



**Sandgate Nursery, Henfield, West
Sussex**

Ecological Impact Assessment

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Contents

1.0 INTRODUCTION.....	4
PURPOSE OF THE REPORT	4
SITE DESCRIPTION.....	4
PLANNING POLICY AND LEGISLATION	5
• <i>Wildlife and Countryside Act (1981 as amended);.....</i>	5
• <i>The Protection of Badgers Act 1992;.....</i>	6
• <i>The Hedgerow Regulations 1997;.....</i>	6
• <i>The Natural Environment and Rural Communities (NERC) Act (2006);.....</i>	6
• <i>Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019.</i>	6
2.0 METHODOLOGY	6
ECOLOGICAL ASSESSMENT METHODOLOGY	9
3.0 BASELINE ECOLOGICAL CONDITIONS.....	13
<i>Desktop Study.....</i>	13
<i>Notable species.....</i>	13
<i>Statutory Sites.....</i>	14
<i>Notable offsite habitats.....</i>	15
<i>Species and species groups on site.....</i>	18
	
<i>Reptiles.....</i>	19
<i>Great crested newts.....</i>	19
4.0 DESCRIPTION OF THE PROPOSED DEVELOPMENT	21
5.0 ASSESSMENT OF EFFECTS AS WELL AS AVOIDANCE AND MITIGATION MEASURES	22
6.0 CUMULATIVE IMPACTS.....	27
7.0 COMPENSATION.....	28
8.0 ENHANCEMENT	31
9.0 MONITORING.....	31
10.0 SUMMARY AND CONCLUSIONS.....	32
11.0 REFERENCES	36

LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living creatures are capable of migration and whilst protected species may not have been located during the survey duration, their presence may be found on a site at a later date.

The views and opinions contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

1.0 Introduction

Purpose of the Report

- 1.1 This Ecological Impact Assessment (EcIA) evaluates the effects of the development of land at the former Sandgate Nursery, Henfield, West Sussex.
- 1.2 The results of The Ecology Partnership's surveys and desk study of the site and surrounding land are presented. These findings are assessed against the proposals for a housing development on the site to: identify and rank significant impacts, set out mitigation and compensation measures and the means to secure these, in essence the EcIA;
- Evaluates the baseline interest;
 - Identifies and rank significant impacts;
 - Sets out mitigation and compensation measures and the means to secure these;
 - Assess the significance of residual impacts;
 - Identifies enhancement measures; and
 - Sets out requirements for post-construction monitoring.

Description of the Project

- 1.3 The full proposals for the scheme are as follows:
- "Outline application for erection of a continuing care retirement community of up to 72 units of accommodation (Use Class C2) and up to 10 starter homes (Use Class C3) with associated community facilities including medical centre and onsite laundry and catering facilities, with access, infrastructure, open space, landscaping and associated works (all matters reserved except for access)."*
- 1.4 Supporting ecology documents submitted for the application are a Preliminary Ecological Appraisal (PEA: The Ecology Partnership 2022a), from the findings of which survey reports were produced for bats (The Ecology Partnership 2022b), and reptiles (The Ecology Partnership 2022c).

Site Description

- 1.5 The site comprises a disused and overgrown nursery, and is approximately 3.7ha and located on the western edge of Henfield, bound by West End Lane to the north, residential

gardens to the east, Hollands Lane to the south, and farmland to the west (TQ 20454 15995). The wider surrounding area comprises residential areas to the north and east and green open space to the south and west, largely comprising horse pasture. The aerial photograph below (Figure 1) shows the site and its immediate surrounds with the approximate site boundary.



Figure 1: Approximate location of the red line boundary
Satellite imagery captured from Google Earth Pro on 16/11/2022 © Google

Planning policy and legislation

- 1.6 The planning application may be constrained and guided by legislation and national and local planning policies that relate to biodiversity. The following paragraphs identify relevant legislation and policy and their relevance to the project.

Wildlife Legislation

- 1.7 The following legislation has been considered in determining the scope of this EcIA:
- Wildlife and Countryside Act (1981 as amended);

- The Protection of Badgers Act 1992;
- The Hedgerow Regulations 1997;
- The Natural Environment and Rural Communities (NERC) Act (2006);
- Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019.

National and Local Planning Policy

- 1.8 National policy guidance is provided by National Planning Policy Framework (NPPF 2021), which sets out the Government's planning policies for England and how they should be applied. Section 15 of the document is entitled 'Conserving and Enhancing the Natural Environment'.
- 1.9 The site falls under the jurisdiction of Horsham District Council. The application was assessed against policy guidance provided by the National Planning Policy Framework, as well as relevant planning policies from Horsham District Council. These policies included the following which are considered relevant to Ecology, Biodiversity and Nature Conservation:
- Policy 26: The Natural Environment and Landscape Character
 - Policy 30: Green Infrastructure and Biodiversity

2.0 Methodology

Scope of the Assessment

- 2.1 The zone of influence of the development is defined as:
- The project red line, for effects on habitats and species;
 - Adjacent habitat, considered by species, for mobile species with territories or foraging ranges that may overlap the site; and
 - Publicly accessible designated sites and undesignated priority (Section 41) habitats that may be sensitive receptors to increased recreational pressure.
- 2.2 The types of features considered in the assessment of effects, to meet legislative and policy requirements, are:

- Designated sites (European, national and local);
- Protected species;
- Habitats and species of principal importance (Section 41 list);
- Hedgerows and woodland, where not of principal importance; and
- Habitats, where not of principal importance, that may function as wildlife corridors or stepping stones.

Desk Study

- 2.3 A desktop study search was completed using an internet-based mapping service (www.magic.gov.uk) for statutory designated sites and an internet-based aerial mapping service (maps.google.co.uk) was used to understand the habitats present in and around the survey area and habitat linkages and features (ponds, woodlands etc.) within the wider landscape. Records for the site and local area (up to 2km) were purchased from the Sussex Biodiversity Records Centre (SxBRC).
- 2.4 Prior ecology reports consulted were those produced as in support of this outline planning application:
- Preliminary Ecological Appraisal (The Ecology Partnership 2022a);
 - Bat Surveys (The Ecology Partnership 2022b);
 - Reptile surveys (The Ecology Partnership 2022c).

Field Surveys

Habitat survey

- 2.5 An extended habitat survey was conducted on site by The Ecology Partnership in July 2022, in order to inform a Preliminary Ecological Appraisal (PEA) for the site (The Ecology Partnership 2022a). The surveyors identified the habitats present, following the standard UK Hab classification system. The Ecology Partnership surveyed the site on foot and the existing habitats and land uses were recorded on an appropriately scaled map.

