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Landscape Design and Ecology

ECOLOGICAL IMPACT ASSESSMENT

Fowley Cottage, 46 Warblington Road, Emsworth

On Behalf of: Seaward Properties

Draft Issue

Client:	Seaward Properties			
Project:	Fowley Cottage, 46 Warblington Road, Emsworth			
Reference:	LLD2647-ECO-REP-001-00-EcIA			
Revision:	Date:	Author	Proof	Approved
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Validity:

This report is valid for 18 months from the date of the site visit. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified ecologist to assess any changes in the habitats present on site, and to inform a review of the conclusions and recommendations made.



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SUMMARY

Lizard Landscape Design and Ecology has been commissioned by Seaward Properties to undertake an Ecological Impact Assessment of the proposed development of Fowley Cottage, 46 Warblington Road, Emsworth (*Grid Reference: SU 74400 05461– hereafter referred to as ‘the site’*). A Preliminary Ecological Appraisal of the site was undertaken on 6th December 2021. Phase 2 Reptile surveys, Winter Bird Surveys and bat emergence/ re-entry surveys were recommended and undertaken between 2021-2022. An assessment of the ecological impact of the proposals was then undertaken using this baseline data.

The northern half of the site was formed of a hard standing driveway with patches of amenity grassland and introduced shrubs. A garage and outbuilding were noted in addition to the main house. A tennis court was on the western side of the site. The southern half of the site was formed of improved grassland with scrub running down the western and eastern boundaries. Scattered trees are located across the site and of varying age and maturity.

The proposed construction zone is located adjacent to Chichester and Langstone Harbours (RAMSAR, SSSI SPA). A series of mitigation measures have been proposed which shall ensure the site is protected throughout the construction and operation phases of the project.

Reptile surveys found no reptiles to be using the site during any of the seven visits undertaken.

Bat emergence/ re-entry surveys identified a single soprano pipistrelle re-entering the building at the south-west corner under the eaves. As such a European Protected Species License with regards to bats will be required from Natural England prior to works commencing. Mitigation to protect bats during works is detailed herein.

Due to the proximity of the site to Chichester and Langstone Harbours SPA, a Winter Bird Survey was commissioned to identify what, if any, disturbance to wintering birds using the site would be. During the surveys, no birds for which the SPA is designated were identified using the site. The only birds seen using the site were wood pigeons. Mitigation will be required to ensure no disturbance to the SPA occurs.

The site also offers some suitable habitat for badgers. Avoidance and mitigation measures have been built into the design of the scheme in accordance with the mitigation hierarchy and BS42020: 2013.

Once avoidance, mitigation and compensation measures have been taken into account, the impacts of the planned development upon biodiversity will be **negligible and non-significant** with proposed ecological enhancements resulting in a Biodiversity Net Gain.

1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology has been commissioned by Seaward Properties to undertake an Ecological Impact Assessment of the proposed development of Fowley Cottage, 46 Warblington Road, Emsworth (*Grid Reference: SU 74400 05461– hereafter referred to as ‘the site’*).
- 1.2 The scope of this assessment has been determined with consideration of best-practice guidance provided by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018) and the Biodiversity: Code of practice for planning and development published by the British Standards Institute (BS 42020:2013).
- 1.3 An initial Preliminary Ecological Appraisal of the site was undertaken on 6th December 2021. The following phase 2 survey work was recommended and subsequently undertaken:
- Winter Bird Surveys (December 2021 – March 2022)
 - Bat Emergence/ re-entry surveys (June – July 2022)
 - Reptile Survey (May – June 2022)
- 1.4 A summary of the results of these surveys, potential impacts of the proposals, and details of avoidance, mitigation and compensation measures have been detailed within this report. Residual impacts are then discussed once all mitigation and compensation measures have been taken into account.

Site Information

- 1.5 The site is located in the village of Emsworth and measures approximately 1.1 hectares (ha). The site consists of a parcel of improved grassland to the south of the site with the existing residential property of Fowley Cottage and associated gardens to the northern section of the site. Scattered trees are located across the site. The site is bound by Warblington Road to the north and residential properties to the east and west. Chichester and Langstone Harbours RAMSAR, SPA, SAC, SSSI is located directly adjacent to the south of the site.

Surrounding Landscape

- 1.6 The wider landscape is comprised of varying land uses. Hayling and Thorny Island are located 1.4km to the southwest and 1.2km to the southeast respectively. To the east, land use is predominantly rural in the form of arable fields with sections of hedgerows and trees dividing the fields. The village of Westbourne is located approximately 1.0 km to the north beyond which are more arable fields. To the west of the site land use is predominantly urban in the form of Havant and its suburbs located 2.7 away.
- 1.7 No ponds were seen onsite. Within a 500-metre radius of the site Slipper Mill Pond is located 0.3km to the east.

Development Proposals

- 1.8 The scheme proposals are for the demolition of the current dwelling and outbuildings followed by construction of 19no. new residential properties.

Report Aims

- 1.9 The aim of the baseline surveys and Ecological Impact Assessment has been:
- *Describe baseline conditions at the site;*
 - *Determine the importance of features which may be impacted by the scheme;*
 - *Identify impacts of the proposed development and set out appropriate avoidance, mitigation and compensation measures;*
 - *To identify any residual impacts;*
 - *To provide details of enhancements to be incorporated into the scheme;*
 - *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) 2021 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 The Havant Borough Core Strategy (Adopted 2011) Policy CS13 (Green Infrastructure) states that development will be permitted that:

- *Maintains and manages the network of green infrastructure identified at the sub regional and local levels.*
- *Incorporates, where appropriate, improvements to existing green infrastructure through the restoration, enhancement or creation of additional resources.*
- *Does not undermine the functional integrity of the green infrastructure.*
- *Creates, where appropriate, new green infrastructure (including access*

management measures) either through on-site provision or financial contributions.

- *Development proposals that adversely affect green infrastructure will not be permitted unless superior alternative provision can be provided or where it is part of a service provider's plans to provide improved local services in equally accessible locations.*

Policy CS11 (Protecting and Enhancing the Special Environment and Heritage of Havant Borough states that planning permission will be granted for development which:

- *Incorporates partnership working with conservation organisations to improve public understanding of biodiversity and to manage public access to designated sites, particularly on the coast, to reduce harm to nature conservation interests.*

Policy DM9 (Development in the Coastal Zone) states that development will only be permitted when it:

- *Has no harmful effects on nature conservation within the Chichester and Langstone Harbour SSSIs and SPA, Solent Maritime SAC and Ramsar site, or any SINC's and Local Nature Reserves.*

3.0 METHODOLOGY

3.1 Desk Study

- 3.1.1 The Multi-Agency Geographic Information for the Countryside (*MAGIC*) was consulted for all designated sites, priority habitats and protected species licence records within a practicable zone of influence of the site. Protected species records were not obtained from the local records centre.

3.2 Preliminary Ecological Appraisal

- 3.2.1 The initial field survey was undertaken on 6th December 2021 by a Suitably Qualified Ecologist (Alex Rosenfeld, Assistant ecologist, 4 years professional experience). Weather conditions were cool (c.12°C), with a moderate north-westerly wind (Beaufort Scale 3-4), with 100% cloud cover.

