



L I Z A R D

Landscape Design and Ecology

PRELIMINARY ECOLOGICAL APPRAISAL

**Land Near Nyton Stables, Nyton Road,
Aldingbourne**

On behalf of: Mr A. Baker

Client:	Mr A. Baker			
Project:	Land Near Nyton Stables, Nyton Road, Aldingbourne			
Reference:	LLD3087-ECO-REP-001-00-PEA			
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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.



LIZARD

Landscape Design and Ecology

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SUMMARY

Lizard Landscape Design and Ecology has been commissioned by Mr A. Baker to undertake a Preliminary Ecological Appraisal of land at Land Near Nyton Stables, Nyton Road, Aldingbourne (located around central grid reference: SU 92347 06513 – hereafter referred to as ‘the site’). This report presents the results of an initial scoping survey which was undertaken on 21st November 2023 to evaluate the existing ecological resources within and adjacent to the site, to highlight any potential ecological constraints and opportunities to inform scheme design, and to identify the need for further assessment prior to application, where required.

Table No. 01 - Summary of Recommendations

Potential Ecological Constraint	Presence	Recommended mitigation	Further assessment requirement	Time Constraint	Opportunities for enhancement
Reptiles	Possible	Further surveys required	Series of 7no. reptile surveys	Reptile surveys to take place between March – October.	Planting around borders of site to create reptile habitat.

1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology has been commissioned by Mr A. Baker to undertake a Preliminary Ecological Appraisal (PEA) of Land Near Nyton Stables, Nyton Road, Aldingbourne (located around central grid reference: SU 92347 06513 – hereafter referred to as ‘the site’).
- 1.2 The purpose of this report is to establish the site’s suitability for development, inform the design process for future proposals, record the ecological baseline and to identify key potential ecological constraints and opportunities associated with future development proposals. This report has been prepared with due consideration for existing best practice guidance (CIEEM, 2017) (BSI, 2013), aims to provide general advice on ecological constraints associated with any development of the site and includes recommendations for further survey; it is not intended that this report should be submitted with a planning application for development of the site, unless supported by the results of further surveys and a detailed assessment of the effects of the proposed development.

Site Information

- 1.3 The site measures 1.4ha and is located in Aldingbourne, West Sussex. It is bound to the north by the B2233 (Nyton Road). The western and eastern boundaries are bordered by fields. The southern boundary is bordered by a settled traveller site. The main body of the site consisted of modified grassland. The boundary vegetation consisted of ruderal vegetation and scrub along the majority of the boundaries. The northern boundary and northern half of the western boundary consisted of ruderal vegetation on banded hardcore piles.

Surrounding Landscape

- 1.4 The surrounding landscape is primarily rural villages interspersed. The city of Chichester is located 3.1 miles to the west. The A27 runs on a west east axis approximately 390 meters to the north of the site.

Development Proposals

- 1.5 It is understood that the proposals are for 2 residential plots.

Scope of the Assessment

1.6 In accordance with current guidance (CIEEM, 2017), the aim of the Preliminary Ecological Appraisal has been to:

- Identify the likely ecological constraints associated with a project;
- Identify any mitigation measures likely to be required, following the 'Mitigation Hierarchy' (BSI, 2013);
- Identify any additional surveys that may be required to inform an Ecological Impact Assessment (EclA); and
- Identify the opportunities offered by a project to deliver ecological enhancement.

2.0 METHODOLOGY

2.1 Desk Study

- 2.1.1 The Multi-Agency Geographical Information Centre (MAGIC) was consulted for information regarding priority habitats, statutory designated sites and permitted European Protected Species Mitigation Licences (EPSML's) within a potential zone of influence of the development site. 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) were searched for within a 2.0km radius of the site, and internationally designated sites including Special Protection Areas (SPAs), potential Special Protection Areas (pSPAs), Ramsars (Wetlands of International Importance) and proposed Ramsars (pRamsar) within a 10km radius of the site. Special Areas of Conservation (SACs) and possible Special Areas of Conservation (pSACs) within a 12km radius of the site, to account for the potential presence of SAC's designated for their bat interest, in accordance with recent guidance (SDNP, 2020).
- 2.1.2 All protected / notable species records and records of any non-statutory designated sites were provided by Sussex Biodiversity Record Centre on the 15th November 2023, returned from within a 2.0km search radius of the site.
- 2.1.3 In accordance with Natural England's GCN Mitigation Guidelines (English Nature, 2001) a desktop search was undertaken to identify ponds within 500m and 250m of the site, which may have the potential to support breeding great crested newts (GCN) *Triturus cristatus*, using Ordnance Survey mapping, the MAGIC database and aerial photography.
- 2.1.4 The Local Planning Authority website was consulted to inform of relevant information to this assessment, including local development plan policies in relation to ecology and biodiversity (see *Appendix B – Planning Policy and Legislation*) as well as any Local Biodiversity Action Plans (LBAP) and information regarding the location of non-statutory designated areas, such as Local Wildlife Sites (LWS) / Site of Nature Conservation Interest (SNCI), Nature Improvement Areas and Biodiversity Opportunity Areas etc.

2.2 Field Survey

- 2.2.1 The field survey was undertaken on 3rd March 2022 by a Suitably Qualified Ecologist (Alex Rosenfeld, QCIEEM, 5 years professional experience). Weather conditions were mild (c.12°C), with a moderate south-westerly wind (Beaufort Scale 2-3), 100% cloud cover and occasional to persistent light rain.
- 2.2.2 The field survey comprised a walkover inspection of the site and immediately adjacent land and boundaries features, in which ecological features were noted and mapped in accordance with principles of the UKHabs-Professional Classification System (Butcher *et al*, 2020). A minimum mapping unit of 25m² was used and habitats were identified to at least level 4 wherever practicable.
- 2.2.3 A list of plant species noted was compiled, together with an estimate of relative abundance made according to the DAFOR scale (Table No. 07). In addition, Target Notes (Table No. 08) were used to provide supplementary information on any features encountered which were notable, relevant to the assessment or too small to map.

2.3 Assessment Criteria

- 2.3.1 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, 2017). 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, 2016).

