Greengage

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Client: Lovell Homes

Project: Novartis Phase 1&2

Report: Preliminary Ecological Appraisal

QUALITY ASSURANCE

Issue/Revision:	Draft	Final	Updated
Date:	December 2024	December 2024	January 2025
Comments:			
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File Reference:	552979jh06Dec24FV03_PEA.docx	552979jh06Dec24FV03_PEA.docx	552979jh06Dec24FV03_PEA.docx

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1.0 EXECUTIVE SUMMARY

Greengage Environmental Limited (Greengage) was commissioned by Lovell Homes to undertake a Preliminary Ecological Appraisal (PEA) of an area of land on the former Novartis research centre, known as Novartis Phase 1 & 2, in Horsham, West Sussex, hereafter referred to as 'the site'.

This report has been produced to inform a planning submission for the site which seeks the retention and change of use of the current building on-site, and erection of multiple resident units (with associated infrastructure). At the time of writing, updated design landscaping plans have yet to be confirmed. It is currently understood proposals will be similar in concept to those outlined with a prior 2023 Biodiversity Net Gain (BNG) report produced by Ecology & Habitat Management Ltd[1].

The PEA aimed to establish the ecological value of the site and the presence/likely-absence of designated sites and legally protected or notable habitats and/or species, in order to inform appropriate mitigation, compensation and enhancement actions in light of the proposed redevelopment.

The site extends to approximately 2.63 hectares (ha), during the initial site visit in November 2024 the following habitats were identified: sparsely vegetated urban land, developed land; sealed surface, building, other standing water bramble scrub, dense scrub, other neutral grassland, modified grassland, other woodland - mixed - mainly conifer, other native hedgerow and willow scrub. The existing building is located adjacent to the site's eastern boundary, hereafter referred to as "the former Novartis building".

A separate site visit in February 2025 of the courtyard area identified a pond with dense scrub bramble scrub, modified grassland and three trees. Trees, associated with the developed land: sealed surface, bramble scrub, other neutral grassland, and modified grassland are also frequently present on the site.

The habitats within the site have potential to support the following protected/notable species:

- Low suitability for badgers;
- Moderate suitability for foraging and commuting bats;
- Low suitability for roosting bats;
- Moderate suitability for nesting birds;
- High suitability for invertebrates;
- Confirmed presence slow worm (*Anguis fragilis*) and common lizard (*Zootoca vivipara*) on site;
- Low suitability for hedgehogs (*Erinaceus europaeus*); and
- Confirmed presence of cotoneaster (*Cotoneaster sp.*), rhododendron (*Rhododendron sp.*), and buddleia (*Buddleia davidii*).

The desk study identified that the site resides within the Arun Valley Ramsar, Special Area of Conservation (SAC), and Special Protection Area (SPA) river catchment which affects the water usage of the potential development. As a result, a water neutrality statement should be issued to Sussex Council with confirmation of water efficiency and mitigation measures to reduce potential impacts.

Mitigation measures are detailed within this report for all identified ecological receptors, namely foraging and commuting bats, nesting birds, reptiles, invertebrates and hedgehogs, in addition to the removal of Invasive Non-Native Species (INNS). An outline of specific mitigation recommendations include:

- One bat emergence survey of the former Novartis building undertaken between May to August;
- Internal inspection of the former Novartis building including roof cavity, enclosed courtyard, and basement;
- One Night-time Bat Walkover (NBW) each season (Spring - April/May; Summer - June/July/August; Autumn - September/October);
- Static monitoring for five consecutive nights per month between April- October;
- Potential Roosting Features (PRF) tree climb inspection of five trees (T1, T3, T4, T5, and T6);
- Further reptile survey and establishment of receptor site for possible translocation;
- Six breeding bird surveys March to early July, alongside an additional nocturnal survey to be undertaken between midnight and dawn in May;
- Three invertebrate surveys of the site between May and July;
- Sensitive removal of invasive cotoneaster, rhododendron, and buddleia; and
- Ecological Clerk of Works (ECoW) on areas of scrub habitats to mitigate harm to hedgehogs.

Recommended ecological enhancements are specified within Section 5.2 of this report. These enhancements target UK Biodiversity Action Plan (BAP) habitats/species, to help enhance the qualitative biodiversity value of the site.

A site should also deliver a 10% net gain in biodiversity value using the Statutory Biodiversity Metric (SBM), therefore ensuring the development meets both national, regional and local legislation, policy, and standards in planning and biodiversity. Where the 10% biodiversity net gain (BNG) target is not met through on-site delivery, off-site compensation to provide the residual BNG is appropriate.

It is recommended that the ecological enhancement measures and key actions should be included within Ecological Management Plan (EMP) and Construction Environment Management Plan (CEMP) documents for the site which could be secured through planning condition.

2.0 INTRODUCTION

Greengage Environmental Limited (Greengage) was commissioned by Lovell Homes to undertake a Preliminary Ecological Appraisal (PEA) of an area of land on the former Novartis research centre, known as Novartis Phase 1&2, in Horsham, West Sussex, hereafter referred to as 'the site'.

This report has been produced to inform a planning submission for the site which seeks the retention and change of use of the current building on-site, and erection of multiple resident units (with associated infrastructure). At the time of writing, updated design phase landscaping plans have yet to be confirmed. It is currently understood proposals will be similar in concept to those outlined with a prior 2023 Biodiversity Net Gain (BNG) Report produced by Ecology & Habitat Management Ltd[1].

This PEA aimed to establish the ecological value of this site and the potential presence of legally protected species in order to inform appropriate mitigation, compensation and enhancement actions in light of proposed development works.

2.1 SITE DESCRIPTION

The site extends to approximately 2.63 hectares (ha) and is centred on National Grid Reference TQ 17809 31816, OS Co-ordinates 517809, 131816.

The site is comprised primarily of developed land; sealed surface, with one large existing building located adjacent to the site's eastern boundary which contains a courtyard hereafter referred to as "the former Novartis building". The courtyard included a pond, surrounded by bramble scrub, dense scrub, modified grassland and individual trees. Two large patches of sparsely vegetated urban land were located towards the centre of the site, both of which were which boarded by large patches of bramble scrub. Multiple areas of other neutral grassland were located throughout the site, positioned around the centre of the site, and in the northeast and southwest corners of the site. Two patches of willow scrub were located adjacent to the western site boundary, with an area of modified grassland located towards the northwest corner. At the entrance to the site along the western boundary, a small patch of other woodland - mixed - mainly conifer was present to the south, with bramble scrub to the north bordered by another native hedgerow. Individual trees were located through the site, with the highest density located along the northern boundary of the site.

The site is located in the centre of Horsham and therefore situated in an urban setting, primarily surrounded by residential buildings and gardens. Parsonage road and Wimblehurst road run along the northern and western boundaries of the site respectively, with a railway line running adjacent to the southern boundary, with an additional railway line located in close proximity to the east of the site.

Fragmented priority woodland is found throughout Horsham with the closest found in Horsham Park approximately 480 metres (m) south of the site boundary. Warnham Local Nature Reserve (LNR) is located approximately 665 m northwest of the site boundary, with a golf course located directly south of the LNR. Large areas of ancient woodland can be found within the wider area, with the closest located in approximately 850 m north of the site boundary. Multiple parcels of different priority habitats are located between 1 km to 2 km from the site boundary. These include woodland pasture and

parks, good quality semi-improved grassland (non priority), ancient replacement woodland, and lowland meadows which are all classified as priority habitats.

2.2 ECOLOGICAL BACKGROUND

An initial Ecological Appraisal by Hampshire County Council originally produced in 2015 and updated in 2018/2019[2] surveyed across the whole Novartis site, incorporating what is now known as Novartis Phase 1&2 and Novartis Phase 3, hereafter referred to as the 'wider site'. This Ecological Appraisal recommended further surveys for reptiles and bat emergence surveys. These were conducted in 2018, and the reptile presence/absence surveys confirmed slow worm (*Anguis fragilis*) and common lizard (*Zootoca vivipara*) in Novartis Phase 3 but not in Phase 1&2 i.e. the site. Two dusk (emergence) and one dawn (return) survey were performed in 2018 on the two buildings formally known as the gatehouses, which have since been demolished. During these surveys, low-moderate levels of bat activity were recorded which mainly pertained to common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus*, with sightings and calls also recorded for brown long-eared bat *Plecotus auritus*, noctule *Nyctalus noctule* and myotis species *Myotis sp*. A singular dusk emergence survey was performed on the former Novartis building in 2019, which is still present on the . No emergences from the former Novartis building were recorded, with only one recording pertaining to activity of a singular common pipistrelle. Tree climbing surveys were also conducted with suitability identified for four trees on the site, with no bat presence recorded.

A subsequent PEA was then produced by Ecology & Habitat Management Ltd[3] in 2022 which assessed the site. The Phase 1 habitats survey undertaken identified the habitats of building, hardstanding, bare ground, semi-improved grassland, scrub, introduced shrub, and scattered tree across the site. Further bat emergence and reptile surveys were conducted across the wider site to confirm presence/absence. Reptiles were recorded across the wider site, with specific records pertaining to the site located in the central and along the western, northern and southern boundaries. A "good population" of common lizard and a "low population" of slow worms were recorded for the wider site. An updated bat emergence survey on the former Novartis building was conducted in 2022, with no emergences recorded. Low bat activity pertaining to just common pipistrelle was recorded towards the centre of the site. It should be noted that during this survey a peregrine falcon *Falco peregrinus* was confirmed to be nesting on the roof of the existing building. The trees across the site were considered to be of low to moderate suitability but no further survey effort was conducted.

Additional suitability for badger *Meles meles*, foraging and commuting bats, common amphibians, nesting and breeding birds, invertebrates, and hedgehog *Erinaceus europaeus* was also identified on the site. Since the previous ecological surveys, the wider site has been split into two separate developers independent of each other. In addition, due to the time that has elapsed since these previous ecological surveys were undertaken on the wider site, the results of these have since expired as per the CIEEM guidance[4]. Therefore, the commission of updated ecological surveys is necessary to update the survey results and inform the new application.

3.0 METHODOLOGY

The PEA was undertaken in accordance with guidance in the UK Habitat Classification System (UKHab)[5] and the Chartered Institute of Ecological and Environmental Management (CIEEM) (2017) Guidelines for Preliminary Ecological Appraisal[6], in accordance with BS42020:2013: Biodiversity[7]. The overall assessment consisted of:

- Site specific biological information gained from statutory and non-statutory consultation; and
- A site walkover, protected species scoping assessment and UKHab habitat survey.
- Secondary codes were added to habitat classification to record additional information linked to primary habitats.

The site-specific consultation provided the ecological context for the site walkover carried out on the 5th November 2024. The internal courtyard of the former Novartis building could not be accessed at that time, further survey of this courtyard was carried out on the 25th February 2025.

The site is shown at Figure A.1 .

3.1 DESKTOP REVIEW

A review of readily available ecological information and other relevant environmental databases (included Defra's Multi-Agency Geographic Information for the Countryside (MAGIC) website[8]) was undertaken for the site and up to a 2-kilometre (km) radius to assess sites of national significance. In addition, data recorded within a 2km radius was received from the Sussex Biodiversity Record Centre (SxBRC) were reviewed to identify the location and citations of local non-statutory designated sites and presence of records for notable and protected species. This provided the overall ecological context for the site, to better inform the UKHab survey.

3.2 ON SITE SURVEYS

Flora

The extent and distribution of different habitats on the site were identified and mapped according to the standard UKHab survey methodologies, supplemented with target notes describing the dominant botanical species and any features of interest. Any present protected plant species and invasive/non-natives were also noted. A habitat map has been produced to illustrate the results, as shown in Figure A.1

The DAFOR scale was used to estimate the relative abundance of plant species within a given area. The scale categorizes species based on their observed frequency and coverage, using the following classifications:

- Dominant: The species is the most prevalent, covering a significant portion of the area.
- Abundant: The species is very common and widespread within the area.

- Frequent: The species is found in several locations within the area but not as extensively as abundant species.
- Occasional: The species appears sporadically and in fewer numbers.
- Rare: The species is present in very small numbers or in isolated spots.

Fauna

The site walkover specifically included assessments to identify the potential value for notable, rare and protected species at the site. This involved identifying potential habitats in terms of refugia, breeding sites and foraging areas in the context of species known to be present locally and regionally.

The likelihood of occurrence is ranked as follows:

- Negligible - While presence cannot be absolutely discounted, the site includes very limited or poor-quality habitat for a particular species. The site may also be outside the known national range for a species;
- Low - On-site habitat is poor to moderate quality for a given species, with few or no information about their presence from desk top study. However, presence cannot be discounted due to the national distribution of the species or the nature of on-site and surrounding habitats;
- Moderate - The on-site habitats are of moderate quality, providing most or all of the key requirements for a species. Several factors may limit the likelihood of occurrence, habitat severance, habitat disturbance and small habitat area;
- High - On-site habitat of high quality for given species. Site is within a regional or national stronghold for that particular species with good quality surroundings and good connectivity; and
- Present - Presence confirmed for the survey itself or recent, confirmed records from information gathered through desk top study.

The species surveyed for included:

[redacted]

[redacted]

Bat Species (*Chiroptera*)

The site walkover was undertaken in daylight and the evaluation of bat potential comprised an assessment of natural features on the site that aimed to identify characteristics suitable for bat roosts, foraging and commuting. In accordance with Bat Conservation Trust's (BCT) Good Practice Guidelines[9] and methods given in CIEEM Bat Mitigation Guidelines[10] consideration was given to:

- The availability of access to roosts for bats;

- The presence and suitability of crevices and other places as roosts; and
- Signs of bat activity or presence.

Definite signs of bat activity were taken to be:

- The bats themselves;
- Droppings;
- Grease marks;
- Scratch marks; and
- Urine spatter.

Signs of possible bat presence were taken to be:

- Stains; and
- Moth and butterfly wings.

Potential Roosting Features (PRF) were noted during the PEA, examples of which include mature trees with holes, crevices or splits, caves, bridges, tunnels and buildings with cracks or gaps serving as possible access points to voids or crevices. PRFs were also assessed for their hibernation suitability which may be subject to change dependent on further survey results, if required.

Additionally, linear natural features such as tree lines, hedgerows and river corridors are often considered valuable for commuting and semi-natural habitats such as woodland, meadows and waterbodies can provide important foraging resources. Consideration was given to the presence of these features both immediately within and adjacent to the assessment area.

