PRELIMINARY ECOLOGICAL SURVEY

Site Location

Land at Sandy Lane

Redruth

TR15 2DR

GR: SW 70763 42575

May 2022

Section A - Contract Details

Survey Type	Preliminary Ecological Appraisal	
Pre-App associated reference		
Grid Reference	SW 70763 42575	
Client/The Developer	Mr and Mrs Turner	
Architect/Planning Consultant	Savills – Jeremy Turner & Dan Yeates	
Date of Survey & Report Expiry	26/05/2022	26/05/2023
Surveyor(s)	Paul Diamond RHS Cert (Hort), BSc (Hons), MSc; MCIEEM; MArborA; Associate Member of the Landscape Institute	
Date of Report	04/07/2022	
Report Reference	PEA_Sandy Lane_Savills_May 2022	
Associated Reports Reference	n/a	
PEA Author	Anna Martlew BSc (Hons)	
Verified by	Paul Diamond RHS Cert (Hort), BSc (Hons), MSc; MCIEEM; MArborA; Associate Member of the Landscape Institute	
Revision no'	01	
Issue date	August 2022	
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Company Registration Number	Incorporated in England and Wales- No 08262426.	
VAT Registration Number	224 3182 38	

Declaration of Compliance

BS 420202013

This study has been undertaken in accordance with British Standard 420202013 Biodiversity, Code of practice for planning and development, unless specifically stated otherwise.

Code of Professional Conduct

The information which we have prepared is true and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

Validity of Survey Data and Report

The findings of this report are valid for 12 months from the date of survey, unless the site has been maintained in exactly the same condition, in which case the report can be considered valid for 24 months once verified by the acting ecologist. Please be aware that some Local Planning Authorities (LPAs) require an update once 12 months has elapsed. If work has not commenced within this period, an updated survey by a suitably qualified ecologist may be required.

Legal and Moral Constraints and Responsibilities Summary

An overview of relevant legislation and responsibility is given within the Appendices Planning Policy and Legislation. Constraints exist for development where specific habitats or species are, or are potentially, within or adjoining a site proposed for development.
It is the responsibility of the client and those in receipt of this report to ensure ALL personnel or associated peoples likely to be involved in ANY management or works to this site - including but not limited to the seasonal flailing of hedgerows or cutting of grassland/scrub - are fully informed of any restrictions in force regarding the possible presence of protected species on this site as outlined in this report. If there is any doubt as to what works or management of habitats may legally occur, consultation with the acting ecologist is essential.

Avoidance, mitigation, compensation and enhancement are site specific and apply as herein.
In all instances where Mitigation is given, also refer to:

- Any further survey work for protected species (Phase 2 Surveys) recommended, or their results.
- General Good Practice during Construction Stage.
- Law and Legislation pertaining to specific species (plants and animals)
- Prevention of the spread of native and non-native invasive plants and animals.
- Avoidance of Wildlife Crime http//www.nwcu.police.uk/

Further advice if species are found onsite during development may be sought from Ecological Surveys Ltd (Tel 01503 240846 or 07736 458609) or Natural England.

In all cases, where 'the developer' is referred to within this report, this pertains to the client/s, who authorised this ecological survey, and who will be named on the Planning Application.

Contents

Section B – LPA & Developer Summary Assessment & Overview

Report Sufficiency

The assessment of the site is complete, and the report is sufficient to process to planning.

- An illustrated proposal has been provided and constraints and opportunities are contained within this report.

Project Proposal

The project is located on the eastern side of Redruth in West Cornwall. The project brief includes the construction of five detached houses with associated garages, parking area and garden. The development requires the creation of three new access points onto Sandy Lane, which lies to the west. This requires the removal of sections of Cornish hedgebank, which is associated with native woody species. Both English and Spanish bluebell are located within this hedgerow.

The site is approximately 0.326 hectares in extent.

Desk Top Searches & Local Records Data

Data records from a desk-top survey have informed the contents of this report.

Designated Sites

International & National Designations are not within or adjacent to the site, or within 500m.

Four SAC's and an SPA lie within 12.5km – further advisories are given in Section 2.2

Important Ecological Features (IEF) - onsite

Area

- None

Linear

- Native hedgerow
- Native hedgerow with trees

Assessment of Protected Species - Onsite:

Evidence recorded onsite:

- English bluebell

Habitat suitability indicates these species might be onsite:

- Badger
- Nesting birds
- Foraging and commuting bats
- Hedgehog

Assessment of Protected Species - Offsite:

- n/a

Section C – Summary Mitigation

The developer must comply with the legal protection of onsite & specific offsite habitats and species.

Avoidance & Retention

The developer should seek to avoid impact habitats & associated species through the project design.

- Native hedgerow (accept at access)
- Native hedgerow with trees

Phase Two Surveys

- Not required

Mitigation for the Protection of Retained Habitats

Woody Species (hedgerows)

- Protect hedgerows with a three metre wide Construction Exclusion Zone, apart from at access;
- Retain or create a two metre grassland buffer along the western and central hedgerow and development to provide a safe wildlife & foraging corridor;
- Protect hedgerow viability with Hedgerow Management of existing hedges to allow growth, fruiting, seeds, pollens, in future, apart from at roadsides where road safety is a consideration.
- Protect night-time foraging, predating & commuting corridors for wildlife by implementing Artificial Lighting restrictions and preventing light spill on these areas.

Mitigation to Replace Habitat Losses include:

Woody Species

Where woody species is felled:

- Protect the presence of any wildlife species associated with woody habitats by constraining felling, clearance, works during active nesting and fledging seasons for birds.

- 3 metres of hedgerow re-planted to replace each 1 metre taken out, combined with augmentation/planting up of the western hedgerow, to promote connectivity;

Grassland

- Grassland onsite is not an important ecological feature
- Safe clearance of Invasive Non-Native Flora – Spanish bluebell

Mitigation for the Protection of Protected Species Includes:

Fauna

The developer must ensure the following are implemented.

- Impact Avoidance through the Construction Phases including covered trenches and capped pipework.
- Provide wildlife access at base of any site/garden fences to recreate corridors previously utilised throughout the site by small wildlife.
- Apply Artificial Lighting Spill Restrictions
- 3 inbuilt bird boxes in the new dwellings

Flora

- Avoid disturbance to English bluebell where possible. Where this is unavoidable, replant along

the central hedgerow.

Section E – Enhancement

To achieve a gain in biodiversity value – post construction, the developer must provide:

Habitats:

- Hedgerow Creation
- Hedgerow management
- Permanent Buffers along western and central hedgerows
- Landscaping for the Benefit of Wildlife
- Lawn/Urban Garden Creation

Introduce Habitat to attract fauna species including:

- Inbuilt bat provision in two of the new properties
- Inbuilt bee brick in each new property

Section F – Baseline Biodiversity Habitat Calculation

The Baseline Calculation of the site's value is recorded within the Habitats & Species Map.

- A Biodiversity Gains Plan might be requested from the LPA.

Specific authorities have built into their local plan the requirement that sites will achieve a measurable Biodiversity Net Gain post construction phase.

The Site's baseline habitat value has been calculated using the latest DEFRA Biodiversity Net Gain Metric (BNG)

Using a metric is a pragmatic way to calculate the impact of a development and the net gain that can be achieved.

The metric can be used as a tool to indicate the extent of areas or linear features necessary to achieve the required gain and inform the final proposed design of the site.

It enables calculation of losses and gains by assessing habitat:

- distinctiveness: whether the type of habitat is of high, medium or low value to wildlife.
- condition: whether the habitat is a good example of its type.
- extent: the area that the habitat occupies.
- To achieve a net gain of 10% or above, specific mitigation and enhancement of the site will be required.
- An overview of mitigation requirements is provided within this report.
- An overview of general onsite Enhancement features is also provided within the report.

Specific Enhancement measures to increase the biodiversity value of the site's area and linear habitats to achieve the expected % net gain can only be provided where accurate area and linear feature measurements and an Illustrated Proposal have been provided.

Where full BNG is a requirement for the Site – this will be provided in a separate Biodiversity Net Gain Calculation document.

1.1 Executive Summary

1.1.1 Contract

Ecological Surveys Ltd were commissioned by the agent/client to undertake a Preliminary Ecological Survey (PEA) of this site.

The Methodology for species and habitats is contained within Part 2 - Section 3.

1.1.2 Constraints

All areas of the site were readily accessible, and the time spent on site was considered appropriate to obtain all the details required for each habitat and species to enable an assessment to be made. Although some plant species would not have been visible during the survey period, the botanical diversity was considered sufficient to be able to classify and assess the habitats present, as well as their potential for supporting legally protected and notable species.

It should be noted that habitats, and the species they may support, change over time due to natural processes and because of human influence. In line with current guidelines, the survey on which this report is based is only valid for two years, after which time it will need updating. It being accepted that some LPA's now expect a survey to be updated after twelve months.

1.1.3 Purpose of the Report

- To identify and evaluate any features of ecological interest on the site proposed for development;
- Identify potential ecological constraints in relation to the proposed project;
- Identify the need for further ecological survey;
- Identify any mitigation measures which may be required;
- Identify opportunities for ecological enhancement within the proposals;
- Present the results of the Extended Phase 1 Habitat Survey undertaken at the named site;

1.1.4 PEA Sufficiency

This report is considered sufficient for the size and scale of predicted impacts as a result of the project design.

Where any previous biodiversity surveys and reports been undertaken for this site, and where Ecological Surveys have been allowed access to these are referenced within this report.

A Desk Top Survey has collated species & designation records to inform this report. Where the impact of the development is considered to warrant further data, this has been applied for from the local biodiversity records centre and is included within the relevant sections.

1.1.5 Project Description

The LPA will consult the associated planning documents and design submitted to ensure the understanding of the impact of the works within this report reflects that submitted as the final Illustrated Proposal of Works.

1.1.6 Significant Harm to Species & Habitats Should Be Avoided Through Design

The developer must consider how to take appropriate measures to avoid impacting protected species and habitats through the design – Loss or impact to habitats/species will decrease the biodiversity value of the site. Avoidance of impact to important ecological features/habitats will negate the need for additional Phase 2 Surveys, or a mitigation strategy, or mitigation to replace habitats.

1.1.7 Phase 2 Surveys and/or Mitigation Strategy Reports

The developer must comply with the legal protection of onsite & specific offsite habitats and species.

Therefore, where the proposed development will/might impact on fauna causing habitat loss, and potentially disturb, harm or unlawfully kill species, the presence or absence of that species must be determined under a Phase 2 Survey to assess how to prevent disturbance/harm or death.

Where unmitigated works might/will cause disturbance, harm or death to protected species and a precautionary approach (assumed presence) of the species will be considered sufficient for its protection, additional Mitigation Strategies outlining the developer's responsibilities are required:

1.1.8 Mitigation - Reference the Associated Map of Ecological Constraints

Where significant harm cannot be wholly or partially avoided, harm must be minimised by design, or by the use of effective mitigation measures that can be secured by conditions or planning.

1.1.9 Compensation

Where there would still be significant residual harm, despite whatever mitigation would be effective, as a last resort, this should be properly compensated for by measures to provide for an equivalent value of biodiversity.

1.1.10 Enhancement – Reference the Map of Ecological Opportunities

To work towards or to achieve a required % biodiversity net gain on this site the developer must provide habitat features which improve the ecological condition of the site post development.

1.1.11 Conditioning of Mitigation, Compensation, Enhancement

The LPA will ensure that any mitigation and compensation measures identified in this report, together with enhancement recommendations are either 'conditioned' where appropriate, or that full permission is withheld pending the agreement of mitigation, compensation (where necessary) and enhancement measures.

Part 1 - Section 2 - Project Details

Figure 1 - The Draft Illustrated Design

The LPA must consult the final associated planning documents submitted to ensure the understanding of the impact of the works reflects that given in the final Illustrated Proposal.

The document referenced here has been provided by Savills in June 2022.