- 3.2.2 The field survey comprised a walkover inspection of the land and covered all accessible parts of the site, including boundary features. Habitats were recorded according to the UK-Habs Classification System as described within the UK Habitats Manual (Butcher *et al*, 2020). All habitats present on-site were recorded on a Phase 1 Habitat Plan (Figure No. 01 – Site Habitat Plan).
- 3.2.3 A list of plant species was compiled, together with an estimate of abundance made according to the DAFOR scale (*Table 09*). In addition, Target notes (*Table 10*) were used to provide supplementary information on features which were particularly interesting or significant to specific construction proposals, or too small to map.
- 3.2.4 The survey methodology was extended to provide more detail in relation to the sites potential to support rare or protected fauna, as described by the *Chartered Institute of Ecology and Environmental Management's Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017b)*. The assessment of habitat suitability for protected, rare or priority species is based on current good practice guidance such as that presented in the *Herpetofauna Workers' Manual (Gent and Gibson, 2003)* and *Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collin (ed.), 2016)*.

3.3 Preliminary Bat Roost Assessment

- 3.3.1 A Preliminary Bat Roost Assessment was undertaken on 6th December 2021 by an experienced bat surveyor who undertook an internal and external assessment of all buildings and a ground level assessment of all trees within and around the proposed construction zone.
- 3.3.2 The bat surveyor assessed the existing buildings visually and searched for evidence such as:
- Grease Marks;
 - Urine Stains;
 - Bat Droppings;
 - Feeding Remains;

- Dead or Live Bats.

3.3.3 Trees were visually identified from the ground, using binoculars where necessary, for features that could be used by bats such as:

- Woodpecker Holes;
- Knot Holes;
- Tear-outs;
- Flush Cuts;
- Double Leaders.

3.3.4 Once features had been assessed the trees were then categorised in accordance with *Table 4.1 of the Bat Conservation Trust's Good Survey Guidelines (2016) (shown below)*:

Table No. 01 – Bat Roost Suitability Guidelines (BCT, 2016)

Category	Buildings	Trees
`Negligible`	No suitable features identified.	No suitable features identified.
`Low`	A structure which could be used opportunistically, however, are not likely to be used on a regular basis / by a large number of bats.	Tree of sufficient size / age to support bat roost features; but with none identified from the ground.
`Moderate`	A building with features which, could be used regularly by a small number of bats.	Tree with features which, may support a bat roost of low conservation status.
`High`	A building with features suitable for use by a large number of bats on a regular basis.	A tree with several potential bat roost sites that are suitable for use by a large number of bats.

3.4 Reptile Survey

3.4.1 16 no. artificial reptile refugia (*roofing felt; 0.50 x 1.0 m²*) were laid out around the site on 29th April 2022 and allowed to settle for 28 days prior to commencement of the survey.

- 3.4.2 07 no. site visits were conducted, where the number, species, age and sex of the reptiles' present were recorded.
- 3.4.3 Surveys were undertaken where possible during recommended times (08:00–11:00 and 16:00-18:30) with suitable weather conditions for surveying reptiles (*guidelines recommend temperatures 9-18°C with intermittent or hazy sunshine during warm days*). Weather conditions recorded at each survey visit are shown in Table No. 02 below.

Table No. 02 - Details of Weather Conditions during the Reptile Surveys

Survey	Date of Visit	Time	Weather
01	17.05.22	09:30	17°C – Sunny, Dry, Wind F1
02	23.05.22	17:00	16°C – Sunny, Dry, Wind F3
03	26.05.22	10:00	15°C – Light Cloud, Wind F2
04	01.06.22	10:50	16°C – Clear and Sunny, Wind F2
05	06.06.22	11:00	12°C – Clear and Sunny, Wind F1
06	10.06.22	11:00	11°C – Clear and Sunny, Wind F3
07	13.06.22	10:45	17°C – Clear and Sunny, Wind F2

3.5 Bat Emergence / Re-entry Survey

- 3.5.1 Bat emergence / re-entry survey visits were undertaken on 21st June 2022, 5th July 2022 and 12th July 2022.
- 3.5.2 4 no. bat surveyors were assigned a point each to adequately cover all aspects of each building or tree (*Refer to Figure No. 03 – Location of Survey Points*).
- 3.5.3 Dusk surveys were started 15 minutes before sunset and terminated approximately 1.5 hours after sunset. Dawn re-entry surveys began 1.5 hours before sunrise and continued until 15 minutes after. Data including species, behaviour and general patterns of activity were recorded throughout the survey. Details of the survey visits can be found in *Table No. 03* below:

Table No. 03 – Bat Emergence Survey Details

Date	21.06.22	05.07.22	12.07.22
Buildings / Trees Surveyed	<i>B2</i>	<i>B1&B3</i>	<i>B2</i>
Survey Type	<i>Dusk</i>	<i>Dusk</i>	<i>Dawn</i>
Surveyors	<i>AR, ES, HS, LB</i>	<i>CO, JH, HS, GS</i>	<i>CO, HS, AR</i>
Weather	<i>17°C Dry 20% cloud WF 1</i>	<i>19°C Dry 10% cloud WF1</i>	<i>18°C Dry 30% cloud WF0</i>
Sunset / sunrise	<i>21:21</i>	<i>21:19</i>	<i>05:04</i>
Start	<i>21:06</i>	<i>21:04</i>	<i>03:34</i>
Finish	<i>22:51</i>	<i>22:49</i>	<i>05:15</i>

- 3.5.4 Bats were identified using Anabat SD2, Peersonic RPA3s and Echo Meter Touch Pro 2 bat detectors.

Data Analysis

- 3.5.5 Sonogram analysis was undertaken using the AnalookW and Kaleidoscope programmes.

3.6 Winter Bird Survey

- 3.6.1 The survey area consisted of a transect along 'Western Parade', the promenade running parallel to the sea just to the south of the site. Line transects were set up ensuring all areas could be surveyed using binoculars and telescope as appropriate. The site and surrounding gardens and harbour habitats were each assigned a number in order to be able to identify them (*see Figure No. 01: Winter Bird Survey Plan*). Survey work was undertaken by experienced bird surveyors.

3.6.2 Survey visits were undertaken in accordance with Solent Waders and Brent Goose Methodology (King. D., 2010). Surveys were carried out every 2 – 3 weeks between December 2021 and March 2022. The transect was walked on foot at a suitable time of day near to high tide, avoiding the first hour after sunrise and before sunset; and avoiding adverse weather conditions such as heavy rain, strong winds or poor visibility when activity is decreased. Each transect took c. 2 hours to complete. Weather and tidal conditions were recorded for each visit, these are shown in Table No. 02 below.

Table No. 04 - Weather and tidal conditions during survey

Survey	Date	Time	Weather Conditions	Tide
01	20.12.21	11:45 - 13:45	7 °C, dry, 8/8 Oktas, WF1	HT: 12:16
02	05.01.22	13:30 – 15:30	7 °C, dry, 2/8 Oktas, WF2	HT: 13:00
03	21.01.22	11:45 – 13:10	4 °C, dry, 6/8 Oktas, WF1	HT: 13:23
04	04.02.22	12:28 – 14:28	7 °C, dry, 6/8Oktas, WF2	HT: 13:28
05	17.02.22	14:25 – 16:15	12 °C, dry, 3/8Oktas, WF4	HT: 15:15
06	04.03.22	11:20 – 12:20	6 °C, dry, 6/8Oktas, WF1	HT: 12:25
07	18.03.22	11:15 – 13:15	15 °C, dry, 3/8Oktas, WF1	HT: 11:24

3.6.3 The numbers, location and species of any feeding or roosting birds was recorded.

3.7 Ecological Impact Assessment

3.7.1 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.

