

Lapstone Playing Fields, Fair Oak, Eastleigh, Hampshire, SO50 7PS

Ecological Appraisal Report

November 2022

Hampshire Ecological Services Ltd
Consultant Ecologists

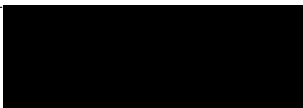
E: enquiries@hantsecology.co.uk

W: www.hantsecology.co.uk

T: 0771 456 8361

Ecological Appraisal Report
Lapstone Playing Fields, Eastleigh, Hampshire
for
Eastleigh Borough Council

Reference: Lapstone Playing Fields	
Revision	Issue date:
0	22/12/20
1	04/11/22

Prepared by:		Rev 0	Rev 1
 CALUM COOPER Ecologist	 CHLOE MOCKRIDGE Ecologist	17/12/20	02/11/22
First review & Technical QA by:			
 VICTORIA RUSSELL Principal Ecologist		21/12/20	-
Second review & Technical QA by:			
 JOHN POLAND Principal Ecologist		22/12/20	03/11/22

This report represents sound industry practice; reports and recommends correctly, truthfully and objectively; is appropriate given the local site conditions; scope of works proposed and resources allocated to us by the client; and avoids invalid, biased, and exaggerated statements.

The author disclaims any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and the author accepts no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

Contents

1	EXECUTIVE SUMMARY.....	6
2	INTRODUCTION.....	10
2.1	PURPOSE OF THIS REPORT.....	10
2.2	SITE DESCRIPTION.....	10
2.3	PROPOSED ACTIVITIES.....	10
2.4	CURRENT PLANNING STATUS.....	10
2.5	STRUCTURE OF THIS REPORT	11
3	METHODS.....	12
3.1	DESK STUDY	12
3.2	FIELD SURVEY	12
3.2.1	<i>General</i>	12
3.2.2	<i>Dates, time and weather</i>	12
3.2.3	<i>Personnel</i>	13
3.2.4	<i>Botanical surveys - Phase 1 Habitat Survey</i>	13
3.2.5	<i>Animal surveys</i>	14
	General.....	14
	Bats.....	14
	Dormice.....	17
	Great crested newt	17
	Otter and water vole	17
	Badger	17
	Birds	17
	Widespread species of reptile.....	17
4	RESULTS	19
4.1	DESK STUDY	19
4.1.1	<i>Designated sites</i>	19
4.1.2	<i>European Protected Species</i>	19
4.2	HABITATS AND PLANT SPECIES	20
4.2.1	<i>Habitats</i>	20
4.2.2	<i>Plant species</i>	22
4.3	PROTECTED VERTEBRATES.....	22
4.3.1	<i>Bats</i>	22
	Bat roost suitability of buildings	22
	Bat roost suitability of trees	1
4.3.2	<i>Commuting and foraging habitat</i>	2
4.3.3	<i>Dormice</i>	2
	Habitat.....	2
	Nest tube surveys.....	2
4.3.4	<i>Great crested newt</i>	3
	Ponds.....	3
	Terrestrial habitat.....	3
	Torching surveys and egg-search.....	3
4.3.5	<i>Otter and water vole</i>	3
4.3.6	<i>Badger</i>	3
4.3.7	<i>Birds</i>	3

4.3.8	Widespread species of reptile	4
5	INTERPRETATION AND EVALUATION	5
5.1	CONSTRAINTS ON THE SURVEY	5
5.2	SURVEY REPORT EXPIRY	5
5.3	LEGAL CONTEXT.....	5
5.4	POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT.....	5
5.4.1	Desk study	5
5.4.2	Habitats and plants	5
5.4.3	Bats.....	6
	Bat roost suitability of buildings.....	6
	Bat roost suitability of trees	6
	Foraging and commuting habitat	6
5.4.4	Dormice	6
5.4.5	Great crested newt	7
5.4.6	Otter and water vole.....	7
5.4.7	Badger	7
5.4.8	Birds	7
5.4.9	Widespread species of reptile	8
5.5	FURTHER SURVEY	8
5.5.1	Bats.....	8
	Emergence/ re-entry surveys of trees.....	8
	Activity survey.....	8
5.6	OUTLINE MITIGATION & ENHANCEMENT MEASURES	9
5.6.1	General	9
5.6.2	Habitats	10
5.6.3	Planting	10
5.6.4	Bats.....	12
	New bat roost locations	12
	Lighting.....	13
5.6.5	Dormice	13
5.6.6	Great crested newt	14
5.6.7	Birds	14
5.6.8	Invertebrates	15
5.7	REQUIREMENT FOR NATURAL ENGLAND LICENCES.....	17
5.7.1	Requirement for Habitats Regulations licence	17
5.7.2	Protection of Badgers Act (1992) licences	17
6	FIGURES.....	18
7	PHOTOGRAPHS	22
8	REFERENCES.....	23
9	APPENDIX A: PROTECTED SPECIES LEGISLATION	25
9.1	GENERAL.....	25
9.2	BATS	25
9.3	DORMICE.....	25
9.4	GREAT CRESTED NEWT.....	26
9.5	OTTER.....	26
9.6	WATER VOLE.....	27

9.7	BADGER	27
9.8	BIRDS.....	28
9.8.1	<i>Birds - general protection</i>	28
9.8.2	<i>Birds - specially protected species</i>	28
9.9	WIDESPREAD SPECIES OF REPTILE	28
9.10	EUROPEAN PROTECTED SPECIES LICENCES	28
9.11	NATIONAL PLANNING CONTEXT	29
9.11.1	<i>General</i>	29
9.11.2	<i>National Planning Policy Framework (NPPF)</i>	29
10	APPENDIX B: TARGET NOTES.....	31
11	APPENDIX C: PLANT SPECIES LISTS.....	34
12	APPENDIX C: PLANT SPECIES LISTS.....	39

EXECUTIVE SUMMARY

1. This report provides information from an ecological appraisal carried out by Hampshire Ecological Services Ltd for Eastleigh Borough Council in connection with a proposal to create two cricket pitches at Lapstone Playing Fields, Fair Oak, Eastleigh, Hampshire, SO50 7PS (approximate Ordnance Survey Grid Reference SU494178). The site location is shown in *Figures 1 and 2*; and a site plan is given in *Figure 3* (see *Section 6*).
2. An ecological appraisal was carried out during the daytime on the 9th December 2020 by Nicola Pyle MCIEEM.
3. The site is a playing field, consisting of one cricket pitch, training nets, tennis courts and a football pitch. There are trees and hedges on the boundaries, and a wooded drainage culvert on the west side of the site. The habitats are shown in the Phase 1 Habitat Survey map given in *Figure 3* (see *Section 6*) with vascular plant species listed in *Appendix C*.
4. The majority of the habitats and plant species observed on site are widespread and common; the habitats are of negligible nature conservation value from a botanical perspective. The exception is the mature tree lines and boundary woodland to the west. These are of high ecological value and should be retained and protected where possible (see *Section 5.6*).
5. No plant species listed on *Schedules 8 or 9* of the *Wildlife and Countryside Act 1981* (as amended) were recorded on the site.
6. Three buildings on the site were assessed for their bat roost suitability: building B1 with low bat roost suitability and buildings B2 & B3 with negligible bat roost suitability. The buildings will be unaffected by the proposed work, therefore no further surveys are proposed. However, should building B1 be affected by any future proposals, it will need detailed surveys to establish if bats are using the structure (see *Section 5.5*).
7. The majority of the trees on site were identified as having negligible bat roost suitability. However, several mature trees have features with bat roost suitability. The locations of these trees is shown at *Target Notes 1-6, 9 & 13* on the Phase 1 Habitat map (*Figure 3* in *Section 6*). None of these are anticipated to be affected by the proposals. If any of the trees with bat roost suitability are subsequently to be removed or be subject to tree surgery *e.g.* crown-lifting, they will need detailed surveys to establish their bat roost suitability and if bats are using them (see *Section 5.5*).
8. There is good quality foraging habitat for bats on and adjacent to the site. Therefore, it is likely that bats are using the site for foraging and/or commuting. Retaining and enhancing connectivity (the hedges, woodland and tree-line) around the edges of the site will help minimise any potential impact to bat populations in the local area.

9. There is suitable habitat for dormice around the edges of the site, including the trees over the culvert which connect to woodland to the west of the site. The current proposals will result in the loss of suitable dormouse habitat and. evidence of dormice was found during the tube surveys. An EPS licence from Natural England will be required before works can begin on the vegetation clearance. Without mitigation, the removal of the section of woodland (and associated bramble scrub/ tall-herb vegetation) will result in the long-term loss of a small amount of habitat. The full details are given in Dormouse Survey Report (HES, 2022a).
10. According to aerial photographs (GoogleEarth™) and online Ordnance Survey 1:25,000 maps there are two ponds within 500m of the site. These are as follows:
 - A pond c.130m to the west of the site (within school grounds); and
 - Quobleigh pond, c.350m west of the site.Both ponds are known to contain great crested newts. The locations of these ponds are shown in *Figure 4* in *Section 6*.

The grassland is a short mown sward with no cover over the majority of the site. This is generally unsuitable terrestrial habitat for great crested newt.
11. The culvert ditch and the vegetation around it provide some suitable habitat for great crested newts. No great crested newts were found in the culvert/ ditch during the torching surveys and no great crested newt eggs were found during the egg-search. In addition, no other amphibian species were recorded during the surveys. However, due to the close proximity of known populations, a great crested newt licence from Natural England will be required before the works commence to remove the culvert and surrounding vegetation. Full details are given in the Great Crested Newt Report (HES, 2022b).
12. No evidence of either otter or water vole was seen on the site during the surveys. In addition, the culvert ditch is unsuitable for both species. Therefore, no impacts are anticipated on otter or water vole.
13. No badger setts or evidence of badger activity was found. However if a badger sett is subsequently discovered within 30m of the proposed works then it may require a licence from Natural England to proceed.
14. The removal of any vegetation with the potential to support nesting birds should be undertaken outside of the bird breeding season (which is late February to August inclusive) to avoid the destruction of active bird nests and hence comply with the law (*Wildlife and Countryside Act 1981* (as amended)). If this is not possible, and vegetation has to be removed during the nesting season, then it should be inspected (by an ecologist) for nests immediately prior to removal of the vegetation. If any active nests are found during the works, a 5m buffer zone should be established around it and be temporarily fenced off to prevent plant or personnel disturbing the nest until the end of the breeding bird season (or until the nest is no longer in use).
15. The majority of the site is unsuitable habitat for widespread species of reptile. However, suitable foraging and hibernating habitat for widespread reptile species, such as slow-worms, is present

in certain areas on site; primarily the rough grassland (*Target Note 7*) in the south-east corner. The bases of the hedges are also suitable foraging and hibernation habitat. However, as the rough grassland and hedges are not anticipated to be affected by the proposals, no further surveys are proposed.

16. The wooded culvert (particularly the edges) is also suitable foraging and hibernation habitat for reptiles. Therefore, as a precautionary measure, the removal the vegetation should be carried out under ecological supervision when reptiles are active (April to September), to reduce the risk of harm to reptiles. This will be carried out concurrently with the great crested newt licence.
17. To minimise the impact on the retained trees and hedges, Heras fencing or similar should be used to protect the roots of the trees and bushes during construction. The guidance provided in BS 5837 *Trees in relation to Construction* provides further advice.
18. To mitigate the loss of the culvert woodland and ensure no net loss of habitat, a new area of wet woodland and grassland habitat will be created on the west boundary of the site (see *Section 5.6.3*). This will exceed the area being lost and is shown in *Figure 5* in *Section 6*. This is summarised below:
 - Grey willow with some common alder will be planted in a strip parallel to the west boundary of the site. This will be turned into a wetland habitat by rotating the new sports field drainage into this corner of the site.
 - There will be a gap between the existing and new woody vegetation so that the west boundary does not lose its ecological value by shading out existing rough grassland and scrub of high biodiversity value.
 - The new area will mostly be grey willow with common alder but the drier margins could also include species such as *Acer campestre* (Field Maple), *Carpinus betulus* (Hornbeam), *Cornus sanguinea* (Dogwood), *Corylus avellana* (Hazel), *Crataegus monogyna* (Hawthorn), *Fagus sylvatica* (Beech), *Fraxinus excelsior* (Ash), *Prunus spinosa* (Blackthorn), *Quercus robur* (Pedunculate Oak), *Viburnum lantana* (Wayfaring-tree) and *Viburnum opulus* (Guelder-rose). These species are all found locally in Eastleigh.
 - The shallow scrape will enable water to stand to replicate the open water in the culvert. This scrape will be planted with grey willow and alder. The scrape margins will be under-sown with Emorsgate seed mix EH1 Hedgerow mixture (or equivalent supplier). This will provide cover for wildlife as well as providing an attractive feature while the new vegetation become established.
 - Details of the species present in the proposed seed mixes are given in *Appendix D*.
19. In addition, National Planning Policy Framework (NPPF 2019) states "*opportunities to incorporate biodiversity in and around developments should be encouraged*" as part of the consideration for "*presumption in favour of sustainable development*". Therefore, the following outline mitigation, compensation and enhancement measures are proposed:
 - To further enhance the wetland tree planting, shrub planting and new rough grassland will be created across the site (see *Section 5.6.3*);

