



LIZARD

Landscape Design and Ecology

ECOLOGICAL IMPACT ASSESSMENT REPORT

RYFIELDS FARMHOUSE, OAK TREE LANE, WOODGATE

- ON BEHALF OF DOMUSEA DEVELOPMENTS

Planning Issue

Prepared by	JH
Checked by	GS
Date	28 th May 2021
Project Reference	LLD2289
Revision	00

Contents

	Page No.
SUMMARY	01
1.0 Introduction	02
2.0 Planning Policy and Legislation	03
3.0 Methodology	05
4.0 Baseline Ecological Conditions	08
5.0 Assessment of Effects and Mitigation Measures	14
6.0 Enhancements	19
7.0 Conclusions	19
8.0 References	20

TABLES

Table No. 01 – Statutory Protected Sites

Table No. 02 – Non-Statutory Protected Sites

Table No. 03 – Species List

APPENDICES:

Appendix A – Site Photographs



SUMMARY

Lizard Landscape Design and Ecology has been commissioned by Domusea Developments LTD to undertake a Preliminary Ecological Appraisal survey of Ryefields Farmhouse, Oak Tree Lane, Woodgate, West Sussex (*Grid Reference: SU 9400 0425– hereafter referred to as ‘the site’*).

A Preliminary Ecological Appraisal (*PEA*) was completed on 21st January 2019 by Lindsay Carrington Ecological Services. The site has since changed ownership, with an additional *PEA* undertaken by Lizard Landscape Design and Ecology on 12th April 2021 to appraise the existing ecological resource within the land and the surrounding area.

No further surveys for protected species were recommended, due to no suitable habitat for protected species being affected as part of the proposals.

The existing site is formed of amenity grassland and scattered trees surrounded by species poor hedgerow and hardstanding. The site itself is of **low ecological value** with no habitats of interest noted.

Once avoidance and mitigation measures have been taken into account, the impacts of the planned development upon biodiversity will be **negligible, non-significant** with proposed ecological enhancements resulting in a **net gain** in biodiversity in line with national planning policy guidance.

1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology has been commissioned by Dormusea Developments LTD to undertake a Preliminary Ecological Appraisal survey of Ryefields Farmhouse, Oak Tree Lane, Woodgate, West Sussex (*Grid Reference: SU 9400 0425– hereafter referred to as ‘the site’*).
- 1.2 A Preliminary Ecological Appraisal (*PEA*) was completed on 21st January 2019 by Lindsay Carrington Ecological Services. The site has since changed ownership, with an additional *PEA* undertaken by Lizard Landscape Design and Ecology on 12th April 2021 to appraise the existing ecological resource within the land and the surrounding area. The *PEA* comprised a baseline survey conforming broadly to the *JNCC Ecology Phase 1 Habitat Survey* protocol, to identify the existing habitats. In addition, a protected species assessment was undertaken to identify the potential for European and nationally protected species within and adjacent to the land. A full EclA was then undertaken using the baseline data.
- 1.3 A summary of the results and potential impacts of the proposals, and details of avoidance, mitigation and compensation measures have been detailed within this report. This report has been prepared by Joshua Harwood (BSc (Hons), *Assistant Ecologist; Lizard Landscape Design and Ecology*). The report has been reviewed by George Sayer (*MCIEEM, Senior Ecologist; Lizard Landscape Design and Ecology*).

Site Information

- 1.4 The site consists of amenity grassland with scattered trees to all boundaries, small areas of hard standing/bare ground are present to the eastern aspect of the site. A small building and caravan are located to the south east of the site. The northern and southern boundaries are formed of species poor hedgerows.
- 1.5 The site is located c.10.0 metres above sea level. Soils on site are described as *loamy soils with naturally high groundwater*.

Surrounding Landscape

- 1.6 The site is situated just to the east of Woodgate and south of Westergate. The site is one of the easternmost parts of the Woodgate village with further arable fields immediately east of the site until the Barhnam. The railway line is located just north of the site separating it from other similar habitats within the local area.
- 1.7 Within 500m of the site one waterbody is recorded. This is within 50m and is within the same field as the site, but located outside the red line boundary. A small stream that connects to the Lidsey rife running from Eastergate to Flansham is located 400m away at its closest stretch.

