



Land west of Anndel Road,  
Angmering

## Ecological Mitigation and Enhancement Strategy

Prepared by  
CSA Environmental

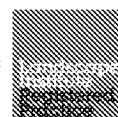
on behalf of  
Gladman Developments

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This report may contain sensitive ecological information. It is the responsibility of the Local Authority to determine if this should be made publicly available.

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## EXECUTIVE SUMMARY

This report has been prepared by CSA Environmental on behalf of Gladman Developments. It sets ecological mitigation and enhancement measures to be implemented in association with proposed mixed development, to include demolition of the existing buildings, at Land west of Arundel Road, Angmering (hereafter referred to as 'the Site').

The Site currently comprises an arable field with an area of semi-improved grassland, bounded by mature hedgerows and woodland, and developed land to the east (comprising a residential plot and commercial units) (as shown on the Habitats Plan CSA/3378/102).

Ecological Features identified within this report comprise the following:

- Habitats and Flora: Hedgerows and trees
- Fauna: Bats, nesting birds, badgers, dormice, other mammals, reptiles and amphibians

This report sets out a strategy for avoidance, mitigation and where necessary compensation for potential impacts to these ecological features, as well as provision of ecological enhancement measures to be delivered alongside the proposed development.

A monitoring strategy for these ecological mitigation and management measures is included in order to inform their successful implementation and maintenance. Responsible parties are identified and mitigation proposals are assimilated into a Works Schedule so as to aid enactment.

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## 1.0 INTRODUCTION

- 1.1 This Ecological Mitigation and Enhancement Strategy (EMES) has been prepared by CSA Environmental on behalf of Gladman Developments. It sets ecological mitigation and enhancement measures to be implemented in association with proposed residential development and provision of a new children's play area, attenuation pond and associated landscaping at Land west of Arundel Road, Angmering (hereafter referred to as 'the Site'). The proposed development is shown on the Development Framework Plan (CSA/3467/136).
- 1.2 The Site occupies an area of c. 9.1ha and is located around central grid reference TQ 065 053, to the north of Angmering. It consists of an arable field with an area of semi-improved grassland, bounded by mature hedgerows and woodland, and developed land to the east (comprising a residential plot and commercial units) (as shown in the Habitats Plan CSA/3378/102, provided in Appendix A).
- 1.3 Important Ecological Features (IEFs) identified within this report comprise the following:
- Habitats and Flora: Hedgerows and trees
  - Fauna: Bats, nesting birds, badgers, dormice, other mammals, reptiles and amphibians
- 1.4 This document sets out how potential impacts of development construction and operation will be addressed and details ecological enhancement measures to be delivered in line with the 'mitigation hierarchy' set out within the British Standard BS 42020:2013, which involves the following step-wise process:
- Avoidance – avoiding adverse effects through good design;
  - Mitigation – where impacts are unavoidable, mitigation should be employed to minimise adverse effects;
  - Compensation – where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm;
  - Enhancement – maximise opportunities to deliver biodiversity benefits, which can be delivered alongside the above to resolve potential adverse effects.
- 1.5 Mitigation to be implemented to avoid, mitigate and / or compensate for potential impacts to these IEFs are set out within this document, together with details of implementation and legal responsibilities (as appropriate) and monitoring.
- 1.6 Mitigation prescriptions have been informed by ecological survey information collected between 2017 and 2018, provided as part of the Ecological Impact Assessment (CSA/3467/07), which should be read in conjunction with this report.

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## 2.0 LEGISLATION, PLANNING POLICY & STANDING ADVICE

### Legislation

2.1 Key wildlife legislation of relevance to ecological features identified within this Strategy are listed below:

- The Conservation of Habitats and Species Regulations 2017 (as amended)
- Wildlife and Countryside Act 1981 (as amended)
- Protection of Badgers Act 1992
- Natural Environment and Rural Communities (NERC) Act 2006
- The Hedgerow Regulations 1997

### European Protected Species

2.2 The Conservation of Habitats and Species Regulations 2017 (as amended) enacts the Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, and Council Directive 79/409/EEC on the Conservation of Wild Birds, into UK law. The Regulations allow for the designation of Statutory Nature Conservation sites (SACs and SPAs) and European Protected Species ('EPS' including all UK bat species, great crested newt, hazel dormouse and otter) which are assigned a greater level of protection than under national legislation.

2.3 These regulations make it an offence to deliberately capture, injure, kill or disturb (impairing their ability to survive, breed reproduce or rear/nurture their young) an EPS or to damage or destroy a breeding site or resting place of an EPS. Where development is proposed that would result in an offence under the Habitats and Species Regulations an EPS licence needs to be granted by Natural England to permit an act that would otherwise be unlawful. This provides for a specific derogation from the legislation, to prevent a legal infringement occurring.

2.4 EPS species of relevance to the proposed development and this EMES comprise the following;

- Bats (roosting bat(s) within buildings B3 and B4 to be lost during construction phase; potential impacts to bat foraging and dispersal considered in relation to construction and operation phases)
- Dormouse (present within hedgerows and scrub on-Site, with suitable habitat connectivity to the wider landscape)

### UK Protected Species

2.5 The Wildlife and Countryside Act 1981 (as amended) forms the primary piece of UK legislation relating to the protection of habitats and species.

The following fauna protected by this legislation, of relevance to construction and operational phases of development are as follows:

- Birds - With regards to wild birds, the Act makes it an offence to kill, injure or take any wild bird, or to take, damage or the nest of a wild bird, or to take or destroy eggs. Potential impacts to nesting birds nesting during vegetation clearance and demolition of buildings. Species listed on Schedule 1 of the Wildlife and Countryside Act, 1981; therefore the birds, their nests, eggs and young are fully protected at all times throughout the UK. It is also an offence to intentionally or recklessly disturb Schedule 1 species at an active nest site with eggs or young or before eggs are laid, or to disturb the dependent young.
- 2.6 Under Section 5, Schedule 9(4) of the Act it is an offence to intentionally or recklessly disturb a species whilst occupying a structure or place which it uses for shelter or protection, or to obstruct access to such a place. This schedule will be of relevance to the following:
- Bats
  - Dormice
- 2.7 Under Section 5, Schedule 9(1) of the Act is an offence to intentionally or recklessly kill or injure a species listed under this schedule. This schedule will be of relevance to the following:
- Reptiles – Common lizard *Zootoca vivipara* were recorded adjacent to the Site at land between New Place Bungalow and Arundel Road, Angmering (Ref: A/131/16/OUT), and a low population is present on Site. Suitable habitat is present reptile species on-Site along field margins, within grassland and scrub.
- 2.8 The Protection of Badgers Act, 1992 affords protection to badgers and their setts. A badger sett occurs on Site, therefore potential impacts to this species which could occur during the site preparation and construction phase have been considered. Precautionary measures to be implemented in order to avoid any potential impacts to badgers and an offence are set out herein.

#### Priority Species for Conservation

- 2.9 Section 40(1) of the Natural Environment and Rural Communities (NERC) Act 2006 states that each public authority “must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity”. This legislation makes it clear that planning authorities should consider impacts to biodiversity when determining planning applications, with particular regard to the Section 41 list of 56 habitats and 943 species of principal importance, irrespective of whether they are covered by other legislation.

- 2.10 The S41 list was taken forward for action under the UKBAP (first published in 1994). The UKBAP has now been superseded by the Biodiversity 2020 Strategy, which continues to prioritise the S41 list, setting national targets for the period to 2020, and the UK Post-2010 Biodiversity Framework, which shows how these contribute to targets at the European level. Whilst BAPs are therefore no longer formally recognised, many of the tools and resources originally developed for the BAP remain in use, such as the background information which still forms the basis of work at national level. However, the Sussex BAP has not been updated since 2007 and no current target for biodiversity within Sussex are currently available.
- 2.11 S41 list species and Birds of Conservation Concern (BoCC) of relevance to the 'construction and operational phases' include:
- S41 Habitats (ponds, hedgerows);
  - S41 bat species (common pipistrelle, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared *Plecotus auritus* and barbastelle bat *Barbastella barbastellus*);
  - S41 bird species (habitats at the site have the potential to support a range of S41 and/or SBAP species e.g. starling *Sturnus vulgaris*, swift *Apus apus*, skylark *Alauda arvensis*, song thrush *Turdus philomelos* and yellowhammer *Emberiza citrinella*);
  - BoCC bird species (habitats at the site have the potential to support a range of BoCC species e.g. dunnock *Prunella modularis*, yellowhammer *Emberiza citrinella*); and

### Planning Policy and Guidance

- 2.12 Relevant national and local planning policy and guidance considered within the Strategy document are listed below:
- National Planning Policy Framework (NPPF) 2019
  - Arun District Local Plan 2003 saved policies
  - Arun District Local Plan 2011-2031 draft policies
  - Angmering Neighbourhood Plan

### National Planning Policy Framework

- 2.13 Within the NPPF with regards to ecology and biodiversity, Chapter 15: Conserving and Enhancing the Natural Environment, paragraph 170, states that states that the planning system and planning policies should minimise impacts on and provide net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.
- 2.14 Paragraph 175 sets out the principles that local planning authorities should apply when determining planning applications:

- If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts).
- 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.
- 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.
- 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.

2.15 The Government Circular 06/2005, which is referred to within the NPPF, defines statutory nature conservation sites and protected species as a material consideration in the planning process.

#### Arun District Development Plan

2.16 The Development Plan for the Arun district includes the following documents of relevance to the proposed development:

- The 'saved policies' of the adopted Arun District Local Plan 2003
- The 'draft policies' of the Arun District Local Plan 2011-2031
- Angmering Neighbourhood Plan

2.17 Within the Arun District Local Plan 2011-2031 (Adopted July 2018), the draft policies of relevance to the proposed development include:

- Policy ENV SP1 Natural Environment  
 "Arun District Council will encourage and promote the preservation, restoration and enhancement of biodiversity and the natural environment through the development process and particularly through policies for the protection of both designated and non-designated sites. Where possible it shall also promote the creation of new areas for habitats and species. In relation to designated sites, development will be permitted where it protects sites listed in Tables 17.1-17.7 that are recognised for the species and habitats contained within them."

- Policy ENV DM1 Designated Sites of biodiversity or geological importance

"a) Proposed development likely to have an adverse effect on land with the designated features of any Site of Biodiversity or Geological Importance as listed in Tables 17.1-17.7 or any subsequently designated sites (either individually or in combination with other developments), will not normally be permitted. Consideration will be given to the exact designated features present on the site, their scarcity/rarity and recognition of the protection offered by their existing status. Development on wildlife sites with the highest value will only be permitted exceptionally where the following can be demonstrated:

- i. There is no alternative solution (which shall be adequately demonstrated by the developer).
- ii. There are reasons of public health or public safety or
- iii. There are benefits of primary importance to the environment or
- iv. There are imperative reasons of overriding public interest.