- To further enhance the new and retained rough grassland for reptiles and amphibians, log piles and turf piles will be created to provide cover and basking opportunities.
 - The site will be enhanced for bats. At least three woodstone bat boxes will be erected in mature trees;
 - The site will be enhanced for birds. The bird boxes should consist of a mixture of three box types, including;
 - two or more large hole single chamber boxes suitable for blue tits and great tits, such as a Vivara Pro Seville 32mm Woodstone Nest Box;
 - two or more small hole single chamber boxes suitable for blue tits and coal tits, such as a Vivara Pro Seville 28mm Woodstone Nest Box;
 - two or more open-fronted boxes suitable for robins and wrens, such as Vivara Pro Barcelona WoodStone Open Nest Box.
 - The proposed bird boxes are summarised in *Table 5.6.6.1*.
 - To enhance the site for invertebrates, six insect hotels/towers will be installed. The boxes should be suitable for a range of invertebrates. The boxes will be positioned in a warm sunny spot, preferably on a south-facing wall, with no vegetation in front of the holes. Ideally they should be positioned at a height of at least 1 metre from the ground.
 - The grassland on the west boundary to the north of the tennis courts will be enhanced using a mixture of fruit trees, shrubs and wildflowers.
 - The rough grassland in the south-east corner will continue to be managed with an annual or biennial September cut. This area will be allowed to extend down to the new path along the boundary
20. Indicative locations of the mitigation, compensation and enhancement measures is given in *Figure 5* in *Section 6*.
21. This survey data is valid for a maximum of 12 months. If more than 12 months elapses after completion of all surveys, it may be advisable to conduct further survey work to obtain up-to-date information prior to commencement of construction to ensure protected species compliance.
22. There is one internationally designated site within 5km of the site, and one nationally designated site within 2km of the site. In addition, there are two Sites of Importance for Nature Conservation (SINCs) within 500m of the site. These are listed in *Table 4.1.1.1*. None of these will be directly affected by this proposal.
23. There have been two European Protected Species (EPS) licences granted within 2km of the site for great crested newt and bats. These are listed in *Table 4.1.2.1*.

INTRODUCTION

2.1 Purpose of this report

This report provides information from an ecological appraisal carried out by Hampshire Ecological Services Ltd for Eastleigh Borough Council in connection with a proposal to create two cricket pitches at Lapstone Playing Fields, Fair Oak, Eastleigh, Hampshire, SO50 7PS (approximate Ordnance Survey Grid Reference SU494178). The site location is shown in *Figures 1 and 2* in *Section 6*.

2.2 Site description

The site is a playing field consisting of one cricket pitch, training nets, tennis courts and a football pitch. There are trees and hedges on the boundaries, and a wooded drainage culvert on the west side of the site. A site plan showing the habitats on site is given in *Figure 3* in *Section 6*.

The site is to the west of Botley Road, between the villages of Fair oak and Horton Heath. The immediate surroundings consist of Wyvern College, Fair Oak Infant and Junior schools to the north; residential housing to the east; and fields and woodland to the west and south-west. In the wider landscape, Fair Oak and Horton Heath are to the north and south respectively; and there are extensive agricultural fields and woodlands to the east and west. The River Itchen is c.1,983m west of the site.

2.3 Proposed activities

This survey was carried out in connection with a proposal to create two cricket pitches on Lapstone Playing Fields. The work will include the removal of a wooded culvert drainage ditch.

2.4 Current planning status

Planning permission is being applied for.

2.5 ***Structure of this report***

This report is structured as follows:

- *Section 1* contains the executive summary;
- *Section 2* contains an introduction;
- *Section 3* describes the survey methods;
- *Section 4* describes the results;
- *Section 5* evaluates the findings;
- *Section 6* contains the figures including:
 - *Figure 1* gives aerial photographs showing the site location;
 - *Figure 2* gives an Ordnance Survey map showing the location of the site;
 - *Figure 3* gives a Phase 1 Habitat Survey map for the site;
 - *Figure 4* gives the locations of ponds within 500m and 250m of the site boundary; and
 - *Figure 5* gives an indicative plan of the proposed mitigation and enhancement measures.
- *Section 7* gives photographs of the site;
- *Section 8* lists the references;
- *Appendix A* lists key legislation and regulations;
- *Appendix B* gives the Target Notes;
- *Appendix C* lists vascular plant species recorded on site;
- *Appendix D* lists the proposed seed mixes.

3 **METHODS**

3.1 **Desk study**

The *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk) was used to search for designated sites on or adjacent to the site including Local Nature Reserves (LNRs), National Nature Reserves (NNRs), Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites. The search area was 5km for SAC and SPA sites and 2km for LNRs, NNRs, Ramsar sites and SSSIs, as specified in Hampshire's *Biodiversity Checklist*. The search area is also 500m for Sites of Importance to Nature Conservation (SINCs) and ancient semi-natural and ancient replanted woodlands.

In addition, the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk) was used to search for granted European Protected Species (EPS) licences within 2km of the site.

A data search from the Hampshire Biodiversity Information Centre (HBIC) has not been commissioned by the client in relation to this site.

3.2 **Field survey**

3.2.1 *General*

An ecological appraisal was carried out on this site. This type of survey is not designed to prove presence or absence of significant or protected species; it is used to highlight habitat that is suitable and to identify where further work to show presence or absence is required. However, in some circumstance's species can be ruled out because there is unsuitable habitat or barriers to inward migration.

Significant species were defined as follows:

- European Protected Species (listed on *Schedules 2 and 5 of the Conservation of Habitats & Species Regulations 2017*);
- nationally protected species under *Schedules 1, 5 and 8 of the Wildlife & Countryside Act 1981*, the *Protection of Badgers Act 1992* (as amended) and the *Deer Act 1991*;
- non-native pest species listed on *Schedule 9 of the Wildlife & Countryside Act 1981* (as amended);
- species listed as Critically Endangered, Endangered or Vulnerable on the *IUCN Red List*;
- all species listed on the *RSPB Birds of Conservation Concern 2015* as Red or Amber; and
- Nationally Rare or Nationally Scarce species.

3.2.2 *Dates, time and weather*

An ecological appraisal was carried out during the daytime on the 9th December 2020. The weather was cold (4°C) and dry with 100% cloud cover and calm (Beaufort scale 0).

3.2.3 *Personnel*

The survey was carried out by Nicola Pyle MCIEEM who is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). She has over 13 years of experience in ecological consultancy and is a highly competent ecologist trained in Phase 1 Habitat Survey and protected species surveys. She is a multi-species licence holder and holds a Natural England licence allowing the disturbance and handling of bats for the purposes of survey in all counties of England (current Bat Class Licence Registration number 2015-18259-CLS-CLS).

This report was reviewed by John Poland CEnv MCIEEM CBiol MSB, who is a full member of the CIEEM, a Chartered Environmentalist (CEnv), a Chartered Biologist (CBiol) and multi-species licence holder with 20 years of experience in ecological consultancy and Victoria Russell MCIEEM who is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) with over 23 years of experience in ecological consultancy.

All staff adhere to the Chartered Institute of Ecology and Environmental Management's (CIEEM) *Code of Professional Conduct*.

3.2.4 *Botanical surveys - Phase 1 Habitat Survey*

The botanical surveys in this report are based on the Phase 1 Habitat Survey methodology (Joint Nature Conservation Committee 2003) and involve the following elements: habitat mapping using a set of standard colour codes to indicate habitat types on a Phase 1 Habitat Survey map; and descriptions of habitats and features of ecological or nature conservation interest relating to locations on the Phase 1 Habitat Survey map.

Basic Phase 1 Habitat Survey methods are described in detail in Joint Nature Conservation Committee (JNCC, 2003). Limits to the method are discussed in Cherrill & McClean (1999).

Plant species lists were compiled for the various habitat types on the site. Subjective estimates of the relative abundance of species were added to the plant species list using a DAFOR scale. The DAFOR scale ranks species according to their relative abundance in a given parcel of land as follows: d – dominant, a – abundant, f – frequent, o – occasional, r – rare. The terms 'abundant' and 'rare' are used by convention and apply only to relative-abundance within the recorded area. It does not mean that species are 'rare' in the general sense.

Plant nomenclature in this report follows Poland & Clement (2009) for native, naturalised and garden species of vascular plant. Plant names in the text are given with scientific names first, followed by the English name in brackets.

3.2.5 *Animal surveys*

General

The habitat was assessed to determine whether or not it is suitable for those protected vertebrates that occur in the region. Initial surveys do not usually confirm species presence or absence, but obvious signs and incidental sightings of protected species would have been noted had they been encountered.

An assessment was made of the likelihood of protected vertebrates using the site. Taking into consideration the geographical region and habitat type, species and groups that might be encountered are:

- bats;
- dormice;
- great crested newts;
- badger;
- otter;
- water vole;
- nesting birds; and
- reptiles.

Details of initial survey methods for each of the relevant species that might have been encountered are given below and an overview of the legal protection of the species and groups is provided in *Appendix A*.

Bats

General

The survey for bats concentrated on identifying foraging opportunities and potential roost locations or hibernation sites.

Building assessment

Because bats are crevice-dwelling mammals it is often difficult to thoroughly inspect buildings for bats and evidence of bats without a destructive search, which is not generally practical or acceptable. Examples are where bats roost between the roofing felt and tiles, around window frames and behind barge boards. These areas cannot be inspected, but a surveyor would know that bats might roost here because there are places where bats could gain entry. A pipistrelle bat is small enough to fit into a match box and can roost in gaps just 14-20mm wide.

The buildings were externally assessed for their **bat roost suitability** according to the following factors that influence the likelihood of bat roosting:

- Surrounding habitat: whether there are potential flight-lines and bat foraging areas nearby.
- Construction detail: the type and construction of architectural features such as voids, barge boards, soffit boxes, lead flashing, cavity walls and hanging tiles that could be used by roosting bats. Some construction details and materials are more favourable to bat occupation than others.
- Building condition: whether the building has no roof or has a sound roof without any potential bat access points.

- Potential bat access points: whether there is flight and crawl access.
- Potential roosting locations: the presence of bat-accessible voids, cracks and crevices.

The risk of bat roosts being present will be lower where structures have:

- Urban setting with little greenspace.
- Heavy disturbance.
- Small, cluttered roof void (particularly for brown long-eared).
- Modern construction with few gaps or crevices that bats can fly or crawl through (although pipistrelles may still be present).
- Prefabricated of steel or sheet materials.
- Active industrial premises.

The above list provides generic criteria and there are exceptions to consider. For example, pipistrelle roost sites are often found in modern housing estates and therefore the absence of bats from such locations should not always be assumed.

Tree assessment

Detailed surveys of individual trees were not carried out. However, trees with features such as holes and crevices that could be used by roosting bats were noted and their overall bat roost suitability was assessed. If any mature trees are subsequently to be removed or if tree surgery (*e.g.* crown-lifting) is required, then a bat survey at an appropriate time of year may be required.

Following the external inspections, the buildings and trees are assigned a level of suitability for being used by roosting bats. This is based on the criteria in *Table 3.2.5.1* (Collins, 2016).

Table 3.2.5.1. Bat Roost Suitability.

Suitability	Description of roosting habitats	Description of commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats	Negligible habitat features on site likely to be used by commuting or foraging bats
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (<i>i.e.</i> unlikely to be suitable for maternity or hibernation).	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, <i>i.e.</i> not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland) or a patch of scrub.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only)	Continuous habitat connected to the wider landscape that could be used by bats for commuting, such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. The site is close to and connected to known roosts.

Assessment of commuting and foraging habitat

Bats use a variety of habitats for foraging, in particular hedgerows, woods and water bodies, and roost in a range of structures including buildings, trees, bridges and caves. Areas that could be used for foraging were noted.

Dormice

The site was assessed for habitat with the potential to support dormice. Habitats typically suitable for dormice include:

- deciduous woodland, with a dense understory, species-rich shrub-layer and thick ground cover;
- continuous, thick, wide hedgerows over 4m high with connections to nearby suitable woodland;
- hazel or sweet chestnut coppice; or
- thick continuous areas of scrub, particularly bramble, close to hedgerows or woodlands.

Great crested newt

All water bodies on the site or within 500m that could be used as breeding locations for this species were identified, and the suitability of terrestrial habitat for this species was considered. Great crested newts can travel up to 500m from pond to pond, and between ponds and terrestrial habitat. The suitability of terrestrial habitat was assessed with this in mind.

Otter and water vole

Initial surveys centre on identifying suitable habitat. Most watercourses and standing water could support either otter or water vole. Other areas where there is surface water for the majority of the year (including wet heath, marshland, rush-pasture, wetland, bogs, mires, ponds and other water bodies) has some potential to support water vole.

Badger

An initial assessment was carried out to identify areas that might be used by badger for commuting, foraging and sett-building within at least 30m of all areas potentially affected by the works (where access was possible). Evidence of badgers including setts, latrines, feeding signs and paths were searched for.

Birds

Habitat that might be used by nesting birds was identified. Different bird species use buildings, trees and shrubs, undergrowth or even open fields to nest. The suitability of the site for use by a range of bird species was assessed, giving consideration to factors such as cover, food, disturbance and other habitat requirements.