Figure 2 – Site Location & Wider Surroundings - 500m – 2km

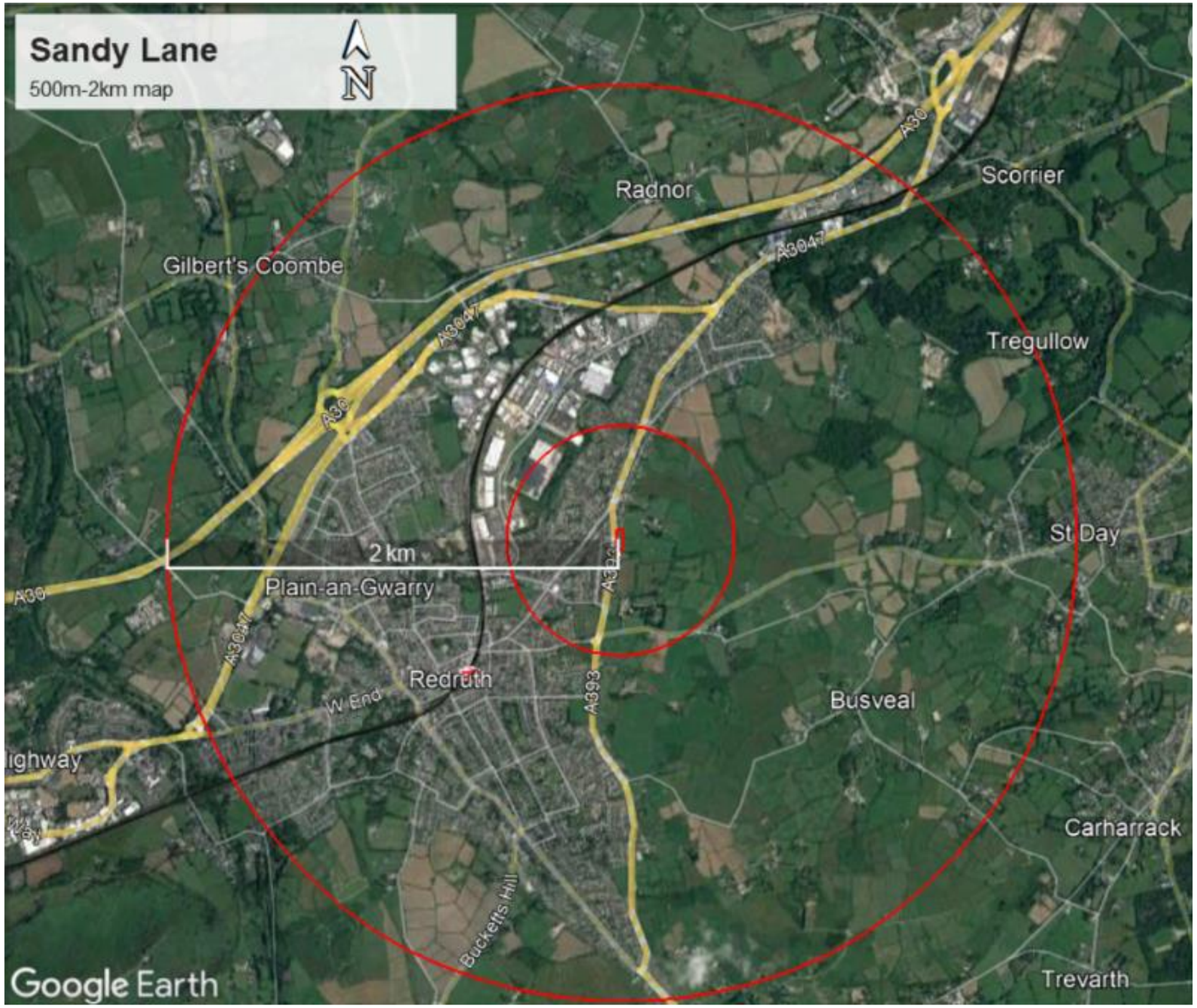

Figure 3 – Project Detail - Site Habitats (Linear & Area) & Associated Species

On-site baseline	*Habitat units*	1.30
	Hedgerow units	0.59
	River units	0.00

Site Area – 0.326 ha		
The site is within the Fal and Helford SAC Zone of Influence. The site is within 12.5km of one SAC, 2 Marine SAC's and a Marine SPA.		
HABITAT: AREA & LINEAR		
Location of NON-NATIVE INVASIVE		
Area habitats		**Area HA**
Habitat: Modified grassland **Species potential:** Potential for foraging bats		0.326
Habitat: Offsite sycamore tree **Species potential:** No potential for protected species		n/a
Habitat: Mammal runs **Species evidence OR potential:** Potential for badgers, foxes, rabbits		n/a
Linear habitats		**Km**
Habitat: Native hedgerow, associated with bank **Species evidence OR potential:** Evidence of English bluebell (Schedule 8 protected species). Potential nesting bird habitat		0.102
Habitat: Native hedgerow with trees, associated with bank **Species potential:** Potential for nesting birds		0.03
Habitat: Wooden fencing **Species potential:** None		0.033
Habitat: Blockwork wall **Species potential:** None		0.028

Figure 4 – Photographic Evidence

H2 viewed from Field 2: native hedgerow with trees

Southern boundary of Field 2 – wooden fencing

Cows grazing in Fiend 2

H1 viewed from the road on the western boundary

Modified grassland

Field 1, looking south

Field 1, looking north

English bluebells on hedgebanks

Mammal runs present on H1 and H2

Table A - Desk Based Assessment – Designated Sites - Onsite & Wider Habitats

Designation	Name	m/km	Impact
Statutory Sites			
Special Area of Conservation (SAC):	Fal and Helford SAC and Marine SAC Carrine Common SAC Godrevy Head to St Agnes SAC Bristol Channel Approaches Marine SAC	Within 12.5km	The site is within the Fal and Helford SAC Zone of Influence. A Habitats Regulation Assessment HRA - might be required on this site, however, is not our decision to take. Refer to Part 3 Appendix G. Consultation might be necessary between the Council and Natural England regarding contributions to provide mitigation for the SPA and SAC's in line with any Supplementary Planning Document. Natural England Consultation regarding SSSI is not required.
Special Protection Area (SPA):	Falmouth Bay to St Austell Bay Marine SPA		
RAMSAR:	None found		
Site of Special Scientific Interest (SSSI):	None found		
Areas of Outstanding Natural Beauty (AONB):	None found		None
National Nature Reserve (NNR):	None found		None
Local Nature Reserve (LNR):	None found		None
World Heritage Site:	- Cornwall and West Devon Mining Landscape		None

Table B - Desktop Survey Result for Locally Designated Sites

Non-statutory designated sites located within 2km of the site.	
Treskerby Wood County Wildlife Site	900m to the east
Mitigation Requirements: -	Onsite to offsite Artificial Lighting Strategy,

Table C - Desktop Survey Result for Priority Habitat Inventory

Priority Habitats found within a 500m radius of the proposed development site.
- None found
Mitigation given within this report will provide protection for onsite habitats and species, and consequently will not have a negative impact on external sites. Improvement of the onsite habitats post construction will likely benefit the values of the wider area.

Part 1 Section 4 - Project Details - Species & their Associated Habitats – Onsite/Adjacent

This section is supported by the methodology of the field survey and results of the assessment for the Extended Phase 1 Ecological Survey and presents the grading criteria for species onsite & the habitat associated with the species. Likely impacts, in the absence of any mitigating actions, on protected and notable habitats and species associated with the proposed works and the proposed mitigation for these impacts is given.

Only those features confirmed as present on site or considered to have from low to high potential occurrence on site have been taken forward for further assessment. Those species recorded in data searches /with habitat suitability adjacent offsite have been considered and taken forward.

Table D - Grading Criteria

Grading Criteria	Justification
Confirmed Presence	Species confirmed on site through direct sighting, presence of unambiguous field signs (e.g. scat, hair, prints, nest, eggs, habitation etc.) or through desk-based assessment.
High Potential	Presence of optimal habitat features for species. Surveyed site within known range/close to known occurrence. Excellent connectivity to optimal habitat. No justification for discounting presence of species.
Moderate Potential	Presence of some suitable habitat features for species. Surveyed site within/close to known range or known occurrence but factors such as isolation/fragmentation may reduce potential. Presence of species is more likely than not.
Low Potential	Minimal suitable habitat present or, if present, highly degraded/fragmented. Minimal linkage to suitable habitat beyond site. Presence of species unlikely.
Negligible Potential	Site is entirely unsuitable for species. Presence of species highly unlikely.

Table E - Species Scoped Out – Onsite Habitats Unsuited – No Field Signs

SPECIES SCOPED OUT - During Field Survey & Desk Top Study
Negligible/none: - Site is entirely unsuitable for species. Presence of species highly unlikely. Major habitat components that would sustain these species are absent and it is highly unlikely they are on site. **Perceived Impacts:** None onsite.
Field signs & habitat suitability were fully assessed for the following species & are reported as: - **DORMICE:** Negligible potential. Although suitable habitat exists onsite, hazel dormice are not found this far west in Cornwall. - **ROOSTING BATS in trees:** Trees within hedgerows and the offsite sycamore tree to the south are Category 3 – No Potential. Presence of roosting bats is highly unlikely. - **ROOSTING BATS IN STRUCTURES:** There are no built structures on site. - **AMPHIBIAN: GREAT CRESTED NEWT –** Location/region specific – **not in Cornwall.** There are no ponds in the local vicinity. - **AMPHIBIAN – Natterjack toad, Pool frog, Marine turtle** are location & habitat specific and therefore highly unlikely to be on or in the vicinity of this site. - **REPTILES:** Negligible potential. Grass is regularly grazed and/or cut, with no thatch accrued and limited basking areas. - **EURASIAN OTTER: -** Negligible Potential. Site is entirely unsuitable for species. Presence of species highly unlikely. - **EUROPEAN WATER VOLE: -** No Potential. Site is entirely unsuitable for species. Presence of species highly unlikely. Offsite habitat suitability exists. Mitigation is given for offsite potential habitats. - **INVERTEBRATES:** Negligible/none – site habitat is entirely unsuited lacking in complex supportive systems. - **HARVEST MOUSE:** Negligible/none – site habitat is entirely unsuited. - **INVASIVE NON-NATIVE ANIMAL SPECIES: - None recorded onsite.** - **FLORA: Injurious Weeds** – None recorded onsite.

Badgers: Legislative Context
Bonn Convention on Conservation of Migratory Species of Wild Animals Protection of Badgers Act (1992) & transcribed into UK Law by the Wildlife and Countryside Act (1981), Schedule 6.

Habitat Description & Field Signs: The fields provide suitable foraging habitat for badgers. Mammal tracks were observed going over hedgerows, but they may be created by other mammals such as rabbit or fox. Offsite habitat suitability continues offsite to the east. Records for badger cannot be listed due to licensing restrictions.

Grading Criteria: Low potential.

Results: Habitat suitability and potential evidence (mammal runs) suggest this species could be present on and/or offsite. The presence of this species cannot be discounted.

Unmitigated works /activities on this site such as noise, additional lighting at night-time, vibration, pile driving, excavation, compaction through use of heavy machinery or siting of material, facilities, or chemicals, lighting fires might cause:

- Disturbance, harm or death to badgers.
- Obstruction, destruction or damage to a badger sett, or
- Disturbance of badgers within a sett (disturbance is defined, for development purposes, as any activity that could damage a sett or be greater than what badgers commonly tolerate.)
- Disturbance, harm or death to badgers.

Therefore, the developer must comply with the legal protection of this species

Mitigation:

- Impact Avoidance During the Construction Phase.
- Artificial Lighting Strategy

Bats – Foraging & Commuting Habitat

Legislative Context: Bats. Wildlife and Countryside Act 1981 (amended) and the Conservation of Habitats and Species Regulations (2017) (as amended). Section 41 of the Natural Environment and Rural Communities Act (2006).

Habitat Description & Field Signs: - The survey identified habitat on site of composition that could be capable of supporting and sustaining foraging & commuting bats: native hedgerows and modified grassland. The presence of grazing cattle is likely to increase the quantity and variety of invertebrate prey onsite.

Key Habitat Features in The Vicinity/Wider Area: - Habitats to the north, east and south offer opportunities to foraging and commuting bats with a mosaic of pasture and hedgerow habitats. Woodland and riparian habitats are not present in the local vicinity.

Results: Habitat suitability and historical records suggest foraging and commuting bats could be present onsite.

Grading Criteria: Low Quality

The presence of these species cannot be discounted.

Unmitigated works on this site such as habitat clearance, removing 'commuting habitats' such as hedgerows, watercourses or woodland, changing or clearing foraging habitats, using insecticides, disconnecting onsite habitats from offsite habitats, installing artificial lighting which spills on habitats suited to bats might:

- Indirectly cause disturbance, harm or death to bats.

Therefore, the developer must comply with the legal protection of this species.

Mitigation

- Artificial Lighting Strategy to prevent light pollution
- Construction Exclusion Zones to protect damage to corridors, accept at access
- Hedgerow replacement – 3 metres created for every 1m lost

Enhancement: - The developer must achieve a net gain in habitats for this project and which will also provide suitability for foraging & commuting bats.

- Management of commuting and foraging habitats
- Installation of secure/permanent inbuilt bat roosting provision
- Creation of new foraging/commuting habitats

Legislative Context: Birds are protected under the Wildlife and Countryside Act 1981/ Schedule 1; Section 41 of the Natural Environment and Rural Communities Act (2006) Red and amber list birds of conservation concern.

Habitat Description & Field Signs: - The survey identified hedgerow habitat on site of composition that could be capable of supporting and sustaining nesting birds. Due to the habitats present, there is low potential for red-listed birds, and negligible potential for Schedule 1 bird species.

Key Habitat Features *i*n The Vicinity/Wider Area: - The hedgerows continue offsite to the east.

Results: Habitat suitability suggest nesting birds could be present onsite.

Grading Criteria: Low nesting potential in hedgerows. Low potential for red-listed birds.

Unmitigated works on site during breeding season (March – September) such as:

- Trimming or cutting trees, bushes, hedges and rough vegetation
- Creating disturbance: noise, lighting and vibration
- Taking actions to prevent problems, e.g. Removing habitat, nest (removal of active nests is illegal)

Might:

- Disturb birds whilst they are nesting, building a nest, in or near a nest that contains their young OR disturb their dependent young.

Therefore, the developer must comply with the legal protection of this species.

Mitigation – The proposal includes removal of three hedgerow sections along the western boundary.

Retention & Protection of Nesting Habitat:

- Time the project to avoid heightened disturbance during the nesting period, where possible.
- Time works to habitats to avoid nesting/fledging period.
- It is possible that bird nests could be newly established in association with this site during future bird nesting seasons. The bird nesting season generally extends from March to August inclusive. Although, depending upon the species, geographical area and the weather conditions, nesting can extend outside this period and it is the nesting behaviour that must be observed, not the supposed time frame, as collared doves (*Streptopelia decaocto)* and barn owls *(Tyto alba)* have been observed to nest in every month of the year. All British birds and their nests are protected whilst in use; therefore, if a nest is found during construction work, all activity must cease within proximity and ecological advice (Tel: 01503 240846 or 07736 458609) sought immediately.

Replacement Habitat:

- 3 metres of hedgerow are to be planted for every 1 metre lost at access. This provision is included as part of the proposal.
- In-built bird provision in three of the new houses

Enhancement: - **The developer must achieve a net gain in habitats for this project and which will be of benefit to birds.**

- Permanent buffers along remaining hedgerows

Hedgehog - Schedule 6 of the Wildlife and Countryside Act (1981) / Wild Mammals Protection Act (1996)
Hares - Game Act 1831 & The Hares Preservation Act 1892

Habitat Description & Field Signs: Hedgerow and grassland habitats provide suitable foraging for hares and hedgehogs. No evidence was recorded on site.