A Ground Level Tree Assessment (GLTA) was undertaken as part of the PEA for all tree on the site and involved a detailed inspection where possible of the exterior of trees using binoculars and torches from ground level to look for PRFs. PRFs on trees can be formed by one of the following three categories; disease, decay and damage and associations (e.g. ivy). Such features could include:

- Woodpecker holes;
- Lifted bark;
- Pruning wounds; and,
- Dense ivy cover.

Updated guidance from the BCT was published in September 2023[9] which ranks bat roosting and foraging suitability on a scale through, none, negligible, low, moderate and high as per Table 4.1 of the guidance. None relates to a site with 'no habitat features suitable for bats' and negligible relates to a site with no 'obvious habitat features likely to be used by bats'.

The suitability of trees as roosting features is given a different grading system which includes none (same definition), Further Assessment Required (FAR), and PRF-I (where PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats) or PRF-M (PRF is suitable for multiple bats and may therefore be used by a maternity colony).

Assessment of tree suitability is not always possible from ground level and may require further PRF inspection survey to categorise the suitability level.

All PRFs on buildings and trees were annotated on a map accordingly (where seen) and the description of PRFs recorded including the height of the feature and the elevation/aspect.

Great Crested Newt (*Triturus cristatus*)

An assessment was carried out to identify any potential habitats that may support great crested newt (GCN) and other native amphibians. The aquatic and terrestrial habitats required generally include small, still ponds or water bodies suitable for breeding; and woodland or grassland areas where there is optimal invertebrate prey potential.

Reptiles

The potential for reptile species on the site was assessed during the site walkover. Possible species include grass snake (*Natrix helvetica*), smooth snake (*Coronella austriaca*), adder (*Vipera berus*), common lizard, sand lizard (*Lacerta agilis*) and slow worm. These native reptile species generally require open areas with low, mixed-height vegetation, such as heathland, rough grassland, and open scrub or, in the case of grass snake, waterbody margins. Suitable well drained and frost-free areas are needed so they can survive the winter.

Dormouse (*Muscardinus avellanarius*)

During the site walkover the potential for dormouse to be present on the site was assessed. This included observations for suitable habitat such as well-layered woodland, scrub and linking hedgerows, particularly those comprised of species offering suitable food sources such as honeysuckle and hazel, in addition to direct evidence such as characteristically gnawed hazelnuts, chewed ash keys and honeysuckle flowers, or nests.

Water Vole (*Arvicola amphibius*)

Water vole potential was assessed during the site walkover. The potential is identified by the presence of ditches, rivers, dykes and lakes with holes and runs along the banks. Latrines, footprints or piles of food can also be noted.

Otter (*Lutra lutra*)

Where desktop review or consultation indicates the presence of otter in a river catchment, the presence of water bodies with good cover and potential holt (den) sites would be noted. Spraint, footprints or food remains can also be noted.

Birds

During the site walkover, the potential for breeding, wintering and migratory birds was assessed. In particular, this includes areas of trees, scrub, heathland and wetlands that could support nests for common or notable species.

Invertebrates

As part of the site walkover the quality of invertebrate habitat and the potential for notable terrestrial and aquatic invertebrate species was considered. There is a wide variety of habitats suitable for invertebrates including wetland areas, heathland, areas of bare sandy soil, ephemeral brownfield vegetation and meadows.

Biodiversity Action Plan priority species/ Species of Principal Importance

Where consultation and desk-study indicates the presence of Biodiversity Action Plan (BAP) priority species (Species of Principal Importance) not protected by statute, effort was made to establish the potential for the site to support these species.

3.3 SURVEYORS

The site walkover was undertaken by Oliver Hamilton and Luke Measey.

Oliver Hamilton, who performed the site walkover, has a degree in Zoology (BSc Hons) and 1 years' experience in ecological surveying. Oliver assists in a variety of field surveys and related reports such as preliminary Ecological Appraisals and Protected Species Reports, providing recommendations on biodiversity enhancements.

Luke Measey, who performed the site walkover, has an undergraduate degree in Ecology and Environmental Management BSc (Hons). He holds a Natural England Level 1 Class Survey Licence for Great Crested Newt and Natural England Level 1 Class Survey Licence for bats. Luke has five years' experience in ecological survey and assessment.

Josh Hurdiss, who wrote this report, has a BSc (Hons) in Environmental Science with Employment Experience, gaining valuable expertise in ecological surveying and reporting through a year-long placement. His experience includes Preliminary Ecological Appraisals, bat activity and emergence, badger, great crested newts, reptile, water vole and nesting birds; and has assisted in multiple Biodiversity Net Gain assessments.

Francesca Thorley, who reviewed this report, has an undergraduate degree in Geography (BSc Hons) and a Master's degree in Biodiversity and Conservation (MSc), holds a Natural England Great Crested Newt Licence, is Certified to undertake River Condition Assessments and is an Associated Member of CIEEM. Francesca has over six years' experience in the commercial sector.

Alexandra Wadia, who verified this report, has a BSc (Hons) in Biology, and a MSc in Ecology & Environmental Management, and is a Full member of CIEEM. Alexandra holds a Natural England Great Crested Newt Licence and has over eight years' experience in ecological survey, assessment and reporting.

This report was written by Josh Hurdiss, reviewed by Francesca Thorley, and verified by Alexandra Wadia who confirms in writing (see the QA sheet at the front of this report) that the report is in line with the following:

- Represents sound industry practice;

- Reports and recommends correctly, truthfully and objectively;
- Is appropriate given the local site conditions and scope of works proposed; and
- Avoids invalid, biased and exaggerated statements.

3.4 CONSTRAINTS

The PEA was undertaken during a sub-optimal time of year (early November) which is outside of the recognised optimal season (April - September inclusive). Whilst this has meant that not all species that may be present within the habitats would be present at the time of the UKHab survey and therefore recorded, key indicator species were still present to categorise the habitats found on the site at the time of the site walkover. Therefore, it is not considered a significant constraint as key indicator species were present to be able to correctly identify the habitats present on the site.

The site walkover was undertaken outside of the breeding bird season, therefore it would be unlikely to see evidence of currently active nesting birds during the site walkover.

The data collated during the desk study is mainly derived from records submitted by members of the public and ad hoc surveys undertaken by volunteers. Therefore, it should not be taken as a definitive list of the protected species and other species of conservation concern that occur in the local area.

At the time of the site walkover there was no access to the internal courtyard of the former Novartis building, with habitats unable to be classified within this area. This also meant that the façade of the building within the courtyard could not be assessed for PRFs. In addition, no access was given to the interior or roof cavity of the former Novartis building to assess for bat roost suitability, or the building basement to assess for winter hibernation suitability. Therefore, suitability of these areas for summer roosting or hibernating bats were not assessed.

4.0 RESULTS

4.1 DESKTOP REVIEW

Designations

Consultations with the SxBRC and the MAGIC dataset have confirmed that there are no statutory designations of national or international importance within the boundary of the site. The site is located within a Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ) for St Leonard's Park Ponds SSSI and St. Leonard's Forest SSSI. However, this is not a constraint to the current proposals as they do not match any of the relevant triggers that would require consultation with Natural England.

Records from MAGIC indicate the site is within the water catchment of the Arun Valley Ramsar, Special Area of Conservation (SAC), and Special Protection Area (SPA) river catchment. However, this designated site is located 18 km south of the site.

There is one Local Nature Reserve (LNR), Warnham LNR, within a 2km radius of the site boundary. Records from SxBRC also identified four non-statutory Local Wildlife Sites (LWS) within 2km of the site boundary, the closest being Warnham Mill Pond LWS. LWS are recognised by Local Planning Authorities (LPAs) as important wildlife sites.

Table 4.1 below gives the locations and descriptions of all local designations within 2km of the site boundary.

Table 4.1 Statutory and Non-Statutory Designated Sites within Search Radius

Site Name	Approximate Location	Description
Statutory Designations		
Warnham Local Nature Reserve (LNR)	665 m northwest	Over 400 species of plants have been found, from common bird's-foot trefoil (*Lotus corniculatus*) to orchids, as well as many different fungi. Over 100 species of bird, including the grey herons with their thriving heronry and woodpeckers, are recorded annually. Kingfisher are joined by common terns in the summer which come to breed on the millpond. Also to be seen in the summer are many species of butterfly, from common blue (*Polyommatus icarus*) to silver-washed fritillary (*Argynnis paphia*) together with dragonflies of which over 21 species have been recorded. A walk through the reserve takes you through grassland meadow, ancient woodland and conifer and mixed broadleaved plantation.
Non-Statutory		
Warnham Mill Pond (LWS)	665 m northwest	The majority of this LWS is also designated under the LNR above. Warnham Mill Pond is dominated by the mill pond, a

Site Name	Approximate Location	Description
		large body of open water that is fed by two watercourses, the Boldings Brook and the Channels Brook. Extensive areas of alder (*Alnus glutinosa*) and willow (*Salix sp.*) wet woodland and tall swamp vegetation fringe the mill pond and line the watercourses. It also includes large areas of lowland mixed deciduous woodland overlooking the mill pond. Much of this comprises young planted pedunculate oak (*Quercus robur*) and ash (*Fraxinus excelsior*), with some scattered mature trees and young self-sown birch (*Betula sp.*). It also includes fields of species-rich lowland meadow grassland and wet, cattle-grazed holcus-juncus neutral grassland.
Leechpool & Owlbeech Woods (LWS)	1.51 km east	Leechpool Wood consists of mainly oak with some sweet chestnut (*Castanea sativa*), pine (Pinus sp.), beech (Fagus sp.), and birch. Holly (*Ilex aquifolium*) dominates the shrub layer. With areas of bramble (*Rubus fruticosus*), bracken (*Pteridium aquilinum*), and bluebell (*Hyacinthoides non-scripta*), but increases in diversity on the lower slopes where species such as wood anemone (*Anemone nemorosa*), wood-sorrel (*Oxalis acetosella*), and common cow wheat (*Melampyrum pratense*) are also found. Alder trees grown from coppice occur along the streams. The ground here is waterlogged, and supports lesser spearwort (*Ranunculus flammula*), purple moor-grass (*Molinia caerulea*), various sedges (*Carex sp.*) with abundant sphagnum beneath. Owlbeech Wood is predominantly a scots pine (*Pinus sylvestris*) plantation, remnants of the old heathland flora remain.
Denne Road Cemetery (LWS)	1.53 km south	A small urban Victorian cemetery with a mosaic of habitats including mixed woodland, grassland and scattered trees. The site includes records for a number of notable species from a range of taxonomic groups. The site includes historic records for the notable lichen species *Caloplaca vitellinula* and *Porpidia platycarpoides* with a mixed mosaic of woodland, neutral grassland, scattered trees and tall herbs. The site includes historic records for the notable lichen species *Caloplaca vitellinula* and *Porpidia platycarpoides*. The site has limited ecological connectivity, with the exception of the adjacent

Site Name	Approximate Location	Description
		railway line which will facilitate dispersal of hedgehogs and reptile species.
Chesworth Farm (LWS)	1.64 km south	Chesworth Farm LWS comprises fields of semi-improved neutral grassland bound by a network of species rich hedgerows, together with a complex of wetland habitats next to the River Arun. The hedgerows are a historical feature of the site and a notable habitat. The hedgerows and the river also provide important connective habitat across the site and connect with the wider landscape beyond the LWS. The wetland area increases further the diversity of habitats and species within the site. This includes rush pasture another notable habitat and the nationally rare and endangered plant cut-grass. Chesworth Farm is also important for birds with 96 species recorded across the LWS over the last ten years.

Biodiversity Action Plans

UK Biodiversity Action Plans (BAPs) have been developed which set priorities for nationally important habitats and species. To support the BAPs, Species/Habitat Statements (otherwise known as Species/Habitat Action Plans) were produced that provide an overview of the status of the species and set out the broad policies that can be developed to conserve them. A list of priority species of conservation importance was also developed.

The UK BAP was succeeded in 2012 by the UK-Post 2012 Biodiversity Framework which informed the creation of the Biodiversity 2020 strategy; England's contribution towards the UK's commitments under the United Nations Convention of Biological Diversity.

Despite this, the UK BAP priority species lists and conservation objectives still remain valid through integration with local BAPs (which remain valid), and in the form of the Habitats and Species of Principle Importance list (as required under section 41 of the Natural Environment and Rural Communities (NERC) Act).

The following UK BAP priority habitats were present within 2km of the site:

- Deciduous woodland 480 m southwest;
- Ancient woodland 850 m north;
- Wood pasture and parkland 1.33km northwest;
- Good quality semi-improved grassland (non priority) 1.58 km southwest;
- Ancient replanted woodland 1.72 km east; and
- Lowland meadows, 1.72 m south.

Local Biodiversity Action Plans (LBAPs) ensure that national action plans (the UK BAP/Biodiversity 2020) are translated into effective action at the local level and establish targets and actions for locally characteristic species and habitats.

It should also be noted that the SxBRC returned multiple records for ancient or veteran trees, the closest of which being approximately 100m northeast of the site boundary.

West Sussex BAP

It is understood that all Sussex BAPs have been archived and are no longer of specific relevance to the site.

Species Record

The information provided in the biological data search from SxBRC identified records of a large number of protected and priority species within 2km search radius of the site.

Amphibians: 354 amphibian records were returned between 2014 and 2024. Records identified four species within 2km of the site including common toad (*Bufo bufo*), natterjack toad (*Epidalea calamita*), common frog (*Rana temporaria*), smooth newt (*Lissotriton vulgaris*) and pool frog (*Pelophylax lessonae*). The closest record to the site was a smooth newt 220 m north of the site in 2021.

Bats: 167 bat records were returned between 2014 and 2024. Records identified 12 species within 2km of the site, including common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), serotine (*Eptesicus serotinus*), Natterer's bat (*Myotis nattereri*), Leisler's bat (*Nyctalus leisleri*), noctule bat (*Nyctalus noctule*), Nathusius's pipistrelle (*Pipistrellus nathusii*), brown long-eared bat (*Plecotus auritus*), Daubenton's bat (*Myotis daubentonii*), unidentified pipistrelle bat species (*Pipistrellus spp.*), unidentified bat species (*Chiroptera spp.*) and whiskered bat (*Myotis mystacinus*). The closest records to site were identified 700m northwest in Warnham nature reserve and related to all species returned, apart from unidentified bat species and soprano pipistrelle bat, between 2014 and 2024.

Birds: 4396 bird records were returned between 2014 and 2024. Off these, records identified 68 species within 2km of the site. Species returned can be seen in Appendix C. The closest record was a lesser black-backed gull from 2022, approximately 390 m south of the site.