Development Proposals

- 1.8 It is understood that the proposals include the construction of 5no. residential dwellings, with associated access road and parking spaces.
- 1.8 The aim of this ecological appraisal survey has been:
- Establish baseline ecological conditions at the Site.
 - Determine the importance of ecological features which could be affected by the proposed scheme.
 - Identify any likely significant effects of the proposed development on important ecological features, in the absence of mitigation, including cumulative impacts.
 - Set out any measures necessary to effectively avoid or mitigate likely significant effects, and identify residual impacts.
 - Identify any compensation measures required to offset residual impacts.
 - Set out potential ecological enhancement measures that could be delivered by the proposed scheme.
 - Confirm how proposed mitigation, compensation and enhancement measures could be secured.
 - Provide sufficient information to determine whether the project accords with relevant nature conservation policies and legislation, and where appropriate, to allow conditions or obligations to be proposed by the relevant authority.

2.0 PLANNING POLICY AND LEGISLATION

Legislation

2.1 Legislation relating to wildlife and biodiversity of particular relevance to this EclA includes:

- *The Conservation of Habitats and Species Regulations 2017;*
- *The Wildlife and Countryside Act 1981 (as amended);*
- *The Natural Environment and Rural Communities (NERC) Act 2006;*

2.2 This above legislation has been addressed, as appropriate, in the production of this report.

National Planning Policy

2.3 The National Planning Policy Framework (NPPF) 2019 sets out the government planning policies for England and how they should be applied. '*Chapter 15: Conserving and Enhancing the Natural Environment*' states that development should be '*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.*'

2.4 The Government Circular 06/2005, which is referred to by the NPPF, provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.

Local Planning Policy

2.5 Policy ENV DM5 of the Arun Local Plan 2014-2031 states that:

- *Development will seek to achieve a net gain in biodiversity and protect existing habitats on site;*
- *Development should incorporate elements such as green roofs / walls and bird and bat boxes;*
- *Development shall be designed to provide links between habitats and facilitate species movement;*
- *Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species, with details of measures to be incorporated into the development scheme to avoid loss of the species.*

3.0 METHODOLOGY

3.1 Desk Study

- 3.1.1 The Multi-Agency Geographic Information for the Countryside (*MAG/C*) was consulted for all designated sites, priority habitats and protected species licence records within 2.0km of the site. The desk search was conducted on 26th May 2021. Due to the small scale of the proposals a full data search was not considered proportionate.

3.2 Field Survey

- 3.2.1 A preliminary ecological appraisal was undertaken on 12th April 2021 (following a previous ecological survey by Lindsay Carrington Ecological Services in January 2019) and the site subjected to an ecology survey using guidelines set out in the *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit* (JNCC, 2003).
- 3.2.2 Habitats within the land were classified and the presence, or potential presence, of certain protected and / or notable species of flora and fauna were identified. A summary description of the habitat within the site following the *Phase 1 Habitat Survey Methodology* is presented in Section 4.0. This involved identifying features that may be used by protected species, potential foraging areas and other signs of use. Water bodies were recorded wherever possible, within 500 metres of the proposed development site.
- 3.2.3 The results are summarised and accompanied in large part by photographic evidence contained in *Appendix A – Site Photographs*. Recommendations for further investigation and survey are made in the following report.

3.3 Habitat Suitability Index (HSI) Assessment

3.3.1 Waterbodies within 500.0m of the site, were subject to a Habitat Suitability Index (HSI) assessment on the 12th April 2021, the assessment was undertaken by Joshua Harwood (2 years' experience with HSI assessments).

3.3.2 The *Habitat Suitability Index (HSI)* was developed by *Oldham et al (2000)* as a way of providing a numerical index for direct comparison to be made between different water bodies. This index assesses ponds against ten different criteria, each of which have a bearing on the likelihood of great crested newts (GCN) *Triturus cristatus* being present in the pond under consideration.

3.3.3 The ten attributes against which ponds are assessed are:

- *Geographic Location;*
- *Pond Area (at its highest water level);*
- *Permanence;*
- *Water Quality;*
- *Perimeter Shading;*
- *Numbers of Wildfowl;*
- *Numbers of Fish Present;*
- *Pond Count (within a 1.0km radius);*
- *Terrestrial Habitat (within 250.00m);*
- *Macrophyte Coverage.*

3.3.4 The HSI results in a score between 1 and 0; with 1 being optimal conditions and 0 being unlikely to support a population. However, the index merely gives an indication as to whether a pond has the potential to support GCNs and is not a substitute for more detailed presence / likely absence surveys for protected species of amphibian. The evaluation criteria is shown in *Table No. 01* below.

