Preliminary Ecological Appraisal

Land at Nailcote Farm, Fillongley, Coventry, North Warwickshire, CV7 8DW

Enviromena Project Management Ltd

Status	Issue	Name	Date
Draft	1	Katy Perry BSc (Hons) MCIEEM, Senior Consultant	20/12/2022
Final	2	Katy Perry BSc (Hons) MCIEEM, Senior Consultant	24/01/2023
Amended	2.1	Katy Perry BSc (Hons) MCIEEM, Senior Consultant	09/03/2023
Records added	2.2	Katy Perry BSc (Hons) MCIEEM, Senior Consultant	07/05/2023

Arbtech Consultant's Contact Details:

Katy Perry BSc (Hons) MCIEEM
Senior Consultant
Tel: 07874 871 273 **Email:** katyperry@arbtech.co.uk
https://arbtech.co.uk

Limitations and Copyright

Arbtech Consulting Limited has prepared this report for the sole use of the above-named client or their agents in accordance with our General Terms and Conditions, under which our services are performed. It is expressly stated that no other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Arbtech Consulting Limited. The conclusions and recommendations contained in this report are based upon information provided by third parties. Information obtained from third parties has not been independently verified by Arbtech Consulting Limited.

Industry Guidelines and Standards

This report has been written with due consideration to:

- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.

Proportionality

> The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation, and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary, and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.
>
> The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.
>
> (BS 42020, 2013)

Executive Summary

Arbtech Consulting Limited was instructed by Enviromena Project Management Ltd to undertake a Preliminary Ecological Appraisal (PEA) at Land at Nailcote Farm, Fillongley, Coventry, North Warwickshire, CV7 8DW (hereafter referred to as "the site"). The survey was required to inform a planning application for the construction of a temporary Solar Farm providing 48.1 MW (AC) output, to include the installation of ground-mounted solar panels together with associated works, equipment, and necessary infrastructure (hereafter referred to as "the proposed development").

The following is work you will need to commission to obtain planning permission and to comply with legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in Table 4 of this report.

Feature	***Foreseen impacts***	***Recommendations*** *Measures required to adhere to guidance, legislation, and planning policies.*
Designated sites: The site is not subject to any statutory or non-statutory designation. There are no statutory designated sites within 2km of the site. There are no non-statutory designated sites within the site.	No impacts to designated sites are anticipated due to the small scale and distance of the proposed development from such sites (where known) as well as the location of the site with surrounding physical barriers. However, indirect effects such as pollution or tree damage could occur during construction.	Best practice measures to minimise the possibility of pollution and tree damage must be implemented during construction.
Notable habitats: There are no notable habitats within the site, but four habitats are present within 2km of the site, the closest being deciduous woodland located adjacent to the site on the western boundary. No protected or notable plant species were recorded during the survey.	No impacts to any notable habitats are anticipated due to the small scale and distance of the proposed development from such habitats as well as the location of the site with surrounding physical barriers. However, indirect effects such as pollution or tree damage could occur during construction. The proposed development will result in the loss of arable fields. This is likely to have a minimal impact on biodiversity due to the low ecological value of these habitats.	Best practice measures to minimise the possibility of pollution and tree damage must be implemented during construction. A construction environmental management plan should be created for the site to maintain root protection zones for the trees on site and detail pollution prevention guidelines such as refuelling on hard standing, keeping plant spill kits and nappies on site, and keeping a 10m buffer around watercourses.
Amphibians: Though there are no ponds on site, or EPSLs for GCN within 2km of the site, there is pond data for the presence of GCN within 500m of the site. The habitats to be retained, such as hedgerows, grassy	The proposed development will not result in the loss of any ponds. However, due to the presence of ponds within close proximity of the site, indirect effects such as pollution could occur during construction.	eDNA surveys are recommended on ponds within 250m of the site in order to determine likely absence or presence of great crested newts as there are records within 3km of the sites central grid reference. If GCN are found to be present within the ponds around the site, then District Level Licencing may be required.

margins and wooded areas provide suitability for sheltering amphibians. The arable fields are of very low ecological value for amphibians.	Site clearance could result in the death or injury of amphibians, if present, but unlikely to be GCN as there are no ponds for breeding within the site and suboptimal habitats account for over 70% of the habitats on site.	However, if the eDNA is negative, then owing to the nature of the proposed development, a precautionary working method will be implemented for common amphibians during construction, detailed in Table 4.
Roosting bats: Several of the mature trees around site have suitable features to support roosting bats such as torn limbs, woodpecker holes, wounds, and rot holes. Each tree was not subject to an individual survey as they are to be retained on site.	The proposed development will not affect any of the features that could be used by roosting bats which were noted on the trees during the survey and therefore no impacts to bat roosts are anticipated. However, the proposed development could result in disturbance to any bats present in the building at the time of the works due to noise, vibration or lighting.	Owing to the nature of the proposed development and the low potential for impacts to bat roosts, further bat surveys are considered to be disproportionate. It is anticipated that any risk to bats can be reduced to an acceptably low level through the implementation of a precautionary working method during and post-development. This is detailed in Table 4.
Foraging and commuting bats: Hedgerows and scattered trees could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site.	The proposed development will not result in the removal of any habitats which could be used by foraging or commuting bats. The proposed development may include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas, though lighting at night should be avoided on site.	If there is to be permanent lighting on site, then bat activity surveys, comprising walked transects and static monitoring, will be required to determine the usage of the site by foraging and commuting bats as well as to identify the likely presence or absence or any bat roosts in the vicinity, particularly those of high conservation value including maternity roosts. A low impact lighting strategy will be adopted for the site during and post-development, which is detailed in Table 4.
Badgers: Only two dung pits were observed along the north-western boundary of the site, but no other evidence of badgers was observed on site. The arable fields provide very limited suitability for badgers and no setts were observed on or around the site perimeter. Badgers could be present in the wider landscape.	No impacts are anticipated on badgers as a result of the proposed development. However, construction activities could result in the death or injury of commuting badgers if present.	Owing to the nature of the proposed development and the low potential for impacts to badgers, further badger surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, detailed in Table 4.
Hedgehogs: Hedgehogs could be present on site, but the habitats suitable for supporting hedgehogs are to be retained and not directly impacted.	Arable fields will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of commuting hedgehogs if present.	A precautionary working method will be implemented during construction, detailed in Table 4.
Water vole: The two watercourses on site are not suitable to support water vole in differing ways; the eastern watercourse is too shaded and absent of suitable vegetation and the western one is not sheltered in anyway and the vegetation has been maintained	No impacts are anticipated on water vole as a result of the proposed development.	Heras fencing will be erected around the working area to prevent encroachment within 5m of the watercourse. The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to the watercourse and any retained habitats which water voles could use.

to a short sward length. No evidence of water voles was observed, and the site is isolated.		Best practice pollution prevention measures will be implemented to minimise impacts to the watercourse and any retained habitats that water vole could use. Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.
Nesting birds: The suitable habitats on site around the perimeter are to be retained and not directly impacted, though some noise and vibrations from works could impact adjacent birds.	Arable fields will be removed during construction. The loss of such habitats is likely to be inconsequential to local bird populations owing to their low value and the presence of more extensive habitat locally. However, the proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests.	Works should be undertaken outside the period 1st March to 31st August. If this period cannot be avoided, a close inspection of the vegetation should be undertaken immediately, by qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged.

Contents

1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Enviromena Project Management Ltd to undertake a Preliminary Ecological Appraisal (PEA) at Land at Nailcote Farm, Fillongley, Coventry, North Warwickshire, CV7 8DW (hereafter referred to as "the site"). The survey was required to inform a planning application for the construction of a temporary Solar Farm providing 48.1 MW (AC) output, to include the installation of ground-mounted solar panels together with associated works, equipment, and necessary infrastructure (hereafter referred to as "the proposed development"). A plan showing the proposed development is provided in Appendix 1.