- 2.3.2 The importance of known ecological features, has been evaluated in relation to a geographical frame of reference, i.e., whether a given ecological feature would be of value at the international/European, national, regional, county, local, site or negligible level. Where the presence of an ecological feature is unknown an assessment of the possible presence of the feature has been provided. i.e., where the feature has a high, moderate, low or negligible potential to be present.

2.4 Biodiversity Net Gain

- 2.4.1 A Biodiversity Net Gain (BNG) feasibility assessment was conducted to calculate the existing biodiversity unit score of habitats across the site to provide information on the feasibility of delivering a net gain based on initial designs, constraints and opportunities, in line with current guidance (CIEEM, 2021).
- 2.4.2 The calculation was based upon the existing extent, distinctiveness and condition of the habitats on site. The BNG assessment uses the latest DEFRA 3.1 metric (Natural England, 2022) in accordance with current guidance methodology, the *Biodiversity Metric 3.1 - User Guide* (Panks *et al*, 2022).
- 2.4.3 The extent of existing habitats was calculated using aerial imagery and measurements taken in the field. The condition of existing habitats was assessed in accordance with the *Biodiversity Metric 4.0 - Technical Supplement* (Panks *et al*, 2022).
- 2.4.4 In order to achieve a BNG a project must be able to demonstrate that it has followed all 10 of the Principles of Biodiversity Net Gain (CIEEM, CIRIA & IEMA, 2016) which are to:
1. Apply the Mitigation Hierarchy (BSI, 2013);
 2. Avoid losing biodiversity that cannot be offset by gains elsewhere;
 3. Be inclusive and equitable;
 4. Address risks;
 5. Make a measurable Net Gain contribution;
 6. Achieve the best outcomes for biodiversity;
 7. Be additional;
 8. Create a Net Gain legacy;

9. Optimise sustainability; and
10. Be transparent.

2.5 Constraints and Limitations

- 2.5.1 Due to the field survey consisting of only one site visit, certain species, particularly some of the flowering plants, may not have been visible or may have been otherwise inconspicuous at the time of the survey and hence overlooked. These are accepted constraints associated with the UKHabs Survey Methodology.

3.0 RESULTS

3.1 Desk Study

- 3.1.1 The following designated sites are not necessarily representative of the existing site's ecology but are indicative of the ecological context of the surrounding area; a factor that may be important when assessing the presence / absence potential of certain species groups. No statutory sites within a 2km radius of the site were recorded. Statutory Designated Sites identified within a 10km radius of the site include:

Table No. 02 – Statutory Designated Sites

Site	Description	Location
International Statutory Designated Sites within a Potential Zone of Influence		
Pagham Harbour RAMSAR	Estuarine harbour with shingle beaches, intertidal mudflats and saltmarsh, giving way to brackish marsh supporting reedbeds and damp pasture. The site includes a nationally important vegetation community and small amounts of ancient woodland. Nationally and internationally important numbers of wintering or breeding waterbirds or waders use the site.	c. 8.4km SW
Pagham Harbour SPA	Designated as it supports internationally important numbers of • Brent Goose • Common Tern • Little Tern • Ruff	c. 8.4km SW
Chichester and Langstone Harbour RAMSAR	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.	8.8km SW
Chichester and Langstone Harbour SPA	Designated as it supports internationally important numbers of • Bar Tailed Godwit • Red Breasted Merganser • Curlew • Little Tern • Wigeon	8.8km SW

	• Teal • Brent Goose • Ringed plover • Dunlin • Redshank • Common Tern • Shelduck	
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- 3.1.2 The site is not located in any risk impact zone. As such the LPA will not have to consult with Natural England.

Non-Statutory Designated Areas

- 3.1.3 The following non-statutory designated areas were identified within 2.0km of the site:

Table No. 03 – Non-Statutory Designated Areas

Site	Location
A27 Boxgrove	2.0km W
A27 Brittens Lane	2.3km N

Pond Study

- 3.1.4 No ponds were noted onsite. One pond was noted within a 500 meter radius of the site approximately 466 meters to the south west.

Priority Habitats Study

- 3.1.5 In accordance with the MAGIC dataset, within 2.0km of the site there are priority habitats (NERC, 2006) of *Priority Habitats of Ancient Woodland, Deciduous Woodland, Traditional Orchards, Woodpasture and Parkland.*

3.2 Existing Habitat Assessment

Desk Study

- 3.2.1 SxBRC returned 156 records for notable and protected species of flora from within the search area. This included records for species associated with grasslands habitats, such as eyebright (*Euphrasia rostkoviana*). Japanese knotweed (*Fallopia japonica*), which is a Schedule 9, species has been noted within a 2km radius.

Site Assessment

- 3.2.2 Habitats within and adjacent to the site include:

- *Modified Grassland g4, inc. grazed.*
- *Ruderal Vegetation with scattered trees*
- *Line of Trees / Hedgerows w1g6.*
- *Bramble Scrub h3d with scattered trees*
- *Developed Land sealed Surface u1b*

- 3.2.3 The total extent of this habitat measured approximately 1.4 ha (see *Figure No. 01 – Site Habitats Plan*). The habitats onsite were generally low ecological value.

Modified grassland g4 inc. horse grazed 103

- 3.2.4 The main body of the site was comprised of poor-quality modified grassland. Species noted include red fescue (*Festuca rubra*), perennial rye grass (*Lolium perenne*), white clover (*Trifolium repens*), broad leaved dock (*Rumex obtusifolius*) and dandelion (*Taraxacum* sp.). An area in the centre of the site was grazed by horses. This grazed section was fenced off to ensure livestock couldn't roam across the whole site. The grass had been subject to poaching around the edges and had a number of tyre tracks where vehicle had moved about the site. Overall, this habitat was of **site value only**.

Ruderal vegetation with scattered trees

- 3.2.5 Along the northern and part of the western boundary runs a dense line of ruderal vegetation (see Photograph 01 in Appendix A), which appeared to be growing on a bund. The vegetation consisted primarily of nettle (*Urtica dioica*) with hog weed (*Heracleum sphondylium*), burdock (*Articum lappa* sp.), bindweed (*convolvulus* sp.) and teasel (*Dipsacus fullonum* sp.). It appeared to be unmanaged.