Widespread species of reptile

The site was assessed for widespread species of reptile, with particular attention paid to those features that could be used as basking areas (*e.g.* south-facing slopes), hibernation sites (*e.g.* banks, walls, piles of hardcore) and opportunities for foraging (rough grassland and scrub). The site was assessed

for its suitability for each of the four widespread reptile species which have broadly similar habitat requirements. However, more specific requirements include the following (Beebee & Griffiths 2000):

- common lizards (*Zootoca vivipara*) use a variety of habitats from woodland glades to walls and pastures, although one of their favoured habitats is rough grassland;
- slow-worms (*Anguis fragilis*) use similar habitats to common lizards, and are often found in rank grassland, gardens and derelict land;
- grass snakes (*Natrix natrix*) have broadly similar requirements to common lizards with a greater reliance on ponds and wetlands, where they prey on common frogs; and
- adders (*Vipera berus*) use a range of fairly open habitats with some cover, but are most often found in dry heath.

Reptile activity is highly seasonal; they hibernate over the winter (October to March) and are active over the summer months. They become increasingly active as temperatures increase in spring, and in most years they are fully active by mid-April. Reproduction varies between species, but generally peaks in mid-summer when reptiles are at their most active. In late September/ October, activity begins to decrease as reptiles seek frost-free refuges for hibernation.

4 RESULTS

4.1 Desk study

4.1.1 Designated sites

According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), the site is neither designated nor immediately adjacent to any designated areas of nature conservation. However, there are internationally and nationally designated sites within 5km of the site. These are listed in *Table 4.1.1.1*.

Table 4.1.1.1. Statutory designated sites and non-statutory designated sites within the designated search areas of the site.

Level of designation	Designation	Name	Distance & direction from site
International	SPA	-	-
	Ramsar	-	-
	SAC	River Itchen	c.1,983m west
National	SSSI	River Itchen	c.1,983m west
	NNR	-	-
County	LNR	-	-
Local	SINC	Mount Folly Copse	c.121m west
		Boarhuts Copse	c.239m west
	Ancient woodland	-	-

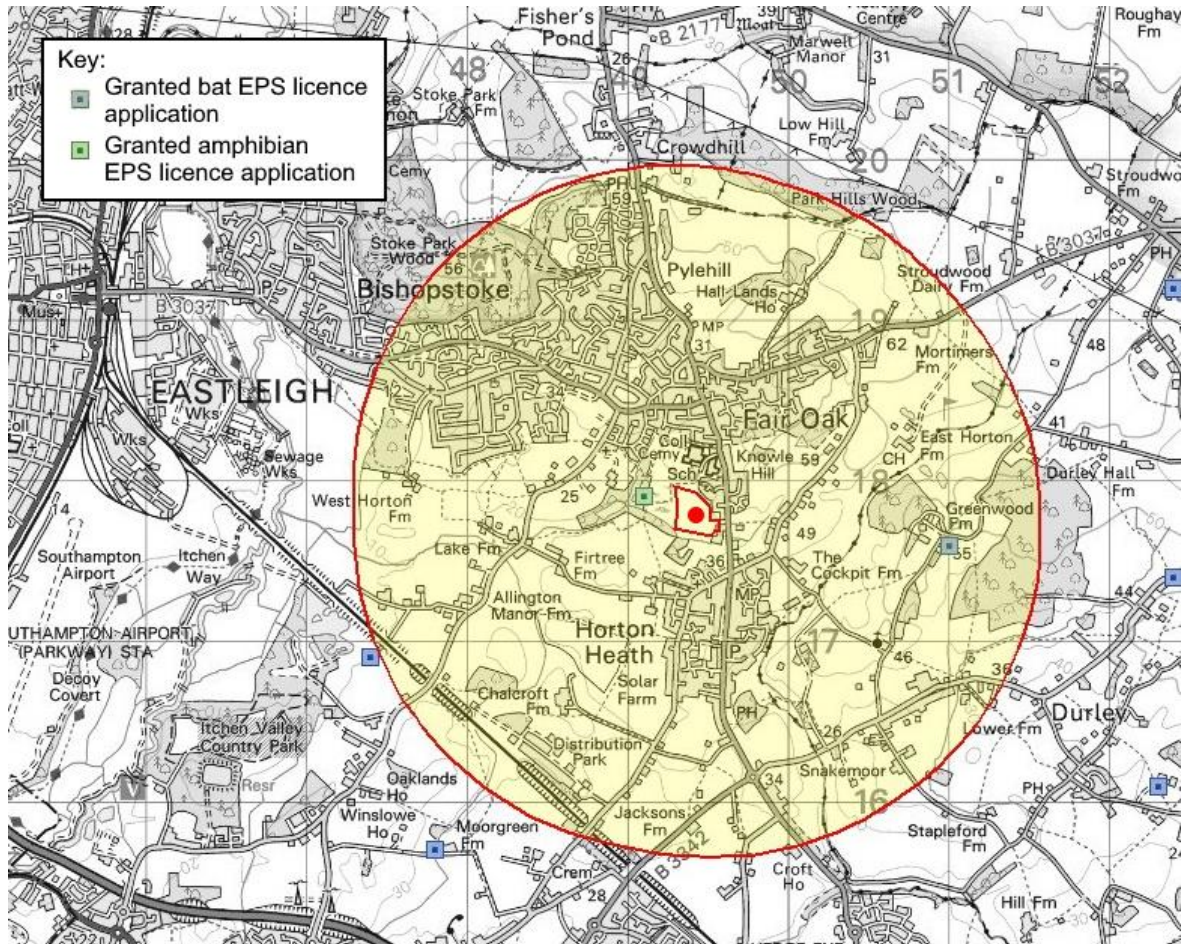
4.1.2 European Protected Species

According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), there have been two granted European Protected Species (EPS) licences within 2km of the site. These are listed in *Table 4.1.2.1*, and their locations are shown in *Figure 4.1.2.1*.

Table 4.1.2.1. Granted European Protected Species (EPS) licences within 2km of the site.

Species subject of licence	Type of habitat affected	Date licence was granted	Distance & direction from site
Great crested newt	Resting place	17/06/2009	c.207m west
Common pipistrelle, Soprano pipistrelle	Resting place	02/04/2015	c.1,531m east

Figure 4.1.2.1. Location of sites with granted EPS licences within 2km of the site. The site location is shown by a red dot.



Reproduced with permission of Ordnance Survey under licence no. 100049977.

4.2 Habitats and plant species

4.2.1 Habitats

The site consists of a playing field of amenity grassland, with cricket and football pitches. There are hedges, tree-lines and woodland on the boundaries. There also is an area of rough grassland and a wooded culvert. There are three buildings on site, all of which are outside the proposal footprint.

The amenity grassland (*Target Note 19*) is mown short and has a sward dominated by *Lolium perenne* (Perennial Rye-grass) with slightly smaller amounts of *Poa annua* (Annual Meadow-grass). Scattered throughout are the coarse grasses *Dactylis glomerata* (Cock's-foot) and *Holcus lanatus* (Yorkshire-fog), the common forbs *Bellis perennis* (Daisy), and *Ranunculus repens* (Creeping Buttercup), and the tall semi-ruderal *Cirsium vulgare* (Spear Thistle).

The rough grassland is in the south-east corner of the site (*Target Note 7*). It has a tussocky sward dominated by *Dactylis glomerata* (Cock's-foot) together with an abundance of *Arrhenatherum elatius* (False Oat-grass) and *Rumex sanguineus* (Wood Dock) and smaller amounts of *Agrostis stolonifera* (Creeping Bent) and *Galium aparine* (Cleavers). Scattered throughout are the common

forbs *Ranunculus repens* (Creeping Buttercup) and *Trifolium pratense* (Red Clover), and the tall semi-ruderals *Heracleum sphondylium* (Hogweed) and *Urtica dioica* (Nettle) scattered throughout.

The culvert ditch (*Target Note 20*) is shallow and shaded. The vegetation is dominated by semi-mature *Salix cinerea* (Grey Willow) with a dense *Rubus fruticosus* agg. (Bramble) under-storey. Scattered throughout are small amounts of *Corylus avellana* (Hazel) *Quercus robur* (Pedunculate Oak) saplings, *Rosa canina* (Dog-rose) and *Sambucus nigra* (Elder). The evergreen creeper *Hedera helix* (Ivy) dominates the field-layer with patches of *Carex pendula* (Pendulous Sedge) and *Urtica dioica* (Nettle). Also present are small amounts of a mixture of weeds and shade-tolerant herbs including *Anagallis arvensis* (Scarlet Pimpernel), *Arum maculatum* (Lords-and-Ladies), *Cardamine pratensis* (Cuckooflower), *Galium aparine* (Cleavers), *Geum urbanum* (Wood Avens) *Prunella vulgaris* (Selfheal), *Pteridium aquilinum* (Bracken), *Ranunculus repens* (Creeping Buttercup), *Rumex sanguineus* (Wood Dock) and *Taraxacum officinale* agg. (Dandelion).

There is a hedge on the north-west boundary (*Target Note 18*), which is a mixture of *Crataegus monogyna* (Hawthorn), *Ilex aquifolium* (Holly), and *Quercus robur* (Pedunculate Oak). There are also small amounts of *Rosa canina* (Dog-rose). The field-layer is dominated by *Hedera helix* (Ivy) together with smaller amounts of *Rubus fruticosus* agg. (Bramble).

The woodland on the south-west and south boundaries (*Target Note 21*) is dominated by *Salix cinerea* (Grey Willow) with occasional mature *Quercus robur* (Pedunculate Oak) standards scattered throughout. Also present are smaller amounts of *Crataegus monogyna* (Hawthorn), *Fraxinus excelsior* (Ash), *Ilex aquifolium* (Holly) and *Prunus spinosa* (Blackthorn). The field-layer contains *Phyllitis scolopendrium* (Hart's-tongue).

There is a hedge on the south-east boundary (*Target Note 14*) that contains a mixture of *Acer campestre* (Field Maple), young *Acer pseudoplatanus* (Sycamore), *Corylus avellana* (Hazel), *Betula pendula* (Silver Birch), *Cornus sanguinea* (Dogwood), *Fraxinus excelsior* (Ash) and *Quercus robur* (Pedunculate Oak). The field-layer is dominated by *Hedera helix* (Ivy) and *Rubus fruticosus* agg. (Bramble).

There are scattered trees and bushes on the east boundary. Species include *Betula pendula* (Silver Birch), *Corylus avellana* (Hazel), *Fraxinus excelsior* (Ash), *Prunus laurocerasus* (Cherry Laurel) and *Rubus fruticosus* agg. (Bramble). The field-layer is dominated by *Hedera helix* (Ivy) with occasional *Iris foetidissima* (Stinking Iris).

The north boundary hedge (*Target Note 17*) is dominated by *Corylus avellana* (Hazel) and *Hedera helix* (Ivy), with smaller amounts of *Acer campestre* (Field Maple), *Crataegus monogyna* (Hawthorn), *Fraxinus excelsior* (Ash), *Prunus* species (a Cherry) and *Quercus robur* (Pedunculate Oak). The field-layer has patches of *Lamium purpureum* (Red Dead-nettle), *Senecio jacobaea* (Ragwort) and *Taraxacum officinale* agg. (Dandelion).

A Phase 1 Habitat Survey map showing the location of the various habitats is given in *Figure 4* (see *Section 6*).

4.2.2 *Plant species*

No plant species listed on *Schedules 8 or 9 of the Wildlife and Countryside Act 1981* (as amended) were recorded on the site.

Vascular plant species recorded from each habitat type (along with relative abundance) are given in *Appendix C*.

4.3 *Protected vertebrates*

4.3.1 *Bats*

Bat roost suitability of buildings

Three buildings on the site were assessed for their bat roost suitability: B1, B2, and B3. The construction details and photographs of the buildings are summarised in *Table 4.3.1.1*.

Table 4.3.1.1. Summary of the buildings construction details.

Type/Name	B1	B2	B3
Description	A brick, sports facility building with a pitched and hipped roof.	A brick equipment shed with a pitched roof.	A wooden clubhouse with a pitched roof.
No. of storeys	1	1	1
Roof type	Pitched & hipped	Pitched	Pitched
Roof cladding	Tile	Bitumen felt	Bitumen felt
Ridge	Tile	Bitumen felt	Bitumen felt
Wall type	Brick and render	Brick	Wooden
Exterior	Soffits, chimney, dormers & porch	Wooden cladding	Wooden cladding

Photos	North elevation 	North elevation 	North-east elevation 
	East elevation 	East elevation 	North-west elevation 

Photos	South elevation	South elevation	South-east elevation
			
	West elevation	West elevation	South-west elevation
			
Building dimensions	L shaped - c.18m wide x c.24m long	c.7m wide x c.7m long	c.4m wide x c.10m long
Roof description void	Unknown, no access	Unknown, no access	Unknown, no access
Frame	Unknown, no access	Unknown, no access	Unknown, no access

Roof lining	Unknown, no access	Unknown, no access	Unknown, no access
Roof void dimensions	Unknown, no access	Unknown, no access	Unknown, no access
Roof void height	Unknown, no access	Unknown, no access	Unknown, no access
Potential roosting locations	Under the roof tiles	None	None
Bat evidence	None	N/A – no access	N/A – no access
Bat suitability	Low	Negligible	Negligible
Further surveys needed?	Yes, at least one dusk emergence/ dawn re-entry surveys (if future works are proposed).	None	None

The majority of the roof of building B1 appears well-sealed and in good condition. However, there are a few potential bat access points into the roof such as lifted roof tiles.