Protected Species Surveys

- 2.6 As part of the PEA, a desk study and protected species assessment was conducted of the site, to identify the need for any further protected species surveys to ascertain the use of the site by these species, and recommend appropriate mitigation.
- 2.7 The site was thought to have potential to support the following protected species groups/species: bats, great crested newts, breeding birds, [REDACTED] and reptiles. No GCN surveys were carried out in 2022 but are planned for spring 2023. A low population of GCN has been assumed for the purposes of this assessment, based on desk study data during the PEA. A summary of the survey work completed is set out in the table below. Detailed survey methodologies are provided in the appended, referenced reports:

Table 1 Species surveys

Faunal Group	Survey Methodology	Date of Surveys	Guidance
Bats – tree inspection	As part of the PEA, any trees likely to be removed by the scheme and supporting particular features likely to be of value to bats, such as splits, cracks, rot holes, coverings of ivy, peeling bark or similar, were recorded. The potential for the trees to support roosting bats has been assessed in accordance with the criteria set out in the Bat Conservation Trust guidelines (Collins, 2016)	<u><i>Survey for PEA</i></u> 13th July 2022 <u><i>Update check</i></u> 30th November 2022	Bat Surveys – Good Practice Guidelines 3 rd edition (Collins, 2016).
Bats – building inspection	During the PEA, buildings on site were assessed internally and externally for evidence of bats and features which could serve as potential roosts. Further surveys were conducted depending on their potential for roosting bats.	<u><i>Survey for PEA</i></u> 13th July 2022	Bat Conservation Trust (BCT) guidelines (Colins 2016)
Bat – activity surveys	A predetermined transect route was agreed and followed for the duration of the survey, during which bat activity was recorded. The transect was walked twice during the surveys.	<u><i>Activity transects</i></u> 20th July; 24th August; 26th September;	Bat Conservation Trust (BCT) guidelines (Colins 2016)

	Static Anabat detectors were placed out at two different points along the transect route and left to record for at least five nights each month.	12th October	
[REDACTED]	[REDACTED] [REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]
Reptiles	Approximately 100 mats were placed out and left to bed in for at least four weeks. These refugia were checked a total of seven times across the survey period within suitable weather for surveying reptiles. Any reptiles seen, were recorded including their species, sex and life-stage where possible.	<i>Set-up:</i> 2 nd August <i>Seven checks</i> 30 th August 6 th September 9 th September 12 th September 16 th September 20 th September 3 rd October	Froglife (1999) Gent and Gibson (1998).

Ecological Assessment Methodology

2.8 This assessment has been carried out with reference to the CIEEM *Guidelines for Ecological Impact Assessment* (EcIA) (CIEEM, 2018). The guidelines help in the determination of the baseline conditions, what features are important, what impacts significant and how to apply the mitigation hierarchy. The sequential application of the guidelines to this assessment are outlined in the following paragraphs.

Baseline condition

2.9 The baseline condition of the site is the situation documented in this report (section 3) from data (field surveys and desk study) gathered during 2022, plus any relevant modifications within or outside the red line within the zones of influence subsequent to the completion of the 2022 assessment.

Important ecological features

2.10 Important ecological features are those for which the decision maker (LPA or other regulator) needs the EcIA, to help to make an assessment of the effects (negative, neutral or positive) and to guide the determination of the planning application. Important features

are therefore generally defined by whether legislation or policy requires their consideration. For example, a European site within the zone of influence of the development is important and needs an assessment of effects. Similarly, at different levels, any legally protected species and any features such as wildlife corridors and section 41 species, with national or local policy support, are important features. Features that cannot be referenced to legislation and policy are generally not important and the next step of the EcIA, of impact assessment, is not necessary. There may occasionally be situations where professional judgement and local expertise is relevant in defining local rarity as important, regardless of a lack of current legislative and planning support.

- 2.11 CIEEM 2018 avoids rigid guidance on the levels of importance, which is often required within EIA, along with the level of magnitude of an effect, as one axis of an impact matrix. Sometimes a label of European, national or local importance may be obvious, for European sites, SSSIs and Local Wildlife Sites respectively. It is often less clear whether a small population of a section 41 priority species or small extent of a section 41 habitat should be of Local or greater or less importance, as this may depend on data that does not exist on the distribution and abundance of the feature. Legally protected species can be important solely because of the need to meet legislation, or because they are also a feature of a County Wildlife Site or target of a local Biodiversity Action Plan. In these cases, the same species could warrant different levels of importance, possibly with different implications for what is reasonable mitigation or compensation, beyond legislative compliance.
- 2.12 This report follows CIEEM 2018 in not forcing features into a level of importance, but using ranked importance where possible. Sites are given three levels, corresponding to their legislative and planning support: European, National and Local. Habitats and species, where not a qualifying feature of the hierarchy of sites, are simply referenced to the planning policy or legislation that supports their importance and where possible assessed from the extent, range or population size within zone of influence in relation to the extent, range or population size in the relevant administrative unit, for example LPA boundary or BAP boundary.

Impact assessment

2.13 The only essential purpose of impact assessment in EcIA is (CIEEM 2018):

“to assess and report significant residual effects that remain after mitigation measures have been taken into account. However, it is good practice for the EcIA to make clear both the potential significant effects without mitigation and the residual significant effects following mitigation”

2.14 Impact assessment is required for each feature determined as important and not for other features. CIEEM 2018 advises that each impact assessment should consider if possible the different stages of a development (construction, operation and decommissioning) and that it should be characterised by the following:

- Positive or negative - whether the impact leads to an adverse, beneficial or neutral effect;
- Extent – the spatial area over which the impact occurs;
- Magnitude – change in for example the amount of habitat or the size of population;
- Duration – both in relation to the life cycle of the ecological feature and of the life of the project;
- Frequency and timing – for example the number of disturbance incidents to birds and their timing in relation to the breeding cycle; and
- Reversibility – if and at what timescale recovery is possible.

2.15 As with the assessment of importance, CIEEM 2018 does not encourage a classification of the magnitude of impacts on a scale of severity. Rather, the significance of each impact should be assessed as the quantity of a feature of importance impacted; for example, residual loss of 5% of the extent of woodland within a Local Wildlife Site or gain of 10% in the extent of a section 41 habitat (hedgerows) on the site.

