

A collage of images arranged in a diamond pattern. The images include: a pond with reeds, a yellow and black spotted newt, a close-up of a bat's face, a green landscape with a winding path, a house under construction with scaffolding, a woodchipper with workers, a mouse eating grapes, and a badger.

Long Lane Pavilion,
Bursledon

Phase II Bat Survey Report

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Client:
Eastleigh Borough Council

23rd October 2023

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23rd October 2023

Dear Sir/ Madam,

RE: Long Lane Pavilion, Bursledon: Phase II Bat Survey Report.

Background

This ecology note summarises the findings of the dusk emergence bat survey conducted on Long Lane Pavilion on the 2nd May 2023 to be assessed in conjunction with the Preliminary Ecological Appraisal (PEA) conducted by Ecosupport Ltd in March 2023.

NB If the development does not take place within 18 months of this report ¹ then the findings of this survey will no longer be considered valid and may need to be updated.

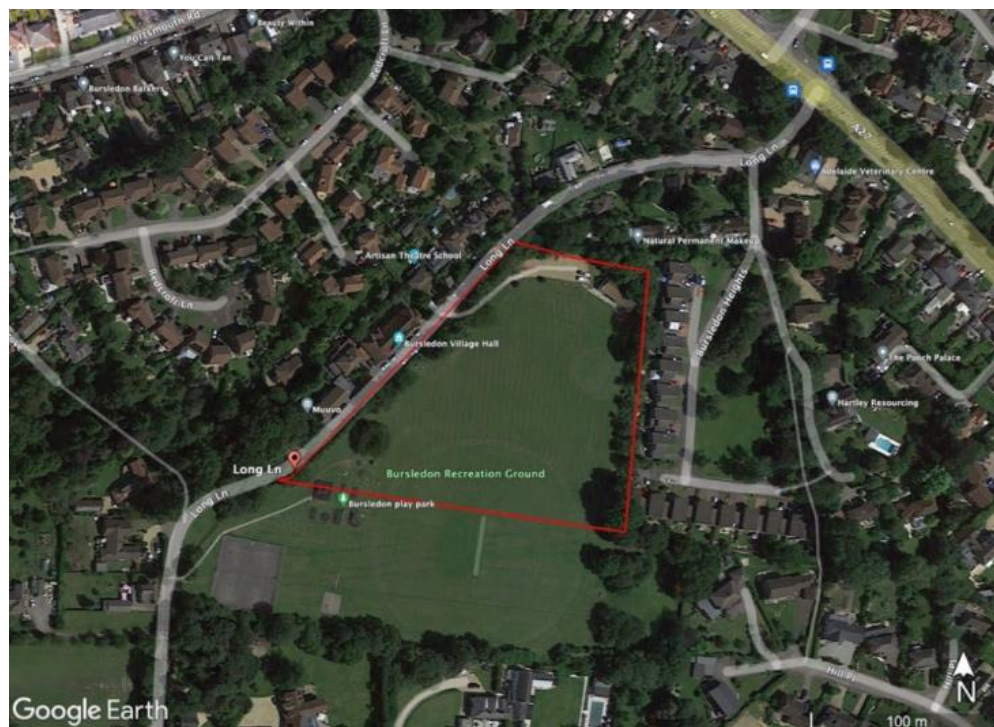
Site Description and Location

The site comprises of a pavilion building and associated large recreational playing field located at Long Lane, Bursledon, Southampton, Hampshire, SO31 8DA (centered on OS grid reference SU485101) (**Fig 1**). The immediate wider environment is predominantly urban with parcels of woodland and green spaces to the south.

It is understood that the proposals involve demolition and replacement of the existing pavilion on site.

¹ [https://cieem.net/wp-content/uploads/2019/04/Advice- Note.pdf](https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf)

Figure 1. Redline location plan of the site (Google Maps 2023).