Bat roost suitability of trees

The majority of trees on site were identified as having negligible bat roost suitability. However, eight mature trees have features that could be used by roosting bats such as broken limbs and crevices. These trees and potential bat access points are detailed in *Table 4.3.1.2*. The locations of the trees are shown on the Phase 1 Habitat Survey map (see *Figure 3* in *Section 6*).

Table 4.3.1.2. Summary of tree features and bat roost suitability. The trees are numbered on the Phase 1 Habitat Survey map (see Figure 3 in Section 6).

Target Note	Species	Photograph	Bat Roost Features and Suitability
1	<i>Quercus robur</i> (Pedunculate Oak)		Knot holes in larger branches. It has low bat roost suitability .
2	<i>Quercus robur</i> (Pedunculate Oak)	-	Splits in branches It has low bat roost suitability .
3	<i>Quercus robur</i> (Pedunculate Oak)		Rot and knot holes on branches It has moderate bat roost suitability .
4	<i>Quercus robur</i> (Pedunculate Oak) x3		Rot holes on several branches They have moderate bat roost suitability .
5	<i>Quercus robur</i> (Pedunculate Oak)		No visible features but a dense under-storey restricted visibility. It has low bat roost suitability .
6	<i>Quercus robur</i> (Pedunculate Oak)	-	No visible features but a dense under-storey restricted visibility. It has low bat roost suitability .

9	<i>Fraxinus excelsior</i> (Ash)	-	Dense Ivy cover on the main trunk and several branches. It has low bat roost suitability .
13	<i>Quercus robur</i> (Pedunculate Oak)		Woodpecker holes in the main trunk. It has moderate bat roost suitability .

4.3.2 *Commuting and foraging habitat*

The mature trees, hedgerows, adjacent woodland and nearby ponds provide good foraging habitat for bats. They also link to a network of hedges, tree-lines and strips of woodland providing links into and from the wider landscape in all directions. In addition, the River Itchen SSSI and SAC is c.1,983m to the west of the site, which also provides high quality foraging habitat for a number of different species of bat.

Bats follow linear landscape features such as lines of trees, hedges, buildings and waterways in order to commute from their roost sites to their feeding grounds. Likewise they use these features to navigate between feeding areas and alternative roosts.

4.3.3 *Dormice*

Habitat

There is suitable habitat for dormice around the edges of the site, on adjacent land and in the wooded culvert (to be removed).

The mature trees and shrubs provide suitable habitat for nesting, foraging and hibernating dormice. The woodland and hedgerows contain a mixture of plants producing flowers and berries such as *Crataegus monogyna* (Hawthorn) and *Rubus fruticosus* agg. (Bramble); and plants producing nuts such as *Corylus avellana* (Hazel). This mixture of different species provides food sources throughout the year and as such provide good foraging habitat. The connectivity of the woodland and hedgerows with other areas of suitable habitat in the wider landscape provides a means of colonisation and dispersal.

Nest tube surveys

One dormouse nest was found in tube 26 in 2021, which had been partially destroyed and subsequently occupied by wood mice (indicated by the presence of dead leaves). No new evidence was found in the update surveys in 2022. The full results of the surveys are given in Dormouse Survey Report (HES, 2022a).

4.3.4 *Great crested newt*

Ponds

According to aerial photographs (GoogleEarth™) and online Ordnance Survey 1:25,000 maps there are two ponds within 500m of the site. These are as follows:

- A pond c.130m to the west of the site (within school grounds); and
- Quobleigh pond, c.350m west of the site.

Both ponds are known to contain great crested newts. The locations of these ponds are shown in *Figure 4* in *Section 6*.

Terrestrial habitat

The majority of the site is short mown grassland used as sports pitches, with no cover from predation for amphibians. This is unsuitable terrestrial habitat for great crested newt. However, the hedges on the site boundaries, the tussocky grassland (*Target Note 7*) and the woodland over the culvert (*Target Note 20*) are suitable terrestrial habitat for amphibians, including great crested newt.

Torching surveys and egg-search

No great crested newts were found in the culvert/ ditch during the torching surveys and no great crested newt eggs were found during the egg-search. In addition, no other amphibian species were recorded during the surveys. Full details are given in the Great Crested Newt Report (HES, 2022b).

4.3.5 *Otter and water vole*

According to aerial photographs (GoogleEarth™) and online Ordnance Survey 1:25,000 maps, the River Itchen SSSI and SAC is c.1,983m to the west of the site. The culvert on the site is connected to the river by a network of drains, ditches and ponds. Otters will cross terrestrial habitats to reach ponds and streams, and follow minor watercourses from rivers in search of feeding opportunities. Most watercourses and standing water could support either otter or water vole.

The culvert ditch is heavily shaded by trees and bushes and the water is very shallow. This makes it unsuitable habitat for water vole as the grasses and sedges they feed on get shaded out.

No evidence of otter or water voles was found.

4.3.6 *Badger*

No evidence of badger was found during the survey.

4.3.7 *Birds*

All the trees and bushes on the site have the potential to support nesting birds during the breeding season. In addition, there is a barn owl nest box in a tree on the east boundary of the site. This will be unaffected by the works.

There are many bird species on the UK and Local BAP (or in the RSPB *Birds of Conservation Concern*) that could be using this site for nesting and foraging.

4.3.8 *Widespread species of reptile*

The grassland on the majority of the site is very short due to mowing and as such is unsuitable for reptiles due to the lack of cover and risk of predation. There is an area of rough grassland in the south-east corner of the site (*Target Note 7*), which had a longer sward. This is suitable reptile foraging habitat. In addition, the base of the hedges around the boundaries provide suitable foraging and hibernation habitat.

5 INTERPRETATION AND EVALUATION

5.1 Constraints on the survey

The initial site visit was undertaken in December, outside the optimum survey season for protected species and plants. However, it is possible to assess the habitats present and their suitability for protected species. It should also be noted that, December is not an appropriate time of year to detect some non-native invasive species.

5.2 Survey report expiry

This survey data is valid for a maximum of 12 months. Therefore if more than 12 months elapses it may be advisable to conduct further survey work to obtain up-to-date information to advise work, thereby ensuring protected species compliance.

It is recommended that a walkover of the site to update the survey information is undertaken prior to the development commencing, if this does not occur before the end of December 2021.

5.3 Legal context

Habitat has been identified on site that is suitable for protected species. Different species are afforded different levels of protection; as detailed in *Appendix A*.

The site is not designated for its wildlife interest at an international, national or local scale.

5.4 Potential impacts of the proposed development

5.4.1 Desk study

According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), the site is neither designated nor immediately adjacent to any designated areas of nature conservation. However, there is one internationally statutory designated site within 5km of the site, and one nationally designated site within 2km of the site. Neither of these will be directly affected by this project.

5.4.2 Habitats and plants

The habitats and plant species observed on site are widespread and common and as such have no conservation importance from a botanical point of view. The exception is the mature and semi-mature trees on the boundaries that would take many decades to replace. These are of high ecological value and should be retained and protected (see *Section 5.6*), where they are to be lost, they must be compensated.

5.4.3 *Bats*

Bat roost suitability of buildings

Building B1 has low bat roost suitability due to a small number of potential access points. This building is not anticipated to be affected by the proposals. Therefore, no further surveys are proposed. Should works to this building be planned, further surveys will be required to assess the likelihood of bats using this building.

Buildings B2 and B3 have negligible bat roost suitability. In addition, these buildings are not anticipated to be affected by the proposals.

Bat roost suitability of trees

The majority of the trees on site were identified as having negligible bat roost suitability. However, seven mature trees have features with bat roost suitability. The location of these trees is shown at *Target Notes 1-6 & 9* on the Phase 1 Habitat map (*Figure 3* in *Section 6*). None of these are anticipated to be affected by the proposals.

If any of the trees with bat roost suitability are subsequently to be removed or be subject to tree surgery *e.g.* crown-lifting, they will need detailed surveys to establish their bat roost suitability and if bats are using them (see *Section 5.5*).

All retained trees should be protected (where appropriate) during construction (see *Section 5.6*).

Foraging and commuting habitat

There is good quality foraging habitat for bats on and adjacent to the site. Therefore, it is likely that bats are using the site for foraging and/or commuting. Retaining and enhancing connectivity (*e.g.* the hedge, woodland and tree-line) around the edges of the site will help minimise any potential impact to bat populations in the local area.

Changes in lighting can affect foraging and roosting bats. Therefore, no works should take place in the hours of darkness or under artificial lighting. In addition, no lighting should be directed onto retained vegetation (particularly the trees and woodland), and security lights should operate on a timer, to avoid any negative impact on bats.

Any lighting installed should avoid spillage of greater than 1 lux onto retained vegetation, particularly the boundary tree lines. The use of non-UV LED lighting (preferably using warm spectrum wavelengths) is strongly recommended to avoid the most deleterious impacts of lighting on biodiversity and bats in particular.

5.4.4 *Dormice*

There is suitable habitat for dormice around the edges of the site, including the trees over the culvert, which link to woodland to the west of the site.

The current proposals will result in the loss of suitable dormouse habitat and. evidence of dormice was found during the tube surveys. An EPS licence from Natural England will be required before works can begin on the vegetation clearance. Without mitigation, the removal of the section of woodland (and associated bramble scrub/ tall-herb vegetation) will result in the long-term loss of a small amount of habitat. The full details are given in Dormouse Survey Report (HES, 2022a).

5.4.5 *Great crested newt*

There are two known ponds within 500m of the site (c.130m and c.350m, both to the west) and suitable terrestrial habitat on (wooded culvert, rough grassland and hedges) and adjacent to the site (woodland and rough grassland). Therefore, even though the majority of the site is unsuitable terrestrial habitat for great crested newt, a great crested newt European Protected Species (EPS) licence or Great Crested Newt Low Impact Class Licence (GCN LICL, if qualifying) from Natural England will be needed before work can take place. This is because suitable terrestrial habitat will be lost.

A great crested newt licence from Natural England will be required before the works commence to remove the culvert and surrounding vegetation. Full details are given in the Great Crested Newt Report (HES, 2022b).

5.4.6 *Otter and water vole*

No evidence of otter or water vole was found on site and while the culvert ditch is connected to the River Itchen SSSI and SAC (via a network of ditches and drain), the site itself is unsuitable for these species. Therefore, this proposal will have no direct impacts on otter or water vole.

5.4.7 *Badger*

Areas within 30m of development activities are usually searched for setts (where access is possible) as former guidelines suggest badgers and their setts could be disturbed by work using heavy machinery within 30m of a badger sett, light machinery within 20m, and light work (such as digging) within 10m.

As no badger setts were found on site, development works are free to proceed without further regard to this species, although if a badger sett is subsequently discovered within 30m of the proposed works then it may require a licence from Natural England to proceed. Guidance to what may be classed as disturbance to a badger (when occupying a sett) can be found at:

<https://www.gov.uk/guidance/badgers-protection-surveys-and-licences>.

5.4.8 *Birds*

All trees and bushes provide suitable habitat for nesting birds. Any affected vegetation with the potential to support nesting birds should be cut to near ground level (approximately 30cm) outside the bird breeding season (which is late February to August inclusive). The destruction of active bird nests is prohibited under the *Wildlife and Countryside Act 1981* (as amended). If this is not possible,

and vegetation has to be removed during the nesting season, then it should be inspected (by an ecologist) for nests immediately prior to removal of the vegetation.

If any active nests are found during the works, a 5m buffer zone should be established around them and be temporarily fenced off to prevent plant or personnel disturbing the nest until the end of the breeding bird season (or until the nest is no longer in use).

5.4.9 *Widespread species of reptile*

The majority of the site is unsuitable habitat for widespread species of reptile. However, suitable foraging and hibernating habitat for widespread reptile species, such as slow-worms, is present in certain areas on site; primarily the rough grassland (*Target Note 7*) in the south-east corner. The bases of the hedges are also suitable foraging and hibernation habitat. However, as the rough grassland and hedges are not anticipated to be affected by the proposals, no further surveys are proposed.

The wooded culvert (particularly the edges) is also suitable foraging and hibernation habitat. Therefore, as a precautionary measure, the removal the vegetation should be carried out under ecological supervision when reptiles are active (April to September), to reduce the risk of harm to reptiles. This will be carried out concurrently with the great crested newt licence.

5.5 ***Further survey***

No further surveys are currently proposed. However should future plans involve tree removal or installation of lighting, the following for bats will be needed to assess the impacts on bats.

5.5.1 *Bats*

Emergence/ re-entry surveys of trees

If any of the trees with bat roost suitability are to be removed or otherwise affected by the works, they will require dusk emergence/ pre-dawn re-entry surveys during the bat active season (primarily between May and August) to establish whether bats are using them. This gives sufficient information to either confirm that bats are not using these structures or provide the basis of the information that would be required for a European Protected Species (EPS) licence.

