Do you need to submit a Wildlife, Geology or Invasive Species Report with your planning application?

Please remember that anyone causing a wildlife offence (e.g. destruction of a bat roost) can be prosecuted, irrespective of the planning process. Remember to schedule works to ensure no disturbance to protected species, including nesting birds.

Please fill in Parts Ai and ii, B and C of the table below. The completed table must be included with your application.

Part A. If there is a tick in the 'yes' column you must include a **Wildlife Report** with your application. The report may vary from a short written statement (if there is no significant impact) to a comprehensive report with surveys.

Part B. If there is a tick in the 'yes' column you must include a **Geology Report** with your application.

Part C. If there is a tick in the 'yes' column an **Invasive Species Control Plan** is required.

All reports must be produced by a consultant with suitable qualifications and experience. For further information on the reports, including a list of consultants and a generic Wildlife Report brief (which may help when employing a consultant), go to https://new.devon.gov.uk/environment/wildlife

Wildlife and Geology Trigger Table

PART A - TRIGGERS FOR A WILDLIFE REPORT	Yes (Wildlife Report required)	No
1a. The application site (red line) is greater than 0.1 hectares* 1b. The proposal:	X	
i. Involves demolition of a building.		X
ii. Involves works to a roof, roof space, weather boarding or hanging tiles e.g. loft conversion, roof raising, extensions.		X
iii. Involves works to a quarry or built structures such as bridges, viaducts, aqueducts, tunnels, mines, kilns, ice houses, military fortifications, air raid shelters, cellars and similar underground ducts and structures.		X
iv. Involves the development of wind turbine(s), including domestic turbines.		X
v. Will illuminate / cause light spill onto a building, mature tree (see ix), woodland, field hedge, pasture, watercourse, water body, tree line or a known bat roost.	X	
vi. Impacts on a watercourse, intertidal area or standing open water (e.g. ponds, reedbeds) excluding ornamental garden fish ponds.		X
vii. Removes, or moves, part / all of a hedge or line of trees (excluding non native or urban hedges unless > 10m being removed). viii. Is within, or may impact on (including impacts on hydrology), a woodland or a substantial area of scrub connected to a woodland or hedge.	X	X

ix. Involves surgery to or felling of a mature tree with obvious holes, cracks or cavities, dense ivy, deadwood, bird / bat box (i.e features which may be a bat roost).		X
x. Involves removal of tussocky (rough) grassland, wet grassland, flower rich grassland or heathland (heather/gorse present).		X
xi. **** Householders do not need to answer this question. May impact directly or indirectly (via a watercourse or air pollution pathway) on a designated wildlife site (Special Areas of Conservation, Special Protection Area, Sites of Special Scientific Interest, County Wildlife Site, Local Nature Reserve, Special Verge).		X
xii. Involves lighting or removal of a tree line, woodland, hedges or pasture within a Greater Horseshoe Bat consultation zone *(please ask the LPA during pre-ap discussions).*		X
PART B – TRIGGER FOR A GEOLOGICAL REPORT	**Yes (Geology Report required)**	**No**
** Application impacts on a geological Site of Special Scientific Interest or County Geological Site (RIGS)		X
PART C – INVASIVE SPECIES Site supports an invasive species such as Japanese Knotweed. *For a list of Schedule 9 non native invasive species see http://www.legislation.gov.uk/ukpga/1981/69/schedule/9 or http://www.nonnativespecies.org/index.cfm?sectionid=23 For more information on Japanese Knotweed see www.devon.gov.uk/japanese_knotweed.htm.*	**Yes (Invasive Species Control Plan required)**	**No**
		X

* - If you have ticked 'no' to all 1b questions a Wildlife Report will not be required if the LPA confirms in writing that it is reasonably certain that there will be no impact on protected or priority habitats and species.

** - to find out if your site is in, or near, a designated site look on http://map.devon.gov.uk/DCCViewer/ or ask the LPA or Devon Biodiversity Records Centre www.dbrc.org.uk (there will be a small charge). For County Geological Sites (RIGS) see also www.devonrigs.org.uk/07DevonSites.html

IMPORTANT…….

- **If detailed protected species surveys are required these MUST be included with your planning application. The application cannot be validated without them. They cannot be conditioned.**
- **Some surveys can only be undertaken at certain times of year. It is essential that these are timetabled into your project plan in order to avoid wasting time and money. A survey calendar can be found at: http://webarchive.nationalarchives.gov.uk/20140605090108/http://www.naturalengland.org.uk/Images/WhentosurveyFINAL_tcm6-21620.pdf**
- **All details of avoidance, mitigation, compensation and enhancement actions MUST also be included with your application. It is very likely that any planning permission will be conditional on these being implemented.**

Last updated: 15th May 2017

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ECOLOGICAL IMPACT ASSESSMENT

LAND ADJACENT SPRUCE CLOSE

EXETER

DEVON

December 2019

CONTENTS

1.0 INTRODUCTION

EPS Ecology Ltd was commissioned by Salter Property Investments Ltd to conduct an Ecological Impact Assessment (EcIA) of land adjacent Spruce Close, Exeter, Devon (referred to as the Assessment Site or 'site' in this report).

This report presents the results of this assessment and includes information on the following:

1. A description of the existing ecological baseline.
2. An assessment of the impacts of the proposals during development and operational phases.
3. Provision of mitigation measures for any adverse impacts.
4. A summary of any residual ecological impacts (i.e. those occurring after mitigation).

1.1 Approach

The ecological baseline was determined through both desk studies and a series of site surveys.

All survey work was undertaken with reference to current EcIA guidelines set out in the Chartered Institute of Ecology and Environmental Management (CIEEM) *'Guidelines for Ecological Impact Assessment*' (January 2016), those provided in BS42020 2013, as well as biodiversity requirements arising from:

- The '*South West Regional Spatial Strategy'* - Policy ENV4 Nature Conservation.
- *'Exeter Adopted Core Strategy'*: CP16 - Green Infrastructure, Landscape and Biodiversity.

1.1.1 Desk study

A site-specific desk study to identify notable/protected habitats and species was commissioned from Devon Biodiversity Records Centre (DBRC); this for all records within a 1km search radius of the site centre. Information from the following was also examined:

1. 'Magic' – (www.magic.gov.uk) for information on protected sites.
2. Devon County Council (DCC) – (http://www.devon.gov.uk/wildlife_designations) for information on protected sites and the 'Regional Nature Map'.
3. 'Devon Great Crested Newt Consultation Zones' Guidance for Developers, June 2012.
4. South Hams SAC Guidance for Greater Horseshoe Bats (June 2019) – for information on validating planning applications in the South Devon area which may impact on the South Hams SAC population of greater horseshoe bats.
5. Existing data held by EPS Ecology in relation to RSPB records for cirl buntings within Devon.

1.1.2 Site surveys

The presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in significant harm to the species or its habitat. It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted. Where a European protected species (or EPS) is concerned, the Conservation of Habitats and Species Regulations 2010 also provide that a competent authority, including a planning authority must, in the exercise of any of their functions, have regard to the requirements of the Habitats Directive so far as they may be affected by the exercise of those functions.

An initial site assessment ('Preliminary Ecological Appraisal') was undertaken by the author, Dr David Fee MCIEEM, in early April 2019. This assessment included an extended Phase 1 habitat survey of the Assessment Site and also identified some habitat areas as being potentially suitable for use by specially protected species. As a result further species-specific (Phase 2) surveys were undertaken within the Assessment Site during the 2019 survey season, as follows:

- Bats - The potential value of the Assessment Site to bats was assessed using standard guidance in *'Bat Surveys for Professional Ecologists - Good Practice Guidelines'* (3rd edition, Bat Conservation Trust, 2016). Using the criteria in Table 4.1 of the guidelines the commuting/foraging potential of the site to bats site was determined to be 'moderate'. The roosting potential offered by the site was determined to be 'low'. To confirm the value of the site to bats a series of manual (transect) and automated (static) surveys were undertaken between April and October 2019. The findings of these surveys are provided in Section 3.6 of this report.
- Dormouse - The site was determined to lie within a landscape that might be used by dormice. Surveys were therefore undertaken to confirm the presence or 'likely absence' of dormice on site. The survey followed the standard guidance for dormouse tube surveys provided in the *'Dormouse Conservation Handbook'* (second edition), English Nature, 2006. A total of 50 tubes were placed in suitable vegetation on the 15th May 2019. These were left *in situ* until the 4th November 2019. This number of tubes being present for this period provided a 'search effort score' of 20; with a score of 20 or above being deemed a 'thorough survey' (English Nature Report No. 524). The findings of these surveys are provided in Section 3.7 of this report.
- Reptiles – Small parts of the Assessment Site were determined to provide suitable conditions for common reptiles (e.g. slow-worm). To establish presence/absence a number of artificial refuges ('mats') were placed on site in June 2019 (in line with Froglife, 1999, '*Froglife Advice Sheet 10: reptile survey'.* Froglife, London). These were checked up to the end of October 2019. The findings of these surveys are provided in Section 3.8 of this report.

No survey limitations were encountered at any time and so the findings of this report provide a sufficiently accurate account of the value of the Assessment Site to local biodiversity at this time (December 2019).

1.2 Assessment of effects

An assessment of ecological effects is provided for both construction and post-construction phases of the development. This follows standard guidance in the Chartered Institute of Ecology and Environmental Management (CIEEM) *'Guidelines for Ecological Impact Assessment*' (January 2016).

The process of predicting ecological impacts takes account of relevant aspects of ecosystem structure and function, as provided in Box 16 of the CIEEM's EcIA Guidelines, namely: available resources, environmental processes, ecological processes, human influences, historical context, ecological relationships, ecological role or function, ecosystem properties and other environmental influences. As detailed in Section 5.8 of these Guidelines, it is only necessary to describe in detail the impacts that are likely to be significant. Impacts that either are unlikely to occur, or if they did occur are unlikely to be significant, can be scoped out (though justification for this should be provided).

When describing ecological impacts reference should be made to the following characteristics: positive or negative; extent; magnitude; duration; timing; frequency; reversibility.

Positive or negative: To be determined according to whether or not the change is in accordance with nature conservation objectives and policy. A positive impact is a change that improves the quality of the environment (e.g. by increasing species diversity, extending habitat or slowing an existing decline in the quality of the environment), whilst a negative impact reduces the quality of the environment.

Extent: The extent is the spatial or geographical area over which the impact/effect may occur.

Magnitude: Magnitude refers to size, amount, intensity and volume (e.g. the area of habitat to be lost or percentage decline in a species population).

Duration: Duration should be defined in relation to ecological characteristics (such as a species' lifecycle) as well as human timeframes. For example, five years, which might seem short-term in the human context or that of other long-lived species, would span at least five generations of some invertebrate species.

Frequency and timing: The number of times an activity occurs will influence the resulting effect. The timing of an activity or change may result in an impact if it coincides with critical life-stages or seasons e.g. bird nesting season.

