Novartis Phase 1 & 2 Interim - Survey Report File Note 10th September 2025

Greengage Environmental Ltd (Greengage) have been commissioned by Lovell to complete a suite of ecological surveys for the site known as Novartis Phase 1 &2, hereafter referred to at the 'site', within Horsham, west Sussex.

The surveys work was commissioned in order to inform the planning application for the site (Planning Ref: DC/25/0629) to inform the planning application for the site which seeks *"Residential development comprising approximately 206 dwellings, including Part-demolition of Building 3, to include the demolition and reinstatement of the building's 'wings', with the central tower retained and demolition of 'Building 36'. Vehicular access taken from Wimblehurst Road. Car and cycle parking, landscaping and open space and associated works. The replacement of the existing cedar trees at the site."*

This document is a file note presenting the interim protected species survey results and high level mitigation requirements to inform the planning application.

Introduction

Greengage completed an initial Preliminary Ecological Appraisal (PEA)[1] in November 2024 which identified suitability for the site to support a range of protected and notable species including roosting, foraging and commuting bats, nesting birds and notable invertebrates. It was understood that previous ecological survey work on the site dating from 2022[2] identified a known population of slow worm *Anguis fragilis* and common lizard *Zootoca vivipara* on site.

As a result, further ecological survey was recommended including:

- Bat emergence and hibernation survey of the 'former Novartis building';
- Aerial inspection of Potential Roost Features (PRFs) identified on tress 1-6
- Bat activity survey;
- Breeding bird survey including a focused survey on nightingale *Luscinia megarhynchos*;
- Reptile survey; and
- Invertebrate survey.

Suitability for other species was also noted but further survey was not deemed necessary. Please refer to the PEA[1] report for further details.

Please note Greengage have also completed a Preliminary Roost (PRA)[3] assessment in February 2025 which helped to inform the required survey effort for roosting and hibernating bat surveys. This report is

[1] Greengage Environmental Ltd (2024) 552979jh06Dec24FV03_PEA
[2] Ecology & habitat management Ltd. (2023); Preliminary Ecological Assessment, Reptile Survey & Bat Survey Report-Phase 1.
[3] Greengage Environmental Ltd (2025) 552979lm25Mar25FV01_PRA

completed and is available to be reviewed in full and, therefore, results of this survey will not be detailed within this interim survey file note.

At the time of writing Greengage have completed and reported upon the aerial inspection of trees 1-6[4], bat hibernation surveys[5], bat emergence surveys[6], bird survey report[7], reptile surveys[8] and invertebrate surveys[9]. These reports are available to be reviewed in full and therefore, the results of these surveys will therefore not be discussed within this interim survey file note.

The bat activity survey report is not yet available and therefore the outline results and high level mitigation requirments will be discussed within this interim survey file note.

Please note that further bat hibernation survey has commenced in November 2025 and will run until January 2026. There are not yet any results available to review from this survey.

Methodology

Bat Activity Survey

The PEA identified moderate suitability to support foraging and commuting bats on site. In accordance with BCT guidelines[Error! Bookmark not defined.], bat activity surveys are currently being completed which c omprise:

- Three Night-time Bat Walkover (NBW) surveys, in spring (April/May), summer (June/July/August) and Autumn (September/October); and
- Static monitoring surveys using two SongMeter (SM)4 detectors set to record sunset-sunrise for at least five nights a month, each month between April - October.

The locations and names of the two static detectors can be see in Plate 1 below.

[4] Greengage Environmental Ltd (2025) 552979in13Feb25FV01_PRFInspection
[5] Greengage Environmental Ltd (2025) 552979in10Jun25FV01_Hibernation
[6] Greengage Environmental Ltd (2025) 552979jc15Jul25FV01_Emergence_Survey_Report
[7] Greengage Environmental Ltd (2025) 552979cp16Jul25_FV01_BirdSurvey
[8] Greengage Environmental Ltd (2025) 552979JC01Aug25_FV02_Reptiles
[9] Greengage Environmental Ltd (2025) 552979jc17Jul25FV01_Invertebrates

Plate 1 Static detector locations

The data collected by the static detector was analysed in-office using specialist computer software (Kaleidoscope). The analysed data was interrogated to determine the type and number of species recorded and at what time/ frequency through the season.

At the time of writing the spring and summer NBW has been completed (completed on 28th April and 19th June 2025), and static data has been gathered for April - August. Further NBW are required in Autum, and static data is to be collected between September - October.

Breeding Bird Survey

During the PEA[1] the site was assessed as having moderate suitability to support breeding birds.