Invertebrates: 3054 invertebrate records were returned between 2014 and 2024. Records identified 144 species within 2km of the site. Species returned can be seen in Appendix C. The closest record was a brown hairstreak butterfly (*Thecla betulae*) approximately 100m north of the site from 2020.

Mammals: Of records returned, 102 notable mammal records were returned between 2014 and 2024. Four species were returned including Western European hedgehog (*Erinaceus europaeus*), harvest mouse (*Micromys minutus*), hazel dormouse (*Muscardinus avellanarius*) and polecat (*Mustela putorius*). The closest record to the site was European hedgehog 15 m north from 2014.

Plants: 154 protected plant species records were returned between 2014 and 2024. Records identified 31 species within 2km of the site, however only one plant was protected as per Schedule 8 of the Wildlife and Countryside Act (WCA) (1981) as amended, which was bluebell, as such the closest

protected plants recorded were located 700 m northwest in Warnham nature reserve and included bluebell.

Reptiles: 404 reptile records were returned between 2014 and 2024. Three species including slow-worm, common lizard and grass snake were returned within the desk study. The records found closest to the site were 700 m northwest in Warnham nature reserve and related to all species returned between 2014 and 2024.

The species listed above are primarily those known to be in the area that may be impacted by any proposals at the site, or that stand to benefit as a consequence of potential ecological enhancements at the site and inform site-specific mitigation and enhancement recommendations described in the following chapter.

4.2 DETAILED DESCRIPTION OF SITE: HABITATS

The habitats presented across the assessment site consist of the following UKHab categories, as mapped at Figure A.1, with photographs of the site provided in Appendix B.

- Sparsely vegetated urban land (u1f) [10 - scattered scrub, 32 - scattered trees, 81 - ruderal or ephemeral, 82 - vacant or derelict land, 524 invasive non-native species];
- Developed land; sealed surface (u1b) [10, 32, 81, 82, 524];
- Building (u1b5);
- Other standing water (r1g)
- Dense scrub (h3) [524]
- Bramble scrub (h3d); [16 - tall forbs, 32, 81, 82, 524];
- Other neutral grassland (g3c) [10, 32, 524];
- Modified grassland (g4) [10, 14 - scattered rushes, 16 - tall forbs, 32, 524];
- Other woodland - mixed - mainly conifer (w1h6);
- Other native hedgerow (h2a6); and,
- Willow scrub (h3j) [524].

Sparsely vegetated urban land (u1f) [10 - scattered scrub, 32 - scattered trees, 81 - ruderal or ephemeral, 82 - vacant or derelict land, 524 invasive non-native species]

Sparsely vegetated urban land was the predominant habitat on the site which had succeeded on vacant/derelict land, comprising of ruderal or ephemeral, with scattered scrub and scattered trees across its extent. Growing medium included shallow soils, cracked concrete and building materials, intact concrete and established soils.

This habitat is split into two primary areas across the site, the largest of which was in the middle of the site and extended along the southern boundary and below the former Novartis building. The second area has a smaller extent and is located in the middle of the site towards the northern boundary, surrounded by scrub, grassland, and developed land. Dominant species were rough hawkbit (*Leontondon hispidus*) and sliver birch (*Betula pendula*). The silver birch were all young and self-set at a height of no more than 3m, therefore not tall enough to classify as individual tree but captured under the scattered trees secondary code. Occasional species included grass species festuca species (*Festuca sp.)* and Yorkshire fog (*Holcus lanatus*), with occasional horseweed (*Erigeron canadensis*). Rare species included blackthorn (*Prunus spinosa*), wild strawberry (*Fragaria vesca*), dandelions (*Taraxacum sp.*), toadflax-leaved St John's wort (*Hypericum linariifolium*), yarrow (*Achillea millefolium*), selfheal (*Prunella vulgaris*), germander speedwell (*Veronica chamaedrys*), and black medick (*Medicago lupulina*). Buddleia (*Buddleia davidii*) was spread across the habitat.

Developed land; sealed surface (u1b) [10, 32, 81, 82, 524]

Developed land; sealed surface was wider spread across the site, with small area of ruderal or ephemeral species spread across the habit. These species primarily included ribwort plantain (*Plantago lanceolata*) and Canadian fleabane (*Erigeron canadensis*). Buddleia was spread across the habitat.

The courtyard inside the former Novartis building consisted of developed land; sealed surface with abundant buddleia, frequent bramble, occasional pendulous sedge (*Carex pendula*) with rare occurrences of Common Fleabane (*Pulicaria dysenterica*) and rose sp. (*Rosa sp.*). Three trees can be found within the courtyard; T36 and T37. These were both Judas trees (*Cercis siliquastrum*). T37 had birds' nests present (TN2 in Appendix A) and an additional maple tree was found which was not included in the arboricultural report[11].

Building (u1b5)

The former Novartis building was the only existing building on site and was situated at the eastern boundary of the site.

The former Novartis building is constructed out of brick with windows running along the full extent of each story. In addition, the former Novartis building is known to have an enclosed central courtyard area that contains a pond. The building is split into two main sections, the western section and the eastern section. The western section is primarily three stories in height with a five-story tower located in the centre. The roof of the western section is tiled and pitched along the edges and leads to a flat roof. The eastern section is five stories in height and has a flat roof.

The building was in generally good condition overall; however, some small areas of mortar below the concrete eves had started to crumble, with a larger gap between the metal parapet and the concrete wall on the eastern elevation that ran along the entire extent.

Other standing water (r1g)

Within the courtyard of the former Novartis building is a small ornamental concrete pond raised 50cm from the ground on all sides. This pond contained invasive pygmy weed (*Crassula aquatica*), as well as water thyme (*Hydrilla sp*), bullrush (*Typha latifoli*), bramble, moss sp., pendulous sedge, and filamentous algae.

Dense scrub (h3) [524]

Dense scrub was located on the southeastern periphery of the courtyard in the former Novartis building containing non-native introduced shrub species and willow scrub. This area was dominated by buddleia with occasional species including willow sp. and pendulous sedge (*Carex pendula*) and frequent species including bramble. Rare species include hart's tonguefern (*Asplenium scolopendrium*), Franchet's cotoneaster (*Cotoneaster franchetii*), box-leaved honeysuckle (*Lonicera pileata*) and Himalayan honeysuckle.

Bramble scrub (h3d); [16 - tall forbs, 32, 81, 82, 524]

Bramble scrub was dominant along large sections of the northern and southern site boundaries which had succeed on vacant or derelict land, containing tall forbs [16] and ruderal or ephemeral species.

The habitat was dominated by bramble. Frequent sliver birch was also present across the habitat, all young and self-set at a high of no more than 3 m tall, therefore not tall enough to classify as individual tree but captured under the scattered trees secondary code. Occasional species of pedunculate oak and traveller's joy (*Clematis vitalba*) were recorded. Rare species consisted of cherry laurel (*Prunis laurocerasus*), grey willow (*Salix cinerea*), goat willow (*Salix caprea*), large-leaved lime (*Tilia platyphyllos*), holly, hawthorn (*Crataegus monogyna*), and dogrose (*Rosa Canina*). Cotoneaster species (*Cotoneaster sp.*) was rare across both areas of scrub. Buddleia was spread across the habitat and the site.

Scattered trees were present amongst the bramble scrub, with several recorded along the northern boundary and a couple along the southern boundary. Species recorded included small-leaved lime (*Tilia cordata*), common lime (*Tilia x europaea*), London plane (*Platanus x acerifolia*), sycamore (*Platanus occidentalis*), and Norway maple (*Acer platanoides*).

The northern half of the courtyard within the former Novartis building is dominated by bramble scrub with an understorey of pendulous sedge, Yorkshire fog and scattered buddleia and Himalayan honeysuckle (*Leycesteria formosa*).

Other neutral grassland (g3c) [10, 32, 524];

Other neutral grassland habitat was located throughout the site in patches towards the west, centre, and east of the site, with the largest area located in the northeastern corner of the site. Parcel references have been assigned to each area of this habitat across the site, as shown in Figure A.1. Parcels B and C were fenced off by metal fences.

Parcel references A and B, as shown in Figure A.1, were considered to be in poor condition due to lack of species diversity, an abundance of bare ground and bracken, and high levels of physical damage. These areas of grassland were dominated by common bent (*Agrostis capillaris*), with frequent Yorkshire fog. Occasional species included cock's foot (*Dactylis glomerata*), bramble, festuca species, ribwort plantain, and goat willow. Rare species included herb-Robert (*Geranium robertianum*), hoary willowherb (*Epilobium parviflorum*), common sedge (*Carex nigra*), wild strawberry, ranunculus species (*Ranunculus sp.*), hoary ragwort (*Jacobaea erucifolia*), red clover (*Trifolium pratense)*, Himalayan honeysuckle, soft-rush (*Juncus effusus*), black pine (*Pinus nigra*), and gorse (*Ulex europaeus*).

Parcel references C and D, as shown in Figure A.1, were considered to be in moderate condition as these were a good example of the habitat, but lacked species diversity. This area was dominated by festuca species, with abundant annual meadow-grass (*Poa annua*). Occasional species included creeping bent (*Agrostis stolonifera*), dandelions, hawthorn, Norway maple, and goat willow. Rare species included herb-Robert, holly, pedunculate oak, hoary ragwort, and large-leaved lime.

Parcels references E and F, as shown in Figure A.1, with the latter being the largest area of grassland across the site, were considered to be in good condition due containing at least 10 species per metre squared (m^2). Species composition included dominant creeping bent, and frequent creeping cinquefoil (*Potentilla reptans*), ranunculus species, and rumex species (*Rumex sp.*). Occasional species included bristly oxtongue (*Helminthotheca echi*oides), black medick, common fleabane, common bird's-foot-trefoil, bramble, and hawthorn. Rare species included hoary ragwort, dove's-foot crane's-bill (*Geranium molle*), white clover (*Trifolium repens*), selfheal (*Prunella vulgaris*), pedunculate oak, soft-rush, common vetch (*Vicia sativa*), greater plantain (*Plantago major*), *Carex* sp., oxeye daisy (*Leucanthemum vulgare*), creeping thistle (*Cirsium arvense*), wild strawberry, and germander speedwell (*Veronica chamaedrys*).

Cotoneaster species were located in rare patches within area of the habitat towards the centre of the site. In addition, a small patch of rhododendron species (*Rhododendron sp.*) was recorded on the in this habitat (TN1, Figure A.1). Buddleia was spread across the habitat.

Scattered trees were present amongst all habitat parcels, with the highest densities of trees located in the centre of the site and along the northern boundary. Species recorded included common lime, small-leaved lime, atlas cedar (*Cedrus atlantica*), and cedar species (*Cedrus sp.*).

Modified grassland (g4)

[10, 32, 524]

An area of modified grassland was located in the northwest corner of the site, containing scattered scrub and scattered young self-seeded trees. The grass contained a variety of plant species between six to eight per m^2 and was considered a good representation of the habitat apart from the strong encroachment of scrub and areas of bare ground. The habitat consisted of dominant common bent, with frequent Yorkshire fog. Occasional species included bramble, festuca species, ribwort plantain, and goat willow. Rare species considered of herb-Robert, hoary willowherb, common sedge, wild strawberry, *Ranunculus* species, and hoary ragwort. Buddleia was spread across the habitat.

The southern half of the courtyard within the former Novartis building consisted of modified grassland. Dominant species include common bent, frequent species include willow (*Salix* sp.), Yorkshire fog, germander speedwell and pendulous sedge, occasional species include bramble and dandelions. Rare species include creeping buttercup (*Ranunculus repens*), common ragwort (*Jacobaea vulgaris*), *leucanthemum* x *superbum*, cat's-ear (*Hypochaeris radicata*), ribwort plantain and buddleia.

[10, 14 - scattered rushes]

At the western entrance, to the north of the entrance road, modified grassland was present and was dominated by perennial rye grass (*Lolium perenne*), frequent bramble and common reed (*Phragmites australis*), and occasional cock's foot. The grass did not contain a variety of plant species between six to eight per m^2 and was not considered a good representation of the habitat due to the encroachment by scrub and consistent sward height.

[16 - tall forbs]

At the western entrance, to the south of the entrance road, modified grassland was present and was dominated by perennial rye grass, with abundant creeping buttercup, frequent fescue species (*Festuca spp.*) and occasional bramble, creeping thistle, common daisy (*Bellis perennis*) and cleavers (*Galium aparine*). The grass contained a variety of plant species between six to eight per m^2 and was considered a good representation of the habitat apart from the consistent sward height and areas of bare ground.

Other woodland - mixed - mainly conifer (w1h6)

Along the western boundary a patch of woodland is present. It is dominated by Leyland cypress (*Cupressus x leylandii*), with frequent beech (*Fagus sylvatica*) and occasional silver birch. Also present are rare wild cherry (*Prunus avium*), Norway maple, holly, elder (*Sambucus nigra*) and sycamore trees. The ground flora consists of abundant bramble and common ivy (*Hedera helix*). Trees spanned a range of ages, however no veteran trees were present. Structurally the trees only comprised two storeys and some dead wood was present.

Other native hedgerow (h2a6)

A section of other native hedgerow is present along the western boundary. It measures approximately 30m in length and is dominated by beech with abundant holly and rare common lime. The hedgerow was continuous, with management evident, to ensure there was no encroachment of the hedgerow on to the footpath adjacent. The hedgerow was approximately 3.5 m tall, however the width could not be ascertained due to access restrictions to the hedgerow on the site side by fencing.

Willow scrub (h3j) [524]

Two areas of willow scrub habitat were located in the north and southwest corners of the site. This habitat was dominated by grey willow and bramble. Rare species included hawthorn, pedunculate oak, silver birch, hoary willowherb, and common reed. Buddleia was spread across the habitat.

4.3 DETAILED DESCRIPTION OF SITE: SPECIES

Amphibians

There are no records of GCN within 2km of the site, however five other amphibian species such as common toad, natterjack toad, pool frog, common frog and smooth newt were identified within 2km.

Using MAGIC[8], two GCN pond surveys 2017-2019 were identified within 2km of the site, both of which were undertaken in 2019 within the Warnham LNR, with the closest being located approximately 1.04 km northwest of the site. Both surveys confirmed likely absence of GCN. No European Protected Species (EPS) mitigation licences were found within 2 km of the site.

The ornamental pond present within the courtyard on the site is raised by 50cm making it likely inaccessible for amphibian species, moreover there was no evidence of suitable hibernaculum within the courtyard. The pond is also surrounded and enclosed entirely within a courtyard in the middle of the former Novartis building.