Reversibility: An irreversible effect is one from which recovery is not possible within a reasonable timescale or there is no reasonable chance of action being taken to reverse it. A reversible effect is one from which spontaneous recovery is possible or which may be counteracted by mitigation.

1.3 Assessment of Cumulative Impacts and Effects

Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects are particularly important in EcIA as many ecological features are already exposed to background levels of threat or pressure and may be close to critical thresholds where further impact could cause irreversible decline. Effects can also make habitats and species more vulnerable or sensitive to change. Any cumulative effects described within this EcIA relate to the allocation as a whole.

1.4 Assessment of Residual Impacts

After assessing the impacts of the proposal all attempts should be made to avoid and mitigate ecological impacts. Once measures to avoid and mitigate ecological impacts have been finalised, assessment of the residual impacts should be undertaken to determine the significance of their effects on ecological features. Any residual impacts that will result in effects that are significant, and proposed compensatory measures, will be the factors considered against ecological objectives (legislation and policy) in determining the outcome of the application.

1.5 Significant effects

Significance is a concept related to the weight that should be attached to effects when decisions are made. For the purpose of EcIA, 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local.

A significant effect is simply an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project. A significant effect is a positive or negative ecological effect that should be given weight in judging whether to authorise a project: it can influence whether permission is given or refused and, if given, whether the effect is important enough to warrant conditions, restrictions or further requirements such as monitoring. A significant

effect does not necessarily equate to an effect so severe that consent for the project should be refused planning permission. For example, many projects with significant negative ecological effects can be lawfully permitted following EcIA procedures as long as the mitigation hierarchy has been applied effectively as part of the decision-making process.

1.6 Determining Ecologically Significant Effects

Significant effects encompass impacts on structure and function of defined sites and ecosystems. The following need to be determined in this process.

- For designated sites – is the project and associated activities likely to undermine the site's conservation objectives, or positively or negatively affect the conservation status of species or habitats for which the site is designated, or may it have positive or negative effects on the condition of the site or its interest/qualifying features?

- For ecosystems – is the project likely to result in a change in ecosystem structure and function?

Consideration should be given to whether, any processes or key characteristics will be removed or changed; there will be an effect on the nature, extent, structure and function of component habitats, or; there is an effect on the average population size and viability of component species.

Consideration of functions and processes acting outside the formal boundary of a designated site is required, particularly where a site falls within a wider ecosystem e.g. wetland sites. Predictions should always consider wider ecosystem processes.

Many ecosystems have a degree of resilience to perturbation that allows them to tolerate some biophysical change. Ecological effects should be considered in the light of any information available or reasonably obtainable about the capacity of ecosystems to accommodate change.

Confidence in predictions is determined qualitatively using the following categories:

- Certain
- Probable
- Unlikely
- Extremely unlikely

Effects are considered against the following timescales:

- Acute, immediate and discreet
- Short-term (0 to 3 years)
- Medium term (3 to 10 years)

- Long term (10+ years)

Under CIEEM guidelines impacts deemed to be of 'Site' level significance after mitigation are not considered to be ecologically important (i.e. detrimental to the conservation status of species or habitats).

2.0 DEVELOPMENT PROPOSALS

Development proposals for the site involve the construction of both commercial and social housing with associated (roads, pavements, parking areas, etc.). This will involve:

- Forming two dedicated access points into the site, one off Spruce Close and another off Celia Crescent.
- Vegetation clearance within the two fields that comprise the site, as well as some sections of boundary/internal hedgerows.
- The creation of suitable levels within the site to allow construction.
- Construction of the new dwellings, etc.

An Illustrative Masterplan is shown in Fig.1 below. The EcIA is made in relation to the potential impacts arising from this specific scheme only; any amendments may require a reassessment of impacts, mitigation, etc..

Fig.1 – Indicative Masterplan ('Place by Design' Drawing No.1100, Rev.D)

3.0 ECOLOGICAL BASELINE

3.1 Site location

The survey area for this EcIA is defined as the Assessment Site (land area shown outlined in red in Fig.1 above) and a c.30m buffer zone around this site. The site centre is at National Grid Reference SX 944 949.

The Assessment Site comprises two fields of semi-improved grassland. Both were cut for hay during summer 2019. The fields are almost wholly bounded by mature and species-rich hedgerows.

The site lies along the 'urban fringe' of the northern side of Exeter. Existing housing developments lie either side of Chancellor's Way and Pinwood Meadow Drive to the immediate south and east of the site. To the north and west, further areas of open countryside are found.

Habitats within the Assessment Site are further discussed in Section 3.3 below.

3.2 Desk study – protected/important sites

Information referenced in Section 1.1.1 has confirmed the following.

DBRC data search

The detailed results of the data search (within a 1km search radius of the site centre) are provided in Appendix 1 of this EcIA. A summary is as follows:

- There are no statutory sites within the search area.
- A County Wildlife Site (CWS) lies to the immediate west of the site; Savoy Hill Valley Park is described as 'species-rich unimproved grassland'.
- The whole of the Assessment Site lies within land designated 'Exeter Green Space Teir B'; land identified as being of some local value to wildlife but as been heavily modified by human activity.
- Some hedgerows on site being identified as part of the 'Exeter Biodiversity Network'; being species-rich all such hedges are listed as a Habitat of Principle Importance (HPI) under Section 41 of the NERC Act 2006.
- The Assessment Site is not associated with any records of legally protected and notable species.
- Records of legally protected and notable species are found within the search area; a majority from the non-statutory sites listed above.

Other information

1) The Assessment Site does not lie within a South Hams SAC GHB 'Strategic Flyway' or 'Roost Sustenance Zone'.

2) The Assessment Site does lie within a Devon 'great crested newt consultation zone'.
3) The Assessment Site does not lie within any known cirl bunting breeding territories.

3.3 Habitats

The main body of the Assessment Site comprises two main habitat types, described below with their locations shown in Fig.2 below. Habitats immediately outside the site boundaries and of potential value to biodiversity are also described.

1) 'Mown, semi-improved, neutral grassland' - Phase 1 habitat code B2.2, shaded blue in Fig.2. This habitat comprises a majority of the Assessment Site, covering two open fields to the north of existing houses along Celia Crescent. Both fields were cut for hay during summer 2019 but this appears to be the only agricultural practice within the site. The sward in both fields is moderately species-rich and characteristic of land that is subject to low intensity farming. However, all of the recorded plant species are relatively common and widespread within the county.

2) 'Species-rich boundary hedgerows' - Phase 1 habitat classification code J2.1.1, shown in green in Fig.2. This habitat is found around a majority of the boundaries to both fields. Typical species within most sections include spindle, pedunculate oak, ash, elm. Holly, hawthorn, willow, blackthorn, dogwood and elder. With the exception of a short section to the rear of properties along Celia Crescent (see point 3 below) these hedges have not been managed for a number of years, and as such tall and bushy in structure.

3) 'Species-poor boundary hedgerows' - Phase 1 habitat classification code J2.1.2, shown in red in Fig.2. A short section of hedgerow to the rear of properties along Celia Crescent. This hedgerow section appears to be regularly cut back by adjacent householders. Hedgerow height is only 1-2m and some ornamental conifers are present in places.

4) 'Habitats to the north of the site' - Phase 1 habitat classification code not applicable. Shaded yellow in Fig.2. A significant area of land comprising a mixture of 'rough grassland', developing scrub and disused agricultural fields.

Fig.2 – habitats within/bordering the Assessment Site (approximate only)

Fig.2 key	
	Mown, semi-improved, neutral grassland - Phase 1 habitat code B2.2
	Species-rich boundary hedgerows - Phase 1 habitat code J2.1.1
	Species-poor boundary hedgerows - Phase 1 habitat code J2.1.2
	Mixed habitats – Phase 1 habitat code not applicable.

The grassland habitat comprising a majority of the area of the main Assessment Site is not significant above a Site level; being a relatively common and widespread habitats within the County, with no rare or notable plant species likely to be present.

The species-rich hedgerows are significant at a District level; being listed as a HPI under Section 41 of the NERC Act 2006, as well as providing a habitat for some specially protected animal species (dormice and nesting birds).

Habitats to the north of the site were determined likely to be of local value to a range of wildlife, such as nesting birds, mammals and common reptiles (considered further below).

3.4 Cirl buntings

Reference to published information on cirl bunting distribution within Devon shows the Assessment Site does not lie close to any known cirl bunting breeding territories.

In light of this assessment no additional action in relation to cirl buntings is required.

3.5 Bat surveys - approach

3.5.1 General background

The potential value of the Assessment Site to bats was assessed using standard guidance in *'Bat Surveys for Professional Ecologists - Good Practice Guidelines'* (3rd edition, Bat Conservation Trust, 2016). Using the criteria in Table 4.1 of the guidelines:

- The commuting/foraging potential of the site to bats site was determined to be 'moderate'; this because the site includes habitat connected to the wider landscape that could be used by bats for commuting and foraging.
- The roosting potential offered by the site was determined to be 'low'; this because there are only a few matures trees on/close to the main Assessment Site that could be used by small numbers of bats opportunistically (rather than a large number of bats on a regular basis). N.B. As parts of the site are bordered by existing houses the possible presence of roosts immediately outside the site boundary was accounted for in the survey methodology.

To confirm the value of the site to bats a series of manual (transect) and automated (static) surveys were undertaken between April and October 2019. Reference to Table 8.3 of the *Good Practice Guidelines* recommends that, for a site with moderate habitat suitability for bats, the following is sufficient to meet the definition of 'reasonable survey effort':

1. Manual transect surveys – one survey visit per month April to October in appropriate weather conditions for bats. At least one survey should comprise dusk and pre-dawn (or dusk to dawn) within one 24-hour period.
2. Automated (static) surveys – two (monitoring) locations per transect, data to be collected on five consecutive nights per month (April to October) in appropriate weather conditions for bats.

As recommended in Section 8.2.7 of the BCT Guidelines, this level of survey effort is considered sufficient to:

1. Provide a representative sample of the bat activity in all habitats present at the Assessment Site (including behaviour indication possible roosting in marginal buildings and trees).
2. Provide a sufficient amount of data to assess the potential impacts of the development on bats.

3.5.2 Manual transect surveys

Current and previous versions of the BCT Guidelines state that …"an activity survey should provide a representative sample of the bat activity at the proposed development site. Sampling should be appropriate to provide a sufficient amount of data to assess the potential implications of the whole development"; …"transects should be planned to ensure that all features identified that may be used by bats are sampled within 2-3 hours after sunset"; "…the survey should cover the area affected by the proposed development …(and) may need to extend beyond the site boundary or footprint"; …"it is also recommended that a quantitative approach is applied to activity surveys, in which they are designed so that as many factors are controlled as possible".

To ensure these requirements were met, manual transect surveys were undertaken on site on the following dates:

- 24th April 2019 (dusk only)
- 13th May 2019 (dusk only).
- 7th June 2019 (dusk and pre-dawn within one 24-hour period).
- 12th July 2019 (dusk only).
- 23rd August 2019 (dusk only).
- 21st September 2019 (dusk only).
- 29th October 2019 (dusk only).

