Gladman Developments Ltd

Land off Swanstree Avenue, Sittingbourne

ECOLOGICAL APPRAISAL

Final

October 2021

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

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CONTENTS

TABLES

FIGURES

APPENDICES

1.0 NON-TECHNICAL SUMMARY

Report Scope and Methodology

- FPCR were commissioned by Gladman Developments Ltd to undertake an Ecological Appraisal for Land off Swanstree Avenue, Sittingbourne to provide an ecological baseline for the site and determine its ecological importance.
- The Site is proposed for a residential development comprising 135 units with associated infrastructure, informal greenspace, play areas and attenuation.
- An extended UKHab survey, desktop study and range of protected species surveys have been completed or are underway by FPCR to inform this assessment.

Key Findings

- The Site is dominated by arable habitats and cultivated orchards bordered by treelines and fences. Such habitats comprised common and widespread species and were considered to be of no more than local importance.
- The site lies within 15km of five sites of international importance for nature conservation, namely: Swale SPA/Ramsar; Medway Estuary & Marshes Ramsar site/SPA; Queendown Warren SAC, North Downs Woodlands SAC; Thames Estuary & Marshes Ramsar Site/SPA. A Habitat Regulations Assessment (HRA) will be required to assess the affect that the proposed development will have on designated sites within 6km.
- In addition, an appropriate financial contribution per household will be provided towards the North Kent Strategic Access Management and Monitoring Strategy (SAMMS) which will contribute towards the access management and enhancement of the Swale. Further detail on the scope of this will need to be agreed with Natural England and the Swale Borough Council.
- The Site provided some degree of suitable habitat for a range of protected/notable species including bats, badgers, reptiles and breeding birds. A range of common and widespread bats have been identified on site to date and evidence of badger has been observed. The breeding bird assemblage identified includes a range of farmland bird species in addition to a variety of generalist/woodland and urban edge species. A 'low' population of common lizard have been observed during surveys on site.

Recommended Mitigation and Enhancements

- All trees and hedgerows will be retained and enhanced wherever possible.
- The planting scheme will use native species with an emphasis on species bearing nectar, berries, fruit and nuts, to enhance the foraging opportunities for local fauna.
- Vegetation clearance works will be undertaken following a precautionary working method statement to ensure reptiles and breeding birds (March to August inclusive) are not harmed.
- A range of faunal enhancements have been recommended including a range of bat, bird and invertebrate boxes (on trees and within buildings), hedgehog highways and native species planting within landscape proposals.
- Additional mitigation and recommendations for faunal enhancement have been provided in the accompanying protected species reports.

2.0 INTRODUCTION

2.1 The following Ecological Appraisal has been prepared by FPCR Environment and Design Ltd on behalf of Gladman Developments Ltd for land south of Swanstree Avenue, Sittingbourne (central OS Grid Reference TQ91216257), herby referred to as the Site.

2.2 A Phase 1 habitat and protected species surveys, including great crested newt *Triturus cristatus* (GCN), bats, badger *Meles meles*, reptiles and dormice *Muscardinus avellanarius* were undertaken by FPCR in 2014, for a previous application which encompassed the arable fields to the east and south of the site. The red line boundary has since been reduced for this new application in 2021 and a walkover survey was undertaken on 11th March to update the baseline information.

2.3 The survey comprised an extended UKHab Survey including initial observations of any suitable habitats for, or evidence of, protected/notable species. Following this, a range of surveys were recommended for protected species and as such, this Ecological Appraisal should be read in conjunction with the following reports:

- Badger Survey Report (FPCR 2021)
- Bat Survey Report (FPCR 2021)
- Breeding Bird Survey Report (FPCR 2021)
- Reptile Survey Report (FPCR 2021)

Site Location and Context

2.4 The 5.9ha site lies on the south-eastern periphery of the town of Sittingbourne, Kent. Arable land surrounds the site to the south and east, with a Local Wildlife Site (LWS) beyond the southern boundary. The northern site boundary is bound by a fence line along Swanstree Avenue, beyond which lies the residential area of Sittingbourne and the A2 road. The site can be accessed via Chilton Manor Farmhouse and shop to the north-west of the Site off Highsted Road, which separates the site from further residential areas to the west.

2.5 The Site predominantly comprises a commercial arable field, with intensively managed orchards in the south of the Site. The application site is bound predominantly by fencing, with tall mature treelines along the southern and eastern boundaries and a short section of isolated hedgerow in the north. Other small areas of habitat on site included semi-improved grassland, tall herb/ruderal herb, and ephemeral vegetation.