3.7.2 The CIEEM guidelines (2018) state that ecological features should be considered within a 'defined geographical context'. The geographical frame of reference used to determine ecological importance in this assessment is detailed below:

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

3.7.3 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.*

3.7.4 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). When describing impacts the assessment refers to characteristics such as the extent; magnitude; duration; frequency; and, reversibility of the impact in order to provide justification for any conclusions about the nature and likelihood of the impact described.

3.7.5 Where initial impacts have been identified as significant, avoidance, mitigation and compensation measures have been proposed to avoid, prevent or offset such effects. This assessment then 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*". Enhancement has been proposed to ensure that the development represents a net gain in biodiversity in accordance with National Policy.

3.8 Constraints and Limitations

3.8.1 Due to the field survey consisting of only one site visit, certain species, particularly some of the flowering plants, may not have been visible and hence overlooked. These are accepted constraints associated with the standard *Phase 1 Habitat Survey Methodology*.

- 3.8.2 During the initial survey, a full view of the eastern aspect of B03 was not obtainable. However, it is considered a comprehensive enough assessment of the site was undertaken to allow informed decisions with regards to the need of further surveys to be made.

4.0 BASELINE ECOLOGICAL CONDITIONS

4.1 Designated Sites

Statutory Protected Sites

- 4.1.1 The desk study identified national statutory designated sites including Local Nature Reserves (LNRs), National Nature reserves (NNR) and Sites of Special Scientific Interest (SSSIs) within a 2.0km radius of the site, and international statutory designated sites including Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsars (Wetlands of International Importance) within a 10.0km radius of the site. Where SAC's designated for their bat interest are present this ZoI has been extended to 12km in accordance with recent guidance (SDNP, 2020).

- 4.1.2 The following statutory protected sites are noted within the zone of influence of the proposed site:

Table No. 05 – Statutory Protected Sites

Site	Reason for Designation	Location
<i>Chichester and Langstone Harbours RAMSAR, SSSI</i>	<i>Two large estuarine basins linked by a channel and including extensive intertidal mudflats, saltmarsh, sand and shingle spits, and dunes supporting reedbeds and some grassland. Numbers of wintering waterbirds regularly exceed 20,000 individuals and include internationally and nationally important numbers of several species.</i>	<i>Adj. Site to S</i>
<i>Chichester and Langstone Harbours SPA</i>	<i>This site is designated as it supports nationally important populations of a variety of bird species including: Little Tern (<i>Sterna albifrons</i>) Common Tern (<i>Sterna hirundo</i>) Barnacle Goose (<i>Branta bernicla bernicla</i>) Sanderling (<i>Calidris alba</i>)</i>	<i>Adj. to the S</i>

	<i>Ringed Plover (Charadrius hiaticula)</i> <i>Ruddy Turnstone (Arenaria interpres)</i> <i>Wigeon (Anas penelope)</i> <i>Eurasian Teal (Anas crecca)</i> <i>Northern Pintail (Anas acuta)</i> <i>Northern Shoveler (Anas clypeata)</i> <i>Red Breasted Merganser (Mergus serrator)</i>	
<i>Brook Meadow (Emsworth) LNR</i>	<i>The site is dominated by grassland and surrounded by woodland. The site is known to support water vole.</i>	0.7km NE
<i>Warblington Meadows SSSI</i>	<i>Warblington Meadow Site of Special Scientific Interest is an unimproved grazing marsh adjoining Chichester Harbour and is of special interest for its gradation from freshwater, baserich marsh to old, reclaimed saltmarsh, and for its rich associated flora, with a total of 158 species of flowering plants having been recorded up to the time of notification</i>	1.2km W
<i>Kingley vale SAC, SSSI, LNR</i>	<i>Kingley Vale is one of the sites representing yew Taxus baccata woods on chalk, in the central southern part of its UK range. It has been designated primarily because of its size, as it is the largest area of yew woodland in Britain. It also shows excellent conservation of the full range of habitat structure and function.</i>	7.6km NE
<i>Portsmouth Harbour RAMSAR, SSSI</i>	<i>The mudflats, supporting extensive beds of eelgrass, green algae, and sea lettuce, provide feeding grounds for internationally important numbers of wintering Dark-bellied Brent Geese. A unique and high quality flora and fauna occur at the site.</i>	8.0km W
<i>Portsmouth Harbour SPA</i>	<i>This site is designated as it supports nationally important populations of:</i> <i>Barnacle Goose (Branta bernicla bernicla)</i> <i>Ruff (Philomachus pugnax)</i> <i>Little Tern (Sterna albifrons)</i> <i>Common Tern (Sterna hirundo)</i>	8.0km W

4.1.3 The site is within the *Impact Risk Zones (IRZ)* of Chichester Harbour SSSI and Warblington Meadows SSSI. The proposals are for the provision of over 10 units and will therefore require the LPA to consult with *Natural England*.

- 4.1.4 As the site is located within The Solent Nutrient Impact Area, a calculation will be required to demonstrate that the site shall not cause additional nitrogen input into the Solent. If the scheme cannot demonstrate nitrate neutrality, then developer contributions shall be provided towards an authorised mitigation scheme.
- 4.1.5 In accordance with Policy 50 of the Chichester Local Plan 2014 – 2019, all development within 5.6km of Chichester and Langstone Harbours SPA which results in a net gain in residential units shall have to provide appropriate mitigation to off-set increased recreational disturbance within the SPA. Impacts are currently mitigated through developer contributions in accordance with the joint mitigation strategy outlined in Phase III of the Solent Disturbance and Mitigation Project.

Non-Statutory Protected Areas

- 4.1.6 *Sites of Importance for Nature Conservation (SINCs)* are designations applied to the most important non-statutory nature conservation sites. They are recognised by the *National Planning Policy Framework (2021)* and as such are material considerations when assessing planning applications. SINCs within 2.0km of the site are outlined below.

Table No. 06 – Non-Statutory Protected Sites

Name	Distance
<i>Havant & Emsworth Millpond SINC</i>	<i>0.3km E</i>
<i>Havant Nore Grassland & Saltmarsh SINC</i>	<i>0.5km W</i>
<i>Havant Brook Farm SINC</i>	<i>0.7km W</i>
<i>Havant Lumley Meadow SINC</i>	<i>0.8km NE</i>
<i>Havant Conigar Point Meadows SINC</i>	<i>0.9km W</i>
<i>Havant Land west of Emsworth Recreation Ground SINC</i>	<i>1.1km N</i>
<i>Havant Walblington Castle Farm East SINC</i>	<i>1.1km W</i>
<i>Havant Walblington Castle Farm West SINC</i>	<i>1.7km W</i>

- 4.1.7 The site is not located within or adjacent to any non-statutory designated site. The intervening distances and location of the site in a residential area means that no impacts upon the above sites are predicted.

4.2 Habitats

- 4.2.1 Within 2.0 kilometres of the site there are *Priority Habitats of Coastal Saltmarsh, Mudflats, Coastal and Floodplain Grazing Marsh, Lowland Meadows, Lowland Fens, Reedbeds, Deciduous Woodland, Traditional Orchards and Woodpasture and Parkland*. Large areas of mudflats border the site to the south. The site itself is not designated as priority habitat.