A consistent survey effort across the Application Site was achieved by means of two surveyors undertaking all of the manual transect surveys; this to ensure a similar 'transect effort index' (TEI), where,

TEI (number of transect hours per ha) = transect hours/site area (hectares)

The manual transect route walked by the surveyors is shown in Fig.3 below (one surveyor to each field). The solid red line shows the standard transect route, with the broken red line indicating the path taken by each surveyor on every other occasion the field was walked in full.

Fig.3 – showing transect route walked (in red)

Each manual transect survey continued until 2 hours after sunset, with the pre-dawn survey on the morning of the 8th June 2019 also being for 2 hours. This gives a total of 16 survey hours in total. Each manual transect included an assessment of the site boundaries (with adjacent woodland areas) as well as houses to the immediate west and south (this to identify any roosting behaviour immediately off site).

All survey work was led by the author, Dr David Fee MCIEEM, a Managing Partner of EPS Ecology. The author has over 18 years of experience of bat surveys in the southwest and is a Class Licence holder for bats (Levels 1 & 2, Natural England registration number CLS02206). The surveyor on each occasion used a hand held Anabat SD1/SD2 bat detector to record all bat calls to an internal CF card.

Throughout each transect survey each surveyor noted his position and time on a separate data sheet at specific landmarks (such as field corners, gateways, road junctions). The behaviour of all bats that were seen during the surveys was also noted.

Manual surveys were all undertaken when weather conditions were suitable (i.e. warm evenings >10°C, with no/light wind and no rain).

3.5.3 Automated bat surveys

Current and previous versions of the BCT Guidelines sate that "Automated (static) systems are employed to achieve a greater level of survey efficiency than is possible with walked transects. They can allow several sample points to be surveyed at the same time, providing more comparable results, or be used to provide a more flexible timetable for surveying. …the number of bat passes recorded by automated systems varies appreciably from night to night, but the overall pattern of activity through the night and the proportions of different species are likely to be similar on successive nights. It is recommended that automated systems are used in each location for several nights in succession, in order to give representative figures for that time of year".

In line with these Guidelines static surveys were completed on site on the following nights:

- 24th to 28th April 2019 (5 nights)
- 13th to 17th May 2019 (5 nights).
- 7th to 11th June 2019 (5 nights).
- 12th to 16th July 2019 (5 nights).
- 23rd to 27th August 2019 (5 nights).
- 21st to 25th September 2019 (5 nights).
- 29th October to 2nd November 2019 (5 nights).

Automated surveys therefore covered a total of 35 nights of monitoring. A total of four monitoring points were used on each occasion, locations shown in Fig.4 below:

- Location A1 - along the edge of the mature hedgerow on the western site boundary (microphone facing into the field).
- Location A2 - along the edge of the mature hedgerow on the northern site boundary (microphone facing into the field).
- Location A3 - at the end of the mature hedgerow dividing the two fields (microphone facing into gateway access between the fields).
- Location A4 - along the edge of the mature hedgerow on the eastern site boundary (microphone facing into the field).

Fig.4 – showing locations of static monitoring points (A1 to A4)

All static monitoring was undertaken using Anabat Express detectors only (i.e. no 'mix' of detector types was used). The Express detector uses an omnidirectional microphone which is sensitive to frequencies between 10KHz to 150KHz. Bats with high frequency, quiet or directional calls (such as horseshoes or long eared bats) may only be detected at distances of typically less than 5 metres. Bats with low frequency and loud calls such as noctule and serotine may be detected as far away as 100m or more. The detectors were therefore placed in locations considered most likely to pick up all of the bat species using the site, with microphones being cable tied to the ends of branches at a height of 1.5 – 2 m above ground level, and along a feature (e.g. hedgerow, field/woodland edge) most likely to be used by commuting/foraging bats (including greater horseshoe).

3.5.4 Data analysis

All recorded bat calls (from both the manual transect and automated surveys) were downloaded from the internal memory cards within each bat detector and processed using Analook W software to produce 'Anabat sequence files'. All sequence files were

subsequently labelled to species (or Genus for Myotis species), with the total number of sequence files for each species during each 'survey event' being transferred to an Excel spread sheet; this to allow the production of tables and graphs showing relative levels of activity across the site. For the purpose of reporting, where a species is identified on an individual sequence file this is recorded as a single 'bat record'.

3.6 Bat surveys – results

3.6.1 Manual transect surveys

The following bat species were recorded during the manual transect surveys (combined). The total number of records for each species is also shown. 'Unknown record' relates to those recordings that either (a) cannot be accurately be identified to species level, or (b) are made by something other than a bat (e.g. insect, bird).

- Common pipistrelle (P45) - 224 records (46% of total).
- Soprano pipistrelle (P55) – 173 records (35% of total).
- Noctule – 43 records (9% of total).
- *Myotis* sp. (probable Whiskered bat) - 21 records (4% of total).
- Unknown - 27 records (6% of total).

Of these bat species only soprano pipistrelle is listed as a 'Species of Principle Importance' (SPI) under S41 of the NERC Act 2006, all other species being relatively widespread and common within the UK.

Reference to these figures indicates that both common and soprano pipistrelle is the species most likely to be encountered on site. Soprano pipistrelle was largely associated with the northern site boundary which adjoins a line of trees/shrubs either side of a small watercourse ('wet habitats' being preferred by this species). Common pipistrelle had a widespread distribution across the site.

Noctule was occasionally recorded during most surveys, flying high over the site at dusk. This bat species is associated with trees and woodland for roosting but forages over a wide range of habitats. The *Myotis* bat species was occasionally recorded on site, with most records associated with the northern site boundary which adjoins a line of trees/shrubs either side of a small watercourse. Detailed analysis of recorded bat calls indicates this *Myotis* species was a Whiskered bat.

Given the observed behaviour of all recorded bats, only foraging activity by individual bats is typically undertaken on site, though in September and October two or three bats were seen on occasion taking part in 'social' flight behaviour.

On no occasion during the manual transect surveys was any bat seen to emerge from any trees or houses on/immediately bordering the site. Current evidence therefore indicates that no bat roosts are present on/close to the Assessment Site.

3.6.2 Spatial representation of manual transect survey results

Key areas of bat activity are shown on the site plan in Fig.5 below. Analysis of Anabat sequence files (see Section 3.5.4) produces tables that give the number of records for each species for each minute of the survey. Using these data and referring back to the field notes for the position of the surveyor for each minute of the survey, the location of bats recorded can be determined. Areas where bats were recorded during the combined manual transect surveys are shown by red circles, with some circles indicating multiple records. The northern site boundary, where a majority of soprano pipistrelle records were obtained, is indicted by the yellow arrows.

Fig.5 – Showing key areas of bat activity (manual transects) in red, with northern site boundary where soprano pipistrelle activity is concentrated indicated by yellow arrows

Reference to Fig.5 shows that the highest levels of bat activity are associated with the northern site boundary. This is not unexpected as this boundary provides the best opportunities for foraging bats, this because:

I. This boundary directly adjoins a line of mature trees/shrubs either side of a small stream (therefore high habitat diversity).
II. It lies within slightly lower ground that the main body of the site and is therefore somewhat sheltered from prevailing weather.
III. Land to the north of the site comprises a large area of land suitable for bat foraging (rough grassland, scattered scrub).

3.6.3 Species activity index – automated surveys

The following bat species were recorded during the automated surveys (combined).

- Common pipistrelle (P45) - 800 records (48.0% of total).
- Soprano pipistrelle (P55) – 527 records (31.6% of total).
- Noctule – 168 records (10.1% of total).
- *Myotis* sp. (probable Whiskered bat) - 81 records (4.9% of total).
- Lesser horseshoe bat (LHB) - 12 records (0.7% of total).
- Greater horseshoe bat (GHB) - 3 records (0.2% of total).
- Unknown - 77 records (4.6% of total).

These results support the findings of the manual surveys, namely that the Assessment Site is primarily used by common and soprano pipistrelle (combined total of 79.6% of all records). As would be expected following long-term monitoring, two less common bat species were also identified, namely greater horseshoe and lesser horseshoe. The percentage of records for both of these species was, however, very low (0.2% and 0.7% respectively) and so they can be seen as very rare visitors only.

Of the four locations used for detector placement (see Fig.4) a comparison of the number and percentage of records obtained at each monitoring location is shown in Table 1. (N.B. These are for the identified bat species only, the 'Unknown' records being excluded).

Location	Total number of records	% of records
A1	198	12.4
A2	878	55.2
A3	127	8.0
A4	388	24.4

Table 1 – number and % of bat records by static monitoring locations

Reference to these data supports the findings of the manual transects, that bat activity is generally higher along the northern edge of the site.

GHB and LHB were only recorded at Locations A2 and A4.

3.6.4 Summary of survey findings

Of the bat species recorded on site, soprano pipistrelle, noctule, GHB and LHB are all listed as 'Species of Principle Importance' (SPI) under S41 of the NERC Act 2006. S41 species are deemed to be the rarest and most threatened species in England and therefore need to be taken into consideration by an LPA when performing any of its functions. The other recorded bat species are widespread and relatively common within the UK and exploit a range of semi-natural habitats for foraging.

Reference to the combined survey results has confirmed relatively high levels of foraging activity by all recorded species along the northern site boundary (see Section 3.6.2 for likely explanation).

Foraging activity is almost wholly confined to the margins of the site (hedgerow boundaries), with the interior of both fields being of little value to bats (being open and lacking tall vegetation, wet areas, ponds, etc.).

In relation to the findings for the recorded bat species (manual transect and automated surveys combined) the following summary is provided:

- Common pipistrelle - the most commonly recorded species across the Assessment Site. A small number of bats (+/-5 bats) likely to be present on site during the spring, summer and autumn.
- Soprano pipistrelle – frequently recorded across the whole of the site. A small number of bats (+/-5 bats) likely to be present on site during the spring, summer and autumn.
- Noctule – being a relatively high flying and 'loud' species noctule was occasionally recorded on site. This is not unexpected given the extensive areas of woodland off site to the north (e.g. towards Stoke Woods, Huxham and Poltimore). Individual bats (+/-2 bats) likely to be present on site during the spring, summer and autumn.
- *Myotis* sp. – occasionally recorded across the site. Individual bats likely to be present on site during the spring, summer and autumn.
- Lesser horseshoe – rarely recorded and only along the northern site boundary. Individual bats likely to be present on site during spring, summer and autumn.
- Greater horseshoe - rarely recorded and only along the northern site boundary. Individual bats likely to be present on site during spring, summer and autumn.

Of the recorded bat species, both GHB and LHB are known to be sensitive to illumination from within developments (this causing changes in feeding and commuting behaviour if significantly above natural levels).

No significant commuting routes into the site were identified during the surveys. No bat roosts were identified within trees/houses on/bordering the site.

Certain landscape features on/bordering the Assessment Site will also be of value to populations of the recorded bat species for foraging. These comprise the 'typical' habitats known to be favoured by bats, such as mature hedgerows, woodland/scrub, wetlands, ponds and watercourses. The locations of these habitat features within the local area are shown in Fig.6.

