

Berkeley House, Lynsted Lane, Teynham, Kent

Preliminary Ecological Appraisal

22nd May 2023 / Ref No 2023/02/16

Client: GPM2 Design Ltd



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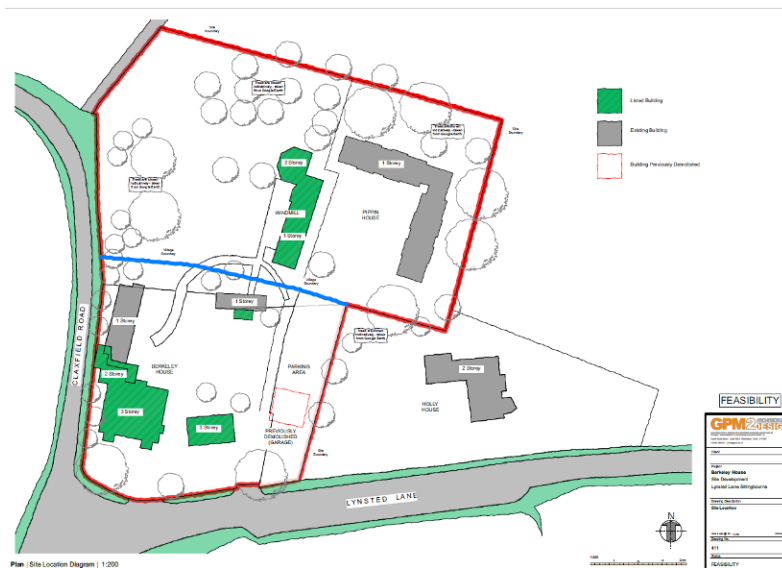
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1 Introduction

1.1 Background to the Scheme

KB Ecology Ltd was commissioned to undertake a baseline ecological survey and a preliminary ecological appraisal with regards to a proposed development at Berkeley House, Lynsted Lane, Teynham ME9 0RL Kent, in support of a planning application for the change of use and conversion /extension of existing Listed buildings on site to residential from assisted care home use, as well as some minor new build.

The extent of site to be surveyed is shown on the map below, as sent by the client:



1.2 Survey Location/Area

The site is located at approximately TQ 943 611. The location of the site is shown on Figure 1 and Figure 2.

1.3 Survey Objectives

The purpose of this survey is to provide a scoping assessment and to assist in demonstrating compliance with wildlife legislation and planning policy objectives.

The key objectives are as follows:

- Identify all relevant statutory and non-statutory designated sites and features of ecological significance within the site and its surroundings.
- Assess the potential for the presence of protected species and species of principal conservation importance, important habitats or other biodiversity features within the site and its surroundings.
- Provide recommendations for further surveys where assessed as necessary and suggest potential enhancements.
- Present the likely significance of ecological impacts on the proposed development.

- Provide an early indication of potential ecological mitigation and compensation requirements necessary as part of any development proposals.

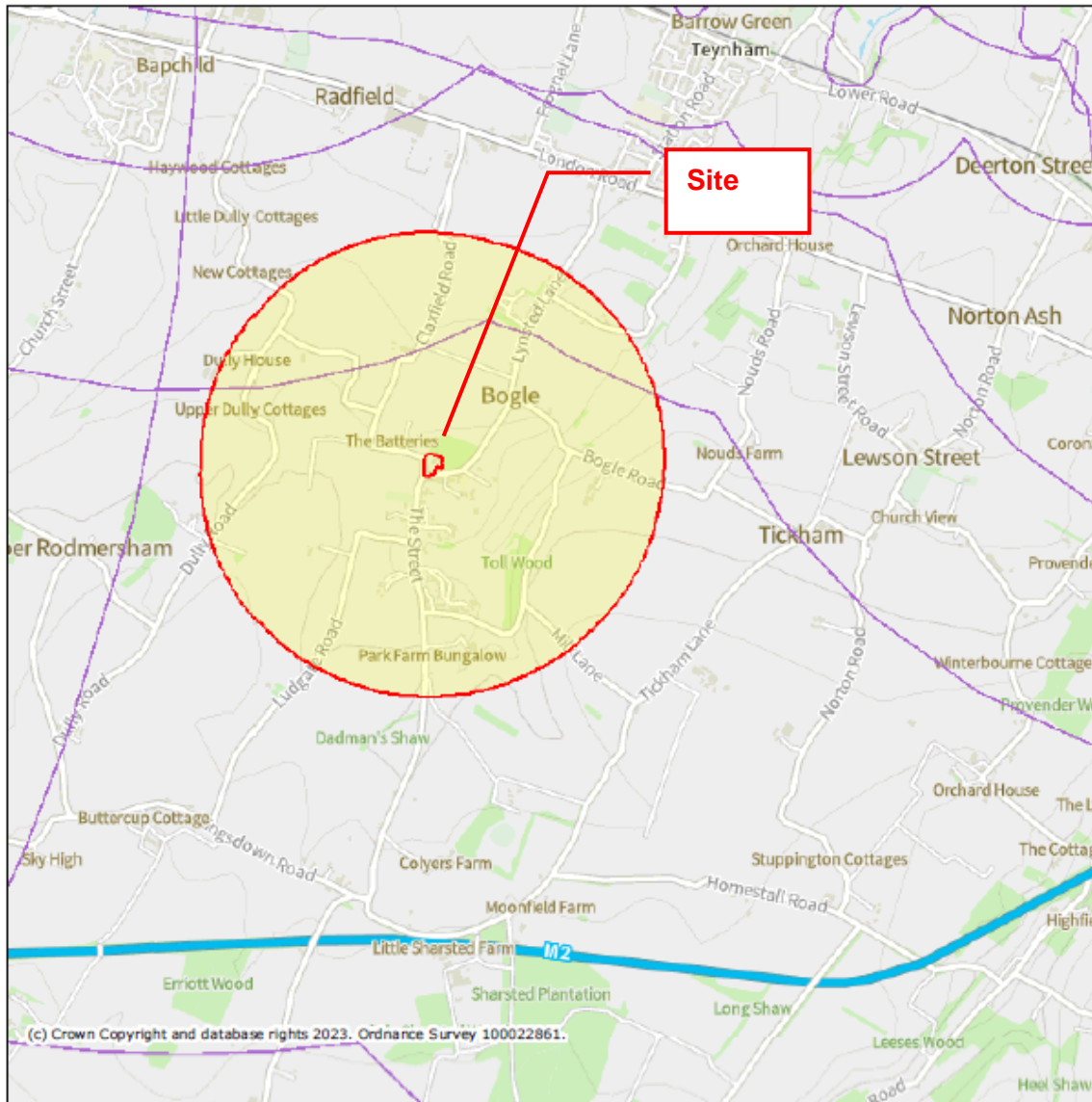
A summary of wildlife legislation and policy has been included in Appendix A.