The aim of the PEA was to obtain data on existing ecological conditions, and to conduct a preliminary assessment of the likely significance of ecological impacts on the proposed development. No previous ecology reports have been produced for this site by Arbtech Consulting Ltd or, to the author's knowledge, by any other consultancy. However, an Arboricultural survey was undertaken to assess the impact of the proposed works on the trees and hedgerows. The vegetation around the perimeter of the fields is due to be retained with no impacts to the root protection areas.

1.2 Site Context

The site is located at National Grid Reference SP 27639 86057 and has an area of approximately 65ha comprising arable fields, bare earth, hedgerows, scattered trees, woodlands, and drainage ditches. It is surrounded by arable fields to the north, east and west with woodland bordering the south of the site along the M6 embankment. There are a small number of residential and agricultural buildings in the surrounding landscape.

A site location plan is provided in Appendix 2.

1.3 Scope of the Report

This report describes the baseline ecological conditions at the site, evaluates habitats within the survey area in the context of the wider environment and describes the suitability of those habitats for notable or protected species. It identifies possible ecological constraints as a result of the proposed development and summarises the requirements for further surveys and mitigation measures to inform subsequent mitigation proposals, achieve planning or other statutory consent and to comply with wildlife legislation.

To achieve this, the following steps have been taken:

- A desk study has been carried out.
- A field survey has been undertaken to record baseline information on the site and surrounding area including habitat types and their suitability for notable or protected species.
- Invasive plant and animal species (such as those listed on Schedule 9 of the Wildlife & Countryside Act) have been identified.
- Potential impacts on features of value, as a result of the proposed development, have been identified.
- Recommendations for further surveys and mitigation have been made.
- Opportunities for the enhancement of the site for biodiversity have been set out.

2.0 Methodology

2.1 Desk Study

The desk study included a review of the magic.gov.uk database for statutory designated sites within a 2km radius of the site. Landscape value and the presence of notable habitats as well as granted European Protected Species Licence (EPSL) and notable species records held on magic.gov.uk database has also been considered where these are within influencing distance of the site. Biological Records Data has been requested and will be incorporated into the report when received.

2.2 Field Survey

The survey was undertaken by Katy Perry BSc (Hons) MCIEEM, Senior Consultant (Natural England Bat Licence Number: 2022-10404-CL18-BAT) on 1st December 2022.

An extended habitat survey was undertaken, following the methodology set out in *UK Habitat Classification User Manual* (UK Habitat Classification Working Group, 2018). All land parcels are described and mapped and, where appropriate, target notes provide supplementary information on habitat conditions, features too small to map to scale, species composition, structure, and management. Botanical species lists were compiled with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).

During the survey, habitats were assessed for their suitability to support protected species, and field signs indicating their presence recorded. The assessment takes into consideration the findings of the desk study, the habitat conditions on site and in the context of the surrounding landscape, and the ecology of the protected species.

2.3 Limitations

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape and the ecology and biology of species as currently understood.

The survey was completed outside of the optimal survey period (April to October) limiting the identification of ground flora species, however, as the vast majority of the site is comprised of arable fields, it is unlikely to have an impact on the recommendations.

These limitations have been taken into account during the evaluation of the site and requirement for further surveys and mitigation.

3.0 Results and Evaluation

3.1 Designated Sites

No statutory designated sites were identified within 2km of the site boundary.

3.2 Field Survey Results

The results of the field survey are illustrated in Appendix 3. The weather conditions recorded at the time of the survey are shown in Table 1.

Table 1: Weather conditions during the survey

Date: 01/12/2022	
Temperature	5°C
Humidity	56%
Cloud Cover	100%
Wind	0-1mph
Rain	None

Habitats and Flora

The following habitats are present within and adjacent to the site:

- Scattered trees – w1 11 1171
- Hedgerows – h2a
- Line of trees – w1g6
- Access track – u1b6
- Other neutral grass – g3c
- Arable cereal crops – c1c
- Arable winter stubble – c1c5
- Other rivers and streams – r2b
- Woodland – w1
- Arable grass margins – c1a
- Bramble scrub or hawthorn scrub – h3d and h3f

A description and photograph of each habitat is provided in Table 2.

No protected or non-native invasive plant species (as listed under Schedules 8 or 9 of the Wildlife and Countryside Act 1981) were identified on the site.

Table 2: Description and photographs of habitats within and adjacent to the site

Habitat type	***Habitat description***	***Photograph***
Arable cereal crops – c1c Arable winter stubble – c1c5 Other rivers and streams – r2b Woodland – w1 Arable grass margins – c1a	To the east of the site and to the west of the site are two drainage ditches which contain running water. The drainage ditch to the west of the site cuts between the two fields with grassy embankments present on either side, as shown in the image opposite. The proposed development is to retain watercourse, hedgerows and scattered trees around the site and utilise the space within the arable fields for the installation of the solar panels. Though there is a grassy embankment on the watercourse to the west of the site, there were no burrows observed, indicating an absence of water voles. No holes, latrines or feeding remains were seen along the watercourse and it is likely that there is a lack of connectivity to other such watercourses and the ones on site are isolated, just north of the M6, with disturbance to the vegetation and surroundings exposing any potential animals to predation. To the north of this watercourse, adjacent to larger scattered oak and alder trees, a kingfisher was observed within watercourse in the sheltered section (Target note 1) To the west of the watercourse along the site hedgerow, badger latrines were observed but no other evidence of badger was observed on site. (Target note 2 and 3)	
Scattered trees – w1 11 1171 Hedgerows – h2a Arable cereal crops – c1c Other rivers and streams – r2b Arable grass margins – c1a	The water course to the east of the site flows along side the field within the site boundary vegetation, amongst the trees and scrub. This results in a shaded watercourse which is also of low suitability for water voles as they require sunny banks to grow suitable vegetation for foraging. The majority of the site resembles what is seen in the image opposite; an arable field with a narrow grassy margin and hedgerows with scattered trees along the perimeter of the site. The proposed solar farm is due to situated within the arable fields, not impacting on the grassy margins nor entering the root protection zones of the mature trees present within the vegetation around the site boundary.	

Scattered trees – w1 11 1171 Hedgerows – h2a Line of trees – w1g6 Arable winter stubble – c1c5 Arable grass margins – c1a	Mature trees are present within the hedgerows around the site and scattered throughout site. These include oak, ash, alder, with occasional holly, willow and hawthorn and blackthorn which have overgrown. Some of the more mature trees around the perimeter of the site and in the site have features that could support roosting bats, such as wounds, rot holes, pruning wounds, woodpecker holes and torn limbs. As the mature trees are to be retained, impacts on roosting bats are likely to be minimal as no roosts are being destroyed by the works. Some of the fields had winter stubble present and appeared to be quite muddy. This allowed for the evidence of animals to show in muddy footprints. Muntjac deer, other small deer species perhaps roe deer, foxes and dogs were observed throughout the site, with many footprints observed along hedgerows and boundaries such as Target note 5.	
Scattered trees – w1 11 1171 Woodland – w1 Bramble scrub or hawthorn scrub – h3d and h3f	To the south-east of the site, with a drainage ditch running through, there is a small deciduous woodland present. This appeared to having evidence of shooting within and human presence and therefore a lack of evidence of protected or notable species. There were no nesting birds observed within this section. Beech, ash, holly, oak, and sycamore are present. There is very little understorey present, but bramble is growing within the wooded area. This section is to be retained as part of the proposed works. Outside of the wooded area is a patch of neutral grassland which contains evidence of moles, Target note 4, and should be retained connecting the woodland to the perimeter hedgerow where possible.	