- 4.2.2 Habitats within and adjacent to the site include:

- *Amenity Grassland;*
- *Existing Building;*
- *Hardstanding;*
- *Scattered Trees;*
- *Tall Ruderal;*
- *Intact, Species-poor Hedgerow;*
- *Introduced Shrub;*
- *Dense Scrub*
- *Improved grassland*

Amenity Grassland

- 4.2.3 In the northern half of the site were several prominent areas of amenity grassland (See photograph 01 in Appendix A). The first was in the north-eastern corner. This area had a low sward height and appeared to be regularly maintained. The second, larger area was found immediately to the south of B02. This area was again well maintained and cut to a low sward height. The amenity grassland extended to the west where hedges enclosed a further two small sections of amenity grassland. These areas surrounded by hedgerows contained compost heaps and scattered trees. Species found were common and widespread including daisy (*Bellis perennis*), dandelion (*Taraxacum sp.*) and red fescue (*Festuca rubra*). Overall, this habitat is of **low site value**.

Existing Buildings

- 4.2.4 Onsite are three buildings. There is a small garage (B01 – see photograph 02 in Appendix A) located towards the north-west of the site which was used for storage. The building is of painted pebble dash construction with a slate tiled roof. Internally, within the attic, the roof is lined with wooden sarking.
- 4.2.5 The large house (B02 – see photograph 03 in Appendix A) is located on the eastern site boundary and again is of pebble dash construction. The roof was of clay tile construction. Internally within the roof space the roof was of wooden sarking construction.
- 4.2.6 Directly to the north of the house lies an outbuilding (B03 – see photograph 04 in Appendix A). This is of painted pebble dash construction and had a vaulted ceiling. The roof was of clay tile construction. A detailed assessment of these buildings in terms of their bat roost suitability is contained in section 4.3.

Hard standing

- 4.2.7 A hardstanding driveway made from gravel entered the site from the north and lead to the house in the east of the site where it widened to create a parking area. The hard standing also extended to the east where it formed a parking area next to B01. Opposite the house to the west lay a tennis court. Overall, this habitat is of **negligible** value.

Scattered Trees

- 4.2.8 Across the site were a number of trees of varying age and condition (see photograph 05 in Appendix A). In the northern most section of amenity grassland lay two large mature pine sp. (*Pinus* sp.). and a number of immature trees including apple (*Malus* sp.), hazel (*Corylus avellana*) and holly (*Ilex aquifolium*). In the southern section of the site along the eastern boundary were two mature goat willows (*Salix caprea*), in addition to two small, immature pedunculate oaks (*Quercus robur*) and three mature Scots Pine (*Pinus sylvestris*). Overall, this habitat is of **site / low local value**.

Tall ruderal

- 4.2.9 Within the northern section of the site surrounding B02 are sections of ruderal vegetation running along the eastern boundary and the hedge line. Along the western boundary of the southern section ran areas of ruderal vegetation comprised primarily of nettle (*Urtica dioica*), red dead nettle (*Lamium purpureum*) and thistle sp. (*Cirsium* sp.). This habitat is of **low site value**.

Intact, Species-poor Hedgerow

- 4.2.10 Along the eastern site boundary ran a tall dense hedgerow (see photograph 06 in Appendix A) consisting solely of laurel (*Prunus laurocerasus*) and privet (*Ligustrum ovalifolium*). Surrounding the tennis court ran a hedge of leyland cypresses (*Curpessus x leylandii*). This hedegrow merged into hornbeam (*Carpinus betulus*) which continued south to enclose two sections of amenity grassland. Sections of holly were also noted. In the south of the site were two sections of low hedgerow running from west to east consisting of oak. Overall, this habitat was of **site value**.

Introduced Shrub and Herbaceous Plants

- 4.2.11 In the northern section of the site were small area of introduced shrub by the amenity grassland and surrounding the house. These were unmaintained and grew into areas of ruderal vegetation to the eastern boundary hedge. Species found include cotoneaster (*Cotoneaster* sp.), crocosmia (*Crocosmia* sp.), and fig sp. (*Ficus* sp.). Overall, this habitat was of **site value**.

Dense Scrub

- 4.2.12 Dense scrub patches were situated in the north-eastern and north-western corners of the southern section of the site (see photograph 07 in Appendix A) in addition to the north-eastern corner of the site. These consisted predominantly of bramble, with thickets of hawthorn (*Crataegus monogyna*) and areas of young goat willow growing through. The scrub line ran continuously along the southern section of the western boundary and most of the southern half of the eastern boundary. Overall, this habitat is of **site value**.

Improved Grassland

- 4.2.13 The southern half of the site consisted of improved grassland (see photograph 08 in Appendix A) which appeared to be subject to less maintenance than the areas of amenity grassland. This improved grassland ran for approximately three quarters of the site to the southern boundary. Species noted include perennial ryegrass (*Lolium perenne*), annual meadow grass (*Poa annua*) and cocksfoot (*Dactylis glomerata*). Overall, this habitat was of **site value** only.

4.3 Protected Species

- 4.3.1 The following species assessment is based upon protected species records returned from desk study and the field study of the site. Those species for which no suitable habitat exists on site have been screened out of the assessment.

Bats

Desk Study

- 4.3.2 6 no. bat species have been recorded within 5.0 km of the site including Serotine (*Eptesicus serotinus*), Daubenton's bat (*Myotis daubentonii*), Noctule (*Nyctalus noctula*), Common and Soprano pipistrelle (*Pipistrellus pipistrellus* and *Pipistrellus pygmaeus*) and Brown long-eared (*Plecotus auritus*).

Preliminary Roost Assessment

- 4.3.3 No trees containing potential roost features were identified on site.

- 4.3.4 A preliminary roost assessment of the buildings was completed including an internal and external assessment with results as follows:

Table No. 07 – Preliminary Roost Assessment

Ref.	Description	Category
B01	A low number of lifted tiles which would allow bats to enter were noted (TN01). Internally, no signs of bat were identified. The wooden sarking lay flush and no light could be seen to enter from outside.	Low
B02	Lifted roof tiles sufficient to allow bats to roost under the tiles. In addition, small gaps beneath the eaves sufficient to allow bats to enter were seen. Internally, the wooden sarking was flush, with only one small gap allowing light in from outside was noted. Cobwebs were seen surrounding the small window in the roof space.	Moderate
B03	A low number of lifted tiles which would allow bats to roost. The eaves lay flush to the walls and no signs of ingress/exit points were noted. Internally B03 had a vaulted ceiling, and no direct line of sight to the roof internally was obtainable.	Low

- 4.3.5 The metal lean-to consisted of a wooden frame and a sheet of steel acting as a roof with three sides exposed to day light. Overall, this lean-to had a 'negligible' potential to support roosting bats.

B2 - Dusk emergence survey – 21st June 2022

- 4.3.6 No emergencies were recorded during this survey. There was a low amount of activity recorded during the survey with the majority centred in the garden to the south of the surveyed building. The first recorded activity was at 21:38 - a soprano pipistrelle which was heard but not seen. The last recorded activity was at 22:36 – a common pipistrelle seen foraging to the south of the surveyed building. Species recorded during the survey were limited to common and soprano pipistrelle only.

B3 and B1 – Dusk emergence survey – 5th July 2022

- 4.3.7 No emergences were recorded. A low level of activity was recorded during the survey. The first recorded bat was at 21:36 – a common pipistrelle which was heard but not seen. The last recorded activity was at 22:44 – a common pipistrelle which was heard but not seen. Species recorded during the survey were limited to common and soprano pipistrelle only.