Avoidance, mitigation, compensation and enhancement

2.16 CIEEM 2018 recommends a mitigation hierarchy. Once important features and significant impacts are identified, the project design should be modified where possible to avoid significant impacts. If avoidance is not possible, mitigation then compensation should be sequentially considered. A residual impact is an impact that remains after mitigation but is documented here both before and after compensation, as mitigation, particularly if

embedded in the design, is assumed to be delivered without input from the LPA or other regulator, whilst compensation may require planning conditions and have some uncertainty on which the regulator should deliberate. Enhancement is an activity that results in a net gain in biodiversity, generally for an important feature, “over and above” anything required for mitigation or compensation. The terms mitigation and compensation are not always clearly defined and there is difference of opinion on their definitions. This report follows the Information Paper on the subject developed in consultation with Natural England for HS2 (HS2 2017), from which this quote and illustration are taken:

“A clear distinction is made between the use of the terms ‘mitigation’ and ‘compensation’ reflecting the habitual use in ecological impact assessment of ‘mitigation’ to mean ‘measures taken to avoid or reduce negative impacts’, as separate from ‘compensation’ meaning ‘measures taken to make up for the loss of, or permanent damage to, biological resources through the provision of replacement areas’”

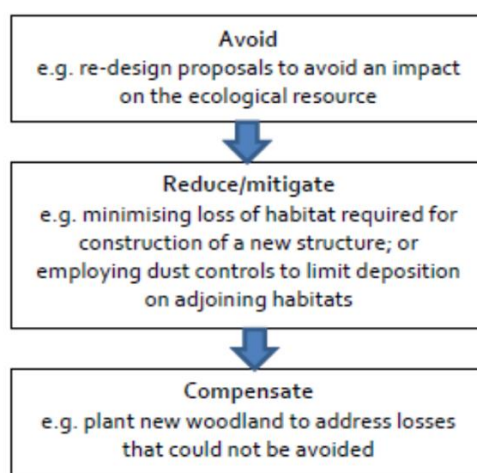


Figure 2: The mitigation hierarchy (from HS2 2017)

Limitations of the Assessment

- 2.17 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no single investigation could ensure the complete characterisation and prediction of the natural environment. The site was visited over the period of several site visits, as such seasonal variations cannot be fully observed and potentially only a

selection of all species that potentially occur within the site have been recorded. Therefore, the survey provides a general assessment of potential nature conservation value of the site and does not include a definitive plant species list. However, the survey area was visited on a number of occasions over the optimal period, ensuring that detailed habitat information could be gathered. It is therefore considered that the survey work has allowed a robust assessment of habitats and botanical interest across the site.

2.18 As at the time of the PEA, the survey window for GCN had already been passed, no GCN surveys have been carried out yet, however, are planned for spring 2023. The PEA desk study identified relevant historic GCN survey data associated with the recent residential development to the north of the site. Based on this data a low population of GCN has been assumed for the purposes of this assessment.

2.19 The specific protected species surveys were undertaken at the appropriate time of year and during suitable weather conditions to an appropriate level of survey effort. Any specific limitations are noted in the relevant sections above or discussed in the results section.

3.0 Baseline Ecological Conditions

Desktop Study

Notable species

3.1. As part of the PEA a 2km data search was requested from the Sussex Biodiversity Records Centre (SxBRC). The records included a number of priority species relevant to the site, more details on each of these species can be found within the PEA, however a summarised version is included in Table 2 below:

Table 2: Notable species records within 2km of the site in the last 10 years

Species group	Notable species	Distance of closest record
Invertebrates	Small Heath <i>Coenonympha pamphilus</i>	c. 1.3km W
	Wall <i>Lasiommata megera</i>	c. 775m E
	Cinnibar <i>Tyria jacobaeae</i>	c. 1.5km W
	Great Crested Newt <i>Triturus cristatus</i>	c. 1.3km S

Reptiles and amphibians	Common toad <i>Bufo bufo</i>	c. 425m E
	Slow worm <i>Anguis fragilis</i>	On site
	Grass snake <i>Natrix natrix</i>	c. 250m E
Bats	Common pipistrelle <i>Pipistrellus pipistrellus</i>	c. 500m NE
	Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	c. 500m E
	Natterer's Bat <i>Myotis nattereri</i>	c. 1.5km S
	Daubenton's Bat <i>Myotis daubentonii</i>	c. 1.5km S
	Brown long-eared bat <i>Plecotus auratus</i>	c. 1.5km S
Other mammals	Western European Hedgehog <i>Erinaceus europaeus</i>	c. 425m S

Statutory Sites

- 3.2. The site itself is not designated for its ecological importance or for its nature conservation value. There are three internationally statutory designations within 15km (Table 3):

Table 3: Internationally designated statutory sites within 15km

Name of Site	Designation	Distance from site	Reason for Designation
Arun Valley	SPA	c.14.3km W	Supporting nationally significant population of Berwick's swan <i>Cygnus columbianus bewickii</i> , as well as being used regularly by over 20,000 waterfowl.
	SAC	c.14.3km W	Supporting Annex II species: Ramshorn snail <i>Anisus vorticulus</i> (primary reason).
	Ramsar	c.3.4km NE	Internationally important populations of gadwall <i>Anas strepera</i> , and shoveler <i>Anas clypeata</i> .

- 3.3. No nationally statutory designations for ecology were located within 2km:
- 3.4. In terms of non-statutory designations, there are three Local Wildlife Sites (LWS) and a single Designated Road Verge (DRV), within 2km of the site, as detailed in Table 4 below:

Table 4: Non-statutory wildlife sites within 2km

Site name	Distance and orientation	Selection criteria
Barrow Hill Road DRV	1km east	Not specified
Henfield Common LWS	1km east	Mosaic of neutral and acid grassland, species-rich rush pasture, reedbeds and woodland
Broadmare Common LWS	1.3km south-east	Fen, willow carr, woodland and ponds
River Adur Water Meadows & Wickham Wood LWS	1.5km south-west	Floodplain grazing marsh and woodland.

Notable offsite habitats

3.5. The site is surrounded by a number of priority habitats (Figure 3), including:

- Scattered small areas of priority **deciduous woodland** parcels, including an area adjacent to the south-west site boundary.
- Small areas of **traditional orchards** priority habitat, the closest being c.400m north-west of the site.
- An extensive area **floodplain grazing marsh** is located c.190m south of the site.