A thorough inspection of the former Novartis building's exterior was performed, with no clear or obvious commuting corridors that could be used to access the pond from the outside. Therefore, the pond is considered to be fully isolated by the former Novartis building. In addition, the site is enclosed with a wooden hoarding fence line that showed no obvious signs of damage or gaps at its base, likely hindering passage onto the site to some extent. Where the wooden hording fence is not present, habitats border on to Wimblehurst road.

No additional waterbodies were identified within 500 m of the site.

Therefore, site considered to have **negligible suitability** for amphibians and they will not be discussed further within this report.

[redacted]

[redacted]

Bats

Foraging

Records of bats were returned within the desk study.

The unmanaged mosaic of ground level vegetation, trees (including woodland) and scrub and the lack of any artificial lighting, means the site is suitable for foraging bats. The suitable habitats on site are connected to the wider landscape via the railway line immediately to the south. The railway corridor provides suitable foraging and commuting habitats such as trees and scrub. The vegetated corridor of the railway links the site to woodland within the Warnham LNR.

Therefore, the site is considered to have **moderate suitability** for foraging and commuting bats.

Roosting

Summer/Transitional

Using MAGIC[8], five records of EPS mitigation licences relating to roosting bats were found within 2km of the site. The closest of these pertained to the destruction of a common pipistrelle resting place from 2014-2019 (2014-3464-EPS-MIT), located approximately 800 m southeast of the site. Two pertained to the destruction of a common pipistrelle and brown long-eared bat resting place from 2013-2015 (EPSM2013-6687) and 2015-2020 (2015-8735-EPS-MIT) respectively, with the closest located approximately 1 km north of the site. One record pertained to the destruction of a brown long-eared bat resting place from 2012-2014 (EPSM2012-4231) located approximately 1.60 km east of the site. The final licence pertained to the damage of a common pipistrelle resting place from 2016 (2016-26580_EPS-MIT) located approximately 1.72 km south of the site. None of these are considered linked to the site through suitable habitat corridors.

The former Novartis building is the only existing building on the site, which at the time of the site walkover was in good condition, with no brick work damage or missing tiles. However, there were small mortar gaps present directly below the concrete eves on multiple elevations, with a larger gap between the metal parapet and the concrete wall on the eastern elevation that ran along the entire extent, shown in Plate B.6, Plate B.7, and Plate B.8, , and. However, at the time of the site walkover there was no access to the building's internal courtyard, and as such, PRFs may not have been identified. It should be noted that no PRFs were directly referenced within the 2022 Ecology & Habitat Management Ltd PEA[3].

The former Novartis building is considered to have **low suitability** for summer roosting bats.

In total, seven trees on the site were identified as having PRFs, as shown in Table 4.2 below, with the remaining trees on site determined to have no PRFs and therefore no value for roosting bats. Overall, three trees (T1, T5, and T6) on the site were assessed as FAR as per the bat conservation trust guideline[10] methodology as their level of suitability could not be confidently determined without further inspection. Three trees (T2, T3 and T4) was assessed as PRF-I, due to the size and exposure of the features on them.

Table 4.2 PRFs and Suitability re. trees within the site

Tree Reference (TCP Ref)	Species	WhatThreeWords	Grid Reference	Description of PRF's	Suitability Level
T1	Atlas cedar	///think.shares.send	TQ 17726 31886	Two small callus rolls on branch southeast and west facing	FAR
T2	Atlas cedar	///muddy.frost.drop	TQ 17715 31868	Small callus roll northwest facing	PRF-I
T3	Atlas cedar	///natively.match.tribune	TQ 17727 31859	Callus roll facing northeast at the base of two branches facing upwards and pruning wound southeast facing	PRF-I
T4	Atlas cedar	///reef.weedy.metals	TQ 17745 31848	Woodpecker hole southeast facing and flaking bark north facing	PRF-I
T5	Atlas cedar	///porch.point.beam	TQ 17764 31833	Callus roll near the top of the crown facing east and woodpecker hole facing southeast. Upwards split branch southeast facing	FAR
T6	Atlas cedar	///folds.look.thing	TQ 17782 31819	Two woodpecker holes facing	FAR

Tree Reference (TCP Ref)	Species	WhatThreeWords	Grid Reference	Description of PRF's	Suitability Level
				east and southeast, and one callus roll facing southwest	

Winter hibernation

The 2022 Ecology & Habitat Management Ltd PEA[3] referred that the former Novartis building has a basement. No access was given to the basement and therefore its suitability to support winter hibernating bats could not be assessed during the site walkover.

Therefore, suitability for hibernating bats will be assessed once a further survey inspecting it internally has been completed.

Birds

A total of 27 protected bird species have been recorded within 2km of the site.

During the updated walkover on 25th February 2025 the courtyard was accessed, nests were confirmed on T37 in the courtyard (TN2 in Appendix A) of the former Novartis building, however no nesting activity was observed. Song thrush (*Turdus philomelos*) was seen landing within the site. In addition, a singular peregrine falcon and two kestrels (*Falco tinnunculus*) were observed landing on the flat roof of the former Novartis building, with no apparent suggestion of active nesting at the time of the survey. It should be noted that the site walkovers were undertaken outside of the breeding bird season.

The tower to the west of the former Novartis building and the flat roofs all provide suitable habitat for peregrine falcons to nest. In addition, during the PEA undertaken by Ecology & Habitat Management Ltd[3] in 2022, peregrine falcons were confirmed to be nesting on the roof of the former Novartis building. Therefore, it is likely that the flat roof of the former Novartis building is still suitable for the nesting of these species. Peregrine falcons are listed under Schedule 1 of the WCA (1981) as amended.

Red kite (*Milvus milvus*), redwing (*Turdus iliacus*), dunnock (*Prunella modularis*) and starling (*Sturnus vulgaris*) thrive in suburban and fragmented habitats containing areas of scrub and grassland, which is present on the site largely in the form of bramble and willow scrub and other neutral grassland. The sparsely vegetated habitat also provides suitable foraging habitat for black redstart (*Phoenicurus ochruros*), with the former Novartis building providing potential suitability for nesting. The breeding of the species has been confirmed within the wider Sussex area, recorded on the European Breeding Bird Altas 2 (EBBA 2)[12]. Anecdotal records of black redstart have also been recorded within the Horsham District Council area[13].

The uneven rubble covered ground on the site and the flat roof of the former Novartis building also provides suitable nesting conditions for populations of gulls such as Mediterranean gull (*Ichthyaetus melanocephalus*) and herring gull (*Larus argentatus*).

No waterbodies surrounded by suitable habitat are present for Cetti's warbler (*Cettia cetti*) or white-fronted goose (*Anser albifrons*), with records of these two species being returned by SxBRC.

Notable birds listed in the desk study include nightingale (*Luscinia megarhynchos*), which are known to be present in the south/southeast of England[14], with suitable scrub habitat present on the site. In addition, house sparrow (*Passer domesticus*), which if suitable could use the former Novartis building for nesting, bullfinch (*Pyrrhula pyrrhula*), and grasshopper warbler (*Locustella naevia*). These species could utilise the dense vegetation such as the bramble scrub and grassland present on the site, which provides a limited source of berry and seed producing plants. Records of many farmland specialists such as lapwing (*Vanellus vanellus*), yellowhammer (*Emberiza citrinella*), lesser redpoll (*Acanthis cabaret*), brambling (*Fringilla montifringilla*), linnet (*Linaria cannabina*) and fieldfare (*Turdus pilaris*) were also returned, likely due to a high concentration of farmland in the wider vicinity. However, no farmland habitats are present on or adjacent to the site, making it unlikely to be used by these species. Predatory species like merlin (*Falco columbarius*), marsh harrier (*Circus aeruginosus*) and barn owl (*Tyto alba*) require areas of undisturbed farmland and marshland to forage which are not present on the site.

Due to the likelihood of peregrine falcon breeding on the site, suitable habitat on the site for black redstart breeding and foraging and returned records for nightingale within 2 km of the site, the site is considered to have confirmed presence of Schedule 1 birds and **confirmed nesting birds.**

Dormouse

One record of dormouse was found 2km north of the site. Using MAGIC[8] one record of EPS Mitigation Licences pertaining to hazel or common dormouse were found within 2km of the site. This pertained to the destruction of a resting and breeding place from 2019-2024, with no direct connection between this record and the site. Woodland and hedgerow habitat exists on site, however, these are small areas only, and do not provide a significant enough range of species to sustain a dormouse population. The woodland is disconnected from other parcels of woodland and has a limited scrub understory. The section of hedgerow present on the site is not connected to any further hedgerow habitat and the adjacent Wimblehurst road would be a source of disturbance for dormice in terms of noise and vibration, as well as cutting off connectivity in the area to other suitable habitats.

Therefore, the site has been assessed with **negligible suitability** and will not be discussed further within this report.

Invertebrates

Invertebrate species were returned within the desk study. The mosaic of vegetation and habitats on the site are likely to create a range of niches supporting a range of invertebrate species. A number of species recorded persist in disturbed and brownfield sites similar to the early successional communities found on site. These include the jersey tiger (*Euplagia quadripunctaria*) a European protected species as

well as: dingy skipper (*Erynnis tages*), lasiommata megera, grizzled skipper (*Pyrgus malvae*), small phoenix (*Ecliptopera silaceata*), garden dart (*Euxoa nigricans*), rosy rustic (*Hydraecia micacea*), shaded broad-bar (*Scotopteryx chenopodiata*), blood-vein (*Timandra comae*), pale eggar (*Trichiura crataegi*), cinnabar (*Tyria jacobaeae*) and latticed heath (*Chiasmia clathrata*).

Species that could persist in the scrubland on the site include shoulder-striped wainscot (*Leucania comma*), rosy minor (*Mesoligia literosa*), brindled beauty (*Lycia hirtaria*) and mouse moth (*Amphipyra tragopoginis*).

Species records returned specific to woodland habitats included the stag beetle (*Lucanus cervus*) white admiral (*Limenitis camilla*), grey dagger (Acronicta psi), sprawler (*Asteroscopus sphinx*), centre-barred sallow (*Atethmia centrago*), light crimson underwing (*Catocala promissa*), dark crimson underwing (*Catocala sponsa*), figure of eight (*Diloba caeruleocephala*), September thorn (*Ennomos erosaria*), lackey (*Malacosoma neustria*) and oak hook-tip (*Watsonalla binaria*). These species usually require more heavily wooded habitats, but with the presence of deadwood within the small patch of woodland that exists on , and from the scrub and other trees present on site, there is a small possible such species could utilise the site.

The records included species specific to grassland, chalk grassland, meadows and parkland, these include knot grass (*Acronicta rumicis*), beaded chestnut (*Agrochola lychnidis*), green-brindled crescent (*Allophyes oxyacanthae*), ear moth (*Amphipoea oculea*), small emerald (*Hemistola chrysoprasaria*), ghost moth (*Hepialus humuli*), dot moth (*Melanchra persicariae*), powdered quaker (*Orthosia gracilis*), deep-brown dart (*Aporophyla lutulenta*), mullein wave (*Scopula marginepunctata*), white ermine (*Spilosoma lubricipeda*), buff ermine (*Spilosoma lutea*), feathered gothic (*Tholera decimalis*) and the dark-barred twin-spot carpet (*Xanthorhoe ferrugata*). The grassland on site is widespread with parcels that contain a good variety of species diversity and sward height, increasing the likelihood of these species could utilise the site.

Records returned related to species specific to damp woodland, grassland and reedbeds included dusky brocade (*Apamea remissa*), minor shoulder-knot (*Brachylomia viminalis*), sallow (*Cirrhia icteritia*), small square-spot (*Diarsia rubi*), crescent (*Helotropha leucostigma*), oblique carpet (*Orthonama vittata*), grass rivulet (*Perizoma albulata*), large wainscot (*Rhizedra lutosa*) and thin weblet (*Agyneta mollis*). These species require wetland plant communities such as reedbeds and damp fenland are not present on the site, therefore these species are not likely to be present on the site.

Due to the volume of records and suitable habitats on the site, the site is considered to be of **high suitability** for protected invertebrate species.

Reptiles

Records of slow-worm, common lizard, and grass snake were returned within the desk study.

A presence/absence survey which was undertaken in 2022[3] confirmed the presence of slow-worm and common lizard on the site. Across the wider site, a "good population" of common lizard and a "low population" of slow worms were recorded.

Pieces of smashed concrete and rubble were spread across the site with mosaics of low growing vegetation, bare ground, grassland, and scrub habitats. These provided a combination of suitable habitats for reptile basking across the site. No significant areas suitable for hibernation, such as rubble piles, were identified on the site, although the larger pieces and densities of broken concrete and rubble potentially offer some limited suitability.

Reptiles have **confirmed presence** on site.

Riparian mammals

There are no suitable waterbodies, watercourses, or suitable riparian habitats present on or around the within 30m. In addition, there is limited connectivity between the site and the nearest watercourse, located approximately 785m west of the site, with disturbance from the adjacent roads and railway.

Therefore the is determined to have **negligible suitability** to support riparian mammals and will not be discussed further within this report.

Protected Plant Species

Bluebell was the only protected plant species recorded within 2km. This species is typically found in woodlands and along woodland edges. Bluebells are often rare and are mostly associated with ancient woodland or broadleaved woodland which the woodland on the site is not. No other protected plant species were identified on the site at the time of the site walkover.

Therefore, the site is considered to be of **negligible suitability** to support protected plant species and will not be discussed further within this report.

Invasive/Non-native species

Cotoneaster was recorded in patches across the habitats of bramble scrub and central area of other neutral grassland on the site, with identification down to the species level not possible. Five species of cotoneaster are included on Schedule 9 of the Wildlife and Countryside Act (1981) (as amended) (WCA 1981 (as amended))[24], and due to the time of year, identification to species level was not possible. Therefore, a precautionary approach has been taken.

Rhododendron was recorded in one small patch towards the northeast of the site (TN1, Figure A.1), with identification down to the species level not possible. Three species of rhododendron are included on Schedule 9 of the WCA 1981 (as amended)[24], and due to the time of year, identification to species level was not possible. Therefore, a precautionary approach has been taken.

Pygmy weed was identified within the pond on site which is another species listed under Schedule 9 of the WCA[24]. In addition, buddleia which has invasive tendencies and is widespread across the site is listed on the West Sussex Country Council invasive species list[15], making it a regional invasive species.

Therefore, invasive non-native species presence is **confirmed on site**.

Other BAP Species

Hedgehog

Records of hedgehog were returned within the desk study. The woodland and bramble and willow scrub on the site does provide suitable habitat for foraging and refuge, as they will support ground dwelling invertebrate species and fallen fruit for foraging.