- 3.3.6 A second area of ruderal vegetation with scattered trees was noted in the southwestern corner of the site and continued along the southern half of the eastern boundary. The vegetation here was sparser than on the bunds and included bramble, nettle with a low number of poplar (*Populus* sp.) and birch (*Betula pendula*) saplings. Overall, this habitat was considered to be of **site value only**.

Bramble Scrub with scattered trees.

- 3.2.7 Along the southern half of the western boundary ran a line of relatively dense bramble (*Rubus Fruticosus* agg.) scrub which also contained a number of scattered trees including hawthorn (*Crataegus monogyna*), and ash (*Fraxinus excelsior*). Overall, this habitat was considered to be of **site value only**.

Line of Trees

- 3.3.8 Along the northern boundary, between the site and the road lay a line of oak trees. These trees appeared to be of moderate value. These trees are not to be affected by works. Along the northern half of the eastern boundary ran a line of hawthorn and blackthorn (*Prunus spinosa*). Overall, this habitat is considered to be of **site value only**.

Developed Land; Sealed Surface

- 3.3.9 On the western boundary of the site was a small wooden lean to with three sides and a tin roof. 3no. wooden beams ran along the roof for support. Overall, this habitat was of **site value only**.

3.3 Invasive Species

- 3.3.1 No invasive species were noted onsite.

3.4 Protected Species Assessment

Amphibians

Desk Study

- 3.4.1 SxBRC returned a maximum abundance of 100 records for GCN from within the search area, the most recent coming from 2019. SxBRC also returned four records for common toad (*Bufo bufo*), seven records from smooth newt (*Lissotriton vulgaris*), 10 records of palmate newt (*Lissotriton helveticus*) and 17 records for common frog (*Rana temporaria*) from within the search area. However, none of these records were found to be within 500m of the site.

Site Assessment

- 3.4.2 The main body of the site comprised of modified grassland used, in part, for grazing livestock. The grass generally had a moderate sward height and was patchy in places due to excess poaching from livestock and vehicle access. The boundary scrub and ruderal vegetation provided good shelter for a range of amphibians to move around the site boundaries. The main body of the site did have some potential to support amphibians as it is appeared to not be maintained regularly. Only a single pond within 500 meters, 466 meters to the south west, does somewhat reduce the potential for amphibians to be present onsite. Ariel imagery appears to show the site does have longer sward height grass at some times of year, which would increase the potential for amphibians to be present. The surrounding fields all appear to have low sward height grassland used for livestock which would reduce the commuting value of the surrounding land. The traveler site to the south has extensive areas of hard standing, which are not conducive to supporting amphibians. Overall, due to the lack of surrounding ponds and poor commuting habitat in the surrounding area, the site itself is considered to be of **low** value to amphibians.

Reptiles

Desk Study

- 3.4.3 SxBRC returned a minimum of 3 records for three species of reptiles, including 1 record of grass snake (*Natrix Helvetic*) as well as records for common and widespread reptiles such as slow worms *Anguis fragilis* and common lizards *Zootoca vivipara*.

Site Assessment

- 3.4.4 The main body of the site provides suitable foraging and commuting habitat due to the moderate sward height. The surrounding boundary vegetation also provides suitable foraging, commuting and hibernating habitats. Surrounding fields do appear to contain some suitable habitats for commuting reptiles. The hedgerows appear to have connectivity across the wider area. As such, the sites are of **moderate** value to reptiles.

Bats

Desk Study

- 3.4.5 SxBRC returned records for 7no. species of bat, including records for western barbastelle (*Barbastella barbastella*) common pipistrelle *Pipistrellus pipistrellus*, serotine *Eptesicus serotinus*, Daubenton's *Myotis daubentonii* and brown long-eared bats, from within the search area. This included records for roost sites, observations of bats in the field and acoustic analysis. The closest records were centred c. 530m north west and north east of the site and were for observations of brown long eared bat made in the field.

Preliminary Roost Assessment

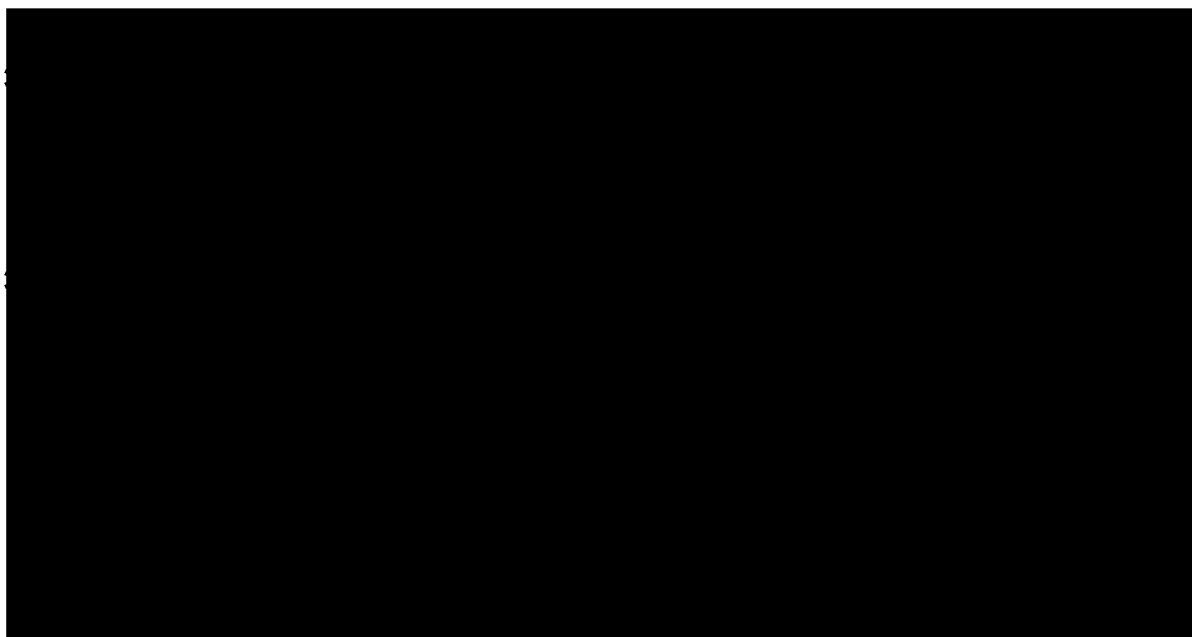
- 3.4.6 No buildings were noted onsite. The corrugated steel lean-to with wooden beams was open on three sides, thus making it unsuitable for roosting bats due to high light levels. No feeding remains were noted within the structure. A line of oak trees was noted along the northern boundary. However, none of the trees on this boundary or the smaller hawthorn trees on the eastern boundary are to be removed. No roosting features were noted.
- 3.4.7 The boundary foraging habitats are of value to commuting and foraging bats. The hedgerows have good connectivity across the wider area, and it is expected will not be subject to night time lighting due to lack of development and road lighting being limited to the A27, located, at its nearest point 0.3km to the north. The main body of the site, constituted of grassland, does not support foraging bats due to its low sward height. Overall, the site is considered to be of **negligible** value to roosting bats. The site, especially the boundary habitats, are considered to be of **moderate** value to foraging and commuting bats.