Notwithstanding the above however, the presumption in favour of sustainable development does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined.

b) In determining any planning application affecting Sites of Biodiversity or Geological Importance the Council will ensure that the intrinsic natural features of particular interest are safeguarded or enhanced having regard to;

- i. The European, National or Local status and designation of the site;
- ii. *The nature and quality of the site's features, including its rarity value;*
- iii. The extent of any adverse impacts on the notified features of interest;
- iv. The need for compensatory measures in order to re-create remaining features of habitats on or off the site.

c) Where appropriate the Council will ensure the effective management of designated sites through the imposition of *planning conditions or Section 106 agreements as appropriate.*"

- Policy ENV DM4 Protection of Trees

"Development will be permitted where it can be demonstrated that trees protected by a Tree Preservation Order(s), (TPO) identified as Ancient Woodland, in a Conservation Area or contributing to local amenity, will not be damaged or destroyed now and as they reach maturity, unless development:

- b. Would result in the removal of one or more trees in the interests of good arboricultural practice. This shall be demonstrated by the developer following the advice of a suitably qualified person which shall be guided by BS 5837 (2012). Details of any advice received having regard to BS 5837 (2012) shall be submitted, in writing, as part of a planning application; or
- c. Would enhance the survival and growth prospects of other protected trees;
- d. The benefits of the proposed development in a particular location outweigh the loss of trees or woodland, especially ancient woodland.

Where planning permission is granted in any of the above instances, conditions shall be used to ensure that, for any trees which are removed as part of a development, at least an equivalent number of a similar species and age (where practical) are planted on the proposed development site. Sufficient space for replacement trees to mature without causing future nuisance or damage shall be provided. The planting of new trees shall form an integral part of the design of any development scheme.

Proper provision must be made for the protection and management of trees or areas of woodland onsite when undertaking development. A management plan shall be provided as part of a planning application in accordance with BS 5837 (2012) in order to ensure that trees are adequately protected during development and appropriately maintained in the future. Conditions for the continued protection of trees on sites shall be included in any planning permission given.

Where there are existing trees on or adjacent to a development site, developers shall be required to provide:

- e. Land and tree surveys
- f. A tree constraints plan
- g. An arboricultural impact assessment to include a tree protection plan and arboricultural method statement

These will ensure that development is planned to take a comprehensive view of tree issues at an early stage in the design process and that development works do not have a negative impact on existing trees."

- Policy ENV DM5 Development and Biodiversity  
*"Development schemes shall, in the first instance, seek to achieve a net gain in biodiversity and protect existing habitats on site. They shall also however incorporate elements of biodiversity including green*

walls, roofs, bat and bird boxes as well as landscape features minimising adverse impacts on existing habitats (whether designated or not). Development schemes shall also be appropriately designed to facilitate the emergence of new habitats through the creation of links between habitat areas and open spaces. Together, these provide a network of green spaces which serve to reconnect isolated sites and facilitate species movement.

Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species, with details of measures to be incorporated into the development scheme to avoid loss of the species. This involves consideration of any impacts that will affect the species directly or indirectly, whether within the application site or in an area outside of the site, which may be indirectly affected by the proposals. All surveys shall be carried out at an appropriate time of year and shall be undertaken by a qualified and, where appropriate, suitably licensed person.

All developments shall have regard to Natural England's standing advice for protected species."

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### 3.0 AIMS AND OBJECTIVES

#### Overview

- 3.1 In line with national and local planning policy, this strategy aims to minimise adverse effects on protected species and Important Ecological Features (IEFs) during the construction and operation phases of development. To meet this aim, objectives have been set out for each protected species and IEF below.
- 3.2 Where appropriate, impact avoidance and mitigation measures during the construction phase will be delivered as part of a Construction Environmental Management Plan (CEMP), to be agreed with Arun District Council at the reserved matters stage.
- 3.3 Mitigation, compensation and enhancement measures during the operational phase (including management and monitoring) will be delivered as part of a Landscape and Ecological Management Plan (LEMP), to also be agreed with Arun District Council at the reserved matters stage.

#### Habitats and flora

##### Aim

- 3.4 The Strategy aims to retain, protect and where possible reinstate semi-natural habitat resources (with a focus on S41 habitats protected under the NERC Act 2006) across the Site.

##### Objectives

- 3.5 Retain and protect hedgerows, trees and grassland on-Site, wherever possible.
- 3.6 Undertake replacement hedgerow and tree planting, or grassland seeding, of equal or greater quality or quantity to that which is lost.

##### Policy and legislation

- 3.7 Objectives are in line with the NPPF and Local Planning Policy (Arun District Council policy ENV SP1, DM4 and DM5) by maintaining the conservation status of habitats present and the fauna they support, and protecting trees and hedgerows.

#### Fauna

##### Aim

- 3.8 This strategy will aim to avoid or minimise adverse effects to protected species, or compensate for these effects if they cannot be prevented.

##### Objectives

- 3.9 Retain habitat which is suitable to support protected species on-Site, where possible.

- 3.10 Where habitat is lost as a result of development seek to reduce potential impacts through sensitive working practices, timing of works and mitigation provision, in particular to protected species at risk of harm or disturbance (bats, dormice, badgers, nesting birds, reptiles) if present.
- 3.11 Minimise potential for visitor related impacts to habitats the fauna they support onsite and in the local area through the provision of suitable formal and informal POS within the development.
- 3.12 Ensure that mitigation is legally compliant and subject to Natural England licencing as appropriate.

Policy and legislation

- 3.13 This will ensure that the proposed development is in line with legislation contained within the Conservation of Habitats and Species Regulations 2017, the Wildlife and Countryside Act 1981 (as amended), and the Protection of Badgers Act 1992.
- 3.14 This will aim to conserve species of conservation interest, and biodiversity, which will be in line with national planning policy, and local policies ENV SP1 and DM5.

## 4.0 POTENTIAL IMPACTS IN THE ABSENCE OF MITIGATION

### Overview

- 4.1 The potential impacts of both the construction and operational phase have been assessed in detail within the Ecological Impact Assessment (CSA/3467/07). The proposed development is shown on the Development Framework Plan (CSA/3467/136). A summary of those potential impacts is provided below.

### Construction Phase

#### Construction Phase Description

- 4.2 The Construction Phase will comprise the following:
- Cessation of arable cultivation
  - Demolition of existing buildings
  - Removal of hedgerows H1, H4, H7 and H9, and partial loss of H3 and H5
  - Clearance of semi-improved grassland, amenity grassland, scrub, tall ruderal/ colonising ground vegetation, and a pond
  - Construction of residential dwellings, associated gardens, parking, access infrastructure, and a play area
  - The establishment of formal and informal Public Open Space (POS) including new tree, thicket and meadow planting, as well as recreational routes
  - Construction of a Sustainable Urban Drainage System (SUDS) including a large attenuation basin set within the POS to the north-west of the developed area
  - Strengthening of boundary vegetation with new native species planting

#### Potential Impacts

- 4.3 In the absence of mitigation, the construction phase has the potential to result in the following Impacts:
- Pollution through production of dust, run-off and artificial lighting, which could negatively impact upon retained habitats, the nearby Decoy Ponds (ponds P5 and P6) and Black Ditch stream within the woodland to the north of the Site, and other habitats downstream of the Site;
  - Loss of all arable habitat onsite, which may provide a foraging resource for a range of invertebrates, mammals and birds;
  - Loss of three species-rich hedgerows (H1, H4, H9), a species-poor hedgerow (H7), and a small number of trees;
  - Minor permanent loss of semi-improved grassland, tall ruderal and scrub habitat to construct new dwellings, which will lead to a temporary loss of habitat for foraging bats, badgers and nesting birds

until planting matures, and a minor net loss in terrestrial habitat for reptiles and amphibians;

- Loss of small amount aquatic habitat through removal of garden pond, but provision of a SuDS basin;
- Demolition of all onsite buildings, which includes the loss of two buildings with bat roosts (individual common pipistrelle bats);
- Risk of killing / injury of bats, dormice, badgers, other mammals, nesting birds, reptiles and amphibians, during Site clearance and construction.

## Operational Phase

### Operational Phase Description

4.4 The Operational Phase will comprise the following:

- Occupation of new residential dwellings
- Increase in human activity, including use of vehicles and presence of domestic pets
- Increased artificial lighting and anthropogenic noise
- Management of habitats within POS

### Potential Impacts

4.5 In the absence of mitigation, the operational phase has the potential to result in the following impacts:

- Increase in ambient lighting, and subsequently decrease in suitability of habitats for bats and other light-sensitive species;
- Increased risk to wild life from killing / injury through traffic collisions, becoming trapped drains and predation from domestic cats;
- Increased disturbance through recreational use of onsite habitats, which may deter some species from breeding successfully onsite.

## 5.0 ASSESSMENT OF EFFECTS

### Overview

- 6.1 The potential impacts of both the construction and operational phase have been assessed in detail within the Ecological Impact Assessment (CSA/3467/07). The proposed development is shown on the Development Framework Plan (CSA/3467/136). A summary of those potential impacts is provided below.