B2 – Dawn re-entry survey – 12th July 2022

- 4.3.8 A single soprano pipistrelle was seen re-entering the building in the southwestern corner under the eaves. A low level of activity was recorded during the survey. The first recorded activity was at 03:48 – a soprano pipistrelle which was a foraging along the eastern site boundary. The last recorded activity was the re-entry at 04:40. The results of the surveys indicate a day roost for a single soprano pipistrelle is present. Therefore, the site is of **site** value to this species.

Foraging and Roosting Assessment

- 4.3.9 The garden habitats were only used by low numbers of common species. The gardens and harbour habitats may be used by a wider range of species, however, these habitats are relatively open and urban. Therefore, of no more than '**site value**'.

Breeding Birds*Desk Study*

- 4.3.10 Over 100 bird species have been recorded within 2.0km of the site, including blackbird (*Turdus merula*) and barn owl (*Tyto alba*.)

Site Assessment

- 4.3.11 The site offers opportunities for a range of common and widespread garden birds both to forage and nest within the onsite trees and dense scrub and hedgerows. Overall, the site is of **moderate** potential to support foraging and nesting birds.

Wintering Birds

Desk Study

- 4.3.12 Within a 2km radius of the site are numerous records of wetland and wading birds including including Schedule I species of Brent Goose (*Branta bernicla bernicla*), ruff (*Philomachus pugnax*) and guillemot (*Uria aalge*). Within the Brent Geese and Solent Waders Strategy, the nearest 'Core Area' for supporting wading and wetland birds is located 1.7km to the west. The nearest 'Primary Support Area' is located 0.8km to the west. Chichester and Langstone Harbours SPA is adjacent to the site to the south.

Site Assessment

- 4.3.13 A total of 25no. species were recorded during the surveys, of which 5 no. (20%) were listed as 'red' and 13 no. (52%) were 'amber' species of Conservation Concern.

Table No. 08 – Summary of Winter Bird Survey Results

Common Name	Max. no.	No. Surveys Present	On-site?	BoCC4 Status	SPA Qualifying Feature	Closest Recorded Occurance to Site
Black headed gull	50	5	N	Amber	N	200 meters
Black tailed godwit	25	2	N	Amber	N	200 meters
Coot	2	4	N	Green	N	200 meters
Cormorant	1	3	N	Green	N	200 meters
Curlew	3	2	N	Red	Y	200 meters
Dark bellied Brent geese	160	7	N	Amber	Y	70 meters
Dunlin	20	2	N	Red	Y	250 meters
Goosander	1	1	N	Green	N	200 meters
Grey Plover	1	3	N	Amber	Y	200 meters
Greylag Goose	15	1	N	Amber	N	150 meters
Herring gull	12	4	N	Red	N	200 meters
Little egret	1	1	N	Green	N	300 meters
Little Grebe	2	1	N	Green	N	500 meters
Mallard	15	5	N	Green	N	200 meters
Med gull	2	1	N	Amber	N	500 meters
Mute swan	14	5	N	Green	N	300 meters
Oystercatcher	4	3	N	Amber	N	10 meters
Red breasted merganser	3	1	N	Amber	Y	500 meters
Redshank	30	6	N	Amber	Y	10 meters
shelduck	1	1	N	Amber	Y	200 meters
Starling	10	1	N	Red	N	500 meters
Teal	9	4	N	Amber	Y	250 meters
Turnstone	1	1	N	Amber	Y	500 meters

Wigeon	17	4	N	Amber	Y	250 meters
Wood Pigeon	5	1	Y	Green	N	On Site

- 4.3.14 Within the site itself only a single species was recorded, Wood Pigeon, which is a species of least concern. As such the site is considered of value to wintering birds within the **site** only, whilst the surrounding harbour is noted as of **international significance**. The potential for disturbance of off-site wintering birds, particularly qualifying features of the Chichester and Langstone Harbours SPA is discussed in the assessment section.

Amphibians

Desk Study

- 4.3.15 Great crested newt (*Triturus cristatus*), smooth newt (*Lissotriton vulgaris*), common toad (*Bufo bufo*) and common frog (*Rana temporaria*) have been recorded within a 2km radius of the site.

Site Assessment

- 4.3.16 No ponds were seen onsite. Within a 500-metre radius of the site, Slipper Mill Pond is located 0.3km to the east, however, this is fed by the sea so the potential for amphibians to be present is drastically reduced. Onsite suitable commuting habitat was present in the form of dense scrub and the improved grassland. However, due to lack of connectivity of habitats across the wider area, in addition to the lack of ponds within a 500-meter radius, the site is considered to be of **negligible** value to amphibians.

Reptiles

Desk Study

- 4.3.17 Slow-worm (*Anguis fragilis*), grass snake (*Natrix Helvetica*) and common lizard (*Zootoca vivipara*) have been recorded within a 2km radius of the site.

Reptile Survey

- 4.3.18 The matrix of grassland, scrub and tall ruderal to the southern portion of the site provides optimal reptile habitat. The dense scrub also provided potential for hibernation.

- 4.3.19 The reptile survey found no signs of reptiles during any of the surveys. As such, the site was considered to be of **negligible** value to reptiles. Individual grass snakes or other lizards occasionally commuting through the site cannot conclusively be ruled out but are determined to occur at sufficiently low densities that specific mitigation is not appropriate.

Dormice

Desk Study

- 4.3.20 There are a limited number of hazel dormice recorded within a 2km radius of the site.

Site Assessment

- 4.3.21 The hedgerows on site are isolated with no connectivity to other areas of suitable habitat in the wider environment. This lack of connectivity results in the site being of **negligible** value to dormouse.

Badgers

Desk Study

- 4.3.22 There are numerous records of badger within a 2km radius of the site.

Site Assessment

- 4.3.23 No signs of badgers were identified onsite. The open nature of the site and scrub patches along the site boundaries meant the site is considered to be suitable for foraging and commuting badgers however no evidence of their use was noted. The site may be of **low** value to occasionally foraging and commuting badgers.

Invertebrates

Desk Study

- 4.3.24 Numerous records of invertebrate exist within a 2km radius including Magpie moth (*Abraxas grossulariata*), yarrow conch (*Aethes smeathmanniana*) and scarce umber (*Agriopsis aurantiaria*).

Site Assessment

- 4.3.25 The habitats on site are common and widespread in the local area. The grassland on site lacked a diverse range of flowering forbs and as such is of **negligible** value to invertebrates. The surrounding scattered trees and hedges may be of some value to common and widespread invertebrates.

Others

- 4.3.26 The network of hedgerows, compost piles and dense scrub, create optimal habitats for foraging and hibernating hedgehogs.
- 4.3.27 The harbour habitats where are too exposed and devoid of vegetation for water vole to be present.

4.4 Survey Constraints / Considerations

- 4.4.1 During the survey, a full view of the eastern aspect of B03 was not obtainable. However, it is considered a comprehensive enough assessment of the site was undertaken to allow informed decisions with regards to the need of further surveys to be made.

5.0 ASSESSMENT OF EFFECTS AND MITIGATION MEASURES

- 5.0.1 Using the Guidelines for Ecological Impact Assessment (IEEM, 2006 & updated by CIEEM, 2018), the assessment set out below considers the potential impacts of the scheme prior to mitigation. Detailed avoidance, mitigation and compensation measures are then discussed, with residual impact identified once these measures have been taken into account. Wherever possible mitigation measures have been designed into the scheme as this gives greater certainty over deliverability and ensures the correct application of the 'Mitigation Hierarchy' (as advocated by BS42020:2013, Defra 2019 and CIEEM, CIRIA & IEMA 2016).
- 5.0.2 Protected species for which the site offers negligible suitability have been scoped out of further assessment.