Activity survey

If any artificial lighting is proposed to be installed, bat activity surveys will be required to assess the number and species of bats using the site for foraging and commuting. Transect surveys should be undertaken monthly between April and September (inclusive) following the standard survey protocol in *Bat Surveys for Professional Ecologist – Good Practice Guidelines, 3rd edition* (Collins, 2016). A predetermined transect route will be designed to give coverage of the site. This will be combined with point surveys whereby surveyors stop at designated listening stations along the transect route and record all the bat activity observed over an approximate three minute period.

Static bat detectors (Analog Express™) should also be placed on the site monthly during the active season (ideally April to October) and remain deployed for a minimum of five consecutive nights each time.

The foraging activity will be recorded during any dusk emergence/ dawn re-entry surveys may be carried out.

If no artificial lighting will be installed, then bat activity surveys would not be required.

5.6 **Outline mitigation & enhancement measures**

5.6.1 *General*

From July 2021, the Government published the revised National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2021). The document sets out the government's planning policies for England and how these are expected to be applied. This replaces a previous version which was published in 2019. It states: *"at the heart of the Framework is a presumption in favour of sustainable development (paragraph 11)."*

It also states *"opportunities to incorporate biodiversity in and around developments should be encouraged"* as part of the consideration for *"presumption in favour of sustainable development"*.

The updated National Planning Policy Framework (NPPF) also states (paragraph 170) that: *"Planning Policies and decisions should contribute to and enhance the natural and local environment by... minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures."*

The updated Planning Policy Guidance (PPG) for the Natural Environment, updated in July 2019 states (paragraph 020) that:

"Net gain in planning describes an approach to development that leaves the natural environment in a measurably better state than it was beforehand."

The updated PPG provides examples of how biodiversity net gain can be achieved. Measures suggested include "creating new habitats" and "enhancing existing habitats".

It is proposed that the enhancements to provide biodiversity net gain will also be in the form of the following:

- planting to enhance the site for wildlife;
- new bat roost provision;
- lighting restrictions;
- new bird nesting provision;
- new log and turf piles for reptiles and great crested newts; and
- new invertebrate boxes. These enhancements are detailed in the following sections.

All proposed mitigation and enhancement measures are subject to supplied plans, an indicative plan of the proposed measures is given in *Figure 5* in *Section 6*.

5.6.2 Habitats

Runoff from the works should where possible be prevented from entering the watercourses downstream of the affected culvert ditch. This can affect the ecology of the watercourses and further along towards the River Itchen. Spill kits must be available on site at all times.

5.6.3 Planting

To replace the loss of the vegetation around the culvert, grey willow with some common alder will be planted in a strip parallel to the west boundary of the site. This will be turned into a wetland habitat by rotating the new sports field drainage into this corner of the site. There will be a gap between the existing and new woody vegetation so that the west boundary does not lose its ecological value by shading out existing rough grassland and scrub of high biodiversity value.

The new area will mostly be grey willow with common alder but the drier margins could also include species such as *Acer campestre* (Field Maple), *Carpinus betulus* (Hornbeam), *Cornus sanguinea* (Dogwood), *Corylus avellana* (Hazel), *Crataegus monogyna* (Hawthorn), *Fagus sylvatica* (Beech), *Fraxinus excelsior* (Ash), *Prunus spinosa* (Blackthorn), *Quercus robur* (Pedunculate Oak), *Viburnum lantana* (Wayfaring-tree) and *Viburnum opulus* (Guelder-rose). These species are all found locally in Eastleigh and will provide a mixture of leaf shapes and colours through the seasons.

In addition, any hedging will contain *Ilex aquifolium* (Holly) and *Taxus baccata* (Yew) to provide an evergreen component for the winter months, and to provide a contrast to the colours of the other plants during the spring, summer and autumn.

The shallow scrape will enable water to stand to replicate the open water in the culvert. This scrape will be planted with grey willow and alder. The scrape margins will be under-sown with Emorsgate seed mix EH1 Hedgerow mixture (or equivalent supplier). This will provide cover for wildlife as well as providing an attractive feature while the new vegetation become established.

Details of the species present in the proposed seed mixes are given in *Appendix D*.

To maintain the biodiversity elsewhere on site, the rough grassland in the south-east corner will continue to be managed with an annual or biennial September cut. This area will be allowed to extend down to the new path along the boundary.

Also, the grassland on the west boundary to the north of the tennis courts will be enhanced using a mixture of fruit trees, shrubs and wildflowers. The landscaping should incorporate a mixture of native and non-native species of value to wildlife. This mixture will be planted to encourage a diversity of insects. Flowers that bloom throughout the year, including both annuals and herbaceous perennials, are beneficial. Night-flowering blossoms attract night-flying insects, which in turn provide prey for

bats. Examples of suitable plant species that could be planted to encourage wildlife include those in Tables 5.6.3.1. and 5.6.3.2. Approximate flowering periods are listed in the tables.

Table 5.6.3.1. Native and non-native species that could be incorporated into the landscaping.

Species	Common Name	Approximate flowering period
<i>Achillea millefolium</i>	Yarrow	Early summer
<i>Aubretia</i> species	Aubretia	Spring to early summer
<i>Berberis darwinii</i>	Darwin's Barberry	Spring
<i>Iberis sempervirens</i>	Candytuft	Summer to autumn
<i>Centaurea montana</i>	Cornflower	Spring to summer
<i>Centaurea scabiosa</i>	Knapweed	Summer to autumn
<i>Centranthus ruber</i>	Red valerian	Summer to autumn
<i>Cornus sanguinea</i>	Dogwood	Summer
<i>Dianthus barbatus</i>	Sweet William	Summer
<i>Echinacea</i> species	Echinacea	Summer to autumn
<i>Erysimum</i> species	Wallflowers	Spring to early summer
<i>Glebionis segetum</i>	Corn marigold	Spring to summer
<i>Hebe</i> species	Hebes	Summer to autumn
<i>Hedera helix</i>	Ivy	Autumn
<i>Hesperis matronalis</i>	Dame's-violet	Spring to summer
<i>Hyacinthoides non-scripta</i>	English Bluebell	Spring
<i>Hylotelephium spectabile</i>	Ice plant 'Pink lady'	Early autumn
<i>Hypericum</i> species	St John's wort	Spring
<i>Ilex aquifolium</i>	Holly	Spring to summer
<i>Jasminum officinale</i>	Common White Jasmine	Summer to autumn
<i>Lavandula angustifolia</i>	Garden Lavender	Summer
<i>Leucanthemum vulgare</i>	Ox-eye daisy	Summer
<i>Limnanthes douglasii</i>	Poached egg plant	Summer
<i>Lonicera caprifolium</i>	Perfoliate Honeysuckle	Summer
<i>Lonicera etrusca</i>	Italian Honeysuckle	Summer to autumn
<i>Lonicera japonica</i>	Japanese Honeysuckle	Spring
<i>Lonicera periclymenum</i>	Honeysuckle	Summer to autumn
<i>Lunaria annua</i>	Honesty	Spring
<i>Malus domestica</i>	Apple	Spring
<i>Malus sylvestris</i>	Crab Apple	Spring
<i>Malva</i> species	Mallow	Summer to autumn
<i>Matthiola longipetala</i>	Night-scented stock	Summer
<i>Myosotis sylvatica</i>	Wood forget-me-not	Spring
<i>Nicotiana</i> species	Tobacco plant	Summer
<i>Oenothera</i> species	Evening primroses	Summer to autumn
<i>Papaver rhoeas</i>	Corn poppy	Summer
<i>Phacelia</i> species	Phacelia	Summer to autumn
<i>Primula vulgaris</i>	Primrose	Spring

<i>Rosa</i> species	Rose	Summer
<i>Rubus fruticosus</i> agg.	Bramble	Spring to summer
<i>Saponaria officinalis</i>	Soapwort	Summer
<i>Saxifraga fortunei</i>	Cherry pie	Summer to autumn
<i>Scabiosa</i> species	Scabious	Summer
<i>Silene dioica</i>	Red campion	Spring
<i>Silene noctiflora</i>	Night-scented Catchfly	Summer to autumn
<i>Silene vulgaris</i>	Bladder Campion	Summer
<i>Verbena</i> species	Vervain	Summer to autumn
<i>Viburnum lantana</i>	Wayfaring-tree	Spring to summer
<i>Viburnum opulus</i>	Guelder-rose	Summer

Table 5.6.3.2. Examples of suitable garden herbs that could be planted in and around the site to encourage wildlife.

Species	Common Name	Approximate flowering period
<i>Angelica</i> species	Angelica	Summer to autumn
<i>Borago officinalis</i>	Borage	Spring to early autumn
<i>Calendula officinalis</i>	English marigolds	Summer to autumn
<i>Foeniculum vulgare</i>	Fennel	Summer to early autumn
<i>Hesperis matronalis</i>	Dame's-violet, often sold as Sweet Rocket	Spring to summer
<i>Hyssopus officinalis</i>	Hyssop	Summer to early autumn
<i>Matthiola bicornis</i>	Night-scented Stock	Spring to autumn
<i>Melissa officinalis</i>	Lemon balm	Summer
<i>Monarda</i> species	Bergamot	Summer to early autumn
<i>Nicotiana</i> species	Tobacco-plant	Spring to autumn
<i>Oenothera</i> species	Evening-primroses	Summer
<i>Origanum vulgare</i>	Marjoram	Summer
<i>Rosmarinus officinalis</i>	Rosemary	Spring
<i>Saponaria officinalis</i>	Soapwort	Summer to autumn
<i>Silene noctiflora</i>	Night-scented Catchfly	Summer to autumn
<i>Silene vulgaris</i>	Bladder Campion	Spring to summer
<i>Tanacetum parthenium</i>	Feverfew	Summer to early autumn
<i>Thymus</i> species	Thyme	Summer

5.6.4 Bats

New bat roost locations

Due to the location of the site and good connecting foraging and commuting habitat, it is recommended that the site be enhanced for bats. Therefore, it is suggested that the site is enhanced

for bats by providing at least three bat boxes (*e.g.* Vivara Pro WoodStone Bat Box, Beaumaris Woodstone or similar) which should be erected in a suitable mature tree(s) within the site boundary. These bat boxes will be erected between 2.5m and 5m, facing south or south-east with a clear exit path. These bat boxes will remain on site permanently (and shall be repaired or replaced as necessary).

Lighting

Changes in lighting can affect foraging and roosting bats. Therefore, no works should take place in the hours of darkness or under artificial lighting. In addition, no lighting should be directed onto retained or planted vegetation (particularly the nearby trees) and any lighting installed should avoid spillage of greater than 1 lux near to or directly onto the nearby vegetation so that light disturbance is not a problem. This is because lighting can impact bat populations directly by disturbing roosts and reducing foraging area, or indirectly by severing commuting routes from roosts. Therefore, the following (modified from *Bats and lighting in the UK* (ILP 2018)) should be undertaken:

- **Aim of light** The light should be aimed to illuminate only the immediate area required by using as sharp a downward angle as possible. This lit area must avoid being directed at, or close to, any retained vegetation. A shield or hood can be used to control or restrict the area to be lit. Avoid illuminating at a wider angle as this will be more disturbing to foraging and commuting bats, as well as people and other wildlife.

For any security lighting, the following should also apply:

- **Power** It is rarely necessary to use a lamp of greater than 2000 lumens (150W) in security lights. The use of a higher power is not as effective for the intended function and will be more disturbing for bats.
- **Movement sensors** Many security lights are fitted with movement sensors which, if well installed and aimed, will reduce the amount of time a light is on each night. This is more easily achieved in a system where the light unit and the movement sensor are able to be separately aimed.
- **Timers** If the light is fitted with a timer this should be adjusted to the minimum to reduce the amount of 'lit time'.
- **Alternatives** The requirement for security lighting in each instance should be carefully considered and only used where absolutely necessary to deter crime.

The use of non-UV LED lighting (preferably using warm spectrum wavelengths) is strongly recommended to avoid the most deleterious impacts of lighting on biodiversity and bats in particular.

5.6.5 *Dormice*

A Natural England dormouse European protected species (EPS) licence before any vegetation can be cleared on site.

The planting recommended in *Section 5.6.3* is to enhance the site for dormice, as well as other wildlife.

5.6.6 Great crested newt

Newt fencing and pitfall-traps will be installed around areas of all vegetation clearance, followed by topsoil stripping (under a site-specific Natural England EPS licence or GCN LICL, if qualifying). An ecological clerk-of-works (licensee ecologist or an accredited agent) will be appointed to oversee hand and destructive searching during fence construction and site clearance. The retained boundaries will be enhanced for newts through the retention of rough grassland at the base of the boundary hedges and refugia provided through the creation of log piles and turf piles.

The planting recommended in *Section 5.6.3* is to enhance the site for great crested newts, as well as other wildlife. The grassland and planting areas will be further enhanced with log piles and turf piles to provide cover and basking opportunities for amphibians and reptiles. These will be placed on all suitable boundaries.

5.6.7 Birds

To allow the site to be cleared for development without harm to nesting birds (so as to comply with the law – the *Wildlife and Countryside Act 1981* (as amended)), any affected vegetation with the potential to support nesting birds should be cut to near ground level (approximately 30cm) outside the bird breeding season (late February to August inclusive).