The railways bordering the site and residential gardens in close proximity could act as a habitat corridor. However, access to the site is likely to be partially inhibited by the boundary wooden hoarding fence line that showed no obvious signs of damage or suitable gaps at its base. Where the wooden hording fence is not present, habitats border on to Wimblehurst road.

Due to the extensive suitable foraging and refuge habitat present on site and boarding habitat corridors, the site is determined to have **moderate suitability** for hedgehogs.

Mammals

Records of harvest mouse and polecat were returned within the desk study. These species require woodland, which was found on the site and farmland habitat or riverbanks, none of which are present on the . The woodland that was found on the site was a small area and is disconnected from other parcels of woodland and has a limited scrub understory. It is also adjacent Wimblehurst road which would be a source of disturbance for these species in terms of noise and vibration, as well as cutting off connectivity in the area to other suitable habitats.

Therefore, the site is determined to have **negligible suitability** and these species will not be discussed further within this report.

5.0 EVALUATION AND DISCUSSION

5.1 BASELINE SUMMARY

The site has potential to support the following ecological receptors of note, which could therefore be impacted upon by any future prospective development proposals, as indicated in Table 5.1 below. Comment on further recommendations for each receptor is provided; further detail and discussion can be found at paragraph 5.2 onward:

Table 5.1 Baseline Summary

Receptor	Presence/Potential Presence	Comments
Designated Sites: Statutory	Confirmed Presence	The site lies within the catchment linked to the Arun Valley Ramsar, SPA, SAC which is susceptible to water demand. As a result of this development a water neutrality statement would be required. The nearest designated site is Warnham Local Nature Reserve LNR located approximately 665 m northwest of the site. This distance from the site means indirect impacts such as dust pollution are unlikely to negatively impact on the designated site, with works likely to comply with best practice construction measures such as dust suppression. The site also lies within the SSSI IRZ for St Leonard's Park Ponds SSSI and St. Leonard's Forest SSSI. However, the planned uses of the site and its redevelopment type do not fall into one of the defined sensitive development categories, indicating that the development is unlikely to pose a risk to these SSSIs. No further assessment is therefore considered necessary.
Designated Sites: Non-Statutory	Confirmed Presence	Four LWS are located within 2km, the closest site being Warnham Mill Pond LWS located approximately 665 m northwest of the site. This majority of this site is also designated under LNR above, as per the comments above, no further assessment is therefore considered necessary.

Receptor	Presence/Potential Presence	Comments
Notable/Rare Habitats	Absent	The closest priority habitat is deciduous wood located approximately 480 m southwest of the site. Therefore, it is unlikely to be affected by the construction activities or proposed development on the site.
Badger	Low	The site has low suitability to support foraging and commuting badger across the site, with suitable habitats including woodland, scrub and grassland. No further surveys are required; however, a Construction Environment Management Plan (CEMP) should be produced which details mitigation measures to ensure the construction period of the development does not have detrimental impacts to badger. This is detailed below.
Foraging bats	Moderate	Given the size of the site, the suitable habitats present, and the likely planned removal of key features such as individual trees, scrub, and grassland, further bat activity surveys are necessary. Measures to maintain the sites suitability for foraging and commuting bats post-development are applicable, outlined below.
Roosting bats	Low (buildings) and FAR (trees)	Former Novartis building of low suitability and five trees (T1, T3, T4, T5, T6) require further assessment. Emergence bat survey to inform bat presence/likely-absence re. buildings and PRF inspection survey(s) to categorise tree PRF suitability levels is recommended.
Birds	Confirmed presence / High	Breeding bird surveys are necessary. This is due to the confirmed presence of peregrine falcon on the site, returned records of notable species, and high densities of suitable nesting habitat found on the site including scrub, individual trees, trees within the

Receptor	Presence/Potential Presence	Comments
		woodland, and grassland. Measures are outlined below.
Invertebrates	High	Suitable habitat on the site to support a range of protected invertebrate species. To assess the species present on the , further invertebrate surveys are required which will inform the extent of mitigations required. Details regarding this are outlined below.
Reptiles	Confirmed Presence	Slow worm and common lizard were confirmed on the site during reptile surveys undertaken in 2022[3]. Therefore, further survey effort to establish the population of each species is required to inform the translocation effort.
Invasive/Non-native species	Confirmed Presence	The large quantities of Invasive Non-Native Species (INNS) found on the site means it is recommended that contact is made with West Sussex county council to determine and agree upon an appropriate method of disposal. Although further survey in relation to the Invasive Non-Native Species (INNS) found on the site is not directly necessary, as per the mitigation below the areas where these species are present need to be identified before works can commence. A monitoring scheme will then need to be implemented to reduce the risk of further spreading these species in the wild, and awareness raised through a toolbox talk. Further detail outlining the appropriate mitigation measures are included below.
Hedgehogs	Low	Mitigation measures to avoid harm to individuals during the site clearance are to be implemented. Proposals should also provide compensatory scrub for any areas lost to the development. Measures are included below.

5.2 DISCUSSION AND RECOMMENDATIONS

Discussion is provided below on the key ecological receptors that stand to be impacted/benefit from proposed works; high level commentary on appropriate mitigation, compensation and enhancement actions is also provided.

An Ecological Management Plan (EMP) and CEMP should be produced and implemented for the site providing greater detail on the below, which should be secured through planning condition in accordance with BS 42020: 2013 Biodiversity.

Statutory

Natural England highlighted developments which may cause further abstraction to the Sussex North Water Supply Zone could affect a number of designated sites including Arun Valley Ramsar, SAC, SPA. As a result, the client will be required to supply a water neutrality statement with the planning application which:

- *"Confirms that there would be no increase in water consumption, for example, through a combination of water efficiency, water recycling and offsetting measures; and*
- *includes a water budget showing details of the baseline and proposed water consumption, any mitigation measures proposed and mechanisms to secure them in advance of occupation/use."*

[redacted]

Bats

Foraging and Commuting

Further survey

Without mitigation, increased lighting levels associated with the development, and destruction of suitable foraging habitat and features could threaten the site's value for foraging bats and sever potential flight lines used for commuting. As these habitats are proposed to be removed, further survey effort is required to identify how bats are using the site, including any important foraging habitat and commuting corridors.

Therefore, in line with good practice[16] because of the sites moderate suitability, a Night-time Bat Walkover (NBW) survey should be carried out once per season (Spring - April/May; Summer - June/July/August; Autumn - September/October). In addition, static bat detectors should be deployed around the site for five consecutive nights per month between April and October in appropriate weather conditions for bats. The surveys will determine the species of bat that may be using the site as well as the specific areas of the site that bats may be utilising. This information will allow a better assessment of the site for foraging and commuting bats prior to recommending any mitigation.

Mitigation

Despite the findings from further survey, mitigation measures should be included for the design of wildlife friendly lighting on the . The development's lighting design should follow guidance provided by the Institute of Lighting Professionals and Bat Conservation Trust[17] as far as reasonably practicable. This includes:

- The use of low-UV warm-white LED bulbs of 2,700k or less;
- Minimising the spread of light onto boundary habitats through the use of any temporary task lighting being angled away from boundary habitats and switched off/removed when not required;
- Minimising the spread of light onto boundary habitats from any new permanent lighting through the use of baffles, hoods and directional louvers;
- Dark corridors will be created with no light levels over natural features;
- Works should be restricted to daylight hours whenever possible. Ensure lighting is task orientated and switched off when not in use (i.e. through the use of motion activated lights and/or timers);
- Lighting controls in place where appropriate to minimise the duration lights are illuminated, this could be for example instated through motion sensor lighting or subject to curfews. Lighting associated with existing or created greenspace should unlit during the active bat season (April-October, inclusive);
- The spread of lighting should be minimised to at, or near, horizontal to ensure that only the task area is lit, with no light output above 90o and/or no upward tilt;
- Avoid using reflective surfaces under lights;
- Use narrow spectrum light sources;

- Light sources to feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats; and

The proposed lighting at the site should be modelled to confirm predicted intensity and spill and reviewed/discussed/agreed with an ecologist.

Roosting

Summer/Transitional

The former Novartis building was assessed as displaying Low suitability for roosting bats based on the PRFs identified during the external inspection. Therefore, a single bat emergence survey is recommended to determine presence/likely-absence of (summer/transitional) roosting bats before external and internal works on the building can commence. This should comprise a single survey for the building undertaken between May to August. The results of the emergence survey would inform the requirement for/scope of any bat-specific mitigation measures. In addition, an internal inspection of the building including roof cavity and the exterior of the enclosed courtyard should also be carried out, ideally before the bat emergence survey, to identify any additional PRF and/or signs of roosting bats.

The GLTA identified three trees where the level of suitability could not be confidently determined, those being T1, T5, and T6, therefore the trees were assessed as FAR i.e. Further Assessment Required. As such, PRF inspection survey is recommended. This should comprise an initial tree climb inspection to check the PRFs to enable categorisation of each feature as either PRF-I, as PRF-M, or to discount the tree as the PRF(s) can be confirmed as unsuitable and therefore having a suitability level of 'none'.

Trees (T2, T3 and T4) were assessed as PRF-I. Further PRF inspection surveys beyond the initial tree climb are not necessary for trees categorised as PRF-I, but a precautionary approach to removal works is still be applicable as best practice.

Following best practice mitigation guidelines,[10] all trees with PRF-I features and where likely absence has been confirmed, should be sectionally felled, under the supervision of a suitably experienced Natural England Level 2 Class licenced bat ecologist or accredited agent, and either inspected by the ecologist from height, or each section carefully lowered to the ground where the ecologist can inspect any features for bats or signs of bats.

If a bat is identified in a section of a felled tree, that section should be propped up against the tree, as close as possible to where the roost was identified, and the bat allowed to leave on its own accord. A record should be taken of any bat roosts identified during the works. Any remaining sections that are unable to be fully inspected should be left with the PRFs facing upwards overnight in case any bats remain inside. Alternatively, all trees identified with likely absence of roosting bats should be felled immediately after the inspection survey or have the PRFs blocked/proofed immediately after the survey until they are to be felled. If there is a delay, the features should be immediately inspected to ensure it is free of roosting bats prior to felling.

Any trees that contain PRFs from which bats cannot be confirmed as likely absent, exclusion devices should be fitted for a period of five clear nights (temperatures above 8 degrees and heavy rain) before felling, if there is a delay, the exclusion devices should remain in situ until the tree is felled. It should be

noted that exclusion devices should not be fitted between mid-May to mid-August if the feature is likely to contain pregnant females or non-volant young. Should a bat be discovered within the tree, the works to that tree must cease and a Natural England EPSM licence should be applied for.

Further PRF inspection surveys beyond the initial tree climb will be necessary for trees categorised as PRF-M, with up to three additional surveys required to access the level of suitability of each feature.

Winter hibernation

If a basement is confirmed present underneath the former Novartis building as suggested in the Ecology & Habitat Management Ltd PEA[3], then an internal inspection should be performed to assess what suitability, if any, the basement may have to support hibernating bats. The results of this internal basement inspection would inform the requirement for/scope of any additional further surveys and/or bat-specific mitigation measures.

Birds

It is recommended that a breeding bird survey is undertaken across the site, prior to the commencement of development within the site. The breeding bird survey would be in accordance with the Bird Survey Guidelines (2023)[18], consisting of a series of six survey visits, in which a transect around the site is walked and bird species are noted. These visits begin shortly before sunrise, with at least one of the visits around the hours of dusk to capture any dusk-related species, such as nightingale. These six surveys should occur from March to early July, spread evenly throughout the season. These surveys would assess for peregrine falcon which may be using the site for breeding habitat in late March, and black redstart which may be using the site for breeding from mid-April, amongst other species across the breeding bird season[19].

Additionally, the site is present within the south of England, which is a known geographical area for summer visitors of nightingale. With the presence of some suitable habitat at the site, an additional nocturnal survey is recommended to be undertaken between midnight and dawn in May, alongside the six breeding bird survey visits mentioned above (totalling at seven survey visits within the breeding bird season). The first dusk as part of the breeding bird surveys is to be undertaken a week before or after this nocturnal survey, within the optimal period of May[20].

Design proposals should also retain as many trees as possible, whilst also providing compensatory nesting habitat for any areas lost to development including through new planting or provision of bird boxes. If habitats are required to be removed to facilitate development, regardless of the results of the above surveys, the programming of the vegetation clearance should avoid the bird nesting season, which is typically recognised as March to August inclusive. If these months cannot be avoided, a nesting bird check for active bird nests (general nesting and by ground nesting species), would need to be carried out by an ecologist no less than 48 hours prior to the vegetation clearance. If an active nest is identified, a suitable exclusion zone would be agreed and implemented, where works cannot proceed until an ecologist has confirmed that chicks have fledged and/or the nest is no longer in use.

Invertebrates

It is recommended that invertebrate surveys are undertaken across the site due to the volume of records returned and the suitable range of habitats on the site that can create a range of niches. The invertebrate survey includes three site visits between May and July and will focus on all vegetated habitats present across the site. These surveys should take place to confirm the presence/likely absence of any nationally scarce invertebrates on the site. These surveys will be undertaken by a specialist entomologist.

Results of this further survey work should be used to inform appropriate mitigation for invertebrates.

Reptiles

Confirmed presence of slow worm and common lizard populations on the site in 2022 have been identified through previous survey effort outlined within the Ecology & Habitat Management Ltd PEA[3]. Therefore, an updated population estimate will need to be performed through an updated reptile survey. The reptile survey should take place between April and September (with April/May and September being the optimal months) and consist of a minimum of seven site visits to determine a population estimate.

It is expected that a population estimate will be established on the site based upon the previous survey effort, and therefore require further mitigation works once the population estimate for each species has been established on the site. If translocation if required, a receptor site will have to be established.

Invasive/Non-native species

INNS (cotoneaster, rhododendron and pygmy weed) and regionally invasive species (buddleia) are proposed to be removed in order to facilitate the development. It is important that they are removed sensitively from the site during the clearance works and destroyed in such a way that prevents their spread. Clearance should follow guidance from Defra[21] for respective species.

West Sussex county council outlines disposal methods for small quantities of invasive species[15] at their recycling centre if prior notice is given. However, due to quantities of these species on the site being large, it is recommended contact is made with West Sussex county council to determine and agree upon an appropriate method of disposal.

In addition, the following steps should be taken before, during and after site clearance to help control the aforementioned species:

- Identify areas where these species are present and assess the risk of and how they would be spread;
- Set up monitoring schemes on the site; and
- Raise awareness of these species through notices on the site to help prevent the spread. This could be done through a toolbox talk.

Care should be taken not to include INNS within the soft landscape planting schedule.