Scattered trees – w1 11 1171 Access track – u1b6 Arable cereal crops – c1c Arable winter stubble – c1c5 Other rivers and	Within the site, running from west to east is an access track. This is a composition of bare earth, aggregate and tarmac in sections and is of negligible ecological value. However, there are scattered trees along the length (approximately three) which have some features that could support roosting bats with torn limbs and wounds present. The arable fields themselves are of very low ecological value, subject to frequent disturbance and currently as such a short sward length, or absent of vegetation, it offers no suitability for protected or notable species.	
Arable cereal crops – c1c Arable winter stubble – c1c5	Within the centre of the site there is a field of cereal crops adjacent to a field of winter stubble which has no physical boundary between the two fields. No hedgerows, scattered trees or grass margins are present between these fields.	

Scattered trees – w1 11 1171 Hedgerows – h2a Line of trees – w1g6	Along the field boundaries within the site and not around the perimeter, there are species poor hedgerows comprising mainly hawthorn or blackthorn, interspersed with bramble scrub and there are narrow grassy margins. The margins comprise nettle, bristly oxtongue, white clover, cleaver, and meadow grass and perennial rye grass with some spear thistle occasionally. The hedgerows and trees around the site supported small numbers of birds including wagtails, green woodpeckers, blackbirds, wren, robin, and blue and great tits observed around the site. A jay and buzzard were also observed during the survey.	

Fauna

An assessment of the suitability of the site for protected or notable species is provided in Table 3.

Table 3: Assessment of the suitability of the site for protected or notable species

Species	***Assessment of suitability***	***Biological Records data (curtailed to the past 10 years)***
Amphibians	There are no ponds present on site. There were also no EPSLs for GCN returned within 2km. However, pond data was returned within 2km of the site which noted a presence of great crested newts. This included records from ponds within 100m of the site to the south-east. There are numerous ponds within 500m of the site with 19 observed north of the M6 and a further 15 observed below the M6, but this is likely to act as a significant barrier to the site. The perimeter of the site includes hedgerows, scattered trees, and small woodland copses. These provide suitable habitat for sheltering amphibians. The arable fields and grass margins, subject to frequent disturbance and short sward lengths are suboptimal for amphibians. The suitable habitat is to be retained on the site and only the suboptimal habitat is being directly impacted by the works, with the solar farm panels being installed onto the fields. There is unlikely to be any direct impact to amphibians, including great crested newts if works is undertaken during spring/summer months when amphibians are due to be present in ponds and not overwintering in any adjacent vegetation to the site.	There are records of amphibians within 3km of the sites central grid reference, which include common toad, common frog, smooth newt, and great crested newts. The great crested newt records fall within 1km of the site. The waterbodies on site contain running, flowing water, which is unsuitable for GCN, however, there are ponds in the landscape which could support GCN and therefore they could commute through the landscape for sheltering within the woodland or hedgerows overwinter.

Reptiles	As with amphibians, the suitable habitat that could support reptiles, such as hedgerows, tree roots and grass margins, are to be retained as part of the proposed works. The arable fields are unlikely to support reptiles with a lack of suitable foraging opportunities and lack of shelter.	There are records of grass snakes within 3km of the sites central grid reference, the closest of which is 1.5km from the site.
Badgers	The hedgerows and wooded sections of the site offer suitable habitat to support badgers. However, no sett entrances, snuffle holes, prints, hairs, or strong mammal paths were observed during the survey. The only evidence of badgers observed were two single dung pits along the north-western boundary. This could demarcate their territorial boundary within the wider landscape. The proposed works will be directly impacting the fields and not the field margins, which will retain access along the site edges within the wider landscape for commuting badgers and will not be removing any optimal habitats.	Badger records remain confidential, but there are badger records in 3km of the sites central grid reference.
Bats	There were no EPSLs returned within 2km of the site. The mature trees on site offer some suitability for roosting bats with several of them having features such as torn limbs, wounds, rot holes, pruning wounds and woodpecker holes. The trees around the site are to be retained and not directly impacted by the proposed works. The hedgerows and lines of trees will support foraging and commuting bats, with insects around the watercourses on the site.	There are 27 records of bats within 3km of the sites central grid reference including brown long-eared bats, common pipistrelles, soprano pipistrelles, noctules and natterers. It is likely this area is under recorded for bats.
Hazel Dormouse	The site lacks any large, wooded areas with suitable complex vegetative structure and understorey to support the dormouse life cycle. In addition, the site hedgerows do not connect to suitable large woodlands. Dormice typically utilise a three-dimensional habitat structure as to commute between feeding and breeding sites whilst avoiding predation; with dormice requiring 20ha of woodland habitat to support a viable, isolated population (Bright et al. 1994). The site lacks the suitable habitat to support dormice.	There were no records of hazel dormouse within 3km of the sites central grid reference.
Hedgehog	The vegetation around the perimeter of the site is likely to support hedgehogs, and is to be retained.	There are twelve records of hedgehogs within 3km of the sites central grid reference, situated across numerous areas.
Otter	There are no suitable watercourses on site or within 500m of the site that could support otter. There is also a lack of connectivity between the site and suitable watercourses and lack of suitable riparian habitat on site. Otter is not considered to be present.	There were no records of otter within 3km of the sites central grid reference.
Water Vole	The watercourse to the east of the site is heavily shaded and lack suitable vegetation present on the banks to both support foraging and sheltering water voles. There were no burrows observed on either the eastern or western water course. Though the watercourse to the west was more exposed with no shade, the vegetation had been maintained at a low sward length, exposing any animals to predation. There is a lack of connectivity with the site and any other suitable watercourses in the wider landscape and no evidence of water vole such as burrows, prints, latrines or feeding remains were observed.	Breach brook, situated over 2km east of the site has five records of water vole, all of which are between 2002 and 2007. There is no direct connectivity between that brook and the watercourses on site.
Birds	Birds were observed using the vegetation around the perimeter of the site. A kingfisher was observed on the north-western section of the water course. The vegetation and watercourses are to be retained as part of the proposals, reducing the impact to nesting birds.	There is one record of barn owl within 3km of the sites central grid reference, but there are no structures present on site likely to support them, though the fields could offer foraging opportunities. There are 394 records of birds within 3km of the sites central grid reference, with the vast majority from 2018 –

		likely due to recent survey efforts. These records are concentrated to an area known as Astley CP which is on the outer regions of the buffer zone. Species include skylark, linnet, swallows, redwing, and dunnocks.
Invertebrates	The site is predominantly impacting the arable fields and habitats of interest are being retained, such as trees with dead limbs, watercourses, and scrub.	Approximately 50 moth species were recorded within 3km of the sites central grid reference. The arable fields are homogenous in their plant species, and unlikely to support notable species. The arable field margins and hedgerows are likely to support invertebrates and should be retained.

4.0 Conclusions, Impacts and Recommendations

4.1 Informative Guidelines

A summary of the relevant legislation and planning policies is provided in Appendix 4.

Likelihood of the Presence of Protected Species

Where physical evidence of the presence of protected species is indeterminate during the survey, the habitats on site are evaluated as to their likelihood to provide sheltering, roosting, foraging, basking or nesting habitat.

Where this report supports a planning application, the ecological interest of the study area (i.e., the area covered by the desk study and field survey), and the proposed development has also been evaluated in terms of the planning policies relating to biodiversity.

4.2 Evaluation

Taking the desk study and field survey results into account, Table 4 presents an evaluation of the ecological value of the site and also details any ecological constraints identified in relation to the proposed development which will comprise for the construction of a temporary Solar Farm providing 48.1 MW (AC) output, to include the installation of ground-mounted solar panels together with associated works, equipment, and necessary infrastructure.

