



Bat Emergence and Re-entry Surveys

St Joseph's Covent Prep School, Old Lane East, Gravesend, DA12 1NR

Galliard Homes Ltd.

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Industry Guidelines and Standards

This report has been written with due consideration to:

- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

This approach is enshrined in Government planning guidance, for example, paragraph 174 of the National Planning Policy Framework for England.

The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

Executive Summary

Arbtech Consulting Ltd was commissioned by Galliard Homes Ltd. to undertake a Bat Emergence survey at St Joseph's Covent Prep School, Old Lane East, Gravesend, DA12 1NR. The survey was completed on 17th July 2023. The aim of the assessment was to confirm the presence/likely-absence of a bat roost and to provide a current status on all survey features. This includes providing evidence for species, numbers and levels of activity, to identify any entrance and egress points, and to gain an understanding of the activity of bats using the site in the local landscape.

This report is prepared to inform a planning application with Gravesham Borough Council. The proposed development is described as:

- The demolition of the existing school buildings and the construction of a mixed development.

Recommendations

Ref	Recommendations / Mitigation
School buildings	In the unlikely event that bats are unexpectedly found during any stage of the development, work should stop immediately, and a suitably qualified ecologist should be contacted to seek further advice.

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Ltd was commissioned by Galliard Homes Ltd. to undertake a Bat Emergence survey at St Joseph's Covent Prep School, Old Lane East, Gravesend, DA12 1NR. (hereafter referred to as “the site”). A plan showing the proposed development is provided in Appendix 1.

The aim of the BERS was to determine the presence or likely absence of roosting bats and to characterise any roosts present. This has been undertaken with due consideration to the “Bat Surveys for Professional Ecologists —Good Practice Guidelines” publication (Collins, 2016).

The BERS have been informed by a Preliminary Ecological Appraisal and Roost Assessment (PEA/PRA) which was completed by Arbtech Consulting, on 16th May 2023. The survey results for bats from this are summarised in Table 1 below:

Table 1: Results of the PRA and subsequent survey requirements

Feature	Survey conclusions (with justification)	Foreseen impacts	Recommendations
Roosting bats (building)	Building 1 has low value for roosting bats based on the areas of damage to the soffit space, daylight entering the loft and restricted access to the eastern roof elevation and centre of the roof, damaged tiles could have been unidentified. Building 2 has low value for roosting bats based on the holes in the mortar above the four windows. Building 3 has negligible value for roosting bats due to a lack of suitable roost features. Building 4 has negligible value for roosting bats due to restricted access, the presence of bats cannot be discounted. Building 5 has negligible value for roosting bats due to a lack of suitable roost features.	Bats are very unlikely to be roosting within this building 3, 4,5,8,9,10 and as such, there are not anticipated to be any impacts on roosting bats as a result of the demolition to these buildings. The proposed development will result in the demolition of building 2, and 6 and renovation and repairs building 1. This could result in damage and destruction	Negligible In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice. Buildings 1, 2, 6 - Low One bat emergence or re-entry survey have been granted and all relevant wildlife-related conditions have been discharged prior to submission is required during the active bat season (optimal May to August,

Bat survey (night)

	<i>Building 6 has low value for roosting bats based on the gap between the wall and wooden verge board.</i> <i>Building 7 has negligible value for roosting bats based on the lack of internal access to the open built structure.</i> <i>Building 8 has negligible value for roosting bats due to a lack of suitable roost features.</i> <i>Building 9 has negligible value for roosting bats due to a lack of suitable roost features.</i> <i>Building 10 has negligible value for roosting bats due to a lack of suitable roost features</i>	<i>of any bat roosts present and could cause disturbance, death or injury to bats.</i>	<i>suboptimal September) to confirm presence or likely-absence of a bat roost in the building.</i> <i>Infra-red cameras should be used as an aid.</i> <i>Five surveyors are required to provide full coverage of the buildings.</i> <i>If bat roosts are confirmed in the building two additional surveys may be required to characterise the roost and to inform an EPSL application to Natural England. Surveys should be a minimum of two weeks apart. The EPSL application requires that surveys have been undertaken within the most recent active bat season and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission.</i>
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1.2 Site Context

The survey site is centred on National Grid Reference TQ 6533 7293 and has an area of approximately 1.6ha. The survey area consists of disused school with several buildings and a playing field, situated in central Gravesend.