Table No. 01 – HSI Evaluation Criteria

HSI Score	Pond Suitability
<0.5	<i>Poor</i>
0.5-0.59	<i>Below Average</i>
0.6-0.69	<i>Average</i>
0.7-0.79	<i>Good</i>
>0.8	<i>Excellent</i>

3.4 Ecological Impact Assessment

3.4.1 The methodology for Ecological Impact Assessment (EclA) follows best practice guidelines set by the Chartered Institute of Ecology & Environmental Management (CIEEM): 'Guidelines for Ecological Impact Assessment' (CIEEM, 2018). This includes identifying the baseline conditions on the site and subsequently rating the potential effects of the development based on the sensitivity and value of the resource affected, combined with the magnitude, duration and scale of the impact (or change). This is initially assessed without mitigation measures, and then assessed again after allowing for the proposed mitigation measures; this provides the residual effects. The assessment is divided into construction effects and longer-term operational effects.

3.4.2 Each ecological feature within the site has been considered within a defined Geographic context such as:

- *International and European*
- *National*
- *Regional*
- *County*
- *District*
- *Local*
- *Site Level*
- *Negligible*

3.4.3 Based upon CIEEM guidance, value was determined with reference to the following factors:

- *Its inclusion as a Designated Site or other protected area;*
- *The presence of habitat types of conservation significance, e.g. Habitats of Principal Importance (NERC 2006);*
- *The presence (or potential presence) of species of conservation significance e.g. Species of Principal Importance (NERC 2006);*
- *The presence of other protected species e.g. those protected under The Wildlife and Countryside Act 1981;*
- *The sites social and economic value.*

- 3.4.4 The ecological impacts resulting from the proposals were then described according to a defined set of characteristics as defined within '*Guidelines for Ecological Impact Assessment in the UK and Ireland*' (CIEEM, 2018). This assessment considers residual impacts (once all mitigation has been taken into account), with any significant effects highlighted. A significant effect is defined as "*an effect which either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general*".
- 3.4.5 The confidence that a certain activity will result in a significant adverse effect has been ranked as follows:
- *Highly probable;*
 - *Probable;*
 - *Unlikely;*
 - *Highly unlikely;*
- 3.4.6 Where initial impacts have been identified as significant, avoidance, mitigation and compensation measures have been proposed to avoid, prevent or offset such effects. Enhancement has been proposed to ensure that the development represents a net gain in biodiversity in accordance with National Policy.

4.0 BASELINE ECOLOGICAL CONDITIONS

4.1 Designated Sites

Statutory Protected Sites

- 4.1.2 The following potential zones of influence have been used when identifying designated sites in the local area: Local Nature Reserves (LNRs), National Nature Reserves (NNRs) and Sites of Special Scientific Interest (SSSIs) within a 2.0km radius of the site, and internationally designated sites including Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsars (Wetlands of International Importance) within a 10km radius of the site. Statutory protected sites within a potential zone of influence of the site include:

Table No. 02 – Statutory Protected Sites

Site	Description	Location
<i>Pagham Harbour</i> (RAMSAR, SPA)	Estuarine harbour with shingle beaches, saltmarsh and intertidal mudflats giving way towards further habitat types including brackish marsh and damp pasture. The site is also import to several waterfowl species with high wintering numbers of; spotted redshank (<i>Tringa erythropus</i>) and Slavonian grebe (<i>Podiceps auritus</i>).	8.2Km SW
<i>Duncton to Bignor Escarpment</i> (SAC)	Area dominated by Broad-leaved deciduous woodland (80%) with areas of heath, scrub and dry grassland. The Annex 1 <i>Asperulo-Fagetum</i> Beech forests are present on the steep scarp slopes, and include rare plants including; white helleborine (<i>Cephalanthera damasonium</i>) and yellow bird's nest (<i>Monotropa hypopitys</i>).	9.4Km N
<i>Chichester & Langstone Harbours</i> (RAMSAR, SPA)	Two large estuarine basins linked with a channel include extensive mudflats, saltmarsh, sand and shingle spits. Wintering waterbirds regularly exceed 20,000 individuals including nationally and international important numbers for certain species (such as Brent geese).	9.9Km W

Site	Description	Location
<i>Solent Maritime (SAC)</i>	Designated for its cordgrass swards, Atlantic salt meadows and estuaries which represent 1 of 2 significant locations for these habitats within the U.K.	9.9Km W

- 4.1.3 The site is located within the *Impact Risk Zone of Bognor Reef & Fairmile Bottom Special Scientific Interest*. The development proposals are do not require further consultation with *Natural England* due to the small scale of proposals.