In accordance with the Bird Survey Guidelines[10], the breeding bird survey comprise of a series of six survey visits, in which a transect around the site is walked and bird species and their behaviours are noted. The surveys commence between 30 mins before to half an hour after sunrise, and concluded mid-morning. These six surveys are being conducted between March to early July, spread evenly throughout the season.

Following completion of the site visits, the results are mapped in line with the British Trust for Ornithology (BTO) bird survey codes, showing locations of encounters on the site across the different species present. An assessment of the population range is then analysed against known databases to establish the importance of any populations.

[10] Bird Survey & Assessment Steering Group. (2023). Bird Survey Guidelines for assessing ecological impacts, v.1.1.1. https://birdsurveyguidelines.org

Nightingale Survey

As the site is located within the south of England, which is a known geographical area for summer visitors of nightingale, an additional nocturnal survey was therefore completed on the 15th May between midnight and dawn.

At the time of writing breeding bird surveys have been completed.

Results and Mitigation

Table 2 below outlines the results of the surveys completed to date and prescribed high level mitigation and compensation strategies.

It is important to note that the mitigation and compensation recommendations made below are high level only at this stage and will be subject to changes/updated within the finalised survey reports.

Further detail on the full results and mitigation requirements will be provided within the completed individual survey reports, which will be made available at the earliest opportunity.

Table 2 Outline results and high-level mitigation requirments

Species	Survey completed to date (Y/N)	Date of expected completion*	Results/results to date	Mitigation and compensation requirments
Bat - Foraging and commuting	Y	October 2025	The survey data collected from the two static detectors and NBW have identified a total of eight species/species groups on site including brown long-eared, Myotis species, noctule *Nyctalus noctula*, Nathusius' pipistrelle *Pipistrellus nathusii*, common pipistrelle, soprano pipistrelle *Pipistrellus pygmaeus* and serotine *Eptesicus serotinus*. In August 2025 barbastelle *Barbastella barbastellus* was also recorded on a handful of occasions on the 10th and 11th August and 17th and 19th September. The most commonly recorded species was common pipistrelle and the least commonly recorded is Nathusius' pipistrelle and barbastelle. Greengage have assessed the importance of the species assemblage on site as per Table 3.3 of the Bat Mitigation Guidelines[Error! Bookmark not defined.]. Please note t hat as it has not been possible to separate out the Myotis detected to species level it is assumed that Daubenton's *Myotis daubentonii*, whiskered *Myotis mystacinus* and Natterer's *Myotis nattereri*, were present on site, as these were the species recorded within the data search exercise (see the PEA report[1]). The species assemblage on site scores 21 out of a possible 45 (46%). This relates to an assembly of county Importance in the south of England only, where 45% is the threshold for county importance.	To minimise impacts upon local bat populations identified at the site valuable habitat should be retained within the scheme where possible, for this sit this mainly relates to tree retention where possible. Unavoidable loss of foraging habitat will be compensated for through new planting of native trees, shrubs and wildflowers. Compensatory areas of wildlife-friendly landscaping will include night scented species which will attract moths and other night flying insects that provide prey for bats. Plant species selection should follow BCT Landscape and urban design for bats and biodiversity[11]. *Lighting* Artificial lighting can cause disturbance to bat species' roosting, foraging and commuting activity. Proposals will therefore seek to impose measures to limit additional light disturbance at site following development. Bat-sensitive lighting will be incorporated into the scheme to minimise any potential impacts of increased lighting levels on foraging, commuting and socialising bats. Lighting design should follow guidance provided by the Institute of Lighting Professionals (ILP) and BCT[12], specifically: • Will avoid use of metal halide and fluorescent light sources; • Warmth' of luminaires. Any external areas will incorporate light at a <2700K where possible, with peak wavelengths higher than 550nm; • Use of screens/hoods to make any external lighting as directional as possible, avoiding light spill on any natural features; • Where possible, external lights will be as low to the ground as possible and use of bollard lighting should be avoided; • Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered. Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt; • 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 be prohibited during the active bat season (April-October, inclusive); • Dark corridors will be created with no light levels over the hedgerow and tree lines edges;

[11] Gunnell, K., Grant, G. and Williams, C. 2012. Landscape and urban design for bats and biodiversity. Bat Conservation Trust

[12] Institution of Lighting Professionals and Bat Conservation Trust (2023), Bats and Artificial Lighting in the UK; Bats and the Built Environment Series.