A site location plan is provided in Appendix 2.

1.3 Scope of the Report

This report provides a description of the bat activity observed and recorded during BERS. The aim of the surveys was to determine the presence or likely absence of bats and to characterise any roosts present including species, number of individuals, number and location of roost access points, and to gain an understanding of how bats use

Bat survey (night)

the site. The report provides information on possible constraints to the proposed development as a result of bats and summarises the requirements for any mitigation proposals, including a European Protected Species Licence (EPSL), where appropriate, to achieve planning or other statutory consent and to comply with wildlife legislation.

To achieve this, the following steps have been taken:

- BERS of has been undertaken to determine the presence or likely absence of bat roosts in the identified features of value.
- An outline of potential impacts on any confirmed or unidentified roosts has been provided, based on the proposed development.
- Recommendations for mitigation have been made, along with advice on the requirements for a European Protected Species Licence (EPSL) application if appropriate.
- Opportunities for the enhancement of the site for roosting, foraging and commuting bats have been set out.

1.4 Project Description

This report is prepared to inform a planning application with Gravesham Borough Council. The proposed development is described as:

- The demolition of the existing school buildings and the construction of a mixed development.

2.0 Methodology

2.1 BERS

Bat emergence and/or re-entry surveys (BERS) were undertaken on the survey feature, as per the recommendations from the Preliminary Roost Assessment. The survey schedule involved surveyors positioned around the feature(s) ensuring that all elevations and roof sections/sides with suitable roosting features could be clearly observed. Particular attention was paid to the areas identified as providing suitable access points to bat roosts. Each surveyor was assigned an area of the to observe for the duration of the survey.

Surveyors used heterodyne and frequency division bat detectors, and Echo Meter Touch detectors connected to iPads or Android tablets. Bat echolocation calls recorded during the surveys were analysed using Wildlife Acoustics sound analysis software Kaleidoscope V3.1.7 when required. The Echo Meter Touch includes an auto ID function for bat species, however this is not 100% accurate and further post-survey sound analysis is often required to confirm species that could not be identified by the auto ID software during the survey. Night vision aids (NVA) are used on surveys where required (i.e., when an elevation with a roosting feature becomes too dark to see with the naked eye), including Nightfox Swift and Nightfox Red IR goggles. Surveyors also used head torches, survey record sheets and pens/pencils for recording all activity observed during the surveys. Each surveyor was also provided with a handheld radio for communication between surveyors to assist with confirming ambiguous bat activity e.g. a bat emergence or a bat passing over the feature.

Dusk emergence surveys commence 15 minutes before sunset and continue for 1½ - 2 hours after sunset – depending upon bat activity and surveyor visibility. Dawn re-entry surveys commence 2 hours before sunrise and continue until 15 minutes after sunrise – although based on the *Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys* (BCT May 2022) these are no longer considered a mandatory part of a survey schedule for efficacy and health and safety reasons.

Bat survey (night)

Surveys were completed during optimal weather conditions i.e., when temperatures were above 10°C, with no rain or strong winds (greater than 5m/s), as these adverse weather conditions can impact upon bat emergence and foraging behaviour. Periods of high moon illuminance (>80%) were also avoided insofar as possible as this can reduce bat activity.

2.2 Surveyors

The lead surveyor was Craig Williams BSc, MSc, MRSB (Natural England Protected Species Licence Numbers: [Bats] (2018-33540-CLS-CLS) who was assisted by other surveyors with several years of bat survey experience. The number, experience and designated position of each surveyor during each survey is detailed in the tables in Section 3.1 below and shown on the plan in Appendix 3.