Site Proposals

2.6 The proposals are for a residential development of up to 135 units with associated infrastructure and landscaping (*Development Framework Plan 06302-FPCR-ZZ-ZZ-DR-L-0002).* New entry points will be incorporated into the site via Swanstree Avenue along the northern boundary which is marked by a fence line. The majority of treeline extent within the site boundaries will be retained, with provision of approximately 2ha of green infrastructure (GI), to include public open space, orchard trees, play areas, a wildlife pond and additional structural planting (new hedgerows, trees and scrub).

3.0 LEGISLATION AND POLICY

3.1 Detail on the relevant national and local policy and legislation for ecology in relation to development sites are provided in Appendix A. The national policy and legislation most relevant here are:

- The Conservation of Habitats and Species Regulations ("The Habitats Regulations") (Amendment) 2017 (as amended) in relation to the European Protected Species (EPS) great crested newt, (GCN), bats (all species) and dormouse; and European protected sites i.e. Special Areas of Conservation (SAC), Special Protection Areas (SPAs) and Internationally protected "Ramsar Sites" (collectively known as "Natura 2000 sites"). Annex II bat species of particular relevance in relation to SACs designated for bats.
- The Wildlife and Countryside Act 1981 (WCA) (as amended) in relation to all wild birds (including Schedule 1 species), other animals (notably Schedule 5 species), flora (those listed in Schedules 8 and 9) and Sites of Special Scientific Interest (SSSI);
- Protection of Badgers Act 1992;
- Natural Environmental and Rural Communities (NERC) Act 2006 in relation to various priority species and habitats;
- Hedgerow Regulations 1997 made under Section 97 of the Environment Act 1995;
- National Planning Policy Framework (NPPF) (2021);
- Local Nature Reserves (LNR) as designated most recently by the NERC Act 2006;
- Non-statutory protected local sites including County Wildlife Sites (CWS), Sites of Importance for Nature Conservation (SINC), Local Wildlife Sites (LWS) and Ancient Woodland Inventory (AWI) sites;
- Local Biodiversity Action Plans (LBAP); and
- Birds of Conservation Concern (BoCC).

4.0 METHODOLOGY

Desk Study

4.1 In order to compile existing baseline information, relevant ecological information was requested from the following consultees and sources:

- Kent and Medway Biological Records Centre (KMBRC);
- Multi Agency Geographic Information for the Countryside (MAGIC) website[1];
- Colour 1:25,000 OS base maps[2];
- Aerial photographs from Google Earth[3].

4.2 The search area for biodiversity information was related to the significance of sites and species and potential zones of influence, as follows:

- 15km around the application area for sites of International Importance (e.g. Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites).
- 2km around the application area for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSIs)).
- 1km around the application site for sites of County Importance (e.g. Biological Heritage Sites (BHS)) and species records (e.g. protected, Local Biodiversity Action Plan (LBAP) or notable species).

Habitats/Flora

4.3 Survey methods followed the extended UKHab Survey technique as recommended by Natural England[4] and the Chartered Institute of Ecology and Environmental Management[5]. This involved a systematic walk over of the Site to classify the broad habitat types and identify any Habitats of Principal Importance (HPI) for the conservation of biodiversity as listed within Section 41 (S41) of the NERC Act 2006.

4.4 Where feasible, target notes and species lists were compiled for individual areas and assessments of abundance were made using the DAFOR scale. Vascular plant nomenclature follows Stace (2010)[6]. Whilst the species lists collected should not be regarded as exhaustive, sufficient information was gained during the survey to enable classification and assessment of broad habitat types and identify features likely to be of interest

4.5 In addition, hedgerows were surveyed using the Hedgerow Evaluation and Grading System (HEGS)[7]. This method of assessment includes noting down canopy species composition, associated ground flora and climbers, structure of the hedgerow including height, width and gaps, along with associated features such as; the number and species of mature trees, banks, ditches and grass verges.

1 [Online]. http://magic.defra.gov.uk/
2 [Online]. www.ordnancesurvey.co.uk
3 [Online]. www.maps.google.co.uk
4 Natural England, 2014. Protected species and development: advice for local planning authorities. (updated 2021) [online] Available at: https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications [Accessed 05/03/2021)
5 CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester
6 Stace, C.A. (2010). New Flora of the British Isles. (3rd Ed.). Cambridge: Cambridge University Press
7 Clements, D. & Toft, R. (1992). Hedgerow Evaluation and Grading System (HEGS) – a methodology for the ecological survey, evaluation and grading of hedgerows. Countryside Planning and Management

4.6 Each hedgerow was given a grade using HEGS with the suffixes '+' and '-', representing the upper and lower limits of each grade respectively. These grades represent a continuum on a scale from 1+ (the highest score and denoting hedges of the greatest nature conservation priority) to 4- (representing the lowest score and hedges of the least nature conservation priority) as follows:

Grade 1 – High to very high value;

Grade 2 – Moderately high to high value;

Grade 3 – Moderate value;

Grade 4 – Low value.

Hedgerows graded 1 or 2 are considered to be a priority for nature conservation.