In addition, the site will be enhanced for birds. To maximise the number of species of bird attracted, several different types of bird boxes will be placed in various locations within the site. It is not advisable to place many boxes with identical dimensions, because individuals of the same species would not tolerate each other's presence. The proposed bird boxes are summarised in *Table 5.6.7.1*.

Table.5.6.7.1. Bird boxes to be erected around the site with additional details on positioning to increase chances of occupancy.

Type (example)	Typical species	No.	Height	Additional information
Vivara Pro Seville 32mm Woodstone Nest Box 	Blue tits, great tits	2	2-4m	- Position on a building or tree, angled north-east (away from prevailing winds) and tilt forward slightly. - Chances of occupation can be increased by positioning boxes near vegetation.
Vivara Pro Seville 28mm Woodstone Nest Box 	Blue tits, coal tits	2	2-4m	- Position on a building or tree, angled north-east (away from prevailing winds) and tilt forward slightly. - Chances of occupation can be increased by positioning boxes near vegetation.

Vivara Pro Barcelona WoodStone Open Nest Box 	Robins, wrens	2	≤ 2m	• Mount on a tree or large shrub • Conceal amongst foliage to keep well-hidden from predators.
---	---------------	---	------	---

5.6.8 Invertebrates

To enhance the development site for invertebrates, at least six insect hotels or towers will be installed. The boxes should be suitable for a range of invertebrates. The boxes will be positioned in a warm sunny spots, with no vegetation in front of the holes. Ideally they should be positioned at a height of at least 1 metre from the ground.

Bee-friendly and insect friendly plants should be located nearby so that the bees and insects using the boxes have food. Lavender, honeysuckle and buddleia are all pollinator-friendly plants. The boxes suggested in *Table 5.6.8.1* (especially the BeePot planter) have been chosen so that they form an attractive feature as part of the landscaping. Solitary bees are non-aggressive and as such are suitable for gardens with public open spaces, pets and children. Details of possible ‘bug boxes’ are given in *Table 5.6.8.1*.

Table 5.6.8.1. Examples of bug boxes to be erected within the development site.

Type	Species	Height	Additional information
BeePot Bee Hotel 	Solitary bees	>1m from the ground	The BeePot should be positioned in a warm sunny spot, preferably on a south-facing wall, with no vegetation in front of the holes
Insect Tower 	Butterflies, solitary bees, lacewings and ladybirds	>1m from the ground	The different sections of the Insect Tower have been designed to provide a habitat for a variety of insect species. Suitable for mounting on buildings, trees or fences.
Urban Bee Nester 	Solitary bees and a range of other insects	Between 0.75m and 1.5m above ground	The selected canes and the holes are the optimum size for solitary bees but other insects may overwinter in the nester.
Urban Insect Hotel 	A wide range of insects	Between 0.75m and 1.5m above ground	Adding natural materials such as drilled canes, hollow stems or bark in the triangular spaces will encourage more insects to the hotel.
Bee and Bug Biome 	A wide range of insects	>1m from the ground	Best placed near vegetation. Provides plenty of nooks and crannies for insects such as ladybirds, earwigs and lacewings.
WoodStone Insect Block 	Solitary bees, lacewings and ladybirds	>1m from the ground	The selected canes are the optimum size for solitary bees.

5.7 Requirement for Natural England licences

5.7.1 Requirement for Habitats Regulations licence

Due to the proximity of the site to two ponds with great crested newts, a great crested newt European Protected Species (EPS) licence or Great Crested Newt Low Impact Class Licence (GCN LICL), if qualifying, from Natural England is necessary before work commences.

A licence from Natural England permits activities that may otherwise be offences under the *Conservation of Habitats & Species Regulations 2017*.

Evidence is required from surveys (see *Section 5.5*) in order to gather enough information about populations to support a licence application.

Survey data supporting licence applications must be up-to-date *i.e.* have been conducted within the current or most recent optimal survey season. Therefore, if licensable work is delayed until, during or after the next survey season, updated survey(s) will be required to support an application.

Natural England takes a minimum of 30 working days to process licence applications following receipt of all the relevant documentation. This includes an application form and a Method Statement. The latter includes a detailed mitigation strategy to eliminate or reduce impacts.

It is not possible to apply for a licence until full planning permission has been granted and any conditions relating to wildlife fulfilled, although Local Planning Authorities usually request the information prior to determining a planning application request. Additional time will be required where any revisions to a proposed mitigation strategy are necessary to obtain the licence.

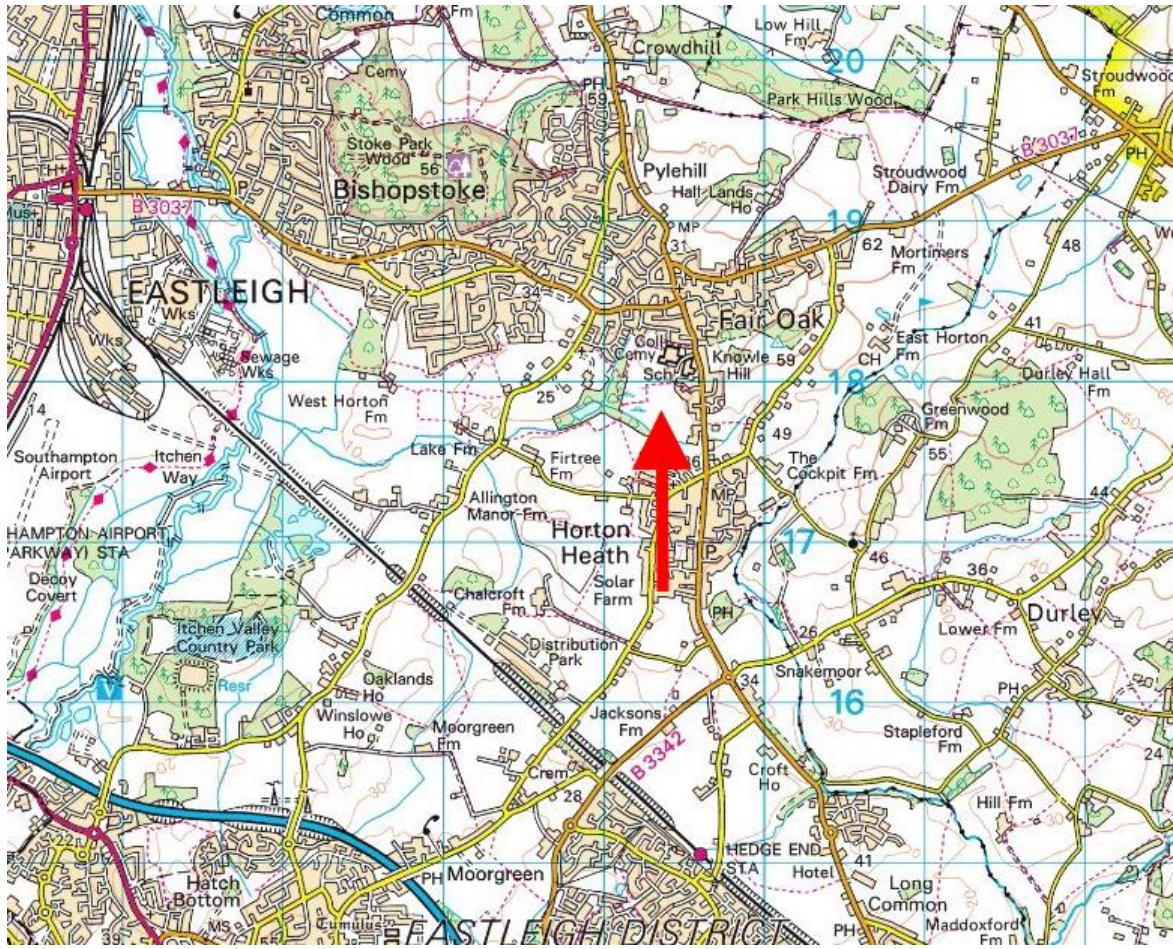
5.7.2 Protection of Badgers Act (1992) licences

As no setts have been identified within (or close to) the site boundary, a licence is currently not required.

Figure 1. Aerial photographs showing the location of the site.



Figure 2. Ordnance Survey map showing the location of the site (as indicated by the red arrow).



Reproduced with permission of Ordnance Survey under licence no. 100049977.

Figure 3. Phase 1 Habitat Survey map with the site outlined with a dotted red line.



Figure 4. Aerial photograph showing the location of ponds (blue) within 250m and 500m of the site boundary.

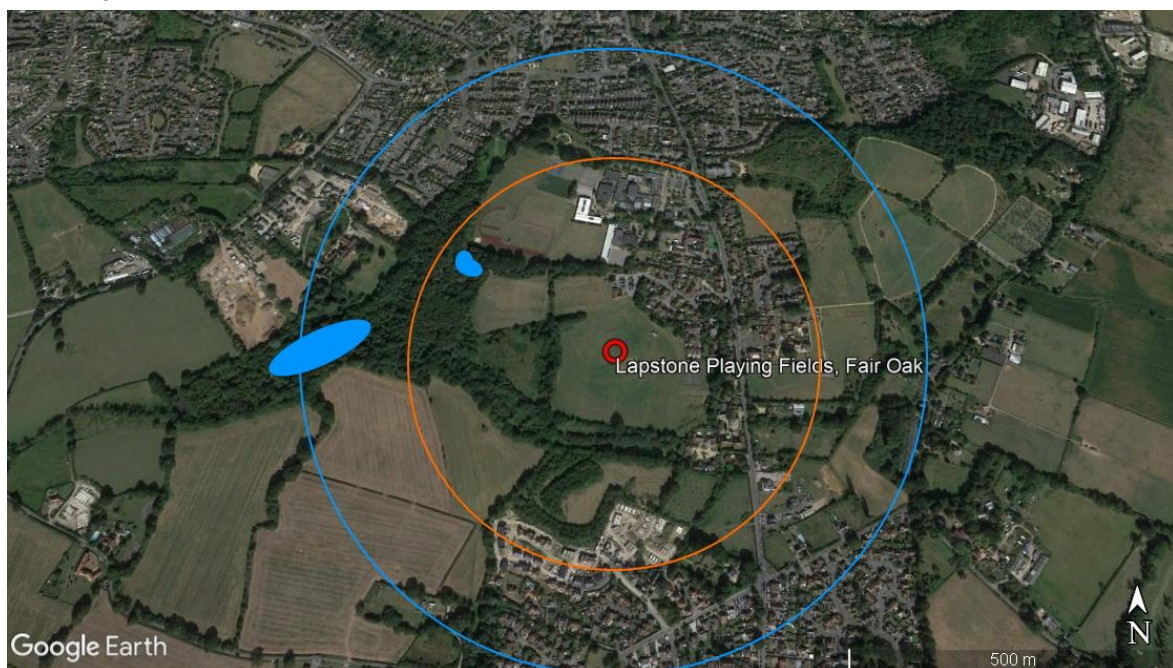
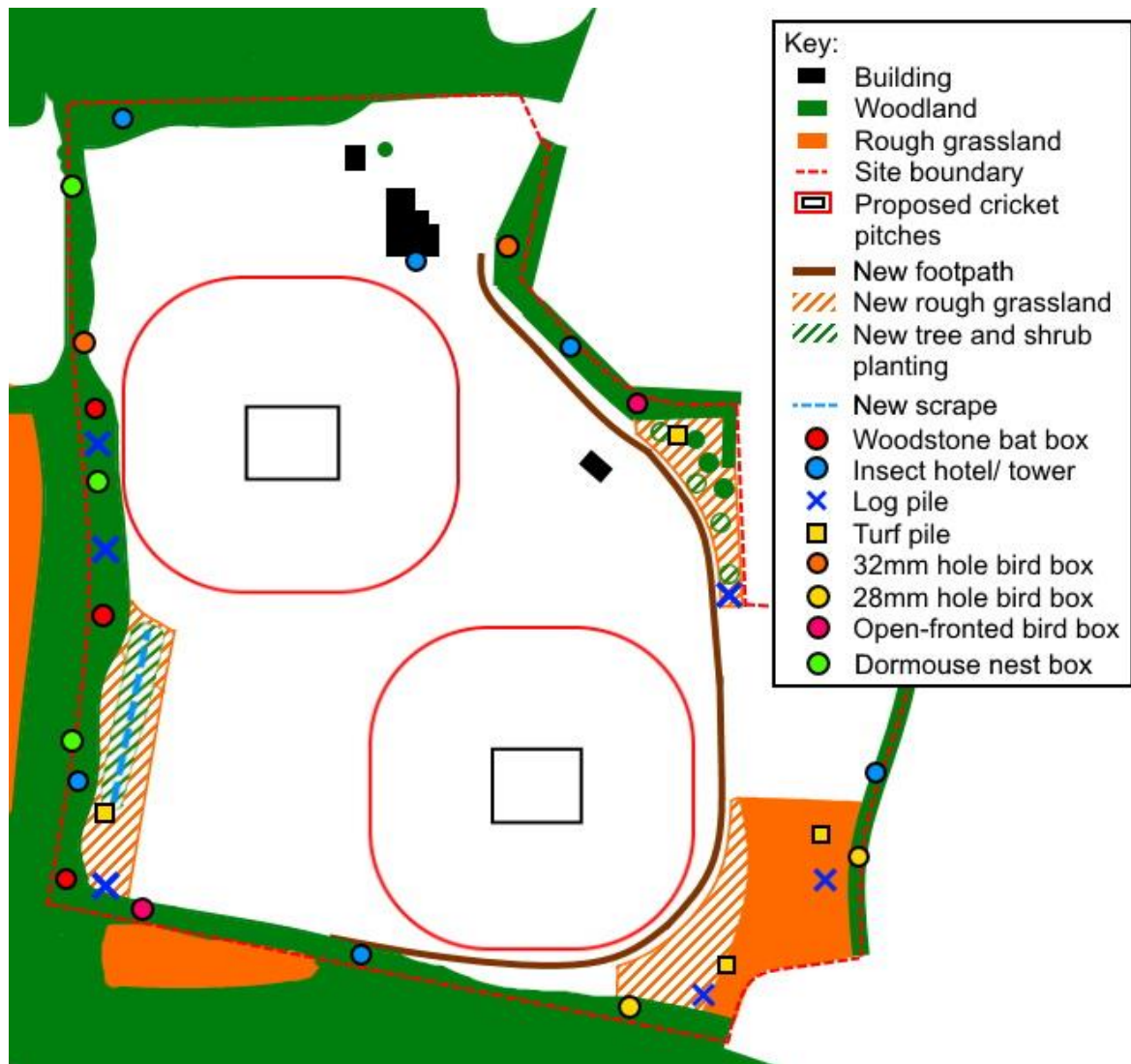


Figure 5. Proposed plan showing the indicative locations of mitigation and enhancements (not to scale).