1.4 Limitations

This report has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct and the opinions expressed are true and professional bona fide opinions. It records the potential for flora and fauna evident on the days of the site visits. It does not record any flora or fauna that may appear at other times of the year and, as such, were not evident at the time of visit.

The findings of this report represent the professional opinion of a qualified ecologist and do not constitute professional legal advice. The client may wish to seek professional legal interpretation of the relevant wildlife legislation cited in this document.

Figure 1



Legend

- Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)

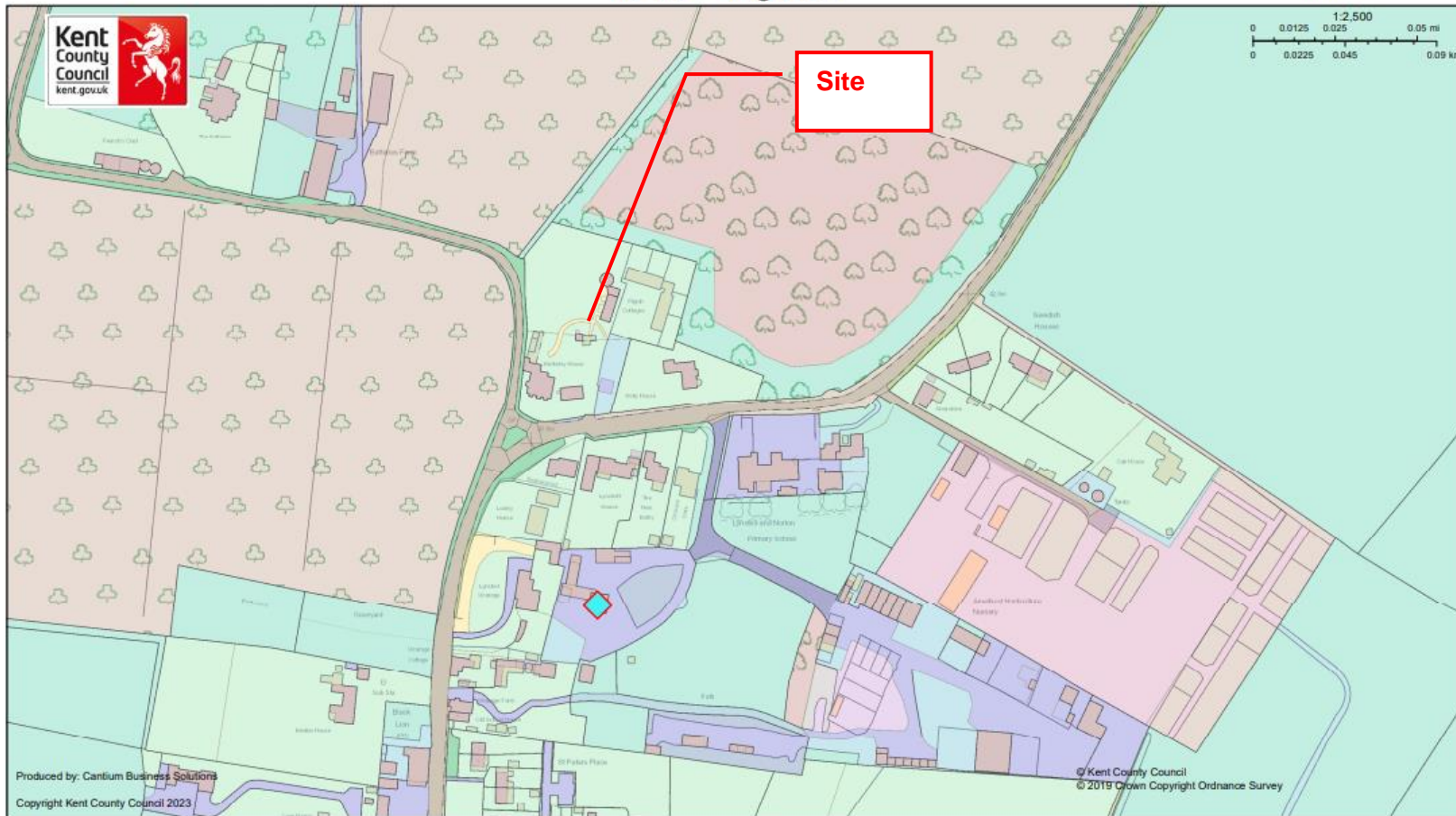
0 0.75 1.5
km

Projection = OSGB36
 xmin = 588600
 ymin = 157700
 xmax = 601300
 ymax = 163800

Map produced by MAGiC on 22 May, 2023.
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K-LIS - Figure 2

May 22, 2023



Legend		Kent Habitat Survey 2012	
	Address marker		Bracken
	European dry heaths		Broadleaved, mixed, and yew woodland
	Fen, marsh and swamp		Built-up areas
	Improved grassland		Calcareous grassland
	Littoral Rock		Coniferous woodland
	Littoral Sediment		Acid grassland
	Maritime grassland		Arable and horticulture
	Neutral grassland		Boundary and linear features
	Rivers and streams		Inland rock/Quarry
	Standing open water and canals		Littoral Rock
	Supralittoral Rock		Supralittoral Sediment
	Supralittoral Sediment		Traditional orchard
	Ancient Woodland		Unknown terrestrial vegetation

Figure 3: indicates location of ponds from Krag data search



2 Methodology

2.1 Desk Study

Internet-based resources were consulted to identify designated nature conservation sites within 1km of the site and habitats of potentially high ecological importance and sensitivity within 500m of the site (e.g. ancient woodlands, ponds).