Key Habitat Features in The Vicinity/Wider Area: Onsite habitats continue offsite to the east.

Results: Habitat suitability suggests that hedgehog and hare could be present.

Grading Criteria:

- West European Hedgehog: Low potential
- Brown Hare: Low potential

The presence of these species cannot be discounted.

Unmitigated Works such as:

- Habitat Clearance specific to a species
- General Maintenance without due care for concealed species
- Lighting of fires, careless storage of chemicals, materials & machinery
- Use of heavy machinery

Might cause disturbance, harm or death to these species.
The developer must comply with the legal protection of this species.

Mitigation:

- Impact Avoidance During the Construction Phases

Enhancement: - The developer must achieve a net gain in habitats for this project.

- Permanent buffers
- Lawn/urban garden creation

Legislative Context - Protected plants: Wildlife and Countryside Act 1981 (Schedule 8)

Schedule 8 lists plant species that are protected under Section 13. Section 13 protects plants from picking and sale of plants or parts of plants listed in Schedule 8.

Habitat Description & Field Signs: - seasonality is taken into consideration when surveying for flora, as is soil type, associated habitats and data records. English bluebell (*Hyacinthoides non-scripta*) was onsite within the hedgerows.

Results: A Schedule 8 plant is confirmed as onsite. The site is not suited to other protected plant species due to its composition and management.

Grading criteria: English bluebell – confirmed.

Data Records: Schedule 8: - Records cannot be reported due to licensing restrictions.

IMPACT - Unmitigated works on this site such as:

- Clearance of habitat without due regard to protection of specific species
- Use of machinery – causing compaction of soil or crushing flora
- Inappropriate placement of facilities, storage of materials, chemicals, setting of fires.
- kills or damages plants, fungi or lichens
- kills or damages certain tree species that host fungi or lichens
- changes the soil, for example by adding rubble or nutrients
- makes the soil too wet or dry
- decreases shade or humidity by removing tree cover
- creates chemical pollution, for example from accidental spills
- changes the way habitats are currently managed

Will cause the destruction of this plant species.

The developer must comply with the legislation for protection of rare, notable vascular plants, fungi and lichens.

Mitigation:

- The developer is obliged to consider AVOIDANCE through the proposed design.
- Where plants cannot be avoided at the new access points, they should be re-located to another hedgerow onsite.

Schedule 9 : Non-Native Invasive – Wildlife & Countryside Act 1981 Section 14 Schedule 9 Part 11 Plants Under the Act it is illegal to plant or otherwise cause to grow in the wild any plant listed in Schedule 9 to the Act.

Habitat Description & Field Signs: Spanish bluebell (*Hyacinthoides hispanica*) is confirmed onsite in the south-west corner.

Schedule 9: - Records cannot be reported due to licensing restrictions.

IMPACT:

Unmitigated works on this site such as:

- Soil/earth moving to offsite without following a bio secure method for disposal
- Unintentional spread through contamination on clothing/boots
- Intentionally picking and planting

Could cause intentional or unintentional spreading of these species

MITIGATION: - The developer must comply with the legislation to prevent the spread of this species to offsite.

- Follow Mitigation for the safe removal & disposal of Invasive Non-Natives (Spanish bluebell)

Part 1 Section 5 - Project Detail: Habitats Associated with Project

Habitat Assessed as Onsite

Woody Species – Hedgerows

LEGISLATIVE PROCESS – Important Hedgerows, Protected Hedgerows. Legislation for associated fauna species also applies.

The developer must comply with the legal protection of these habitats, where it exists

HEDGEROWS / LINES OF TREES - ASSESSMENT

	Description	km	Condition
H1	**Native hedgerow, associated with bank** Comprising Hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), dog rose (*Rosa canina*). Condition is poor with gaps and sections of bramble (*Rubus fruticosus*). Understory found on roadside bank: rosy garlic (*Allium roseum*), common sorrel (*Rumex acetosa*), stinging nettle (*Urtica dioica*), bamboo, bramble, male fern (*Dryopteris filix-mas*), bracken (*Pteridium aquifolium*), hart's tongue fern (*Asplenium scolopendrium*), red campion (*Silene dioica*), cleavers (*Galium aparine*), fox glove (*Digitalis purpurea*), blue bell (*Hyacinthoides non-scripta*), cut leaved cranesbill (*Geranium dissectum*).	0.102	Poor
H2	**Native hedgerow with trees, associated with bank** Comprising hawthorn, blackthorn and bramble, with mature hawthorn trees at intervals. The trees within the hedgerow are Category 3 and do not offer potential roosting features to bats.	0.03	Poor

<u>Onsite Connectivity to Offsite</u>: The central hedgerow continues offsite to the east, with moderate connectivity to the surrounding area.

<u>Results:</u>

- This habitat is an Important Ecological Feature in its own right.
- Loss of this habitat will decrease the baseline biodiversity value of the site.
- Mitigation for any losses will be required.
- This habitat provides/potentially provides suitability for nesting birds.
- The developer is obliged to undertake MITIGATION for the protection and management of this habitat.

Processes which can cause damage, destruction or loss in this project include:

- Proposed construction of structures or sealed surfaces which do not take into account the continued viability of the hedgerow, its associated understorey & root protection area of trees.

- Inclusion of hedgerow into urban garden (creates a significant loss) A hedgerow is not/ceases to be protected if it is in, or marks the boundary of, a private garden.
- Inappropriate siting of facilities, machinery, chemicals or the lighting of fires which do not abide by the root protection or canopy area of the trees.
- Flailing of hedgerows during nesting season for dormice and birds.

Mitigation: - Avoidance of Impact & Protection of Habitat Retained

- Protect H1 within a Construction Exclusion Zone of 3 metres at each boundary apart from at access.
- This habitat is associated with nesting birds – refer to species section.

Mitigation: - Replacement Habitat & Habitat Management for Habitat Losses

- For each 1 metre taken out – 3 metres of native species to be planted.
- Augmentation of the western hedgerow with native species
- Hedgerow Management Scheme to be implemented

Replacement understorey

- Where the bank of a hedgerow is rich in species/bulbs, the clearance must be undertaken in such a way as to preserve the species and soil to be relocated and reconstructed elsewhere onsite.
    - EH1 Mixture which comprises: - Wildflowers – typical of that found on a hedgebank
    - EH1F - Wildflowers for Hedgerow

Enhancement: - The developer must aim to achieve a net gain in habitats for this project

- New Hedgerow Creation or Cornish hedgebank creation planted with native species
- Underplanting of Emorsgate or local seed providers:
    - EH1 Mixture which comprises: - Wildflowers – typical of that found on a hedgebank

Vegetation

VEGETATION - ASSESSMENT

Description: The grassland is species poor and semi-improved with the following species: creeping soft grass (*Holcus mollis*), sweet vernal grass (*Anthoxanthum odoratum*), creeping bent (*Agrostis stolonifera*), cocksfoot (*Dactylis glomerata*), ribwort plantain (*Plantago lanceolata*), red clover *(Trifolium pratense*), dandelion (*Taraxacum* agg.), rosy garlic (*Allium roseum*), sorrel (*Rumex acetosa*), creeping buttercup (*Ranunculus repens*), meadow buttercup (*Ranunculus acris*), daisy (*Bellis perennis*) and chickweed (*Stellaria media*).

Field 1 has a longer sward height. Field 2 is currently grazed by cows and therefore has a shorter sward length.

Connectivity: Both fields continue offsite to the east.

Results: -

- This habitat is not an Important Ecological Feature (IEF). It is assessed as offering moderate value as it is relatively species diverse with several different grasses and flowering herbaceous species.
- Loss of habitat will decrease the baseline biodiversity value of the site.
- The developer will be required to replace grassland habitats with a habitat of higher value or to provide biodiversity enhancements offsite.
- This habitat is not associated with protected fauna species.

It is understood there will be losses of this habitat.

- The developer is obliged to provide replacement habitat of equal or superior value.

Processes which can cause damage, destruction or loss in this project include:

- Unmitigated clearance and/or construction which compacts the ground
- Lack of management of habitats overtime – causing habitat to degrade or change.

Enhancement: - The developer must aim to achieve a net gain in habitats for this project.

- Permanent buffers along the remaining hedgerows.
- Lawn/urban garden creation.

Part 2 - Section 1 - Further Surveys

2.1 Introduction

This section provides details of recommendations considered necessary in order to ensure that ecological issues are considered fully. This includes recommendations for further ecological surveys to inform the assessment of impacts as well as mitigation, compensation or enhancement measures to avoid, lessen or offset the identified impacts to ecological features arising from the proposed works.

2.2 Phase 2 Survey Requirement

Further surveys are not required.

Part 2 Section 2 – Mitigation & Enhancement

Habitat Retention, Replacement & Creation

This section provides general recommendations for mitigation and enhancement measures.

The Ecological Constraints and Opportunities map (ECOps)

should be consulted for locations and area.

Species (Fauna) – Mitigation

The appropriate protection of any species is dependent upon the developer/construction team conducting the phases of development in line with the law and mitigation detail.

Responsibility of Developer: - the developer must assure themselves those employed to undertake mitigation are competent and knowledgeable regarding the law to avoid Wildlife Crime.

All Species

- Under all scenarios - Apply Impact Avoidance During the Construction Phases.
- Newly installed fencing throughout the site should permit the free movement of species who have commuted through the site and to offsite previously. This means raising fences up 150mm or allowing section gaps at pertinent points of 150mm2 on the base of the fence.

Bat - Enhancement

Bat Tube

Schwegler 1FR

One built in bat tube or brick in 2 of the new houses, of a type similar to that illustrated is required.

- Bat tubes/boxes erected on properties offer potential bat roosts and augment the natural roosting opportunities. These tubes/boxes should be erected not less than 3m high and ideally 4m plus.
- Bat tubes must be built into the fabric of the building, ideally on the southern and western aspects, and not bolted on to the outside and are therefore only suited to structures, not trees. A choice of styles is sometimes available, and the most suitable style can be agreed with the LPA.
- Where bat-tubes are unsuited owing to the type of construction of the proposed structures, other bat boxes or specifically designed bat habitation of an equally durable condition may be substituted for bat-tubes (subject to LPA approval.)

- Where enhancement recommends bat tubes or bat boxes on structures, aspects of the Artificial Lighting Strategy must be followed to ensure artificial lighting does not shine on the access points /boxes or flight paths.
- The planting of replacement habitats or creation of new habitats as enhancement where the habitats are native, rich in fruits, seeds, nuts, pollen, across the site will be of direct benefit to this species.

Enclosed Bat Box suited to Pipistrelles

Bird - Mitigation

Habitat associated with nesting birds will be lost to this project due to access creation. Alternative nesting provision is available in the hedgerows onsite.

- One built in bird provision is required in three of the new properties, of a type similar to that illustrated is required.
- In-built bird bricks provide a long-lasting solution. Fixing to trees or external wall mountings will only last as long as the nail / screw or branch lasts. Often this is less than ten years. Built in features are likely to last as long as the structure they are built into which might be hundreds of years. Obviously, there may be occasions where built in solutions are not applicable.
- LPA approval of external mounted boxes is generally required.
- Only boxes of robust or permanent construction are suitable. Some account must be taken of the potential need to maintain and replace boxes after a number of years in use.
- Boxes/bricks should be positioned with orientation preferably between north and east with external positions of not less than 3m high to avoid cat predation and vandalism.
- Site nest boxes in locations that are accessible for maintenance, but away from bird feeders. Ideally boxes should be a discrete distance away from other nest boxes, except for house sparrows, as they like to nest in colonies.

Bird brick 24,25,26 to suit varying bird sizes:

Swallow

Enhancement for Invertebrates

Install Solitary Bee Provision. One solitary bee brick should be built into every property. Solitary bee bricks can be built into buildings, walls and other structures. Each bee brick provides multiple cavities for solitary bees to lay their eggs. The bricks should ideally be built into south-facing, sunny walls, at between one and two metres above ground level and with nectar sources nearby.

Solitary bee bricks

Hedgehogs - Mitigation

- Hedgehogs are partial to piles of garden paraphernalia including wood, leaves/compost and shrubs.
- If anything is to be removed by burning, piles of material should be restacked prior to lighting and hedgehogs should be considered, looked for, and allowed to freely relocate – or if in immediate danger, relocated using appropriate Health & safety methods as per site Risk Management.
- Garden fences should permit the free movement of hedgehogs between gardens and the surrounding countryside. This means raising a fence up 150mm or allowing a section gap of 150mm2 on the base of the fence.

Flora

All wild plants in England and Wales are offered some protection under the law.

A wild plant is an uncultivated plant that grows as nature intended it to in the wild in England and Wales. Under the Wildlife and Countryside Act 1981 the term 'plant' includes algae, lichens and fungi, mosses, liverworts and vascular plants.

Under the Wildlife and Countryside Act 1981, it is unlawful to uproot any wild plant without permission from the landowner or occupier. To uproot (digging) a plant means to 'dig up or otherwise remove the plant from the land on which it is growing', whether or not it actually has roots. Even plants growing wild are the legal property of somebody as they have been cultivated and under the Theft Act, 1968, it is an offence to uproot plants for commercial purposes without seeking authorisation.

Plants which are specially protected in England and Wales

Schedule 8 of the Wildlife and Countryside Act 1981, which is revised every five years provides a list of endangered plants. Under the 1981 Act It is unlawful to intentional pick, uproot or destroy the wild plant or any seed or spore attached to the wild plant. In any proceedings the plant will be deemed to be wild unless the contrary is shown.