5.1 Designated Sites

Chichester and Langstone Harbour SPA and Ramsar, Solent Maritime SAC and Solent & Isle of Wight Lagoon SAC

Potential Impacts

5.1.1 The site is located within the *Impact Risk Zone* of *Chichester and Langstone Harbour SSSI, RAMSAR, SPA* Designation which sits within the *Solent Maritime SAC* and *Solent & Isle of Wight Lagoon SAC*. Potential impact pathways to these European Sites identified within the LPA Habitat Regulations Assessment (Aecom, 2018) are likely to include:

- Urbanisation;
- Recreational pressure;
- Reduced water quality;
- Coastal squeeze;
- Loss of functionally linked supporting habitat for birds; and
- Atmospheric pollution.

Urbanisation

5.1.2 The potential for likely significant effects to result from increased urbanisation in the area are discussed in the HRA of the local plan (Aecom, 2018). It is considered that environmental policies imbedded in the local plan are sufficiently robust to negate the impacts of increased urbanisation. E.g. Policy CS13 (Green Infrastructure) states: '*Development proposals that adversely affect green infrastructure will not be permitted unless superior alternative provision can be provided or where it is part of a service provider's plans to provide improved local services in equally accessible locations.*' Therefore, avoidance, mitigation, compensation and enhancement measures detailed in this report are designed to result in a net gain to local biodiversity, resulting in benefits to local wildlife and designated sites and no likely significant adverse effect is predicted.

Recreational Pressure

- 5.1.3 Development will result in an increase in the local population. Proposals are for 19 dwellings which equates to c. 46 people (based on an occupancy of 2.4 people per dwelling). Phase II of the Solent Disturbance and Mitigation Project identified that survival rates for curlew and a variety of other bird species were predicted to decrease under an increase in visitor rates. The local plan recognises this impact pathway and provides mitigation imbedded as policy, which will be discussed further herein.

Reduced Water Quality

- 5.1.4 Water quality assessment work conducted in 2018 (AMEC Foster Wheeler, 2018) identified that the SSSI units associated with the sites are in unfavourable condition, due in part to high levels of nitrogen in the water. The report identified the threat to recovery of the sites due to potential future changes in water quality as a result of development and therefore the LPA embeds policy within the local plan to ensure no likely significant effect occur, which will be discussed herein.

Coastal Squeeze

- 5.1.5 The site is a small infill plot formed of existing residential land between other residential land and as such this is not applicable.

Loss of Functionally Linked Supporting Habitat for Birds

- 5.1.6 Wintering bird surveys were conducted to determine presence / likely absence of wintering birds on site, and within Chichester and Langstone harbours SPA, located directly to the south of the proposed construction site in order to determine whether the site was functionally linked to the SPA, or whether wintering birds could be impacted by increased recreational pressure as a result of an increase in walkers and dog walkers in the area. No evidence was found that the proposed construction site supported birds designated under the SPA and likely absence was concluded, and it is possible to rule out any likely significant effect.

Atmospheric Pollution

- 5.1.7 All traffic would head to the site down Warblington Road, which, after passing the site, leads to a small carpark adjacent to Chichester and Langstone Harbours SPA, approximately 380 meters to the southwest of the current site entrance. Therefore, the impact of increased traffic on nitrogen deposition on the SPA / SSSI / Ramsar sites may be significant if not mitigated against. Current nitrogen deposition rates on the sites are below the critical load, and background nitrogen deposition rates are likely to decrease as improvements in background air quality are achieved in line with government initiatives and improvements in emissions technologies. The HRA for the local plan states that, given this trend, it is unlikely the increased traffic flows as a result of development allocated within the local plan, with result in a likely significant effect to the sites, alone or in combination with other plans scheduled to be brought forward (Aecom, 2018).

Mitigation and Compensation

- 5.1.8 Recreational Pressure. Due to the lack of scope within the development for a bespoke mitigation solution, the potential increase in recreational disturbance and pressure on the Chichester Harbour sites will be counteracted by developer contributions to the Strategic Access Management and Monitoring scheme (SAMM) outlined in Phase III of the Solent Disturbance and Mitigation Project, which contributes towards wardens, education, green infrastructure improvements and monitoring within the SPA, as outlined in Policy 50 of the local plan (Chichester District Council, 2015).
- 5.1.9 Water Quality. The Local Plan Review provides policies S31, S12 and DM16 to ensure water quality outputs resulting from development in relation to nitrogen are maintained. Policy S12 states that design schemes for strategic and major development sites provide for the timely delivery of infrastructure to allow water treatment works to ensure no adverse effects result from proposals. Policy DM16 states that *“For all new dwellings evidence will be required by the developer to demonstrate that the proposal achieves a maximum of 110 litres per person per day including external water use.”* Policy S31 states that *“Proposals for development in the catchment should be able to demonstrate no adverse impact on the water quality of Chichester Harbour”*.

- 5.1.10 . Any increase in nitrates from discharge here may result in a negative impact upon coastal habitats of the Chichester and Langstone harbours SSSI. A nutrient budget calculation should be undertaken which will determine whether the proposals will result in a net nitrate deficit when compared against the existing baseline. Any increase in nitrate runoff will require mitigation to ensure no significant effect upon the designated site.

Non-Statutory Designated Sites

- 5.1.11 The proposals would result in an increase in visitor numbers to the nearby Langstone Harbour RSPB reserve; footpaths and visitor management within the reserve are managed by RSPB from their own financial reserves. The reserve will continue to be managed as appropriate by RSPB with visitor impacts managed by control of access. The nearest SINC is Emsworth and Havant Millpond located 0.3km to the east. In the absence of mitigation, pollution could degrade this protected site.

Mitigation and Compensation

- 5.1.12 In order to ensure no runoff occurs, all refuelling must take place on a hardstanding area, away from any soft ground. In addition, spill kits should be provided in case of emergencies to clear up any spillages. All hazardous chemicals should be stored in a locked and well-sealed container, again, away from any soft ground.

Residual Impacts

- 5.1.13 **No likely significant effect** upon surrounding 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, improved grassland, dense scrub, introduced scrub, species poor hedgerows, tall ruderal vegetation, scattered tree, hardstanding and buildings. There is also the risk of crushing, compaction and leeching of chemicals into the root systems of trees and hedges, which could impact on their life span and ultimately cause death.

Mitigation and Compensation

- 5.2.2 All construction will be undertaken in accordance with best practice guidelines with regards to control of dust, noise and emissions. Where appropriate measures such as debris netting will be used to prevent damage to hedgerows. Storage of fuel etc will be avoided adjacent to hedgerows, ditches and the statutory protected site adjacent to the construction zone. All trees, hedges and woodland will be protected through the use of root protection zone fencing and in accordance with *BS5837:2012 'Trees in Relation to Design, Demolition and Construction - Recommendations'*; a full arboricultural package accompanies this application. In addition, protective hoardings will be implemented between the construction site and Chichester and Langstone Harbours RAMSAR, SSSI, SPA to mitigate against any potential dust and noise which could degrade the designated site.
- 5.2.3 In order to ensure no runoff occurs, all refuelling must take place on a hardstanding area, away from any soft ground. In addition, spill kits should be provided in case of emergencies to clear up any spillages. All hazardous chemicals should be stored in a locked and well-sealed container, again, away from any soft ground.