4.7 Also, where appropriate, hedgerows were broadly assessed against the Wildlife and Landscape criteria contained within The Hedgerow Regulations 1997 to determine whether they qualified as 'Important Hedgerows'. This was achieved using a methodology in accordance with both the Regulations and DEFRA guidance.

4.8 It should be noted that hedgerows may also qualify as Important under the Archaeology and History criteria of the Hedgerow Regulations 1997 Act, which is beyond the scope of this assessment.

Fauna

4.9 During the extended UKHab survey, observations, identification and signs of any species protected under the following list of Acts and Regulations (collectively referred to herein as 'Protected Species') were recorded:

- Schedule 1 of the Wildlife and Countryside Act 1981 (as amended);
- The Protection of Badgers Act 1992;
- The Conservation of Habitats and Species Regulations 2017 (as amended)

4.10 Consideration was also given to the existence and use of the Site by other fauna listed as one or more of the following (collectively referred to herein as 'Notable Species'):

- Species of Principal Importance (SPI) for the conservation of biodiversity in England on the NERC Act, Section 41 (S41)
- Species listed on any Local Biodiversity Action Plan (LBAP) initiatives
- Red Data Book (RDB) species.

4.11 Badger survey, Breeding Bird survey and Reptile Survey methodologies and results have been assessed within the accompanying reports (FPCR 2021).

4.12 Seasonal bat activity surveys (transects and automated detectors) have been completed in May (spring) and July (summer) and the autumn survey will be completed in September 2021. Surveys are being undertaken in accordance with the *Bat Surveys for Professional Ecologists: Good Practice Guidelines*[8]. The ground based tree assessments and a review of activity survey results undertaken to date have been assessed within the accompanying *Bat Survey Report,* along with a description of the methodologies employed (FPCR 2021).

[8] Bat conservation Trust (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines*, Bat Conservation Trust, London

Survey Personnel and Conditions

4.13 The habitat survey was undertaken by an appropriately experienced Ecologist who has over six years in Ecological Consultancy and who is experienced in botanical surveys having achieved a level 5 on the Botanical Society of Britain and Ireland's (BSBI) Field Identification Skills Competency (FISC), equivalent to tutor level identification skills. The UKHab survey was undertaken on 11th March 2021 during clear weather with some cloud cover (approximately 70%) with rain showers and a light breeze (3 on the Beaufort Scale).

4.14 Details of personnel and survey conditions for faunal surveys conducted to date are provided in the accompanying reports.

Survey Limitations

4.15 This assessment aims to provide baseline ecological data for the Site and as such presents an overview of the habitats and features present. Due to the transient and complex nature of ecosystems, no investigation can provide a complete representation or prediction of the natural environment present, however every effort has been made to ensure an accurate description of the Site in presented following best practice guidance, experience and professional judgement.

4.16 The UKHab map (*Figure 2*) has been reproduced from detailed field notes and informed by aerial imagery, OS mapping and site maps provided by the client. The accuracy of this figure is therefore ultimately guided by the accuracy of these sources and can only be relied upon to a certain degree of resolution.

4.17 Data provided by third party sources collated during the desktop study is generally made up from a wide range of sources including (but not limited to) those submitted by ecological consultancies, wildlife conservation organisations and volunteers. As such, this data is typically focused on areas of known nature conservation, is reliant upon formal surveys having been undertaken within an area or the presence of an expert within the locality (particularly for invertebrate records) and as such this data can never be fully relied upon as a complete ecological dataset for any given area. Rather, this data is used as a guide to likely presence of notable ecological features and can never be relied upon for likely absence.

4.18 The UKHab survey was undertaken in March which is a sub-optimal time for habitat surveying as many plant species will not be present making accurate determination of habitat types difficult. However, the Site has since been visited numerous times for subsequent protected species surveys including breeding bird surveys and bat surveys which are being undertaken during the optimal survey period (April-July). Habitats have been reviewed during these visits to ensure that the broad habitat types identified during the UKHab survey were correct.

5.0 RESULTS

Desk Study

Statutory Sites

Internationally Designated Sites of Nature Conservation Importance

5.1 The Site lies within 15km of four sites of international importance for nature conservation, namely: Medway Estuary & Marshes Ramsar site/SPA; Queendown Warren SAC, North Downs Woodlands SAC and Thames Estuary & Marshes Ramsar Site/SPA.

5.2 The Swale designated a Ramsar, Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI), lies approximately 2.4km north of the site boundary. The site includes the largest remaining area of freshwater grazing marsh in Kent and is representative of the estuarine habitats found on the north Kent coast. The area is particularly notable for the internationally important numbers of wintering and passage wildfowl and waders, and there are also important breeding populations of several bird species.