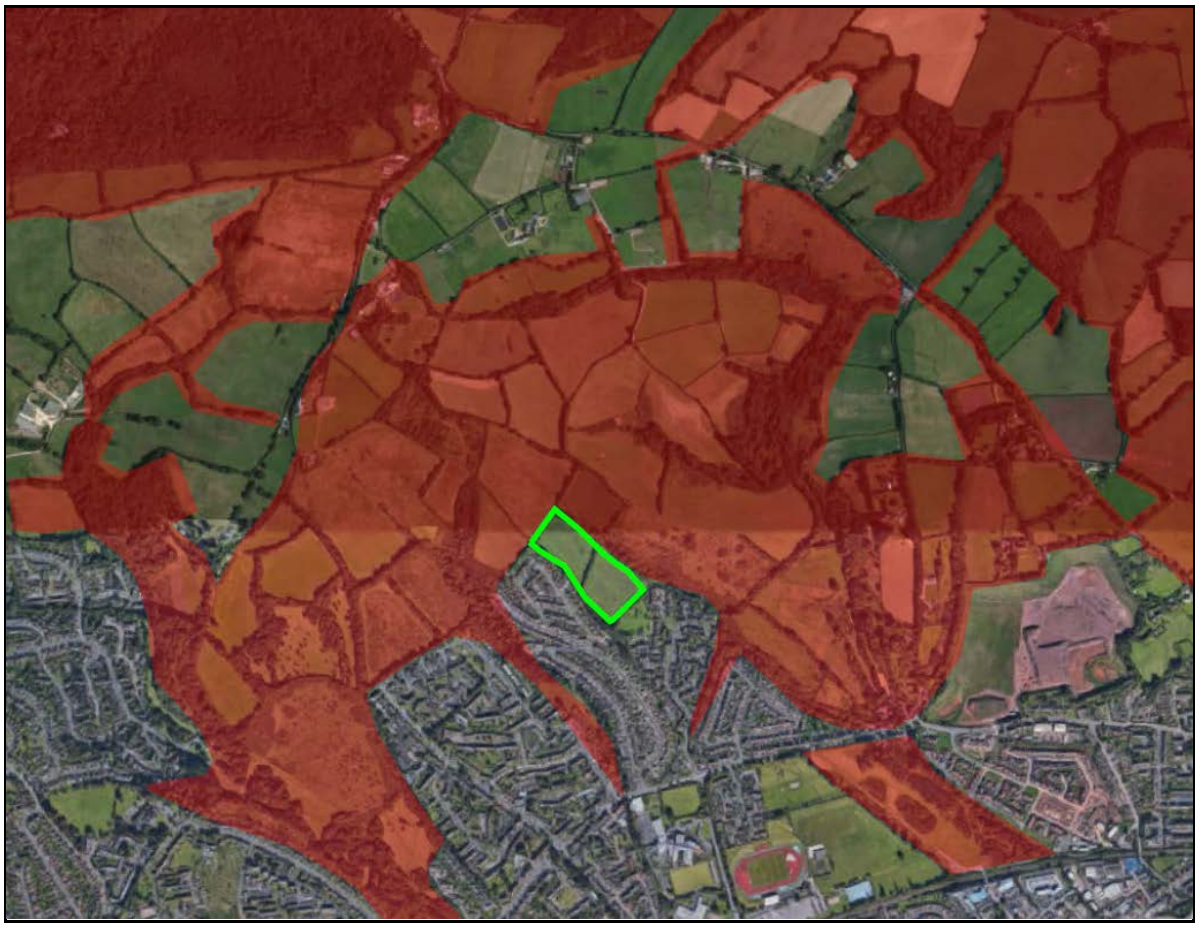


Fig.6 – Assessment Site (in green) with local landscape features of potential vlaue to bats (in red)

Reference to Fig.6 confirms that the Assessment Site provides a relatively small proportion of the total area of these bat habitats within the local area. It also does not appear to be of critical value in providing a corridor for bat movements locally.

3.6.5 Site value to bats

A framework for determining the overall value of the site to bats is provided below (taken from the Chartered Institute of Ecology and Environmental Management's 'In Practice' publication, Number 70, December 2010). This framework involves an assessment of:

1. The rarity of the bat species found on site.
2. The approximate number of bats using the site (based on survey data).
3. The proximity of known roosts.
4. Landscape scale forging opportunities for local bat populations.

In following this framework the following foraging values for each of the bat species recorded on site have been determined (Table 2).

Species	**Rarity in England**	**Estimated number of bats**	**Roost or potential roost nearby**	**Foraging habitat characteristics on site**	**Overall site value**
45 pip	Common 2	Small number of bats 10	None 1	Hedgerows and site boundaries 4	**Local or Parish 17**
55 pip	Common 2	Small number of bats 10	None 1	Hedgerows and site boundaries 4	**Local or Parish 17**
Noctule	Rarer 5	Individual bats 5	None 1	Hedgerows and site boundaries 4	**Local or Parish 15**
Myotis sp.	Rarer 5	Individual bats 5	None 1	Hedgerows and site boundaries 4	**Local or Parish 15**
LHB	Rarer 5	Individual bats 5	None 1	Hedgerows and site boundaries 4	**Local or Parish 15**
GHB	Rarest 20	Individual bats 5	None 1	Hedgerows and site boundaries 4	**Local or Parish 30**

Table 2 – showing forging value of the Assessment Site to recorded bat species

In relation to the above, the Assessment Site is valued as being of Local/Parish value to all of the recorded bat species that might typically be present. This includes greater horseshoe bat, as whilst it is nationally rare this species is not uncommon in many parts of Devon, including the local area in which the Assessment Site is located. As only individual GHB's are likely to visit the site on an occasional basis, the site significance to this species can reasonably be reduced to Local/Parish level.

3.7 Dormice

The site was determined to lie within a landscape that might be used by dormice. Surveys were therefore undertaken to confirm the presence or 'likely absence' of dormice on site. The survey followed the standard guidance for dormouse tube surveys provided in the *'Dormouse Conservation Handbook'* (second edition), English Nature, 2006. A total of 50 tubes were placed in suitable vegetation on the 15th May 2019. These were left *in situ* until the 4th November 2019. This number of tubes being present for this period provided a 'search effort score' of 20; with a score of 20 or above being deemed a 'thorough survey' (English Nature Report No. 524).

The distribution of dormouse tubes is shown in Fig.7 below.

Fig.7 – distribution of dormouse tubes across the Assessment Site (in green)

Tube checks in July and September found no evidence of dormice. However, a tube check on the 4th of November found an active young dormouse in a nest within a tube just to the north of the Assessment Site (location shown in Fig.7).

Whilst no nests or other evidence of dormice was found within the application site itself there are strong hedgerow links between the confirmed dormouse location and the Assessment Site. Whilst scrub and woodland is often viewed as the habitat preferred by dormice, hedgerows are known to provide high quality habitat for this species - though population densities are strongly related to hedgerow height and shrub diversity. Dormouse ranges in hedgerows are known to be longer than those in woodlands, but cover an order of magnitude smaller area. This implies that dormice are constrained to feed within relatively small areas, and that hedgerows therefore need to be diverse and productive to supply them with sufficient food (English Nature Report Number 454 – *'Hedgerow management, dormice and biodiversity'*).

Almost all of the hedgerows within the Assessment Site meet the definition of 'high quality habitat' for dormice (either due to diversity or size). Therefore, the overall conclusion is that

there is a resident population of dormice within the local area and that the hedgerows within the Assessment Site form part of this wider home range for this population.

3.8 Reptiles

Small parts of the Assessment Site were determined to provide suitable conditions for common reptiles (e.g. slow-worm). To establish presence/absence a total of x40 artificial refuges (50x50cm 'mats') were placed on site in June 2019 (in line with Froglife, 1999, '*Froglife Advice Sheet 10: reptile survey'.* Froglife, London) - locations shown in Fig.8. These were checked a total of 14 times, up to the end of October 2019.

Fig.8 – habitat areas (in red) where reptile survyes were completed

No evidence of reptiles was found within the Assessment Site during the survey season and so these species are considered 'likely absent' from the Assessment Site. In light of this assessment no specific action in relation to reptiles is required.

3.9 Amphibians

The desk study confirmed that the Assessment Site lies within a 'Devon Great Crested Newt Consultation Zone'. The boundaries of the Consultation Zones are based on Natural England's survey guidance and Standing Advice and include areas up to 2km from all current

and historic GCN records within East Devon, Mid Devon, South Hams, Exeter, Plymouth, Teignbridge, Torbay and north Devon.

Using the *'Guidance for Developers'* GCN impact decision tree the following assessment is made for the Assessment Site with specific reference to great crested newts (GCN).

- Question: Is there suitable GCN habitat on site? Answer: Yes, but only within the boundary hedgerows.
- Question: Is the development site within a GCN Consultation Zone? Answer: Yes.
- Question: Is a pond present on site? Answer: No.
- Question: Is a pond present within 500m of the site boundary? Answer: No.

In light of this assessment 'no additional action is required' in relation to GCN's; though as for all developments, appropriate due caution should be adopted as part of any works on site.

3.10 Otters

No habitats or features of potential value to this species are found within the Assessment Site.

3.11 Water voles

Water voles are not found within the local area and no habitat/features of potential value to this species are found within the Assessment Site.

3.12 Breeding birds other than cirl bunting

All boundary hedgerows (and associated mature trees) provide suitable cover for birds to nest, but this only during the breeding season (generally accepted to run from the 1st March to the 31st July for the range of species that might typically be present).

No habitat for nesting birds is currently found within the main part of the site (being open fields subject to annual cutting).

3.13 Badgers

No badger activity or evidence of setts was identified on site during the 2019 survey season.

3.14 Other features

3.14.1 Hedgerows and mature trees

Hedgerows are described in Section 3.3 of this EcIA.

Mature trees make up a significant proportion of the hedgerows sections along the northern and southern site boundaries (shown in Fig.9). Other hedges have occasional mature trees only.

Site surveys indicate that none of these trees have features suitable for roosting bats, but some are likely to be used by birds for nesting (see Section 3.12).

Fig.9 – site boundaries with significant proportion of mature trees (in green)

3.14.2 Invasive species

No invasive species (including Japanese knotweed) were noted within/close to the Assessment Site during the 2019 survey season.

3.14.3 Waterbodies

A small stream runs within the area of trees to the immediate north of the Assessment Site (see Fig.10). This runs to the south-east and into Pin Brook.

Fig.10 – general line of small stream (in blue)

4.0 PREDICTION OF ECOLOGICAL IMPACTS

4.1 Ecological evaluation

Table 3 (below) provides a baseline evaluation of habitats and species within the 'zone of influence' (ZoI) of the Assessment Site (i.e. the areas/resources that may be affected by the biophysical changes caused by activities associated with a project). For the purpose of this EcIA the ZoI includes all of the habitat areas within and immediately bordering the Assessment Site (shown in Fig.2).