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 at the site and local level** once vegetation and new habitats have established.

5.3 Amphibians

Potential Impacts

- 5.3.1 Due to the lack of ponds within the immediate vicinity of the site, in addition to lack of suitable commuting routes across the wider area, no impacts are predicted upon this species group.

Mitigation and Compensation

- 5.3.2 During construction, in the highly unlikely event a great crested newt is found within the construction zone, all works must cease until a suitably qualified ecologist is contacted for advice.

Residual Impacts

- 5.3.3 Once mitigation measures are taken into account, the impact of the scheme shall be **negligible and non-significant**.

5.4 Bats

Potential Impacts

- 5.4.1 During the bat emergence/re-entry surveys, a single soprano pipistrelle was noted re-entering the southwestern corner of the main house under the eaves. In the absence of mitigation there is the potential that a day roost for a single soprano pipistrelle could be destroyed, resulting in the injury or death of a bat.

Mitigation and Compensation

- 5.4.2 A mitigation licence from Natural England will be required prior to works scheduled to be undertaken on the main onsite house (B02). Mitigation will be as follows:
- Apply for a Mitigation Licence from Natural England once full planning permission is received;
 - No works to the building are to take place until the licence is received.
 - Install suitable bat boxes (1 x *Greenwoods ecohabitat single crevice bat box*) to the southern aspect of nearby mature tree;

- Once the licence is received, soft strip all areas of interest, most importantly the southern weatherboarding but also suitable hanging tiles in the areas of particular interest by hand under ecological supervision;
- Any bats found will be caught by hand and moved to adjacent bat box;
- Conversion and alteration works may only begin once the building has been declared free of bats by the supervising ecologist;
- Permanent roosting provision is to be provided through integrated bat boxes to the southern aspect of the building.

5.4.3 In order to compensate for any loss of roosting habitat, bat boxes should be installed on the southern aspect of the new buildings and onsite trees post construction. In addition, a variety of night scented plants such as jasmine and honeysuckle will be incorporated into the scheme to attract foraging bats.

Residual Impacts

5.4.4 The overall impact of the scheme will be **negligible**.

5.5 Badger

Potential Impacts

5.5.1 In the absence of mitigation there is potential that badgers could be trapped, injured or killed in the process of works.

Mitigation and Compensation

5.5.2 To avoid unintentional trapping or harming of mammals during construction, any trenches or footings over 1m deep should be covered or fitted with a ramp to ensure any animal which becomes trapped can escape. As the scrub in the southwestern corner of the site and along the western boundary could not be fully investigated due to the density of vegetation, clearance should be undertaken using hand tools in a careful manner with ecological supervision present. Should a badger sett be discovered during clearance, all works should cease immediately, a 30-meter buffer set up and a European Protected species license with regards to badgers sought to allow disturbance of to occur.

Residual Impacts

- 5.5.3 Once mitigation measures are taken into account, the overall impact of the scheme will be **negligible**.

5.6 Breeding Birds*Potential Impacts*

- 5.6.1 In the absence of avoidance / mitigation, the development could result in the damage / destruction of a bird nest.

Mitigation and Compensation

- 5.6.2 Any dense scrub, ruderal vegetation or trees scheduled for removal will be removed outside the nesting season (*season: March-August, although pigeons may nest all year*) or shall be checked prior to removal by a suitably qualified ecologist. To compensate for the loss of small areas of suitable nesting habitat bird boxes shall be fitted to the northern side of trees and integrated into the northern aspect of buildings during construction. Should a bird's nest be found during construction, all works should cease within the area, a buffer zone set up and a suitably qualified ecologist contacted for advice.

Residual Impacts

- 5.6.3 The overall impact of the scheme will be **negligible**, with the proposed scheme likely to provide a long-term minor positive impact.

5.7 Wintering Birds*Potential Impacts*

- 5.7.1 In the absence of avoidance / mitigation, the development could result in the disturbance of wintering birds using the adjacent SPA and for which the SPA is designated. During the wintering bird surveys, no protected species or qualifying species of the SPA were seen using the site itself. The site is too disturbed for any significant numbers of wintering birds to use the site itself.

Mitigation and Compensation

- 5.7.2 To guard against any potential disturbance to the SPA, all disruptive external works (such as piling or demolition), where possible, should take place during the summer months. Where this is not possible, hoardings of at least 2.0 m height should be erected between the construction site and the SPA to ensure any noise and dust created is muffled to the SPA and any birds utilising the statutory protected site.

Residual Impacts

- 5.7.3 The overall impact of the scheme will be **negligible** with any impacts being very minor and temporary in nature.

5.8 Invertebrates*Potential Impacts*

- 5.8.1 In the absence of mitigation, large areas of invertebrate friendly habitat would be permanently lost.

Mitigation and Compensation

- 5.8.2 All hedging and trees within the site are to be retained where possible. All boundary hedgerows and trees are to be retained and enhanced. Post development, areas of habitat lost during construction will be replaced and 'bug hotels' will be implemented to create more invertebrate friendly areas in undisturbed corners of the site.

Residual Impacts

- 5.8.3 The overall impact of the scheme will be **negligible**, with a positive impact in the long-term once vegetation has established.

5.9 Reptiles*Potential Impacts*

- 5.9.1 None predicted. The reptile surveys returned no signs of reptiles during any of the 7no. survey visits. As such it can be assumed no reptiles are present onsite.

Mitigation and Compensation

- 5.9.2 In the highly unlikely event that a reptile is discovered within the construction area, it should be carefully moved to a suitable area away from works.

Residual Impacts

- 5.9.3 Once mitigation measures are taken into account, the overall impact of the scheme will be **negligible**.

5.10 Hedgehogs*Potential Impacts*

- 5.10.1 In the absence of mitigation, there is the potential that hedgehogs will be disturbed, injured or killed during construction and habitat of use to them will be permanently lost.

Mitigation and Compensation

- 5.10.2 All footings and trenches over 1 meter deep should be covered when the site is unattended or be fitted with a ramp to allow any hedgehogs that become trapped to escape. When clearing vegetation, in particular compost piles and dense vegetation, works should be undertaken in a slow and methodical directional manner, using hand tools only and with an ecologist present. Works should take place outside of the hibernation season (October to April inclusive) To compensate for the loss of habitat, hedgehog houses should be implemented in undisturbed and sheltered areas of the site, not in public ownership. 13cm x 13cm holes should be installed within the gravel boards of all new close board fencing to ensure hedgehogs can still travel freely through the site and wider area.

Residual Impacts

- 5.10.3 Once mitigation measures are taken into account, the overall impact of the scheme will be **negligible**.

6.0 ECOLOGICAL ENHANCEMENTS

6.1 The design of the proposed development includes ecological enhancements for the benefit of wildlife to ensure compliance with *Local Planning Policy* and the emerging *Environment Act 2021* which mandates a minimum 10% net gain in biodiversity across all development sites. Ecological enhancements which will be included as part of development proposals include.