A data search was carried out with the Kent Reptile and Amphibian Group KRAG^{1,2}.

2.2 Scoping Survey

The site and its immediate surroundings were considered in terms of habitats, protected species and species of principal conservation importance during a walkover survey undertaken on 25th April 2023 by Katia Bresso CEnv MCIEEM, a qualified professional consultant ecologist with over 20 years of experience³, licensed bat surveyor (Class Licence CL19, Level 3, Registration Number: 2016-27133-CLS-CLS⁴) and Registered Consultant of the Bat Mitigation Class Licence (BMCL) WML-CL21 with Natural England (Registered Consultant Reference Number RC056, since May 2015), licensed dormouse surveyor (Class Survey Licences Registration Number 2016-22060-CLS-CLS) and licensed great crested newt surveyor (Class Licence registration number 2020-50030-CLS-CLS). Evidence of the use of the site by species was recorded (i.e. field signs).

The habitat survey was undertaken in general accordance with Phase 1 Habitat Survey (JNCC 2010), i.e. within the survey area every parcel of land is classified, recorded and mapped in accordance with a list of ninety specified habitat types using standard colour codes to allow rapid visual assessment of the extent and distribution of different habitat types.

The survey and report aim at following the guidance and recommendations in the 'British Standard Biodiversity Code of Practice for Planning and Development (BS 42020: 2013)'.

Particular attention was given to signs of use by bats and barn owls. A visual survey was undertaken looking for evidence of roosting bats and roosting/nesting barn owls, including signs such as live or dead bats/owls, feathers, droppings, pellets, nest debris and eggs, using an endoscope⁵, high powered torch (Cluson CB1 Clubman Standard High Power, 500,000 candle power), night vision scope and binoculars where needed.

All trees were also checked for suitability for roosting bats.

¹ Please note that absence of records should not be taken as confirmation that a species is absent from the search area.

² Due to the scale of the project, it was judged disproportionate to undertake a costly data search with the local Biological Record Centre as the data would be unlikely to be relevant to this site.

³ Katia Bresso is a Suitably Qualified Ecologist with regards to Code for Sustainable Homes assessment and BREEAM

⁴ This licence allows the holder to disturb or capture bats using: torches, endoscopes, hand nets, static hand-held nets, mist nets for development surveys (can be used for a maximum of 3 days at any one site), acoustic lures and to disturb but not handle hibernating bats.

⁵ RIDGID CA-350x Inspection Camera System 63888

Bat roosting potential of all structures, buildings and trees was classified according to the following criteria set out in the Table below, taken from the Bat Conservation Trust Good Practice Guidelines (2016).

Suitability	Criteria
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with 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 a larger number of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used 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).
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 for longer periods of time due to their size, shelter, protections, conditions and surrounding habitats.

3 Baseline Ecological Conditions

3.1 Designated Nature Conservation Sites

The site is not part of, nor directly adjacent to, any statutory designated sites and none are located within 1km of the site.

But there is a statutory site of International Importance (Natura 2000 sites) within 10km: The Swale extensions (Kent) is a Ramsar site⁶, a Special Protection Area⁷ and a 6,568 ha Site of Special Scientific Interest (SSSI), including the largest remaining areas of freshwater grazing marsh in Kent and being representative of the estuarine habitats found on the north Kent coast. The habitats comprise chiefly mudflats, saltmarsh, and freshwater grazing marsh, the latter being intersected by extensive dykes and fleets. The area is particularly notable for the internationally important numbers of wintering and passage wildfowl and waders, and there are also important breeding populations of a number of bird species. Associated with the various constituent habitats of the site are outstanding assemblages of plants and invertebrates.

3.2 Habitats

The site is surrounded by dwellings, a school, orchards and woods.

The Integrated Habitat System (IHS) classification of the Kent Habitat Survey 2012 describes the site as:

- *Built-up areas,*
- *Improved grassland.*

Indeed the site consists of buildings which used to provide long-term specialist residential care, with short-mowed lawns and trees as well as ornamental planting. A disused chicken run and a play area are present to the north-east corner near the oast roundel. The west boundary is partly lined with hawthorn, holly, elder, yew, *Leylandii* and ornamental bushes then a brick wall covered in ivy (piles of grass cuttings are present along the wall and trees). A container and a timber shed are also present as are ornamental hedges.

Plates are present in Appendix B. Figure 4 below shows the location of the habitats.

⁶ Ramsar sites are designated under the Convention on Wetlands of International Importance especially as Waterfowl Habitat. Wetlands are designated, protected and promoted in order to stem the progressive encroachment on and loss of wetlands, which are broadly defined to include marsh, fen, peatland and water. There are 5 Ramsar sites in Kent, and as with all Ramsar sites, they are also designated as SSSIs.

⁷ Special Protection Areas (SPA) are designated under the EC Birds Directive, to conserve the habitat of certain rare or vulnerable birds and regularly occurring migratory birds. Any significant pollution or disturbance to or deterioration of these sites has to be avoided. There are 6 SPA sites in Kent, and as with all SPA sites, they are also designated as SSSIs.

Legend of Phase 1 habitat survey map hereafter:







-  Site boundary
-  Hard standing / paving
-  Building
-  Short-mowed lawn
-  Scrub
-  Individual tree (number and location approximate)

Figure 4

May 22, 2023





3.3 Amphibians

The data search carried out with KRAG (Enquiry No: CES/23/037) revealed that the closest recorded Great Crested Newt *Triturus cristatus* site is a historical record located at Doddington Place, 3.41 km to the S (record id: 5359).