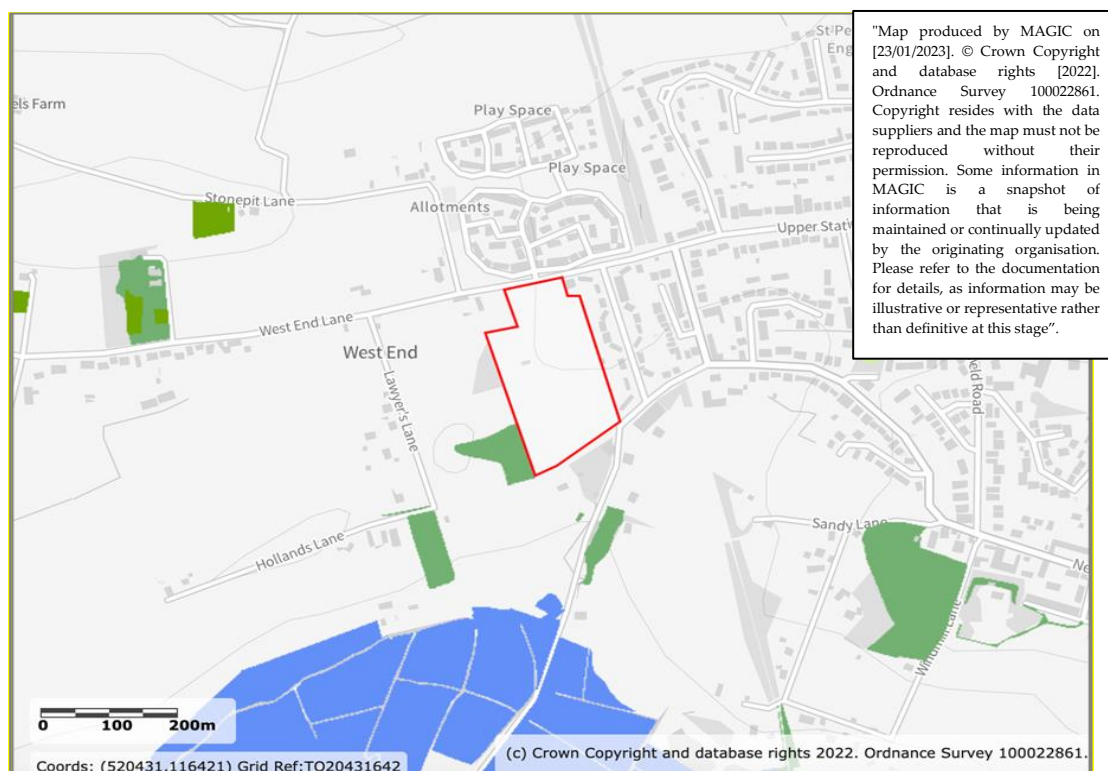


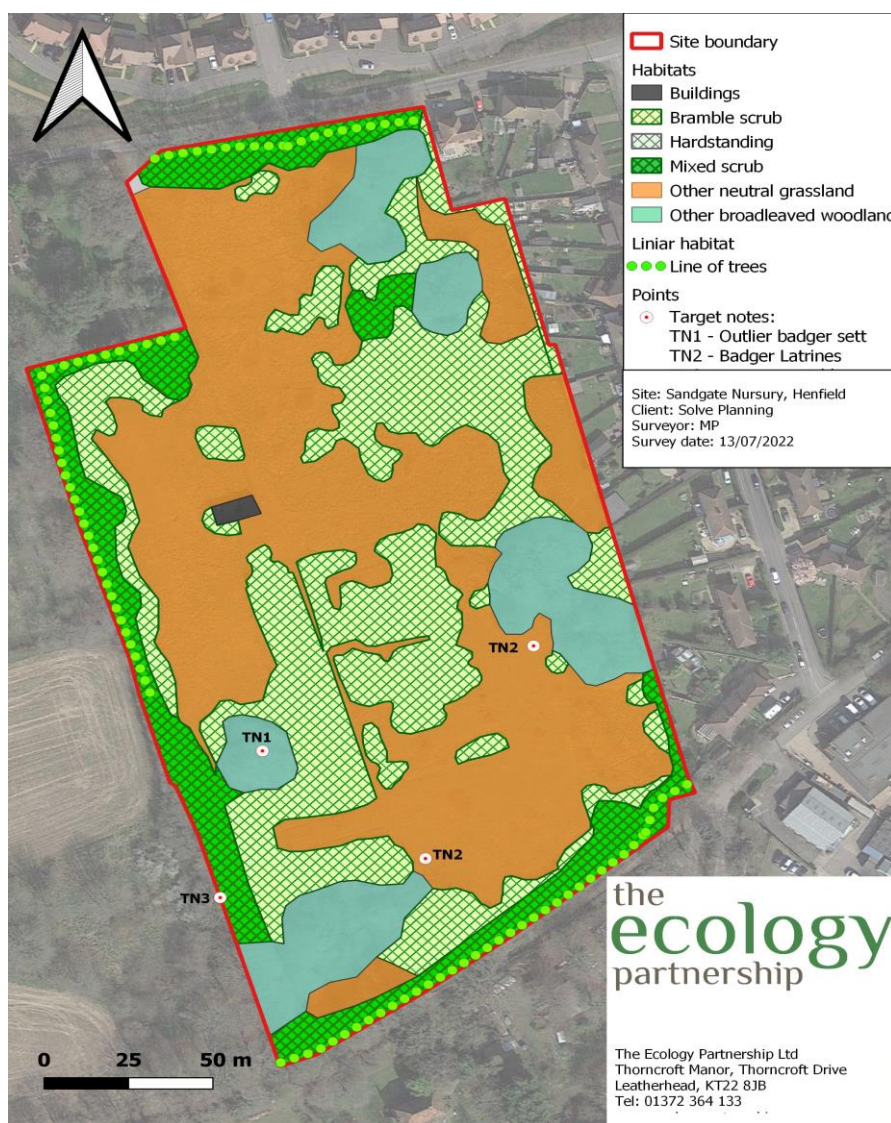
Figure 3: Deciduous Woodland (dull green), traditional orchard (lime green), and Floodplain Grazing Marsh (blue) in the vicinity of the site

Baseline habitats on the site

- 3.6. The site was subjected to a habitat survey as part of a preliminary ecological appraisal undertaken on the 13th July 2022. The findings are summarised below and are described in full detail in the accompanying PEA (The Ecology Partnership 2022a).
- 3.7. The site is comprises an old plant nursery, which has remained unused for over 20 years. Historic satellite imagery indicates that in 2001 the site was not in use, with most of the polytunnels removed, however, short sward grassland was present across the site. Over a 10 year period goat willows began to establish themselves in the north and south-east, however the majority of the grassland continued to be managed other than that within the footprint of the old polytunnels, which subsequently appears to have become rank. All management appears to have ceased on site around five years ago, and consequently the old polytunnels have now become overrun with brambles, the groups of goat willows have developed into small pockets of woodland, and the grassland across the whole site has become rank with extensive areas of encroaching brambles across the site.
- 3.8. The most extensive habitat on site was species-poor neutral grassland (*other neutral grassland*), with a mosaic of tall-sward rank areas with patches of rabbits-grazed open areas of grassland, and was determined to be in poor condition owing to the poor species diversity, abundance of undesirable species (creeping thistle, and, common nettle), abundance of encroaching bramble scrub, and, lack of easily visible wildflowers, sedges and indicators species throughout the sward. This grassland formed a mosaic with dense bramble scrub and mature self-seeded goat willow (*other broad-leaved woodland*), with the most extensive areas of scrub prevalent in the east and south-west of the site.
- 3.9. No priority habitats are present on site, however, the mature broad-leaved boundary treelines and underlying scrub present along the northern, western and southern boundaries, were considered to be of '**local**' value for their wildlife corridor functionality.