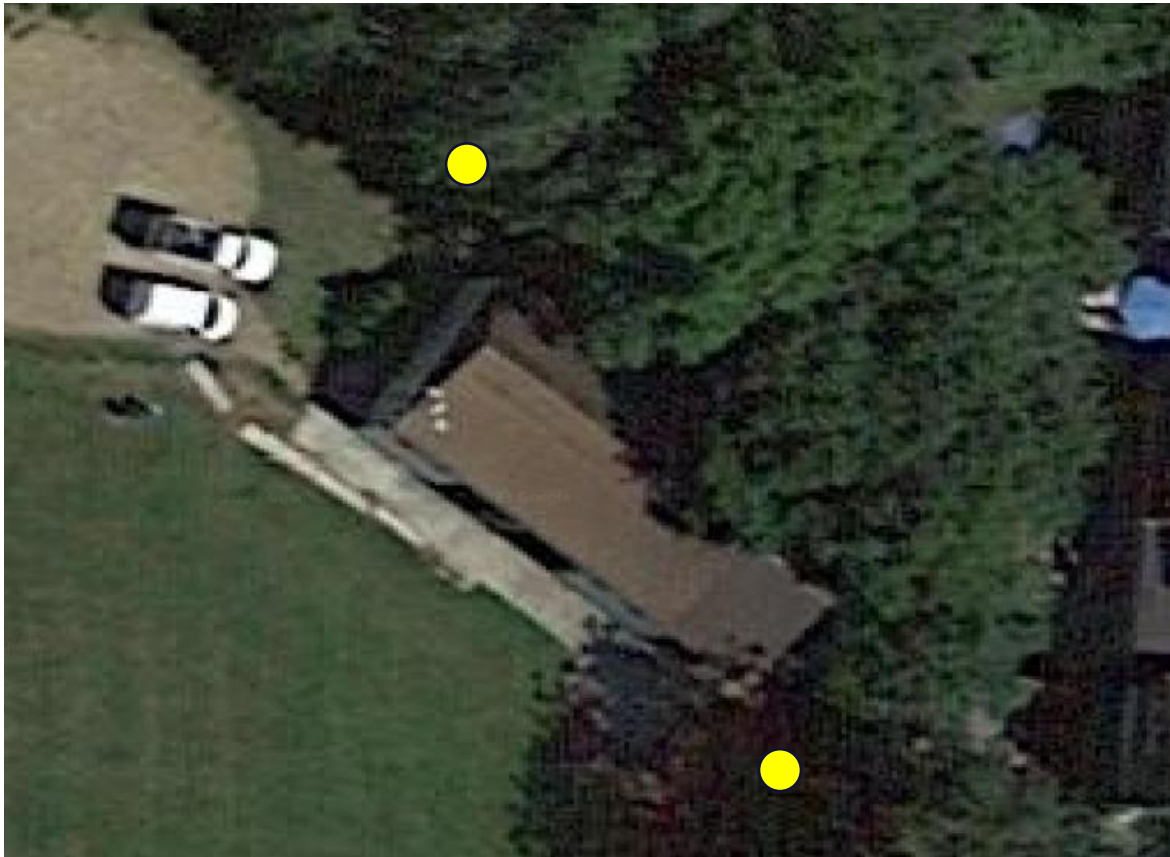
Methods

Bats – Dusk Emergence Survey

The survey conformed to current best practice guidance as described Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016) and was carried out by Ashley James and Russell Brewer, Project and Assistant Ecologists with Ecosupport Ltd, on the 2nd May 2023. A plan of the approximate locations of each of the surveyors is provided in **Fig 2** below. Both heterodyne (Batbox Duet) and full spectrum (Elekon Batlogger) detectors were used for identifying species calls. The dusk emergence survey commenced 15 minutes prior to sunset and continued until 1 hour and 30 minutes past sunset. Survey sheets were used to record the following information:

- Time of call registration
- Species (if possible to identify using heterodyne detector)
- Location / activity
- Direction of flight (if seen)

Figure 2. Approximate locations (yellow dots) surveyors positioned around Long Lane Pavilion during the emergence survey (Google earth 2023).



Limitations

There were not considered to be any limitations on the results of the bat survey work with the survey conducted within the optimal survey season as per best practice (Collins (ed), 2016) with survey carried out during suitable weather conditions. However, since the survey, the best practice guidelines (BCT (Collins (ed) 2023) have since been updated, changing the survey requirements. Notwithstanding this, only one dusk emergence survey was required on the building of which there has been no change in assessing buildings of 'low potential'. Although this is not considered a limitation, survey efforts concluded extensive and detailed results.

Results

Dusk Emergence Survey Results

The results of the dusk emergence survey undertaken at Long Lane Pavilion are provided below (**Tables 1 & 2**).