Great crested newts favour areas of high pond density and occupancy levels can exceed 40% of ponds when conditions are favourable. KRAG's database risk assessment indicates that the likelihood of presence of great crested newts *in the overall area* is 'Possible'⁸, with only seven ponds present within 1km.

Like nearly all amphibians, the great crested newt is dependent on water-bodies for breeding but usually spends most of its life on land.

The 'Great Crested Newt Mitigation Guidelines' (English Nature 2001) state the following: *'Great crested newts have been found to move over considerable distances (up to 1.3km from breeding sites). However, the vast majority of newts will inhabit an area much closer to the pond, and the exact distribution and migration patterns of newts on land depends on a variety of factors. The quality of terrestrial habitat near to breeding ponds is important, as are the lack of barriers to dispersal (such as fast-flowing rivers, or very busy roads). The distribution of ponds and hibernation opportunities may also influence movements. [...] Several studies have been conducted which reveal a great deal of variation, but great crested newts commonly move between ponds that are within around 250m of each other.'*

In *Advice for land managers*, Natural England (2007) states: *'Great crested newt may disperse several hundred metres, sometimes over 1km, from the breeding pond, though at most sites the majority of the population is normally found within around 100m of it.'*

⁸ Likelihood of Presence Scores are described using the following categories: Unlikely<Possible<Likely<High

No ponds are present on site or within 250m. Thus, due to the paucity of ponds in the general area and the distance to the nearest pond, it is judged unlikely that great crested newts would be present on site.

3.4 Reptiles

The KRAG datasearch revealed that the closest recorded reptile is a historical record for Slow-worm, located at Lynsted and Norton County Primary School, 0.14 km to the SE (record id: 58098). The likelihood of reptiles to be present *in the overall area* is judged as per table below:

Reptiles		
	Likelihood of Presence	
	Score	Dist (km)
Viviparous Lizard:	Likely	0.70
Slow-worm:	HIGH	0.14
Sand Lizard:	unlikely	40.80
Grass Snake:	Possible	1.98
Adder:	Possible	4.48
Smooth Snake:	n/a	n/a

Reptile survey effort in local area is considered to be below average. Results should be interpreted with caution.

Most of the site consists of grassland, which is species poor, heavily managed and kept at a short sward, without a thatch layer. This habitat is considered unsuitable for common reptile species, due to a lack of cover from predators and foraging opportunities.

However a small number of reptiles could be present along the north and west boundary vegetation (where it is not disturbed by regular maintenance). If present locally, some reptiles could be hibernating under tree and hedge roots.

Common reptiles are afforded limited legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). They are also listed as species of principal conservation importance (See Appendix A). The adder is also a Priority Species under the Kent Biodiversity Strategy⁹.

For more information, guidance from Natural England is available at <https://www.gov.uk/reptiles-protection-surveys-and-licences>

3.5 Birds

It is considered that the site has high potential to support breeding birds within the trees, hedges and scrub and under some loose hanging tiles and ivy.

All species of bird whilst actively nesting are afforded legal protection under the Wildlife & Countryside Act 1981 (as amended) and special penalties are available for offences related to birds listed on Schedule 1. Some species are also listed as species of principal

⁹ <http://kentnature.org.uk/uploads/files/Nat-Env/Kent%20Biodiversity%20Strategy%202020.pdf>

conservation importance, including sky lark, common cuckoo, house sparrow, tree sparrow and song thrush (See Appendix A).

The turtle dove, swift, nightingale and Sandwich tern are also Priority Species under the Kent Biodiversity Strategy¹⁰.

For more information, guidance from Natural England is available at <https://www.gov.uk/wild-birds-protection-surveys-and-licences>

3.6 Hazel Dormouse

It is considered that the site has negligible potential to support the hazel dormouse due to lack of connection to suitable woodlands. No nests or signs of dormice were found during the site visit.

3.7 Badger

No setts or signs of badgers *Meles meles* were identified during the survey.

3.8 Bats

No bats nor signs of bats were found during the internal/external inspection of the buildings.

		Suitability for roosting bats
Building A	Tight timber weatherboards on walls One attic converted and habitable One attic not accessible Tight concrete tiles. Tight fascia -basement inspected: no suitability for hibernating bats due to lack of crevices	Negligible
Building B	Attic spaces all inspected Mix of insulation/timber sarking/membrane below clay tiles A few hanging tiles on north elevation	High (for crevice-dwelling bats)
Building C	Single storey timber building Single skin roof felt, tight	Negligible
Building D	Single storey very small building Very shallow roof space inspected Roof part clay tiles, part felt, with ivy coverage	Low
Building E	Single storey brick building Attic space inspected (trussed rafter construction) Felt below clay tiles	High (for crevice-dwelling bats)
Building F	Brick Oast roundel Tight slate roof	Negligible
Building G – Pippin cottages	New buildings, built 2018 Attics not accessible at time of site visit Tight concrete tiles with solar panels	Low

¹⁰ <http://kentnature.org.uk/uploads/files/Nat-Env/Kent%20Biodiversity%20Strategy%202020.pdf>

One Turkey oak present to the front of the site near the car park offers high suitability for roosting bats due to the presence of a Potential Roost Feature PRF, a large cavity in its trunk. One ornamental tree (species unknown) present along the north boundary offers moderate suitability due to a cavity in its trunk.

The site and surrounding area are likely to be used by foraging and commuting bats.

All species of bat are afforded full legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). They are also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 and are therefore a “European Protected Species” (EPS). Some species of bats (noctule, soprano pipistrelle, brown long-eared bat, barbastelle) are also listed as species of principal conservation importance.

Bats rarely use the same roosting place all year round as they need different conditions for breeding and hibernating. But bats are creatures of habit and tend to return to the same sites at the same time year after year. For this reason, roosts are legally protected even if bats don't seem to be living there at certain times of year.

The legislation makes it a criminal offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat;
- Intentionally or recklessly obstruct access to a bat roost.