Table 5: Summary table of habitats surveyed & present on the site & levels of importance

Habitat	Description	Level of importance
Line of trees (Wildlife corridor)	Lines of mature pedunculate oak, hazel and goat willow along the southern-western and northern site boundaries.	Local
Grassland – Other neutral grassland	Species-poor tussocky grassland, with lack of flowering species.	Site
Heathland and shrub - Mixed scrub	Hazel, blackthorn, hawthorn, goat willow, bramble scrub predominantly around edges of the site	Site
Heathland and shrub - Bramble scrub	Areas dominated by dense bramble scrub throughout the site.	Site
Other woodland; Broadleaved	Mature self-seeded goat willow trees with an interlinking canopy. No other tree species were present and the density of the canopy foliage resulted in heavily shaded ground layer	Site

**Figure 4. Habitat map for the site.**

Species and species groups on site

Bats

- 3.10. The PEA desk study resulted in records of five species of bat within 2km of the site within the past 10 years: common pipistrelle, soprano pipistrelle, Daubenton's, Natterer's, and brown long-eared, and a single Mitigation Licences from Natural England relating to roosts (The Ecology Partnership 2022a).
- 3.11. Following the building and tree inspections, a single mature ash tree in the south-west of the site was considered to have low potential to support roosting bats. None of the other trees and buildings were assessed as having potential to support roosting bats, and required no further survey (The Ecology Partnership, 2022a).
- 3.12. The treelines and mature scrub belts around the perimeter of the site provided suitable foraging opportunities and commuting links to the surrounding landscape for bats. The grassland, scrub mosaic on site, whilst species-poor, still offers some minor value for foraging. The site was generally considered to be of 'moderate habitat suitability of foraging and commuting bats, owing to its habitat mosaic and proximity to high value grazing marsh foraging habitat in the wider area to the south.
- 3.13. Activity on site was dominated by pipistrelle and myotis species, which together made up 97% of the calls. The remaining 3% of calls was made up of noctule, Leisler, serotine, brown long-eared and barbastelle. Numbers of myotis and pipistrelles were considered to be of local value, whilst other species were of site value (The Ecology Partnership, 2022b). However, it should be noted that common & soprano pipistrelles and myotis species were still only found in relatively low numbers, with all only achieving an average of 13 passes per night excluding outliers. Overall, the bat assemblage was considered to be of 'local' value only.

114

11



Reptiles

- 3.15. The grassland was considered of high suitability for reptiles. On completion of the reptile survey, it was confirmed that the site supported a 'low' population of slow worm with a peak count of one adult. A single juvenile grass snake was also recorded (The Ecology Partnership 2022a). This population is considered to be of '**site**' value.

Great crested newts

- 3.16. The scrub, woodland and tall-sward grassland onsite provides suitable terrestrial habitat for GCN, and three ponds are located within 250m of the site. A single pond located 55m to the north-west of the site was confirmed to support a single female GCN and a GCN egg during surveys undertaken in 2013 (Aspect Ecology, 2013). All three ponds were visited on 21 July 2022, however, were found to be dry or only supporting a small puddle of water at this time. GCN are unlikely to be present in large numbers in the local area, as there is not sufficient aquatic habitat throughout the year to support newts in their aquatic phase. As such, a low GCN population is assumed to potentially utilise terrestrial habitat on site. Full surveys are planned to take place in spring 2023 to confirm this, however, this population is unlikely to exceed '**local**' value, if still present.

Breeding birds

- 3.17. Nesting birds are likely to be using the site for the scrub, trees and potentially buildings on site. However, due to the size of the site and a lack of high value habitats and features within the majority of the site, it is considered that the breeding bird assemblage on site is likely to be of importance at '**site**' level only.

Hedgehog

- 3.18. The scrub edge along the boundaries of the site was suitable to support hedgehog. This species are likely to be utilising the edge habitat on site for foraging. However, due to the size of the site, any population of hedgehog on site is likely to be of importance at 'site' level only, and it is therefore considered that this species is not required to be assessed at EcIA level.

Invertebrates

- 3.19. Grassland habitat onsite was species-poor, with a lack of flowering species beside frequent ragwort in the south of the site. Due to the size of the site and low botanical diversity of the grassland, it is considered likely that the invertebrate assemblage on site is unlikely to exceed 'site' value. As such, it is considered that invertebrates are not required to be assessed at EcIA level.

Future baseline

- 3.20. Future baseline conditions are conditions which would be likely to arise if present conditions continue and a change of land use through the planning system does not occur. As the site is unmanaged, it would likely continue to be represented by a mosaic of rank grassland, bramble scrub and mature goat willows for the next 10 years. Areas of bramble scrub will continue to encroach from their current positions, along with self-seeded goat willow trees. In 10 years it is likely grassland habitat on site will be relegated to small clearings in the dense bramble, with additional goat willows maturing and creating more shaded areas with their dense canopies.
- 3.21. Table 6 summarises the findings of these surveys and assesses the level of importance for each notable species/species group:

Table 6: Summary table of faunal groups surveyed & present on the site & levels of importance

Faunal Group/Species	Description	Level of importance
Bats - Roosting	Single ash tree in south west of the site found to support low bat potential.	Site (legislative implications)
Bats – foraging and commuting	The monthly activity surveys found the site to only support relatively low numbers of bats with the most frequently recorded species only recorded an average of 13 passes a night. Eight species were recorded overall, however the majority were only recorded in very low numbers. The mature treelines may form part of a network of foraging and commuting habitat for bats across the landscape.	Local
Reptiles	The reptile surveys conducted onsite confirmed presence of an ‘low’ population of slow worm with a peak count of one adult and the only other species found was a single juvenile grass snake.	Site (legislative implications)
GCN	Surveys to be carried out in Spring 2023. Historic surveys found a peak count of one GCN and an egg in one of the three ponds within 250m of the site.	Up to Local (legislative implications)
Breeding Birds	Breeding birds are likely to be using the trees and scrub on site as well as the buildings for nesting purposes.	Site (legislative implications)
██████	████████████████████ ████████████████████ ████████████████████	████
Hedgehog	Field margins and boundary scrub on site was considered suitable to support hedgehog.	Site
Invertebrates	The poor botanical diversity and small size of the site likely limits the overall value of this assemblage.	Site

4.0 Description of the Proposed Development

4.1 The full proposals for the scheme are as follows:

“Outline application for erection of a continuing care retirement community of up to 72 units of accommodation (Use Class C2) and up to 10 starter homes (Use Class C3) with associated community facilities including medical centre and onsite laundry and catering facilities, with access, infrastructure, open space, landscaping and associated works (all matters reserved except for access).”

4.2 Embedded **Avoidance/Mitigation** measures incorporated into the submitted site layout include:

- The retention and protection of the majority of mature broad-leaved treelines and underlying scrub around the edges of the site, to avoid impacts on birds, bats, reptiles, and hedgehog in these areas.