Table 4: Evaluation of the site and any ecological constraints

Ref	***Summary of Survey Findings***	***Foreseen Impacts***	***Recommendations*** *Measures required to adhere to guidance, legislation, and planning policies.*	***Biodiversity Enhancements*** *The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021)*
Designated sites	The site is not subject to any statutory or non-statutory designation. There are no statutory designated sites within 2km of the site.	No impacts to designated sites are anticipated due to the small scale and distance of the proposed development from such sites (where known) as well as the location of the site with surrounding physical barriers. However, indirect effects such as pollution or tree damage could occur during construction.	Best practice measures to minimise the possibility of pollution and tree damage must be implemented during construction.	None.
Habitats and flora	There are no notable habitats within the site, but four habitats are present within	No impacts to any notable habitats are anticipated due to the small scale and distance of the proposed development from such habitats as well as the	Best practice measures to minimise the possibility of pollution and tree damage must be implemented during construction. A construction environmental management plan should be created for the site to maintain root	The following habitat creation and enhancement opportunities could be

	2km of the site, the closest being deciduous woodland located adjacent to the site on the western boundary. No protected or notable plant species were recorded during the survey.	location of the site with surrounding physical barriers. However, indirect effects such as pollution or tree damage could occur during construction. The proposed development will result in the loss of arable fields. This is likely to have a minimal impact on biodiversity due to the low ecological value of these habitats.	protection zones for the trees on site and detail pollution prevention guidelines such as refuelling on hard standing, keeping plant spill kits and nappies on site, and keeping a 10m buffer around watercourses.	incorporated into the proposed development: • Native tree, hedgerow, and shrub planting, including fruiting species. • Creation of wildflower grassland. Species-specific enhancement opportunities are detailed later in this table.
Amphibians	Though there are no ponds on site, or EPSLs for GCN within 2km of the site, there is pond data for the presence of GCN within 500m of the site. The habitats to be retained, such as hedgerows, grassy margins and wooded areas provide suitability for sheltering amphibians. The arable fields are of very low ecological value for amphibians.	The proposed development will not result in the loss of any ponds. However, due to the presence of ponds within close proximity of the site, indirect effects such as pollution could occur during construction. Site clearance could result in the death or injury of amphibians, if present, but unlikely to be GCN as there are no ponds for breeding within the site and suboptimal habitats account for over 70% of the habitats on site.	eDNA surveys are recommended on ponds within 250m of the site in order to determine likely absence or presence of great crested newts as there are records within 3km of the sites central grid reference. If GCN are found to be present within the ponds around the site, then District Level Licencing may be required. However, if the eDNA is negative, then owing to the nature of the proposed development, a precautionary working method will be implemented for common amphibians during construction, including the following measures: • Site clearance will be undertaken outside of the amphibian hibernation season (November to February) insofar as is possible. Works when amphibians are likely to be in ponds will minimise the impact on any that could commute through the site, though very unlikely. • A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any amphibians to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter amphibians from the working area.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for amphibians: • Creation of amphibian refugia and hibernacula using debris and brash from site clearance. • Planting of native scrub and grassland to increase foraging opportunities.

			• Best practice pollution prevention measures will be implemented to minimise impacts to retained habitats that amphibians could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any common amphibians are found in the working area these should be moved by hand to a vegetated area along the site boundaries or in retained habitats away from disturbance. • In the unlikely event that a great crested newt is identified, works must cease and advise must be sought from a suitably qualified ecologist.	
Reptiles	As with amphibians, reptiles are likely to utilise the habitats on site that are to be retained as the arable fields expose animals to predation and offer very little foraging or sheltering suitability.	No impacts are anticipated on reptiles as a result of the proposed development.	None.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for reptiles: • Creation of reptile refugia and hibernacula using debris and brash from site clearance. • Planting of native scrub and grassland to increase foraging opportunities. • The creation of basking areas such as rock piles or areas of cleared ground with shelter nearby.
Roosting bats (Scattered trees)	Several of the mature trees around site have suitable features to support roosting bats such as	The proposed development will not affect any of the features that could be used by roosting bats which were noted on the trees during the survey and therefore no impacts to bat roosts are anticipated. However, the proposed development	Owing to the nature of the proposed development and the low potential for impacts to bat roosts, further bat surveys are considered to be disproportionate. It is anticipated that any risk to bats can be reduced to an acceptably low level through the implementation of a precautionary working	The installation of a minimum of four bat boxes on mature trees around the site boundaries will provide

	torn limbs, woodpecker holes, wounds, and rot holes. Each tree was not subject to an individual survey as they are to be retained on site.	could result in disturbance to any bats present in the building at the time of the works due to noise, vibration or lighting.	method during and post-development. This will include the following measures: • Works will be scheduled during the winter months (November to March) when bats are least likely to be present, insofar as is possible. • Lighting of the vegetation should be avoided, in particular at night and outside of working hours. • A toolbox talk will be given to contractors to make them aware of the possible presence of bats on the site. • In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice.	additional roosting habitat for bats e.g. 1FF Schwegler Bat Box (trees) Vivara Pro Woodstone Bat Box (buildings) Or a similar alternative brand. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light.
Foraging and commuting bats	Hedgerows and scattered trees could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site.	The proposed development will not result in the removal of any habitats which could be used by foraging or commuting bats. The proposed development may include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas, though lighting at night should be avoided on site.	If there is to be permanent lighting on site, then bat activity surveys, comprising walked transects and static monitoring, will be required to determine the usage of the site by foraging and commuting bats as well as to identify the likely presence or absence or any bat roosts in the vicinity, particularly those of high conservation value including maternity roosts. A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures: • Use narrow spectrum light sources to lower the range of species affected by lighting. • Use light sources that emit minimal ultra-violet light. • Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature <4,200 kelvin.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for foraging bats: • Planting of native tree, shrub, and hedgerows to increase foraging opportunities.

			• Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal. • Light spill will be reduced via the use of low-level lighting used in conjunction with hoods, cowls, louvers, and shields. Lights will also be directional to ensure that light is directed to the intended areas only. • External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on. • Wall lights and security lights will be 'dimmable' and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights are on. All lighting on the developed site will make use of the most up to date technology available.	
Badger	Only two dung pits were observed along the north-western boundary of the site, but no other evidence of badgers was observed on site. The arable fields provide very limited suitability for badgers and no setts were observed on or around the site perimeter. Badgers could be present in the wider landscape.	No impacts are anticipated on badgers as a result of the proposed development. However, construction activities could result in the death or injury of commuting badgers if present.	Owing to the nature of the proposed development and the low potential for impacts to badgers, further badger surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • A toolbox talk will be given to contractors regarding the possible presence of badgers at the site. • A pre-commencement inspection of the site should not be required as the works is not due to impact the site boundary vegetation or suitable habitats. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which badgers could use.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for badgers: • Planting fruit bearing trees and species-rich grassland to increase foraging opportunities.

			• Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • In the unlikely event that a badger sett is identified, works must cease and advise must be sought from a suitably qualified ecologist.	
Hazel dormouse	The site lacks the correct vegetative structures and expanse to support dormice.	No impacts are anticipated on hazel dormice as a result of the proposed development.	None.	None.
Hedgehog	Hedgehogs could be present on site, but the habitats suitable for supporting hedgehogs are to be retained and not directly impacted.	Arable fields will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of commuting hedgehogs if present.	A precautionary working method will be implemented during construction, including the following measures: • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which hedgehogs could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If a hedgehog is found, then this should be moved by gloved hand to an undisturbed and sheltered area of the site or adjacent land.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs: • Planting fruit bearing trees and species-rich grassland to increase foraging opportunities. • Creation of brash piles or installation of hedgehog houses in shady areas. • Installation of gaps under boundary fencing to enable hedgehogs to move freely through the site.
Otter	The small watercourses on site are very unlikely to support otter due to a lack of prey within the waterbodies and lack of connectivity to	No impacts are anticipated on otters as a result of the proposed development.	None.	None.

	any more suitable habitats in the wider landscape.			
Water vole	The two watercourses on site are not suitable to support water vole in differing ways; the eastern watercourse is too shaded and absent of suitable vegetation and the western one is not sheltered in anyway and the vegetation has been maintained to a short sward length. No evidence of water voles was observed, and the site is isolated.	No impacts are anticipated on water vole as a result of the proposed development. Water vole records are associated with a brook over 1km east of the site, with very limited connectivity between waterbodies.	Heras fencing will be erected around the working area to prevent encroachment within 5m of the watercourse. The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to the watercourse and any retained habitats which water voles could use. Best practice pollution prevention measures will be implemented to minimise impacts to the watercourse and any retained habitats that water vole could use. Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for water vole: • Planting species rich grassland close to the watercourse to increase foraging opportunities.
Birds	The suitable habitats on site around the perimeter are to be retained and not directly impacted, though some noise and vibrations from works could impact adjacent birds.	Arable fields will be removed during construction. The loss of such habitats is likely to be inconsequential to local bird populations owing to their low value and the presence of more extensive habitat locally. However, the proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests.	Works should be undertaken outside the period 1st March to 31st August. If this period cannot be avoided, a close inspection of the vegetation should be undertaken immediately, by qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged.	The installation of a minimum of six bird boxes on mature trees around the site boundaries will provide additional nesting habitat for birds e.g. Schwegler 1B Nest Boxes (trees) Schwegler 2H Robin Boxes (trees) Woodstone Nest Box (buildings or trees) Or a similar alternative brand. Tree boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain, and strong sunlight. Small-hole boxes are best placed

				approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole.
Invertebrates	The poorer habitats on site are to be directly impacted and the scrub, trees, hedgerows, and watercourses are to be maintained.	No impacts are anticipated on notable species or populations of invertebrates as a result of the proposed development.	None.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for invertebrates: • Native tree, hedgerow, and shrub planting. • Creation of wildflower grassland. • Retention of deadwood on the site.

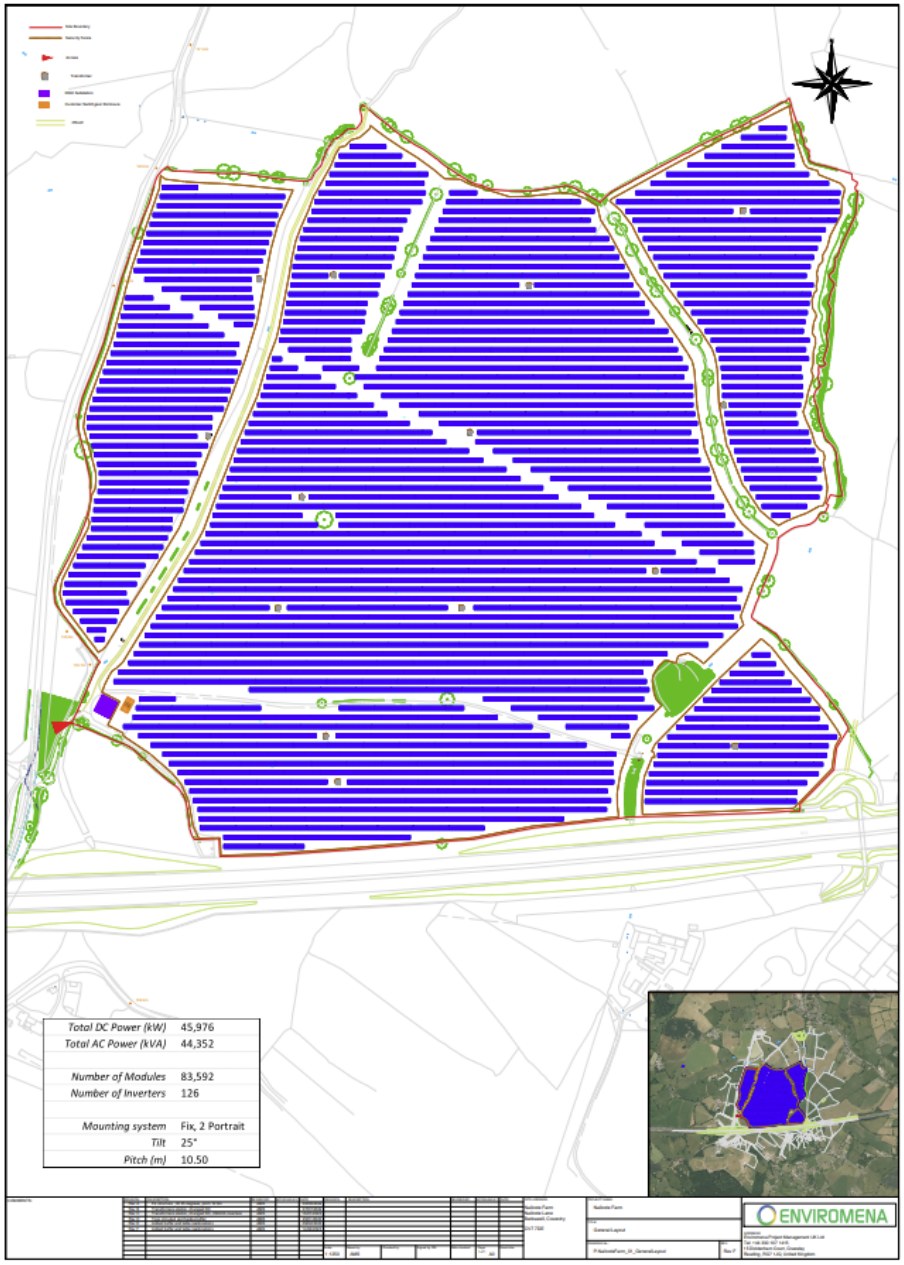
5.0 Bibliography

- Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Dejean, T., Griffiths, R., Foster, J., Wilkinson, J., Arnell, A., Brotherton, P., Williams, P. and Dunn, F. (2014). Using eDNA to Develop a National Citizen Science-based Monitoring Programme for the Great Crested Newt (*Triturus cristatus*). Biological Conservation. 183. 10.1016/j.biocon.2014.11.029.
- Bright, P., Morris, P., Mitchell-Jones, T. and Wroot, S. (2006). The Dormouse Conservation Handbook Second Edition.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.
- Chanin, P. (2003). Ecology of the European Otter. Conserving Natura 2000 Rivers Ecology Series No. 10. Natural England, Peterborough.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Collins, J. (2016). Bat Surveys for Professional Ecologists —Good Practice Guidelines, 3rd edition, Bat Conservation Trust, London.
- Defra (2007). Hedgerow Survey Handbook. A Standard Procedure for Local Surveys in the UK. Defra, London.
- Edgar, P., Foster, J. and Baker, J (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth http://downloads.gigl.org.uk/website/Reptile%20Habitat%20Management%20Handbook.pdf
- Garland, L. & Markham, S. (2008) Is Important Bat Foraging and Commuting Habitat Legally Protected? http://biodiversitybydesign.co.uk/cmsAdmin/uploads/protection-for-bat-habitat-sep-2007.pdf
- Gent, T. and Gibson, S. (2003). Herpetofauna Workers' Manual. JNCC, Peterborough.
- Gilbert, G., Gibbons, D.W., and Evans, J. (1998) Bird Monitoring Methods: A Manual of Techniques for UK Key Species. The Royal Society for the protection of Birds, Sandy, Bedfordshire, England.
- Google Earth. Accessed on 26/01/2023.
- Harris, S., Cresswell, P., and Jefferies, D.J. (1989). Surveying badgers. Mammal Society, London.