Table 1. General information recorded on survey conditions.

Date	Start Temp (°C)	Cloud Cover (%)	Wind (Beaufort scale)	Start Time	Finish Time	General Information
02/05/2023	13	5	1	20:13	21:58	Dry, Sunset: 20:28

Table 2. Results of the dusk emergence surveys undertaken on site.

Survey Date	Recorded Bat Roost	General Bat Activity on Site		
		Species	First Pass	Last Pass
02/05/2023	No emergences	Common Pipistrelle	20:47	21:57
		Soprano Pipistrelle	21:11	21:55
		Activity during this survey was considered to be low and restricted to individual foraging and commuting bats. Species diversity was low with a total of 2 species recorded throughout the survey.		
		The first species recorded was a Common Pipistrelle (<i>Pipistrellus pipistrellus</i>) commuting and foraging north-west over the building at 20:47. Following this, a further five Common Pipistrelles were recorded commuting and foraging within the site, with the last recording at 21:57 as HNS.		
		The second and final species recorded was Soprano Pipistrelle as HNS at 21:11, with a further 4 Soprano Pipistrelles being recorded as HNS, with the last recording at 21:55.		

Impacts in the Absence of Mitigation

Site Preparation and Construction

Impacts to Habitats

The proposals will predominantly involve works to the areas of grassland, hard standing and building which were only considered to be of value at the **Site** level of significance. Therefore, the loss of habitat would have a **minor adverse impact** to habitats of **Site** value.

Impacts to Wildlife

The building was noted as having low potential for roosting bats. During the Phase 2 survey, no bats were observed emerging from or re-entering the building and as such it is not considered a bat roost. Therefore, the works will not result in the destruction of bat roosts or death of bats. As such, **no adverse impact** is expected during the works on the roof and roof voids.

Site Operation

Impacts to Wildlife

The development may result in an increase in lighting within the general area from any additional external lights on the building. This can affect the behaviour, particularly foraging, of nocturnal wildlife. Therefore, an **adverse impact is likely** on nocturnal species at a **local level**.

Mitigation & Recommendations

Sensitive Lighting for Bats

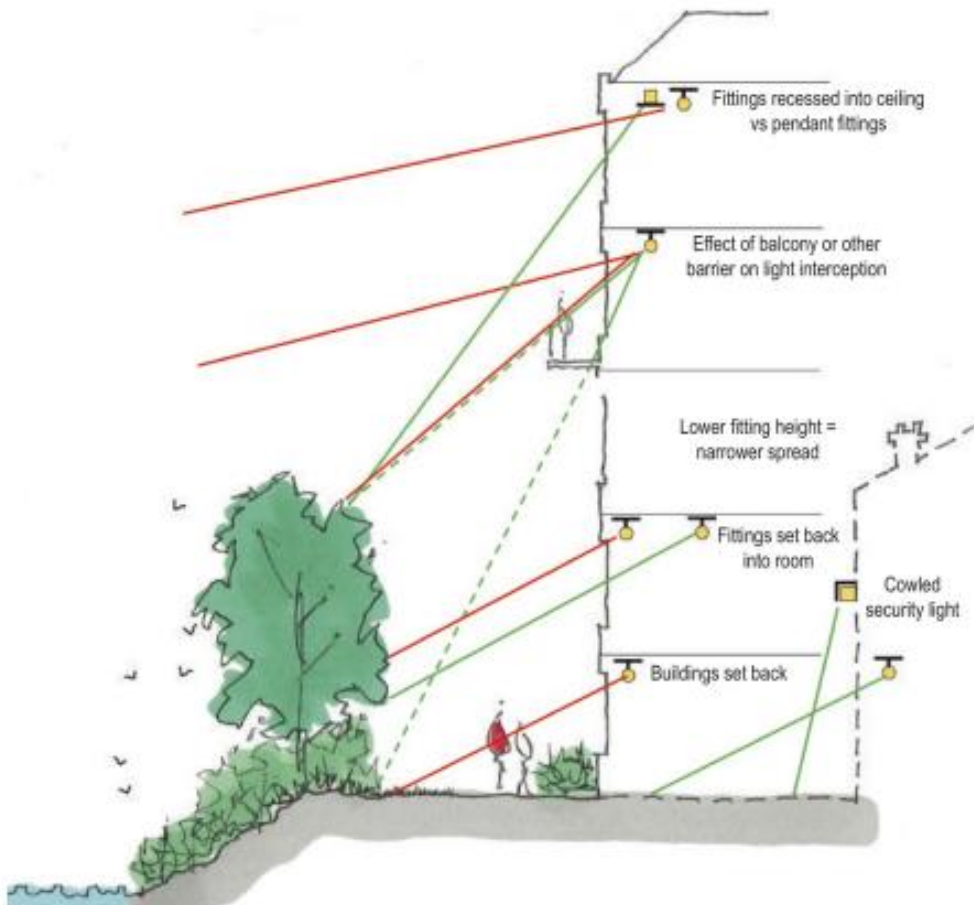
It is recommended that any lighting complies with the following the newly published *Guidance Note 08/23 Bats and Artificial Lighting at night* (ILP / BCT, 2023) produced via a collaboration between the Institute of Lighting Professionals (ILP) and the Bat Conservation Trust (BCT), which outlines the latest recommendations to minimise the impacts of increased artificial lighting on bats. The key recommendations within this document have been outlined below and will be implemented as far as is practicable:

'Light sources, lamps, LEDs and their fittings come in a myriad of different specifications which a lighting professional can help to select. However, the following should be considered when choosing luminaires and their potential impact on Key Habitats and features:

- *All luminaires will lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used*
- *LED luminaires will be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability*
- *A warm white light source (2700Kelvin or lower) will be adopted to reduce blue light component*
- *Light sources will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012)*
- *Internal luminaires can be recessed (as opposed to using a pendant fitting - See **Fig 3**) where installed in proximity to windows to reduce glare and light spill*
- *Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges (see Case Study 1)*
- *Column heights will be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards*
- *Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered - See ILP GN01*
- *Luminaires will always be mounted horizontally, with no light output above 90° and/or no upward tilt*

- Where appropriate, external security lighting will be set on motion sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate
- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand Use of motion sensors for local authority street lighting may not be feasible unless the authority has the potential for smart metering through a CMS
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues. See Case Study 6
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely'

Figure 3. Internal lighting mitigation options (ILP 2023).



Enhancements

To act as a biodiversity enhancement and in the interests of promoting net gain principles (in line with National and Local planning policy), the newly built building will have one Ibstock bat brick (**Fig 4**) integrated within the external brick work. These features are entirely self-contained and available in a variety of different colours to match different construction materials. The bat brick should ideally be placed on an elevation which will benefit from some degree of sunlight exposure and be located away from windows.

Figure 4. Ibstock bat brick 'B' which will be integrated into the new building.



Conclusion

A single dusk emergence bat survey conducted on Long Lane Pavilion on the 2nd May 2023 to confirm the likely absence of roosting bats. During the survey, no bats were recorded emerging from the building. Additionally, activity was relatively low and restricted to individual bats foraging and commuting. Species diversity was low with two species recorded throughout the survey. As bats were recorded foraging and commuting around the site, sensitive lighting for bats is recommended to minimise the impact to foraging bats and other nocturnal species during site operation. Finally, incorporating a bat brick into the new building has been recommended to enhance the site's value for wildlife and increase biodiversity in the local area.

Kind regards,

Darla Brown BSc (Hons)

Project Ecologist

References

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

Collins (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd Edition

Collins, J. (ed) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition). The Bat Conservation Trust, London. ISBN-978-1-7395126-0-6.

Eastleigh Borough Council (2022). *Eastleigh Borough Local Plan (2016-2036)*. Adopted April 2022. Accessed at: <https://www.eastleigh.gov.uk/media/11806/to-be-published-final-local-plan-april-2022-v4.pdf>

HMSO (1989) Wildlife and Countryside Act (amended). HMSO, London.

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

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

HMSO (2019) The Conservation of Habitats and Species Regulations. Statutory Instrument 2019 No. 579. HMSO, London.

ILP / BCT (2023) Guidance Note 08/2: Bats and Artificial Lighting at Night.

Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Chartered Institute of Ecology and Environmental Management, Ampfield.

Appendix 1

LEGISLATION

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations (2019)

This instrument makes changes to the three existing instruments which transpose the Habitats and Wild Birds Directives so that they continue to work (are operable) upon the UK's exit from the European Union (EU). These include The Conservation of Habitats and Species Regulations 2017 and The Conservation of Offshore Marine Habitats and Species Regulations 2017. This instrument also amends section 27 of the Wildlife and Countryside Act 1981 to ensure existing protections continue.