For more information, guidance from Natural England is available at <https://www.gov.uk/bats-protection-surveys-and-licences>

3.9 Other Species

It is considered that the surroundings have potential to support hedgehogs (*Erinaceus europaeus*), which are a Species of Principal Importance under Section 41 of the NERC Act (2008 updated list) and an Indicator Species under the Kent Biodiversity Strategy¹¹.

All mammals are afforded protection against unnecessary suffering by the Wild Mammals (Protection) Act 1996 (see Appendix A).

¹¹ <http://kentnature.org.uk/uploads/files/Nat-Env/Kent%20Biodiversity%20Strategy%202020.pdf>

4 Ecological constraints and opportunities, recommendations for mitigation, compensation and further survey

The details of the proposed development were as below at the time of writing this report.



The ecological mitigation hierarchy should be applied when considering development which may have a significant effect on biodiversity. Such hierarchy should follow these principles¹²:

1. Avoidance – development should be designed to avoid significant harm to valuable wildlife habitats and species¹³.
2. Mitigation – where significant harm cannot be wholly or partially avoided, it should be minimised by design or through the use of effective mitigation measures.
3. Compensation – where, despite whatever mitigation would be effective, there would still be significant residual harm, as a last resort, compensation should be used to provide an equivalent value of biodiversity.

Should the scope of the proposed works be amended following the completion of this scoping survey, or be deferred for an extended period of time, there may be a requirement to update this scoping report and its recommendations.

¹² <https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications#agree-avoidance-mitigation-or-compensation-measures>

¹³ Avoidance is always the preferred form of mitigation. It involves steps taken to avoid deliberate killing, injury or disturbance to bats and to existing roosts. The great majority of roosts are used only seasonally so there is usually some period when bats are not present and works can occur without impacting bats. By gathering ecological data about a bat roosting site at the start of development or maintenance works, it may be possible to 'design out' the impacts of a development by retaining the roosting site and building around it. Care should be given to ensure commuting routes to and from the roost are also retained and indirect impacts controlled for, such as the impact from the addition of artificial lighting.

4.1 Designated Nature Conservation Sites

A site check report was generated for the site using the Impact Risk Zones on the Magic website¹⁴:

Site Check Report generated on Mon May 22 2023
You selected the location: Centroid Grid Ref: TQ94376115
The following features have been found in your search area:

SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW? 2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

All Planning Applications

Infrastructure

Airports, helipads and other aviation proposals.

Wind & Solar Energy

Minerals, Oil & Gas

Rural Non Residential

Residential

Rural Residential

Air Pollution

Combustion

Waste

Composting

Discharges

Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.

Water Supply

Notes 1

Strategic solutions for recreational impacts are in place. Please contact your Local Planning Authority as they have the information to advise on specific requirements.

Notes 2

GUIDANCE - How to use the Impact Risk Zones

[/Metadata_for_magic/SSSI IRZ User Guidance MAGIC.pdf](#)

Given the distance between the site and near-by SPA/Ramsar sites, direct impacts to the qualifying features are unlikely. However, indirect impacts, such as increased recreational pressure cannot be ruled out at this stage.

Please note that the site check states:

Notes 1 - Strategic solutions are in place. Please contact your Local Planning Authority as they have the information to advise on specific requirements

This likely refers to the need for financial contributions to mitigate increased recreational disturbance on coastal SPAs and Ramsar Sites. The applicant should seek details from the Local Planning Authority.

4.2 Habitats

Trees to be retained should be protected during any construction work and guidance is given in the 'BS 5837:2012 Trees in relation to design, demolition and construction. Recommendations' document. This standard requires a tree protection plan to be developed which involves erecting physical barriers to prevent damage to existing trees, with an exclusion area around the trees. It also looks at defining a root protection area and requires consideration when compulsory work is carried out within the root protection area.

¹⁴ The Impact Risk Zones (IRZs) dataset is a GIS tool which maps zones around each SSSI according to the particular sensitivities of the features for which it is notified and specifies the types of development that have the potential to have adverse impacts.

Natural England uses the IRZs to make an initial assessment of the likely risk of impacts on SSSIs and to quickly determine which consultations are unlikely to pose risks and which require more detailed consideration. Publishing the IRZs will allow LPAs, developers and other partners to make use of this key evidence tool.

<http://www.naturalengland.org.uk/ourwork/planningdevelopment/impactriskzonesgistoolfeature.aspx>

4.3 Amphibians

No impact is expected onto great crested newts and thus no further work is recommended for this species.

4.4 Reptiles

The proposed new access from Claxfield road crosses potential reptile habitat and thus there could be an impact. Should reptiles be present, the proposal would result in killing and injuring of reptiles and loss of habitat. It is thus necessary to undertake further surveys to fully understand the impact.

The survey would consist of placing artificial refuges (i.e. 0.5 m² tins or roofing felt) in areas of suitable reptile habitat and leaving them in place for at least 1 week prior to the survey commencing. The refuges would be checked on seven separate occasions, over four weeks at least, to establish presence / likely absence during suitable weather conditions (i.e. cool weather with no heavy rain but sunny intervals between showers, and ambient air temperatures between 10-20°C).

Reptile surveys can be undertaken between March and October, the optimal months being April, May, June and September. Mid-summer temperatures and general activity levels are usually too high for refuges to be successfully used (surveys are highly weather dependent).

4.5 Birds

Although a breeding bird survey is not deemed to be necessary, on the basis that the site contains suitable habitat for breeding birds, consideration must be given to the timing of the clearance works, if any is to take place.

The effect on birds can be avoided by undertaking any vegetation clearance and by starting the building works outside of the nesting season (which extends from March – August inclusive¹⁵) or only after a survey has confirmed the absence of nesting birds¹⁶. New hedgerow/trees/scrub planted and bird nesting boxes erected as part of the proposed development can replace the habitat lost.

4.6 Hazel Dormouse

No impact is expected onto dormice and thus no further work is recommended for this species.

4.7 Badger

No impact is expected onto badgers and thus no further work is recommended for this species. However, as sett use can fluctuate (with setts becoming active when were not previously and new setts appearing over time), a pre-commencement of works badger

¹⁵ It should be noted however that certain species are known to breed throughout the year (e.g. collard dove) and remain protected.