2.3 Limitations

The survey follows best practice guidance to confirm presence or likely absence of roosting bats and where present, characterise the roost. However, this information is collected at finite dates and times, and provides an indication of the conditions on site only. The use of the survey features and the site as a whole by bats, at all times cannot be established based on this information. Bats are highly mobile creatures that switch roosts regularly and therefore the usage of a site by bats can change over a short period of time.

- There were no specific limitations to the survey.

3.0 Results and Evaluation

3.1 Survey Results

The results of each survey are provided in the table(s) below.

Table 2: Survey results

Date	18/07/2023	
Start and end times	20:52 – 22:37 Sunset: 21:07	
Weather conditions	Start: Temp: 19oC Relative Humidity: 63% Cloud Cover: 30% Wind: 7kmph Rain: None	End: Temp: 17oC Relative Humidity: 64% Cloud Cover: 50% Wind: 8kmph Rain: None
Surveyor (position) As shown in Appendix 3	Helen Worlock – Bat surveyor of 9 years' experience (Position 1 –observing the roosting features on the southern elevation of B1 and the northern elevation of B2b) Max Matthews– Bat surveyor of 3 years' experience (Position 2 —observing the roosting features on the western elevations of B2a, B2b and B3e) Oli Westergaard– Bat surveyor of 5 years' experience (Position 3 – observing the roosting features on the western elevations of B2a, B2b and B3e) Elodie Noyes – Bat surveyor of 3 years' experience (Position 4 –observing the roosting features on the southern elevations of B2b and B2e) Craig Williams - Natural England Bat Licence: 2018-33540-CLS-CLS (Position 5 – observing the roosting feature on the southern elevation of B6)	
Building/tree reference	Surveyor position	Notes/observations:
B1 + B2b	1	A common pipistrelle was distantly heard at 22:01
B2a + B2b + B2e	2	A serotine was heard but not seen at 21:28. Common pipistrelles were heard at 21:31, 21:41 and 21:58. Soprano pipistrelles were heard at 22:04, 22:06 and 22:11.
B2a + B2b + B2e	3	A serotine was heard but not seen at 21:28. Common pipistrelles were heard at 21:31, 21:41 and 21:58. Soprano pipistrelles were heard at 22:04 and 22:12.
B2b + B2e	4	Common pipistrelles were heard but not seen at 21:58 and 22:01. They are assumed to be in the western boundary tree line.
B6	5	No bats seen or heard for the duration of the survey.

Bat survey (night)

4.0 Conclusions, Impacts and Recommendations

4.1 Informative Guidelines

A summary of the relevant legislation and planning policies is provided in Appendix 4.

Bats are protected under the Wildlife and Countryside Act and the Conservation of Habitats and Species Regulations 2017 (amended by the Conservation of Habitats and Species Regulations (amendment) (EU Exit) Regulations 2019).

When bat roosts are present, the bat surveys undertaken at a site facilitate the characterisation of the roost type. This allows for appropriate mitigation and compensation to be designed to inform a European Protected Species Licence (EPSL) application to Natural England.

The definitions of bat roost types are provided below, taken from the *Bat Mitigation Guidelines* (English Nature, 2004) and the Bat Conservation Trust (BCT) publication *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, 2016).

Day roost: a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer.

Night roost: a place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used regularly by the whole colony.

Feeding roost: a place where individual bats or a few individuals rest or feed during the night but are rarely present by day.

Transitional / occasional roost: used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.

Swarming site: where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites

Mating sites: sites where mating takes place from later summer and can continue through winter.

Maternity roost: where female bats give birth and raise their young to independence.

Hibernation roost: where bats may be found individually or together during winter. They have a constant cool temperature and high humidity. Sites where hibernating bats have been confirmed by appropriate survey effort should be classed as 'hibernation confirmed'.

Satellite roost: an alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.

Other: roost types are interchangeable and not always easy to classify according to the nuances of certain species.

An EPSL **will not be required** to enable the proposed works to be lawfully undertaken. Appropriate justification for this assessment is provided in Table 5 of this report.