Non-Statutory Protected Areas

- 4.1.4 *Sites of Nature Conservation Importance (SNCIs)* are designations applied to the most important non-statutory nature conservation sites. They are recognised by the *National Planning Policy Framework (2019)* and as such are material considerations when assessing planning applications. No SNCIs were identified within 2.0 km of the site, the nearest identified is listed below:

Table No. 03 – Non-Statutory Protected Sites

SNCI	Locations
<i>Fontwell Racecourse</i>	2.6Km N

4.2 Habitats

- 4.2.1 Within 2.0 km of the site there are *Priority Habitats* of Coastal & Foodplain Grazing Marsh, *Deciduous Woodland*, *Traditional Orchards and Woodpasture & Parkland*.
- 4.2.2 Habitats within and adjacent to the land include:
- *Amenity Grassland;*
 - *Caravan;*
 - *Existing building;*
 - *Hardstanding;*
 - *Scattered Trees;*
 - *Species poor hedgerow*

Amenity Grassland

- 4.2.3 The site area is formed of amenity grassland which is dominated by perennial ryegrass (*Lolium perenne*). A small section of Monbretia (*Crocasmia sp.*) was noted to a southern aspect of the grass. Monbretia is listed within schedule 9 of the *Wildlife and countryside act 1981* (as amended) The sward is maintained to a height of 3-4cm. This habitat is assessed as being of **site value** only.

Caravan

- 4.2.4 There is one abandoned caravan to the southern aspect of the site. This habitat is assessed as being of **negligible** only.

Existing Building

- 4.2.5 Two small buildings are located on site. The first is located to the south of the site adjacent to the abandoned caravan, the building is formed of wooden weatherboarding with exposed roofing felt roof. The second building is a small hut to the east of the site used as cover for goats present within the grassland. The buildings are considered to be of **negligible** value.

Hardstanding

- 4.2.6 Small sections of hardstanding ground are located within and surrounding the site. The hardstanding ground is comprised of areas of typical bare ground with additional areas of woodchip paths. The habitat is considered to be of **negligible** value.

Scattered Trees

- 4.2.7 The site is bounded by scattered trees with several located within the site. The trees are typically native semi-mature trees, dominated by sycamore (*Acer pseudoplatanus*). This habitat is assessed as being of **site value** only.

Species poor hedgerow

- 4.2.8 The northern and aspect boundaries of the site are formed of hedgerows, the hedgerows are mixed native and ornamental with cypress (*Cupressus sp.*) and sycamore (*Acer pseudoplatanus*) the most frequently occurring species. but with semi-regular gaps/ limited screening value. This habitat is assessed as being of **site value** only.

4.3 Protected Species Assessment

Amphibians

Desk Study

- 4.3.1 There are 5 no. records of Great Crested Newts (*Triturus cristatus*) within 2.0 km of the site. Great Crested Newts are protected under *The Conservation of Habitats and Species Regulations 2017*. It is an offence for anyone to intentionally kill, injure or disturb a Great Crested Newt or to damage, destroy or block access to areas of suitable habitat.

Site Assessment

- 4.3.2 There is one pond within 250m of the site, located <50m from the redline boundary located within the same field and one stream located ~400m east of the site at its closest point.

HSI Assessment

- 4.3.3 The pond (P1) within the field was subject to a HSI assessment. The pond is a small ornamental pond with several medium sized fish located within.

Table No. 4 – HSI Assessment

SI Description	P1
location	1
Pond area	0.05
Permanence	0.9
Water quality	1
Shade	0.7
Waterfowl effect	1
Fish presence	0.01
Pond Density	0.45
Terrestrial habitat	0.33
Macrophyte cover	0.5
HSI Score	0.37
Pond suitability	Poor

- 4.3.4 Given the poor quality of the pond and the limited terrestrial habitat for great crested newts on-site, the site is considered to be of **negligible** value to amphibians.

Reptiles

Desk Study

- 4.3.3 There are limited records of reptiles within 2km of the site. All species of UK reptile are protected against reckless or intentional killing or injuring under *The Wildlife and Countryside Act 1981 (as amended)*.