5.3 Medway Estuary & Marshes SPA and Ramsar, is situated 6.3km to the north of the site and comprises a complex network of tidal channels that drain around large islands of saltmarsh and peninsulas of grazing marsh. The estuary feeds into and lies on the southern side of the outer Thames Estuary. The complex and diverse mix of coastal habitats, including inter-tidal flats, shell beaches and grazing marsh support important assemblages of wetland bird species, particularly wildfowl and waders. The boundaries of the SPA are coincident with those of the Medway Estuary & Marshes SSSI.

5.4 Queendown Warren, located 7.9km north, is designated a SAC for featuring an Annex I listed habitat; semi-natural dry grasslands and scrubland facies situated on calcareous substrates, which in turn provides supporting habitat for a number of rare and scarce orchid species, including early spider orchid *Ophrys sphegodes,* burnt orchid *Orchis ustulata* and man orchid *Aceras anthropophorum*. Queendown Warren is also designated as a SSSI and a LNR.

5.5 North Downs Woodlands, situated approximately 12.4km to the south-west (at its component nearest part), is primarily designated as a SAC for supporting two Annex I habitats; mature *Asperulo-fagetum* beech forests and *Taxus baccata* yew woodland. The stands of beech forest lie within a wider mosaic of scrub and other woodland types on steep slopes, while the yew woodlands are primarily associated with the beech forests, as well as scrub and areas of unimproved grassland located on chalk soils. Dog's mercury *Mercurialis perennis* dominates the ground flora in these yew woodlands.

5.6 Thames Estuary & Marshes SPA and Ramsar, located 15km to the north, constitutes a wetland of European importance that comprises a mosaic of intertidal habitats, saltmarsh, coastal grazing marshes, saline lagoons, and chalk pits. The Site provides wintering and breeding habitats for internationally important assemblages of overwintering wetland bird species, particularly wildfowl and waders, as well as supporting several species of migratory birds on passage. The Site forms part of the wider Thames Estuary, together with other classified SPA sites in both southern Essex and northern Kent.

5.7 Medway Council consider that any development within 6km of a designated site could have an impact on it. Consequently, as the proposed development lies within the impact zone of the Swale

SPA and Medway Estuary & Marshes Ramsar Site/SPA, a Habitat Regulations Assessment of the likely significant effects of the development on the statutory sites will be required. Similarly, given the proximity of Queendown Warren SAC to the application site, the effect of the proposed development on the SAC should also be assessed in the same document. Depending on the findings an Appropriate Assessment may also be required.

Non-Statutory Sites

5.8 There was one non-statutorily designated site within 1km of the site. Highstead Quarries, designated a Local Wildlife Site (LWS), lies approximately 200m south of the site. This has been designated for its regenerated chalk grassland habitats and because it supports a number of bird species.

Protected/Notable Species

5.9 A number of species records were returned from the KMBRC as summarised in *Table 1*, with the locations shown in *Figure 1 Consultation Plan*.

Table 1: Desktop Study Results – Protected Species

Common Name	Conservation Status	Dates	Approximate Location Relative to Site Boundary
Mammals - Bats			
Common Pipistrelle *Pipistrellus pipistrellus*	Hab Dir, Hab Reg, WCA, NERC	2015 - 2016	Three records, closest 428 m N
Noctule *Nyctalus noctula*	Hab Dir, Hab Reg, WCA, NERC	2016	One record 755 m NW
Pipistrellus sp. *Pipistrellus sp.*	Hab Dir, Hab Reg, WCA, NERC	2011 - 2016	Four records, closest 30 m N
Soprano Pipistrelle *Pipistrellus pygmaeus*	Hab Dir, Hab Reg, WCA, NERC	2017	Two records, closest 801 m SW
Unidentified Bat sp. *Chiropter asp.*	Hab Dir, Hab Reg, WCA, NERC	2015	One record 34 m N
Mammals - Terrestrial			
Brown Hare *Lepus europaeus*	NERC	2017	One record 828 m SE
West European Hedgehog *Erinaceus europaeus*	NERC	2015	One record 500 m N
Herpetofauna			
Common Frog *Rana temporaria*	WCA	2011 – 2017	Five records, closest 545 m NE
Common Lizard *Zootoca vivipara*	WCA, NERC	2015	Three records, closest 125 m SW
Slow-worm *Anguis fragilis*	WCA, NERC	2013 – 2018	Three records, closest 479 m NE
Smooth Newt *Lissotriton vulgaris*	WCA	2011 – 2013	Two records 877 m W
Invertebrates			

Stag Beetle *Lucanus cervus*	WCA, NERC	2019	Three records, closest 34 m N
Invasive, Non-Native			
Western Conifer Seed Bug *Leptoglossus occidentalis*	Non-native	2019	One record 988 m SW
Key: NERC S41 – Natural Environment & Rural Communities Act 2006 Section 41, Hab reg Sch2 – Conservation of Habitats & Species Regulations 2017 (as amended) Schedule 2, WCA – Wildlife & Countryside Act 1981, Sussex INNS – Sussex Invasive non-native Species Inventory, LBAP – Local Biodiversity Action Plan, BoCC:Red – Birds of Conservation Concern Red List, EU BDir A1 – EU Birds Directive, Annexe 1			

5.10 A large number of bird records with four figure and two figure grid references (low resolution) that are adjacent to, or encompass the site were also provided and these have been listed in the Breeding Bird Survey Report (FPCR 2021).