- Maintaining natural buffer habitats between retained boundary vegetation along the southern, western and northern boundaries and the roads/residential areas to maintain habitat corridors for wildlife

5.0 Assessment of Effects as well as Avoidance and Mitigation Measures

5.1 The impact assessment is for the development as described above, including the proposed site layout plan (See Appendix 1). The assessment does not separate construction and operation impacts, solely assessing effects on important features that would result from the final layout. Residual impacts are those after mitigation and before compensation, which is considered in this section.

5.2 Features within the red line that require an impact assessment are those determined as important in section 3, namely;

- Mature broad-leaved boundary treelines (wildlife corridor)
- Bats (foraging and commuting habitat)
- Reptiles
- GCN,
- [REDACTED] and,
- Breeding birds.

5.3 Important features outside the redline boundary, but located in close proximity to the site or within the zone of influence of the potential for increased recreational pressure or other potential negative effects, therefore requiring impact assessment, are:

- Arun Valley SPA, SAC& Ramsar;
- Barrow Hill Road DRV;
- Broadmare Common LWS;
- Henfield Common LWS;
- River Adur Water Meadows & Wyckham Wood LWS
- Lowland Mixed Deciduous Woodland.

Mature broad-leaved boundary treelines (wildlife corridor)

- 5.4 Four semi-mature trees as well as the underlying scrub along the northern site boundary will be lost as a result of the proposal, and a mature oak and ash will be lost from the western boundary due to safety concerns. In addition, wider bands of existing scrub along the western and southern treeline will be cut back, weakening the strength of these features. As such, it is considered that the proposals will result in a **minor negative effect** on the function of the boundary treelines as a wildlife corridor, and further mitigation is required.

Bats (roosting)

- 5.5 The loss of a single mature ash tree in the south-west of the site determined to have low potential to support roosting bats could result in the loss of a roost without appropriate mitigation. As such, it is recommended that prior to removal it is subject to an endoscopic inspection for bats. This will involve a suitably qualified ecologist inserting an endoscope into the small hole in the tree and inspecting the cavity. If no bats are found and they are confident that their survey of the cavity was comprehensive, then the tree can be taken down without any further constraint. If the cavity extends further than the endoscope can reach, then a soft-fell technique must be used as a precaution. This involves cut limbs and section being left on the ground over night before being chipped or cut into smaller bits. This give bats an opportunity to escape in the unlikely event that they are in the tree. If a bat is found then all works to the tree must be halted until further surveys are conducted and a licence to remove the tree obtained from Natural England. If the above mitigation is adhered to then it is expected that there will be a **neutral effect** on roosting bats.

Bats (foraging and commuting)

- 5.6 As previously stated, the creation of a new access road in the north of the site would result in the permanent loss of a 13m section of a semi-mature treeline with underlying scrub. A mature native hedgerow is present on the opposite side West End Lane, which is a narrow road. As such, these two mature linear habitats can be considered to function as a single commuting corridor, and the loss of a small number of trees and scrub on the southern side would not sever this corridor, and it will continue to serve its function for foraging

and commuting bats. The treelines along the western and southern boundaries of the site will also be retained.

- 5.7 Much of the bramble scrub and mature goat willow in the centre and east of the site will also be lost. However, the bat activity transects, did not record many bats utilising this habitat. As such, its loss would have a lesser effect on commuting bats. Furthermore, bats commuting between the north and south or east and west of the site, have more robust commuting routes being retained along the western and southern boundary treelines. As such, the loss of this scrub would not sever an important commuting corridor for bats.
- 5.8 A sensitive lighting scheme should be implemented to reduce the impact of any artificial lighting on bat commuting and foraging habitat as recommended within the Bat Activity report (The Ecology Partnership 2022b).
- 5.9 Even if a sensitive lighting strategy is enacted, and highest value commuting features retained, it is considered that extensive loss of habitat across the majority of the site would still result in a **minor negative effect** for foraging and commuting bats, and further compensation will be required. If a sensitive lighting strategy is enacted, and highest value commuting features retained, it is considered that extensive loss of habitat across the majority of the site would still result in a **minor negative effect** for foraging and commuting bats.

Reptiles

- 5.10 Proposals will result in the loss of much of the grassland scrub mosaic habitat within the site. Without mitigation this would result in a major negative effect on the reptile population on site, as they would likely be harmed or killed during ground clearance works in the short-term and have lost a significant area of suitable habitat in the long-term. To avoid harm to individual reptiles and mitigate for the loss of habitat within the site, reptiles will be trapped out of the main works area, and safely translocated to suitable receptor areas around the edge of the site (The Ecology Partnership, 2022c).
- 5.11 Whilst this will mitigate any short-term physical impacts to individuals that would otherwise occur during habitat clearance works on site, without sufficient compensatory

habitat, there will still be a **minor negative effect** on this small reptile population in the long-term. As such, further compensatory measures are required.

GCN

- 5.12 Proposals will result in no loss of terrestrial habitat within the 50m core sustenance zones of any of the nearby ponds. As such, the potential impact on GCN is unlikely to be high (English Nature, 2001). Extensive loss of terrestrial habitat within 50-250m of these ponds is considered up to a medium scale impact. However, with such a small population recorded in these ponds historically (peak count 1), it is more likely that the impacts on GCN will be low. All potential impacts will be mitigated through use of pit-fall trapping and translocation of the development area over 30-90 days (depending on GCN population survey results). All newts found will be safely moved outside of the construction area to a suitable pre-made refugia along the site boundary in the north-west of the site, close to the external ponds. Full details of the mitigation strategy will be agreed with Natural England as part of a European Protected Species Mitigation (EPSM), and will be dependent on the results of the surveys to be carried out in spring 2023. On this basis there will be a **neutral effect** GCN.

[REDACTED]

[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Breeding birds

- 5.14 The legislative protection afforded active nests, birds and their eggs and young will be met through the clearance of vegetation outside of the breeding season or after a nesting bird check by a suitably qualified ecologist. The development will result in a net-loss of suitable nesting habitat provided by, 1.08ha of scrub, and a 0.43ha area of goat willow trees. It is not considered that these habitats are likely to support large numbers of breeding birds or species of significance. There may be some increase in disturbance from new residents to nesting birds as part of the operational phase and there is also the potential for predation by domestic pets such as cats. It is considered that the loss of nesting bird habitat and a potential increase in disturbance and predation will result in a **minor negative effect of site importance**, and further compensation is required.

Arun Valley SAC, SPA, & Ramsar

- 5.15 This statutory designated site comprises a series of open wetland habitats, designated as an SPA for its nationally significant population of Berwick's Swan, as an SAC for supporting Annex II Species Ramshorn snail, and as a Ramsar site for its value to important wetland invertebrate, ditch flora, and waterfowl assemblages. The closest of these fragments is located 14.3km to the west. As such, no direct negative impacts would be anticipated from construction, and individually the site would not result in significant long-term impacts on this site. However, without mitigation, the operational phase could contribute to the recognised significant cumulative effects of water extraction on this site, as described later in this assessment.