Site Assessment

- 4.3.4 The grassland is considered to be unsuitable for reptiles due to its low sward height. habitats onsite are considered to be of **negligible** to reptiles.

Bats*Desk Study*

- 4.3.5 Six bat species have been recorded within 2km of the site including: Common (*Pipistrellus pipistrellus*) and Soprano (*Pygmaeus pipistrellus*) Pipistrelle and Brown Long Eared bats (*Plecotus auritus*), Noctule (*Nyctulus noctula*) and Western Barbastelle (*Barbastella barbastellus*).

Site Assessment

- 4.3.6 No trees were identified on site as offering bat roost suitability, being relatively young specimens. The surrounding grassland fields may support foraging and commuting by a number of bat species. Given the low sward height the grassland on-site is of limited value to bats. The trees and hedges are likely used by bats as a commuting and foraging feature. The site is likely to be of **site value** for bats.

Dormouse*Desk Study*

- 4.3.7 There are two records of Common Dormouse (*Muscardinus avellanarius*) within 2.0km of the site.

Site Assessment

- 4.3.8 One single dormouse tube was located to the southern fence line. This tube was empty on the site visit and believed to be part of a survey from 2011 (with no evidence of dormice found during this survey).

- 4.3.9 Due to the limited dense vegetation cover, gappy vegetation and the significant distance to woodland areas where self-sustaining populations are likely to be present, the site is considered to have **negligible value** to dormice.

Badger

Desk Study

- 4.3.10 There are several records of badger being present within 2km of the site.

Site Assessment

- 4.3.11 No evidence of badger was recorded within the site. However, they may use the site area when commuting to foraging habitats. The area is considered to be of **site value** for commuting badgers.

Other Mammals

- 4.3.12 Numerous records of common mammals including hedgehogs, hare and deer exist within 2.0km of the site area as well as rabbit droppings being identified on site.

Birds

Desk Study

- 4.3.13 A total of 58 no. bird species have been returned within 2.0km of the site, including 4 no. Schedule I bird species; notably Redwing, Barn Owl and Fieldfare.

Site Assessment

- 4.3.14 There is suitable nesting habitat within the scattered trees and hedges on and surrounding the site. The area lacks suitable ground-nesting habitat or habitat for rarer species, and overall is likely to be of **site value** to breeding / foraging birds.

Invertebrates

Desk Study

- 4.3.15 The data search returned records of numerous species of invertebrates within 2.0km.

Site Assessment

- 4.3.16 Suitable habitat for diverse or rare invertebrates is limited within the site. The site in general lacks the floral diversity to support a good range of invertebrates and is likely to be of value within the **site area only**.

Others

- 4.3.17 No suitable habitat for any other protected species was recorded on site.

4.4 Survey Constraints / Considerations

- 4.4.1 No major constraints which would cast doubt on these results were encountered, full access was available to all areas of the site.

5.0 ASSESSMENT OF EFFECTS AND MITIGATION MEASURES**5.1 Designated Sites***Potential Impacts*

- 5.1.1 The site is located within the *Impact Risk Zone of Bognor Reef & Fairmile Bottom SSSI*. In the absence of mitigation, impacts could include increased recreational pressure leading to disturbance. The impacts on the surrounding SSSI's are unlikely to be of any significance due to intervening distances and the small scale of proposals.

Mitigation and Compensation

- 5.1.2 All boundary vegetation will be retained and protected as part of the proposals. Measures will be taken as detailed in the following section 5.2 to protect habitats from pollution. A sensitive lighting scheme designed in accordance with ILP Guidance Note 08/18 will be utilised across the site, with all lighting angled down and away from the vegetation. Lighting will be timed to ensure periods of complete darkness, ensuring the continued ecological functionality of the boundary vegetation.

Residual Impacts

- 5.1.3 **No likely significant effect** upon surrounding European designated sites will arise from the proposed development.

5.2 Habitats*Potential Impacts*

- 5.2.1 Development proposals will result in the loss of amenity grassland, scattered trees and species poor hedgerow, while inappropriate construction methods could result in smothering of adjacent tree by dust, as well as disturbance through noise, vibration and emissions. Inappropriate lighting of trees and hedgerows during the operational phase could cause loss of commuting corridors for birds and bats. Given the scale of the development the potential impacts would be of minor impact magnitude and likely to occur.