The intention is to ensure habitat and species protection and standards as set out under the Nature Directives are implemented in the same way or an equivalent way when the UK exits the EU.

This transposes the EU Habitats Directive (Council Directive 92/43/EEC) into UK domestic law. It provides protection for sites and species deemed to be of conservation importance across Europe. It is an offence to deliberately capture, kill or injure species listed in Schedule 2 or to damage or destroy their breeding sites or shelter. It is also illegal to deliberately disturb these species in such a way that is likely to significantly impact on the local distribution or abundance or affect their ability to survive, breed and rear or nurture their young.

In order for activities that would be likely to result in a breach of species protection under the regulations to legally take place, a European Protected Species (EPS) licence must first be obtained from Natural England.

The Wildlife and Countryside Act (1981) (as amended)

This is the primary piece of legislation by which biodiversity is protected within the UK. Protected fauna and flora are listed under Schedules 1, 5 and 8 of the Act. They include all species of bats, making it an offence to intentionally or recklessly disturb any bat whilst it is occupying a roost or to intentionally or recklessly obstruct access to a bat roost. Similarly, this Act makes it an offence to kill or injure any species of British reptiles and also makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy their eggs and nests (whilst in use or being built).

The Wildlife & Countryside Act (1981) states that it is an offence to 'plant or otherwise cause to grow in the wild' any plant listed in Schedule 9 part II of the Act. This list over 30 plants including Japanese Knotweed (*Fallopia japonica*), Giant Hogweed (*Heracleum mantegazzianum*) and Parrot's Feather (*Myriophyllum aquaticum*).

The Countryside and Rights of Way Act (2000)

This Act strengthens the Wildlife & Countryside Act by the addition of "reckless" offences in certain circumstances, such as where there is the likelihood of protected species being present. The Act places a duty on Government Ministers and Departments to conserve biological diversity and provides police with stronger powers relating to wildlife crimes.

Natural Environment and Rural Communities Act (2006)

The Natural Environment and Rural Communities (NERC) Act 2006 requires that public bodies have due regard to the conservation of biodiversity. This means that Planning authorities must consider biodiversity when planning or undertaking activities. Section 41 of the Act lists species found in England which were identified as requiring action under the UK Biodiversity Action Plan and which continue to be regarded as conservation priorities under the *UK Post – 2010 Biodiversity Framework*.

Protection of Badgers Act

The Protection of Badgers Act (1992) relates to the welfare of Badgers (*Meles meles*) as opposed to nature conservation considerations. The Act prevents:

- The wilful killing, injury, ill treatment or taking of Badgers and / or
- Interference with a Badger sett
- Damaging or destroying all or part of a sett
- Causing a dog to enter a set and
- Disturbing a Badger while it is occupying a sett

Provisions are included within the Act to allow for the lawful licensing of certain activities that would otherwise constitute an offence under the Act.

PLANNING POLICY

The development would seek to comply with relevant Planning Policy at a local, regional and national level.

National Planning Policy Framework (NPPF) 2023

The National Planning Policy Framework (NPPF) (2023) sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally-prepared plans for housing and other development can be produced.

Chapter 15 'Conserving and enhancing the natural environment' states that planning policies and decisions should contribute to and enhance the natural and local environment by protecting and enhancing sites of biodiversity, the wider benefits from natural capital and ecosystem services, minimising impacts on and providing net gains for biodiversity.

The NPPF states that plans should distinguish between the hierarchy of international, national and locally designated sites and that the scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.

To protect and enhance biodiversity plans should:

identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and

stepping stones that connect them and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation;

and 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.