Hedgehogs

In order to minimise the potential for killing or injuring of hedgehogs (and other small to medium sized mammals), works to remove shrubs should ideally take place during September to October. Due to individuals likely being active and able to move away of their own volition, whilst also being outside the nesting bird season. Additionally, during site clearance, removal of scrub/shrub should be undertaken in two phases, by cutting to 30 centimetres (cm) in the first instance, then to ground level after that. Ecological Clerk of Works (ECoW) by a suitably qualified ecologist should be undertaken on scrub habitats to check for mammals before and in-between these two cuts. Should any hedgehogs be found, they should be allowed to move away of their own volition. If in immediate harms way, they should be carefully moved to a suitable area of habitat that is not due to be subject to clearance and which offers suitable cover for shelter/protection and shade.

If vegetation clearance occurs during the hibernation period between November to April inclusive, should any hedgehogs be found, works should cease and an ecologist should be contacted, with the hedgehog being left undisturbed.

Scrub habitats should be included within the soft landscape planting design, to provide replacement shelter and foraging opportunities for hedgehog with the aim to also connect areas of greenspace. These areas should be subject to minimal management and allowed to become denser.

Biodiversity Enhancements

In accordance with the Environment Act 2021, National Planning Policy Framework (NPPF) 2023 and local policies (see Appendix D), proposals are mandated to provide a minimum of 10% net gain in biodiversity, which should be evidenced through a Biodiversity Net Gain Assessment (BNGA) using the Statutory Biodiversity Metric[22](SBM).

Green infrastructure should be planned at a site-wide level, considering wider ecological features and green corridors. Any proposed green space should be multifunctional with high floral diversity and supporting native species where possible. The design should also be sustainable, using species which are tolerant of a warmer climate, providing shade where possible to tackle the urban heat island effect (UHI), and using sustainable urban drainage (SuDS) features to help prevent flooding.

To enable proposals to deliver the desired net gains and enhance the site for roosting and foraging bats, nesting birds, reptiles, and invertebrates, the following measures should be considered for incorporation into the landscaping plans:

- Biodiverse roofs should be incorporated onto proposed buildings where possible, based on a low-nutrient substrate and plug planted and seeded with at least 30 species of known value to wildlife. Green roofs should be further enhanced through the inclusion of features such as log piles, rock piles, sandy piles, and ephemeral wetlands. This will benefit wildlife, including invertebrates, birds and foraging bats;
- Green walls in the form of climber and supporting trellis systems to provide vertical greening should be provided on suitable elevations of proposed buildings to direct the growth of climbers to cover

designated wall areas. A mix of species including ivy (*Hedera helix*), clematis species (*Clematis sp.),* honeysuckle (*Lonicera periclymenum*), star jasmine (*Trachelospermum jasminoides*), hops (*Humulus lupulus*) and grapevines (*Vitis vinifera*) should be included;

- Wildlife friendly planting should provide a diverse mix of species of demonstratable value for wildlife known to be at site/have the potential to be encouraged to the site. A wildflower seed mix should be sown in the 10m buffer in areas of communal grassland to provide foraging area for reptiles, as well as a nectar food source for pollinators and a range of herbaceous species to increase biodiversity value and will benefit a number of BAP species including bats and song thrush.
- Incorporation of night scented planting, such as night scented stock (*Matthiola bicornis*), honeysuckle (*Lonicera periclymenum*) and viper's bugloss (*Echium vulgare*), to be incorporated to encourage night flying insects for foraging bats;
- Marginal planting along the edge of the railway corridor should be planted such as within a pre-established coir pallet with a diverse mix of marginal planting which will provide additional habitat structure for commuting species that will benefit a range of taxa through an ecosystem cascade effect, including invertebrates, birds and bats;
- Any scattered trees and hedges planted throughout the development proposals should include a diverse mix of native species such as hawthorn, field maple (*Acer campestre*), plum cherry (*Prunus cerasifera*), hazel (*Coryllus avellana*), blackthorn, crab apple (*Malus sylvestris*), privet (*Ligustum ovalifolium*), dogwood (*Cornus sanguinea*), rowan (*Sorbus aucuparia*) and spindle (*Euonymous europaeus*);
- Bat boxes should be incorporated into the designs of the new buildings (Habibat Bat Box 003 or similar) or fixed onto suitable mature retained trees (Schwegler 2F Bat Box or similar) near foraging/commuting habitat. These should be positioned at a minimum of 3m from ground level and away from artificial lighting. The number of boxes will be outlined within the further bat survey report;
- Nesting opportunities for birds, such as a swift, house sparrow, black redstart, nightingale and starling boxes should be provided. Swift boxes could also be installed along with a swift call system to encourage uptake. Specialised house sparrow terraces can also be included integrated into the buildings. These boxes should be positioned near to any area of vegetation and should be placed at least 2m above ground level. Generalist garden bird boxes with 32mm entrance holes as well as open fronted boxes will be installed across the site on existing trees. The number of boxes will be outlined within the further bird survey report;
- Invertebrate habitat features should be incorporated within public landscaped areas and on any biodiverse green roofs. These include, solitary beehives and habitat panels, placed in suitable locations to target a greater diversity of invertebrate species;
- Using some of the felled trees to create a log pile/loggery would be beneficial for saproxylic invertebrates such as stag beetle, a UK BAP species, and reptile hibernation. Sections of mature tree trunks are more beneficial than brash piles of thin branches/twigs as they break down more

slowly and provide a greater level of protection against the elements for invertebrates which thrive on dead and decaying wood. A log pile/loggery located away from areas of hardstanding and within close proximity to other vegetation to provide cover and some shade, would be beneficial. Logs should be placed both vertically and horizontally in clusters; vertical standing wood would be part buried up to 30cm into the ground, ideally in the deeper sections, again using a range of diameters and lengths. Log sizes should range from ~10cm up to ~40cm diameter with approximately one third of the logs buried. Plants such as ferns, bulbs and other woodland understorey plants planted amongst the loggery are beneficial.

- Hedgehog highways should incorporated into the landscaping designs to create connectivity across the site by providing 13cmx13cm gaps in fencing and walls throughout the site.

Key actions should be included within EMP and CEMP documents for the site which could be secured through planning condition.

6.0 SUMMARY & CONCLUSION

Greengage Environmental Limited (Greengage) was commissioned by Lovell Homes to undertake a Preliminary Ecological Appraisal (PEA) a site known as Novartis Phase 1&2, in Horsham, West Sussex.

The PEA aimed to establish the ecological value of the site and the presence/likely-absence of designated sites, and legally protected/notable habitats and/or species in order to inform appropriate mitigation, compensation and enhancement actions in light of the proposed development.

The PEA identified value for several protected and notable species, including bats (foraging, commuting and roosting), nesting birds, invertebrates, reptiles and hedgehog. Presence of INNS was also confirmed on the site.

The site walkover alongside desk study data and previous survey information identified suitability of the site for the following:

- Low suitability for badgers;
- Moderate suitability for foraging and commuting bats;
- Low suitability for roosting bats;
- Moderate suitability for nesting birds;
- High suitability for invertebrates;
- Confirmed presence slow worm and common lizard on site;
- Low suitability for hedgehogs; and
- Confirmed presence cotoneaster, rhododendron, and buddleia.

Mitigation concepts for each of these receptors based on the results of the site visit and the previous report in 2022 are described within section 5.2 of the report.

The desk study identified the site resides within the Arun Valley SPA river catchment which affects the water usage of the potential development. As a result, a water neutrality statement should be issued to Sussex Council with confirmation of water efficiency and mitigation measures to reduce potential impacts.

More specific mitigation recommendations include:

- One bat emergence survey of the former Novartis building undertaken between May to August;
- Internal inspection of the former Novartis building including roof cavity, enclosed courtyard, and basement;
- One NBW each season (Spring - April/May; Summer - June/July/August; Autumn - September/October);
- Static monitoring for five consecutive nights per month between April- October;
- PRF tree climb inspection of five trees (T1, T3, T4, T5, and T6);

- Endoscope immediately prior to soft felling for PRF-I trees;
- Further reptile survey and establishment of receptor site for possible translocation;
- Six survey breeding bird surveys March to early July, alongside an additional nocturnal survey to be undertaken between midnight and dawn in May;
- Three invertebrate surveys of the site between May and July;
- Sensitive removal of invasive cotoneaster, rhododendron, and buddleia; and
- ECoW on areas of scrub habitats to mitigate harm to hedgehogs.

Key actions should be included within EMP and CEMP documents for the site which could be secured through planning condition.

In accordance with the Environment Act 2021, National Planning Policy Framework (NPPF) 2023 and local policies (see Appendix D), proposals should seek to provide a minimum of 10% net gain in biodiversity, which should be evidenced through a Biodiversity Net Gain Assessment (BNGA) using the Statutory Biodiversity Metric[22] (SBM).

To enable proposals to deliver the desired net gains and enhance the site for roosting and foraging bats, nesting birds, reptiles, and invertebrates, the following measures should be considered for incorporation into the landscaping plans:

- Sustainable Urban Drainage;
- Biodiverse roofs on all available flat roof areas;
- Vertical greening / green walls where possible;
- Marginal planting along railway corridor;
- Wildlife-friendly/pollinator rich planting, night scented plant species, including native tree planting; and
- Bat boxes;
- Bird nest boxes for a range of species e.g. house sparrow, swift and generalist species;
- Retention of peregrine falcon nesting opportunities on former Novartis building roof;
- Invertebrate habitat features e.g. habitat panels, solitary bee hives and stag beetle loggeries; and
- Hedgehog highways.

Further biodiversity enhancements may be recommended as a result of the further assessments and protected species surveys recommended.

APPENDIX A SITE PLAN AND HABITAT MAP

Figure A.1 Site plan and habitat map

LOVELL HOMES- NOVARTIS PHASE 1 &2

- Site Boundary
- Trees
- Target Notes

Hedges

- h2a6 - Other native hedgerow

Habitats

- g3c - Other neutral grassland
- g4 - Modified grassland
- h3 - Dense scrub
- h3d - Bramble scrub
- h3j - Willow scrub
- r1g - Other standing water
- u1b - Developed land; sealed surface
- u1b5 - Buildings
- u1f - Sparesely vegetated urban land
- w1h6 - Other woodland, mixed, mainly conifer

Other neutral grassland parcel references= A,B,C,D,E,F

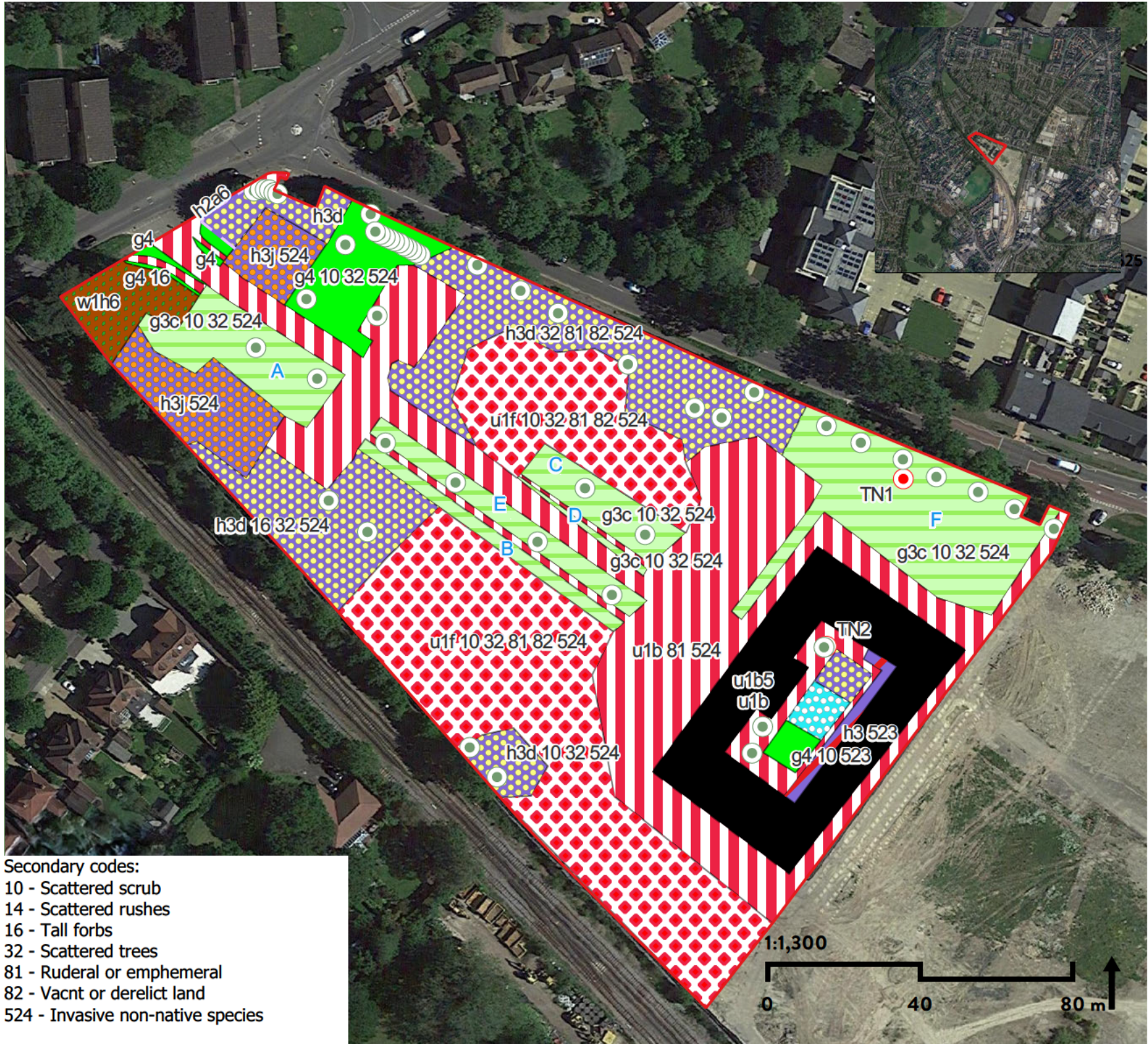
Title: Figure A.1

Drawn by: Oliver Hamilton
Date: 12/02/2025

Reviewed by: Jess Cole
Date: 12/02/2025

Project number: 552979
Sources: ESRI World Topo, Greenspace Information for Greater London (GiGL), Natural England

Greengage



Secondary codes:
10 - Scattered scrub
14 - Scattered rushes
16 - Tall forbs
32 - Scattered trees
81 - Ruderal or emphemeral
82 - Vacnt or derelict land
524 - Invasive non-native species