Exemption

A person will not be guilty of such a crime if it has been carried out under a licence obtained from the relevant authority, the damage is a result of a lawful activity and could not reasonably have been avoided. That the unlawful act was incidental of a lawful operation or other activity, and whilst carrying out that lawful incident or activity that person took reasonable precautions to avoid uprooting, destroying etc. the plant, or he did not or count have reasonably foreseen that the unlawful act would have occurred during the lawful operation or activity.

It is also unlawful to sell, offer or expose for sale, is in possession of or transports for the purpose of selling, publishes, causes to be published any advertisement likely to be understood that a person buy or sells or intends to buy or sell any live or dead wild plant or anything derived from such a plant included in Schedule 8.

However there are some plants listed in the Schedule that the offence is only to sell, advertise, publish etc. any live or dead wild plant or anything derived from such a plant. For example the English Bluebell. The following species listed in Schedule 8 of the Wildlife and Countryside Act 1981 are protected against sale, or offer for sale, exposes for sale

- Bluebell, Hyacinthoides non-scripta
- Creeping Marshwort Apium repens
- Early Gentian Gentianella anglica
- Fen Orchid Liparis loeselii
- Floating Water-plantain Luronium natans
- Killarney Fern Trichomanes speciosum
- Lady's-slipper Cypripedium calceolus
- Marsh Saxifrage Saxifraga hirculus
- Shore Dock Rumex rupestris
- Slender Naiad Najas flexilis

Introduction of new species

It is an offence for any person without a licence to plant or cause to grow in the wild any plant which is included in Part II of Schedule 9 of the Wildlife and Countryside Act 1981 or a hybrid of any plant included in that Part. These schedules include alien plants which may pose a threat to our native flora.

This would include plants like the Japanese knotweed and Himalayan balsam.

However there is no offence if it happens to grow in your garden and there is no requirement to control it unless it is part of a legally binding contract or agreement with another party. For advise on what to do if you have Japanese knotweed or Himalayan balsam growing in your garden please contact the acting ecologist.

Sale of invasive non-native species

Under the Wildlife and Countryside Act 1981 a person will commit an offence if he sells, offers or exposes for sale, or has in his possession or transports for the purposes of sale a live plant which must not be released etc. into the wild or anything from which a plant can be reproduced or propagated. A person will commit an offence if he publishes or causes to be published any

advertisement likely to be understood as conveying that he buys or sells, or intends to buy or sell a plant to which this section applies, or anything from which such a plant can be reproduced or propagated.

Picking and collecting

To promote the conservation of wild plants, picking is not encouraged - plants are better left for others to enjoy. However if you wish to pick the plants be careful not to trespass and never take material from a nature reserve or protected site without permission, and remember to:

- Take flowers and foliage only from large patches of the plant.
- Always pick in moderation so that plenty is left for others to enjoy.
- Do not pick flowers such as poppies as they will wilt before you get them home.
- Be careful not to damage other vegetation when picking flowers.
- If permission has been obtained from the landowner or occupier, gathering of mosses, liverworts, lichens or algae for decorative purpose, hanging baskets or model making should be restricted to the minimum needed for personal use.

Part 2 Section 3 - Habitat & Associated Species Mitigation & Enhancement

Impact Avoidance During the Construction Phase - Overview

All activities on site should bear in mind the potential for wildlife or the environment being harmed through the process of development from inception to end, with a proactive approach occurring for lawful protection of wildlife and the environment regarding use of materials, machines, chemicals, and human activity on site.

- Contractors must ensure that no harm can come to wildlife by maintaining the site efficiently, clearing away any material such as wire in which animals can become entangled and preventing access to toxic substances.
- Trenches or large excavations should be covered overnight to prevent wildlife such as badgers or hedgehogs falling in and failing to escape. If this is not possible then a strategically placed plank may provide a means of escape.
- Any large bore pipes should be capped at the end of the day to reduce the potential for badgers and other wildlife entering and becoming trapped.
- If there is a substantial delay before development commences, the site should be maintained in a way that would prevent wildlife colonising it and causing constraints in the future. Such management should include mowing grassland at least twice a year and preventing scrub encroachment.
- Piles of brush wood and or log piles should be carefully inspected for signs of wildlife prior to their removal. This is especially crucial during the period March – September (inclusive) as some species of bird choose such sites to construct their nests. Ideally removal of such features should be done outside of the nesting season. If this is not possible, it is recommended that these features are covered in such a way as to exclude / prevent birds and / or reptiles taking up residence. If nesting birds or reptiles are discovered, work must cease immediately with ecological advice sought.

Construction Exclusion Zones (CEZ)

Areas that are being retained should be protected from damage during the groundworks and

construction phase of the development by erecting Heras (or similar) fencing around these features. Temporary fencing (Heras or similar) with appropriate signage will be erected at the appropriate distance(s). The only exception to this is at existing access points. Heras fencing is not intended to restrict the access of species to other areas of the site, therefore, mindful procedure by site workers and visitors to the site is always necessary.

No development work should be undertaken within the CEZs and no materials, machinery, chemicals etc. should be stored within these zones. No development or any associated works should be located within these Construction Exclusion Zones.

Appropriate signs should be placed at regular intervals along the fencing to ensure everyone on site is aware of the CEZ and understands its relevance e.g. CONSTRUCTION EXCLUSION ZONE – NO ACCESS.

Any areas proposed for planting post-development should also be fenced off where possible to prevent compaction of the soil through vehicle movements.

CEZ Protection of Habitat & Species: Hedgerow.

- CEZ fencing must be set at a distance of three metres from the edge of the hedgerow boundary, unless a greater distance is necessary to protect the root protection area of trees.

Good Practice – Safe Clearance of Harmful Species.

Removal of Invasive, Non-native Species

Spanish bluebell is an invasive, non-native species listed on Schedule 9 of the Wildlife & Countryside Act 1981 (as amended) and was found to be present on site. These species should be removed and disposed of responsibly.

- Prevent invasive non-native plants on development land managed during this time from spreading into the wild or a neighbour's property and causing a nuisance; these species should ideally be removed by hand. Refer Appendix B.
- Restrictions apply to mulching and earth moving which may cause the spread of invasive non-native plants and animals.
- Restrictions apply to activities that cause the spread of non-native animals into the wild.

Sale of invasive non-native species

Under the Wildlife and Countryside Act 1981 a person will commit an offence if he sells, offers or exposes for sale, or has in his possession or transports for the purposes of sale a live plant which must not be released etc. into the wild or anything from which a plant can be reproduced or propagated. A person will commit an offence if he publishes or causes to be published any advertisement likely to be understood as conveying that he buys or sells, or intends to buy or sell a plant to which this section applies, or anything from which such a plant can be reproduced or propagated.

Artificial Lighting Strategy

No external artificial lighting will be introduced to the site during the groundworks and construction phases of the development. External artificial lighting during the operational phase will comprise lights above external doors and street lighting.

LED and/or low-pressure sodium lamps with glass glazing should be utilised instead of mercury or metal halide lamps. This type of lighting can be utilised more directionally and will reduce the range of light wavelengths emitted thus significantly reducing the levels of UV light which may attract increased levels of invertebrate bat prey items.

Avoid artificial lights shining on known or potential bat roosts, their access points and their flight paths.

- Light ONLY when and where it is needed for health and safety.
- Prevent light-spill and spread. Eliminate bare bulbs, upward pointing lights, keep light near to or below the horizontal. E.g. flat cut-off lanterns. Such light should be positioned to only illuminate the required areas, limiting light spill, both horizontally and vertically. Additionally, hoods, cowls, louvers and/or shields may be utilised to further direct any lighting.
- When external lighting is needed for safety reasons, dynamic lighting schemes that are switched on only when needed should be considered. Dynamic lighting schemes are usually triggered via motion sensors by a pedestrian, bicyclist or cars.
- Timer switch on any proposed outdoor lighting to facilitate dark periods.
- Reduce height of lighting columns. Or allow for lower main beam angles to reduce glare.
- Where planting to block lighting, use temporary fencing to shield light spill until vegetation has matured.

It is becoming increasingly common for LPA's to request an independent site lighting strategy and expect it to be submitted as early as the reserved matter stage. Consideration should be given to this prior to submission particularly on larger sites or those with important bat / dormouse habitat / corridors, rather than wait to be compelled to do so.

Woody Species – Replacement, Creation, Maintenance

Replacement Habitat: Augmentation / Gapping-up of Hedgerows

Gaps in the western hedgerow should be planted-up/infilled. When plugging gaps in existing hedgerows, at least five and preferably seven different native shrub/tree species, ideally of local provenance, should be planted.

Suggested species to plant are: hawthorn (*Crataegus monogyna*) for its flowers and berries; hazel (*Corylus avellana*) for its nuts and attracting insects; blackthorn (*Prunus spinosa*); pedunculate oak (*Quercus robur*); crab apple (*Malus sylvestris*); holly (*Ilex aquifolium*); elder (*Sambucus nigra*); wild privet (*Ligustrum vulgare*); dogwood (*Cornus sanguinea*); guelder-rose (*Viburnum opulus*); wayfaring-tree (*Viburnum lantana*); grey willow (*Salix cinerea* agg.); goat willow (*Salix capraea*); hornbeam (*Carpinus betulus*).

- Use two-year-old pot grown shrubs planted in a double, staggered row at a rate of at least four plants per metre.
- Apply a layer mulch to a depth of 75mm around shrub base to suppress weeds.
- Spiral guards will be used to protect new shrubs from rabbits.
- Plan a monitoring programme during first year of growth. Any saplings which fail to thrive should be re-planted in order to prevent the development of gaps.
- Trim lightly during the first three years.

Replacement Hedgerow Creation

- A new native hedgerow is to planted onsite to mitigate for habitat lost.
- The ratio of planting is 3m planted for 1m lost.
- The hedgerow is to be planted to maximise connectivity on to offsite.
- To increase habitat value, the hedgerow should not be planted as a residential garden boundary.
- Double planting alongside existing hedgerows can be undertaken.
- Planting hedgerows with a buffer zone of 3m from any developed area can be undertaken.
- In addition, to further enhance the hedgerow and give an overall net gain to the site for wildlife, planting an EH1 Hedgerow Mixture – Emorsgate, containing wild flowers and grasses that are tolerant of semi-shade, is suitable for sowing beneath newly planted or established hedges and on woodland edges, rides and glades.
- The hedgerow should be created from planting native species ideally of local provenance. Suggested species include hawthorn (*Crataegus monogyna*) for its flowers and berries; hazel (*Corylus avellana*) for its nuts and attracting insects; blackthorn (*Prunus spinosa*); pedunculate oak (*Quercus robur*); crab apple (*Malus sylvestris*); holly (*Ilex aquifolium*); elder (*Sambucus nigra*); wild privet (*Ligustrum vulgare*); dogwood (*Cornus sanguinea*); guelder-rose (*Viburnum opulus*); wayfaring-tree (*Viburnum lantana*); grey willow (*Salix cinerea* agg.); goat willow (*Salix capraea*); hornbeam (*Carpinus betulus*).
- Use two-year-old pot grown shrubs planted in a double, staggered row at a rate of at least four plants per meter.

- Apply a layer mulch to a depth of 75mm around shrub base to suppress weeds.
- Spiral guards will be used to protect new shrubs from rabbits.
- Plan a monitoring programme during first year of growth. Any saplings which fail to thrive should be re-planted in order to prevent the development of gaps.
- Trim lightly during the first three years.
- Individual species should be selected at intervals of approximately 20m to remain uncut, allowing these individuals to develop into mature trees to attract potential invertebrate prey species.
- Approximately three years following planting, an appropriate management scheme should be established to ensure that it develops into a dense hedgerow which is optimal for protected species.

The understorey must be created in association with the hedgerow with appropriately chosen seeds for the different aspects of the hedgerows and species associated with them.
Mixtures for semi-shade include:

- EH1 Hedgerow Mixture
- EH1F Wildflowers for Hedgerow
- EG10 Tussock grass mixture (where a reptile corridor is also established)
- EM10F Tussock wildflowers

Replacement Cornish Hedge Creation

Sections of Cornish hedge are to be created within the site, along some of the new internal roads.

- The Cornish hedge should connect with the existing Cornish hedges bounding the site where possible, thus increasing landscape connectivity.
- The Guild of Cornish Hedgers good practice guidelines should be followed in the construction and the subsequent management of the Cornish hedge (see Menneer, 2008a and www.cornishhedges.co.uk). Ideally a member of the Guild of Cornish Hedgers should be employed to construct the hedge.
- The hedges should be built to a height of 1.5 metres, with a base width of 1.5 metres and should be built in the style consistent with the local area.

These new hedges will strengthen ecological networks and landscape connectivity, as well as providing an increase in suitable habitat for reptiles, bats etc.

The Cornish hedges will be managed for wildlife, with the four actions for management stated by the Guild of Cornish Hedgers being adhered to. Bramble (*Rubus fruticosus* agg.) will be cut right back, as many of the hedges have become dominated by bramble at the expense of other species (Menneer, 2008b).

- EG10 - Tussock grass mixture
- EH1 - Hedgerow Mixture
- EH1F - Wildflowers for Hedgerow
- EM10 - Tussock Mixture
- EM10F - Tussock wildflowers

Hedgerow Management

Hedgerows should be trimmed only every three years (or less frequently if possible) and maintained at a height of at least three, and preferably four, metres. It is important not to cut all hedgerows in an area at the same time, so that some heavily fruiting hedgerows are always present. As a guide, it is suggested that cutting only 10 to 30 per cent in any one year is advisable. Gaps in any of the hedgerows should be infilled with native species. Hedgerow management for dormice is given below.