PHOTOGRAPHS

Photo 1. Culvert ditch with woodland on the banks - area to be removed. (Taken 09/12/20)



Photo 2. Rough grassland in the south-east corner of the site. (Taken 09/12/20)



Photo 3. North boundary of the site showing tree-lines. (Taken 09/12/20)



Photo 4. The site, facing south-east from the north-west corner, showing amenity grassland and the wooded culvert. (Taken 09/12/20)



Photo 5. Amenity grassland and Building B1, facing north-east. (Taken 09/12/20).



Photo 6. Example of the bramble scrub at the edges of the site. (Taken 09/12/20)



Beebee, T. and Griffiths, R. (2000). *Amphibians and Reptiles*. New Naturalist Series 87. Harper Collins, London.

Cherrill, A. & McClean, C. (1999). *Between-observer variation in the application of a standard method of habitat mapping by environmental consultants in the UK*. Journal of Applied Ecology, **36**, 989-1000.

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

English Nature (2006). *The Dormouse Conservation Handbook*, 2nd edition. English Nature, Peterborough.

Hampshire Ecological Services Ltd (2022a). *Lapstone Playing Fields, Fair Oak Eastleigh, Hampshire, SO50 7PS: Dormouse Survey Report*. Unpublished

Hampshire Ecological Services Ltd (2022b). *Lapstone Playing Fields, Fair Oak Eastleigh, Hampshire, SO50 7PS: Great Crested Newt Survey Report*. Unpublished

HMSO (1981). *Wildlife and Countryside Act 1981*. HMSO, London.

HMSO (1992). *The Protection of Badgers Act*. HMSO, London.

HMSO (1996). *Wild Mammals (Protection) Act 1996*. HMSO, London.

HMSO (2000). *Countryside and Rights of Way Act*. HMSO, London.

HMSO (2006). *Natural Environment and Rural Communities Act*. HMSO, London.

HMSO (2017). *The Conservation of Habitats and Species Regulations 2017*. HMSO, London.

Institute of Lighting Professionals (2018). *Bats and artificial lighting in the UK*. Institute of Lighting Professionals, Warwickshire.

Joint Nature Conservation Committee (2003). *Handbook for Phase 1 Habitat Survey - a Technique for Environmental Audit* (revised reprint). Joint Nature Conservation Committee, Peterborough.

Ministry of Housing, Communities & Local Government (2021). *National Planning Policy Framework*. Ministry of Housing, Communities & Local Government, London.

Multi-Agency Geographic Information for the Countryside (2008). www.magic.gov.uk. Accessed 09/12/20.

Natural England (2011). *Standing Advice for Protected Species*. Natural England, Peterborough. <http://www.naturalengland.org.uk/ourwork/planningtransportlocalgov/spatialplanning/standingadvice/advice.aspx>

Poland, J. and Clement, E. J. (2009). *The Vegetative Key to the British Flora*. John Poland in association with the Botanical Society of the British Isles, Southampton.

9 **APPENDIX A: PROTECTED SPECIES LEGISLATION**

9.1 **General**

This section briefly describes the legal protection afforded to the protected species identified in this report. It is for information only and is not intended to be comprehensive or to replace specialised legal advice. It is not intended to replace the text of the legislation, but summarises the salient points.

9.2 **Bats**

All species of British bat are listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receive full protection under *Section 9*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the CRow Act). This legislation makes it an offence to:

- intentionally kill, injure or take a bat;
- possess or control a bat;
- intentionally or recklessly damage, destroy or obstruct access to a bat roost; and
- intentionally or recklessly disturb a bat whilst it occupies a bat roost.

Bats are also European protected species listed on *Schedule 2* of the *Conservation of Habitats & Species Regulations 2017* which gives them full protection under *Regulation 43*. This legislation makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb a bat (in such a way as to be likely to significantly affect: (i) the ability of a significant group of bats to survive, breed or rear/nurture their young; or (ii) the local distribution or abundance of the species concerned);
- damage or destroy a breeding site or resting place of a bat; and
- possess, control, transport, sell, exchange a bat, or offer a bat for sale or exchange.

All bat roosting sites receive legal protection even when bats are not present (bats tend to reuse the same roost).

Several species of bat are included as a Priority Species in the UK Biodiversity Action Plan (UKBAP - JNCC (2003)) and also as species of principal importance for the conservation of biological diversity in England under *Section 74* of the CRow Act.

All species of British bat are also protected under *Schedule 6* of the *Wildlife and Countryside Act 1981* (as amended). This protection relates specifically to trapping and direct pursuit of the species.

9.3 **Dormice**

Dormouse (*Muscardinus avellanarius*) is listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receives full protection under *Section 9*. This species is also listed as a European Protected Species on *Schedule 2* of the *Conservation of Habitats & Species Regulations*

2017, which gives it full protection under *Regulation 43*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the CRow Act).

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection;
- or
- sell or attempt to sell any such species.

9.4 **Great crested newt**

Great crested newt (*Triturus cristatus*) is listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receives full protection under *Section 9*. This species is also listed as a European Protected Species on *Schedule 2* of the *Conservation of Habitats & Species Regulations 2017*, which gives it full protection under *Regulation 43*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the CRow Act).

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection;
- or
- sell or attempt to sell any such species.

The great crested newt is included as a Priority Species in the UK Biodiversity Action Plan (UKBAP) and also as a species of principal importance for the conservation of biological diversity in England under *Section 74* of the CRow Act.

9.5 **Otter**

Otter (*Lutra lutra*) is listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receives full protection under *Section 9*. This species is also listed as a European Protected Species on *Schedule 2* of the *Conservation of Habitats & Species Regulations 2017* which gives it full protection under *Regulation 43*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the CRow Act).

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;

- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

The otter is included as a Priority Species in the UK Biodiversity Action Plan (UKBAP) and also as a species of principal importance for the conservation of biological diversity in England under *Section 74* of the CRow Act.

The otter is also protected under *Schedule 6* of the *Wildlife and Countryside Act 1981* (as amended). This protection relates specifically to trapping and direct pursuit of the species.

The European sub-species is also listed as globally threatened on the IUCN/WCMC RDL.

9.6 **Water vole**

Water vole (*Arvicola amphibius*) is protected under *Section 9 (4)* of *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), which affords protection to its places of shelter. This protection was extended by the CRow Act 2000. Under this legislation, it is an offence to intentionally or recklessly damage, destroy or obstruct access to any structure or place that water voles use for shelter or protection, or to intentionally or recklessly disturb water voles while they are using such a place.

The water vole is included as a Priority Species in the UK Biodiversity Action Plan (UKBAP) and also as a species of principal importance for the conservation of biological diversity in England under *Section 74* of the CRow Act.

9.7 **Badger**

Badger (*Meles meles*) is protected in Britain under the *Protection of Badgers Act 1992* (as amended) and *Schedule 6* of the *Wildlife and Countryside Act 1981* (as amended).

The legislation affords protection to badgers and badger setts, and makes it a criminal offence to:

- wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so;
- interfere with a sett by damaging or destroying it;
- to obstruct access to, or any entrance of, a badger sett; or
- to disturb a badger when it is occupying a sett.

Guidance to what may be classed as disturbance to a badger (when occupying a sett) can be found at: <https://www.gov.uk/guidance/badgers-protection-surveys-and-licences>

9.8 *Birds*

9.8.1 *Birds - general protection*

All species of bird are protected under *Section 1* of the *Wildlife and Countryside Act 1981* (as amended). The protection was extended by the CRow Act.

The legislation makes it an offence to intentionally:

- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird.

9.8.2 *Birds - specially protected species*

Certain species of bird are listed on *Schedule 1* of the *Wildlife and Countryside Act 1981* (as amended) and receive protection under *Sections 1(4)* and *1(5)* of the Act. The protection was extended by the CRow Act. The legislation confers special penalties where the above mentioned offences are committed for any such bird and also make it an offence to intentionally or recklessly:

- disturb any such bird, whilst building its nest or it is in or near a nest containing dependant young; or
- disturb the dependant young of such a bird.

9.9 *Widespread species of reptile*

Common lizard (*Zootoca vivipara*), grass snake (*Natrix natrix*), slow-worm (*Anguis fragilis*), and adder (*Vipera berus*) are listed under *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), in respect of *Section 9(5)* and part of *Section 9(1)*. This protection was extended by the CRow Act.

Under the above legislation it is an offence to:

- intentionally or deliberately kill or injure any individual of such a species; or
- sell or attempt to sell any part of the species alive or dead.

9.10 *European Protected Species Licences*

Where it is necessary to carry out an action that could result in an offence under the *Conservation of Habitats & Species Regulations 2017* it is possible to apply for a European Protected Species (EPS) licence from Natural England. Licences are only issued where Natural England are satisfied that three derogation tests are met. These are that the activity is for **imperative reasons of overriding public interest**, that there must be **no satisfactory alternative** and that **favourable conservation status of the species must be maintained**.

Consideration of these three derogation tests was previously left to Natural England as part of their deliberations on whether to grant a licence for the development activity after a planning consent has been issued. However, the regulations now require that **all** public bodies, *i.e.* **Local Planning Authorities** (LPAs), have regard to the requirements of the European Habitats Directive when

carrying out their functions. As a result, LPAs **must** address the three derogation tests when considering a planning application that could impact upon any European Protected Species (EPS).

9.11 *National planning context*

9.11.1 *General*

Surveys should be completed in line with Natural England's *Standing Advice for Local Authorities* (<http://www.naturalengland.org.uk/ourwork/planningdevelopment/spatialplanning/standingadvice/default.aspx>), which states:

- Natural England will not comment on applications that are submitted without the relevant protected species surveys if there are no other issues (*i.e.* in relation to SSSIs or landscape).
- Natural England will not comment on scoping surveys that recommend further surveys where these have not been undertaken and submitted with the scoping reports.

In addition to the above, *Section 40* of the *Natural Environment and Rural Communities Act* (2006) imposes a new duty on all public authorities to have regard for biodiversity.

9.11.2 *National Planning Policy Framework (NPPF)*

From the 20th July 2021, the Government published the revised National Planning Policy Framework. The document sets out the government's planning policies for England and how these are expected to be applied. This replaces a previous version which was published in June 2019. It states: "*at the heart of the Framework is a presumption in favour of sustainable development (paragraph 11).*"

Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):

- an economic objective;
- a social objective; and
- an environmental objective.

The environmental objective is to "*contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy*".

Planning policies and decisions should contribute to and enhance the natural and local environment by "*protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan)*" and "*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*".

If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.

Development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted.

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.

It states that "development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity".

It should be noted that the "presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site".

The NPPF also encourages *"minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures"* and aims to *"promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity"*. This applies to non-statutory designated sites including Sites of Importance for Nature Conservation (SINCs) and equivalent county wildlife sites.

Early engagement with all necessary stakeholders, including expert bodies, is encouraged by the NPPF.

10 APPENDIX B: TARGET NOTES

Target Note 1. A *Quercus robur* (Pedunculate Oak) tree, in the woodland, with low bat roost suitability.

Target Note 2. A *Quercus robur* (Pedunculate Oak) tree, in the woodland, with low bat roost suitability.

Target Note 3. A *Quercus robur* (Pedunculate Oak) tree, in the woodland, with moderate bat roost suitability.

Target Note 4. Three *Quercus robur* (Pedunculate Oak) trees, in the woodland, with moderate bat roost suitability.

Target Note 5. A *Quercus robur* (Pedunculate Oak) tree, on the south boundary, with low bat roost suitability.

Target Note 6. A *Quercus robur* (Pedunculate Oak) tree, on the south boundary, with low bat roost suitability.