Mitigation and Compensation

- 5.2.2 All construction will be undertaken in accordance with best practise guidelines with regards to control of dust, noise and emissions. All light spill onto surrounding hedge lines and woodland will be avoided. Storage of fuel etc will be avoided adjacent to hedge rows and woodland. All trees are to be protected in accordance with *BS5837:2012 'Trees in Relation to Design, Demolition and Construction'*.
- 5.2.3 The proposed scheme will include habitat enhancements such as native planting to include fruit and nut producing species to provide a foraging resource for birds and mammals.

Residual Impacts

- 5.2.4 Once mitigation is taken into account, the impacts will be **negligible** in the short-term, with a **long-term positive impact** once vegetation has established.

5.3 Amphibians*Potential Impacts*

- 5.3.1 None predicted, the site is of negligible value to amphibians.

Mitigation and Compensation

- 5.3.2 None required. In the highly unlikely event that GCN are found on site, all works will cease until a suitably qualified ecologist has been contacted for advice.

Residual Impacts

- 5.3.3 The impacts will be negligible and **non-significant**.

5.4 Reptiles*Potential Impacts*

- 5.4.1 None predicted, the site is of negligible value to reptiles.

Mitigation and Compensation

- 5.4.2 None required. In the highly unlikely event that reptiles are found on site, all works will cease until a suitably qualified ecologist has been contacted for advice.

Residual Impacts

- 5.4.3 The impacts will be negligible and **non-significant**.

5.5 Bats*Potential Impacts*

- 5.5.1 In the absence of mitigation impacts may include habitat fragmentation, loss of foraging areas, increased predation and disturbance of individual bats. Impacts would be of minor impact magnitude and likely to occur.

Mitigation and Compensation

- 5.5.2 Light spill onto the adjacent trees, grassland and hedgerows will be avoided in accordance with BCT/ILP Guidance Note 08/18 to allow their continued use as commuting corridors and foraging areas. Mature trees will be retained within the scheme where possible.

Residual Impacts

- 5.5.3 The overall impact of the scheme will be **negligible**.

5.6 Dormouse

Potential Impacts

- 5.6.1 In the absence of mitigation, impacts could include habitat fragmentation, habitat removal and disturbance through an inappropriate lighting scheme. The impacts would be of moderate impact but highly unlikely to occur.

Mitigation and Compensation

- 5.6.2 Lighting upon surrounding trees and hedgerows will be avoided. In the highly unlikely event that dormice are found on site, all works will cease until a suitably qualified ecologist has been contacted for advice.

Residual Impacts

- 5.6.3 The overall impact of the scheme will be **negligible, non-significant**.

5.7 Badgers

Potential Impacts

- 5.7.1 In the absence of mitigation, impacts would include the trapping of badgers in footings/trenches, fragmentation of habitat and disruption of commuting corridors. Impacts would be of low impact magnitude and unlikely to occur.

Mitigation and Compensation

- 5.7.2 Any trenches will be covered or have a ramp installed overnight to prevent any mammals becoming trapped. Commuting corridors around the margins of the site will be retained.

Residual Impacts

- 5.7.3 The overall impact of the scheme will be **negligible, non-significant**.

5.8 Breeding Birds

Potential Impacts

- 5.8.1 In the absence of avoidance / mitigation, the development could result in the damage / destruction of a bird nest. Impacts would be of minor impact magnitude and unlikely to occur as vegetation will be retained.

Mitigation and Compensation

- 5.8.2 Clearance of any hedgerows or trees will be undertaken outside the bird nesting season (*season: March-August inclusive*). Should this not be possible, vegetation / buildings will be checked prior to removal by a Suitably Qualified Ecologist to ensure no active nests are present.

Residual Impacts

- 5.8.3 The overall impact of the scheme will be **negligible, non-significant**.

5.10 Invertebrates

Potential Impacts

- 5.9.1 None predicted, current land-use (amenity grassland) is unsuitable for diverse or rare invertebrates. Common invertebrates may utilise the trees and hedges, however these are being retained within the proposals.

Mitigation and Compensation

- 5.9.2 Surrounding hedges and trees will be retained within the scheme.

Residual Impacts

- 5.9.3 The overall impact of the scheme will be **negligible, non-significant**.