Hedgerow Management Good Practice, for the Benefit of Dormice and Hedgerow Biodiversity Ref: *The Dormouse Conservation Handbook Second Edition*.	
1	Except where road safety or access, preclude it, hedgerows should be trimmed only every three years (or less frequently if possible) and maintained at a height of at least three, and preferably four metres.

2	Ideally, about one third of hedgerows should be left to grow for 7 to 10 years.
3	It is important not to cut all hedgerows in an area at once, so that some heavily fruiting hedgerows are always present. As a guide, we suggest cutting only 10 to 30 per cent in any one year.
4	In some places, it may be feasible to cut only one side of the hedge, cutting the other a year or two later, thus not removing all the food sources at once and allowing some regrowth before further cutting takes place. If possible, flails should not be used to manage hedgerows.
5	Coppicing or, even better, laying should be used to manage hedgerows that become gappy or lack dense branches at their base. Fencing may be needed to prevent stock from causing damage before new growth has become established.
6	If hedgerow size needs to be reduced, it is better to avoid cutting the top and to cut one side only.
7	When creating new hedgerows, or plugging gaps in existing ones, at least five and preferably seven different shrub/tree species should be planted. The best species to plant are hawthorn (for its flowers and berries) and hazel (nuts and insects); with a diversity of other species to offer flowers insects and fruits at different times Bramble would make a valuable addition but may arrive naturally.
8	Where new roads or other developments cut across hedges, the 'loose ends' should be linked up by suitable plantings. Mixtures of hawthorn and hazel are the preferred species where early results are needed.

Permanent Buffers

A permanent grass buffer of two metre depth will be maintained along the western and central hedgerows to provide a foraging and commuting corridor for wildlife.
This grassland will be managed to retain the connectivity between the habitats on and offsite for wildlife.

- These grassland buffer strips are to be left to re-colonise naturally; native wild-flower seeds may still exist in the seedbank. If seed does need to be brought in then this seed should be of local provenance, ideally collected from a local site of unimproved grassland (with the owners' permission). Seed is unlikely to come in naturally, as there does not seem to be any fields of unimproved grassland in the immediate vicinity of the site.
- The grassland should be cut in the autumn once every three years, with some areas of long grass being left where possible. Grass cuttings should be left in a pile on site, in an appropriate location, and not left where they fall. Having areas of different length grass produces a mosaic of different habitats within the site, thus benefiting invertebrates, birds and small mammals.
- No artificial inputs, such as artificial pesticides and fertilisers, should be applied on site. This helps to maintain and improve the floristic diversity.
- The grass will be allowed to grow and seed throughout Spring and Summer, being reduced in height during late Autumn and Winter. This allows thatch to accrue at the base of the grass and provides valuable refuge for wildlife – and for seasonal foraging, enhancing the site overall.

An Emorsgate mixture EH1 – wildflowers and grasses will be planted within the new border.
The EH1 Mixture comprises: - Wildflowers.

%	Latin name	Common name
0.5	*Achillea millefolium*	Yarrow
1.2	*Agrimonia eupatoria*	Agrimony
1.5	*Alliaria petiolata*	Garlic Mustard
0.4	*Arctium minus*	Lesser Burdock
0.5	*Betonica officinalis - (Stachys officinalis)*	Betony
1.5	*Centaurea nigra*	Common Knapweed
0.4	*Chaerophyllum temulum*	Rough Chervil

2	*Galium album - (Galium mollugo)*	Hedge Bedstraw
1	*Galium verum*	Lady's Bedstraw
0.3	*Geranium pyrenaicum*	Hedgerow Crane's-bill
0.6	*Hypericum perforatum*	Perforate St John's Wort
0.3	*Lathyrus sylvestris*	Narrow-leaved Everlasting-pea
0.8	*Leucanthemum vulgare*	Oxeye Daisy - (Moon Daisy)
0.5	*Origanum vulgare*	Wild Marjoram
0.7	*Plantago lanceolata*	Ribwort Plantain
1	*Primula veris*	Cowslip
2.5	*Silene dioica*	Red Campion
0.5	*Silene latifolia*	White Campion
2	*Torilis japonica*	Upright Hedge-parsley
0.5	*Verbascum thapsus*	Great Mullein
0.5	*Vicia cracca*	Tufted Vetch
0.8	*Vicia sativa ssp. segetalis*	Common Vetch

And grasses: -

%	Latin name	Common name
10	*Agrostis capillaris*	Common Bent
2	*Anthoxanthum odoratum*	Sweet Vernal-grass (w)
7	*Brachypodium sylvaticum*	False Brome (w)
20	*Cynosurus cristatus*	Crested Dogstail
1	*Deschampsia cespitosa*	Tufted Hair-grass (w)
28	*Festuca rubra*	Slender-creeping Red-fescue
12	*Poa nemoralis*	Wood Meadow-grass

Lawn Creation

When landscaping urban gardens, the floral mixture should be of greater diversity than that there originally. Mixture EL1 contains slow growing grasses with a selection of wildflowers that respond well to regular short mowing.

- No artificial inputs, such as artificial pesticides and fertilisers, should be applied on site. This helps to maintain and improve the floristic diversity.

- %	Latin name	Common name
4	*Galium verum*	Lady's Bedstraw
0.5	*Leontodon hispidus*	Rough Hawkbit
1	*Leucanthemum vulgare*	Oxeye Daisy - (Moon Daisy)
3.7	*Lotus corniculatus*	Birdsfoot Trefoil
3	*Primula veris*	Cowslip
4	*Prunella vulgaris*	Selfheal
3.5	*Ranunculus acris*	Meadow Buttercup
0.3	*Trifolium pratense*	Wild Red Clover
20		

Grasses

%	Latin name	Common name
8	*Agrostis capillaris*	Common Bent
40	*Cynosurus cristatus*	Crested Dogstail
28	*Festuca rubra*	Slender-creeping Red-fescue
4	*Phleum bertolonii*	Smaller Cat's-tail

Landscaping in sympathy with the needs of native wildlife is relevant to all important wildlife species. It helps to support birds by providing plant species which carry seeds, fruits, nuts, and/or support insects (nectar and pollen) upon which birds feed and supports bats by attracting insects to the garden.

The list below is not exhaustive, neither is it prescriptive, and recommendations in italics can be applied with discretion. The implementation of a combination of recommendations here fulfils the obligation of the client/agent to leave the site in an enhanced state.

- The landscape architect/or appointed person should plant a variety of flowering plants, biased towards native and near-native species. Exotics are not required; however, a selection of exotics to extend the flowering season and potentially provide resources for specialist groups now and in the future, is becoming increasingly important owing to climatic changes, and should be given serious consideration by any with a view to protecting and sustaining present and future biodiversity. Plant holistically for biodiversity value: nectar rich plants/shrubs which yield fruits /nuts of benefit to a multitude of species.
- Where grass is planted, use a grass mix other than low amenity lawn grass. Plant mixes with diverse grass species support a wealth of insects when allowed to seed and flower before being cut back.
- Provide green corridors (hedges/trees/water features/lawns or mixed diversity species and beds) with attention to other neighbouring green spaces. The garden itself, when taken as one of many within the neighbourhood, will become part of a wider green corridor.
- Select a variety of plants that will produce foods in different seasons. For winter residents as well as migrants that return early in spring, plants that hold their fruits throughout the winter ("winter-persistent" plants) are a vital food source.
- Leave rough areas of vegetation and native trees and shrubs around the vicinity of any replacement building will also maintain nesting opportunities.
- Avoid pesticide and insecticide use.
- For garden areas: improve the area of green habitat within the garden wherever feasible and where paved spaces and balconies must be used also consider:
- Planters and raised beds
  Courtyard trees, low level shrubs, hedges
  Planting climbers and creepers.
- Provide shelter using low shrubs, thickets or hedges where birds can nest, perch, and escape from predators.
- Leave tree stumps, dead wood (where safe to do so) tree limbs, leaf piles and compost to encourage insects and worms for birds to feed on.
- Appropriate aftercare and management should ensure that these areas are maintained to give optimum benefit to wildlife.

Part 2 – Section 4 Conclusions

The Extended Phase 1 Habitat Survey undertaken along with the desktop survey and of local records data searches are considered to have collected enough information about the ecological condition of the site to have been able to adequately assess the impact of the proposed development to ensure compliance with wildlife legislation and relevant planning policy.

The assessment of the site has followed a process of identifying, quantifying and evaluating potential effects of development-related or other proposed actions on habitats, species and ecosystems.

Phase 2 Protected Species Surveys are not required. Nesting bird checks will be required under Ecological Supervision if the access points are created during nesting bird season, which runs from March to September.

The key objectives of this ecological survey have been met:

- The assessment and report have identified and reported on potentially Important Ecological Features, including designated sites, priority habitats and legally protected and notable species
- Identified and assessed potentially significant ecological effects associated with the proposed project, or where a design has not yet been provided, predicted likely impacts
- Provided advice and recommendations to avoid or minimise any adverse effects and considered compensation measures if required
- Identified mitigation measures required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects
- Considered the significance of any residual effects;
- Identified appropriate biodiversity enhancement measures and opportunities to increase the diversity of habitats and species on site and calculated a baseline onsite value using the Biodiversity Metric V3.1 to progress to achieving a biodiversity gain

The developer is required to follow legislation for the protection of specific features and habitats. Firstly, a strategy of 'Avoidance' should be considered to prevent significant harm to wildlife species and habitats through the site design.

Mitigation will be employed for the protection of retained habitats and replacement and restoration of habitats. Where significant harm cannot be wholly or partially avoided, Mitigation measures have been set out to avoid and reduce the effects/impacts of the development on the important ecological features and the local environment as a whole. All measures should be included as a planning condition for the proposed development.

Ecological enhancement measures are required to improve the ecological condition of the development site (or an alternative site) after the development is complete. Ecological enhancement measures must, therefore, be over and above any avoidance, mitigation and compensation measures required to neutralise the impacts of the development on wildlife.

These enhancements should result in a net ecological gain for the site and should be included as a planning condition for the proposed development.

Providing the recommendations within this report are adhered to, with the mitigation measures and enhancements agreed, there would appear to be no ecological constraints to prevent this development.

The local planning authority (LPA) should ensure that the mitigation measures, together with enhancement recommendations, are either 'conditioned' where appropriate, or that full permission is withheld pending the agreement of mitigation, compensation (where necessary) and enhancement measures.

An Ecological Clerk of Works or a suitably experienced ecologist should oversee the implementation of the ecological mitigation measures and the enhancements for biodiversity.

It is the responsibility of all those involved with the proposed development works at this site to ensure that wildlife protection and nature conservation legislation is complied with throughout the

lifespan of the development, at every stage. Although no current evidence of protected species was found on site it cannot be assumed that they are not present when the development work commences. Care should therefore be taken during all stages of the development and if any protected are discovered they must not be handled; works must stop immediately, and advice sought from a licensed ecologist

Part 2 – Section 5 - Mapping of Ecological Constraints & Opportunities (ECOps)

This ECOp document has been created separately from this report for ease of viewing and sharing and must be submitted along with the PEA report.

End of Part 2.

What is a Preliminary Ecological Appraisal?

Preliminary Ecological Appraisal (PEA) is the term used to describe a rapid assessment of the ecological features present, or potentially present, within a site and its surrounding area (the zone(s) of influence in relation to a specific project (usually a proposed development)). A PEA normally comprises a desk study and a walkover survey. It should be considered to be a simplified form of an ecological survey and assessment.

The key objectives of a PEA are to:

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

[CIEEM, 2017a]

The primary audience for a PEA is the client or developer and relevant members of the project team, such as the architect, planning consultant and landscape architect. It is normally produced to inform a developer (or other client), and their design team, about the key ecological constraints and opportunities associated with a project, possible mitigation requirements and any detailed further surveys required to inform an Ecological Impact Assessment (EcIA).

Many PEA's are written in a form which might not be accepted by the LPA as it might lack sufficient detail. Our report is written in a manner to support smaller scale developments, or developments taking place in locations which are not of high biodiversity value, without upgrading to a full EcIA.

Please Note: if the PEA reveals the presence of protected / priority species and / or habitats or the potential for the proposal to impact upon protected sites, it may be necessary to upgrade the PEA into an EcIA to ensure its acceptance by the LPA.

The survey and this report identify features of conservation importance that could constitute a constraint to the proposals for this Site. Where appropriate, recommendations for impact avoidance, mitigation and post-development enhancement are made to ensure compliance with wildlife legislation and relevant planning policy.

This survey has been prepared in accordance with the 'Guidelines for Preliminary Ecological Appraisal' produced by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017a).

Ecological Surveys Ltd were commissioned to undertake an ecological survey to include the potential for legally protected and notable species of the Site, and to assess the potential impact of the development on the biodiversity of the Site and its immediate environs.

All ecological data and information gained through both the desktop survey and the survey work were evaluated. The important ecological features were then identified and evaluated against the potential impacts/effects that the proposed development may have on the ecology of the Site and surrounding area.

The biodiversity importance of each designated site, habitat and species is evaluated on a geographic scale: international, national, county and local.

Evaluation of designated sites considers their designation; their ecological and landscape relationship with the proposed site; and the species and/or habitat types for which the site was designated.

Evaluation of habitats considers their designation; their area, quality and viability; diversity and connectivity to the wider landscape; and structural diversity and species-richness.

Evaluation of species considers their designation, including legal protection and rarity.

When assessing the impact of the development and changes to the baseline conditions on site, predictions will be made which focus solely on the zone of influence whilst taking into consideration the lifespan of the development and the significant impacts as identified from the proposed work operations throughout the lifespan of the development.