- HMSO: Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 https://www.legislation.gov.uk/uksi/2019/579/contents/made
- HMSO: Countryside & Rights of Way Act (2000) http://jncc.defra.gov.uk/page-1378
- HMSO: Natural Environmental and Rural Communities Act (2006) http://www.legislation.gov.uk/ukpga/2006/16/contents
- HMSO: The Protection of Badgers Act 1992 (as amended) http://www.legislation.gov.uk/ukpga/1992/51/contents
- HMSO: Wildlife and Countryside Act 1981 (as amended 01.04.1996) http://jncc.defra.gov.uk/page-1377
- Institution of Lighting Professionals (2018). Guidance Note 08/18 Bats and Artificial Lighting in the UK. Bats and the Built Environment Series Publication: http://www.bats.org.uk/news.php/406/new_guidance_on_bats_and_lighting.
- JNCC (2004). Bat Workers Manual, 3rd Edition. http://jncc.defra.gov.uk/page-2861
- Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey a technique for environmental audit. http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf
- Langton, T., Beckett, C. and Foster, J (2001). Great Crested Newt Conservation Handbook. Froglife. Suffolk. http://www.froglife.org/wp-content/uploads/2013/06/GCN-Conservation-Handbook_compressed.pdf
- Magic Database. http://www.magic.gov.uk/MagicMap.aspx Accessed on 26/01/2023.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.
- National Planning Policy Framework (2021). https://www.gov.uk/government/publications/national-planning-policy-framework--2
- Natural England Designated Sites View. https://designatedsites.naturalengland.org.uk/SiteSearch.aspx Accessed on 26/01/2023.
- Natural England (2005). Organising Surveys to Determine Site Quality for Invertebrates: A Framework Guide for Ecologists. Natural England, Peterborough.
- Natural England (2007). Badgers and Development a Guide to Best Practice and Licensing. Natural England. Bristol. http://www.wildlifeco.co.uk/wp-content/uploads/2014/03/badgers-and-development.pdf
- Oldham R.S., Keeble J., Swan M.J.S. and Jeffcote M. (2000). Evaluating the Suitability of Habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10(4), 143-155. https://www.thebhs.org/publications/the-herpetological-journal/volume-10-number-4-october-2000/1617-03-evaluating-the-suitability-of-habitat-for-the-great-crested-newt-triturus-cristatus/file
- Panks, S., White., N., Newsome, A., Potter, J., Heydon, M., Mayhew, E., Alvarez, M., Russell, T., Scott, S.J., Heaver, M., Scott, S.H., Treweek, J., Butcher, B. and Stone, D. (2021). Biodiversity Metric 3.0: Auditing and Accounting for Biodiversity – Technical Supplement. Natural England.
- Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands, and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747.
- Strachan, R., Moorhouse, T. and Gelling, M. (2011). Water Vole Conservation Handbook. Third Edition. Wildlife Conservation Research Unit, Oxford.

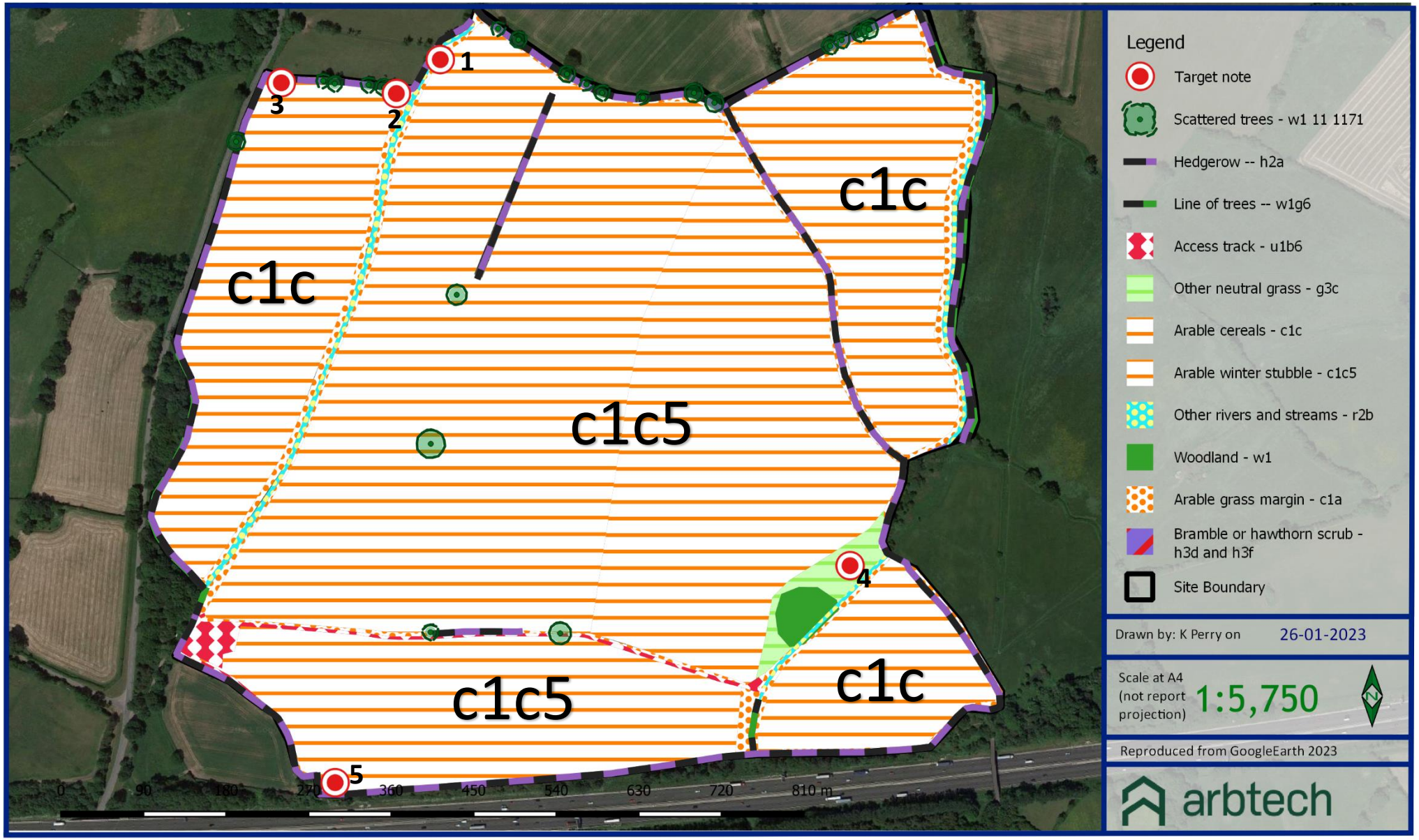
- UK Habitat Classification Working Group (2018). UK Habitat Classification User Manual at http://ecountability.co.uk/ukhabworkinggroup-ukhab
- Wray, S., Wells, D., Long, E. and Mitchell-Jones, T (2010). Valuing Bats in Ecological Impact Assessment. IEEM In-Practice. Number 70 (December 2010). Pp. 23-25.

Appendix 1: Proposed Development Plan



Appendix 2: Site Location Plan

Appendix 3: Habitat Survey Plan



Appendix 4: Legislation and Planning Policy

LEGAL PROTECTION

National and European Legislation Afforded to Habitats

International Statutory Designations

Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are sites of European importance and are designated under the EC Habitats Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the Habitats Directive) and the EC Birds Directive 2009/147/EC on the conservation of wild birds (the Wild Birds Directive) respectively. Both form part of the wider Natura 2000 network across Europe.

Under the Habitats Directive Article 3 requires the establishment of a network of important conservation sites (SACs) across Europe. Over 1000 animal and plant species, as well as 200 habitat types, listed in the directive's annexes are protected in various ways:

Annex II species (about 900): core areas of their habitat are designated as Sites of Community importance (SCIs) and included in the Natura 2000 network. These sites must be managed in accordance with the ecological needs of the species.

Annex IV species (over 400, including many Annex II species): a strict protection regime must be applied across their entire natural range, both within and outside Natura 2000 sites.