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4.2 Evaluation

Taking the field survey results into account, Table 7 presents an evaluation of the value of the survey features for roosting bats in relation to the proposed development.

Table 7: Evaluation of survey features on site for roosting bats

Feature	Survey conclusions (with justification)	Foreseen impacts	Recommendations <i>Measures required to adhere to guidance, legislation and planning policies.</i>	Enhancements <i>The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021)</i>
School buildings	A likely absence of roosting bats is confirmed from all site buildings based on the evidence gathered to date.	Bats are very unlikely to be roosting on site, and as such, there are not anticipated to be any impacts on bats as a result of the proposed development.	In the unlikely event that bats are unexpectedly found during any stage of the development, work should stop immediately, and a suitably qualified ecologist should be contacted to seek further advice.	The installation of a minimum of three bat boxes on mature trees around the site boundaries or on new buildings will provide additional roosting habitat for bats. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light. Alternatively, bat boxes could be incorporated into new buildings on the site. Bat tubes should be inserted into the fabric of the building during construction, positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance and facing landscapes areas, away from artificial light.

5.0 Bibliography

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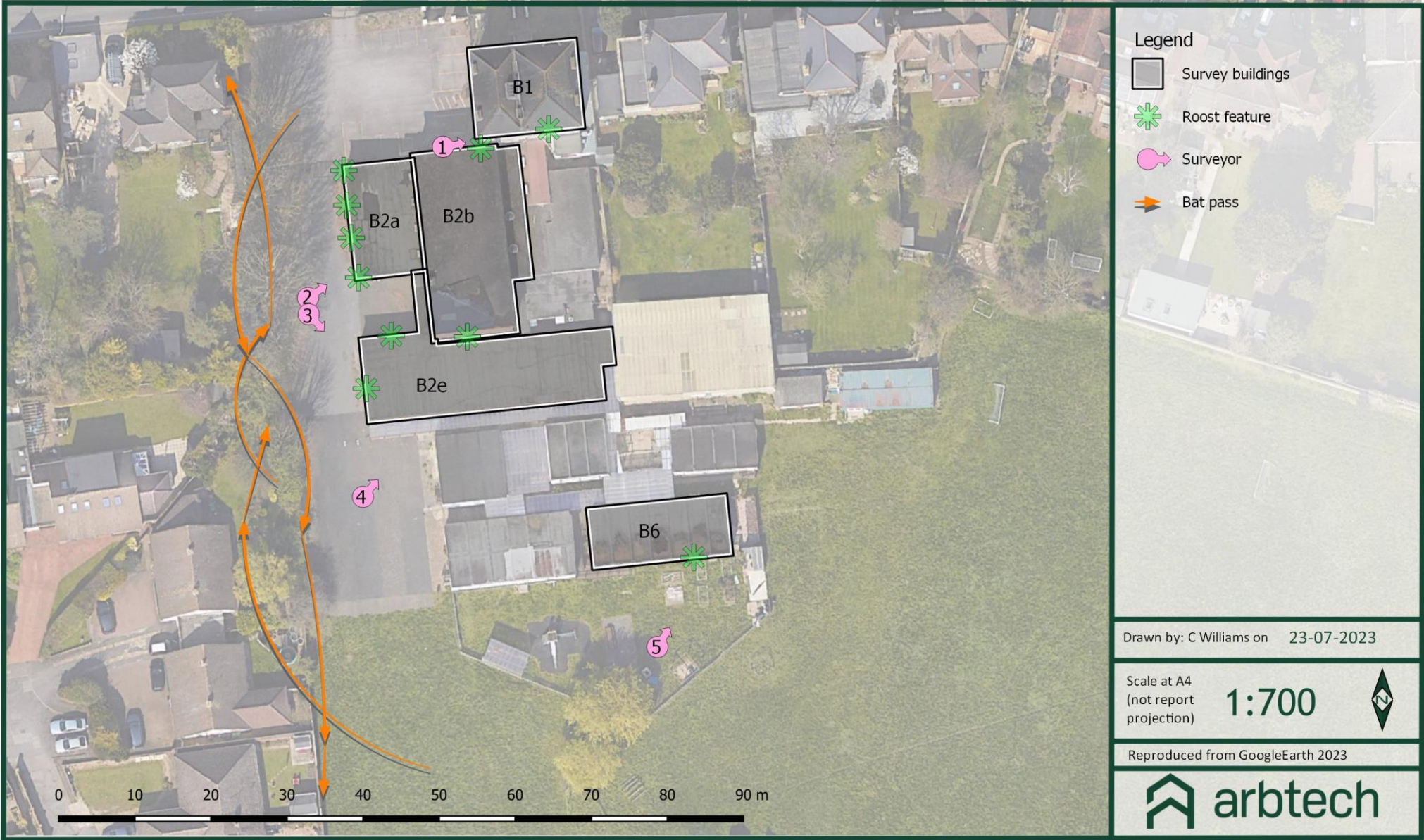
Appendix 1: Proposed Development Plan