The proposed development aims to firstly avoid and then mitigate against any potential effects/impacts on the local ecology/biodiversity, ensuring compliance with nature conservation legislation. It aims to achieve this by applying the mitigation hierarchy (as mentioned in Paragraph 118 of the National Planning Policy Framework and detailed in Paragraph: 018 Reference ID: 8-018-20140306 of National Planning Practice Guidance) as follows:

Avoidance – Significant harm to wildlife species and habitats should be avoided through design.

Mitigation – where significant harm cannot be wholly or partially avoided, it should be minimised by design, or by the use of effective mitigation measures that can be secured by, for example, conditions or planning obligations.

Enhancement - Ecological enhancement measures are those that improve the ecological condition of the development site (or an alternative site) after the development is complete. Ecological enhancement measures must, therefore, be over and above any avoidance, mitigation and compensation measures required to neutralise the impacts of the development on wildlife.

Compensation – where, despite whatever mitigation would be effective, there would still be significant residual harm, as a last resort, this should be properly compensated for by measures to provide for an equivalent value of biodiversity.

Appropriate measures to avoid and/or minimise the significant negative effects on the important ecological features have been identified. These mitigation measures aim firstly to avoid the overall effect/impact, or for those that cannot be avoided, reduce their overall effect value. It is not always possible to fully mitigate an adverse effect to neutral levels.

Under the National Planning Policy Framework, NPPF, (HM Government, 2019) local planning policies and decisions should 'contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

[Taken from NPPF 2019, Section 15. Conserving and enhancing the natural environment, paragraph 170, p49]

Thus, the mitigation hierarchy should be applied when considering the impacts of developments and local planning decisions on the natural environment, with the protection of important wildlife sites, habitats, species and ecosystem services; the avoidance of impacts, mitigating these impacts where appropriate, and then achieving biodiversity net gain through enhancements.

Section 15 of the NPPF 2019 goes on to state that 'when determining planning applications, local planning authorities should apply the following principles:

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

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location

proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

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

[Taken from NPPF 2019, Section 15. Conserving and enhancing the natural environment, paragraph 175, p50]

The aim of development should be to deliver biodiversity net gain on site as well as limiting damage to important ecological features. Using the information gained during the desktop survey and the extended Phase 1 habitat survey, and the ecological requirements of habitats, species and local environmental conditions, biodiversity enhancements for the Site have been considered, providing opportunities to increase the diversity of habitats and species on site.

Part 3 Section 2 Limitations to Report

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The time of year the survey was undertaken has been a fundamental consideration regarding the presence and/or absence of species and habitats present on site and in the area. In most cases, the assessment is therefore supported by a desk study and/or data from local records centres.

The ecological survey has not produced a definitive list of plant and animal species present on site and the absence of evidence of any particular species should not be taken as conclusive proof that the species is not present or that it will not be present in the future. However, the results of field- and desk-based surveys are considered to have been sufficient to evaluate ecological features within the predicted zone of influence to a high degree of confidence and to enable an initial assessment of potential impacts likely to require mitigating actions.

It should be noted that habitats, and the species they may support, change over time due to natural processes and because of human influence. In line with current guidelines, the survey on which this report is based is only valid for two years, after which time it will need updating. It being accepted that some LPA's now expect a survey to be updated after twelve months.

This Preliminary Ecological Appraisal encompasses the establishment of the ecological baseline by undertaking a desktop survey, drawing on existing information and data, and a field survey; initial evaluation of the impacts of the proposed development on the designated sites, habitats and species found both on the Site and in the immediate vicinity of the Site and the identification of measures to mitigate the impacts; and the identification of ways to enhance the biodiversity of the area.

Desk Based Assessment

An initial desk-based assessment was carried out by Ecological Surveys Ltd collating data relating to the site itself and up to a 2km or greater radius depending upon the import of information gathered and includes:

- Statutory and non-statutory wildlife and earth science sites
- BAP Priority Inventory Habitats
- Legally protected and nationally notable species
- Sites primarily utilised included MAGIC, National Biodiversity Network

In addition, Local Biodiversity Records were purchased and consulted. Those records which can legally be reported, have been included and considered.

Where data gathered is not considered sufficient for the size and scale or value of the site, Local Records Centre were consulted and have been included within the body of the report, with due regard to restrictions on reporting.

Phase 1 Field-based Assessment

The field survey included carrying out an Extended Phase 1 Habitat Survey, consisting of a walkover assessment of the Site using Phase 1 Habitat Survey methodology (JNCC, 2010, as amended by the Institute of Environmental Assessment (IEA, 1995)). This is a standard technique for classifying and mapping British habitats.

All areas within the Site were surveyed, the main plant species recorded, and habitat type mapped. Indicators of ecological value were also noted, including the presence or signs of any legally protected or rare species.

A search was also made to identify the presence of any invasive non-native species (particularly those listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended)), including Japanese knotweed *(Reynoutria japonica)* and Himalyan balsam *(Impatiens glandulifera).*

Vegetation – Area and Linear

All broad habitat types were identified, and a list was compiled of characteristic features and plant species within each habitat type. Where necessary, habitat types of particular botanical interest were subject to more detailed survey using methods developed for the National Vegetation Classification (NVC) (Rodwell, 1992).

The vegetation recorded on site during this Extended Phase 1 Ecological Survey is described here with reference to Joint Nature Conservation Committee Phase 1 habitat terminology or Biodiversity Net Gain calculation.

Sealed Surfaces/Built Structures

All sealed surface and built structures external and internal were assessed for direct evidence of living or dead species, nesting material, droppings, fur and urine staining.

All built structures were inspected for their potential to support protected species, including the presence of suitable access and egress. Such features include open access for entry or free flight, missing, slipped, broken or bowed roof materials; gaps within soffits; gaps behind fascia; gaps/holes within brickwork; louvers; lifted lead flashing and gaps around window and door casements. Features were inspected using appropriate tools for close and far range and illumination.

Assessment

All ecological data and information gained through both the desktop survey and the survey work were evaluated. The important ecological features were then identified and evaluated against the potential impacts/effects that the proposed development may have on the ecology of the Site and surrounding area.

The biodiversity importance of each designated site, habitat and species is evaluated on a geographic scale: international, national, county and local.

Evaluation of designated sites considers their designation; their ecological and landscape relationship with the proposed site; and the species and/or habitat types for which the site was designated.

Evaluation of habitats considers their designation; their area, quality and viability; diversity and connectivity to the wider landscape; and structural diversity and species-richness.

Evaluation of species considers their designation, including legal protection and rarity.

When assessing the impact of the development and changes to the baseline conditions on site, predictions will be made which focus solely on the zone of influence whilst taking into consideration the lifespan of the development and the significant impacts as identified from the proposed work operations throughout the lifespan of the development.

The proposed development aims to firstly avoid and then mitigate against any potential effects/impacts on the local ecology/biodiversity, ensuring compliance

with nature conservation legislation. It aims to achieve this by applying the mitigation hierarchy (as mentioned in Paragraph 175 of the National Planning Policy Framework and detailed in Paragraph: 018 Reference ID: 8-018-20140306 of National Planning Practice Guidance) as follows:

Avoidance – Significant harm to wildlife species and habitats should be avoided through design.

Mitigation – where significant harm cannot be wholly or partially avoided, it should be minimised by design, or by the use of effective mitigation measures that can be secured by, for example, conditions or planning obligations.

Compensation – where, despite whatever mitigation would be effective, there would still be significant residual harm, as a last resort, this should be properly compensated for by measures to provide for an equivalent value of biodiversity.

Appropriate measures to avoid and/or minimise the significant negative effects on the important ecological features have been identified. These mitigation measures aim firstly to avoid the overall effect/impact, or for those that cannot be avoided, reduce their overall effect value. It is not always possible to fully mitigate an adverse effect to neutral levels.

Under the National Planning Policy Framework, NPPF, (HM Government, 2021) local planning policies and decisions should 'contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

[Taken from NPPF 2021, Section 15. Conserving and enhancing the natural environment, paragraph 174]

Thus, the mitigation hierarchy should be applied when considering the impacts of developments and local planning decisions on the natural environment, with the protection of important wildlife sites, habitats, species and ecosystem services; the avoidance of impacts, mitigating these impacts where appropriate, and then achieving biodiversity net gain through enhancements.

Section 15 of the NPPF 2021 goes on to state that 'when determining planning applications, local planning authorities should apply the following principles:

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

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.'

[Taken from NPPF 2021, Section 15. Conserving and enhancing the natural environment, paragraph 180]

The aim of development should be to deliver biodiversity net gain on site as well as limiting damage to important ecological features. Using the information gained during the desktop survey and the extended Phase 1 habitat survey, and the ecological requirements of habitats, species and local environmental conditions, biodiversity enhancements for the Site have been considered, providing opportunities to increase the diversity of habitats and species on site.

Local Plans require the delivery of a net biodiversity net gain in terms of planning policy. However, to increase predictability and consistency the UK Government announced in the 2019 Spring Statement that biodiversity net gain would be made mandatory and the Environment Bill which would provide the primary legislation for this is currently going through the parliamentary process.

Whilst there is no firm date for when biodiversity net gain will become mandatory nationally, some councils have decided to apply a 10% net gain requirement to all major planning applications from 1st March 2020 and will expect ecological consultants to use the most up-to-date Defra Biodiversity Metric to calculate biodiversity losses and gains for all major developments (see section 4.5 below).

In line with Defra recommendations, developments will be monitored for up to 30 years to ensure that they accord with their biodiversity obligations to mitigate losses and achieve biodiversity gain; these obligations will be secured by way of planning conditions.

Species – Grading Criteria & Method

Grading Criteria	Justification
Confirmed Presence	Species confirmed on site through direct sighting, presence of unambiguous field signs (e.g. scat, hair, prints, nest, eggs, habitation etc.) or through desk-based assessment.
High Potential	Presence of optimal habitat features for species. Surveyed site within known range/close to known occurrence. Excellent connectivity to optimal habitat. No justification for discounting presence of species.
Moderate Potential	Presence of some suitable habitat features for species. Surveyed site within/close to known range or known occurrence but factors such as isolation/fragmentation may reduce potential. Presence of species is more likely than not.
Low Potential	Minimal suitable habitat present or, if present, highly degraded/fragmented. Minimal linkage to suitable habitat beyond site. Presence of species unlikely.
Negligible Potential	Site is entirely unsuitable for species. Presence of species highly unlikely.

INVERTEBRATES		
Land Invertebrate	The presence of important invertebrate species or assemblages is generally dependent upon distinct micro-habitats such as dead wood (standing, fallen, of all decay stages), sap runs, damp/wet soils, mixed sun/shade, bare/friable soils (e.g. exposed sand/soil banks) and a diversity of plant species.	**Method:** An assessment of the site's potential to support a diverse invertebrate assemblage and/or specialist species is based loosely on the presence of habitat features described in Kirby (2001).
Aquatic Invertebrate	For aquatic invertebrates, important species/assemblages will generally be associated with high-quality aquatic habitats such as ponds, rivers, streams and ditches where water quality is good, and vegetation is diverse. Other key factors will include substrate and waterbody morphology.	
Priority/Scarce: Many invertebrate species are material considerations of the planning process under the provisions of the NERC Act (2006), the Nature Conservation (Scotland) Act (2004) and the Wildlife and Natural Environment Act (2011) respectively; however these mostly include relatively common and widespread species, albeit many of which have been subject to range contractions or considerable declines.		

BADGER *Meles meles*		
Main	Several holes with large spoil heaps and obvious paths emanating from and between sett entrances	**Method:** *The surveyed area and adjacent habitats were inspected for field signs of badger activity.* - *Latrines/Faeces: badgers usually deposit faeces in characteristic excavated pits, concentrations of which (latrine sites) are typically found at home-range boundaries;* - *Setts: comprising either single isolated holes or a series of holes likely to be interconnected underground;* - *Paths between setts or leading to feeding areas;* - *Scratching posts at the base of tree trunks;* - *Hair traces;* - *Snuffle holes, formed during foraging and comprising characteristically disturbed ground vegetation;* - *Tracks.*
Annexe	Normally less than 150m from main sett, comprising several holes. May not be in use all the time, even if main sett is very active	
Subsidiary	Usually at least 50m from main sett with no obvious paths connecting to other setts. May only be used intermittently	
Outlier	Little spoil outside holes. No obvious paths connecting to other setts and only used sporadically. May be used by foxes or rabbits.	
Sett Activity - Signs		
Well used	No debris or vegetation blocking the entrance and with one or more of the following features: well-worn entrance, freshly excavated soil, bedding material.	
Partially used	Not in regular use, debris in entrance or vegetation growing around entrance. Could become used with minimal amount of clearance.	
Disused	No evidence of usage for some time. Partially or completely blocked entrance with considerable clearance required for the entrance to be used again.	

BATS *Chiroptera* – ROOSTING in trees		
GRADING CRITERIA	DEFINITION	ASSESSMENT
Confirmed Bat Roost	Unambiguous evidence of roost bats seen emerging/entering, bats audible, droppings/urine-/fur- staining visible or known roost based on desk-based assessment.	Method: - *Trees within and immediately adjacent (where possible) to the surveyed area, were subject to detailed visual inspection from ground level using binoculars/monocular in order to identify potential roost features (PRF) which might offer suitable opportunities for bats.* *These features include dense ivy cladding; woodpecker holes; rot holes; limb stubs; cavities; flaking bark; cracks and splits.* *Each tree has been graded for its suitability for supporting bats based on criteria within 'Bat Surveys for Professional Ecologists Good Practice Guidelines 3rd Edition' (Collins, 2016).*
1* - High Suitability	Trees with obviously suitable PRFs which are considered capable of supporting larger, established roosts of high conservation significance.	
1 - Moderate Suitability	Trees with potentially suitable PRFs but which are not likely to support roosts of high conservation status.	
2 - Low Suitability	Trees of sufficient size/age to exhibit PRFs but nonvisible from ground-level or features seen appear to offer limited potential.	
3 - Negligible Suitability	Trees with no /negligible potential to support bats.	