Annex V species (over 90): their exploitation and taking in the wild is compatible with maintaining them in a favourable conservation status.

SPAs are classified under Article 2 of the Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds both for rare bird species (as listed on Annex I) and for important migratory species.

The Conservation of Habitats and Species Regulations 2017 (as amended) form the legal basis for the implementation of the Habitats and Birds Directives in terrestrial areas and territorial waters out to 12 nautical miles in England and Wales (including the inshore marine area) and to a limited extent in Scotland and Northern Ireland.

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention covers all aspects of wetland conservation and recognises the importance of wetland ecosystems in relation to global biodiversity conservation. The Convention refers to wetlands as "*areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres*." However, they may also include riparian and coastal zones. Ramsar sites are statutorily protected under the Wildlife & Countryside Act 1981 (as amended 01.04.1996) with further protection provided by the Countryside and Rights of Way (CRoW) Act 2000. Policy statements have been issued by the Government in England and Wales highlighting the special status of Ramsar sites. The Government in England and Wales has issued policy statements which ensure that Ramsar sites are afforded the same protection as areas designated under the EC Birds and Habitats Directives as part of the Natura 2000 network (e.g., SACs & SPAs). Further provisions for the protection and management of SSSIs have been introduced by the Nature Conservation (Scotland) Act 2004.

National Statutory Designations

Sites of Special Scientific Interest (SSSI) are designated by nature conservation agencies in order to conserve key flora, fauna, geological or physio-geographical features within the UK. The original designations were under the National Parks and Access to the Countryside Act 1949 but SSSIs were then re-designated under the Wildlife & Countryside Act 1981 (as amended). As well as reinforcing other national designations (including National Nature Reserves), the system also provides statutory protection for terrestrial and coastal sites which are important within the European Natura 2000 network and globally.

Local Statutory Designations

Local authorities in consultation with the relevant nature conservation agency can declare Local Nature Reserves (LNRs) under the National Parks and Access to the Countryside Act 1949. LNRs are designated for flora, fauna or geological interest and are managed locally to retain these features and provide research, education, and recreational opportunities.

Non- Statutory Designations

All non-statutorily designated sites are referred to as Local Wildlife Sites (LWS) and can be designated by the local authority for supporting local conservation interest. Combined with statutory designation, these sites are considered within Local Development Frameworks under the Town and Country Planning system and are a material consideration during the determination of planning applications. The protection afforded to these sites varies depending on the local authority involved.

Regionally Important Geological Sites (RIGs) are the most important geological and geomorphological areas outside of statutory designations. These sites are also a material consideration during the determination of planning applications.

The Hedgerow Regulations 1997

The Hedgerow Regulations 1997 are designed to protect 'important' countryside hedgerows. Importance is defined by whether the hedgerow (a) has existed for 30 years or more; or (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations.

Under the Regulations, it is against the law to remove or destroy hedgerows on or adjacent to common land, village greens, SSSIs (including all terrestrial SACs, NNRs and SPAs), LNRs, land used for agriculture or forestry and land used for the keeping or breeding of horses, ponies, or donkeys without the permission of the local authority. Hedgerows 'within or marking the boundary of the curtilage of a dwelling-house' are excluded.

National and European Legislation Afforded to Species

The Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) aims to promote the maintenance of biodiversity by requiring the Secretary of State to take measures to maintain or restore wild species listed within the Regulations at a favourable conservation status.

The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes (such as science and education, conservation, preserving public health and safety), but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

The Wildlife and Countryside Act (WCA) 1981 (as amended)

The Wildlife and Countryside Act (WCA) 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1979, implemented 1982) and implements the species protection requirements of EC Birds Directive 2009/147/EC on the conservation of wild birds in Great Britain (the birds Directive). The WCA 1981 has been subject to a number of amendments, the most important of which are through the Countryside and Rights of Way (CRoW) Act (2000).

Other legislative Acts affording protection to wildlife and their habitats include:

- Deer Act 1991
- Natural Environment & Rural Communities (NERC) Act 2006
- Protection of Badgers Act 1992
- Wild Mammals (Protection) Act 1996

Badgers

Badgers *Meles meles* are protected under The Protection of Badgers Act 1992 which makes it an offence to:

- Wilfully kill, injure, take, or attempt to kill, injure, or take a badger.
- Cruelly ill-treat a badger, including use of tongs and digging
- Possess or control a dead badger or any part thereof.
- Intentionally or recklessly damage, destroy or obstruct access to a badger sett or any part thereof.
- Intentionally or recklessly disturb a badger when it is occupying a badger sett.
- Intentionally or recklessly cause a dog to enter a badger sett.
- Sell or offers for sale, possesses, or has under his control, a live badger.

Effects on development works:

A development licence will be required from the relevant countryside agency (i.e., Natural England, Natural Resources Wales, Scottish Natural Heritage) for any development works likely to affect an active badger sett, or to disturb badgers whilst they occupy a sett. Guidance has been issued by the countryside agencies to define what would constitute a licensable activity. It is no possible to obtain a licence to translocate badgers.

Birds

With certain exceptions, all birds, their nests, and eggs are protected under Sections 1-8 of the WCA. Among other things, this makes it an offence to:

- Intentionally (or recklessly in Scotland) kill, injure, or take any wild bird.
- Intentionally (or recklessly in Scotland) take, damage, or destroy (or, in Scotland, otherwise interfere with) the nest of any wild bird while it is in use or being built.
- Intentionally take or destroy an egg of any wild bird.
- Sell, offer, or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.
- Intentionally or recklessly obstruct or prevent any wild bird from using its nest (Scotland only)

Certain species of bird, for example the barn owl, bittern and kingfisher receive additional protection under Schedule 1 of the WCA and are commonly referred to as “Schedule 1” birds.

This affords them protection against:

- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young.
- Intentional or reckless disturbance of dependent young of such a bird
- In Scotland only, intentional, or reckless disturbance whilst lekking
- In Scotland only, intentional, or reckless harassment

Effects on development works:

Works should be planned to avoid the possibility of killing or injuring any wild bird or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction in particular is to undertake work outside the main bird nesting season which typically runs from March to August. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

Schedule 1 birds are additionally protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest.

Amphibians and Reptiles

The sand lizard *Lacerta agilis*, smooth snake *Coronella austriaca*, natterjack toad *Epidalea calamita*, pool frog *Pelophylax lessonae* and great crested newt *Triturus cristatus* receive full protection under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring, or capturing of Schedule 2 species.
- Deliberate disturbance of species in such a way as:

- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate.
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

With the exception of the pool frog, these species are also listed on Schedule 5 of the WCA, and they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering, or exposing for sale, possession or transporting for purpose of sale.

Other native species of reptiles are protected solely under Schedule 5, Section 9(1) & (5) of the WCA, i.e., the adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis*. It is prohibited to:

- Intentionally or recklessly kill or injure these species.

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e., Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect the breeding sites or resting places amphibian and reptile species protected under Habitats Regulations. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g., survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation, but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Although not licensable, appropriate mitigation measures may also be required to prevent the intentional killing or injury of adder, grass snake, common lizard, and slow worm, thus avoiding contravention of the WCA.

Water Voles

The water vole *Arvicola terrestris* is fully protected under Schedule 5 of the WCA. This makes it an offence to:

- Intentionally kill, injure, or take (capture) water voles.
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection.
- Intentionally or recklessly disturb water voles while they are occupying a structure or place used for shelter or protection.

Effects on development works:

If development works are likely to affect habitats known to support water voles, the relevant countryside agency (i.e., Natural England, Natural Resources Wales, Scottish Natural Heritage) must be consulted. It must be shown that means by which the proposal can be re-designed to avoid contravening the legislation have been fully explored e.g., the use of alternative sites, appropriate timing of works to avoid times of the year in which water voles are most vulnerable, and measures to ensure minimal habitat loss. Conservation licences for the capture and

translocation of water voles may be issued by the relevant countryside agency for the purpose of development activities if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will then only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of works.