### Construction Phase

#### Construction Phase Description

- 5.2 The Construction Phase will comprise the following:

- Cessation of arable cultivation
- Demolition of existing buildings
- Removal of hedgerows H1, H4, H7 and H9, and partial loss of H3 and H5 for vehicular and pedestrian access and to facilitate construction
- Clearance of semi-improved grassland, amenity grassland, scrub, tall ruderal/colonising ground vegetation, and a pond
- Construction of residential dwellings, associated gardens, parking, access infrastructure, a play area, employment land and sports pitches
- Construction of a Sustainable Urban Drainage System (SuDS) including a large attenuation basin set within the POS to the north-west of the developed area
- The establishment of formal and informal Public Open Space (POS) including new tree, woodland, thicket and meadow planting, as well as recreational routes

#### Potential Impacts

- 5.3 In the absence of mitigation, the construction phase has the potential to result in the following Impacts:
- Pollution through production of dust, run-off and artificial lighting, which could negatively impact upon retained habitats, the nearby Decoy Ponds (ponds P5 and P6) and Black Ditch stream within the woodland to the north of the Site, and other habitats downstream of the Site
  - Loss of all arable habitat onsite, which may provide a foraging resource for a range of invertebrates, mammals and birds
  - Loss of three species-rich hedgerows (H1, H4, H9), partial loss of two species-rich hedgerows (H3, H5), a species-poor hedgerow (H7), and a small number of trees
  - Minor permanent loss of semi-improved grassland, tall ruderal and scrub habitat to construct new dwellings, which will lead to a temporary loss of habitat for foraging bats, badgers and nesting birds

until planting matures, and a minor net loss in terrestrial habitat for reptiles and amphibians

- Loss of small amount aquatic habitat through removal of garden pond, but provision of a SuDS basin
- Demolition of all onsite buildings, which includes the loss of two buildings with bat roosts (used by individual common pipistrelle bats)
- Risk of killing / injury of bats, dormice, badgers, other mammals, nesting birds, reptiles and amphibians, during Site clearance and construction

## Operational Phase

### Operational Phase Description

5.4 The Operational Phase will comprise the following:

- Occupation of new residential dwellings
- Use of new commercial centre and sports pitches
- Increase in human activity, including use of vehicles and presence of domestic pets
- Increased artificial lighting and anthropogenic noise
- Management of habitats within POS

### Potential Impacts

5.5 In the absence of mitigation, the operational phase has the potential to result in the following impacts:

- Increase in ambient lighting, and subsequently decrease in suitability of habitats for bats and other light-sensitive species;
- Increased risk to wild life from killing / injury through traffic collisions, becoming trapped drains and predation from domestic cats;
- Increased disturbance through recreational use of onsite habitats, which may deter some species from breeding successfully onsite.

## 6.0 IMPACT AVOIDANCE AND MITIGATION MEASURES

### Impact Avoidance and Mitigation Measures

#### Habitats and Flora

##### Hedgerows and Trees

- 6.1 The trees, six species-rich and three species-poor hedgerows on-Site are of local value, and support a range of fauna. Where possible all hedgerows and trees on-Site will be retained and protected, with a 5m buffer strip, and habitat loss be mitigated for through replacement planting. The proposed development will include c. 0.4ha of new native thicket planting, c. 0.5ha of woodland belt planting, and c. 490 trees, with scope for additional planting in the POS and residential parcels.
- 6.2 All construction will strictly adhere to a Construction Environmental Management Plan (CEMP). The CEMP will ensure the impact to on-site habitats from construction noise, dust and run-off is minimised.
- 6.3 Hedgerows and trees around the margins of the Site will largely be retained, with significant semi-natural habitat buffers (5m in width). These features will be protected during construction by appropriate fencing in line with BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (BSI, 2012). These measures will be detailed within a Tree Protection Plan, to be agreed with Arun District Council as part of detailed planning consent. The habitat buffers will help to further reduce potential impacts to retained vegetation.

#### Fauna

##### Roosting Bats

- 6.4 Under the current development proposals, no trees considered to hold potential roosting opportunities for bats will be lost.
- 6.5 Roosting bat(s) are present within B3 and B4, with a single common pipistrelle observed emerging from B3, and a soprano pipistrelle from B4; both of which shall be demolished under the development proposals. No other bats were seen emerging or return to roost in any of the other buildings surveyed.
- 6.6 A Bat Mitigation Strategy has been set out in Appendix D (summarised below), which aims to avoid direct impacts to roosting bats and mitigate for the loss roosting sites to ensure that the favourable conservation status of common and soprano pipistrelle bats is maintained. Final details shall need to be confirmed at the Reserved Matters planning stage, and it is considered that any necessary updates and implementation could be secured by way of a suitably worded pre-commencement planning condition.

- Avoidance of Direct Impacts (e.g. killing and injury): Demolition of B3 and B4 will be undertaken sensitively, using methods which aim to minimise the risk of killing or injuring roosting bats. Features which are known to be used or have potential to be used by roosting bats on B3 and B4 will be removed by hand under an ecological watching brief.
- Maintaining Favourable Conservation Status: To mitigate for the loss of roost locations, four replacement bat boxes will be sited in pairs on trees as close to each roost to be lost as possible, on south-east to south-west aspects, close to suitable foraging habitat (vegetation), away from possible access by domestic cats (e.g. window ledges, fences), and positioned at a height of between 3 to 6 metres. Indicative locations for these boxes have been provided on the Ecological Mitigation and Enhancement Strategy Plan (CSA/3467/111), which will be revised at the Reserved Matters stage once the final site layout is available.
- European Protected Species Licencing (EPSL): Demolition of B3 and B4 will need to be covered by EPS licence. The Bat Mitigation Strategy detailed herein shall form the basis of a Methods Statement for the EPSL application; which can be made once full (Reserved Matters) planning consent has been obtained and all relevant conditions have been discharged. Based on 2018 survey results; mitigation for loss of these 'low conservation status' roosts, could be progressed under a traditional 'mitigation' EPS licencing or via the Bat Mitigation Class Licencing (BMCL) system. Dependant on the timescales within which the EPSL application comes forwards, update survey work may be required to inform the application (i.e. should demolition works be delayed beyond summer 2019).

#### Foraging and Commuting Bats

- 6.7 The majority of habitat currently utilized by bats for foraging and commuting will be retained, with significant buffers from new development being provided in many parts of the Site through the creation of new semi-natural habitats (c. 490 new trees, c. 0.2ha meadow seeding, and a c. 0.25ha SuDS basin) which will also be of value to bats due to the invertebrate prey they will support.
- 6.2 Light spill onto habitat used by commuting and foraging bats will be minimised through design of a sensitive lighting scheme. Sensitive lighting will be implemented throughout the construction and operational phases as follows, unless a different standard is required by Mid Sussex District Council as Highways Authority for adoptable roads:
- Construction phase:
    - Illumination of retained boundary vegetation and mature trees will be avoided, wherever practicable, during low light conditions.

- In instances where illumination is necessary the intensity and duration will be kept to a minimum.
- Down lighting will be used where possible.
- Operational Phase :
  - Lighting throughout the Site will be kept to a minimum and installed on motion sensors or timers where practicable.
  - Direct and indirect Illumination of the boundary vegetation and mature trees will be avoided where possible.
  - Down lighting will be used throughout to minimise light spill and sky glow.
  - Lighting to be installed on the Site will conform with the following spectral specifications, in accordance with BCT (2018):
    - LED luminaires used where possible
    - No metal halide fluorescent sources
    - Minimal emission of ultra-violet light
    - Warm white spectrum (ideally <2700 Kelvin where possible) with peak higher than 550nm
    - Luminaires with 0% upward light ratio and good optical control
    - Careful consideration of column heights to minimise light spill
    - Bollard / low level downward directional luminaires where required
    - As a last resort, accessories such as baffles, hoods or louvres to minimise light spill

6.3 These measures accord with the Bat Conservation Trust and the Institution of Lighting Professionals Guidance Note on Artificial Lighting and Bats (2018).

#### Dormice

6.8 The dormouse survey recorded dormice using the eastern and western hedgerows (H2 and H6) with a peak count of two individuals, and six likely dormouse nests along the woodland edge, eastern and western hedgerows (H3, H6, H9).

6.9 Under the Development Framework Plan, the proposed development will result in the loss of c. 0.4ha of scrub and hedgerow (c. 335m in total length) to allow creation of the primary site access and provide room for development. In the absence of mitigation this could result in direct impacts to and habitat loss for dormice.

6.10 A Dormouse Mitigation Strategy has been set out in Appendix E (summarised below), which aims to avoid direct impacts to dormice and mitigate for habitat loss to ensure that the favourable conservation status of this species can be maintained. Final details shall need to be confirmed at the Reserved Matters planning stage, and it is considered

that any necessary updates and implementation could be secured by way of a suitably worded pre-commencement planning condition.

- **Avoidance of Direct Impacts (e.g. killing and injury):** To minimise the risk of killing, injury and disturbance of dormice during vegetation clearance, a standard two-stage clearance methodology will be used which will aim to persuade any dormice present to re-locate into retained habitat, as recommended within the Mitigation and Compensation Methods Section of the Dormouse Conservation Handbook<sup>1</sup>.
- **Maintaining Favourable Conservation Status:** The majority of hedgerows will be retained in the proposed development, maintaining habitat connectivity along the northern, western and southern boundaries. Retained boundary vegetation will be buffered by a significant amount of new tree and thicket planting (c. 0.4ha thicket, c. 0.5ha woodland belt, c. 490 new trees), as shown on the Development Framework Plan (CSA/3467/136), resulting in a significant enhancement. Planting specifications will be provided at the detailed planning stage; however to ensure good habitat provision will include native species of benefit to dormice, such as hazel *Corylus avellana* and blackthorn *Prunus spinosa*, which provide suitable food resources and a dense shrubby understorey. In addition 20 dormouse nest boxes shall be provided within retained habitat.
- **Management prescriptions for hedgerows** will be set out within the LEMP and agreed with Arun District Council at the detailed planning stage. Hedgerows will be sensitively managed for the benefit of wildlife, including dormice should they be present. Cutting intervals lengthened to allow flowering and fruiting, and to maintain their value as dispersal routes. Alternative sides of the hedgerow will be cut over winter (Dec–Feb) at 3 to 5 year intervals in order to maintain the availability of flowers and fruits and to prevent hedgerows becoming outgrown and gappy.
- **European Protected Species Licencing (EPSL):** Impact avoidance and compensation measures will need to be secured via an EPS licence from Natural England. The Dormouse Mitigation Strategy detailed herein shall form the basis of a Methods Statement for the EPSL application; which can be made once full (Reserved Matters) planning consent has been obtained and all relevant conditions have been discharged. The proposed development scheme is considered to offer significant scope for the provision of compensatory habitat for dormice and subject to sensitive working practices / seasonality of vegetation works then direct impacts to this species should be avoided and their favourable conservation status maintained, meeting EPSL requirements.