Dormouse***Desk Study***

- 3.4.8 SxBRC returned 3 records of dormouse *Muscardinus avellanarius* from within the search area. The most recent record is from 2022.

Site Assessment

- 3.4.9 The main body of the site is not conducive to supporting commuting and foraging dormouse as it solely consists of grassland. The boundary vegetation is primarily sparse with areas of bramble not extensive. Food plants for dormouse noted onsite were limited to bramble. The connectivity of the boundary vegetation is good across the wider area. The boundary vegetation is not subject to removal during or post works. Overall, the site is considered to be of **low** value to commuting dormouse.

Badger***Water Vole******Desk Study***

- 3.4.12 SxBRC returned 7 records of water vole (*Arvicola amphibius*) from within the search area. The most recent record was from 2019.

Site Assessment

- 3.4.13 No habitats of value to water vole exist onsite. Aldingbourne Rife does run along the western boundary of the adjacent field to the west, however it is highly unlikely that water vole would stray into the site. As such, this species will be considered no further in this report.

Hedgehogs*Desk Study*

- 3.4.14 SxBRC returned 29 records for hedgehog *Erinaceus europaeus* from within the search area. The most recent record was from 2022.

Site Assessment

- 3.4.15 The entire site provided limited value for foraging and commuting hedgehog. The boundary vegetation provided cover. The nettles would provide a prime foraging habitat for hedgehogs and the area beneath the northern boundary trees, bramble scrub and ruderal vegetation would provide good hibernating habitat within the fallen leaves and dead vegetation. The main grassland provided suboptimal habitat for hedgehogs due to the lack of cover. Overall, the site provided **moderate** value for hedgehogs along the boundaries of the site. The main body of the site provided **low** value for commuting and foraging hedgehogs. The boundary habitats are not to be removed.

Other Mammals*Desk Study*

- 3.4.16 SxBRC returned 66 records for four other protected / notable mammals from within the search area, including 2 records for brown hare *Lepus europaeus* (the most recently reported was from 2010), 1 record for harvest mouse *Micromys minutus* and 18 records for rabbit *Oryctolagus cuniculus*.

Site Assessment

- 3.4.17 No other mammal activity or field signs were noted during the survey.

Birds

Desk Study

- 3.4.18 SxBRC returned 36,583 records for 232 species of birds from within the search area. This included records for 46 species listed on Schedule 1 (Wildlife and Countryside Act, 1981) (as amended), as well as records for 129 species of birds listed on the Birds of Conservation Concern (BoCC) Red List (Stanbury *et al*, 2021). This included records for bird associated with grassland habitat such as fieldfare, redwing, yellow wagtail. Species associated with scrub include blackcap, yellow wagtail and song thrush.

Site Assessment

- 3.4.19 During the survey a song thrush was noted within the northern boundary tree line. Approximately 10 fieldfare were noted also sitting within this tree line. The grass field provides suitable foraging potential for resident birds such as starling. The edge habitats provide suitable foraging habitat for species such as dunnoek. The scrub provides nesting habitats for species such as long tailed tit and great tit. Overall, the entire site is of **moderate** value to foraging birds and the boundary habitats are of **moderate** value to nesting birds.

Invertebrates

Desk Study

- 3.4.20 SxBRC returned 223 records for 80 species of protected / notable invertebrates from within the search area, including 6 records for 3 notable species of bee, 39 records for 9 notable species of beetle, including stag beetle *Lucanus cervus*. 11 records for 4 notable species of butterfly, including duke of burgundy *Hamearis lucina*, white letter hairstreak *Satyrrium w-album* and brown hairstreak *Thecla betulae*. SxBRC also returned 129 records for 43 species of moth, including knot grass *Acronicta rumicis* and small emerald *Hemistola chrysoprasaria*, amongst others.

Site Assessment

- 3.4.21 The main body of the site was of **low** value to invertebrates. The grassland was low in species diversity and ariel photograph appeared to show lack of inflorescence during the growing season which would reduce the foraging value of the grassland. The boundary vegetation provided suitable foraging habitat for species such as green hairstreak butterfly within the brambles and the nettles provided suitable larval food plants for species such as peacock butterfly.

Others

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

4.0 EVALUATION AND RECOMMENDATIONS

4.1 Designated Sites

- 4.1.1 This section provides an assessment of the potential for proposals to impact upon internationally designated statutory wildlife sites (e.g., SPAs, pSPAs, SACs, pSAC, Ramsars and pRamsars) identified within a potential zone of influence of the site to determine the need for further assessment under the *Habitat Regulations (2017) (as amended)*, as well as the potential for proposals to impact upon other statutory and non-statutory designated areas identified within the desk study assessment. Recommendations are provided for mitigation which may be required and, wherever possible, potential adverse impacts should be avoided by avoidance / mitigation embedded in scheme design, as this gives increased certainty over successful delivery and ensures adhesion to the 'Mitigation Hierarchy' (BSI, 2013) (CIEEM, 2018).
- 4.1.2 2no. internationally designated statutory sites were identified within a potential zone of influence of the proposed development site, which were Pagham Harbour RAMSAR, SPA and Chichester and Langstone Harbours, RAMSAR, SPA the closest of which lies 8.4km to the south west. As none of these designations are located within the immediate vicinity of the site, the potential for direct impacts, such as through land take etc. is negligible.