Otters

Otters *Lutra lutra* are fully protected under the Conservation Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring, or capturing of Schedule 2 species.
- Deliberate disturbance of species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate.
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Otters are also currently protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect otter breeding or resting places (often referred to as holts, couches or dens) or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, and rear young). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Bats

All species are fully protected by Habitats Regulations 2010 as they are listed on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring, or capturing of Schedule 2 species (e.g., All bats)
- Deliberate disturbance of bat species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate.
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Bats are afforded the following additional protection through the WCA as they are included on Schedule 5:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e., Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works are likely to affect a bat roost or an operation which are likely to result in an illegal level of disturbance to the species will require an EPSM licence. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Hazel Dormice

Hazel dormice *Muscardinus avellanarius* are fully protected under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring, or capturing of Schedule 2 species.
- Deliberate disturbance of species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate.
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Dormice are also protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

Works which are liable to affect a dormice habitat or an operation which are likely to result in an illegal level of disturbance to the species will require a European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e., Natural England, Natural Resources Wales (NB: Hazel Dormouse are entirely absent from Scotland)). The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

White Clawed Crayfish

There is a considerable amount of legislation in place in an attempt to protect the White-clawed crayfish *Austropotamobius pallipes*. This species is listed under the European Union's (EU) Habitat and Species Directive and is listed under Schedule 5 of the Wildlife and Countryside Act (1981). This makes it an offence to:

- Protected against intentional or reckless taking.

- Protected against selling, offering, or advertising for sale, possessing or transporting for the purpose of sale.

It is also classified as Endangered in the IUCN Red List of Endangered Species. As a result of this and other relevant crayfish legislation such as the Prohibition of Keeping of Live Fish (Crayfish) Order 1996, a series of licences are needed for working with White-clawed and non-native crayfish. These are:

- A licence to handle crayfish (therefore survey work) in England.
- A licence for the keeping of crayfish in England and Wales with an exemption for Signal crayfish (England).
- People in the post-code areas listed with crayfish present prior to 1996 do not need to apply for consent for crayfish already established. It does not, however, allow any new stocking of non-native crayfish into waterbodies. Consent for trapping of non-native crayfish for control or consumption is most likely to be granted in Thames and Anglian regions in the areas with "go area" postcodes.
- Harvesting of crayfish is prohibited in much of England and in any part of Scotland and Wales.

Effects on development works:

The relevant countryside agency (i.e., Natural England, Natural Resources Wales, Scottish Natural Heritage) will need to be consulted about development which could impact on a watercourse or wetland known to support white clawed crayfish. Conservation licences for the capture and translocation of crayfish can be issued if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of the works.

Wild Mammals (Protection Act) 1996

All wild mammals are protected against intentional acts of cruelty under the above legislation. This makes it an offence to mutilate, kick, beat, nail, or otherwise impale, stab, burn, stone, crush, drown, drag, or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

Legislation Afforded to Plants

With certain exceptions, all wild plants are protected under the WCA. This makes it an offence for an 'unauthorised' person to intentionally (or recklessly in Scotland) uproot wild plants. An authorised person can be the owner of the land on which the action is taken, or anybody authorised by them.

Certain rare species of plant, for example some species of orchid, are also fully protected under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). This prohibits any person from:

- Intentionally (or recklessly in Scotland) picking, uprooting or destruction of any wild Schedule 8 species (or seed or spore attached to any such wild plant in Scotland only)
- Selling, offering, or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or part thereof

- In addition to the UK legislation outlined above, several plant species are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2010. These are species of European importance. Regulation 45 makes it an offence to:
- Deliberately pick, collect, cut, uproot, or destroy a wild Schedule 5 species.
- Be in possession of, or control, transport, sell or exchange, or offer for sale or exchange any wild live or dead Schedule 5 species or anything derived from such a plant.

Effects on development works:

A European Protected Species Licence (EPSL) will be required from the relevant countryside agency (i.e., Natural England, Natural Resources Wales, Scottish Natural Heritage) for works which are likely to affect species of planted listed on Schedule 5 of the Conservation or Habitats and Species Regulations 2010. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Invasive Species

Part II of Schedule 9 of the WCA lists non-native invasive plant species for which it is a criminal offence in England and Wales to plant or cause to grow in the wild due to their impact on native wildlife. Species included (but not limited to):

- Japanese knotweed *Fallopia japonica*
- Giant hogweed *Heracleum mantegazzianum*
- Himalayan balsam *Impatiens glandulifera*

Effects on development works:

It is not an offence for plants listed in Part II of Schedule 9 of the WCA 1981 to be present on the development site, however, it is an offence to cause them to spread. Therefore, if any of the species are present on site and construction activities may result in further spread (e.g., earthworks, vehicle movements) then it will be necessary to design and implement appropriate mitigation prior to construction commencing.

Injurious weeds

Under the Weeds Act 1959 any landowner or occupier may be required prevent the spread of certain 'injurious weeds' including (but not limited to):

- Spear thistle *Cirsium vulgare*
- Creeping thistle *Cirsium arvense*
- Curled dock *Rumex crispus*
- Broad-leaved dock *Rumex obtusifolius*
- Common ragwort *Senecio jacobaea*

Effects on development works:

It is a criminal offence to fail to comply with a notice requiring such action to be taken. The Ragwort Control Act 2003 establishes a ragwort control code of practice as common ragwort is poisonous to horses and other livestock. This code provides best practice guidelines and is not legally binding.

NATIONAL PLANNING POLICY (ENGLAND)

Environment Act 2021

The Environment Act 2021 (EA 2021) received Royal Assent on 9 November 2021 and is expected to become fully mandated within the next couple of years. The Act principally creates a post Brexit framework to protect and enhance the natural environment. Through amendments to the Town and Country Planning Act 1990, the Act will require all planning permissions in England (subject to exemptions which is likely to include householder applications) to be granted subject to a new general pre-commencement condition that requires approval of a biodiversity net gain plan. This will ensure the delivery of a minimum of 10% measurable biodiversity net gain. The principal tool to calculate this will be the Defra Biodiversity 3.0 Metric. Works to enhance habitats can be carried out either onsite or offsite or through the purchase of 'biodiversity credits' from the Secretary of State. However, this flexibility may be removed (subject to regulations) if the onsite habitat is 'irreplaceable.' Both onsite and offsite enhancements must be maintained for at least 30 years after completion of a development (which period may be amended).

National Planning Policy Framework 2021

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration, and re-creation. The protection and recovery of priority species (considered likely to be those listed as species of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; measurable gains in biodiversity in and around developments are incorporated; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty.'

Section 41 of the Act requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity'. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

EUROPEAN PROTECTED SPECIES POLICIES

In December 2016 Natural England officially introduced the four licensing policies throughout England. The four policies seek to achieve better outcomes for European Protected Species (EPS) and reduce unnecessary costs, delays and uncertainty that can be inherent in the current standard EPS licensing system. The policies are summarised as follows:

- Policy 1; provides greater flexibility in exclusion and relocation activities, where there is investment in habitat provision;
- Policy 2; provides greater flexibility in the location of compensatory habitat;
- Policy 3; provides greater flexibility on exclusion measures where this will allow EPS to use temporary habitat; and,
- Policy 4; provides a reduced survey effort in circumstances where the impacts of development can be confidently predicted.

The four policies have been designed to have a net benefit for EPS by improving populations overall and not just protecting individuals within development sites. Most notably Natural England now recognises that the Habitats Regulations legal framework now applies to 'local populations' of EPS and not individuals/site populations.