6.0 ECOLOGICAL ENHANCEMENTS

6.1 The design of any proposed development should consider ecological enhancements for the benefit of wildlife in line with the *National Planning Policy Framework* and *Local Planning Policy*. Ecological enhancements which will be included as part of development proposals include

- Planting of native pollinating species for the proposed tree as listed in the '*RHS Plants for pollinators*'
- Instillation of bird and bat boxes to mature trees and integrated to the new buildings;
- Use of a sympathetic lighting scheme across the site, with lighting angled down and away from surrounding trees, hedgerows and woodland.
- Native fruit and nut producing species will be utilised within the scheme to increase the foraging resource for birds and mammals;
- Instillation of hedgehog holes and houses to new boundary fencing;
- A visit during Montbretia flowering months to accurately assess all areas occupied will be undertaken, with a plan formulated and executed to permanently remove the invasive species.

7.0 CONCLUSIONS

7.1 The existing site is formed of amenity grassland and scattered trees surrounded by species poor hedgerow and hardstanding. The site itself is of **low ecological value** with no habitats of interest noted.

7.3 Once avoidance and mitigation measures have been taken into account, the impacts of the planned development upon biodiversity will be **negligible, non-significant** with proposed ecological enhancements resulting in a **net gain** in biodiversity in line with national planning policy guidance.

8.0 REFERENCES

Froglife (2001) Great Crested Newt Conservation Handbook. Froglife;

Joint Nature Conservation Council (JNCC). (2010): Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit.

CIEEM. (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM. (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management. Winchester, UK

Collins J (ed): Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd ed.) The Bat Conservation Trust (2016);

Multi-Agency Geographic Information for the Countryside (MAGIC). (2013). Interactive Map. [online]. Available at <http://www.magic.gov.uk/Magicmap.aspx>

Mitchell-Jones and McLeish: Bat Workers Manual; JNCC, 3rd Edition (2004);

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), pp.143-155.

Soils Data © Cranfield University (NSRI) and for the Controller of HMSO, 2019

Streeter, D.: The Most Complete Guide to the Flowers of Britain and Ireland; Harper Collins, London (2010);

Table No. 03 – Non-Statutory Protected Sites

Amenity Grassland

Common Name	Scientific Name	DAFOR
Bristly Ox-tongue	<i>Helminthotheca echioides</i>	R
Creeping Bent	<i>Agrostis stolonifera</i>	D
Daisy	<i>Bellis perennis</i>	F
Montbretia	<i>Crocsmia sp.</i>	R
Perennial Ryegrass	<i>Lolium perenne</i>	D
Yorkshire Fog	<i>Holcus lanactus</i>	O

Scattered Trees

Common Name	Scientific Name	DAFOR
Beech	<i>Fagus sylvatica</i>	R
Blue atlas cedar	<i>Cedrus atlantica</i> 'Glaucia'	R
Cherry	<i>Prunus sp.</i>	R
Hawthorn	<i>Crataegus monogyna</i>	R
Hazel	<i>Corylus sp.</i>	R
Lawsons cypress	<i>Chamaecyparis x lawsoniana</i>	O
Leyland cypress	<i>Chamaecyparis x leylandii</i>	O
Pedunculate Oak	<i>Quercus robur</i>	R
Plum	<i>Prunus sp.</i>	R
Silver birch	<i>Betula pendula</i>	F
Sweet chestnut	<i>Castania sativa</i>	R
Sycamore	<i>Acer pseudoplatanus</i>	D
Weeping willow	<i>Salix x chrysoma</i>	R

Species Poor Hedgerow

Common Name	Scientific Name	DAFOR
Cypress	<i>Chamaecyparis sp.</i>	R
Hawthorn	<i>Crataegus monogyna</i>	D
Sycamore	<i>Acer pseudoplatanus</i>	F

D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare; L – Locally

Table No. 04 – Target Note

Number	Feature
TN01	<i>Dormouse Tube</i>
TN02	<i>Montbretia</i> identified on site.

APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 1 - View of the site from the eastern aspect



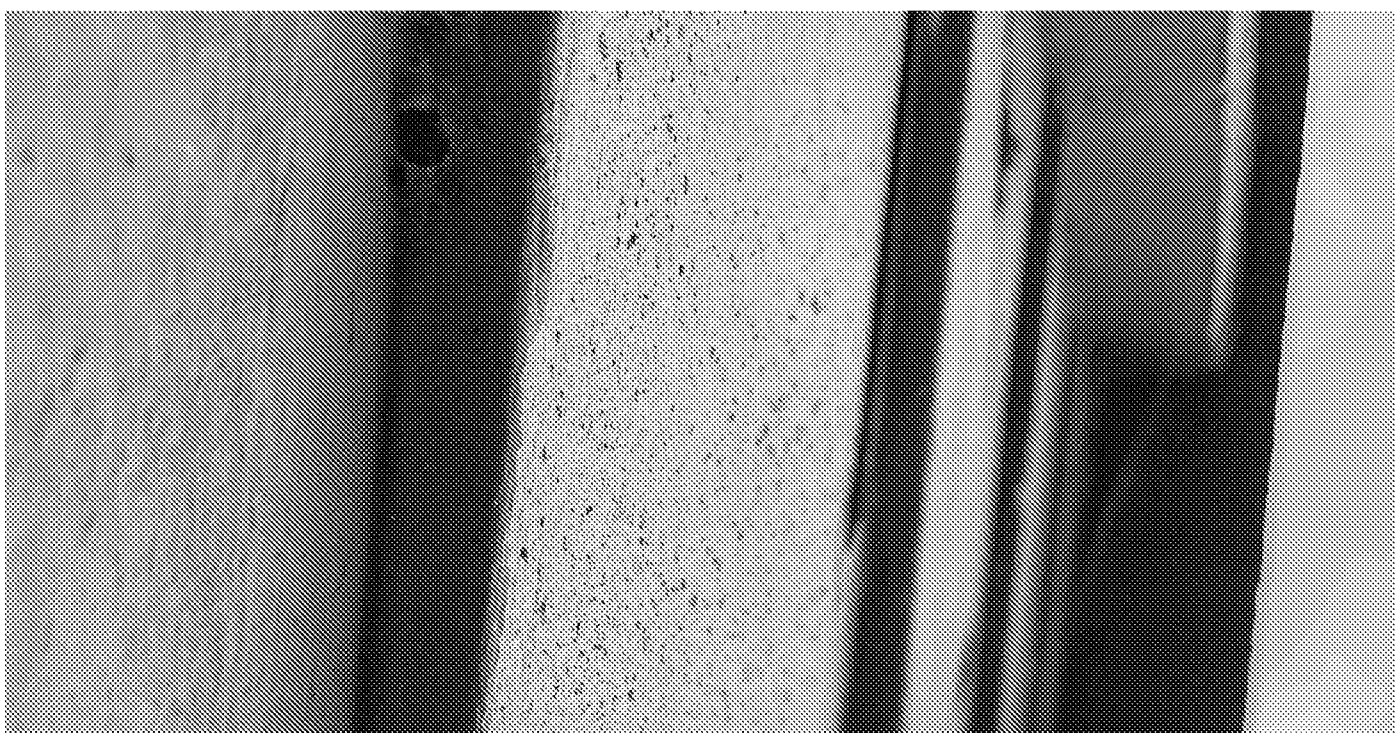
Photograph No. 2 - View of the site from the northern aspect, with View of the buildings and caravan.

RYEFIELDS FARMHOUSE
OAK TREE LANE, WOODGATE, WEST SUSSEX
ECOLOGICAL IMPACTS ASSESSMENT
LLD2289-ECO-REP-001-00

APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 3 - View of the scaravan and adjacent building.



Photograph No. 4 - buidling adjacent to the caravan with no entrance points noted, the wooden pannels have been bording well to all aspects as above.

RYEFIELDS FARMHOUSE
OAK TREE LANE, WOODGATE, WEST SUSSEX
ECOLOGICAL IMPACTS ASSESSMENT
LLD2289-ECO-REP-001-00

APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 5 - View of offsite pond.



Photograph No. 6 - View of dense ornamental fish population within the offsite pond.

RYEFIELDS FARMHOUSE
OAK TREE LANE, WOODGATE, WEST SUSSEX
ECOLOGICAL IMPACTS ASSESSMENT
LLD2289-ECO-REP-001-00

APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 5 - View of **TN01** dormouse tube located to the southern aspect of the site. the tube was located in an area of hedgerow previously and recently pruned and offered no vegetation cover at the time of survey.



Photograph No. 6 - View of **TN02** of Montbretia to the outskirts of the fenced area surrounding goat paddock.

RYEFIELDS FARMHOUSE
OAK TREE LANE, WOODGATE, WEST SUSSEX
ECOLOGICAL IMPACTS ASSESSMENT
LLD2289-ECO-REP-001-00