Appendix 2: Site Location Plan



Appendix 3: Bat Survey Plan



Bat survey (night)

Appendix 4: Legislation and Planning Policy Related to Bats

LEGAL PROTECTION

All species of bat are fully protected under ***The Conservation of Habitats and Species Regulations 2017*** (as amended) through their inclusion on Schedule 2.

Regulation 43: Protection of certain wild animals - offences

(1) A person is guilty of an offence if they:

- (a) Deliberately captures, injures or kills any wild animal of a European protected species,
- (b) Deliberately disturbs wild animals of any such species,
- (c) Deliberately takes or destroys the eggs of such an animal, or
- (d) Damages or destroys a breeding site or resting place of such an animal,

(2) For the purposes of paragraph (1) (b), disturbance of animals includes in particular any disturbance which is likely—

- (a) To impair their ability:
 - (i) To survive, to breed or reproduce, or to rear or nurture their young; or
 - (ii) In the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- (b) To affect significantly the local distribution or abundance of the species to which they belong.

Bats are also protected under the ***Wildlife and Countryside Act 1981*** (as amended) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale

NATIONAL PLANNING POLICY (ENGLAND)

National Planning Policy Framework 2021

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as species of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; measurable gains in biodiversity in and around developments are incorporated; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity'. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) issued by Natural England will be required for works likely to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficiency/success to be monitored. The legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded *de facto* protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost (Garland & Markham, 2008).

There are 17 species of bat breeding in England and Natural England issues licences under Regulation 55 of the Habitats Regulations to allow you to work within the law.

Licences are issued for specific purposes stated in the Regulations, if the following three tests are met:

- The purpose of the work meets one of those listed in the Habitats Regulations (see below);
- That there is no satisfactory alternative;
- That the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range

The Habitats Regulations permits licences to be issued for a specific set of purposes including:

- include preserving public health or public safety or other imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;
- scientific and educational purposes;

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- ringing or marking; and,
- conserving wild animals.

Development works fall under the first purpose and Natural England issues bat mitigation licences for developments.

EUROPEAN PROTECTED SPECIES POLICIES

In December 2016 Natural England officially introduced the four licensing policies throughout England. The four policies seek to achieve better outcomes for European Protected Species (EPS) and reduce unnecessary costs, delays and uncertainty that can be inherent in the current standard EPS licensing system. The policies are summarised as follows:

- Policy 1; provides greater flexibility in exclusion and relocation activities, where there is investment in habitat provision;
- Policy 2; provides greater flexibility in the location of compensatory habitat;
- Policy 3; provides greater flexibility on exclusion measures where this will allow EPS to use temporary habitat; and,
- Policy 4; provides a reduced survey effort in circumstances where the impacts of development can be confidently predicted.

The four policies have been designed to have a net benefit for EPS by improving populations overall and not just protecting individuals within development sites. Most notably Natural England now recognises that the Habitats Regulations legal framework now applies to 'local populations' of EPS and not individuals/site populations.