4.2 Habitats and Biodiversity Net Gain Feasibility

- 4.2.1 The following section provides recommendations to inform scheme design to avoid and mitigate potential impacts to ecologically significant habitats associated with development, in line with the 'Mitigation Hierarchy' (BSI, 2013) (CIEEM, 2018). The need for further assessment or mitigation which may be required to comply with local and national planning policy legislation is identified, and opportunities for ecological enhancement are identified.
- 4.2.2 Overall, the habitats on site were assessed as being of broad **low** ecological value, with the greatest ecological interest at the site associated with the boundary vegetation as it provides foraging value for invertebrates, bats and birds, nesting value for birds and commuting value for hedgehogs, badgers and reptiles. Proposals are due to retain these habitats. To ensure these habitats are fully protected, a 2 meter buffer of planting will be employed to ensure no degradation of the boundary habitats.
- 4.2.3 The existing semi-natural habitats on site were assessed as being of low-moderate ecological value, whereas proposed buildings and areas of hardstanding would be of negligible ecological value. Due to the small nature of the proposals and scope for enhancements to be employed, it can be assumed that biodiversity net gain will be achieved.

4.3 Protected Species

- 4.3.1 The following section provides recommendations to avoid, mitigate or compensate potential impacts to protected or notable species, in line with the 'Mitigation Hierarchy' (BSI, 2013) (CIEEM, 2018). If potential impacts are anticipated, recommendations for further assessment and or mitigation are provided, to ensure that the presence, or potential presence of these species are adequately considered in the scheme design.

Amphibians

- 4.3.2 Despite the moderate sward height of the surrounding fields, as only a single pond is noted within a 500-meter radius of the site and unsuitable surrounding habitats (low sward height grassland) it is considered the site is of **low** value to amphibians. As such no surveys shall be required. During works, all areas of long grass shall be cut in a phased, directional manner from east to west, allowing any amphibians present to disperse into the boundary vegetation. Boundary vegetation is to be retained.

Reptiles

- 4.3.3 Due to the moderate sward height of the grass onsite, in addition to the scrub and ruderal boundary vegetation, the site is considered to be of **moderate** value to reptiles. As such, reptile surveys will be required to establish if and how reptiles are using the site. These surveys can take place between March and October inclusive, when weather is sunny and temperature is between 9 and 18 degrees centigrade. In the event that reptiles are present, then mitigation should be undertaken during the reptile season (March – October inclusive) shall be required as follows:
- A first cut will take sward height to no lower than 150mm. This shall be done in a directional manner from east to west.
 - A second directional cut shall be undertaken with a suitably qualified ecologist present. This cut shall take sward height to no lower than 50mm.
 - Areas for removal are to be fenced in using appropriate 'reptile fencing' which is to be lapped underground and on the top to ensure reptiles can't re-enter the area.
 - Then a destructive search of the site must be undertaken with a suitably qualified ecologist present. This involves using a toothed excavator removing the topsoil in the area. The area should be fenced until works are to commence.

Bats

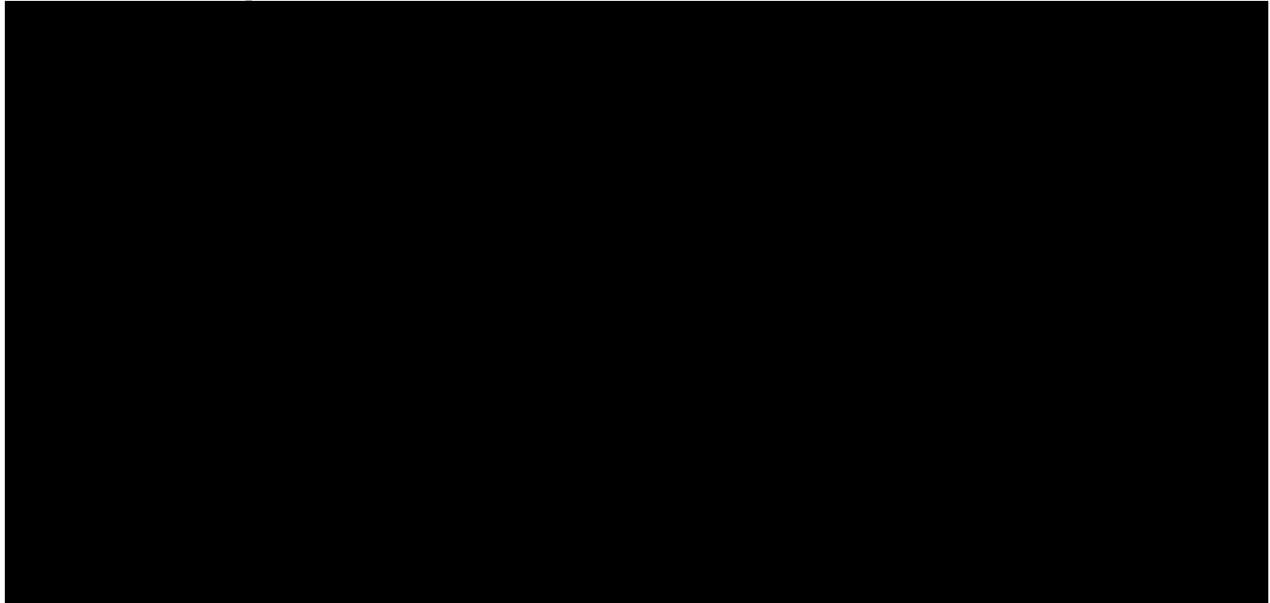
- 4.3.4 The corrugated steel and wooden lean-to onsite was considered to be of **negligible** value to roosting bats due to high light levels and lack of suitable beams for bats to grip. No feeding signs were noted. No trees with cracked bark or lifted bark sufficient to support roosting bats were noted. No trees are to be removed. No emergence / re-entry surveys will be required.