Habitats/Flora

5.11 The locations of the habitats described below are illustrated in *Figure 2*: UKHab Plan, with site photographs provided in *Appendix B*.

Grasslands

Modified Grassland g4

5.12 A small compartment of modified grassland is present at the northern extent of the site. This was regularly mown providing a short uniform sward. Perennial rye-grass *Lolium perenne* was dominant, with locally abundant cock's-foot *Dactylis glomerata*. Of the forbs daisy *Bellis perennis*, yarrow *Achillea millefolium*, ribwort plantain *Plantago lanceolata*, white clover *Trifolium repens*, dandelion *Taraxacum* agg. and creeping buttercup *Ranunculus repens* were frequent.

Ruderal/Ephemeral 17

5.13 A narrow (1.5m) strip of ruderal vegetation was present along one edge of the grassland compartment. Dominant grass species included cock's-foot, false oat-grass *Arrhenatherum elatius*, with ruderal species including common nettle *Urtica dioica* and common hogweed *Heracleum sphondylium*. Broad-leaved dock *Rumex obtusifolius*, creeping thistle *Cirsium arvense* and spear thistle *Cirsium vulgare*.

5.14 Two small areas of ephemeral land were present on the northern boundary next to gates opening out onto Swanstree Avenue, species included shepherd's purse *Capsella bursa-pastoris* and bristly ox-tongue *Picris echioides.*

Arable

Horticulture c1f

5.15 The arable land is a "pick your own" farm, the largest section was cabbage at the time of the habitat survey. Plots with cherry, blackberry, raspberry and strawberry were also present. As is typical of this habitat type, floral diversity was low due to the intensive management practices and the input of fertiliser, pesticide and herbicide. Wide field margins (up to 4 m) were present in between the plots and supported modified grassland (g4).

Orchard

Intensive Orchard c1e

5.16 Two areas of intensively managed fruit orchard are present onsite, which largely comprised fruit trees including cherry, plum and apple. Areas of sweetcorn and strawberries were also present. The ground flora was dominated by modified grassland (g4) with dominant perennial rye-grass and occasional false oat-grass, cock's-foot, wavy hair-grass *Deschampsia flexuosa* and creeping meadow-grass. Of the forbs smooth sow-thistle *Sonchus oleraceus*, yarrow, ribwort plantain, creeping thistle, dandelion, Autumn hawkbit *Leontodon autumnalis* , bristly ox-tongue, white clover, dove's-foot crane's-bill, common nettle, cleavers, common ragwort *Jacobaea vulgaris*, broad-leaved dock, selfheal *Prunella vulgaris*, ground ivy *Glechoma hederacea* and shepherd's purse were all recorded.

Tree Lines

Line of Trees w1g6

5.17 Tree line TL1 is a line trees parallel to the southern boundary (TL3) and is made up of mature Lombardy-poplar *Populus nigra* and does not extend the length of the field. Tree lines TL2 and TL3 form a line of mature Lombardy-poplar along the southern boundary and southern section of the eastern boundary.

Hedgerows

Hedgerow h2a

5.18 One intact species-poor hedgerow H1 was present forming a section of the western boundary of the site and continuing outside of the site boundary along Highsted Road. The hedgerow was dominated by beech *Fagus sylvatica*. No standards were present and the hedgerow was unconnected.

Table 2: Hedgerow Evaluation

Ref	Canopy Sp.	Length (m)	Notes	HEGS Value and Score	Important Under REGS / Average Species per 30m
H1	Beech, *Fagus sylvatica.*	33	2 m tall boundary hedgerow parallel to Highsted Road, no standards, no gaps, one connection to offsite hedgerow	3+ Moderate value	Not important 1 sp/30m

Fauna

Badgers

5.19 During the walkover survey one latrine and one squeeze were found within the application site. Full details and figures are provided in the accompanying *Badger Survey Report* (FPCR, 2021).

Bats

Roosting Habitat

5.20 There were no buildings present on site.

5.21 Nine trees located in tree lines TL2 and TL3 at the southern extent of the site were assessed as providing moderate or low potential for roosting bats. These trees had features including woodpecker holes, knot holes and rotting wood which provide cavities suitable for roosting bats. As these tree lines are being retained and buffered within the GI no further survey work was carried out. Details of these trees are provided in the Bat Survey report (FPCR, 2021).