## Badger

- 6.11 Signs of badger activity and a badger sett were observed on Site. Full details have not been included here for confidentiality reasons, to protect badgers. Further information has been included within a separate badger report (CSA/3467/06).
- 6.12 The habitat on site used by badgers is to be retained and buffered by new planting as part of the proposed development, therefore impacts upon badgers are not currently anticipated. However, badgers are highly mobile and new setts could be created onsite at any time. An update badger survey will be completed prior to the Reserved Matters application, to ensure any badger setts are taken account of at the design stage. As a precaution, a pre-construction check will be completed to confirm the absence of setts prior to the start of site clearance and construction works. Should any active setts be identified which would be impacted by the construction phase, appropriate mitigation (i.e. sett closure) would need to be undertaken under licence from Natural England before works could commence.
- 6.13 Precautionary measures to be implemented during the construction phase, to prevent any harm / injury to badgers which may cross the site, shall comprise the following and will be detailed within the CEMP:
- Where any pits/trenches are left open overnight, secured planks should be placed within these at an angle of no more than 45 degrees in order to provide a means of escape for any badgers.
  - In the event that badgers are found to be trapped or injured within the site no attempt should be made to approach the badger and the RSPCA should be contacted immediately.
  - Due to the inquisitive nature of badgers any litter, tools and machinery that could potentially cause harm should be kept away from badgers by appropriate overnight storage.
  - Avoid presenting new digging opportunities for badgers, e.g. by leaving stockpiled soil on the edge of the development for prolonged periods.

## Nesting Birds

- 6.14 The majority of suitable foraging, dispersal and nesting resources will be maintained through the retention of semi-natural habitats within the POS and retained trees will be protected during construction. Habitat loss will be mitigated for through replacement planting, including c. 0.4ha of new native thicket planting, c. 0.5ha of woodland belt planting, and c. 490 trees, with scope for additional planting in residential parcels.
- 6.15 The proposed development will result in a loss of nesting habitat for species such as swallow *Apus apus* which nest in buildings as all on-Site buildings will be demolished, and a some minor loss for species which nest in scrub vegetation such as dunnock *Prunus modularis* (c. 0.4ha of

scrub and hedgerows and c. 10 trees will be removed, as shown on EMES Plan, CSA/3467/111).

- 6.16 Disturbance impacts to nesting and foraging birds shall be minimised through the sensitive design of access routes through POS, with some dense undisturbed areas of scrub and trees being maintained.
- 6.17 As for dormice, sensitive management of hedgerows will mitigate impacts to nesting birds during the operation phase. Management prescriptions will be set out within the LEMP to be agreed with Arun District Council at the detailed planning stage.
- 6.18 Demolition of buildings and any removal / pruning of hedgerows or trees during the construction or operation phases will be undertaken sensitively, avoiding the peak nesting season of 1<sup>st</sup> March to 1<sup>st</sup> October inclusive. If this is not feasible, clearance / demolition will immediately follow a check by a suitably qualified ecologist to confirm there are no active birds' nests present.
- 6.19 If an active bird's nest is found, an exclusion zone will be set up around the nest and no works will take place until the ecologist has verified that all dependent young have fledged. The radius of this exclusion zone will be species-dependent, varying according to the conservation status and vulnerability to disturbance of the species in question.

#### Reptiles

- 6.20 Rough grassland field margins / areas of scrub provide potential for reptiles to be present. The majority of suitable reptile habitat on-Site (c. 1ha of hedgerows and field margins) will be retained within the POS along the edges of the development. The proposed development provides good scope for the favourable conservation status of any reptile population which may be present on-Site to be maintained, subject to the implementation of suitable impact avoidance and habitat management measures.
- 6.21 The proposed development will result in a loss of habitat suitable for reptiles, as c. 0.4ha of scrub and hedgerows, and c. 0.2ha of tall ruderal/colonising ground will be lost, and c. 1.8ha of grassland of limited suitability for reptiles. This will be mitigated for through a significant amount of new planting, including seeding of c. 0.2 ha native species-rich wildflower meadow, c. 0.4ha of new native thicket planting, c. 0.5ha of woodland belt planting, and c. 490 trees, and creation of SuDS features, with scope for additional planting in residential parcels.
- 6.22 The POS will be designed and managed to ensure it remains suitable to support reptiles, including grassland with a dense and tussocky sward, and some scrub to provide cover and foraging resources for reptiles. Appropriate management measures which seek to avoid adverse impacts to reptile species will be set out within a LEMP to be agreed at the detailed planning stage, but key principles are summarised here:

- Existing grassland and hedgerow bases will be retained where possible, and additional areas of meadow created within the POS.
- Following establishment, some areas of grassland will be left to grow long during the summer, with a hay cut taken in late summer to no lower than 150mm.
- Cutting within long grassland must occur during suitable weather conditions (warm and sunny, temperature at least 10°C) to minimise the risk of harming reptiles.
- Low intervention scrub management will help to maintain open grassland areas for basking reptiles which will involve annual strimming back of encroaching scrub in late autumn.
- Arisings from habitat management will be raked up and used to make habitat piles, which will provide refuge, foraging and egg-laying resources for reptiles and other fauna.
- Access routes and planting in the POS will be sensitively designed with an aim to minimise disturbance from walkers and dogs. Some areas will be designed which limit public access through the absence of recreational paths and planting of dense, thorny plant species in key locations.

6.23 As only a small number of reptiles are present within habitats to be lost, and a large amount of habitat is to be retained, a full translocation exercise is not considered warranted in this instance. Instead, habitat manipulation and displacement into retained habitat is considered appropriate to minimise the risk of harming individuals. Where suitable reptile habitat will be lost, the following approach will be taken to minimise the risk of killing / injury of individuals:

- Habitat manipulation will be used to displace reptiles into the retained habitat, including hedgerows (c. 0.3ha) and grassland along the northern boundary (c. 0.1ha).
- Vegetation clearance will be carried out under an ecological watching brief and during warm, dry weather conditions to ensure reptiles have the best chance of dispersing away from harm.
- Vegetation will be cleared using a two-stage approach (aligned with clearance of dormouse habitat). First above-ground vegetation will be cut over winter to c. 30cm to prevent nesting birds and dormice utilising the habitat in summer. In summer, once reptiles and dormice are out of hibernation, the remaining habitat will be cleared to ground level. Where required, roots will be grubbed out and any debris piles will be destructively searched.
- Retained habitat will be enhanced through creation of log piles and hibernacula to raise its carrying capacity, and ensure that the denser population can be supported.

#### Amphibians

6.24 There is a small garden pond on-Site and five within a dispersible distance which could support amphibians, and the hedgerows, scrub and field margins provide suitable terrestrial habitat. Survey results

indicate GCN are likely absent from the Site and surrounding ponds, but a large breeding population of the common toad *Bufo bufo* (a S41 species) has been recorded in the pond c. 145m north-west of the Site.

- 6.25 The proposed development will result in the loss of the small pond which was found to contain goldfish during surveys; no amphibians were recorded present. A significant amount of suitable terrestrial habitat on-Site will be retained within the POS (c. 0.4ha of hedgerows and field margins), and new planting will provide replacement habitat, including seeding of c. 0.1ha native species-rich wildflower meadow and creation of SuDS features. As for reptiles, management of the POS will ensure that meadow habitat remains suitable for GCN through a low-intensity cutting regime, with arisings used to create habitat piles.
- 6.26 An attenuation basin will be created as part of a SuDS system, which will include a permanent core. The banks will be seeded with species-rich wildflower mixes to provide suitable terrestrial habitat, and the wet core will be planted with native aquatic and marginal species to provide suitable aquatic habitat.
- 6.27 The proposed development scheme is considered to offer significant scope for the provision of compensatory habitat for amphibians (i.e. through new planting, of SuDS basin, log piles), and subject to sensitive working practices/ seasonality of vegetation works direct impacts could be avoided and the favourable conservation status of these species maintained.

## 7.0 COMPENSATION AND ENHANCEMENT MEASURES

### Aims and Objectives

- 12.1 Compensation and enhancement measures for protected species and IEFs, relevant to the construction and operation phases of development, are set out herein to address the following aims and objectives:
- Compensate / offset any residual impacts from development where this is not possible through impact avoidance and mitigation measures;
  - Undertake habitat creation which will be in line with national and local planning policy;
  - Provision habitat enhancement features of benefit to S41 species known to be present onsite / locally;
  - Provide long-term benefits for wildlife during the operational phases through suitable habitat provision and management;
  - Ensure that habitat management practices ensure that the value of retained and newly created habitats are maximised through the implementation of a suitable Landscape and Ecology Management Plan (LEMP).

### Compensation and Enhancement Measures

#### Native Grassland Creation

- 12.2 The proposed scheme will provide the scope for a significant amount of new meadow planting (c. 0.2ha) within the POS along the northern, western and southern boundaries, and within the attenuation basin. The ecological value of retained areas of existing grassland and new species-rich native grassland seeding will be maximised through the implementation of appropriate management to be secured through a LEMP.
- 12.3 Species rich native grassland areas will be managed as meadow habitat, with a single hay cut taken in August or September depending on the species mix allowing sufficient time for flowering and seeding. Grass cutting and clearance of encroaching scrub will be in line with herptile mitigation measures as appropriate, to ensure that opportunities for herptiles continue to be provided across the site in the long term.
- 12.4 Habitat creation will increase foraging opportunities a variety of fauna. The value of these areas of informal open space shall be maximised by the use of pesticides being avoided to ensure that healthy invertebrate (e.g. worm / mollusc) populations thrive which provide an important foraging resource for badgers, bats, birds and herptiles.
- 12.5 In the POS sensitive design of access routes and management practices which retain some dense undisturbed areas of scrub will be

implemented to discourage access from people and dogs, to minimise habitat disturbance to herptiles, birds and other species.

#### Hedgerow, Buffer and Tree Planting

- 12.6 The proposed scheme will provide the scope for a significant amount of new buffer and tree planting within the POS (c. 1ha : c. 0.4ha thicket, c. 0.5ha woodland belt, c. 490 new trees). Within informal areas of open space, native species of known benefit to wildlife will be selected to maximise the biodiversity value, such as oak *Quercus robur*, hawthorn *Crataegus monogyna* and blackthorn *Prunus spinosa*.
- 12.7 Landscape design will seek to provide a range of eco-tones between areas of tree / woodland planting and grassland areas through the use of low growing shrubs at woodland block margins. New trees and thickets will also be planted throughout the wildflower meadow areas. Through this habitat diversification, a habitat matrix will be produced, offering a greater variety of opportunities for wildlife. This will benefit invertebrates and herptiles in particular by creating open basking opportunities and refuge areas. Foraging resources will be increased for a range of fauna, including bats and birds.
- 12.8 Within development areas, the use of native tree and hedgerow planting shall be incorporated into areas of more formal planting as appropriate. This will provide benefits in terms of habitat connectivity as well as boosting resources across the development.
- 12.9 The new planting will compensate for the minor loss of current bird nesting habitat through hedgerow, scrub and tree removal, with a significant net gain of available foraging and nesting habitat. Natural roosting opportunities for bats, such as abandoned woodpecker holes, rot holes and splits, will take significantly longer to develop.
- 12.10 Sensitive management of hedgerow and tree planting, along with retained existing habitat, will be delivered through the LEMP. Management shall take account of ecological constraints such as the bird nesting period (March to August inclusive), herptile active season (March to September inclusive), and aim to maintain or increase the abundance and diversity of invertebrate prey species.