- 4.3.5 No suitable foraging and commuting habitats are to be removed. As such, no bat activity surveys will be required.
- 4.3.6 Proposals should be mindful of the potential for bats to occur in the area by ensuring that the boundary vegetation is protected from inappropriate nocturnal lighting, and by limiting the need for nocturnal lighting in the first instance. Any external lighting designs should be assessed by a suitably qualified ecologist to confirm their acceptability and conformity to best practice standards in regard to external lighting and bats (BCT & ILP, 2018). The lighting design would also need to be in accordance with *Policy SD8: Dark Night Policies: Dark Night skies (South Downs Local Plan) which states, in part:*
- Development proposals must demonstrate that all opportunities to reduce light pollution have been taken, and must ensure that the measured and observed sky quality in the surrounding area is not negatively affected, having due regard to the following hierarchy:
 - a) The installation of lighting is avoided; and
 - b) If lighting cannot be avoided, it is demonstrated to be necessary and appropriate, for its intended purpose or use:
 - i. Any adverse impacts are avoided; or
 - ii. If that is not achievable, then adverse impacts are mitigated to the greatest reasonable extent.’

Dormice

- 4.3.7 The protected species assessment identified that the site’s and adjacent boundary vegetation and hedgerows were of **low** potential to support dormice. As boundary vegetation is due to be retained, no surveys are required.

Badgers



Birds

- 4.3.9 The protected species assessment identified that the site and adjacent habitats offered habitats of **moderate** value to wild birds. Boundary habitats are to be retained. Should any vegetation require removal, it should be subject to a nesting bird check by a suitably qualified ecologist to removed outside the nesting season (March-August inclusive).

Invertebrates

- 4.3.10 The protected species assessment identified that the site and adjacent habitats offered **low** potential to support a notable invertebrate assemblage. No further surveys are required.

4.4 Opportunities for Ecological Enhancement

4.4.1 There is a requirement laid out in national planning policy (Ministry of Housing, Communities & Local Government, 2021) that development should result in net gains for biodiversity. Furthermore, 10% calculable Biodiversity Net Gain is mandated by the *Environment Act (2021)*, which shall become legally binding via amendment to the *Town and Country Planning Act (1990)* (anticipated November 2023). Opportunities for other ecological enhancements which could be incorporated into the scheme design are provided below:

- Buffer zones planted with native trees, shrubs and suitable wildflower grassland to create a gradual ecotone between boundary habitats and the main body of the site;
- The use of seed and fruit bearing species of tree such as cherry, rowan, birch, hawthorn and crab apple to provide a foraging resource for birds and insects and to strengthen the boundary tree line and scrub areas;
- The use of log and compost piles in habitat creation areas to provide refugia for reptiles and amphibians, with creation of a small bare earth 'bee bank' to provide habitat for mining bees in quiet areas of the site;
- Installation of bird and bat boxes into new buildings, and 'bug hotels', bird and bat boxes to mature trees;
- Incorporation of 'Hedgehog Homes' within the scheme design;
- The use of flowering lawn in areas which require regular mowing rather than a standard amenity mix;

5.0 CONCLUSIONS

- 5.1 The site measures 1.4ha and is located in Aldingbourne in West Sussex. It is bound to the north by the B2233 (Nyton Road). The western and eastern boundaries are bordered by fields. The southern boundary is bordered by a settled traveller site. The main body of the site consisted of modified grassland. The boundary vegetation consisted of ruderal vegetation and scrub along the majority of the boundaries. The northern boundary and northern half of the western boundary consisted of ruderal vegetation on bunded hardcore piles. The site provides suitable foraging potential for birds. Bats, reptiles, hedgehog and badger. As the grassland is of moderate value to reptiles, further surveys will be required to establish exactly if and how they are using the site and inform as to what, if any, mitigation is required.
- 5.2 Proposals have negligible potential to impact upon any statutory designations identified within a potential zone of influence of development. Therefore, further assessment in regard to the *Habitat Regulations (2017)* or site specific mitigation would be required.
- 5.3 A Biodiversity Net Gain Feasibility assessment has been completed to provide recommendations on how to achieve BNG, which are detailed herein. In summary boundary habitats are to be retained and the grassland will be strengthened with a more diverse seedmix to ensure the layout of the scheme would comply with the emerging 10% mandate in the *Environment Act (2021)*.
- 5.4 Opportunities for ecological enhancement are provided herein, to ensure proposals result in net gains for biodiversity. A series of recommendations are provided to ensure the scheme accords with best practice in regards to ecological receptors, and complies with all local and national planning policy guidance and legislation. Overall, no constraints were identified which would preclude the provision of a scheme which is well design, and sensitive to the presence, or potential presence of ecological receptors.

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Table No. 48 – Species List for Habitat Parcels**Modified Grassland**

Common Name	Scientific Name	DAFOR
Annual Meadowgrass	<i>Poa annua</i>	D
Broadleaf Plantain	<i>Plantago major</i>	O
Broadleaved Dock	<i>Rumex obtusifolius</i>	O
Cleavers	<i>Gallium aparine</i>	R
Dandelion	<i>Cirsium sp.</i>	O
Nettle	<i>Urtica dioica</i>	LD
Perennial Ryegrass	<i>Lolium perenne</i>	D
Red Fescue	<i>Festuca rubra</i>	D
White Clover	<i>Repens trifolium</i>	L/D

Bramble Scrub

Common Name	Scientific Name	DAFOR
Bramble	<i>Rubus fruticosus</i>	D

Ruderal Vegetation

Common Name	Scientific Name	DAFOR
Nettle	<i>Fraxinus excelsior</i>	D
Hogweed	<i>Rubus fruticosus</i>	LD
Burdock	<i>Acer campestre</i>	R
Bindweed	<i>Populus x canescens</i>	O
Teasel	<i>Crataegus monogyna</i>	O

Scattered Trees

Common Name	Scientific Name	DAFOR
Poplar	<i>Populus sp.</i>	L/D
Birch	<i>Betula pendula</i>	LD
Hawthorn	<i>Crataegus monogyna</i>	O
Ash	<i>Fraxinus excelsior</i>	O

Line of Trees

Common Name	Scientific Name	DAFOR
Blackthorn	<i>Prunus spinosa</i>	L/D
Oak	<i>Quercus robur</i>	LD
Hawthorn	<i>Crataegus monogyna</i>	L/D

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

Figure No. 01 – Site Habitats Plan

Appendix A – Site Photographs



Image 01 – View of the site looking south. The vehicle tracks can be seen in the foreground and the lean-to can be seen in the back right of shot.



