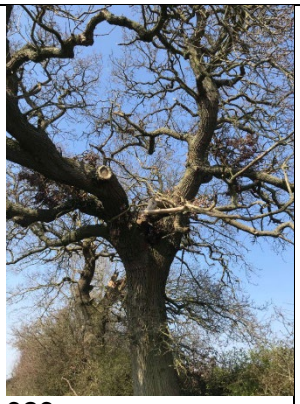

318

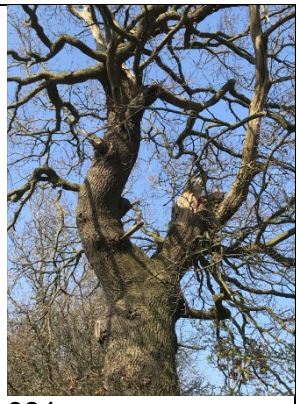

319


320

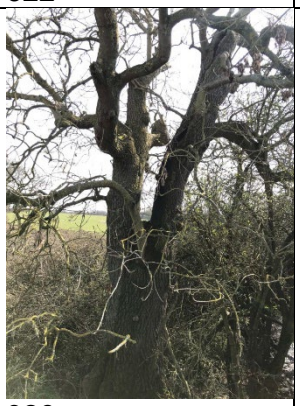

321


322


323


324


325


326


327


328


329


330


331


332


333

Rosefield
Solar Farm

rosefieldsolarfarm.co.uk

Application Document Ref: EN010158/APP/6.4
Planning Inspectorate Scheme Ref: EN010158