Development proposals for the site involve the construction of both commercial and social housing with associated (roads, pavements, parking areas, etc.). This will involve:

- Forming two dedicated access points into the site, one off Spruce Close and another off Celia Crescent.
- Vegetation clearance within the two fields that comprise the site, as well as some sections of boundary/internal hedgerows.
- The creation of suitable levels within the site to allow construction.
- Construction of the new dwellings, etc.

An Illustrative Masterplan is shown in Fig.1 (page 10). The EcIA that follows is made in relation to the potential impacts arising from this specific scheme only; any amendments may require a reassessment of impacts, mitigation, etc..

Overall the site is considered to be of 'District' value to biodiversity, this due to the presence of some important habitats and species, namely:

- Species-rich hedgerows which are classified as a 'Habitat of Principle Importance' (HPI) under S41 of the NERC Act 2006, as well as forming part of the strategic green infrastructure within Exeter (*Exeter Adopted Core Strategy*: CP16 - Green Infrastructure, Landscape and Biodiversity).
- A moderate range of bat species being associated with some habitats on site; some of these species being classified as a 'Species of Principle Importance' (SPI) under S41 of the NERC Act 2006.
- A moderate range of bird species, some of which are likely to use the site for nesting; these including species such as dunnock, bullfinch and song thrush which were all seen at some time during the site surveys and are listed as 'Species of Principle Importance' (SPI) under S41 of the NERC Act 2006.
- Dormouse, which listed as a SPI under Section 41 of NERC act 2006 and is protected under the 'Conservation of Species and Habitats Regulations' (2010) and the 'Wildlife and Countryside Act' (1981, as amended).

Table 3 – ecological evaluation of ecological resources within the zone of influence

Ecological resource	Ecological evaluation	Reason for valuation
Designated sites		
None present	N/A	N/A
Habitats within the ZoI		
Mown, semi-improved neutral grassland	Site value	Common and widespread habitat with moderate botanical diversity. None of this habitat area is likely to be of critical value in supporting populations of specially protected animal species.
Species-rich boundary hedgerows	District value	Classified as a 'Habitat of Principle Importance' (HPI) under S41 of the NERC Act 2006 and integral to achieving Policy CP16 of Exeter Adopted Core Strategy. Provide habitat for dormouse which is a SPI and Specially Protected Species. Provide potential nesting habitat for a range of bird species, some of which may be SPI's. Provide foraging habitat for a range of bird species.
Species-poor boundary hedgerows	Local/Parish value	Common and widespread habitat with moderate botanical diversity. Likely to provide habitat for dormouse which is a SPI and Specially Protected Species. Likely to provide potential nesting habitat for a range of bird species, some of which may be SPI's. Provide foraging habitat for a range of bird species.
Habitats to the north of the site	Local/Parish value	Likely to be of local value to a range of wildlife, such as nesting birds, mammals and common reptiles.
Mature trees	Local/Parish value	Mature trees make up a significant proportion of the hedgerows sections along the northern and southern site boundaries. Other hedges have occasional mature trees only. Site surveys indicate that none of these trees have features suitable for roosting bats, but some are likely to be used by birds for nesting.
Stream	Local/Parish value	A small stream runs within the area of trees to the immediate north of the Assessment Site. This runs to the south-east and into Pin Brook. The section adjacent the Assessment Site is not associated with any significant ecological value.
Species within the ZoI		
Bats	District value	Of the bat species recorded on site, soprano pipistrelle, noctule, GHB and LHB are all listed as 'Species of Principle Importance' (SPI) under S41 of the NERC Act 2006. S41 species are deemed to be the rarest and most threatened species in England and therefore need to be taken into consideration by an LPA when performing any of its functions. The other recorded bat species are widespread and relatively common within the UK and exploit a range of semi-natural habitats for foraging. All bat species are protected under the 'Conservation of Species and Habitats Regulations' (2010) and the 'Wildlife and Countryside Act' (1981, as amended).
Dormice	District value	Listed as a SPI under Section 41 of NERC act 2006 and protected under the 'Conservation of Species and Habitats Regulations' (2010) and the 'Wildlife and Countryside Act' (1981, as amended).

Nesting birds	Unknown but of Local/Parish value if present	A moderate range of bird species, some of which are likely to use the site for nesting; these including species such as dunnock, bullfinch and song thrush which were all seen at some time during the site surveys and are listed as 'Species of Principle Importance' (SPI) under S41 of the NERC Act 2006. All bird species are also protected under the 'Wildlife and Countryside Act' (1981, as amended).

In relation to this baseline ecological evaluation the following prediction of impacts is made.

4.2 Impacts during development and operational phases

A prediction of ecological impacts on habitats/species arising from the development proposals outlined in Section 4.1, during both the 'development' and 'operational' phases and where no mitigation is provided, is detailed in Table 4 below.

Table 4 – ecological impacts during development and operational phases

Ecological resource	Nature and significance of impact(s)	Characteristics of impact(s)
Designated sites		
None present	N/A	N/A.
Habitats within the ZoI		
Mown, semi-improved neutral grassland	**DEVELOPMENT PHASE** Common and widespread habitat with moderate botanical diversity. None of this habitat area is likely to be of critical value in supporting populations of specially protected animal species. **No significant impact predicted (as Site level only).** **OPERATIONAL PHASE** The site will comprise houses and associated gardens, roads, etc. - none of this habitat type will therefore remain post-development. **No significant impact predicted.**	**Development Phase** N/A. **Operational Phase** N/A.
Species-rich boundary hedgerows	**DEVELOPMENT PHASE** Classified as a 'Habitat of Principle Importance' (HPI) under S41 of the NERC Act 2006 and integral to achieving Policy CP16 of Exeter Adopted Core Strategy. Provide habitat for dormouse which is a SPI and Specially Protected Species. Provide potential nesting habitat for a range of bird species, some of which may be SPI's. Provide foraging habitat for a range of bird species. Reference to Fig.10 below shows that removal or trimming back of some sections of hedgerows is required as part of the development – 'G1' where hedgerow removal is required and 'G2' where only trimming back of the face of the hedgerow is needed. **Possible and negative impact at District level predicted.**	**Development Phase** Possible, acute and negative impact of limited extent and magnitude (District level). Impacts however reversible with appropriate mitigation (see Section 5.1).

	 ***Fig.10*** **OPERATIONAL PHASE** Retained hedgerows to be incorporated into areas of designated 'green space'. With appropriate management these hedges could provide net benefits to biodiversity. Potential for adverse impacts on retained hedgerows where they directly border private gardens (e.g. due to direct damage, illumination), especially as these hedges may be used by dormice. **Possible and negative impact at District level predicted.**	**Operational Phase** Possible, acute and negative impact of limited extent and magnitude (District level). Impacts however reversible with appropriate mitigation (see Section 5.1).
Species-poor boundary hedgerows	**DEVELOPMENT PHASE** Common and widespread habitat with moderate botanical diversity. Likely to provide habitat for dormouse which is a SPI and Specially Protected Species. Likely to provide potential nesting habitat for a range of bird species, some of which may be SPI's. Provide foraging habitat for a range of bird species. Reference to Fig.10 shows that none of this habitat type needs to be removed as part of the development. **No significant impact predicted.** **OPERATIONAL PHASE** Retained hedgerows to be incorporated into areas of designated 'green space'. With appropriate management these hedges could provide net benefits to biodiversity. Potential for adverse impacts on retained hedgerows where they directly border private gardens (e.g. due to direct damage, illumination), especially as these hedges may be used by dormice and/or nesting birds. **Possible and negative impact at District level predicted.**	**Development Phase** N/A. **Operational Phase** Possible, acute and negative impact of limited extent and magnitude (District level). Impacts however reversible with appropriate mitigation (see Section 5.1).

Habitats to the north of the site	**DEVELOPMENT PHASE** Likely to be of local value to a range of wildlife, such as nesting birds, mammals and common reptiles. However, these habitats lie outside the development site footprint. **No significant impact predicted.** **OPERATIONAL PHASE** There is no formal access to these habitats from within the development site. Any informal use would be restricted to the existing rough paths that are found through the area. Disturbance away from these paths is considered highly unlikely, as the ground is largely covered with dense scrub, brambles, nettles and other 'natural barriers'. **No significant impact predicted.**	**Development Phase** N/A. **Operational Phase** Neutral overall.
Mature trees	**DEVELOPMENT PHASE** Mature trees make up a significant proportion of the hedgerows sections along the northern and southern site boundaries. Other hedges have occasional mature trees only. Site surveys indicate that none of these trees have features suitable for roosting bats, but some are likely to be used by birds for nesting. Reference to Fig.10 (above) shows that some mature trees need to be removed as part of the development (as they lie within hedgerow section G1). **Possible and negative impact at Site level predicted.** **OPERATIONAL PHASE** Retained hedgerow trees will form part of the 'soft landscaping' within the completed development. **No significant impact predicted.**	**Development Phase** Possible, acute and negative impact of limited extent and magnitude (District level). Impacts however reversible with appropriate mitigation (see Section 5.1). **Operational Phase** N/A.
Stream	**DEVELOPMENT PHASE** A small stream runs within the area of trees to the immediate north of the Assessment Site. This runs to the south-east and into Pin Brook. The section adjacent the Assessment Site is not associated with any significant ecological value. The stream will not be directly affected during development, though there is limited potential for runoff from within the construction zone to enter this watercourse. **Possible and negative impact at Local/Parish level predicted.** **OPERATIONAL PHASE** Runoff from within the completed development will be contained by appropriate drainage/attenuation measures. **No significant impact predicted.**	**Development Phase** Possible, acute and negative impact of limited extent and magnitude (Local Parish level). Impacts however reversible with appropriate mitigation (see Section 5.1). **Operational Phase** N/A.
Species within the ZoI		
Bats	**DEVELOPMENT PHASE** Of the bat species recorded on site, soprano pipistrelle, noctule, GHB and LHB are all listed as 'Species of Principle Importance' (SPI) under S41 of the NERC Act 2006. S41 species are deemed to be the rarest and most threatened species in England and therefore need to be taken into consideration by an LPA when performing any of its functions. The other recorded bat species are widespread and	**Development Phase** N/A.