Image 02 – Along the northern boundary looking west. The bund with ruderal vegetation and boundary tree line is obvious.

Appendix B – Planning Policy and Legislation

Legislation

Legislation relating to wildlife and biodiversity of particular relevance to this PEA 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;*
and
- *The Environment Act 2021.*

This above legislation has been addressed, as appropriate, in the production of this report. Further details of legislation relating to the protection of particular ecological receptors are provided in the table below:

Ecological Constraint	Rationale
SACs (Special Area of Conservation), SPAs (Special Protection Areas) and Ramsars (Wetlands of International Importance)	Under the Conservation of Habitats and Species Regulations 2017 places a duty on the competent authority to maintain the favourable conservation status of designated SAC, SPA and Ramsar sites. Therefore, where it appears to the appropriate nature conservation body that a notice of a proposal relates to an operation which is, or forms, part of a plan or project which is likely to have a significant effect on a European site (either alone or in-combination with other plans or projects), and (b) is not directly connected with or necessary to the management of that site, it must make an appropriate assessment of the implications for that site in view of that site's conservation objectives. In the light of the conclusions of the assessment, it may give consent for the operation only after having ascertained that the plan or project will not adversely affect the integrity of the site.
European protected species (bats, otters, dormice, water voles, great crested newts)	It is an offence under the Conservation of Habitats and Species Regulations 2017 to deliberately kill or injure a European protected species, to destroy breeding/resting sites, or to deliberately disturb these species and affect their ability to survive, rear young, breed, or hibernate.
Nationally protected species (bats, water vole, otter)	It is an offence under the Wildlife and Countryside Act 1981 (as amended) to intentionally or recklessly disturb a species listed on Schedule 5 whilst it is in a place of shelter, or to obstruct access to a place for shelter.
Nationally protected species (reptiles)	It is an offence under the Wildlife and Countryside Act 1981 (as amended) to kill or injure common species of reptiles.
National conservation priority species (white-clawed crayfish, fish, common toad, reptiles, noctule, water vole, otter, hedgehog), i.e., UKBAPs	Section 41 of the NERC Act 2006 requires the Secretary of State to publish a list of species and habitats that are of principal importance for the conservation of biodiversity, and to take, and promote others to take, such steps to further the conservation of these habitats and species. These species and habitats will be considered by Planning Authorities in regard to the National Planning Policy Framework (Ministry of Housing, Communities & Local Government, 2021) to conserve and enhance the natural environment.
Badgers	It is an offence under the Protection of Badgers Act 1992 to damage or destroy a badger sett; obstruct any entrance of a badger sett; and disturb a badger whilst it is occupying a

	badger sett.
Wild mammals (rabbits, foxes, water vole, otter, hedgehog, badger)	It is an offence under the Wild Mammals (Protection) Act 1996 to inflict unnecessary suffering to any wild mammal with intent.
Nesting birds	It is an offence under the Wildlife and Countryside Act 1981 (as amended) to damage or destroy a bird's nest whilst it is in use, and to kill or injure a bird or destroy an egg.
Nonstatutory designated sites (SNCI's, LWS, LNR's, etc.)	LNRs are designated under Section 21 of the National Parks and Access to the Countryside Act 1949, which was amended by the Natural Environment and Rural Communities Act 2006. The value for biodiversity of LNRs and LWSs are recognised, and the sites and surrounding buffers are protected by the Local Plan.
Biodiversity	Section 40 of the NERC Act 2006 states that each public authority "must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity." This legislation makes it clear that planning authorities should consider impacts to biodiversity when determining planning applications. Chapter 15 of the National Planning Policy Framework (Ministry of Housing, Communities & Local Government, 2021) states that the planning system and policies should minimise impacts on and provide net gains for biodiversity, and that, if significant harm to biodiversity would result from a development, then development should be avoided (through locating on alternative sites with less harmful impacts).
Irreplaceable habitats (ancient woodland, veteran trees, lowland meadows)	Chapter 15 of the National Planning Policy Framework (Ministry of Housing, Communities & Local Government, 2021) states that development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.

Local Planning Policy

The South Downs Local Plan (SDNPA, 2019) sets out the planning policies for development in the district in relation to biodiversity. Those of potential relevance to this assessment are highlighted in the table below:

Policy Reference	Policy Text
Core Policy SD2: Ecosystem Services	1. Development proposals will be permitted where they have an overall positive impact on the ability of the natural environment to contribute goods and services. This will be achieved through the use of high-quality design, and by delivering all opportunities to: a) Sustainably manage land and water environments; b) Protect and provide more, better and joined up natural habitats; c) Conserve water resources and improve water quality; d) Manage and mitigate the risk of flooding; e) Improve the National Park's resilience to, and mitigation of, climate change; f) Increase the ability to store carbon through new planting or other means; g) Conserve and enhance soils, use soils sustainably and protect the best and most versatile agricultural land; h) Support the sustainable production and use of food, forestry and raw materials; i) Reduce levels of pollution; j) Improve opportunities for peoples' health and wellbeing; and