#### Wildlife Features

- 12.11 To enhance roosting opportunities for bats across the site six artificial bat roost boxes (2FN Bat Box or equivalent; see Appendix C) will be erected on retained trees along the Site boundaries and within the open space and along Site boundaries, in addition to the four proposed as mitigation; these will be installed prior to demolition of the buildings as a matter of good practice. Ten bat tubes (Habibat, or similar) will be installed into new buildings within the development by way of enhancement. These will be located in sheltered areas close to retained / new planting and away from new external light sources. All bat boxes will be located with a broadly south-facing aspect, at a height of c. 3-

6m above ground level and away from areas which could be accessible by predators (e.g. domestic cats). Details of the locations and specifications of new bat roost enhancement features will be provided within the LEMP at the Reserved Matters stage, with indicative locations provided on the EMES plan (CSA/3467/111).

- 12.12 Lost nesting opportunities for bird species which nest in the on-Site buildings will be compensated for and enhanced with the provision of a variety of artificial, purpose-built nest boxes. By way of compensation for the demolished buildings, a total of 10 bird boxes will be installed into new buildings within the development (NHBS integrated starling box, terraced sparrow box, and swift box or equivalent; see Appendix C). By way of enhancement, a total of 10 woodcrete nest boxes (1MR Avianex nest box, or equivalent; see Appendix C) will be erected on trees throughout the proposed POS and along the Site boundaries. These will be located in sheltered areas close to retained / new planting and away from new external light sources. All bird boxes will be located with a broadly north-facing aspect away from direct sunlight and prevailing winds, at a height of c. 2-4m above ground level and away from areas which could be accessible by predators (e.g. domestic cats). Details of will be provided within the LEMP.
- 12.13 To enhance sheltering opportunities for herptiles and invertebrates, dead wood created through habitat management will be retained onsite and used to create log or brush piles. A minimum of five log piles, one hibernaculum, and three invertebrate boxes will be provided within the POS. Locations to be detailed within the LEMP.

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## 8.0 MANAGEMENT AND MONITORING

### Management

- 18.1 Basic prescriptions for habitat management of retained and newly created semi-natural habitats have been set out within this report as appropriate. It is envisaged that this shall form a framework for the development of a Landscape and Ecology Management Plan (LEMP) to be produced alongside detailed development proposals at the Reserved Matters stage. The LEMP will include the following:
- Details of habitat types and areas to be provided;
  - Planting and seeding specification;
  - Details of management for both establishment of new habitats and ongoing management, with details of at least the first 10 years of management to be set out;
  - A works schedule detailing annual management actions; and
  - Details of management responsibilities and funding.
- 18.2 The agreed LEMP shall be submitted alongside EPSL applications for bats and dormice as applicable and its implementation shall secure long-term habitat provision and enhancement for these species.

### Monitoring

- 18.3 A programme of monitoring shall be included within the LEMP to ensure that the success of mitigation and management can be measured, and measures amended as necessary to achieve the objectives set out within this document. It is envisaged that any monitoring framework shall cover the following:
- Planting – success of new planting to inform replacement as necessary;
  - Habitat Assessment – to assess the biodiversity value of habitat delivered in relation to the pre-development baseline;
  - Fauna – species specific surveys as appropriate where specific mitigation and compensation measures have been provided to inform further mitigation action requirements and in line with any Natural England / EPS licencing requirements. Bat and dormouse monitoring requirements have been set out in Appendices D and E, respectively.
- 18.4 A monitoring report will be provided to the Local Planning Authority and species records sent to Sussex Biological Records Centre.

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## 9.0 REFERENCES

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## Appendix A

### Habitats Plan (CSA/3467/102)

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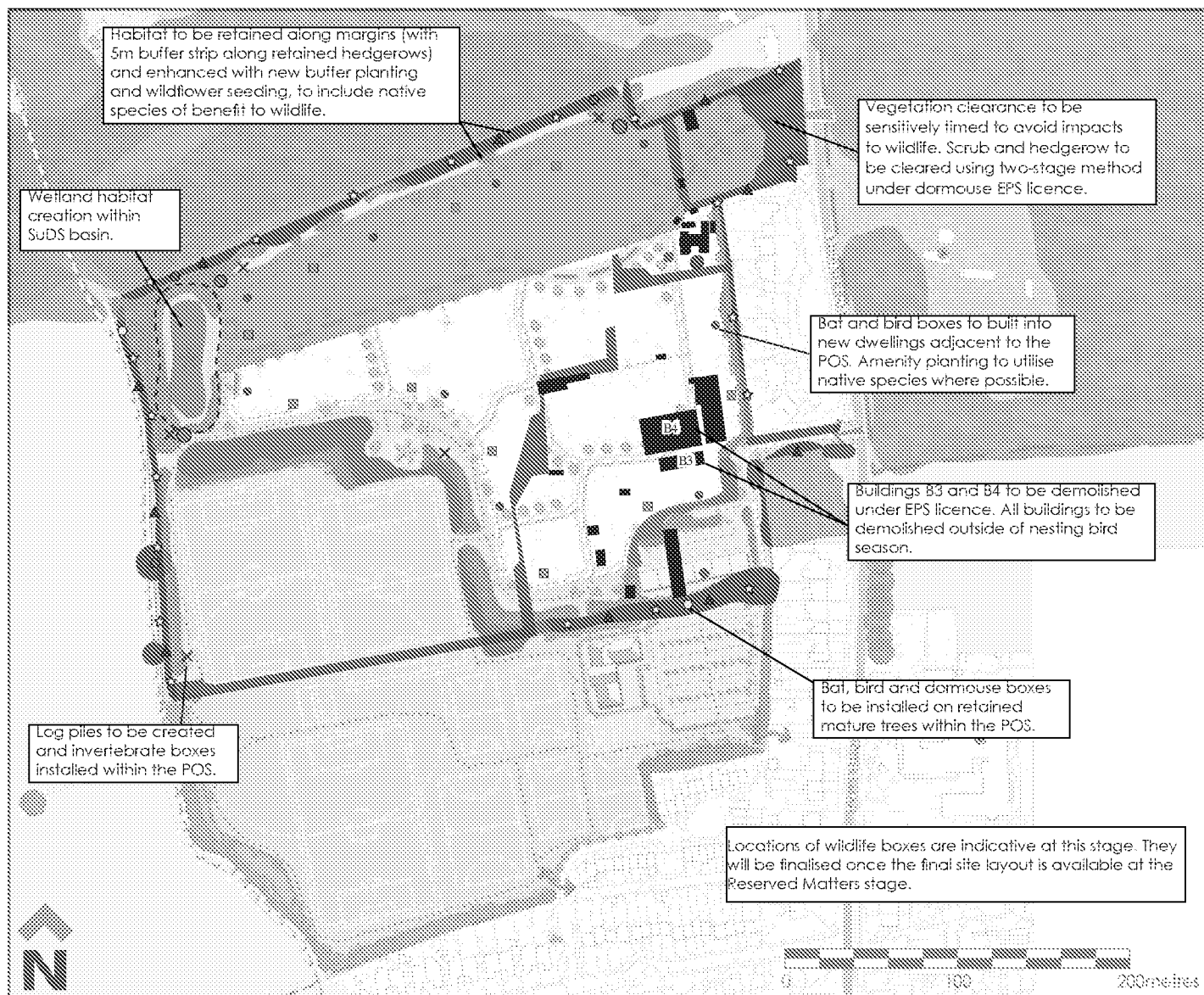


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## Appendix B

### Ecological Mitigation and Enhancement Plan (CSA/3467/111)

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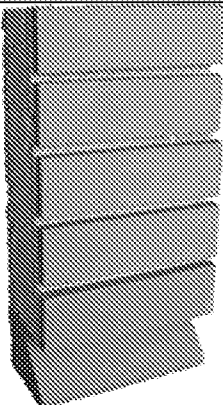
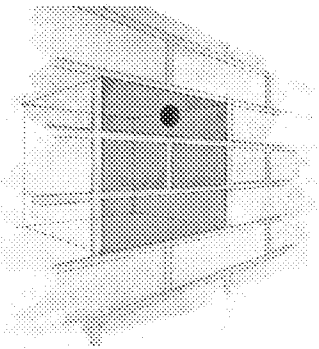
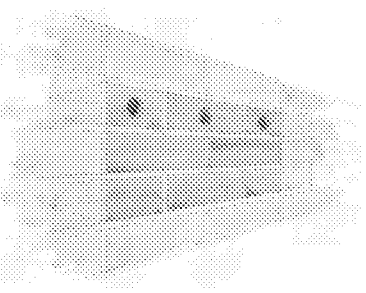
- Site Boundary
- Hedgerows (with 5m buffer strip), scrub, trees and woodland edge to be retained (c. 0.3ha)
- New woodland belt planting (c. 0.5ha)
- New thicket planting (c. 0.4ha)
- Long grassland to be retained/created (0.3ha)
- New aquatic/marginal habitat to be created (c. 0.1ha dependent on final drainage strategy)
- Hedgerows, scrub and a small number of trees to be removed (0.4ha)
- Grassland/ruderal to be removed (c. 2ha)
- Pond to be removed
- Buildings to be demolished
- Log pile to be installed
- SuDS basin to be created (c. 0.25ha)
- 20 x Dormouse nest boxes to be erected on retained mature trees as mitigation
- 4 x Bat boxes (Schwegler 2FN or similar) to be installed in pairs on retained trees as mitigation
- 6 x Bat boxes (Schwegler 2FN or similar) to be installed in pairs on retained trees as enhancement
- 10 x Bird boxes (Schwegler 1MR or similar) to be erected on retained mature trees
- 10 x Bat tubes (Habitat or similar) to be installed into new dwellings as enhancement
- 10 x Bird boxes (to include 3 x starling boxes, 3 x sparrow terraces and 4 x swift boxes) to be installed into new dwellings
- 3 x invertebrate boxes as enhancement

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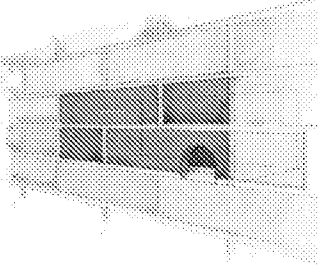
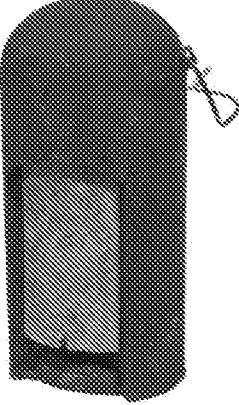
## Appendix C