APPENDIX B SITE PHOTOGRAPHS

Plate B.1 Sparsely Vegetated Urban Land to the south of the site

Plate B.2 Sparsely Vegetated Urban Land to the north of the site

Plate B.3 Western elevation of former Novartis building

Plate B.4 Tower on western elevation of former Novartis building

Plate B.5 Eastern elevation of former Novartis building

Plate B.6 Example of crumbling mortar below concrete eves

Plate B.7 Gap between metal parapet and concrete wall on the eastern elevation

Plate B.8 Hole in concrete (circled) underneath metal parapet on easter elevation

Plate B.9 Example of bramble scrub habitat, north of the site

Plate B.10 Other neutral grassland in the northeast corner of the site

Plate B.11 Example of fenced off other neutral grassland in the centre of the site

Plate B.12 Other neutral grassland in the southwest of the site

Plate B.13 Modified grassland in the northwest of the site

Plate B.14 Modified grassland along the western entrance to the site

Plate B.15 Other woodland - mixed - mainly conifer habitat at the western entrance

Plate B.16 Other native hedgerow along western boundary

Plate B.17 Example of willow scrub habitat, southwest corner of the site

Plate B.18 T1 callus roll

Plate B.19 T2 callus rolls

Plate B.20 T3 callus roll and wound

Plate B.21 T4 woodpecker holes

Plate B.22 T5 callus roll (left) and woodpecker holes (right)

Plate B.23 T6 callus roll (left) and woodpecker holes (right)

APPENDIX C BIRD AND INVERTEBRATE RECORDS WITHIN 2 KM

Table C.1 Bird records within 2 km of the site

Common Name	Scientific Name	Protection
White-tailed Eagle	*Haliaeetus albicilla*	Schedule 1 (WCA 1981 as amended)
Red Kite	*Milvus milvus*	Schedule 1 (WCA 1981 as amended)
Teal	*Anas crecca*	
Mallard	*Anas platyrhynchos*	
White-fronted Goose	*Anser albifrons*	
Pochard	*Aythya ferina*	
Tufted Duck	*Aythya fuligula*	
Scaup	*Aythya marila*	Schedule 1 (WCA 1981 as amended)
Mute Swan	*Cygnus olor*	
Wigeon	*Mareca penelope*	
Gadwall	*Mareca strepera*	
Shoveler	*Spatula clypeata*	
Swift	*Apus apus*	
Little Ringed Plover	*Charadrius dubius*	Schedule 1 (WCA 1981 as amended)
Lapwing	*Vanellus vanellus*	
Black Tern	*Chlidonias niger*	Schedule 1 (WCA 1981 as amended)
Black-headed Gull	*Chroicocephalus ridibundus*	
Little Gull	*Hydrocoloeus minutus*	Schedule 1 (WCA 1981 as amended)
Herring Gull	*Larus argentatus*	
Lesser Black-backed Gull	*Larus fuscus*	
Common Tern	*Sterna hirundo*	
Avocet	*Recurvirostra avosetta*	Schedule 1 (WCA 1981 as amended)
Common Sandpiper	*Actitis hypoleucos*	
Snipe	*Gallinago gallinago*	

Common Name	Scientific Name	Protection
Curlew	*Numenius arquata*	
Woodcock	*Scolopax rusticola*	
Little Egret	*Egretta garzetta*	
Spoonbill	*Platalea leucorodia*	Schedule 1 (WCA 1981 as amended)
Stock Dove	*Columba oenas*	
Kingfisher	*Alcedo atthis*	Schedule 1 (WCA 1981 as amended)
Cuckoo	*Cuculus canorus*	
Merlin	*Falco columbarius*	Schedule 1 (WCA 1981 as amended)
Hobby	*Falco subbuteo*	Schedule 1 (WCA 1981 as amended)
Kestrel	*Falco tinnunculus*	
Skylark	*Alauda arvensis*	
Cetti's Warbler	*Cettia cetti*	Schedule 1 (WCA 1981 as amended)
Corn Bunting	*Emberiza calandra*	
Yellowhammer	*Emberiza citrinella*	
Reed Bunting	*Emberiza schoeniclus*	
Lesser Redpoll	*Acanthis cabaret*	
Hawfinch	*Coccothraustes coccothraustes*	
Linnet	*Linaria cannabina*	
Crossbill	*Loxia curvirostra*	Schedule 1 (WCA 1981 as amended)
Bullfinch	*Pyrrhula pyrrhula*	
House Martin	*Delichon urbicum*	
Meadow Pipit	*Anthus pratensis*	
Grey Wagtail	*Motacilla cinerea*	
Yellow Wagtail	*Motacilla flava*	
Nightingale	*Luscinia megarhynchos*	
Wheatear	*Oenanthe oenanthe*	
Redstart	*Phoenicurus phoenicurus*	
Willow Tit	*Poecile montanus*	

Common Name	Scientific Name	Protection
Marsh Tit	*Poecile palustris*	
House Sparrow	*Passer domesticus*	
Wood Warbler	*Phylloscopus sibilatrix*	
Willow Warbler	*Phylloscopus trochilus*	
Dunnock	*Prunella modularis*	
Firecrest	*Regulus ignicapilla*	Schedule 1 (WCA 1981 as amended)
Starling	*Sturnus vulgaris*	
Whitethroat	*Curruca communis*	
Song Thrush	*Turdus philomelos*	
Mistle Thrush	*Turdus viscivorus*	
Lesser Spotted Woodpecker	*Dryobates minor*	
Green Woodpecker	*Picus viridis*	
Little Grebe	*Tachybaptus ruficollis*	
Long-eared Owl	*Asio otus*	
Tawny Owl	*Strix aluco*	
Barn Owl	*Tyto alba*	Schedule 1 (WCA 1981 as amended)

Table C.2 Invertebrate records within 2 km of the site

Common Name	Scientific Name	Protection
Ridge-saddled Carpenter Bee	*Heriades truncorum*	
Lobe-spurred Furrow Bee	*Lasioglossum pauxillum*	
Ridge-cheeked Furrow Bee	*Lasioglossum puncticolle*	
Brown Tree Ant	*Lasius brunneus*	
Blunthorn Nomad Bee	*Nomada flavopicta*	
Orange-vented Mason Bee	*Osmia leaiana*	
A Beetle	*Acupalpus exiguus*	
A Beetle	*Agabus bipustulatus*	
Alder Leaf Beetle	*Agelastica alni*	
A Beetle	*Amara strenua*	
A Beetle	*Anaspis costai*	
A Beetle	*Asaphidion curtum*	
A Beetle	*Cantharis fusca*	

Common Name	Scientific Name	Protection
Rose Chafer	*Cetonia aurata*	
A Beetle	*Chaetocnema confusa*	
A Beetle	*Dacne rufifrons*	
A Beetle	*Diaperis boleti*	
A Beetle	*Eledona agricola*	
Belladonna Flea Beetle	*Epitrix atropae*	
Green Dock Beetle	*Gastrophysa viridula*	
A Beetle	*Hydaticus seminiger*	
A Beetle	*Hypera meles*	
A Beetle	*Ilybius fenestratus*	
A Beetle	*Ischnomera cyanea*	
A Beetle	*Leptura quadrifasciata*	
Stag Beetle	*Lucanus cervus*	Schedule 5 (WCA 1981 as amended)
A Beetle	*Malthinus balteatus*	
A Beetle	*Megatoma undata*	
A Beetle	*Meligethes gagathinus*	
A Beetle	*Notaris scirpi*	
A Beetle	*Orsodacne humeralis*	
A Beetle	*Orthoperus nigrescens*	
A Beetle	*Pelenomus waltoni*	
Cramp-Ball Fungus Weevil	*Platyrhinus resinosus*	
A Beetle	*Platystomos albinus*	
A Beetle	*Polydrusus formosus*	
Tanner Beetle	*Prionus coriarius*	
A Beetle	*Protapion difforme*	
A Beetle	*Pseudovadonia livida*	
A Beetle	*Pycnomerus fuliginosus*	
Black-headed Cardinal Beetle	*Pyrochroa coccinea*	
A Beetle	*Rugilus geniculatus*	
A Beetle	*Silis ruficollis*	
A Beetle	*Stenus fuscicornis*	
A Beetle	*Variimorda villosa*	

Common Name	Scientific Name	Protection
Purple Emperor	*Apatura iris*	Schedule 5 (WCA 1981 as amended)
Small Heath	*Coenonympha pamphilus*	
Small Heath	*Coenonympha pamphilus pamphilus*	
Dingy Skipper	*Erynnis tages*	
Wall	*Lasiommata megera*	
White Admiral	*Limenitis camilla*	
Chalk Hill Blue	*Polyommatus coridon*	Schedule 5 (WCA 1981 as amended)
Grizzled Skipper	*Pyrgus malvae*	
Brown Hairstreak	*Thecla betulae*	Schedule 5 (WCA 1981 as amended)
Lesser Emperor	*Anax parthenope*	
Downy Emerald	*Cordulia aenea*	
Small Red-eyed Damselfly	*Erythromma viridulum*	
Scarce Chaser	*Libellula fulva*	
Brilliant Emerald Dragonfly	*Somatochlora metallica*	
Red-veined Darter	*Sympetrum fonscolombii*	
Common Darter	*Sympetrum striolatum*	
Long-winged Cone-head	*Conocephalus fuscus*	
Roesel's Bush-cricket	*Roeseliana roeselii*	
Bristly Millipede	*Polyxenus lagurus*	
Grey Dagger	*Acronicta psi*	
Knot Grass	*Acronicta rumicis*	
Beaded Chestnut	*Agrochola lychnidis*	
Green-brindled Crescent	*Allophyes oxyacanthae*	
Ear Moth	*Amphipoea oculea*	
Mouse Moth	*Amphipyra tragopoginis*	
Dusky Brocade	*Apamea remissa*	
Deep-brown Dart	*Aporophyla lutulenta*	
Sprawler	*Asteroscopus sphinx*	
Centre-barred Sallow	*Atethmia centrago*	
Minor Shoulder-knot	*Brachylomia viminalis*	
Bulrush Veneer	*Calamotropha paludella*	

Common Name	Scientific Name	Protection
Toadflax Brocade	*Calophasia lunula*	
Scarce Alder Slender	*Caloptilia falconipennella*	
Mottled Rustic	*Caradrina morpheus*	
Light Crimson Underwing	*Catocala promissa*	
Dark Crimson Underwing	*Catocala sponsa*	
Latticed Heath	*Chiasmia clathrata*	
Red-green Carpet	*Chloroclysta siterata*	
Sallow	*Cirrhia icteritia*	
Black-stigma Case-bearer	*Coleophora hemerobiella*	
Stitchwort Case-bearer	*Coleophora lutarea*	
Dotted Chestnut	*Conistra rubiginea*	
Many-lined	*Costaconvexa polygrammata*	
Mocha	*Cyclophora annularia*	
Small Square-spot	*Diarsia rubi*	
Figure of Eight	*Diloba caeruleocephala*	
Cream-bordered Green Pea	*Earias clorana*	
Small Phoenix	*Ecliptopera silaceata*	
Orange Footman	*Eilema sororcula*	
Rosy Marbled	*Elaphria venustula*	
White-barred Knot-horn	*Elegia similella*	
Angle-striped Sallow	*Enargia paleacea*	
September Thorn	*Ennomos erosaria*	
Dusky Thorn	*Ennomos fuscantaria*	
August Thorn	*Ennomos quercinaria*	
Comfrey Ermel	*Ethmia quadrillella*	
Apple Marble	*Eudemis porphyrana*	
Marsh Grey	*Eudonia pallida*	
Maple Pug	*Eupithecia inturbata*	
Jersey Tiger	*Euplagia quadripunctaria*	
Garden Dart	*Euxoa nigricans*	
Chequered Pearl	*Evergestis pallidata*	
Alder Kitten	*Furcula bicuspis*	
Webb's Wainscot	*Globia sparganii*	
Varied Coronet	*Hadena compta*	

Common Name	Scientific Name	Protection
Small Ranunculus	*Hecatera dysodea*	
Crescent	*Helotropha leucostigma*	
Small Emerald	*Hemistola chrysoprasaria*	
Ghost Moth	*Hepialus humuli*	
Rustic	*Hoplodrina blanda*	
Rosy Rustic	*Hydraecia micacea*	
Great Oak Beauty	*Hypomecis roboraria*	
Shoulder-striped Wainscot	*Leucania comma*	
Obscure Wainscot	*Leucania obsoleta*	
Rosy Minor	*Litoligia literosa*	
Brindled Beauty	*Lycia hirtaria*	
Gypsy Moth	*Lymantria dispar*	
Dotted Fan-foot	*Macrochilo cribrumalis*	
Lackey	*Malacosoma neustria*	
Kent Black Arches	*Meganola albula*	
Dot Moth	*Melanchra persicariae*	
Wainscot Neb	*Monochroa palustrellus*	
Large Clothes	*Morophaga choragella*	
L-album Wainscot	*Mythimna l-album*	
Common Wainscot	*Mythimna pallens*	
White-speckled Clothes	*Nemapogon koenigi*	
Spindle Knot-horn	*Nephopterix angustella*	
Oblique Carpet	*Orthonama vittata*	
Powdered Quaker	*Orthosia gracilis*	
Blossom Underwing	*Orthosia miniosa*	
Horse Chestnut Moth	*Pachycnemia hippocastanaria*	
Waved Black	*Parascotia fuliginaria*	
Translucent Pearl	*Paratalanta hyalinalis*	
Salt-marsh Grass-veneer	*Pediasia aridella*	
Waste Grass-veneer	*Pediasia contaminella*	
Grass Rivulet	*Perizoma albulata*	
Water-mint Conch	*Phalonidia manniana*	
Dark Umber	*Philereme transversata*	
Least Minor	*Photedes captiuncula*	