	k) Provide opportunities for access to the natural and cultural resources which contribute to the special qualities. 2. Development proposals must be supported by a statement that sets out how the development proposal impacts, both positively and negatively, on ecosystem services.
Strategic Policy SD9: Biodiversity and Geodiversity part 1	Development proposals will be permitted where they conserve and enhance biodiversity and geodiversity, giving particular regard to ecological networks and areas with high potential for priority habitat restoration or creation. Prior to determination, up-to-date ecological information should be provided which demonstrates that development proposals: - Retain, protect and enhance features of biodiversity and geological interest (including supporting habitat and commuting routes through the site and taking due account of any use by migratory species) and ensure appropriate and long-term management of those features; - Identify and incorporate opportunities for net gains in biodiversity; - Contribute to the restoration and enhancement of existing habitats, the creation of wildlife habitats and the creation of linkages between sites to create and enhance local and regional ecological networks; - Protect and support recovery of rare, notable and priority species; - Seek to eradicate or control any invasive non-native species present on site; - Contribute to the protection, management and enhancement of biodiversity and geodiversity, for example by supporting the delivery of GI and Biodiversity Action Plan targets and enhance Biodiversity Opportunity Areas (BOA); and - Comply with the mitigation hierarchy as set out in national policy
Strategic Policy SD9: Biodiversity and Geodiversity part 2	The following hierarchy of site designation will apply in the consideration of development proposals: a) Internationally Protected Sites, as shown on the Policies Map (SPAs, SACs and Ramsar Sites, or candidate and formally proposed versions of these designations): i. Development proposals with the potential to impact on one or more international sites(s) will be subject to a HRA to determine the potential for likely significant effects. Where likely significant effects may occur, development proposals will be subject to Appropriate Assessment ii. Development proposals that will result in any adverse effect on the integrity of any international site will be refused unless it can be demonstrated that: there are no alternatives to the proposal; there are imperative reasons of overriding public interest why the proposal should nonetheless proceed; and adequate compensatory provision is secured b) Nationally Protected Sites SSSI, NNRs, MCZ as shown on the Policies Map: i. Development proposals considered likely to have a significant effect on nationally protected sites will be required to assess the impact by means of an EIA ii. Development proposals should avoid impacts on these nationally protected sites. Development proposals where any adverse effect on the site's notified special interest features is likely and which cannot be either avoided or adequately mitigated will be refused, unless the benefits of the development, at this site clearly outweigh the likely impact to the notified features of the site and any broader impacts on the network of nationally protected sites c) Irreplaceable Habitats (including ancient woodland as shown on the Policies Map, and veteran trees): Development proposals which result in the loss or deterioration of irreplaceable habitats, including ancient woodland and veteran trees will be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists d) Locally Protected Sites (Sites of Nature Conservation Importance

	(SNCI)/Local Wildlife Sites (LWS)/Sites of Importance for Nature Conservation (SINC), Local Nature Reserves (LNR and Local Geodiversity Sites (LGS)) as shown on the Policies Map: i. Development proposals considered likely to have a significant effect on local sites will be required to assess the impact by means of an Ecological Impact Assessment (EclA) ii. Development proposals that will result in any adverse effect on the integrity of any local site which cannot be either avoided or adequately mitigated will be refused, unless exceptional circumstances outweighing the adverse effects are clearly demonstrated e) Outside of designated sites i. Development proposals should identify and incorporate opportunities to conserve, restore and recreate priority habitats and ecological networks. Development proposals should take opportunities to contribute and deliver on the aims and objectives of the relevant biodiversity strategies where possible.
Strategic Policy SD8: Dark Skies	1. Development proposals will be permitted where they conserve and enhance the intrinsic quality of dark night skies and the integrity of the Dark Sky Core as shown on the Policies Map. 2. Development proposals must demonstrate that all opportunities to reduce light pollution have been taken, and must ensure that the measured and observed sky quality in the surrounding area is not negatively affected, having due regard to the following hierarchy: The installation of lighting is avoided; and If lighting cannot be avoided, it is demonstrated to be necessary and appropriate, for its intended purpose or use: Any adverse impacts are avoided; or If that is not achievable, then adverse impacts are mitigated to the greatest reasonable extent.' 3. Lighting which is proposed to be installed must meet or exceed the level of protection appropriate to the environmental zone 4. Outdoor lighting proposals are required to provide a statement to justify why the proposed lighting is required.

Appendix C – Summary of Abbreviations Used in Text

Summary of Abbreviations

A non-technical summary of the abbreviations used in report are provided in the table below:

Abbreviation	Explanation
BAP	Biodiversity Action Plan; A plan developed by the LPA to identify local priorities for biodiversity in the district.
BNG	Biodiversity Net Gain; an overall assessment of whether proposals will result in benefits or losses to biodiversity interests, as defined by the DEFRA metric.
BSI	British Standards Institute.
CIEEM	Chartered Institute of Ecology and Environmental Management
EclA	Ecological Impact Assessment; an assessment of development proposals on the ecological value of the site.
EPS	European Protected Species; species designated at the European level.
EPSML	European Protected Species Mitigation Licences
GCN	Great Crested Newt; amphibian species designated at the national and European level.
HRA	Habitat Regulations Assessment; assessment conducted to determine whether proposals have the potential to result in likely significant effect/s to sites designated at the European level.
HSI	Habitat Suitability Assessment; Assessment conducted to assess the suitability of a water body to support GCN.
LNR	Local Nature Reserve
LPA	Local Planning Authority; council responsible for overseeing the planning applications and policy in the district.
LWS	Local Wildlife Site.
NE	Natural England; a non-departmental public body responsible for ensuring that England's natural environment, including its land, flora and fauna, freshwater and marine environments, geology and soils, are protected and improved.
NNR	National Nature Reserve.
PEA	Preliminary Ecological Appraisal; initial ecological scoping assessment conducted to inform planning design
Ramsar	Ramsar; Wetlands of International Importance, as designated under the Ramsar Convention.
SAC	Special Area of Conservation; site designated internationally for its ecological value.
SNCI	Site of Nature Conservation Importance.
SPA	Special Protection Area; site designated internationally for its value to wild birds.
SSSI	Site of Special Scientific Interest; site designated at the national level for its environmental value.
UKBAP	United Kingdom Biodiversity Action Plan; species of habitat designated under the NERC Act, 2006.
UKHabs	Habitat classification system associated with ecological appraisals and BNG.