Foraging and Commuting

5.22 The majority of the site was dominated by arable areas that were of very limited suitability for foraging bats. The tree lines and boundary features provided some suitability for foraging and commuting, as well as connectivity to other suitable habitats in the wider landscape.

Activity Transect Surveys

5.23 The May, July and September manual activity surveys have recorded contacts from four different species/species groups including common pipistrelle *Pipistrellus pipistrellus,* soprano pipistrelle *Pipistrellus pygmaeus,* noctule *Nyctalus noctule and Nyctalus species*. During the May survey, 13 bat contacts were recorded, in July this increased to 17 contacts and to 26 contacts in September.

Automated Static Bat Detector Surveys

1.0 During the automated surveys conducted in May, June and September 2021; eleven species/species groups were recorded, consisting of common pipistrelle (comprising 70.01% of total data), soprano pipistrelle (17.24%), noctule (5.723%), Pipistrelle species (2.60%), *Nyctalus* sp. (1.84%), *Myotis* sp. (0.97%), long-eared species (0.90%), Nathusius pipistrelle (0.36%), Leisler's *Nyctalus leisleri* (0.18%), serotine *Eptesicus serotinus* (0.10%), and Nyctalus / Eptesicus sp (0.03%).

5.24 Further details on the transect and static surveys are provided in the FPCR *Bat Survey Report* (2021).

Birds

5.25 Habitats onsite were considered suitable to support a range of common and widespread species, with hedgerow and tree lines providing suitable breeding and foraging habitat for generalist species including house sparrow *Passer domesticus,* starling *Sturnus vulgaris* and dunnock *Prunella*. The arable environs also provided suitable habitat for farmland birds including the skylark *Alauda arvensis* observed on site.

5.26 Breeding bird surveys have identified a range of common and widespread species typical of the habitats present on site. Full details and assessment are provided in the accompanying *Bird Survey Report* (FPCR 2021).

Great Crested Newts

5.27 No records of GCN were returned from the desktop study. No waterbodies were present on Site or within 500m of the site boundary. The majority of the habitats on site being dominated by arable habitats were considered to be sub-optimal for supporting great crested newt *Triturus cristatus* (GCN), providing little opportunity for rest or shelter.

Reptiles

5.28 The intensively managed orchards, arable fields and surrounding, well maintained, grassland margins that comprise the bulk of the site are considered sub-optimal habitat for reptiles, as the sward height is kept too short to provide any conducive cover these species, or to support a diverse invertebrate/amphibian population on which they might forage. The bases of the treelines and a small extent of grassland in the north-east corner offered some suitable habitat within the site boundary.

5.29 Three common lizard *Zootoca vivipara* records and two slow-worm *Anguis fragilis* records were returned from the desk study.

5.30 Reptile presence/absence surveys have been undertaken at the Site in 2021 and a 'low' population of common lizard have been recorded, all located within the northeast corner of the site. Further details on the surveys and mitigation recommendations are provided in the FPCR Reptile Survey Report (2021).

Dormice

5.31 No records for dormice have been returned from the desk study and dormice presence/absence surveys undertaken for the previous larger site application in 2014 did not find any evidence of dormice presence. The short section of beech hedgerow at the north of the site, H1, was isolated and the mature treelines of Lombardy-poplar at the site boundaries did not provide habitat conducive for dormice given the lack of structure for cover and suitable nut and fruit bearing species for foraging resource.

Other Protected/Notable Species

5.32 One hedgehog *Erinaceus europaeus* record was returned from the desk study, located 500 metres north of the Site. No evidence of hedgehogs was found onsite during the initial Phase 1 Habitat survey or any other visits to the Site.

5.33 The desk study showed one record of brown hare Lepus europaeus approximately 830 metres south-east of the Site. No evidence of brown hare was found within in site boundary during site visits.

6.0 DISCUSSION AND RECOMMENDATIONS

6.1 The proposals have been assessed against the current ecological baseline to review the potential impacts anticipated and to provide recommendations for mitigation, compensation and/or ecological enhancement where appropriate. This report aims to provide an early assessment based on surveys undertaken and employing a precautionary approach. Further assessment and recommendations have been provided within the accompanying protected species reports. The Bat Survey and Reptile Survey reports will be updated in September 2021 following completion of the remaining surveys. The assessment of impacts and recommendations for mitigation are based on indicative proposals for the development (*Development Framework Plan 06302-FPCR-ZZ-ZZ-DR-L-0002*).

6.2 Relevant legislation and policy for each species is discussed below where relevant and is summarised in *Appendix A* and included within the accompanying reports.