¹⁶ Inspection by a qualified ecologist must first be completed a maximum of 48hrs before clearance works commence. If during the inspection a nest considered to be in use is discovered, works must be delayed until the young have fledged.

survey is recommended if they works take place less more than one year after the date of the site visit of this report.

4.8 Bats

Should bats be roosting on site, the proposed development could lead to a loss of habitat and animals could be killed or injured during the works.

The Bat Conservation Trust’s guidelines provide a table stating the ‘minimum number of presence/absence survey visits required to provide confidence in negative preliminary roost assessment from buildings, built structures and trees in summer.

Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey ^a (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. ^b	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. ^b

^a Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see Section 5.2.9). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

Table 7.1 Recommended timings for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
May to August (structures) No further surveys required (trees)	May to September ^a with at least one of surveys between May and August ^b	May to September ^a with at least two of surveys between May and August ^b

Thus the following is recommended if the roof structures of the buildings are to be impacted/changed:

	Suitability for roosting bats	Number of night-time surveys needed
Building A	Negligible	0
Building B	High (for crevice-dwelling bats)	3
Building C	Negligible	0
Building D	Low	1
Building E	High (for crevice-dwelling bats)	3
Building F	Negligible	0
Building G – Pippin cottages	Low	0 (as no roof works expected)
Turkey oak	High	3 (if impacted)
Ornamental tree to north boundary	Moderate	2 (if impacted)

Besides as lighting can be detrimental to roosting, foraging and commuting bats¹⁷, the recommendations from the Bat Conservation Trust and the Institution of Lighting Professionals, titled 'Guidance Note 8 Bats and Artificial Lighting'¹⁸, should be considered, when designing any lighting scheme for the proposed development.

4.9 Other Species

There is some potential for hedgehogs to be present on site. Therefore any areas where mammals could be sheltering should be hand searched prior to disturbance. Excavations should be backfilled, covered overnight, or ramps placed in to allow any animals to escape.

4.10 Additional Recommendations: Enhancements

Ecological enhancements should where possible be incorporated into the proposed development to contribute towards the objectives of planning legislation.

The Government announced it would mandate net gains for biodiversity in the Environment Bill in the 2019 Spring Statement. The Environment Bill received Royal Assent on 9 November 2021, meaning it is now an Act of Parliament. Mandatory biodiversity net gain as set out in the Environment Act applies in England only by amending the Town & Country Planning Act (TCPA) and is likely to become law in 2023. Biodiversity net gain requires developers to ensure habitats for wildlife are enhanced and left in a measurably better state than they were pre-development. They must assess the type of habitat and its condition before submitting plans, and then demonstrate how they are improving biodiversity – such as through the creation of green corridors, planting more trees, or forming local nature spaces. Green improvements on site would be encouraged, but in the rare circumstances where they are not possible, developers will need to pay a levy for habitat creation or improvement elsewhere¹⁹.

Under section 40 of the NERC Act (2006), paragraph 174 of the NPPF (2021) and the Environment Act (2021), biodiversity must be maintained and enhanced through the planning system. Additionally, in alignment with paragraph 180 of the NPPF 2021, the implementation of enhancements for biodiversity should be encouraged.

The design and implementation of habitat enhancements could also be used to contribute towards the 'Home Quality Mark' or similar accreditation, should this be a consideration for this site.

Suggested biodiversity enhancements are listed below, as a palette for the developer to choose from:

- Provision of hedgehog nesting boxes²⁰.
- If any close board fencing is to be installed around the new development, we recommend that at least 13 x 13 cm holes should be cut into the base of the fences (one per garden) to allow greater permeability across the site to benefit ground-based terrestrial animals (such as hedgehog)²¹.

¹⁷ <https://www.bats.org.uk/about-bats/threats-to-bats/lighting>

¹⁸ <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

¹⁹ <https://deframedia.blog.gov.uk/2019/03/13/government-to-mandate-biodiversity-net-gain/>

²⁰ <http://www.hedgehogstreet.org/pages/hedgehog-homes.html>

²¹ <https://www.hedgehogstreet.org/wp-content/uploads/2019/03/Hedgehogs-and-developers-ZR.pdf>

- Provision of ready-made bird boxes²² on retained trees;
- Provision of integrated 'swift bricks' in new buildings (as these are often occupied by other small cavity-nesting birds^{23, 24})²⁵. A ratio of at least two per residential dwelling, or one per 50sqm of commercial floor space is generally accepted now as good practice (see BS 42021:2022). It is suggested better to install them in small groups of 2/6 approx. one metre+ apart in suitable locations at a minimum height of 4 metres (5 metres is better).²⁶
- Provision of integrated bat boxes on new buildings²⁷ or bat boxes on retained mature trees²⁸.
- Establish climbing plants on walls and other vertical structures²⁹.
- Establish wildflower plug/bulb planting in amenity grassland and private gardens³⁰.
- Native species hedge planting³¹
- Consider using grid mesh system (or Ground Reinforcement Grids) with topsoil and seeding with a wildflower species mix, to car parking areas and new access drives to retain some vegetation as well as drainage, or Gravel turf³².
- Establish Fruit Espaliers³³.
- The landscape project team should refer to the 'Kent Design Guide'³⁴.

Priority should be given to habitats and species present on the Kent Biodiversity Strategy³⁵.

²² Integrated nest boxes in new buildings are preferred as they provide longer term nesting opportunities.

²³ <https://drive.google.com/file/d/1ljcJ7rIkNMrr4lxd41XcBU3YC6IFKM6z/view>

²⁴ <https://www.actionforswifts.com/>

²⁵ Boxes integrated into buildings offer much greater longevity but need to be considered in the design process. One study found that incorporating bird/bat boxes into walls could cause cold spots on the interior, leading to condensation and possibly mould. They recommend additional insulation to prevent this; advice from an architect is advisable.