- The use of flowering shrubs as listed within the RHS 'Plants for Pollinators' plant list to provide year-round interest for invertebrates;
- The use of night-scented species and pale flowers to increase bat foraging potential across site, such as evening primrose (*Oenothera fruticosa*); cornflower (*Centaurea cyanus*); knapweed (*Centaurea nigra*); yarrow (*Achillea millefolium*); honeysuckle (*Lonicera*); and lavenders (*Lavandula*);
- The provision of nesting boxes for a variety of bird species and the incorporation of open fronted areas / access holes to outbuildings to allow swallow access;
- Increased bat roost opportunities will be provided through the installation of integrated roosting spaces and boxes within some new buildings;
- Suitable semi-natural buffer will be created to the east, west and south of the site. This area will contain scrub and scattered trees and shrubs;
- The habitat creation area will provide suitable reptile habitat above the existing baseline which will be managed in such a way as to remain favourable. These areas will incorporate log and brash piles to provide suitable habitat for foraging, hibernation and breeding. Areas of new habitat will be linked to areas known to support a reptile population, allowing colonisation of new areas and increasing the overall carrying capacity of the site;
- Native fruit and nut producing species will be utilised within the planting scheme to increase the foraging resource for birds and mammals;
- New closed-board fencing will incorporate a 13x13cm hole to the base to allow movement of hedgehogs around the site.

7.0 CONCLUSIONS

- 7.1 The northern half of the site was formed of a hard standing driveway with patches of amenity grassland and introduced shrubs. A garage and outbuilding were noted in addition to the main house. A tennis court was on the western side of the site. The southern half of the site was formed of improved grassland with scrub running down the western and eastern boundaries. Scattered trees are located across the site and of varying age and maturity.
- 7.2 The site was found to support a day roost of 1no. soprano pipistrelle bats and as such a European Protected Species bat mitigation license will be required from Natural England. Low numbers of common and soprano pipistrelle were seen to be using the site to be foraging and commuting during the surveys. A sensitive lighting scheme will be employed within the proposals with lighting angled down and away from surrounding trees to allow their continued use as commuting routes and a foraging resource across the site.
- 7.3 During the reptile surveys, no reptiles were recorded. As such, no further mitigation will be required.
- 7.4 The winter bird survey noted a total of 25 no. species. Of which 20% were 'red' listed. 52% were of 'amber' conservation status. Only wood pigeons were noted using the site itself. Avoidance and mitigation measures as described in section 5.7.
- 7.5 Proposed ecological enhancements shall result in creation of a variety of habitats on site and Biodiversity Net Gain in accordance with local and national planning policy.

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Table No. 09 – Species List for Habitat Parcels

Amenity Grassland

Common Name	Scientific Name	DAFOR
Annual Meadow Grass	<i>Poa annua</i>	F
Creeping cinquefoil	<i>Potentilla reptans</i>	A
Daisy	<i>Bellis perennis</i>	A
Dandelion	<i>Taraxacum sp.</i>	O
Perennial Ryegrass	<i>Lolium perenne</i>	F
Red Fescue	<i>Festuca rubra</i>	LD
White Clover	<i>Repens trifolium</i>	A
Yarrow	<i>Archillea milfolium</i>	A

Improved Grassland

Common Name	Scientific Name	DAFOR
Annual Meadow Grass	<i>Poa annua</i>	F
Barren Brome	<i>Bromus sterilis</i>	A
Birdsfoot Trefoil	<i>Lotus corniculatus</i>	A
Broadleaved Plantain	<i>Plantago major</i>	O
Cocksfoot	<i>Dactylis glomerata</i>	F
Creeping Buttercup	<i>Ranunculus repens</i>	LD
Perennial Ryegrass	<i>Lolium perenne</i>	A
Red Fescue	<i>Festuca rubra</i>	A
Soft Brome	<i>Bromus hordeaceus</i>	O
Spotted Medick	<i>Medicago arabica</i>	O

Tall Ruderal

Common Name	Scientific Name	DAFOR
Bristly Oxtongue	<i>Helminthotheca echioides</i>	O
Broad Leafed Dock	<i>Rumex obtusifolius</i>	LD
Broad Leafed Dock	<i>Rumexobtusifolius</i>	O
Common Catsear	<i>Hypochaeris radicata</i>	O
Dandelion	<i>Taraxacum sp.</i>	R
Hogweed	<i>Heracleum sphondylium</i>	O
Nettle	<i>Urtica dioica</i>	LF
Nipplewort	<i>Lapsana communis</i>	L
Red Dead Nettle	<i>Purpureum lamium</i>	O
Thistle sp.	<i>Cirsium sp.</i>	LD
White Campion	<i>Silene latifolia ssp. Alba</i>	L

Scattered Trees

Common Name	Scientific Name	DAFOR
Hazel	<i>Corylus avellana</i>	O
Scots Pine	<i>Pinus sylvestris</i>	F
Holly	<i>Illex aquifolium</i>	R
Pedunculate Oak	<i>Quercus robur</i>	R
Eucalyptus	<i>Eucalyptus sp.</i>	LD
Silver Birch	<i>Betula pendula</i>	R
Goat Willow	<i>Salix Caprea</i>	O

Introduced Shrubs and Herbaceous Plants

Common Name	Scientific Name	DAFOR
Box	<i>Boxus sempervirens</i>	R
Cotoneaster	<i>Cotoneaster sp.</i>	R
Crocsmia sp.	<i>Crocsmia sp.</i>	R
Fig	<i>Ficus sp</i>	O
Lambs Ear	<i>Stachys Byzantina</i>	R
Privet	<i>Ligustrum ovalifolium</i>	R
Rose sp.	<i>Rosa sp.</i>	R

Dense Scrub

Common Name	Scientific Name	DAFOR
Bramble	<i>Rubus fruticosus agg.</i>	D
Blackthorn	<i>Prunus spinosa</i>	LD
Goat Willow	<i>Salix caprea</i>	O
Hawthorn	<i>Crataegus monogyna</i>	F

Intact Species-Poor Hedgerow

Common Name	Scientific Name	DAFOR
Holly	<i>Ilex aquifolium</i>	R
Hornbeam	<i>Carpinus betulus</i>	D
Laurel	<i>Prunus laurocerasus</i>	D
Leyland Cypress	<i>Curpessus x leylandii</i>	D
Privet	<i>Lingustrum ovalifolium</i>	D

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

Table No. 10 – Target Notes

Ref	Feature	Description
TN01	Potential Roosting Feature	A number of lifted roofing tiles were noted on the buildings which would create potential ingress/exit points for roosting bats.

Appendix A – Site Photographs



Photograph 01 – An example of the amenity grassland in the north of the site, with a large willow in the rear of shot.



Photograph 02 – B01 is a small garage at the northern end of the site used for storage.



Photograph 03 – The main house located in the north of the site was pebble dashed and had a roof space which had signs of light entering from the outside. Viewed here from the north, the parking area is also obvious.



Photograph 04 – The outbuilding (B03) had a vaulted ceiling and was used for storage, viewed here from the west.



Photograph 05 – A number of trees were scattered trees were seen across the site, varying in age and condition. View looking south along the western boundary.



Photograph 06 – The hedgerow seen here running along the western site boundary consisted of privet and laurel only.



Photograph 07 – The dense scrub lay in three dominant thickets, in the north-west of the site and also in the north-east and north-west of the southern section of the site as seen here.



Photograph 08 – The southern half of the site was dominated by improved-grassland.

Appendix B – Bat Survey results**Appendix C – Reptile Survey Results****Appendix D – Winter Bird Survey Results****Figure No.01 – Site Habitat Plan****Figure No.02 – Bat Surveyor Points****Figure No.03 – Reptile Mat Positions****Figure No.04 – Winter Bird Survey Transect Route**