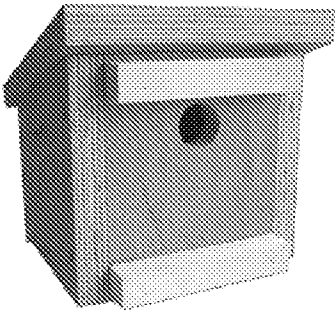
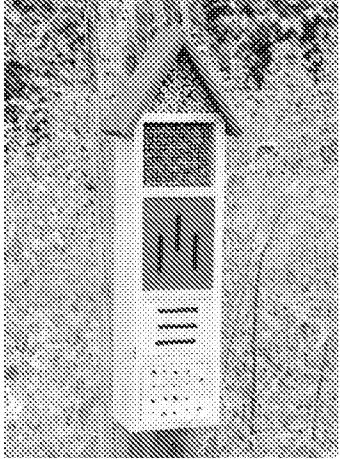
### Specification of Proposed Wildlife Boxes and Hibernacula

Table C1 Wildlife boxes to be installed in POS

| Product                                                                                                                                                                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Location <sup>1</sup>         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
|  <p>Habitat Bat Box (or equivalent)<br/>x 10 tubes by way of enhancement</p>              | <p>Suitable for: Crevice-dwelling bats</p> <p>Design: Made of insulating concrete with an internal roost space. A variety of facings can be fitted to suit any existing brick, wood, stonework or rendered finish, rendering the box unobtrusive and aesthetically pleasing.</p> <p>Positioning: Will be sited on buildings away from possible access by domestic cats (e.g. window ledges, fences), and is best positioned at a height of between 3 to 6 metres. Will be sited on southeast to southwest aspects, close to suitable foraging habitat (vegetation).</p>                                                                                                                        | Integrated into new buildings |
|  <p>Starling Box (NHBS, or equivalent)<br/>x 3 boxes by way of compensation</p>          | <p>Suitable for: Starling</p> <p>Design: Large, solid box made of insulating concrete with an internal nesting space which can be incorporated into the fabric of a building as it is built or renovated. The box is designed especially to be unobtrusive and aesthetically pleasing.</p> <p>Positioning: Will be sited on buildings away from possible access by domestic cats (e.g. window ledges, fences). Best positioned at a height of at least 2m favouring north-east to north-west orientations where possible.</p>                                                                                                                                                                  | Integrated into new buildings |
|  <p>Terraced Sparrow Box (NHBS, or equivalent)<br/>x 3 boxes by way of compensation</p> | <p>Suitable for: House sparrow</p> <p>Design: Large, solid box made of insulating concrete with three internal nesting spaces, allowing three pairs to nest close to each other. This design of box is ideal for house sparrows which are extremely social and prefer to nest near to other pairs. The box is designed to be incorporated into the fabric of a building as it is built or renovated and is both unobtrusive and aesthetically pleasing.</p> <p>Positioning: Will be sited on buildings away from possible access by domestic cats (e.g. window ledges, fences). Best positioned at a height of at least 2m favouring north-east to north-west orientations where possible.</p> | Integrated into new buildings |

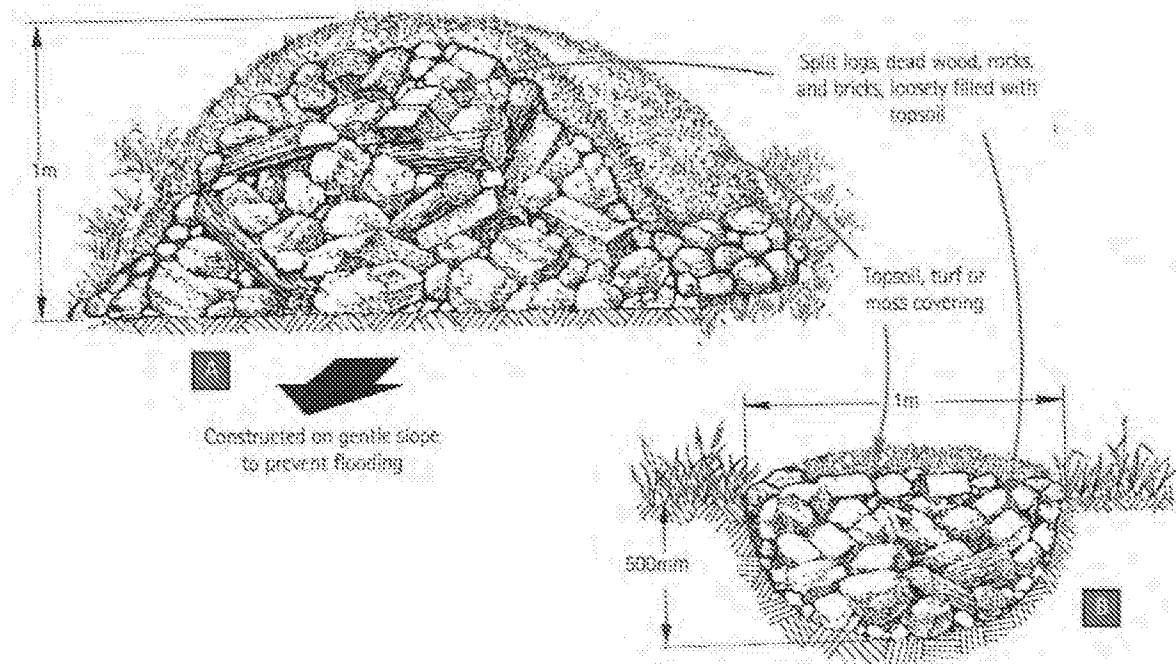
<sup>1</sup> Indicative locations shown on Ecological Mitigation and Enhancement Strategy Plan (CSA/3467/111)

|                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
|  <p>Swift Box (NHBS, or equivalent)<br/>x 4 boxes by way of compensation</p>                                                                                      | <p>Suitable for: Swift</p> <p>Design: Large, solid box made of insulating concrete with three internal nesting spaces, allowing three pairs to nest close to each other. This design of box is ideal for house sparrows which are extremely social and prefer to nest near to other pairs. The box is designed to be incorporated into the fabric of a building as it is built or renovated and is both unobtrusive and aesthetically pleasing.</p> <p>Positioning: Will be sited on buildings away from possible access by domestic cats (e.g. window ledges, fences). Best positioned at a height of at least 2m favouring north-east to north-west orientations where possible.</p> | <p>Integrated into new buildings</p>                     |
|  <p>2FN Bat Box (or equivalent)<br/>x 4 boxes (to be installed in pairs) by way of mitigation<br/>x 6 boxes (to be installed in pairs) by way of enhancement</p> | <p>Suitable for: Crevice-dwelling bats</p> <p>Design: Woodcrete material, which will not rot, leak, crack or warp, and will last for at least 20 - 25 years, making it suitable for long-term mitigation projects</p> <p>Positioning: Will be sited on trees and is best positioned at a height of between 3 to 6 metres. Bat boxes will be sited in open sunny positions with southeast to southwest aspects.</p>                                                                                                                                                                                                                                                                     | <p>On mature trees within POS and on Site boundaries</p> |
|  <p>LMR Avianex nest box (or equivalent)<br/>x 10 boxes (to be installed in pairs) by way of enhancement</p>                                                    | <p>Suitable for: Hole-nesting bird species</p> <p>Design: Woodcrete material, which will not rot, leak, crack or warp, and will last for at least 20 - 25 years, making it suitable for long-term mitigation projects</p> <p>Positioning: Will be sited on trees and is best positioned at a height of at least 2m favouring north-east to north-west orientations where possible.</p>                                                                                                                                                                                                                                                                                                 | <p>On mature trees within POS and on Site boundaries</p> |

|                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
|  <p>FSC Heavy Duty Dormouse Box<br/>X 20 boxes by way of mitigation</p>         | <p>Suitable for: Dormice</p> <p>Design: Made from ¾" FSC marine plywood and is very robust and sturdy.</p> <p>Positioning: Will be sited on trees and is best positioned at a height of at least 1.5m, well away from public areas.</p>                                                                                                                                                                                       | <p>On mature trees within POS and on Site boundaries</p> |
|  <p>CJ Wildlife Insect tower<br/>x 3 to be installed by way of enhancement</p> | <p>Suitable for: variety of insects</p> <p>Design: The nesting tubes are ideal for solitary bees to build their nests in, the vertical slots are designed to encourage butterflies, other refuge holes are perfect for ladybirds and lacewings and the pine cones offer an excellent habitat for a range of other species.</p> <p>Positioning: Will be sited on a tree facing north-east to north-west, in dappled shade.</p> | <p>On mature trees within POS and on Site boundaries</p> |

Schwegler and CJ Wildlife products can be purchased from the NHBS website [www.nhbs.com](http://www.nhbs.com)

Figure C1 Hibernacula Design Taken from Great Crested Newt Conservation Handbook. Frog life 2001. Design A can be used on impermeable soils and free-draining soils whereas B should only be used on free-draining soils.



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## Appendix D

### Bat Mitigation Strategy

## Introduction

This mitigation strategy has been produced to ensure compliance with the Wildlife and Countryside Act 1981 (as amended) and Conservation of Habitats and Species Regulations 2017, and demonstrate that the proposed development would pass the third legal test to be licensable by Natural England, i.e. “the action authorised will not be detrimental to the maintenance of the population of the species concerned [bats] at a favourable conservation status in their natural range”. The first two of these legal tests relate to planning need and project design, which will be demonstrated within the Reasoned Statement of the EPS licence application.

Demolition of on-site buildings is proposed in order to facilitate residential development for which detailed planning permission is sought. Two of the buildings on-site (B3 and B4) have been confirmed to support roosting bats.

All UK bat species are legally protected under the Wildlife and Countryside Act, 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. This makes it illegal to:

- Deliberately/intentionally capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat whilst within its roost; and
- Damage, destroy or obstruct access to a bat roost.

The legal protection afforded to bats and their roosts means that a Natural England licence and appropriate mitigation will be required to permit the proposed works, which would result in the destruction of bat roosts. This mitigation strategy sets out the mitigation and enhancement measures to be undertaken at the Site to ensure that an offence is avoided and that the favourable conservation status of local bat species is maintained.