Target Note 7. Rough grassland with a tussocky sward dominated by *Dactylis glomerata* (Cock's-foot) with an abundance of *Arrhenatherum elatius* (False Oat-grass) and *Rumex sanguineus* (Wood Dock) and smaller amounts of *Agrostis stolonifera* (Creeping Bent) and *Galium aparine* (Cleavers). Scattered throughout are the common forbs *Ranunculus repens* (Creeping Buttercup) and *Trifolium pratense* (Red Clover), and the tall semi-ruderals *Heracleum sphondylium* (Hogweed) and *Urtica dioica* (Nettle) scattered throughout. This area is suitable reptile habitat.

Target Note 8. A hedge containing a mixture of *Acer campestre* (Field Maple), *Acer pseudoplatanus* (Sycamore), *Corylus avellana* (Hazel), *Betula pendula* (Silver Birch), *Cornus sanguinea* (Dogwood), *Fraxinus excelsior* (Ash) and *Quercus robur* (Pedunculate Oak). The field-layer is dominated by *Hedera helix* (Ivy) and *Rubus fruticosus agg.* (Bramble). This hedge provides some suitable habitat for dormice.

Target Note 9. A *Fraxinus excelsior* (Ash) tree, with low bat roost suitability.

Target Note 10. Scattered *Fraxinus excelsior* (Ash), trees on the south-east boundary. These trees have negligible bat roost suitability.

Target Note 11. Dense *Rubus fruticosus agg.* (Bramble) scrub in the south-east corner of the site. This area provides some suitable habitat and cover for reptile species and for dormice.

Target Note 12. Scattered trees and bushes including *Acer pseudoplatanus* (Sycamore), *Corylus avellana* (Hazel) and *Quercus robur* (Pedunculate Oak). This hedge provides some suitable habitat for dormice.

Target Note 13. A mature *Quercus robur* (Pedunculate Oak) tree with a woodpecker hole. It has moderate bat roost suitability.

Target Note 14. A scrubby hedge containing *Acer campestre* (Field Maple), *Betula pendula* (Silver Birch) and *Cornus sanguinea* (Dogwood). This hedge provides some suitable habitat for dormice.

Target Note 15. A mature *Quercus robur* (Pedunculate Oak) tree with a barn owl nest box.

Target Note 16. Scattered trees including of *Betula pendula* (Silver Birch), *Corylus avellana* (Hazel), *Fraxinus excelsior* (Ash), *Prunus laurocerasus* (Cherry Laurel) and *Rubus fruticosus* agg. (Bramble). The field-layer is dominated by *Hedera helix* (Ivy) with occasional *Iris foetidissima* (Stinking Iris). This area provides some suitable cover for reptile species.

Target Note 17. A boundary hedge dominated by *Corylus avellana* (Hazel) and *Hedera helix* (Ivy), with smaller amounts of *Acer campestre* (Field Maple), *Crataegus monogyna* (Hawthorn), *Fraxinus excelsior* (Ash), *Prunus* species (a Cherry) and *Quercus robur* (Pedunculate Oak). The field-layer has patches of *Lamium purpureum* (Red Dead-nettle), *Senecio jacobaea* (Ragwort) and *Taraxacum officinale* agg. (Dandelion). This hedge provides some suitable habitat for dormice.

Target Note 18. A hedge of a mixture of *Crataegus monogyna* (Hawthorn), *Ilex aquifolium* (Holly), and *Quercus robur* (Pedunculate Oak), with dominant *Hedera helix* (Ivy) and *Rubus fruticosus* agg. (Bramble) underneath. There are also small amounts of *Rosa canina* (Dog-rose). This hedge provides some suitable habitat for dormice.

Target Note 19. Amenity grassland, mown short and with a sward dominated by *Lolium perenne* (Perennial Rye-grass) with slightly smaller amounts of *Poa annua* (Annual Meadow-grass). Scattered throughout are the coarse grasses *Dactylis glomerata* (Cock's-foot) and *Holcus lanatus* (Yorkshire-fog), the common forbs *Bellis perennis* (Daisy), and *Ranunculus repens* (Creeping Buttercup), and the tall semi-ruderal *Cirsium vulgare* (Spear Thistle).

Target Note 20. A culvert ditch which is shallow and shaded. The vegetation is dominated by semi-mature *Salix cinerea* (Grey Willow) with a dense *Rubus fruticosus* agg. (Bramble) under-storey. Scattered throughout are small amounts of *Corylus avellana* (Hazel) *Quercus robur* (Pedunculate Oak) saplings, *Rosa canina* (Dog-rose) and *Sambucus nigra* (Elder). The evergreen creeper *Hedera helix* (Ivy) dominates the field-layer with patches of *Carex pendula* (Pendulous Sedge) and *Urtica dioica* (Nettle). Also present are small amounts of a mixture of weeds and shade-tolerant herbs including *Anagallis arvensis* (Scarlet Pimpernel), *Arum maculatum* (Lords-and-Ladies), *Cardamine pratensis* (Cuckooflower), *Galium aparine* (Cleavers), *Geum urbanum* (Wood Avens) *Prunella vulgaris* (Selfheal), *Pteridium aquilinum* (Bracken), *Ranunculus repens* (Creeping Buttercup),

Rumex sanguineus (Wood Dock) and *Taraxacum officinale* agg. (Dandelion). This vegetation provides some suitable habitat for dormice and great crested newts.

Target Note 21. A woodland on the south-west and south boundaries dominated by *Salix cinerea* (Grey Willow) with occasional mature *Quercus robur* (Pedunculate Oak) standards scattered throughout. Also present are smaller amounts of *Crataegus monogyna* (Hawthorn), *Fraxinus excelsior* (Ash), *Ilex aquifolium* (Holly) and *Prunus spinosa* (Blackthorn). The field-layer contains *Phyllitis scolopendrium* (Hart's-tongue). This woodland provides some suitable habitat for dormice, great crested newts and bats

11 APPENDIX C: PLANT SPECIES LISTS

Species	TN19	TN20	TN21	TN7	TN8	TN10	TN11	TN12	TN14	TN16	TN17	TN18
Woody species												
<i>Acer campestre</i> (Field Maple)	-	-	-	-	R	-	-	-	R	-	O	-
<i>Acer pseudoplatanus</i> (Sycamore)	-	-	-	-	-	-	-	R	-	-	-	-
<i>Betula pendula</i> (Silver Birch)	-	-	-	-	-	-	-	-	O	D	-	-
<i>Corylus avellana</i> (Hazel)	-	R	-	-	F	-	-	R	-	O	D	-
<i>Cornus sanguinea</i> (Dogwood)	-	-	-	-		-	-	-	R	-	-	-
<i>Crataegus monogyna</i> (Hawthorn)	-	-	O	-	O	-	-	-	-	-	O	A
<i>Fraxinus excelsior</i> (Ash)	-	-	O	-	-	D	-	D	-	O	R	-
<i>Hedera helix</i> (Ivy)	-	D	-	-	D	A	-	-	-	O	D	D
<i>Ilex aquifolium</i> (Holly)	-	-	R	-	F	-	-	-	-	-	-	O
<i>Ligustrum ovalifolium</i> (Garden Privet)	-	-	-	-	F	-	-	-	-	-	-	-
<i>Prunus laurocerasus</i> (Cherry Laurel)	-	-	-	-	F	-	-	-	-	F	-	-
<i>Prunus</i> species (a Cherry)	-	-	-	-	-	-	-	-	-	-	R	-
<i>Prunus spinosa</i> (Blackthorn)	-	-	R	-	-	-	-	-	-	-	-	-
<i>Quercus robur</i> (Pedunculate Oak)	-	R	F	-	-	-	-	R	-	-	O	F

<i>Rosa canina</i> (Dog-rose)	-	R	-	-	-	-	-	-	-	-	-	R
<i>Rubus fruticosus</i> agg. (Bramble)	-	F	-	-	O	A	D	A	D	O	-	D
<i>Salix cinerea</i> (Grey Willow)	-	D	D	-	-	-	-	-	-	-	-	-
<i>Sambucus nigra</i> (Elder)	-	R	-	-	O	-	-	-	-	-	-	-
Herbs												
<i>Agrostis stolonifera</i> (Creeping Bent)	-	-	-	O	-	-	-	-	-	-	-	-
<i>Anagallis arvensis</i> (Scarlet pimpernel)	-	R	-	-	-	-	-	-	-	-	-	-
<i>Arrhenatherum elatius</i> (False Oat-grass)	-	-	-	F	-	-	-	-	-	-	-	-
<i>Arum maculatum</i> (Lords and Ladies)	-	R	-	-	-	-	-	-	-	-	-	-
<i>Bellis perennis</i> (Daisy)	R	-	-	-	-	-	-	-	-	-	-	-
<i>Cardamine pratensis</i> (Cuckooflower)	-	R	-	-	-	-	-	-	-	-	-	-
<i>Carex pendula</i> (Pendulous Sedge)	-	F	-	-	-	-	-	-	-	-	-	-
<i>Cirsium vulgare</i> (Spear Thistle)	R	-	-	-	-	-	-	-	-	-	-	-
<i>Dactylis glomerata</i> (Cock's-foot)	R	-	-	D	-	-	-	-	-	-	-	-
<i>Galium aparine</i> (Cleavers)	-	R	-	O	-	-	-	-	-	-	-	-
<i>Geum urbanum</i> (Wood Avens)	-	R	-	-	-	-	-	-	-	-	-	-

<i>Heracleum sphondylium</i> (Hogweed)	-	-	R	R	-	-	-	-	-	-	-	-
<i>Holcus lanatus</i> (Yorkshire-fog)	O	-	-	-	-	-	-	-	-	-	-	-
<i>Iris foetidissima</i> (Stinking Iris)	-	-	-	-	-	-	-	-	-	R	-	-
<i>Lamium purpureum</i> (Red Dead-nettle)	-	-	-	-	-	-	-	-	-	-	F	-
<i>Lolium perenne</i> (Perennial Rye-grass)	D	-	-	-	-	-	-	-	-	-	-	-
<i>Phyllitis scolopendrium</i> (Hart's-tongue)	-	-	R	-	-	-	-	-	-	-	-	-
<i>Poa annua</i> (Annual Meadow-grass)	A	-	-	-	-	-	-	-	-	-	-	-
<i>Prunella vulgaris</i> (Selfheal)	-	R	-	-	-	-	-	-	-	-	-	-
<i>Pteridium aquilinum</i> (Bracken)	-	R	-	-	-	-	-	-	-	-	-	-
<i>Ranunculus repens</i> (Creeping Buttercup)	R	R	-	R	-	-	-	-	-	-	-	-
<i>Rumex sanguineus</i> (Wood Dock)	-	R	-	F	-	-	-	R	-	-	-	-
<i>Senecio jacobaea</i> (Ragwort)	-	-	-	-	-	-	-	-	-	-	R	-
<i>Taraxacum officinale</i> agg. (Dandelion)	-	R	-	-	-	-	-	-	-	-	O	-
<i>Trifolium pratense</i> (Red Clover)	-	-	-	R	-	-	-	-	-	-	-	-

<i>Urtica dioica</i> (Nettle)	-	O	-	R	O	-	-	O	-	-	-	-
D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare												

12 APPENDIX C: PLANT SPECIES LISTS

EH1	
Species	Common Name
Wild Flowers	
<i>Alliaria petiolate</i>	Garlic Mustard
<i>Arctium minus</i>	Lesser Burdock
<i>Centaurea nigra</i>	Common Knapweed
<i>Chaerophyllum temulum</i>	Rough Chervil
<i>Galium album</i>	Hedge Bedstraw
<i>Geum urbanum</i>	Wood Aven
<i>Lathyrus sylvestris</i>	Narrow-leaved Everlasting-pea
<i>Leucanthemum vulgare</i>	Oxeye Daisy
<i>Primula veris</i>	Cowslip
<i>Prunella vulgaris</i>	Selfheal
<i>Saponaria officinalis</i>	Soapwort
<i>Silene dioica</i>	Red Campion
<i>Silene latifolia</i>	White Campion
<i>Silene vulgaris</i>	Bladder Campion
<i>Torilis japonica</i>	Upright Hedge-parsley
Grasses	
<i>Agrostis capillaris</i>	Common Bent
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass
<i>Brachypodium sylvaticum</i>	False Brome
<i>Cynosurus cristatus</i>	Crested Dogtail
<i>Deschampsia cespitosa</i>	Tufted Hair-grass
<i>Festuca rubra</i>	Slender-creeping Red-fescue
<i>Poa nemoralis</i>	Wood Meadow-grass
EL1	
Species	Common Name
Flowering Species	
<i>Galium verum</i>	Lady's Bedstraw
<i>Leontodon hispidus</i>	Rough Hawkbit
<i>Leucanthemum vulgare</i>	Oxeye Daisy
<i>Lotus corniculatus</i>	Birdsfoot Trefoil
<i>Primula veris</i>	Cowslip
<i>Prunella vulgaris</i>	Selfheal
<i>Ranunculus acris</i>	Meadow Buttercup
<i>Trifolium pratense</i>	Wild Red Clover
Grasses	
<i>Agrostis capillaris</i>	Common Bent

<i>Cynosurus cristatus</i>	Crested Dogtail
<i>Festuca rubra</i>	Slender-creeping Red-fescue
<i>Phleum bertolonii</i>	Smaller Cat's-tail