The NPPF states determining planning applications, local planning authorities should apply the following principles:

- a) 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;
- b) development on land within or outside a SSSI, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of SSSI;
- c) 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;
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

Local – Eastleigh Borough Council

The Eastleigh Borough Local Plan 2016 – 2036 has a number of policies relating to ecology with the relevant ones listed below;

‘General Approach

1. The Council will work with statutory and voluntary agencies and developers, and will determine planning applications, to:

a. protect, conserve and enhance all:

i. international, national and local nature conservation designations;

and

ii. networks of natural habitats and features, including the Local Ecological Network, Priority Biodiversity Areas and Priority Biodiversity Links, watercourses, wetland complexes, woodland trees, and trees and hedgerows important to biodiversity and local character; and facilitate their adaptation to climate change wherever possible;

- b. assist in achieving national, county and local biodiversity targets as set out in Biodiversity Action Plans (BAPs);*
- c. seek a net gain of biodiversity on all development sites (including sites for redevelopment) through the protection, enhancement and connection of existing and provision of new habitats and features of nature conservation interest compatible with the native biodiversity characteristics of the Borough, having regard to local geodiversity and soils; and*
- d. contribute to major elements of the PfSH Green Infrastructure Strategy and other strategies for the provision and enhancement of multifunctional green infrastructure including green routes, ecological networks and biodiversity enhancements (see strategic policy S9).*

International Designations

2. Development which is likely (either individually or in combination with other developments) to adversely affect the integrity of an international or European nature conservation site will not be permitted subject only to imperative reasons of overriding public interest and securing any necessary compensatory measures in the absence of alternative solutions. A 'project level' Habitat Regulations Assessment will be required where there are likely significant effects or uncertainty. Any mitigation measures required to ensure no adverse impact must be implemented at the appropriate time.

3. The Council will work with PfSH, Natural England, the Environment Agency and other wildlife organisations to develop and implement with developers a strategic approach to the protection and enhancement of international and European sites from the direct and indirect effects of development. Within Eastleigh Borough this will include:

a. implementing:

i. the Solent Recreation Mitigation Strategy (requiring contributions from residential developments within 5.6 kilometres of the Solent Special Protection Area to the Strategy); and

ii. the interim and any future New Forest Recreation Mitigation Strategy if required; or alternative agreed site specific measures to address recreational disturbance;

b. preserving the water quality and flows within the Itchen and Hamble, Southampton Water and Solent;

c. protecting the River Itchen SAC, in particular the maintenance and where appropriate restoration of habitats and qualifying species to favourable conservation status (as defined by article 1 of the Habitats Directive); and

d. seek contributions towards measures set out in the Southern Damselfly Conservation Strategy (or other strategy) specifically to deliver biodiversity net gain.

National and Local Designations

4. Development will not be permitted if it is likely (either individually or in combination with other developments) to have a direct or indirect adverse effect on a Site of Special Scientific Interest (SSSI), Site of Importance for Nature

Conservation (SINC) or Local Nature Reserve (LNR) as shown on the policies map (or on a more recent plan provided by the Hampshire Biodiversity Information Centre) unless it can be demonstrated that:

- a. there are no alternative solutions;*
- b. the adverse effects are unavoidable;*
- c. measures are taken to mitigate or, as a last resort, compensate for the adverse effects;*
- d. there is an overall biodiversity net gain; and*
- e. if there are any residual adverse effects which cannot be avoided, mitigated or compensated, the benefits of the development must clearly outweigh the adverse effects on the nature conservation value of the site and any broader impacts on national and local designations.*

Priority habitats, protected and priority species and the local ecological network

5. Development will not be permitted if it is likely (either individually or in combination with other developments) to have a direct or indirect adverse effect on priority

habitats, protected or priority species, or on the local ecological network unless it can be demonstrated that:

- a. there are no alternative solutions;*
- b. the adverse effects are unavoidable;*
- c. measures are taken to mitigate or, as a last resort, compensate for the adverse effects;*
- d. there is an overall biodiversity net gain; and*
- e. if there are any residual adverse effects, the benefits of the development clearly outweigh the adverse effects on priority habitats, priority and protected species, and the local ecological network.*

Irreplaceable habitats

6. Development will not be permitted if it results in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees), unless there are wholly exceptional reasons and a suitable compensation strategy exists.

Buffers

7. Buffers free from development will be provided to designated sites to avoid/mitigate impacts, including recreational impact and impacts on edge habitats, and to maintain dark skies.

Surveys

8. Development will not be permitted unless it can be demonstrated that:

- a. there have been thorough habitat and species surveys;*
- b. the great crested newt strategic survey and strategy have been considered in all developments within 500m of a great crested newt pond; and*
- c. the strategic bat trapping survey has been considered in all developments within the locality of a woodland or connected habitat networks.'*