## Survey and Site Assessment

Full methods and results of survey work undertaken in 2017 and 2018 are presented within the Ecological Impact Assessment (EcIA) (CSA/3467/01), but are summarised below.

The following survey work was undertaken in 2017 and 2018:

- Desk study (September 2017)
- Extended Phase 1 Habitat survey (September 2017)
- Building inspection for bats (September 2017)
- Bat activity transects (September 2017 – June 2018)
- Bat remote monitoring (September 2017 – June 2018)
- Bat emergence / return to roost surveys (September 2017 – June 2018)

### Desk Study

SxBRC provided 13 bat records from within the search area, including common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and brown long-eared bats *Plecotus auritus*. The closest record was an unspecified pipistrelle species feeding roost c. 245m south-east of the site in 2014.

### Field Surveys

A number of the onsite buildings and trees adjacent to northern and western Site boundaries were noted to have features suitable to support roosting bats during the Phase 1 survey. Although the trees along the southern boundary are of a sufficient size, they are in good condition do not exhibit any features suitable to support roosting bats.

Of the 17 buildings identified on-site, one building was assessed as having moderate potential to support roosting bats (B1), four as having low potential (B2, B3, B4 and B13), and two low to negligible potential (B8, B9), with the remainder having negligible potential. Internal inspections of B1, B8, B9 and B13 did not reveal any evidence of past or current use by roosting bats.

Bat emergence / return to roost surveys completed in 2018 revealed that roosting bat(s) are present within B3 and B4, with a single common pipistrelle observed emerging from under a ridge tile on B3 on 06 June 2018, and a soprano pipistrelle bat flying low from the north of B4 on the 15 May and 06 June 2018, and seen emerging from a hole in the brickwork in section d of B4 on 12 June 2018. The roost(s) identified are considered to be of low conservation significance.

During the bat emergence / return to roost, transect surveys and static monitoring undertaken across the Site, at least eight species of bat were recorded. Bat activity was predominantly recorded along the Site boundaries, particularly along the northern Site boundary, which is a woodland edge with a stream and ponds to the north, and western hedgerow; species diversity was also greater at these locations.

### Predicted Impacts

Under the current development proposals, no trees considered to hold potential roosting opportunities for bats will be lost. However, two buildings confirmed to support low numbers of common and soprano pipistrelle bats (B3 & B4) will be lost.

During the construction phase, foraging and commuting habitat will be lost in the east and north-east of the Site as hedgerows, scrub, trees, grassland and the pond are removed. This will reduce habitat

connectivity from Steyne Wood to the north, through the Site to the woodland across Arundel Road to the east. However, the POS will include a significant amount of buffer planting along the edge of Steyne Wood, and the majority of the site boundaries, strengthening commuting routes. In addition, new meadow planting and a SuDS basin will provide a variety of foraging habitats.

During the operational phase, ambient light levels could be increased due to artificial street lighting, although it should be noted that significant flood lighting is currently in place within the industrial park.

In the absence of mitigation, the proposed development could have an adverse impact on bats, through roost loss / disruption of foraging habitat. However, this effect is predicted to be limited to the Site level, given the small number of minor confirmed roosts and focus of bat activity within retained habitats to the north and west.

## Mitigation and Compensation Measures

### European Protected Species Licensing

As roosting bats are present in B3 and B4, demolition of these buildings will need to take place under European Protected Species (EPS) licence. Given the low conservation status of the roosts identified, EPS licencing may be progressed by the traditional Natural England approach or via Bat mitigation Class Licencing (BMCL). Whichever route is chosen, the following mitigation and compensation measures shall be implemented as part of the scheme and secured by EPSL as appropriate.

### Working Methods

To minimise the risk of killing or injury of roosting bats during the demolition of buildings B3 and B4, the following working methods will be used:

- A toolbox talk will be given to the site manager and contractors involved prior to the start of works to inform them of the procedures to be taken. This be delivered by the named ecologist or accredited agent listed on the EPSL
- 10 bat boxes (Schwegler 2FN or similar; four as mitigation and six as enhancement) will be installed on retained mature trees along the Site boundaries (indicative locations shown on EMES plan, CSA/3467/111). The mitigation boxes will be installed before demolition commences, so that in the event a bat is found during demolition, it can be moved to a bat box. The remaining boxes will be installed during the construction period.
- Immediately prior to demolition, a bat licensed ecologist will complete a final internal inspection and detailed external inspection of B3 and B4.

- An ecologist will be present to oversee the soft strip of key areas of B3 and B4 which could conceal bats, focusing on the areas where bat evidence has previously been observed (i.e. lifted ridge tiles of B3 and hole in brickwork of B4). The bat ecologist will check any crevices suitable for bats that are exposed as part of these works, using an endoscope and a high powered torch, as necessary. This approach will minimise the potential for disturbance, killing or injury of bats (in the unlikely event that any individuals are present).
- If bats are found, the bat worker will catch them by hand and place them in a breathable holding bag for immediate relocation to one of the bat boxes onsite. Care will be taken to move the bat quickly and with minimal handling.
- Once the relevant roof areas have been stripped under supervision, the remainder of the demolition will then continue without the supervision of an ecologist. In the unlikely event that any bat is found during any of the subsequent demolition work, contractors must immediately stop work on that building and contact CSA for advice.

#### Timing of Works

Under Natural England guidelines, given the low conservation value of the roosts involved there is no requirement to restrict the timing of works. However, as the roosts present are summer roosts, it is recommended that to minimise the risk of killing, injuring or disturbing roosting bats, demolition works be undertaken in winter.

#### New Roost Creation

To mitigate for the loss of roost locations, four replacement bat boxes (Schwegler 2FN or 2FN-DFP, suitable for pipistrelle species) will be installed in pairs on retained mature trees as close to each roost to be lost as possible. on south-east to south-west aspects, close to suitable foraging habitat (vegetation), away from possible access by domestic cats (e.g. window ledges, fences), and positioned at a height of between 3 to 6 metres. Indicative locations for these boxes have been provided on the Ecological Mitigation and Enhancement Strategy Plan (CSA/3467/111).

#### Habitat Retention and Creation

The majority of habitat currently utilized by bats for foraging and commuting will be retained, with significant buffers from new development being provided in many parts of the Site through the creation of new semi-natural habitats (c. 0.4ha thicket, c. 0.5ha woodland belt, c. 490 new trees, c. 0.2ha meadow seeding, and a SuDS basin) which will also be of value to bats due to the invertebrate prey they will support. The new planting will strengthen habitat connectivity around the Site, and provide additional habitat around the new roosts to be created.

### Sensitive Lighting Scheme

In line with policies ENV SP1 and DM5, to maintain habitat suitability for bats light spill onto habitat used by commuting and foraging bats will be minimised through design of a sensitive lighting scheme, to be detailed at the Reserved Matters planning stage.

Sensitive lighting will be implemented throughout the construction and operational phases as follows, unless a different standard is required by Mid Sussex District Council as Highways Authority for adoptable roads:

- Construction phase:
  - Illumination of retained boundary vegetation and mature trees will be avoided, wherever practicable, during low light conditions.
  - In instances where illumination is necessary the intensity and duration will be kept to a minimum.
  - Down lighting will be used where possible.
- Operational Phase:
  - Lighting throughout the Site will be kept to a minimum and installed on motion sensors or timers where practicable.
  - Direct and indirect illumination of the boundary vegetation and mature trees will be avoided where possible.
  - Down lighting will be used throughout to minimise light spill and sky glow.
  - Lighting to be installed on the Site will conform with the following spectral specifications, in accordance with BCT (2018):
    - LED luminaires used where possible
    - No metal halide fluorescent sources
    - Minimal emission of ultra-violet light
    - Warm white spectrum (ideally <2700 Kelvin where possible) with peak higher than 550nm
    - Luminaires with 0% upward light ratio and good optical control
    - Careful consideration of column heights to minimise light spill
    - Bollard / low level downward directional luminaires where required
    - As a last resort, accessories such as baffles, hoods or louvres to minimise light spill

These measures accord with the Bat Conservation Trust and the Institution of Lighting Professionals Guidance Note on Artificial Lighting and Bats (2018).

### Monitoring and Reporting

A Site visit, by the project ecologist, will need to be undertaken to ensure that the mitigation proposed is undertaken to the agreed specification (e.g. installation of bat boxes) and in line with the EPSL

As the roosts to be lost in B3 and B4 are of low conservation significance, no formal post-development monitoring is required (BCT, 2016). However, as a matter of good practice one formal check of the installed bat boxes will be undertaken by a licensed ecologist within year 1 or 2 (during the period May to August) following completion of the works to see whether there has been any uptake by bats, and if not whether any changes are required.

Confirmation that the measures outlined and relevant EPS licence have been completed will be provided in the form of a licence return to Natural England upon completion of the works, along with a short report to the Local Planning Authority.

### **Enhancement Measures**

To enhance roosting opportunities for bats across the site, in addition to the four proposed for mitigation, six artificial bat roost boxes (2FN Bat Box or equivalent; see Appendix C) will be erected on retained trees along the Site boundaries and within the open space and along Site boundaries; these will be installed during the construction period.

In addition, ten bat tubes (Habibat, or similar) will be installed into new buildings within the development by way of enhancement. These will be located in sheltered areas close to retained / new planting and away from new external light sources.

All bat boxes will be located with a broadly south-facing aspect, at a height of c. 3-6m above ground level and away from areas which could be accessible by predators (e.g. domestic cats). Details of the locations and specifications of new bat roost enhancement features will be provided within the LEMP at the Reserved Matters stage.

## Conclusion

The proposed mitigation approach is in line with requirements for loss of roosts of low conservation status (as set out within the BCT Mitigation Guidelines) and is compliant with Natural England EPS licensing requirements. In addition, new habitat creation and provision of a sensitive lighting strategy shall ensure provision of foraging commuting habitat, retaining and enhancing opportunities for bats and dormice alike. Appropriate management of this habitat provision will be detailed within a LEMP, to include species population monitoring in line with Natural England EPS licensing requirements. These measures shall ensure that the favourable conservation status is maintained.

## Appendix E

### Dormouse Mitigation Strategy

## Introduction

This mitigation strategy has been produced to ensure compliance with the Wildlife and Countryside Act 1981 (as amended) and Conservation of Habitats and Species Regulations 2017, and demonstrate that the proposed development would pass the third legal test to be licensable by Natural England, i.e. “the action authorised will not be detrimental to the maintenance of the population of the species concerned [dormice] *at a favourable conservation status in their natural range*”. The first two of these legal tests relate to planning need and project design, which will be demonstrated within the Reasoned Statement of the EPS licence application.