				• Measures should be taken in internal light placement to reduce risk of light spill from windows; Lighting at site should be modelled to confirm predicted intensity and spill which should be reviewed by a Suitably Qualified Ecologist (SQE). The above is relevant to both the operational and construction phase of the development.
Breeding bird	Y	N/A	Results of locations and species recorded at the site are illustrated in Figures A.1a-f at Appendix A. Results of species, quantity of individuals per species per site visit, estimated breeding status, and estimated number of territories recorded at the site are provided in Table 1 in Appendix B.	Although a detailed and comprehensive list of mitigation recommendations cannot be provided at the time of writing as some site visits are still to be completed an outline is provided below: • Construction and Environmental Management Plan (CEMP) to be produced to detail measures to be followed during construction phase to mitigate impacts to breeding birds and birds in general, and to include: ○ Protection of existing and retained ecological features (including tall cloack tower structure on the former Novartis building); ○ Nesting bird checks including ground level tree assessments; ○ Species-specific disturbance considerations in the breeding bird season (typically considered to be March to August inclusive) (such as peregrine falcon *Falco peregrinus*); • Landscape Enhancement and Management Plan (LEMP) to be produced to detail habitat creation and enhancement measures that will be beneficial for biodiversity, including birds, in the long-term, to include: ○ Tree and shrub retention; ○ Grassland creation; ○ Biodiverse green roof creation for foraging black redstart *Phoenicurus ochruros* and other general bird species; ○ Bird boxes (including two peregrine falcon habitat features on the 'former Novartis building'). *Peregrine falcon* Species specific mitigation requirments for peregrine falcon to include, but not limited to: • Construction works to commence outside of the nesting bird season (February - August inclusive, which is typical and optimum though may vary outside of these months) and/or increase activity on site and in the aera to be built on over a period of months, to attempt to habituate the peregrine to increased levels of disturbance on site. This could be limited to an increase in people to the site and increase in traffic on site on a weekly basis, increasing as the nesting season approaches (nesting season is taken to run from February-August inclusive). • Monitoring surveys would be needed to confirm that breeding/dependency of young has finished at the site prior to commencement of works.

				• Works on the former Novartis building to occur outside of the nesting bird season (February - August inclusive)
				• Retention on the clock tower on the former Novartis building with a compensatory peregrine box provided on top (suitability of the clocktower must first be assessed).
				• Complete construction works which take place during the breeding season under a Natural England licence (A08 licence). Achieving the licence is subject to submitting a detailed Method Statement, for approval by Natural England, which is likely to include:
				  ○ Potential restriction measures to minimise disturbance;
				  ○ Site surveys to monitor the stage of breeding and record any signs of disturbance;
				  ○ Detail on actions to be taken if disturbance is suspected.
				• No access allowed to the portion of the roof used by the peregrines; and
				• Post development monitoring scheme for the peregrines.
				
				The above points can be detailed within a site specific peregrine mitigation strategy.

Nightingale	Y	N/A	No nightingale were recorded during the nocturnal survey on the 15th May. Nightingale is therefore considered likely absence from the site	No formal mitigation is required in relation to nightingale. Enhancements opportunities for nightingale are presented below.

*Please note the date of survey completion may not reflect the date completed survey reports will be available.

Enhancement

There is opportunity to enhance the site for the species discussed above as well as other notable target receptors. Green infrastructure is planned at a site-wide level, considering wider ecological features and green corridors. Where possible the proposed green space is multifunctional with high floral diversity and supporting native species where possible.

To enable proposals to deliver enhancements to the site for roosting and foraging bats, nesting birds, reptiles, and invertebrates, the following measures are/will be incorporated

- Wildlife friendly planting in the form of Sustainable Urban Drainage Systems (SuDS), shrub planting including 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 will be sown 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 Biodiversity Action Plan (BAP) species including bats and song thrush *Turdus philomelos*.
- There will be incorporation of night scented planting, such as night scented stock *Matthiola bicornis*, honeysuckle *Lonicera periclymenum* and viper's bugloss *Echium vulgare*, to encourage night flying insects for foraging bats;
- Marginal planting along the edge of the railway corridor to provide additional habitat structure for commuting species that will benefit a range of taxa through an ecosystem cascade effect, including invertebrates, birds and bats;
- Trees and hedgerow planting included throughout the development use a diverse mix of native species;
- Bat boxes should be incorporated into the designs of the new buildings (Habibat Bat Box 003[13] or similar) or fixed onto suitable mature retained trees (Schwegler 2F Bat Box[Error! Bookmark not defined.] or similar) near foraging/commuting habitat. These should be positioned at a minimum of 3m from ground level and away from artificial lighting.
- Nesting opportunities for birds, such as a swift *Apus apus*, house sparrow *Passer domesticus*, black redstart, nightingale and starling *Sturnus vulgaris* 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.
- 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;

[13] Habibat Bat Box 003. Available from: https://www.habibat.co.uk/bat-boxes

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

The further detail on these enhancement measures will be provided within the completed survey reports and at the planning condition stage.