	relatively common within the UK and exploit a range of semi-natural habitats for foraging. All bat species are protected under the 'Conservation of Species and Habitats Regulations' (2010) and the 'Wildlife and Countryside Act' (1981, as amended). The main body of the Assessment Site where development will take place currently comprises open ground (mown grassland and this does not represent habitat typically used by bats for foraging (as confirmed by the manual transect surveys). Artificial lighting within the site is unlikely to be required during construction and construction work typically ends each day before last light. **No significant impact predicted (as Site level only).** **OPERATIONAL PHASE** Disturbance of foraging by light sensitive bat species from inappropriate artificial lighting within the completed development may arise. **Possible negative effect at District level predicted.**	**Operational Phase** Possible, acute and negative impact of limited extent and magnitude (District level). Impacts however reversible with appropriate mitigation (see Section 5.1).
Dormice	**DEVELOPMENT PHASE** Listed as a SPI under Section 41 of NERC act 2006 and protected under the 'Conservation of Species and Habitats Regulations' (2010) and the 'Wildlife and Countryside Act' (1981, as amended). Reference to Fig.10 shows that removal of some sections of species-rich hedgerows is required as part of the development. This represents an activity that might result in killing or injury, damage or destruction of a nest, disturbance of a dormouse. **Possible and negative impact at District level predicted.** **OPERATIONAL PHASE** 'Indirect impacts' may arise arising from the occupation of houses and residents' use of POS adjacent to retained hedgerows. Inappropriate use of artificial lighting within the development may also deter dormice from using retained hedgerows. **Possible and negative impact at District level predicted.**	**Development Phase** Possible, acute and negative impact of limited extent and magnitude (District level). Impacts however reversible with appropriate mitigation (see Section 5.1). **Operational Phase** Possible, acute and negative impact of limited extent and magnitude (District level). Impacts however reversible with appropriate mitigation (see Section 5.1).
Nesting birds	**DEVELOPMENT PHASE** A moderate range of bird species, some of which are likely to use the site for nesting; these including species such as dunnock, bullfinch and song thrush which were all seen at some time during the site	**Development Phase** Possible, acute and negative impact of limited extent and

	surveys and are listed as 'Species of Principle Importance' (SPI) under S41 of the NERC Act 2006. All bird species are also protected under the 'Wildlife and Countryside Act' (1981, as amended). The main body of the Assessment Site where development will take place currently comprises open ground and no habitat of potential value to nesting birds is found within this area. Reference to Fig.10 shows that removal of some sections of species-rich hedgerows is required as part of the development. This represents an activity that might result in an offence (e.g. killing or injury, damage or destruction of a nest). **Possible and negative impact at Local/Parish level predicted.** **<u>OPERATIONAL PHASE</u>** Potential nesting habitat (hedgerows) bordering the site will not be affected. **No significant impact predicted.**	magnitude (Site level). Impacts however reversible with appropriate mitigation (see Section 5.1). **<u>Operational Phase</u>** N/A

5.0 MITIGATION AND ENHANCEMENT

Mitigation measures are provided in Section 5.1 (Table 5); following CIEEM guidelines a sequential process is adopted to avoid, mitigate and compensate ecological impacts. In practice this means reducing 'significant negative impacts' identified in Section 4.2 to a level where they are no longer likely to undermine biodiversity conservation objectives for important ecological features, habitats, species, or biodiversity in general.

Enhancement measures for biodiversity are provided in Section 5.2 (Table 6). These provide long-term improvements to the ecological condition of the site in line with central/local government planning policy.

Full details of the required mitigation and enhancement measures will be provided in a site-specific Ecological Mitigation and Enhancement Strategy (EMES), provision of which is usually made a condition of planning approval (in accordance with Section D.4 of BS 42020: 2013). This requirement is summarised in Section 5.3.

As a general measure, an ecological 'clerk of works' (EcOW) or 'appointed ecologist' will be employed by the developer prior to the start of works. This person will be responsible for ensuring all of the mitigation and enhancement measures are adopted as part of the approved development.

5.1 Mitigation during development and operational phases of the proposed works

The following mitigation measures (Table 5) will be required as part of the proposals.

Table 5 – mitigation during development and operational phases

Ecological resource	**Nature and significance of impact(s)**	**MITIGATION REQUIRED**
Designated sites		
None present	N/A	N/A.
Habitats within the ZoI		
Mown, semi-improved neutral grassland	**DEVELOPMENT PHASE** Common and widespread habitat with moderate botanical diversity. None of this habitat area is likely to be of critical value in supporting populations of specially protected animal species. **No significant impact predicted (as Site level only).** **OPERATIONAL PHASE** The site will comprise houses and associated gardens, roads, etc. - none of this habitat type will therefore remain post-development. **No significant impact predicted.**	**Development Phase Mitigation** No specific mitigation required as impact of site level significance only. **Operational Phase Mitigation** N/A.
Species-rich boundary hedgerows	**DEVELOPMENT PHASE** Classified as a 'Habitat of Principle Importance' (HPI) under S41 of the NERC Act 2006 and integral to	**Development Phase Mitigation** All retained hedgerows (and other marginal vegetation) will be

	achieving Policy CP16 of Exeter Adopted Core Strategy. Provide habitat for dormouse which is a SPI and Specially Protected Species. Provide potential nesting habitat for a range of bird species, some of which may be SPI's. Provide foraging habitat for a range of bird species. Reference to Fig.10 shows that removal of some sections of hedgerows is required as part of the development. **Possible and negative impact at District level predicted.** **OPERATIONAL PHASE** Some retained hedgerows to be incorporated into areas of designated 'green space'. With appropriate management these hedges could provide net benefits to biodiversity. Potential for adverse impacts on retained hedgerows where they directly border private gardens (e.g. due to direct damage, illumination), especially as these hedges may be used by dormice. **Possible and negative impact at District level predicted.**	protected for the duration of the construction work using BS5837:2012 (or similar standard). No machinery will be allowed to start any ground works until such time that these measures are in place. Hedgerow loss will be replaced on a 1:1 basis by replanting of suitable native species elsewhere on site. Hedgerows to be removed will be subject to specific Mitigation Method Statements (MM's) for both dormice and nesting birds (further details in relevant sections below). **Operational Phase Mitigation** Hedgerow protection measures to ensure long-term use by dormice and nesting birds are detailed in the relevant sections below. ***All required mitigation will be provided in a site-specific Ecological Mitigation and Enhancement Strategy (EMES) which will be made a condition of any planning approval.***
Species-poor boundary hedgerows	**DEVELOPMENT PHASE** Common and widespread habitat with moderate botanical diversity. Likely to provide habitat for dormouse which is a SPI and Specially Protected Species. Likely to provide potential nesting habitat for a range of bird species, some of which may be SPI's. Provide foraging habitat for a range of bird species. Reference to Fig.10 shows that none of this habitat type needs to be removed as part of the development. **Possible and negative impact at District level predicted.** **OPERATIONAL PHASE** Retained hedgerows to be incorporated into areas of designated 'green space'. With appropriate management these hedges could provide net benefits to biodiversity. Potential for adverse impacts on	**Development Phase Mitigation** The same mitigation as detailed for 'species-rich boundary hedgerows' (above) will be required. **Operational Phase Mitigation** The same mitigation as detailed for 'species-rich boundary hedgerows' (above) will be required.

	retained hedgerows where they directly border private gardens (e.g. due to direct damage, illumination), especially as these hedges may be used by dormice. **Possible and negative impact at District level predicted.**	***All required mitigation will be provided in a site-specific Ecological Mitigation and Enhancement Strategy (EMES) which will be made a condition of any planning approval.***
Habitats to the north of the site	**DEVELOPMENT PHASE** Likely to be of local value to a range of wildlife, such as nesting birds, mammals and common reptiles. However, these habitats lie outside the development site footprint. **No significant impact predicted.** **OPERATIONAL PHASE** There is no formal access to these habitats from within the development site. Any informal use would be restricted to the existing rough paths that are found through the area. Disturbance away from these paths is considered highly unlikely, as the ground is largely covered with dense scrub, brambles, nettles and other 'natural barriers'. **No significant impact predicted.**	**Development Phase Mitigation** N/A. **Operational Phase Mitigation** N/A.
Mature trees	**DEVELOPMENT PHASE** Mature trees make up a significant proportion of the hedgerows sections along the northern and southern site boundaries. Other hedges have occasional mature trees only. Site surveys indicate that none of these trees have features suitable for roosting bats, but some are likely to be used by birds for nesting. Reference to Fig.10 (above) shows that some mature trees need to be removed as part of the development (as they lie within hedgerow section G1). **Possible and negative impact at Site level predicted.** **OPERATIONAL PHASE** Retained hedgerow trees will form part of the 'soft landscaping' within the completed development. **No significant impact predicted.**	**Development Phase Mitigation** All tree work (felling and trimming) will be undertaken in line with BS5837 2012 (*'Trees in relation to design, demolition and construction'*) and BS3998 (*'Tree work'*). **Operational Phase Mitigation** N/A.
Stream	**DEVELOPMENT PHASE** A small stream runs within the area of trees to the immediate north of the Assessment Site. This runs to the south-east and into Pin Brook. The section adjacent the Assessment Site is not associated with any significant ecological value. The stream will not be directly affected during development, though there is limited potential for runoff from within the construction zone to enter this watercourse. **Possible and negative impact at Local/Parish level predicted.**	**Development Phase Mitigation** The watercourse will be protected from runoff, etc. by use of current pollution prevention guidelines; formerly provide by the Environment Agency but now available at https://www.gov.uk. No machinery will be allowed to start any ground works until such time that suitable measures are in place.

	OPERATIONAL PHASE Runoff from within the completed development will be contained by appropriate drainage/attenuation measures. **No significant impact predicted.**	**Operational Phase Mitigation** N/A.
Species within the ZoI		
Bats	**DEVELOPMENT PHASE** Of the bat species recorded on site, soprano pipistrelle, noctule, GHB and LHB are all listed as 'Species of Principle Importance' (SPI) under S41 of the NERC Act 2006. S41 species are deemed to be the rarest and most threatened species in England and therefore need to be taken into consideration by an LPA when performing any of its functions. The other recorded bat species are widespread and relatively common within the UK and exploit a range of semi-natural habitats for foraging. All bat species are protected under the 'Conservation of Species and Habitats Regulations' (2010) and the 'Wildlife and Countryside Act' (1981, as amended). The main body of the Assessment Site where development will take place currently comprises open ground (mown grassland and this does not represent habitat typically used by bats for foraging (as confirmed by the manual transect surveys). Artificial lighting within the site is unlikely to be required during construction and construction work typically ends each day before last light. **No significant impact predicted (as Site level only).** **OPERATIONAL PHASE** Disturbance of foraging by light sensitive bat species from inappropriate artificial lighting within the completed development may arise. **Possible negative effect at District level predicted.**	**Development Phase Mitigation** During the construction phase the Site Manager and EcOW will be responsible for ensuring contractors do not place artificial lighting close to boundary hedgerows; though in practice this measure is unlikely to be needed, as all work within the construction industry ceases before last light. **Operational Phase Mitigation** Post-construction reductions in the illumination of boundary hedgerows will be achieved by use of 'smart lighting' measures, as follows: • Keeping any internal street lighting as far away from the boundary hedgerows as possible. • Use of directional lighting, hoods/cowls, etc. on any street lighting. • External lighting on the parts of any buildings facing the boundary hedgerows to use timers, hoods/cowls, etc. These measures will be completed

		under the direct supervision of the EcOW. ***All required mitigation will be provided in a site-specific Ecological Mitigation and Enhancement Strategy (EMES) which will be made a condition of any planning approval.***
Dormice	**<u>DEVELOPMENT PHASE</u>** Listed as a SPI under Section 41 of NERC act 2006 and protected under the 'Conservation of Species and Habitats Regulations' (2010) and the 'Wildlife and Countryside Act' (1981, as amended). Reference to Fig.10 shows that removal of some sections of species-rich hedgerows is required as part of the development. This represents an activity that might result in killing or injury, damage or destruction of a nest, disturbance of a dormouse. **Possible and negative impact at District level predicted.** **<u>OPERATIONAL PHASE</u>** 'Indirect impacts' may arise arising from the occupation of houses and residents' use of POS adjacent to retained hedgerows. Inappropriate use of artificial lighting within the development may also deter dormice from using retained hedgerows. **Possible and negative impact at District level predicted.**	**<u>Development Phase Mitigation</u>** As the likelihood of an offence being committed is considered possible there is a **requirement to undertake hedgerow clearance under the terms of a European Protected Species Mitigation Licence (EPSML)**. A licence application can be made to Natural England once planning approval has been agreed. The Method Statement that forms part of the licence application will include measures on appropriate timing of works, methods of vegetation removal, specification for replacement hedgerow habitat, etc. N.B. The LPA can be satisfied that Natural England will agree a EPSML for the proposed development (see Section 7.2 for justification). **<u>Operational Phase Mitigation</u>** The approved EPSML will detail measures to ensure the long-term protection of all retained/new hedgerows. This to include appropriate hedgerow fencing, measures to limit light spillage into hedges (as for bats above). ***All required mitigation will be provided in a site-specific Ecological Mitigation and Enhancement Strategy (EMES) which will be made a condition of any planning approval.***