Common Name	Scientific Name	Protection
Large Wainscot	*Rhizedra lutosa*	
Giant Water-veneer	*Schoenobius gigantella*	
Mullein Wave	*Scopula marginepunctata*	
Shaded Broad-bar	*Scotopteryx chenopodiata*	
Beet Moth	*Scrobipalpa ocellatella*	
Wood Cosmet	*Sorhagenia janiszewskae*	
White Ermine	*Spilosoma lubricipeda*	
Buff Ermine	*Spilosoma lutea*	
Alder Signal	*Stathmopoda pedella*	
Scarce Maple Pigmy	*Stigmella aceris*	
Red-tipped Clearwing	*Synanthedon formicaeformis*	
Long-legged Tabby	*Synaphe punctalis*	
Satin Lutestring	*Tetheella fluctuosa*	
Cypress Carpet	*Thera cupressata*	
Feathered Gothic	*Tholera decimalis*	
Blood-vein	*Timandra comae*	
Pale Eggar	*Trichiura crataegi*	
Cinnabar	*Tyria jacobaeae*	
Oak Hook-tip	*Watsonalla binaria*	
Dark-barred Twin-spot Carpet	*Xanthorhoe ferrugata*	
Grey Ermine	*Yponomeuta sedella*	
Thin Weblet	*Agyneta mollis*	
Wasp Spider	*Argiope bruennichi*	
A Spider	*Ballus chalybeius*	
A Spider	*Marpissa muscosa*	
A Spider	*Parasteatoda simulans*	
A Spider	*Pardosa saltans*	
A Spider	*Philodromus albidus*	
A Spider	*Robertus neglectus*	
A Spider	*Styloctetor compar*	
Ray Spider	*Theridiosoma gemmosum*	
A Spider	*Trematocephalus cristatus*	
A Spider	*Zilla diodia*	
A True Bug	*Corizus hyoscyami*	

Common Name	Scientific Name	Protection
A True Bug	*Grypocoris (Lophyromiris) stysi*	
A True Bug	*Lygus pratensis*	
A True Bug	*Scottianella dalei*	
A True Bug	*Stictopleurus punctatonervosus*	
Rhombic Leatherbug	*Syromastus rhombeus*	
A True Bug	*Tytthus pygmaeus*	
A True Fly	*Acinia corniculata*	
Bright Four-spined Legionnaire	*Chorisops nagatomii*	
A True Fly	*Ctenophora pectinicornis*	
A True Fly	*Gymnosoma rotundatum*	
Hairy-legged Horsefly	*Hybomitra bimaculata*	
A True Fly	*Merzomyia westermanni*	
A True Fly	*Myopites inulaedyssentericae*	
A True Fly	*Orthonevra brevicornis*	
A True Fly	*Rhingia rostrata*	
A True Fly	*Volucella inanis*	
A True Fly	*Volucella inflata*	
Hornet Hoverfly	*Volucella zonaria*	

APPENDIX D RELEVANT LEGISLATION AND POLICY

D.1 LEGISLATION

Current key legislation relating to ecology includes The Environment Act[23] Wildlife and Countryside Act 1981 (as amended)[24]; The Conservation of Habitats and Species Regulations 2019 ('Habitats & Species Regulations')[25], The Countryside and Rights of Way Act 2000 (CRoW Act)[26], and The Natural Environment and Rural Communities Act, 2006[27].

The Environment Act, 2021

Under the Environment Act, 2021, as of 12th February 2024 and 2nd April 2024, it is mandatory in England for new developments (with a small number of exceptions) to deliver a minimum 10% biodiversity net gain (BNG), as measured by the Statutory Biodiversity Metric or Small Sites Metric (SSM) respectively, secured through planning condition as standard (as per schedule 14 of the Act). Approach to the delivery of BNG must follow the mitigation hierarchy, with avoidance of impact and on-site compensation/gains prioritised, ahead of the use of off-site compensation, or the purchase of statutory credits.

The Act introduces the condition that no development may begin unless a Biodiversity Gain Plan (BGP) has been submitted and approved by the LPA.

The Act also amends requirements of the NERC Act, 2006, adding the need to not just conserve, but enhance biodiversity through planning projects. Furthermore, it introduces the need for the LPA to have regard to relevant local nature recovery strategies and relevant species/protected site conservation strategies, when making their decision.

Under the Act, the enhancements must be maintained for at least 30 years.

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

The Conservation of Habitats & Species Regulations replace The Conservation (Natural Habitats, etc.) Regulations 1994 (as amended)[28], and transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora ('EU Habitats Directive')[29], and Council Directive 79/409/EEC on the Conservation of Wild Birds ('Birds Directive')[30] into UK law (in conjunction with the Wildlife and Countryside Act).

Regulation 43 and 47 respectively of the Conservation of Habitats & Species Regulations makes it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2 (European protected species of animals), or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 5 (European protected species of plant). Development that would contravene the protection afforded to European protected species requires a derogation (in the form of a licence) from the provisions of the Habitats Directive.

Regulation 63 (1) states: 'A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which —

(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects); and

(b) is not directly connected with or necessary to the management of that site;

must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.'

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 (as amended) is the principal mechanism for the legislative protection of wildlife in Great Britain. This legislation is the means by which the Convention on the Conservation of European Wildlife and Natural Habitats[31] (the 'Bern Convention') and the Birds Directive and EU Habitats Directive are implemented in Great Britain.

The Countryside and Rights of Way Act 2000

The Wildlife and Countryside Act has been updated by the CRoW Act. The CRoW Act amends the law relating to nature conservation and protection of wildlife. In relation to threatened species it strengthens the legal protection and adds the word 'reckless' to the offences of damaging, disturbing, or obstructing access to any structure or place a protected species uses for shelter or protection, and disturbing any protected species whilst it is occupying a structure or place it uses for shelter or protection.

The Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities Act 2006 states that every 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. Biodiversity Action Plans provide a framework for prioritising conservation actions for biodiversity.

Section 41 of the Natural Environment and Rural Communities Act requires the Secretary of State to publish a list of species of flora and fauna and habitats considered to be of principal importance for the purpose of conserving biodiversity. The list, a result of the most comprehensive analysis ever undertaken in the UK, currently contains 1,149 species, including for example, hedgehog (Erinaceus europaeus), and 65 habitats that were listed as priorities for conservation action under the now defunct UK Biodiversity Action Plan[32] (UK BAP). Despite the devolution of the UK BAP and succession of the UK Post-2010 Biodiversity Framework[33] (and Biodiversity 2020 strategy[34] in England), as a response to the Convention on Biological Diversity's (CBD's) Strategic Plan for Biodiversity 2011-2020[35] and EU Biodiversity Strategy (EUBS)[36], this list (now referred to as the list of Species and Habitats of Principal Importance in England) will be used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 41 of the Natural Environment and Rural

Communities Act 2006 'to have regard' to the conservation of biodiversity in England, when carrying out their normal functions.

Biodiversity Action Plans

Non-statutory Biodiversity Action Plans (BAPs) have been prepared on a local and regional scale throughout the UK over the past 15 years. Such plans provide a mechanism for implementing the government's broad strategy for conserving and enhancing the most endangered ('priority') habitats and species in the UK for the next 20 years. As described above the UK BAP was succeeded in England by Biodiversity 2020 although the list of priority habitats and species remains valid as the list of Species of Principal Importance for Nature Conservation.

Regional and local BAPs are still valid however and continue to be updated and produced.

Detail on the relevant BAPs for this site are provided in the main text of this report.

Legislation Relating to Nesting Birds

Nesting birds, with certain exceptions, are protected from intentional killing, destruction of nests and destruction/taking of eggs under the Wildlife and Countryside Act 1981 (as amended) and the CRoW Act. Any clearance of dense vegetation should therefore be undertaken outside of the nesting bird season, taken to run conservatively from March to August (inclusive), unless an ecologist confirms the absence of active nests prior to clearance.

Legislation Relating to Bats

All UK bats and their roosts are protected by law. Since the first legislation was introduced in 1981, which gave strong legal protection to all bat species and their roosts in England, Scotland and Wales, additional legislation and amendments have been implemented throughout the UK.

Six of the 18 British species of bat have Biodiversity Action Plans (BAPs) assigned to them, which highlights the importance of specific habitats to species, details of the threats they face and proposes measures to aid in the reduction of population declines.

Although habitats that are important for bats are not legally protected, care should be taken when dealing with the modification or development of an area if aspects of it are deemed important to bats such as flight corridors and foraging areas.

The Wildlife & Countryside Act 1981 (WCA) was the first legislation to provide protection for all bats and their roosts in England, Scotland and Wales (earlier legislation gave protection to horseshoe bats only.)

All eighteen British bat species are listed in Schedule 5 of the Wildlife and Countryside Act, 1981 and under Annexe IV of the Habitats Directive, 1992 as a European protected species. They are therefore fully protected under Section 9 of the 1981 Act and under Regulation 43 of the Conservation of Habitats and Species Regulations 2019, which transposes the Habitats Directive into UK law. Consequently, it is an offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat; and
- Intentionally or recklessly obstruct access to a bat roost.

Legislation Relating to Reptiles

All species of reptile native to the UK are protected to some degree under national and/or international legislation, which provides mechanisms to protect the species, their habitats and sites occupied by the species.

Sand lizards and smooth snakes are European protected species and are afforded full protection under Section 9 of the Wildlife and Countryside Act 1981 and Regulation 43 of the Conservation of Habitats and Species Regulations 2019. However, these species are rare and highly localised. Their occurrence is not considered as relevant in this instance, as the ranges and specialist habitats of these species do not occur at this site.

The remaining widespread species of native reptiles (adder, grass snake, slow worm and viviparous lizard) are protected under part of Section 9(1) and all of Section 9(5) of the Wildlife and Countryside Act 1981. They are protected against intentional killing and injury and against sale, transporting for sale etc. The habitat of these species is not protected. However, in terms of development, disturbing or destroying reptile habitat during the course of development activities while reptiles are present is likely to lead to an offence under the Wildlife and Countryside Act 1981. It is therefore important to identify the presence of these species within a potential development site. If any of these species are confirmed, all reasonable measures must then be taken to ensure the species are removed to avoid the threat of injury or death associated with development activities.

Each species of native reptile has specific habitat requirements but general shared features include a structurally diverse habitat that provides for shelter, basking, foraging and hibernating.

All reptiles are BAP species and as such are also of material consideration in the planning process due to the NPPF.

Legislation Relating to Natura 2000 Sites and Habitats Directive Annex I/II Species

European Commission Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora ('EU Habitats Directive'), and Council Directive 79/409/EEC on the Conservation of Wild Birds ('Birds Directive') form the cornerstones of nature conservation legislation across EU member states. Priority species requiring protection across Europe are listed in the Annexes of these Directives. Regulation 63(1) of the Conservation of Habitats and Species Regulations 2019 and Offshore Marine Conservation Regulations, 2007 (as amended) transpose these directives into UK

law and set the basis for the designations of protected sites (known as Natura 2000 sites; Special Areas of Conservation under the Habitat Directive and Special Areas of Protection under the Birds Directive) that are of importance for habitats, species or assemblages listed on the directive Annexes. In the UK Ramsar sites are also offered the same level of protection as SPAs and SACs however the qualifying species for the designation may differ; Ramsar sites being designated specifically as important wetland habitats.

Under article 6(3) of the Habitats Directive, where projects stand to have likely significant effect (in accordance with the European Court of Justice ruling of C-127/02 Waddenzee cockle fishing) upon the integrity of conservation objectives (i.e. conservation status of the qualifying species or habitats) within the designated sites then the Competent Authority must undertake an Appropriate Assessment.

D.2 PLANNING POLICY

National

National Planning Policy Framework

The National Planning Policy Framework (NPPF) 2021[37] sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of sustainable development. Chapter 15 of the NPPF focuses on conservation and enhancement of the natural environment, stating plans should 'identify and pursue opportunities for securing measurable net gains for biodiversity'.

It goes on to state: 'if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused'. Alongside this, it acknowledges that planning should be refused where irreplaceable habitats such as ancient woodland are lost.

Regional

West Sussex Planning Policy[38]

Climate Change Resilience

No formal environmental strategy is included however key points within this document include increasing access to nature, prioritising natural flood solutions and increasing opportunities for BNG to promote the following:

- Green tourism;
- Natural capital investment funding when available
- Sustainable businesses
- Sustainable business growth
- Green innovation amongst business

Local

Horsham District Council

Biodiversity and Green Infrastructure Planning Advice Note

To achieve biodiversity net gain, all 'Relevant Development' applications must demonstrate use of the mitigation hierarchy as set out in BS42020 Biodiversity: Code of Practice for Planning and Development[39] (and subsequent updates) and as expected in the Environment Act 2021 and emerging Regulations. In summary, the mitigation hierarchy seeks to address impacts on biodiversity in the order detailed: avoidance, minimisation, mitigation [rehabilitation / restoration], and then as a last resort compensation / off-setting for unavoidable biodiversity loss that is considered acceptable in accordance with the NPPF.

The delivery of BNG is in addition to any mitigation / compensation measures required to address any harm caused by the development to habitats in accordance with the mitigation hierarchy. The Biodiversity Metric or small sites metric, as appropriate, should be used to measure the proposed enhancements (habitat creation) against the baseline of the whole site area. This means it is important that the baseline (existing habitats) is an accurate reflection of the site. Any habitat degradation of pre development habitats since 30 January 2020 will have to be accounted for in the baseline, unless the action causing degradation has been approved by planning permission (the details and planning reference of which should be submitted).

Development proposals will be expected to take a landscape led approach. They must provide any necessary ecological / geodiversity surveys and reports in line with best practice guidance from the Chartered Institute for Ecology and Environmental Management (CIEEM)[40] and have regard to the advice from the Landscape Institute. They should also have regard to relevant British Standards, such as, BS42020[39], BS8683[41] and BS42021[42]; as well as guidance from the Planning Advisory Service (PAS) and the national PPG (which get updated regularly). Impacts arising from development such as lighting and recreational impacts, including dog walking should be assessed using professional assessment methods, and appropriately mitigated.

BNG should be delivered on site in the first instance. If this is not possible regard may be given to off site provision if this can be secured by the applicant. The market in off-site 'Biodiversity Units' is in its infancy but is expected to rapidly grow in light of the Environment Act 2021. In the meantime, the Council will consider off-site offsetting on a case-by-case basis, and as a minimum will expect to see proof that the applicant has control of the land providing the offsetting, and a deliverable biodiversity gain plan. Any off-setting will be expected to be located within the District of Horsham, as close as practicable to the development site, unless an alternative location offers more appropriate biodiversity net gains and is agreed by the Council.

BNG projects will normally be secured by a legal agreement and require a Council approved funded management and maintenance plan. The BNG aims and objectives should be outlined in any Landscape and Ecological Management Plan (LEMP) secured as a condition of any consent. The emerging statutory requirements seek the management of sites to secure the BNG for a minimum of 30 years.

Applicants are therefore expected to be mindful of this when considering future management arrangements. The council will seek to ensure there are sufficient measures in place to support long term management and monitoring, and may require financial contributions in all relevant instances to monitor and provide a contingency (to resolve any situations where there is a likelihood the proposed habitat enhancements may fail to reach their target type and condition) for the delivery of BNG for the respective period.

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