Proposals to develop the Site will result in loss of scrub and hedgerow habitat known to support dormice. Dormice are a European Protected Species (EPS) and receive strong legal protection under both the Wildlife and Countryside Act, 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (Habitats Regulations) (as amended). These legislation make it illegal to:

- Deliberately capture, injure or kill a dormouse;
- Damage or destroy a dormouse resting place or breeding site;
- Deliberately or recklessly disturb a dormouse whilst it's in a structure or place of shelter or protection;
- Obstruct access to structures or places of shelter or protection.

The legal protection afforded to dormice means that a Natural England licence and appropriate mitigation will be required to permit the proposed works, which would result in the destruction of dormouse habitat. This mitigation strategy sets out the mitigation and enhancement measures to be undertaken at the Site to ensure that an offence is avoided and that the favourable conservation status of the local dormouse population is maintained.

## Survey and Site Assessment

Full methods and results of survey work undertaken in 2017 and 2018 are presented within the Ecological Impact Assessment (EcIA) (CSA/3467/07), but are summarised below.

The following survey work was undertaken in 2017 and 2018:

- Desk study (September 2017)
- Extended Phase 1 Habitat survey (September 2017)
- Dormouse nest-tube surveys (April – September 2018)

### Desk Study

SxBRC provided two records of dormouse *Muscardinus avelanarius* within the search area, c. 950m east of the Site in 2015, and c. 950m north of the Site across the A27, both with limited connectivity to the Site.

Eight species-rich and one species-poor hedgerows are present on-Site which show some evidence of management. While some of these hedgerows are not considered to offer high quality opportunities for dormice, they do act to connect more optimal habitats in the wider surrounds. Dense patches of scrub are present at the Site along the eastern boundaries of the arable field and within the north eastern corner of the Site.

### Field Surveys

The dormouse survey recorded dormice in the eastern and western hedgerows (H3 and H6) with a peak count of two individuals, and three likely dormouse nests along the woodland edge, and eastern hedgerows (H2 and H9). As a European Protected Species the population will be of at least Local importance given their local distribution and conservation status.

### Predicted Impacts

It is envisaged that the proposed development will result in the loss of c. 0.4ha of scrub and hedgerows (c. 335m in total length) of Local importance to dormice to allow creation of the primary site access and provide room for development. This will result in a permanent loss of suitable nesting and foraging habitat (more than compensated for by new planting), and temporary reduction in habitat connectivity until new planting matures.

There is the potential for direct impacts to this species during the construction phase, as vegetation clearance activities may result in an offence whereby dormice are injured, killed or disturbed and/or their breeding or resting places are damaged or destroyed. During the operational phase, dormice may be at greater risk of predation due to domestic cats, and traffic collision.

Overall, in the absence of mitigation, the proposed development could have the potential for adverse impact on dormice significant at the Local level.

## Mitigation and Compensation Measures

### European Protected Species Licensing

Impact avoidance and compensation measures will need to be secured via an EPS licence from Natural England. The proposed development scheme is considered to offer significant scope for the provision of compensatory habitat for dormice (i.e. provision of c. 0.4ha of new native thicket planting, c. 0.5ha of woodland belt planting, and 20 dormouse nest boxes on retained boundary vegetation), and subject to sensitive working practices / seasonality of vegetation works then direct impacts to this species would be avoided and their favourable conservation status maintained.

### Working Methods & Timings

The proposed vegetation clearance works are considered to be limited in extent and mitigation through displacement of any resident animals is the most appropriate option. To clear the scrub in the north-east corner and centre of the site, hedgerows H1, H4, H7 and H9, and sections of H3 and H5, the below vegetation clearance working methods will be followed to persuade any dormice present to re-locate into retained habitat and avoid potential killing, injury and disturbance.

Works will be subject to seasonal constraints and will adopt the recommended standard two-stage clearance methodology as recommended within the Mitigation and Compensation Methods Section of the Dormouse Conservation Handbook<sup>1</sup>.

#### Stage 1

- A toolbox talk will be provided to contractors by the licensed ecologist.
- Removal of surface vegetation to no lower than 30cm above ground level between November to February inclusive (typically accepted as the core dormouse hibernation period). This cut height is recommended to avoid impacts to dormice which may be hibernating at ground level within habitats to be removed.
- Clearance will be carried out in a set direction, moving progressively towards retained habitat, to encourage dormice to disperse into it. If retained habitat is present on both sides of the habitat to be cleared (i.e. H9 and scrub in north-east corner), clearance will begin in the centre and work outwards in both directions. If retained habitat is present in only one direction (e.g. H1, H4), clearance will begin at the furthest point from the retained habitat and work towards it.
- Habitat removal works will be undertaken sensitively using hand-held tools, under a close watching brief provided by a suitably qualified ecologist, to minimise any potential impacts to hibernating animals. Should any dormouse nests be found during these works they will

carefully be removed and placed within areas of habitat to be protected during the construction phase. On emergence from hibernation dormice will be able to disperse into retained habitat.

- All material and arisings resulting from the vegetation clearance will be carefully removed from the cleared areas so as not to provide additional nest building habitat for dormice in summer months. Any existing piles of vegetation or logs within the habitat clearance areas will be left and dismantled by hand between May and September, outside of the hibernation period (to avoid potential impacts to hibernating animals).
- If vegetation is cleared during winter months, care will be taken to protect hibernating dormice on the ground by utilising a single drag-line route, along which vegetation is removed. This route may be checked for dormice and/or cleared of vegetation beforehand, if necessary.

#### Stage 2

- A toolbox talk will be provided to contractors by the licensed ecologist.
- A second stage of clearance will take place after the end of May to remove any remaining vegetation, to ensure no food source suitable for dormice (e.g. bramble flowers and fruit) re-establishes within the development area.
- Vegetation will be cleared under a watching brief and in stages, first to a height of c. 10cm and then gradually cleared to ground level to allow any reptiles which may be present to disperse. For stage 1, clearance will be carried out in a set direction, moving progressively towards retained habitat, to encourage dormice to disperse into it.
- Any potential hibernation features left during the first stage of clearance will be dismantled by hand. The first stage of clearance will also have ensured that impacts to nesting birds are avoided which would otherwise be likely at this time of year.
- This stage of work will also be subject to an ecological watching brief.

The following prescriptions will also be followed:

- Vehicular access to the Site will follow existing tracks, and avoid any unnecessary movement over on-site vegetation where possible.
- A single route to and from the clearance area for all vehicles and machinery will be designated and used at all times.

#### Habitat Retention and Creation

The majority of hedgerows will be retained in the proposed development, maintaining habitat connectivity along the northern, western and southern boundaries.

Retained boundary vegetation will be buffered by a significant amount of new tree and thicket planting (c. 0.4ha of new native thicket planting, c. 0.5ha of woodland belt planting and c. 490 trees), as shown on the

Development Framework Plan (CSA/3467/136), resulting in a significant enhancement. Planting specifications will be provided at the detailed planning stage; however to ensure good habitat provision will include native species of benefit to dormice, such as hazel *Corylus avellana* and blackthorn *Prunus spinosa*, which provide suitable food resources and a dense shrubby understorey. Detailed planting proposals as been secured at the Reserved Matters planning stage.

Twenty dormouse nest boxes will be installed on retained mature trees along the Site boundaries, to provide additional nesting opportunities. These will be positioned at a height of at least 1.5m, well away from public areas to minimise the risk of disturbance. Indicative locations for these boxes have been provided on the Ecological Mitigation and Enhancement Strategy Plan (CSA/3467/111), which will be revised at the Reserved Matters stage once the final site layout is available.

### Habitat Management

Management prescriptions for hedgerows will be set out within the LEMP and agreed with Arun District Council at the detailed planning stage. Hedgerows will be sensitively managed for the benefit of wildlife, including dormice should they be present. Cutting intervals lengthened to allow flowering and fruiting, and to maintain their value as dispersal routes. Alternative sides of the hedgerow will be cut over winter (Dec – Feb) at 3 to 5 year intervals in order to maintain the availability of flowers and fruits and to prevent hedgerows becoming outgrown and gappy.

### Sensitive Lighting Scheme

In line with policy ENV SP1, to maintain habitat suitability for dormice, light spill onto suitable habitat will be minimised through design of a sensitive lighting scheme, to be detailed at the Reserved Matters planning stage. The scheme will aim to achieve a maximum light-spill of 1 lux onto the woodland edge to the north and retained boundary vegetation, following the same principles as that set out in section 6.4 for bats.

In the first instance, lighting columns to be erected alongside mature trees and hedgerows will be aligned and the height carefully considered so as to minimise light spill onto these habitat corridors. Luminaires will be selected with spectral specifications which minimise impacts to nocturnal fauna. Directional light sources and shielding, including anti-glare shields, louvres and cowls, will be used as a last resort to minimise light spill.

Where light spill onto retained / created habitats cannot be avoided additional mitigation measures, such as restricting the time periods when

lighting is turned on, should be considered to ensure that habitat useable resources do not become fragmented by light disturbance.

### Monitoring and Reporting

Site visit will be undertaken, by the project ecologist, to ensure that the mitigation proposed is undertaken to the agreed specification (e.g. installation of dormouse nest boxes).

Monitoring of the dormouse boxes is proposed to occur in years 1 and 3 post-development with monitoring checks undertaken in May, August and September each year (often the peak months). The results will be used to inform future management if necessary and will be reported to Natural England, the local records centre and any local interest groups. It is hoped that liaison with the local dormouse group can ensure that monitoring of the boxes is undertaken in the longer term.

Confirmation that the measures outlined and secured by EPS licence have been completed will be provided in the form of a licence return to Natural England upon completion of the works, along with a short report to the Local Planning Authority.

### Enhancement Measures

The proposed scheme will include a significant amount of new tree and thicket planting (c. 0.4ha of new native thicket planting, c. 0.5ha of woodland belt planting, c. 490 trees), in addition to the provision of 20 new nest boxes. Overall, the scheme is anticipated to result in a significant increase in the amount of suitable habitat available on Site for dormice.

### Conclusion

The proposed mitigation approach is in line with requirements for loss of roosts of low conservation status (as set out within the Dormouse Conservation Handbook) and is compliant with Natural England EPS licensing requirements. In addition, new habitat creation and provision of a sensitive lighting strategy shall ensure provision of foraging commuting habitat, retaining and enhancing opportunities for bats and dormice alike. Appropriate management of this habitat provision will be detailed within a LEMP, to include species population monitoring in line with Natural England EPS licensing requirements. These measures shall ensure that the local population status is maintained.