Nesting birds	**DEVELOPMENT PHASE** A moderate range of bird species, some of which are likely to use the site for nesting; these including species such as dunnock, bullfinch and song thrush which were all seen at some time during the site surveys and are listed as 'Species of Principle Importance' (SPI) under S41 of the NERC Act 2006. All bird species are also protected under the 'Wildlife and Countryside Act' (1981, as amended). The main body of the Assessment Site where development will take place currently comprises open ground and no habitat of potential value to nesting birds is found within this area. Reference to Fig.10 shows that removal of some sections of species-rich hedgerows is required as part of the development. This represents an activity that might result in an offence (e.g. killing or injury, damage or destruction of a nest). **Possible and negative impact at Local/Parish level predicted.** **OPERATIONAL PHASE** Potential nesting habitat (hedgerows) bordering the site will not be affected. **No significant impact predicted.**	**Development Phase Mitigation** Due care and attention will need to be adopted by the contractors undertaking vegetation clearance, and to this end the EcOW will liaise closely on the timing and method of hedgerow removal prior to the commencement of works. The vegetation to be removed will be closely inspected by an experienced ecologist using an appropriate method to determine presence/absence. If at this time there is any indication of an 'active' bird nest being present then all work will be stopped until such time that the nest is no longer in use. ***All required mitigation will be provided in a site-specific Ecological Mitigation and Enhancement Strategy (EMES) which will be made a condition of any planning approval.*** **Operational Phase Mitigation** N/A.

5.2 Enhancement measures for biodiversity

The '*South West Regional Spatial Strategy*', Policy ENV4 Nature Conservation, states that:

"The distinctive habitats and species of the South West will be maintained and enhanced in line with national targets and the South West Regional Biodiversity Action Plan. Local authorities should use the Nature Map to help map local opportunities for biodiversity enhancement in LDDs, taking into account the local distribution of habitats and species, and protecting these sites and features from harmful development. Priority will be given to meeting targets for maintenance, restoration and recreation of priority habitats and species set out in Appendix 1, focusing on the Nature Map areas identified in Map 7.3. Proposals which provide opportunities for the beneficial management of these areas and habitats and species generally, should be supported, including linking habitats to create more functional units which are more resilient to climate change.

'Exeter Adopted Core Strategy', CP16 - Green Infrastructure, Landscape and Biodiversity, states that:

"The biodiversity value of … sites of national, regional and local conservation importance will be protected, and unavoidable impacts mitigated and compensated for, in accordance with their relative status. Biodiversity enhancement areas, for the restoration or creation of new priority habitats, will be identified within the strategic nature areas to the north of the city and in other areas of biodiversity and geological interest".

The following biodiversity enhancement measures (Table 6) are provided to meet these requirements. These are considered to be proportionate to the specific range of impacts deemed likely to arise from the proposed development (see Section 4.2, Table 4). They are also additional measures to the mitigation requirements, detailed in Section 5.1 above.

Table 6 – enhancement measures for biodiversity

Ecological resource	**Reasons for enhancement**	**ENHANCEMENT PRESCRIPTIONS**
Bats	A range of bat species confirmed to regularly use parts of the site for foraging, with activity particularly concentrated along the northern site boundary.	Placement of bat boxes in trees to be completed in the first year following the start of development. Placement of bat boxes in suitable dwellings to be completed as development work allows (i.e. at an appropriate stage of construction for the buildings in question). ***Details will be provided in a site-specific Ecological Mitigation and Enhancement Strategy (EMES) which will be made a condition of any planning approval.***
Dormice	A resident population of dormice confirmed within the local area. Hedgerows within the Assessment Site form part of the wider home range for this population.	Placement of dormouse boxes in retained boundary hedgerows to be completed in the first year following the start of development. ***Details will be provided in a site-specific Ecological Mitigation and Enhancement Strategy (EMES) which will be made a condition of any planning approval.***
Nesting birds	A moderate range of bird species, some of which are likely to use the site for nesting.	Placement of bird boxes in trees to be completed in the first year following the start of development. Placement of bird boxes in suitable dwellings to be completed as development work allows (i.e. at an appropriate stage of construction for the buildings in question). ***Details will be provided in a site-specific Ecological***

		Mitigation and Enhancement Strategy (EMES) which will be made a condition of any planning approval.
Landscape planting	To provide benefits to a wide range of local wildlife, including bats and dormice.	Any areas of landscaping within the development to include a high proportion of native tree/shrub species, or ornamental species that provide benefits to wildlife (e.g., by provision of nectar, fruit, flowers, etc.).

5.3 Summary of EMES requirements

In summary, a site-specific EMES will be submitted to the LPA in support of the development scheme, this to detail by use of text and maps:

1. Hedgerow protection measures - to BS5837:2012 (or similar standard).
2. A detailed landscaping scheme, including species to be used, planting method and appropriate aftercare.
3. On-going management of retained/new habitats post-development (by means of a Landscape and Ecology Management Plan).
4. Mitigation Method Statements (MMS) to ensure no impacts on nesting birds or dormice arise during development; the measures for dormice also forming part of the EPSML application to Natural England.
5. Specification for all tree work - to BS5837 2012 (or similar standard).
6. Protection measures for the prevention of impacts on the nearby watercourse.
7. Procedures for restricting light spill onto retained habitats during construction.
8. Details of 'smart lighting' measures for bats within the final scheme design.
9. Details of post-development hedgerow protection measures for dormice; these also forming part of the EPSML application to Natural England.
10. Specifications and locations of boxes for bats and birds in retained boundary trees and suitable new houses.
11. Specifications and locations of boxes for dormice in retained hedgerows; this also forming part of the EPSML application to Natural England.

6.0 RESIDUAL IMPACTS

Under CIEEM guidelines, after assessing the impacts of the proposals all attempts should be made to avoid and mitigate ecological impacts. Once measures to avoid and mitigate ecological impacts have been finalised, assessment of the residual impacts should be undertaken to determine the significance of their effects on ecological features. Under CIEEM guidelines impacts deemed to be of 'Site' level significance after mitigation are not considered to be ecologically important (i.e. are not detrimental).

Table 7 provides the predicted residual impacts for the proposals at the Assessment Site following the adoption of all mitigation (Section 5.1) and enhancement (Section 5.2) measures.

Table 7 – residual ecological impacts within the zone of influence

Ecological resource	**Description of impacts**	**Significance of residual impacts**
Designated sites		
None present	N/A	Nil.
Habitats within the ZoI		
Mown, semi-improved neutral grassland	No areas of this habitat will be affected. **No impact predicted.**	Nil.
Species-rich boundary hedgerows	No areas of this habitat will be affected. **No impact predicted.**	Nil.
Species-poor boundary hedgerows	No areas of this habitat will be affected. **No impact predicted.**	Nil.
Habitats to the north of the site	No areas of this habitat will be affected. **No impact predicted.**	Nil.
Mature trees	No areas of this habitat will be affected. **No impact predicted.**	Nil.
Stream	No areas of this habitat will be affected. **No impact predicted.**	Nil.
Species within the ZoI		
Bats	No on-going impacts on these species. **No impact predicted.**	Nil.
Dormice	No on-going impacts on this species. **No impact predicted.**	Nil.
Nesting birds	No on-going impacts on these species. **No impact predicted.**	Nil.

7.0 SUMMARY AND CONCLUSIONS

7.1 Overview

This EcIA has confirmed that, with the adoption of appropriate mitigation and enhancement measures, the proposed development at Spruce Close will give rise to 'site level' impacts only.

No statutory/non-statutory conservation sites will be impacted and legally protected and protected/notable species will not suffer any significant adverse impacts. The most valuable habitat on site, species-rich hedgerows, will be retained and enhanced by appropriate measures, including new native planting, sensitive fencing and specifications for on-going management. These will continue to provide functionality as part of the local 'Exeter Biodiversity Network'.

An outline of the actions that are needed to meet all mitigation and enhancement requirements are provided in Section 5.3 of this EcIA. Detailed specifications will be provided to the LPA by means of an EMES.

Provision of this additional information is usually made a condition of any planning approval (in accordance with Section D.4 of BS 42020: 2013).

7.2 European Protected Species

The presence of a European Protected Species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in significant harm to the species or its habitat. It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted. Where a European protected species (or EPS) is concerned, the Conservation of Habitats and Species Regulations 2010 also provide that a competent authority, including a planning authority must, in the exercise of any of their functions, have regard to the requirements of the Habitats Directive so far as they may be affected by the exercise of those functions.

If the mitigation detailed in Section 5.1 of this EcIA is carefully followed the LPA can be reasonably assured that the EPS identified as being present within the Assessment Site (bats and dormice) will not be either,

- adversely affected by the development, or,
- subject to any offence (killing, injury, disturbance tec.).

<u>Dormice</u>

As the likelihood of an offence being committed is considered possible there is a requirement to undertake hedgerow clearance under the terms of a European Protected

Species Mitigation Licence (EPSML). A licence application can be made to Natural England once planning approval has been agreed. The Method Statement that forms part of the licence application will include measures on appropriate timing of works, methods of vegetation removal, specification for replacement hedgerow habitat, etc.

A critical part of the licencing process is to ensure that the proposed development meets the three 'Derogation Tests', as follows.

The Derogation Tests

Licenses derogating from the protection afforded to European Protected Species can be granted for a number of specified reasons or purposes as set out in Regulation 44 of the Habitat Regulations. These purposes are listed below, the main purpose relating to development is emboldened -

(a) scientific or education;
(b) ringing or marking, or examining any ring or mark on, wild animals;
(c) conserving wild animals or wild plants or introducing them to particular areas;
(d) protecting any zoological or botanical collection;
(e) preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;
(f) preventing the spread of disease;
(g) preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other forms of property or to fisheries.