²⁶ Please note that there may be a need to provide insulation around the integrated box (thickness of 5 cm of insulation) in order to increase the thermal resistance of this wall and thus avoid the risk of condensation. The project architect should be consulted about such matters.

²⁷ Please note that there may be a need to provide insulation around the integrated box (thickness of 5 cm of insulation) in order to increase the thermal resistance of this wall and thus avoid the risk of condensation. The project architect should be consulted about such matters.

²⁸ <https://www.bats.org.uk/our-work/buildings-planning-and-development/bat-boxes>

²⁹ More information can be found here: <http://www.greenblueurban.com/climbing-plant-guide.php> and <http://www.london.gov.uk/priorities/environment/urban-space/parks-green-spaces/green-roofs-walls>

³⁰ Spring flowering bulbs and plugs of nectar rich flowering plants should be embedded into amenity grassland to increase the biodiversity and amenity value of the grassland and to provide early sources of nectar for insects. Suitable bulbs include Snake's head fritillary *Fritillaria meleagris*, Ramsons *Allium ursinum*, Snowdrop *Galanthus nivalis*, Primrose *Primula vulgaris*, Bluebell *Hyacinthoides non-scriptus*, Wild daffodil *Narcissus pseudonarcissus*, Lesser celandine *Ranunculus ficaria*

³¹ <https://www.kentwildlifetrust.org.uk/actions/how-make-hedge-wildlife>

³² http://www.schotterrasen.at/e_index.htm

³³ <http://apps.rhs.org.uk/advicesearch/profile.aspx?PID=319> for more information

³⁴ <https://www.kent.gov.uk/about-the-council/strategies-and-policies/regeneration-policies/kent-design-guide>

³⁵ <https://kentnature.org.uk/wp-content/uploads/2022/01/Kent-Biodiversity-Strategy-2020.pdf>

5 References and Bibliography

- Joint Nature Conservation Committee (2003). *Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit*. JNCC, Peterborough.³⁶
- Bat Conservation Trust (2012). *Bat Surveys - Good Practice Guidelines – 2nd Edition*. Bat Conservation Trust, London.
- English Nature (2004). *Research Reports Number 576: An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt Triturus cristatus*. English Nature, Peterborough

Websites Visited:

- <http://webapps.kent.gov.uk/KCC.KLIS.Web.Sites.Public/ViewMap.aspx>
- <http://www.magic.gov.uk/magicmap.aspx> (contains public sector information licensed under the Open Government Licence v3.0)
- <http://www.kentbap.org.uk/species/>

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³⁶ http://www.jncc.gov.uk/pdf/pub90_HandbookforPhase1HabitatSurveyA5.pdf

Appendix A – Wildlife Legislation & Policy

The following is a summary of wildlife legislation and planning policy which affords protection to plants and animals and seeks to conserve, enhance and restore biodiversity. This section is provided for general guidance only. While every effort has been made to ensure accuracy, this section should not be relied upon as a definitive statement of the law.

For further information, please see:

<https://www.gov.uk/protected-species-and-sites-how-to-review-planning-proposals>

Commonly encountered protected species

Many species of plants, invertebrates and animals receive protection under the legislation detailed above. However, of these, the following are the most likely to be affected by development in the southeast:

Species	Legal Protection
Great crested newts and other amphibians	<p>The great crested newt is afforded full legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). It is also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2019 (as amended) and is therefore a European Protected Species (EPS); further protection is afforded by the Countryside and Rights of Way Act 2000. Taken together, the legislation makes it a criminal offence to:</p> <ul style="list-style-type: none"> • Deliberately capture (or take), injure or kill GCN • Deliberately or recklessly disturb GCN, in particular (i) any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) any disturbance which is likely to impair their ability to hibernate or migrate; or (iii) any disturbance which is likely to affect significantly the local distribution or abundance of the species. • Damage or destroy a breeding site or resting place - even if GCN are not occupying the place at the time; • Intentionally or recklessly obstruct access to a sheltering or resting place. <p>An EPS licence is required from Natural England before works can be undertaken which will impact on GCN and/or their habitat (such as any damage to or removal of ponds, grassland, hedgerow bases or dense scrub in which they are likely to occur).</p> <p>Great crested newts and common toads are also listed as Species of Principal Importance under Section 41 of the NERC Act 2006.</p>
Hazel dormice	<p>The hazel dormouse is afforded full legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). It is also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2019 (as amended) and is therefore a European Protected Species (EPS); further protection is afforded by the Countryside and Rights of Way Act 2000. Taken together, the legislation makes it a criminal offence to:</p> <ul style="list-style-type: none"> • Deliberately capture (or take), injure or kill hazel dormouse • Deliberately or recklessly disturb hazel dormouse, in particular (i) any

	<p>disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) any disturbance which is likely to impair their ability to hibernate or migrate; or (iii) any disturbance which is likely to affect significantly the local distribution or abundance of the species.</p> <ul style="list-style-type: none"> • Damage or destroy a breeding site or resting place - even if dormice are not occupying the place at the time; • Intentionally or recklessly obstruct access to a sheltering or resting place. <p>An EPS licence is required from Natural England before works can be undertaken which will impact on dormouse and/or their habitat (such as any damage or removal of hedgerows, woodland or dense scrub in which they are likely to occur).</p> <p>Hazel dormouse is also listed as a Species of Principal Importance under Section 41 of the NERC Act 2006.</p>
Bats	<p>All British bat species receive full legal protection in the United Kingdom. The Conservation of Habitats and Species Regulations 2019 (as amended) legally protects all bat species in the UK and further protection is afforded by the Wildlife and Countryside Act 1981 (Schedule 5) and the Countryside and Rights of Way Act 2000. Taken together, the legislation makes it a criminal offence to:</p> <ul style="list-style-type: none"> • Deliberately capture (or take), injure or kill a bat. • Deliberately or recklessly disturb a bat, in particular (i) any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) any disturbance which is likely to impair their ability to hibernate or migrate; or (iii) any disturbance which is likely to affect significantly the local distribution or abundance of the species concerned. • Damage or destroy a breeding site or resting place (roost) of a bat- even if bats are not occupying the roost at the time; • Intentionally or recklessly obstruct access to a roost; • Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat. <p>An EPS Licence for bats is required where works are expected to contravene the above legal protection. Under the law, a roost is 'any structure or place used for shelter or protection'. For example any building or suitable tree. Bats use many roost sites and feeding areas throughout the year. Since bats tend to re-use the same roosts for generations, the roost is protected whether the bats are present or not.</p>
Reptiles	<p>The more widespread species of reptile – slow-worm, viviparous lizard, grass snake and adder - are afforded legal protection against killing and injury under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended).</p> <p>All six UK reptile species are listed as Species of Principal Importance under Section 41 of the NERC Act 2006.</p>
Badgers	<p>The Protection of Badgers Act 1992 was introduced in recognition of the additional threats that badgers face from illegal badger digging and baiting. Under the Act, it is an offence to:</p> <ul style="list-style-type: none"> • Wilfully kill, injure or take a badger, or to attempt to do so; • Cruelly ill-treat a badger; or • Intentionally or recklessly interfere with a badger sett by (a) damaging a sett or any part of one; (b) destroying a sett; (c) obstructing access to or