Desk Study

Statutory Designated Sites

6.3 Guidance on the implications of the legislation covering international sites is provided by Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System. In brief this states that the competent authority (the local planning authority) must establish if any proposals not directly connected to or necessary for the management of the international site, either alone or in combination, are likely to have a significant effect on the interest feature of the site. If, on a precautionary basis, there is a risk that there may be a significant effect upon the International site then a further Appropriate Assessment may be required.

6.4 There are five statutory sites of international importance for nature conservation importance situated within 15km of the site boundaries. These comprise the Swale SPA/Ramsar, Medway Estuary & Marshes SPA/Ramsar, Queendown Warren SAC, North Downs Woodlands SAC and Thames Basin Heaths SPA/Ramsar, located approximately 2.4km, 6.3km, 7.9km, 12.4km, and 15km from the site, respectively.

6.5 The nearest designated site to the application site is the Swale SPA, which falls within the 6km impact risk zone set out for statutory sites by the Phase 1 Bird Disturbance Report for the North Kent Coast[9]. Impacts relating to increased recreational disturbance, air pollution, and hydrological changes will need to be considered as a consequence of the development proposals. A Habitat Regulations Assessment that reviews the likely significant effects of the development on statutory sites within 6km, including Medway Estuary & Marshes SPA/Ramsar and Queendown Warren SAC will be required. Depending on the findings an Appropriate Assessment may also be required.

6.6 Alternative recreational greenspace for use by new residents will be created through the provision of approximately 2ha of GI within the proposals. This includes a play area and informal greenspace and a circular walk around the development. The provision of open areas will help to alleviate potential recreational pressure on the nearby protected sites.

6.7 Thames Basin Heaths SPA/Ramsar has a zone of influence of 5km/7km dependant on the size of the development, this development it is approximately 15km away; and thus, likely significant

[9] Liley, D., Lake, S. & Fearnley, H. (2012). *Phase I – Bird Disturbance Report*. Footprint Ecology/GGKM/NE

effects can be scoped out. The remaining European sites, Queendown SAC and North Downs SAC are all a considerable distance away (approximately 7-12km), and as such it is expected that the possibility of any likely significant effect would be unlikely.

6.8 It is concluded that a site specific HRA will be required to facilitate the councils own HRA assessment, and that further consultation with NE will be needed for this assessment to be completed. The Swale Borough Council consider that development within 6km of a designated site could have an impact on it; the proposed development lies within the impact zone of the Swale SPA. The Local Planning Authority (LPA) is recommended to consult Natural England for any proposed developments where there will be a net gain of more than 100 residential units.

6.9 In addition to onsite mitigation an appropriate financial contribution per household will be provided towards the North Kent Strategic Access Management and Monitoring Strategy (SAMMS) which will contribute towards the access management and enhancement of the Swale. Further detail on the scope of this will need to be agreed with Natural England and the LPA.

6.10 There is one nearby non-statutory site of nature conservation value; Highstead Quarries LWS lies approximately 230m south of the site. This site has been designated for its importance in supporting chalk habitats and bird populations. Open space will be provided within the GI to alleviate any potential increase in recreational pressure at this site and the southern boundary treeline will be enhanced to screen the LWS as well as deter informal access from the development. As such it is considered the likely impact of the proposals on this site would be negligible.

Habitats

6.11 The majority of the site comprised cultivated orchard and arable habitat, which was found to be of low intrinsic and conservation importance on account of its intensively managed nature. The small area of grassland in the north-east of the Site was similarly dominated by common and widespread species with limited diversity. Where grassland is being retained throughout the GI, which largely follows the pre-existing margins around the site boundaries, this should be enhanced through the planting of species-rich and tussock-forming species throughout the proposed development.

6.12 Preference within the planting scheme will be given to the use of locally native woody species, with an emphasis on species bearing nectar, berries, fruit and nuts, as these enhance the foraging opportunities for local wild fauna including birds and invertebrates. Suitable small tree species for inclusion in hedgerow and garden planting schemes include field maple, silver birch, wild cherry *Prunus avium*, bird cherry *P. padus*, holly, crab apple *Malus sylvestris* and rowan *Sorbus aucuparia*. Other shrub species suitable for inclusion within the soft landscaping design include hawthorn, hazel, blackthorn, dog-rose *Rosa canina*, honeysuckle *Lonicera periclymenum* and wild privet *Ligustrum vulgare*. A variety of small shrubs, low growing woody species, grasses and perennials, would provide a range of forms, sizes and finer scale variation to enhance the future structural and three-dimensional complexity of the site.

6.13 The proposed attenuation in the north-east corner of the Site will be permanently wet and designed specifically to maximise biodiversity value with wide shallow draw down zones, scalloped edges and deep central areas. The waterbody should be planted with locally native marginal and aquatic vegetation to provide habitat for herpetofauna, inverts and small mammals.