Licenses can only be issued by Natural England where the proposed activity meets the criteria for one of the purposes above **and** the following two criteria (together commonly referred to as the 'three tests')-

1. that there is no satisfactory alternative; and
2. that the action authorised will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

The Derogation Tests and the development proposed at Spruce Close

As the proposed development includes an element of 'social housing' it meets the definition of an …"imperative reasons of overriding public interest including those of a social or economic nature".

There is no satisfactory alternative as development is required to meet local housing need.

The action authorized (i.e. the approved development) will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range, as all work will be undertaken in line with a detailed Method Statement for dormice.

The LPA can therefore be satisfied that natural England will grant a EPSML for the proposed development.

7.3 General planning requirements

The information presented in this EcIA is considered sufficient to,

- clearly determine the potential impacts on biodiversity arising from the proposals and provide suitable mitigation (as required under the relevant legislative and planning context, including Section 41 of the NERC Act 2006, the WCA 1981, the Conservation Regs. 2010, ODPM Circular 06/2005 and the National Planning Policy Framework), and
- reassure any 'appropriate authority' that the proposed mitigation will reduce these impacts to acceptable levels, and
- meet the requirements for biodiversity protection and enhancement detailed in Section 11 of the National Planning Policy Framework (March 2012),
- meet the requirements of BS42020:2013 ('Biodiversity – Code of practice for planning and development').

There is, therefore, no requirement for further surveys of specially protected species prior to determination of any planning application.

7.4 Local Plan Criteria

With reference to the biodiversity requirements arising from the,

- The *South West Regional Spatial Strategy* - Policy ENV4 Nature Conservation.
- *Exeter Adopted Core Strategy*: CP16 - Green Infrastructure, Landscape and Biodiversity,

(see Section 1.1 of this EcIA) the following can be confirmed.

'*South West Regional Spatial Strategy*', Policy ENV4 Nature Conservation, states that: *"The distinctive habitats and species of the South West will be maintained and enhanced in line with national targets and the South West Regional Biodiversity Action Plan. Local authorities should use the Nature Map to help map local opportunities for biodiversity enhancement in LDDs, taking into account the local distribution of habitats and species, and protecting these sites and features from harmful development. Priority will be given to meeting targets for maintenance, restoration and recreation of priority habitats and species set out in Appendix*

1, focusing on the Nature Map areas identified in Map 7.3. Proposals which provide opportunities for the beneficial management of these areas and habitats and species generally, should be supported, including linking habitats to create more functional units which are more resilient to climate change.

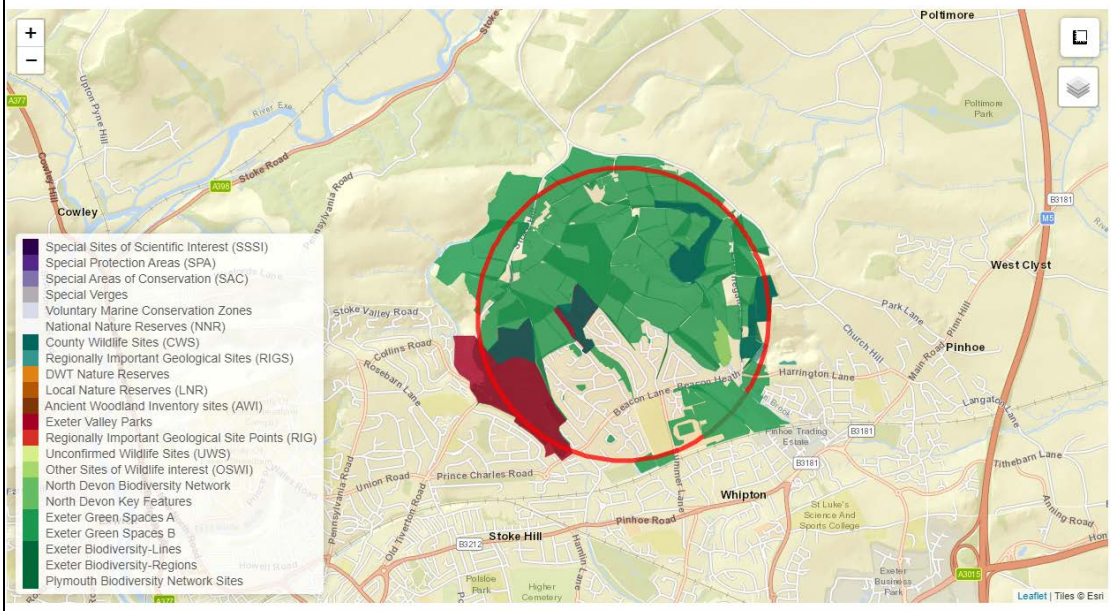
The adoption of all mitigation (Section 5.1) and enhancement (Section 5.2) measures within this EcIA will ensure this policy is met.

'Exeter Adopted Core Strategy', CP16 Green Infrastructure, Landscape and Biodiversity, states that: *"The biodiversity value of … sites of national, regional and local conservation importance will be protected, and unavoidable impacts mitigated and compensated for, in accordance with their relative status. Biodiversity enhancement areas, for the restoration or creation of new priority habitats, will be identified within the strategic nature areas to the north of the city and in other areas of biodiversity and geological interest".*

The adoption of all mitigation (Section 5.1) and enhancement (Section 5.2) measures within this EcIA will ensure this policy is met.

APPENDIX 1 – DBRC data search results

Map of statutory and non-statutory sites within 1 kilometres of SX94459495



Site Name	Grid Ref.	Description	Status
Pin Brook Valley	SX950954	Site with lowland mixed deciduous woodland (W8/W10) and lowland meadow (MG5), semi-improved grassland and a stream	CWS
Mincinglake Plantation	SX937948	Unimproved neutral grassland, scrub and plantation woodland	CWS
Savoy Hill	SX941949	Species-rich unimproved grassland	CWS
Beacon Hill	SX953947	Herb-rich semi-improved neutral grassland	CWS
Pinhoe Brickpit	SX954945	Quarry with best exposure of shaly Crackington Formation in Devon.	RIGS
Heath Barton	SX951948	Semi-improved neutral grassland	OSWI

Legally protected & notable species records within 1 kilometres of SX94459495

Common Name	Locality	Distance
Stoat	Mincinglake Valley Park, Exeter.	894
Dingy Skipper	MINCING LAKE VALLEY	825
Wall		825
Grizzled Skipper	MINCINGLAKE VALLEY PARK	825
Dingy Skipper	Mincinglake valley park	825
Dingy Skipper	MICINGLAKE VALLEY	825
Swift	Mincinlake Road, flying around Mincinlake Valley, Beacon Heath, Exeter	990
Meadow Oat-grass	Mincinglake Plantation	728
Corky-Fruited Water-Dropwort	Mincinglake Plantation	728
Grass Vetchling	Mincinglake Plantation	728
Eurasian Common Shrew	Mincinglake Valley Park	728
House Sparrow	Mincinglake Valley Park	728
Corky-fruited Water-dropwort	Mincinglake Plantation	707
Grass Vetchling	Mincinglake Plantation	707
Skylark	Drake's land	806
House Martin	Drake's land	806
Grass Vetchling	Drake's land	806
Swift	Drake's land	806
Corky-Fruited Water-Dropwort	Drake's land	806
Japanese Knotweed	Mincinglake Valley Park, Exeter.	919
Hazel Dormouse	Mincinglake Valley Park, Exeter. By old fenced pond.	943
Wall		632
Harvest Mouse	Mincing Lake Park, Exeter	608
Purple Hairstreak		583
Dingy Skipper	Drake's Meadow Exeter	583
Wall		316
Green Hairstreak	BEACON HEATH	316
Jersey Tiger	Exeter	447
Small Heath		283
Wasp Spider	Garden at 56 Celia Crescent, Beacon Heath, Exeter	200
Tawny Owl	Exeter. Fields next to Drakes Meadow above Celia Crescent.	283
Palmate Newt	32 Pellinore Road, Beacon Heath, Exeter. (Garden pond.)	510
Slow-worm	7 Lancelot Road, Exeter (garden)	500
Red Kite	Exeter Arena, Summer Lane, Exeter	728
Dingy Skipper	PINWOOD LANE, PINHOE	361
Wall		825
Common Toad	2 Beacon Heath, Exeter	583
Common Frog	2 Beacon Heath, Exeter	583

Palmate Newt	2 Beacon Heath, Exeter	583
Eurasian Badger	10 Fox Road, Exeter.	500
Primrose	Pinbrook Valley. (Exeter Survey 2002.)	361
Grass Vetchling	Pinbrook Valley. (Exeter Survey 2002.)	361
Skylark	Pinbrook Valley. (Exeter Survey 2002.)	361
Wood Club-Rush	Pinbrook Valley. (Exeter Survey 2002.)	361
Marsh Fritillary	Pinwood Lane	412
Pearl-bordered Fritillary	Cheynegate Lane Meadow	640
White-letter Hairstreak	Cheynegate Lane Meadow	721
Marsh Fritillary	Cheynegate Lane Meadow	721
Primrose	Pin Brook; Area 2	922
Corky-Fruited Water-Dropwort	Heath Barton	707
Primrose	Heath Barton	707
Eurasian Water Shrew		707
Willow Warbler	Pin Brook Valley	728
Cuckoo	Pin Brook Valley	728
Roe Deer	Pin Brook Valley	728
Stock Dove	Pinbrook Valley	728
Purple Hairstreak		922
Eurasian Badger	Cheynegate Lane	806
Willow Warbler	Beacon Hill	922
Common Bullfinch	Beacon Hill	922
Purple Hairstreak	Beacon Hill	922
Corky-Fruited Water-Dropwort	Beacon Hill	922
Dingy Skipper	SOUTH BEACON HILL	922
West European Hedgehog	Beacon Hill	922
Cinnabar	Beacon Hill	922
Eurasian Badger	Beacon Hill	922
Primrose	Beacon Hill	922
Corky-Fruited Water-Dropwort	Beacon Hill	922
Primrose	Beacon Hill	922
Purple Hairstreak		906
Greenfinch	Mincinglake Valley Park	728
Greenfinch	Drake's land	806
Great Tit	Drake's land	806
Great Spotted Woodpecker	Exeter. Top of Stoke Hill, before The Grange.	860
Wren	Pinbrook Valley. (Exeter Survey 2002.)	361
Blue Tit	Cheynegate Lane (site 61)	632
Great Spotted Woodpecker	Cheynegate Lane (site 61)	632
Great Tit	Cheynegate Lane (site 61)	632
Treecreeper	Pin Brook Valley	728

Great Spotted Woodpecker	Pin Brook Valley	728
Nuthatch	Pin Brook Valley	728
Great Spotted Woodpecker	Beacon Hill	922
Green Woodpecker	Beacon Hill	922
Greater Horseshoe Bat	Exeter	200