BATS *Chiroptera* – ROOSTING IN STRUCTURES		
GRADING CRITERIA	DEFINITION	ASSESSMENT
None / Negligible	Buildings with no or very few features capable of supporting roosting bats. Buildings of 'sound' well- sealed structure/a single skin/no roof void. High interior light-levels/little or no insulation. Buildings without any roofs.	Method - ***Roost assessment***: - *The interior spaces are checked for light ingress and access points for bats and birds. Bat droppings, insect prey remains, urine stains, oil stains from bats repeatedly moving over a small area and polishing the surface and the potential presence of bats either dead or alive is considered.*
Low	Buildings of largely unsuitable construction, but with few features of potential value to bats (e.g. gaps above windows, apparently shallow crevices). No supporting evidence (e.g.	

	droppings / staining). Buildings surrounded by poor or sub-optimal bat foraging habitat, e.g. urban.	*The building exteriors are searched visually using appropriate visual aids. Particular attention is paid to sheltered areas such as window ledges and pipes where bat droppings might lie undisturbed from the weather and areas hidden from sight*
Moderate	Buildings usually of brick or stone construction with a number of features of obvious potential value to roosting bats e.g. loose roof / ridge tiles, gaps in brickwork, gaps under fascia boards, and/or warm sealed roof-spaces with under-felt.	
High	Buildings with a large number of features of obvious potential value to bats (as above). Bats may be suspected to roost within the building (at least at certain times of year), but no supporting evidence found.	
Confirmed	Bats discovered roosting within the building or recorded emerging from / entering the building at dusk and / or dawn. Building found to contain conclusive evidence of occupation by bats, such as bat droppings. A confirmed record/eyewitness.	

Bat Emergence Survey Requirements Extracted from - Table 7.3 & 7.1 BCT Recommended Minimum Survey **Effort**		
Low Roost Suitability	**Moderate Roost Suitability**	**High / Confirmed roost Suitability**
One Survey visit – One dusk or dawn re-entry survey	Two separate survey visits – One dusk and one dawn re-entry survey	Three separate survey visits – at least one must be a dawn re-entry and one a dusk emergence, the other can be either.
Structures that have been categorized as low potential can be problematic and the number of surveys required should be judged on a case by case basis. If there is a possibility that quiet calling, late emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category. Multiple survey visits should be spread out to sample as much of the recommended survey period as possible, it is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.		
EMERGENCE – RE-ENTRY Survey Dates		

May to August (structures) No further survey required (trees)	May to September with at least one between May and August	May to September with at least two, between May and August
September surveys are both weather and location dependent. Conditions may become unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season. Multiple survey visits should be spread out as much as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example a more accurate count of a maternity colony is required but it is likely that the colony will soon disperse) if there is potential for a maternity colony then consideration must be given to detectability. A survey on 31st august followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime.		

BATS *Chiroptera* –Foraging & Commuting		
GRADING CRITERIA	DEFINITION	ASSESSMENT
Optimal Quality	Presence of optimal habitat features such as unlit woodland, scrub, hedgerows, grassland and open water with excellent linkage to similar habitats within the wider landscape. Presence of high potential buildings/trees and/or known roosts within immediate landscape. Sites are generally rural in character.	Method: *The surveyed site is assessed for suitability for bats to forage and commute within and around the site. The assessment is based on the presence of key habitat features such as woodland, scrub, hedgerows, grassland and open water, which are highly attractive to bat species. Unlit semi-natural vegetation and habitat linkage between the site and the surrounding landscape such that the site may form an integral part of landscape-scale habitat for bats, is of importance.*
Moderate Quality	Presence of optimal habitat features such as woodland, scrub, hedgerows, grassland and open water with reasonable linkage to similar habitats within the wider landscape. Limiting factors may include size of site.	
Low Quality	Presence of some limited habitat features such as scrub or hedgerows, with minimal linkage to suitable habitats within the wider landscape.	
Poor Quality	No suitable habitat present or, if present, highly degraded/fragmented. Minimal unlit areas with no linkage to suitable habitat beyond site. Generally urban in character.	

Bat Activity Survey Requirements Extracted from - Table 8.3. BCT Recommended Minimum Survey Effort.		
Transect/spot count/timed search surveys		
Low Habitat Value	**Moderate Habitat Value**	**High / Confirmed Habitat Value**
One Survey visit per season (Spring- April/May, summer- June/July/August, autumn- September/October) in appropriate weather conditions for bats. Further surveys may be required if these survey visits reveal higher levels of bat activity than predicted by habitat alone.	One survey visit per month (April to October) in appropriate weather conditions for bats. At least one of the surveys should comprise dusk and pre-dawn (or dusk to dawn) within one 24 hr period.	Up to two survey visits per month (April to October) in appropriate weather conditions for bats. At least one of the surveys should comprise dusk and pre-dawn (or dusk to dawn) within one 24hr period.
Automatic / static bat detector surveys		
One location per transect, data to be collected on five consecutive nights per season (spring- April/May; summer- June/July/August; autumn- September/ October) in appropriate weather conditions for bats.	Two locations per transect, data to be collected on five consecutive nights per month (April to October) in appropriate weather conditions for bats.	Three locations per transect; data to be collected on five consecutive nights per month (April to October) in appropriate weather conditions for bats)
Refer to BCT guidelines document Table 8.3 for further details and dependent conditions where the survey effort is not straightforward.		

BIRDS – Nesting & Foraging Habitats - STRUCTURES
Method: *Bird droppings, whitewash, pellets, nesting materials, birds, dead or alive, and potential for nesting was considered, including areas hidden from sight.* *Exteriors were searched visually using binoculars or a close range monocular where appropriate and photographed with a digital zoom camera for field evidence of bats or birds, with particular attention being paid to sheltered areas such as window ledges and pipes where bat/bird droppings might lie undisturbed from the weather and areas hidden from sight.* **Method:** *An assessment is made of the site's suitability to support breeding and wintering bird species. Birds will utilise a broad range of habitats, including built structures; trees; scrub; isolated shrubs; dense herbaceous vegetation (terrestrial and aquatic) and open grassland among others. All bird species observed on site are recorded.*

DORMICE *Muscardinus avellenarius* Nesting, Foraging & Commuting		
GRADING CRITERIA	DEFINITION	ASSESSMENT
Optimal	Safe nesting places & continuity of food from spring to autumn, well connected or large. Prefer thick bushy growth, whether in woods, hedges or scrub but can occur in a wide variety of habitats.	Method: *The surveyed site is assessed for potential for dormice to nest, forage and commute within and around the site.* *Key habitats tend to be woodland, scrub and hedgerows, particularly where dense vegetation within which to nest/hibernate is offered along with key resources such as hazel nuts, fruiting/nectar-rich plants (e.g. hawthorn, bramble) and honeysuckle (for nesting material). Of importance is the presence of landscape-scale habitat linkages such as hedgerows, and where the site is linked to such habitat this will raise the potential for the species to occur.*
Optimal Woodland:	Dense young growth, scrub or bramble, fine scale mosaic patches, diversity of native trees, full age range – including veterans, continuity of cover between understory & canopy, large or well connected. Broadleaved, dense shrubby growth as encouraged by coppicing, natural regeneration, or ride management, connected canopy spread, tree holes	
Optimal Hedges	wide, dense, diversity of native shrubs & trees, outgrowths of bramble, rose or blackthorn, well-connected.	
Optimal Scrub	Dense, plenty of edge, Diversity of shrubs & ramblers, including bramble. Well connected.	
Optimal Garden	Well connected to existing dormouse habitat, high cover of thick hedges, shrubberies and dense borders, high proportion of native trees and shrubs, access to high energy foods (including foods left for badgers/birds/squirrels)	
Other	Reedbeds, bracken, tussocky grassland, gorse, central reservations.	
Sub-Optimal	Conifer plantations, carr – wet woodland, most urban residential gardens with ornamental plantings, disturbance, pets (cats) and little connectivity.	

REPTILES - Smooth snakes, sand lizards, adder, grass snake, common or viviparous lizard, slow worm		
Slow worm Tussocky thatched base grassland, refugia, sunny vista **Common Lizard** Stone faced hedgerows/ sunny banks **Grass Snake:** Presence of standing water and amphibian food supply **Adder** Favour bracken-covered areas near woodland. Small mammal food supply, **Smooth Snake** Heathlands in Dorset, Hampshire and only a very few sites in Surrey **Sand Lizard** Naturally occur on sandy heathland in Surrey, Dorset, Hampshire, coastal sand dune systems in Merseyside. Dawlish.	- Food source - Vegetative Structure: Thatch - Extent: - large enough and connected to other aspects for slow-worm/lizard/snake - Aspect: - sunny/sheltered/unshaded/south facing - Topography: - banks/hummocks/hollows/south slopes - Connectivity: - allowing for colonisation and recolonization - Refuge: - where reptiles could take cover from predation and reproduce safely – bramble/ scrub/ compost - Hedgerow margins – corridors - Hedgerows – stone faced hedgerows - History: - past and present management of the land indicates time for reptiles to have established.	**Method:** *An assessment is made of the site's suitability to support reptile populations. Key habitat features include tussocky/patchy grassland; scrub edge; linear watercourses; ponds; compost heaps; brash piles and rubble/soil heaps. Linkage to suitable habitat within the surrounding landscape will increase the potential for reptiles to occur, although populations can occur within isolated/fragmented habitats even within otherwise-unsuitable areas.*

AMPHIBIANS - Great Crested Newt *Triturus cristatus* (natterjack toad, marine turtle, pool frog, marine turtle)			
Great Crested Newt Assessment tools: - Habitat Suitability Index (HSI) system (Oldham et al., 2000). Then assigned a grading score between zero (poor suitability) and 1 (excellent suitability). OR The rapid Risk Assessment Tool.			**Method:** - An assessment is made of all waterbodies and terrestrial habitat within the site for their suitability to support populations of amphibians. For the European-protected great crested newt *Triturus cristatus*, suitable waterbodies will generally be characterised by the presence of good quality freshwater, diverse macrophyte cover and an absence of fish and fowl. The species requires both terrestrial and aquatic habitats, spending the majority of their life on land, migrating to ponds in the spring to breed. A wide range of habitats are used by the species including grassland, woodland (with a preference for deciduous woodland), scrub and mature hedgerows.
Component **Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)**		**Notional offence probability score**	
Great crested newt breeding pond(s)	No effect	0	
Land within 100m of any breeding pond(s)	No effect	0	
Land 100-250m from any breeding pond(s)	0.01 - 0.1 ha lost or damaged	0.01	
Land >250m from any breeding pond(s)	No effect	0	
Individual great crested newts	No effect	0	
Maximum		**0.01**	
Rapid Risk Assessment Result		**Highly Unlikely**	

HEDGEROWS	
A hedgerow is not protected if it's in, or marks the boundary of, a private garden.	A countryside hedgerow is a boundary line of bushes which can include trees. A hedgerow is protected, meaning you cannot remove it, if it meets the following criteria for: • length • location • 'importance' **Length** A hedgerow is protected if it's: - more than 20m long with gaps of 20m or less in its length - less than 20m long, but meets another hedge at each end **Location** A hedgerow is protected if it's on or next to: - land used for agriculture or forestry - land used for breeding or keeping horses, ponies or donkeys - common land - a village green - a site of special scientific interest - a protected European site such as a special area of conservation or special protection area - a local or national nature reserve - land belonging to the state **'Importance'** A hedgerow is important, and is protected, if it's at least 30 years old and meets at least one of these criteria: - marks all or part of a parish boundary that existed before 1850 - contains an archaeological feature such as a scheduled monument - is completely or partly in or next to an archaeological site listed on a Historic Environment Record (HER), (formerly a Sites and Monuments Record) - marks the boundary of an estate or manor or looks to be related to any building or other feature that's part of the estate or manor that existed before 1600

- is part of a field system or looks to be related to any building or other feature associated with the field system that existed before 1845 - you can check the County Records Office for this information
- contains protected species listed in the Wildlife and Countryside Act 1981
- contains species that are endangered, vulnerable and rare and identified in the British Red Data books
- includes woody species and associated features as specified in Schedule 1, Part II Criteria, paragraph 7(1) of the Hedgerow Regulations - the number of woody species needed to meet the criteria is one less in northern counties

Apply to remove a countryside hedgerow

You can only remove the hedgerow if:

- it's less than 30 years old
- you're the owner, tenant or manager of the hedgerow
- you're a utility company that's eligible to remove it

Discuss the proposal to remove a hedgerow with the local planning authority (LPA) first to make sure it's legal to do so.

The LPA is one of the following:

- the local authority
- the National Park Authority for land within a national park boundary
- the Broads Authority in the Norfolk Broads
- the Council of the Isles of Scilly for land on the Isles of Scilly

Part 4 Appendices

Appendix A. Flora

Relevant flora species recorded onsite during the extended Phase 1 Habitat Survey are contained in the body of the text.

Protected areas

In 1992 the European Community adopted Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (EC Habitats Directive). This is the means by which the Community meets its obligations as a signatory of the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention). The Directive applies to the UK and to its overseas territory of Gibraltar. The provisions of the Directive require Member States to introduce a range of measures including the protection of species listed in the Annexes; to undertake surveillance of habitats and species and produce a report every six years. There are 189 habitats listed in Annex I of the Directive and 788 species listed in Annex II. The Directive has been transposed into the UK by the Conservation (Natural Habitats, & c.) Regulations 1994 (as amended). These are known as 'the Habitats Regulations'. Special Areas of Conservation (SACs) on land or freshwater areas are underpinned by notification as Sites of Special Scientific Interest (SSSIs). In the case of SACs that are not notified as SSSI, positive management is promoted by wider countryside measures, while protection relies on the provisions of the Habitats Regulations. The Joint National Conservation Committee (JNCC) advises government on the interpretation of 'conservation status of habitats and species' under the terms of the Directive. In addition, together with the country nature conservation advisors, it advises government on the UK suite of sites that meet the criteria for consideration as SCI. For more information on the JNCC and protected species please visit the JNCC website.