Local wildlife sites

- 5.16 The site is located within 2km of three LWS and a single DRV. However, none of these sites are located within walking distance of the site. As such, considering the distance of all LWS and DRVs from the site and the relatively small scale of the development, it is considered that any increase in recreational pressure is likely to be negligible. It is considered that there is **no residual effect**.

Adjacent Priority Habitat - Lowland Mixed Deciduous Woodland

- 5.17 The site is located directly adjacent to a block of lowland deciduous woodland along the southern end of the western site boundary. However, the nearest building to this

woodland is c.20m away with the road c.12m, as such, they are unlikely to impact on the trees within this woodland. Sustainable Urban Draining Systems (SUDS) have been designed to be located outside of the RPA of retained Mature trees along the western boundary. This woodland is private and as such would not be subject to increased recreational pressure. It is considered that there is **no residual effect**.

6.0 Cumulative Impacts

- 6.1 Only a single significant future housing development has been identified in the surrounding area:

DC/21/2013– Land at Parsonage Farm Deer Park Henfield West Sussex BN5 9QR – Outline Application (Registered)

- 6.2 Outline planning application for up to 235 dwellings, including 35% affordable housing, with an improved vehicular and pedestrian access via London Road, the provision of public open space and associated infrastructure and landscaping with all matters reserved except access (see figure 6).

- 6.3 The EcIA for this application concluded neutral or minor beneficial residual effects on ecological receptors, following mitigation and compensation measures.

Arun Valley SPA, SAC, Ramsar

- 6.4 The site falls within the 'Sussex Water Resource Zone', and as such, water supplied to the site would contribute to water extraction associated with significant cumulative negative effects on the Arun Valley SPA, SAC, Ramsar. As such, in order to avoid contributing to the cumulative impact of water extraction from the Arun Valley, the development will need to demonstrate that it will not result in a net-increase in water extraction. As this, is not achievable within the site itself, adequate contribution to an established offsetting scheme will be required.

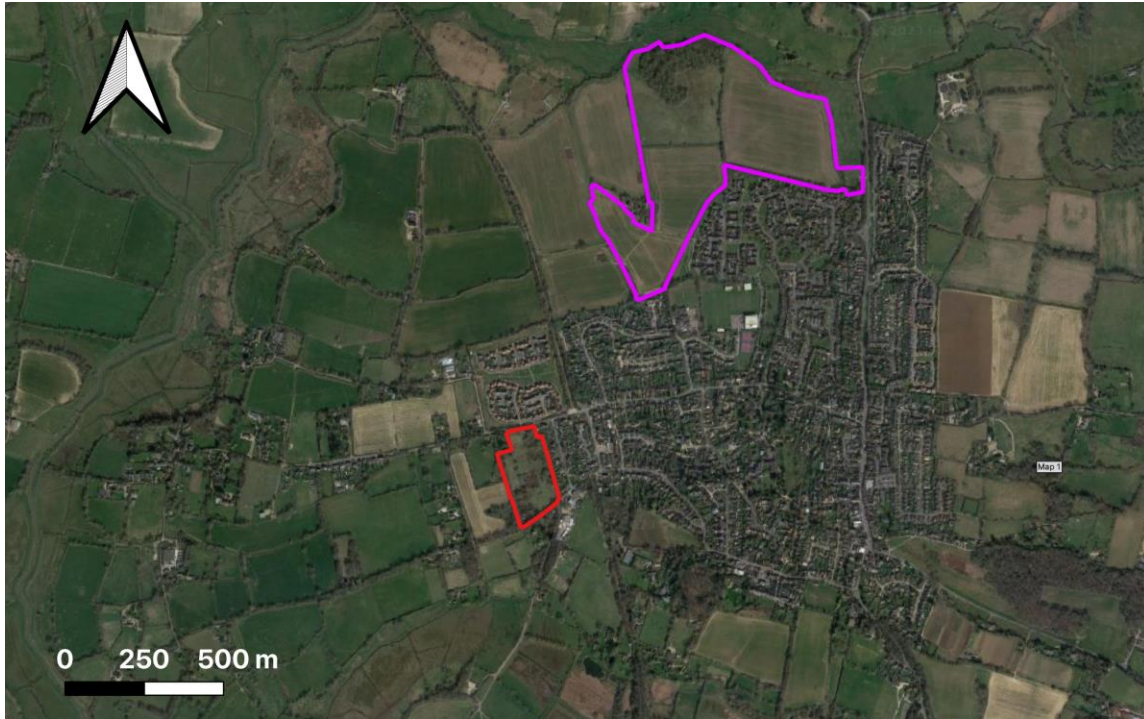


Figure 6: Location of relevant future housing development (Land at Parsonage Farm in Purple. Application site in red).

Satellite imagery captured from Google Earth Pro on 26/01/2023

7.0 Compensation

- 7.1 It is recommended that the compensation methods, outlined below, are included as part of planning conditions for the outline planning application. In this development, compensation covers the loss of bat, reptile, and nesting bird habitat, as a result of the loss of the majority of scrub and grassland habitat on site. Compensation addresses the loss of habitat, which could not be avoided through the development plans, which needs to maximise units in order to remain viable.

Mature broad-leaved boundary treelines (wildlife corridor)

- 7.2 The minor loss of trees on the northern and western site boundaries and loss some areas of scrub bordering the southern and western tree lines will be compensated through the extensive planting of street trees throughout the site, including a line of fruit trees along the eastern site boundary. Furthermore, new native shrub and tree planting, as well as wildflower meadows alongside the retained treelines, will ensure they remain strong

commuting features for wildlife. On the basis there is **no residual effect** on wildlife corridors within the site.

Foraging/commuting bats

- 7.3 As part of the landscaping strategy a planting scheme should be developed to ensure that there is connectivity maintained across the site, with new planting along the eastern boundary compensating for minor tree loss along the northern boundary to facilitate the access road, and extensive use of street trees across the site to compensate for loss of scrub and goat willows. On the basis of this compensatory planting and sensitive lighting strategy, then there will be **no residual effect** on the low numbers of bats that utilise for site for commuting and foraging.

Reptiles

- 7.4 In order to compensate for the loss of reptile habitat within the site, the creation of new high-quality reptile habitat will be required. The receptor areas currently proposed, are both areas of tall tussocky grassland with encroaching bramble scrub. It is proposed that a hibernacula be constructed in each receptor as well as log piles, to provide sufficient refugia and hibernation opportunities for the small population of slow worm on site. The area of suitable habitat will only be limited to the receptor areas in the short term, as once landscaping is complete additional habitat will be available around the western edge of the development site. Areas of dense bramble scrub in wildlife buffer areas around the edge of the site will be cut back and developed into flower-rich grassland, allowing more sun to ground level and increasing the diversity of invertebrates, as such allowing sufficient basking and foraging opportunities for slowworm. A 30-year management plan will aim to ensure long-term preservation of the reptile population. As such, there will be **no residual effect**.