	any entrance of a sett; (d) causing a dog to enter a sett; or (e) disturbing a badger when it is occupying a sett.
Breeding birds	<p>The Wildlife & Countryside Act 1981 (as amended) protects all birds, their nests and eggs – it is an offence to intentionally kill, injure or take any wild bird or its eggs, and/or to take, damage or destroy the nest (whilst being built or in use).</p> <p>There is additional protection for rarer species – making it an offence to disturb any wild bird listed on Schedule 1 (such as hobby) while it is nest building, or at a nest containing eggs or young, or to disturb the dependent young of such a bird.</p> <p>Some species are also listed as species of a Species of Principal Importance under Section 41 of the NERC Act 2006, including skylark, common cuckoo, house sparrow, tree sparrow and song thrush.</p>
Hedgehogs	<p>Hedgehogs are listed on schedule 6 of the Wildlife and Countryside Act (1981) which makes it illegal to kill or capture wild hedgehogs. They are also listed under the Wild Mammals Protection Act (1996), which prohibits cruel treatment of hedgehogs</p> <p>Hedgehogs are a species of 'principal importance' under the NERC Act, the act confers 'a duty of responsibility' on local authorities with regard to the species.</p>
Water voles	The Wildlife and Countryside Act 1981 (as amended). This makes it illegal to intentionally damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection; it is also an offence to intentionally disturb water voles while they are using these places.

Kent Biodiversity Strategy

The Kent Biodiversity Strategy was approved by the Kent Nature Partnership in February 2020. It aims to deliver, over a 25 year period, the maintenance, restoration and creation of habitats that are thriving with wildlife and plants and ensure that the county's terrestrial, freshwater, intertidal and marine environments regain and retain good health.

The Strategy looks to protect and recover threatened species and enhance the wildlife habitats that Kent is particularly important for. It also aims to provide a natural environment that inspires citizen engagement and is well used and appreciated, so that the mental and physical health benefits of such a connection can be realised by the people of Kent.

The Strategy has identified 17 priority habitats and 13 priority species that Kent can play a significant part in the restoration of. It has also identified a handful of species that can act as indicators of the health of our ecosystems. In addition, the Strategy looks to further work addressing overarching considerations affecting biodiversity recovery, including wilding, climate change, natural solutions, soil health and invasive species.

Further information can be found here:

<http://kentnature.org.uk/uploads/files/Nat-Env/Kent%20Biodiversity%20Strategy%202020.pdf>

Red Data Books

British Red Data Books (RDB) are an additional method for classifying the rarity of species, and are often seen as a natural progression from Biodiversity Action Plans.

RDB species have no automatic legal protection (unless they are protected under any of the legislation previously mentioned). Instead they provide a means of assessing rarity and highlight areas where resources may be targeted. Various categories of RDB species are recorded, based on the IUCN criteria and the UK national criteria based on presence within certain numbers of 10x10km grid-squares (see <http://www.jncc.gov.uk/page-3425>). As with Biodiversity Action Plans, where possible, steps should be taken to conserve RDB species which are to be affected by development.

Appendix B – Plates



IMG_6956



IMG_6957 Turkey Oak PRF



IMG_6958 A



IMG_6959 A



IMG_6960 A



IMG_6961



IMG_6962



IMG_6963



IMG_6964



IMG_6965



IMG_6966



IMG_6967 A



IMG_6968 A



IMG_6969



IMG_6970



IMG_6971



IMG_6972



IMG_6973



IMG_6974 B



IMG_6975 A



IMG_6978



IMG_6979



IMG_6980



IMG_6981



IMG_6982



IMG_6983



IMG_6984



IMG_6985 B



IMG_6986 B



IMG_6987



IMG_6988



IMG_6989 C



IMG_6990



IMG_6991



IMG_6992



IMG_6993



IMG_6994



IMG_6995 E



IMG_6996 F



IMG_6997 D



IMG_6998



IMG_6999



IMG_7000



IMG_7001 E



IMG_7002 F



IMG_7003



IMG_7004



IMG_7005



IMG_7006



IMG_7008 E



IMG_7010



IMG_7011 E



IMG_7012 D



IMG_7013



IMG_7014 D



IMG_7015



IMG_7016



IMG_7017 G



IMG_7018 G



IMG_7019 E



IMG_7020



IMG_7021



IMG_7022



IMG_7023



IMG_7024



IMG_7025



IMG_7026 G



IMG_7029



IMG_7030



IMG_7031



IMG_7032



IMG_7033



IMG_7034



IMG_7035



IMG_7036



IMG_7037



IMG_7038



IMG_7039



IMG_7040



IMG_7041



IMG_7043



IMG_7044



IMG_7045



IMG_7046



IMG_7047



IMG_7048



IMG_7049



IMG_7050 PRF



IMG_7053



IMG_7054



IMG_7056



IMG_7057



IMG_7058