The SSSI's are governed by tight rules and regulations and owners and occupiers of such sites may be prosecuted if they destroy plants growing in these sites or remove plant material, unless they have first consulted the statutory conservation agencies, for example English Nature and the Countryside Council for Wales. Over and above this some Nature Reserves, Ministry of Defence property or National Trust land have by-laws which must be adhered to and it is unlawful to pick, uproot or remove plants if such by-laws are in operation which forbid such activities.

Red Data Books

These are lists of species whose continued existence is threatened. Information on plants in danger of extinction nationally or locally are published in national Red Data Books and County Rare Plant Registers. Red Data Book species are classified into different categories of perceived risk. Each Red Data Book usually deals with a specific group of animals or plants (for instance, reptiles, insects or mosses). They are now being published in many different countries. JNCC is responsible for some of these publications reflecting the status of some plant species types in Britain

Lists of rare species can be obtained from the Joint Nature Conservation Committee or viewed on its web site.

CITES

CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival. Roughly 28,000 species of plants are protected by CITES against over-exploitation through international trade. They are listed in the three CITES Appendices. The species are grouped in the Appendices according to how threatened they are by international trade

The only UK species to which CITES applies are Snowdrop Galanthus nivalis, if this is native, and all the orchids. For further information on CITES or to view protected species please view the CITES website.

Appendix B. Summary of the Legislation and Policy

relating to Habitats and Species

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

This Act is the primary legislation that protects animals, plants and certain habitats in the UK. It is the means by which the Bern Convention and the Birds Directive and Habitats Directive are implemented in Britain. Protected birds, animals and plants are listed in Schedules 1, 5 and 8 respectively of the Wildlife and Countryside Act.

Schedule 1 Part 1 – Birds which are protected by special penalties at all times from being intentionally killed, injured, or taken and whose eggs, nests or dependent young are also protected from being disturbed.

Schedule 2 since 2007 the effective protection for bats now comes from of the Conservation (Natural Habitats &c) Regulations 1994, which defines "European protected species of animals".

Schedule 5 Section 9 Part 1 (killing/injuring) – Animals which are protected from being intentionally killed or injured.

Schedule 5 Section 9 Part 1 (taking) – Animals which are protected from being taken.

Schedule 5 Section 9 Part 4a – Animals which are protected from intentional damage to, destruction of, or obstruction of access to any structure or place used for shelter or protection.

Schedule 5 Section 9 Part 4b – Animals which are protected from intentional disturbance while occupying a structure or place used for shelter or protection.

Schedule 5 Section 9 Part 4c – Animals which are protected from their access to any structure or place which they use for shelter or protection being obstructed.

Schedule 6 - Animals which are protected from being killed or taken by certain methods under Section 11(1). The methods listed are: self-locking snares, bows, crossbows, explosives (other than ammunition for a firearm), or live decoys.

Schedule 8 – Plants and fungi which, subject to exceptions, are protected from: intentional picking, uprooting or destruction; selling, offering for sale, possessing or transporting for the purpose of sale; advertising for buying or selling.

Schedule 9 – Plant and animal species that are prohibited from introducing into the wild as they may cause ecological or environmental harm or where they pose a threat to the native habitats and species. Under Schedule 9 of the Wildlife & Countryside Act 1981 (as amended) it is a criminal offence to cause any of 48 non-native plant species (6/4/2010) and (non-native animals) to spread into the wild where they cause damage to the environment/ economy/health/lifestyle.

The site owner has a responsibility to:

- Prevent invasive, non-native plants on their land spreading into the wild and causing a nuisance.
- Prevent harmful weeds on their land spreading onto a neighbour's property

The owner of the site must not plant in the wild or cause certain invasive and non-native plants to grow in the wild. This can include moving contaminated soil or plant cuttings. If this occurs there is a fine or prison term for up to 2 years. The site owner is not legally obliged to remove these plants or to control them on site. However, at the point of change**: development, mulching, earth moving operations**: it is important that they are identified, and their spread controlled in the most appropriate way.

Environmental Protection Act 1990

Environmental Protection Act 1990 allows for the potential classification of soil and other waste containing viable propagules of invasive non-native plant species as controlled waste. This has been applied to Japanese Knotweed with the result that waste containing this species must be disposed of in accordance with the duty of care set out in section 34 of the Act. The Environment Agency have issued guidance which will be of use in complying with the duty of care.
In addition:

- Any Schedule 9 plant material, or soil containing root or rhizome fragments, may be classified as 'controlled waste' under the Environmental Protection Act 1990 (EPA).
- In addition to a criminal prosecution under the Wildlife & Countryside Act, infringement of the EPA can result in an *unlimited fine*.
- The owner may also be held liable for costs incurred from the spread into adjacent properties and for disposal of contaminated soil off site during development, which later leads to the spread on another site.

Protection of Badgers Act 1992

Both badgers and their setts are protected, making it illegal to kill, injure or take, possess or cruelly ill-treat badgers or to interfere with a badger sett (including blocking tunnels or damaging the sett in any way).

The Hedgerow Regulations 1997

Any hedgerows classified as 'important' under the 1997 Hedgerows Regulations cannot be removed without a Hedgerow Removal Notice issued by the relevant Local Authority unless previously approved as part of a planning permission. The UK Biodiversity Action Plan (BAP) now classifies any native hedge over 20m in length as a priority habitat feature. Priority hedgerows should be those comprising 80% or more cover of any native tree/shrub species.
The Local Authority is the arbiter as to classification of hedgerows.

The Countryside and Rights of Way (CRoW) Act 2000

This Act increases measures for the management and protection for Sites of Special Scientific Interest (SSSI) and strengthens wildlife enforcement legislation.

Natural Environment and Rural Communities Act 2006

The Act made amendments to the both the Wildlife and Countryside Act 1981 and the Countryside and Rights of Way (CROW) Act 2000. For example, it extended the CROW biodiversity duty to public bodies and statutory undertakers. The Act also makes provisions in respect of pesticides harmful to wildlife, the protection of birds, and in respect of invasive non-native species, and also alters enforcement powers in connection with wildlife protection and extends time limits for prosecuting certain wildlife offences.

Section 41 of the Act requires that the Secretary of State publishes a list of species of flora and fauna considered to be of principal importance for the purpose of conserving biodiversity in England. The list is intended to be used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act 2006 'to have regard' to the conservation of biodiversity in England, when carrying out their normal functions.

The UK BAP list of 1149 species, published in 2007, was used to draw up a list of 938 species, also known as the 'England Biodiversity List', comprising those species found in England which have been identified as requiring action under the UK BAP. In addition, the Hen Harrier has also been included on the list because without continued conservation action it is unlikely that the Hen Harrier population will increase from its current very low levels in England.

The list of species of principal importance was first published in 2002 by DEFRA under Section 74 of the Countryside and Rights of Way (CRoW) Act 2000, and was identical to the UK BAP list at that time. The CRoW Act Section 74 list has now been replaced by the Section 41 list.

Sixty-five (65) habitats are listed as being of principal importance, in the Secretary of State's opinion, for the purposes of conserving biodiversity. Under section 41 (England) of the NERC Act (2006) there is a need for these habitats to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity. These habitats are the subject of National and Local Biodiversity Action Plans.

The Anti-social Behaviour, Crime and Policing Act 2014

Anti-social Behaviour, Crime and Policing Act 2014 enables community protection notices to be served by local authorities or the Police against individuals who are acting unreasonably and who persistently or continually act in a way that has a detrimental effect on the quality of life of those in the locality. These powers are designed to be flexible and could be used to address specific problems caused by widespread species such as Japanese knotweed.

The Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (and as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019)) originally transposed the Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora ("the Habitats Directive") and elements of Directive 2009/147/EC on the conservation of wild birds ("the Birds Directive") in England, Wales, and to limited extent, Scotland and Northern Ireland. The objective of the Regulations is to protect biodiversity through the conservation of natural habitats and species of wild fauna and flora. The Regulations set out the rules for the protection, management and exploitation of such habitats and species. They place a duty on the Secretary of State to propose a list of sites which are important for either habitats or species. These sites are known generally as 'European sites' and in the UK form the national sites network (known in Europe as Natura 2000 sites). They include Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

Circular 06/2005 Biodiversity and geological conservation – statutory obligations and their impact within the planning system

This circular provides administrative guidance on the application of the law relating to planning and nature conservation as it applies in England. It complements the national planning policy in the National Planning Policy Framework and the Planning Practice Guidance.

National Planning Policy Framework, updated 2021

The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied. It contains a number of policies relating to ecology including "minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures". Under NPPF, local planning authorities have an obligation to promote the preservation, restoration and recreation of priority habitats, ecological networks and the protection and recovery of priority species as identified under the Natural Environment and Rural Communities Act (2006). Local Planning Authorities will seek to produce a net gain in biodiversity, by requiring developers to design wildlife into their plans and to ensure that any unavoidable impacts are appropriately mitigated for. The NPPF 2019 version replaces the first NPPF published in March 2012 and includes minor clarifications to the

revised version published in July 2018.

The natural choice: securing the value of nature (2011) (Natural Environment White Paper)

This White Paper outlines the Governments vision for the future of landscape and ecosystem services.

UK Post-2010 Biodiversity Framework, 2012

The 'UK Post-2010 Biodiversity Framework', published in July 2012, succeeds the UK BAP and 'Conserving Biodiversity – the UK Approach', and is the result of a change in strategic thinking.

Biodiversity 2020

This is a national strategy for England's wildlife and ecosystem services based on the White Paper.

European Red Data lists (IUCN, 2000)

International Union for Conservation of Nature (IUCN and the European Commission have been working together on an initiative to assess around 6,000 European species according to IUCN regional Red Listing Guidelines. Through this process they have produced a European Red List identifying those species which are threatened with extinction at the European level so that appropriate conservation action can be taken to improve their status.

Appendix C. Optimum Protected Species Survey Times

Dark Blue = Approximate Optimal Survey Period

Lighter Blue = Approximate Sub-Optimal Survey Period.

Owing to the vagaries of the English climate and the seasonal variation between different parts of the Country, the optimal Survey period might vary by several weeks from this calendar. This should be borne in mind when determining Planning Applications

Phase 1 Ecological Survey	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec

Tree Survey BS5837 -2012	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec

BATS	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Bat Scoping												
Bat Emergence												
Bat Activity												
Bat Hibernation												

BIRDS	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Birds Breeding												
Birds -Other												

GREAT CRESTED NEWTS	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
GCN - Habitat Assessment												
GCN - Presence / Absence												
eDNA – Survey												

AQUATIC ANIMALS	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Water Vole												
White Clawed Crayfish												
Otter												

DORMOUSE	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec

REPTILE	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec

BADGER	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec

Botany	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec

Appendix D Wildlife Crime

http://www.nwcu.police.uk/what-is-wildlife-crime/

In general, wildlife crime is any action which contravenes current legislation governing the protection of the UK's wild animals and plants.

A wildlife crime may also be reported and recorded where advice has been given regarding the potential or actual presence of a protected species within a habitat with that habitat then removed/impacted causing actual disturbance/harm/death to that species. Examples in relation to this report may be seasonally pertinent but could include cutting back or removal of a hedgerow where birds and dormice are nesting; removing or doing works to trees where bats roost; cutting grass where reptiles such as slow-worms are inhabiting; filling in or blocking access to badger setts. Specific legislation should be referred to regarding the protection of any animal species or habitat.

Appendix E. Habitats Regulation Assessment (HRA)

Appropriate assessment (or 'Habitats Regulation Assessment', HRA) is one of the most powerful tools currently available to control the environmental impacts of development. Whereas sustainability appraisal is a decision-informing tool, appropriate assessment is often described as a decision-making tool because has the potential to stop development.

Appropriate assessment tests whether a plan or a project is likely to have a significant negative impact on any:

- Special Protection Area (SPA) – a European designation which protects birds
- Special Area of Conservation (SAC) – a European designation which protects habitats
- RAMSAR site – a European designation which protects wetlands.

Jointly, these are called 'European sites'. Appropriate assessment does not apply to other designations, like Sites of Special Scientific Interest (SSSI) or Areas of Outstanding Natural Beauty (AONB).

If the proposed development has the potential to impact up on any of the European sites, the LPA can request an HRA be conducted. The responsibility for conducting such an HRA lies with the LPA, but they can insist that all relevant information is provided to them by the developer.

Proximity to a site is not the defining factor, potential 'impact' is, and for large projects this could be up to 15km from the site. The closer to a protected site, the more likely it is that an HRA will be required, even for a very small site.

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- Cornwall Biodiversity Action Plan: www.cornwallwildlifetrust.org.uk/bap
- Cornwall Council Interactive Map: https://map.cornwall.gov.uk/
- Cornwall Planning for Biodiversity Guide (2018): https://www.cornwall.gov.uk/media/35514048/biodiversity-spd-v7.pdf
- Cornwall Wildlife Trust: www.cornwallwildlifetrust.org.uk
- GB non-native species secretariat: www.nonnativespecies.org
- Multi Agency Geographical Information for the Countryside: www.magic.defra.gov.uk
- National Biodiversity Network Atlas: www.nbnatlas.org
- Prevent the spread of harmful invasive plants: www.gov.uk/prevent-the-spread-of-harmful-invasive-and-non-native-plants
- UK Biodiversity Action Plan: www.ukbap.org.uk/NewPriorityList.aspx

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