Figure 7. Reptile mitigation and compensation areas

Breeding birds

- 7.5 New trees planting (including fruit trees) and bird boxes included within the development will compensate for the minor loss of nesting and foraging habitat. As such, there will be **no residual effect**.

8.0 Enhancement

8.1 Biodiversity gain, to meet NPPF, is proposed and will be secured under conditions and the landscape and ecology strategy. Enhancements for the site are as follows:

- Provision of bat boxes on trees and buildings;
- Landscaping strategy includes additional SUDS basins which will be designed for wildlife, creating new wetland habitat, not previously on site.
- Fruit trees, to provide additional early nectar opportunities for insects and fruit for small mammal and birds.
- Butterfly banks and flower-rich grassland to attract and support a more diverse invertebrate assemblage.

9.0 Monitoring

9.1 Ecological clerk of works tasks will be required during construction, to ensure implementation of the conditions and to check that there is no change in the baseline that may alter the implementation of the development. All details of monitoring and mitigation measures during site preparation and construction would be detailed within a Construction Environmental Management Plan (CEMP).

9.2 As part of the reptile and possible GCN translocation, refugia/pitfall traps placed out within the trapping area would be monitored daily, throughout the designated trapping period, with any reptiles/GCN found moved safely to the receptor area.

9.3 Other than private gardens, all habitats and ecological features on site will be monitored, maintained, and managed for biodiversity in the long-term. Full details of monitoring, maintenance, and management measures would be detailed within a Landscape Ecological Management Plan (LEMP).

10.0 Summary and conclusions

- 10.1 The housing development at Former Sandgate Nursery, Henfield results in a change of land use of c3.7ha of land, through its replacement with housing and peripheral green infrastructure. Table 5 (below) summarises the effects on important features and how mitigation and compensation have been applied.

Baseline ecology and effects

- 10.2 The baseline features evaluated as important (through site designation, legislative protection or priority status on NERC Act 2006 Section 41 lists), so needing an assessment of effects, are as follows.

On site:

- Mature treelines;
- Bats (roosts and foraging and commuting habitat);
- GCN
- Reptiles;
- [REDACTED] and,
- Breeding birds.

Off site:

- Arun Valley SAC/SPA/Ramsar,
- Barrow Hill Road DRV,
- Henfield Common LWS,
- River Adur Water Meadows & Wyckham Wood LWS 1.5km.

Mitigation, compensation and enhancement

- 10.3 Embedded mitigation includes the following:
- The layout protects and maintains majority of the existing mature broad-leaved treelines and underlying scrub along the southern, western and northern boundaries of the site;
 - Maintaining natural buffer habitats between retained boundary vegetation along the southern, western and northern boundaries and the roads/residential areas to maintain habitat corridors for wildlife

- 10.4 Non-embedded mitigation which should be secured as part of any planning permission and are as follows:
- Sensitive lighting scheme for bats.
 - Recommended working practices and timings of works will also provide mitigation for potential protected species on site;
- 10.5 Residual impacts are removed through compensation, which should be secured as part of any planning permission and are as follows.
- Planting of new, scrub, native trees, and flower-rich grassland to ensure that replacement habitat is provided which in turn will provide habitat for reptiles, foraging and commuting bats, and breeding birds.
- 10.6 Enhancements should be secured by condition including:
- Long-term management of retained wildlife areas outside of residential curtilage to benefit wildlife and biodiversity.
 - Provision of bird, and bat, boxes to provide additional safe, nesting/roosting opportunities.
- 10.7 Monitoring will include an ecological clerk of works at construction phase and monitoring to ensure implementation of the conditions and to check that there is no change in the baseline that may alter the implementation of the development. All newly created habitats will be monitored and maintained in the long-term to ensure their biodiversity value, to be detailed within a LEMP document and secured through Section 106 agreement.

Table 7: Effects of the development

Feature	Effect type and magnitude	Mitigation and residual effect	Compensation	Residual effect	Enhancement/ biodiversity gain
Designated sites					
Arun Valley SAC, SPA & Ramsar;	Negative (minor) Water extraction (Cumulative effect)	None - Negative (minor)	Payment into off-setting scheme	Neutral	None
Local Wildlife Sites	Negligible impacts Recreational impact	None - Neutral	None	Neutral	None
Barrow Hill Road DRV	Negligible impacts Recreational impact	None - Neutral	None	Neutral	None
Priority/important habitats					
Mature broad-leaved treelines (Wildlife corridor)	Negative (minor) Loss of four semi-mature trees along north boundary and two mature trees along southern boundary	None - Negative (minor)	Planting of new line of trees down eastern site boundary, and substantial street tree planting across the site	Neutral	None
Priority woodland (Offsite)	None , RPA of trees within offsite woodland avoided and protected.	None - Neutral	None	Neutral	None
Priority and protected species					
Bats (roosting)	Negative (minor) , loss of potential roost	Endoscopic check and soft-felling of low bat roost potential ash tree, to ensure bats are not harmed. Neutral	None	Neutral	Bat boxes
Bats (foraging/commuting)	Negative (minor) , temporary reduction in habitat, potential damage through artificial light	Sensitive lighting scheme Negative (minor) ,	Planting of new fruit trees connecting the treelines in the north-east and south-east of the site, new tree/shrub planting along the southern, western and northern boundaries, and extensive street trees across the site.	Neutral	

Reptiles	Negative (major), Loss of individuals and permanent loss of habitat Potential predation from domestic cats from new residents	Sensitive trapping and translocation of reptiles out of the construction area at the appropriate time of year, followed by sensitive clearance methods under supervision of an ecological clerk of works. Negative (minor)	Enhancement of wildlife buffer areas along the southern, western and northern site boundaries to ensure sufficient habitat to be managed in the long term, for the small population on site.	Neutral	None
GCN	Negative (minor), Loss of individuals and permanent loss of terrestrial habitat	Sensitive trapping and translocation of GCN out of the construction area at the appropriate time of year, followed by sensitive clearance methods under supervision of an ecological clerk of works. Neutral	None	Neutral	Creation of new hibernacula and wetland features (SUDS)
[REDACTED]					
Breeding birds (active nests, all species)	Negative (major), damage to active nests and loss of habitat Potential predation from domestic cats from new residents	Construction works timing outside of breeding bird season or under ecological supervision. Negative (minor)	Planting of replacement habitat Use of bird boxes	Neutral	None

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Appendix 1. Illustrative site layout plan



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