6.14 During construction works, all retained trees and hedgerows will be protected through the implementation of appropriate measures including root protection areas and protective fencing in

accordance with BS 5837 (2012) Trees in Relation to Design, Demolition and Construction and/or as indicated by any Arboricultural Assessment.

Protected and/or Notable Species

6.15 Principal pieces of legislation protecting wild species are Part 1 of the Wildlife and Countryside Act 1981(as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). Some species, for example badgers, also have their own protective legislation (Protection of Badger Act 1992). The impact that this legislation has on the Planning system is outlined in ODPM 06/2005 Government Circular: Biodiversity and Geological Conservation – Statutory obligations and their Impact within the Planning System.

6.16 In addition to protected species, there are those that are otherwise of conservation merit, such as Species of Principal Importance for the purpose of conserving biodiversity under NERC Act 2006. The implications that various identified species or those that are thought reasonably likely to occur may have for developmental design and programming considerations are outlined below.

6.17 Details on relevant legislation and policy for protected and notable species is provided in *Appendix A.*

Bats

6.18 The activity surveys recorded a total of eleven bat species/species groups (listed in order of abundance); common pipistrelle, soprano pipistrelle, noctule, Pipistrelle species, *Nyctalus* sp., *Myotis* sp., long-eared species, Nathusius' pipistrelle, Leisler's *Nyctalus leisleri*, serotine *Eptesicus serotinus* and *Nyctalus/Eptesicus* sp. Given the limited range of suitable habitats present on site, these results are not unexpected.

6.19 Five trees on the southern and south-eastern boundary have been classified as offering moderate bat roosting potential due to the features exhibited, although no evidence from ground assessments of a roost was possible. These trees will be retained within the scheme with a buffer of >5m and therefore no further surveys are needed at this time. However, if development proposals change and these trees may be lost or indirectly affected by development, either through pruning or lighting then further surveys would be required.

6.20 Details of the recommended mitigation and compensation measures are provided in the accompanying FPCR Bat Report (2021) but can be summarised as including the following measures:

- Retention and protection of trees T1, T2, T4, T6, T8 within treelines TL3 and TL2;
- The provision of compensatory native woodland, scrub and hedgerow planting;
- Creation of attenuation and orchard planting and grassland areas;
- A range of bat boxes suitable for a variety of species; and
- A sensitive lighting regime to ensure that retained and created habitats remain dark.

6.21 At this stage, with the implementation of the mitigation, it is considered that the loss of onsite habitats is not likely to adversely affect the favourable conservation status of the local bat population based on the current baseline information available and the habitats present on site.

Opportunities for habitat creation within the green infrastructure proposals could lead to a beneficial impact through the provision of good quality foraging habitat for local bat populations.

Birds

6.22 The accompanying bird survey report (FPCR, 2021) has assessed the value of the Site for birds based on the habitats present and the results of surveys. The surveys have identified that the Site is utilised by an assemblage of farmland birds and generalist bird species including a range of notable species such as skylark *and* linnet *Linaria cannabina*. Full details of the species recorded along with recommended mitigation and compensation measures are provided in the accompanying report but can be summarised as including the following measures:

- Retention and protection of treelines TL2 and TL3;
- The provision of compensatory native woodland, shrub and hedgerow planting;
- Wildflower planting along the eastern boundary landscape buffer;
- A range of nest boxes suitable for a variety of species; and
- Sensitive timing of vegetation removal.

6.23 The assemblage identified on the Site, with regards to numbers of species, or breeding pairs, does not meet the qualifying criteria for a Kent Local Wildlife Site. Given the low numbers of many of the notable species recorded during surveys, the Site is assessed as being of no more than local conservation value for the assemblage.

6.24 Impacts of development were assessed for the five notable species present on-site that were considered to be of local importance. Mitigation will include substantial additional planting and provision of nest boxes which will increase the available nesting and foraging resources available to the local bird population. This will result in a negligible to minor positive residual impact for the majority of bird species recorded.

6.25 As a result of the special protection afforded to breeding birds, in the event that any removal of woody vegetation (including trees and scrub) is necessary, it is recommended that this takes place outside of the bird breeding season (March to August inclusive) to minimise the risk of disturbance to breeding birds. If this is not possible, such vegetation should be checked prior to removal by a suitably experienced ecologist. If active nests are found, vegetation should be left untouched and suitably buffered from works until all birds have fledged. Specific ecological advice should be sought prior to undertaking the clearance.

Great Crested Newts

6.26 No records of GCN were returned from KMBRC during the data search with no waterbodies noted within 500m. The site itself provided no waterbodies suitable for breeding and few potential habitats that would offer shelter and/or resting places for this species during their terrestrial phase, limited to isolated areas of rough grassland and at treeline bases. To that end, it is consequently considered extremely unlikely that GCN would be present on site and this species therefore does not pose a constraint to the proposals.

Reptiles

6.27 Common lizard and slow-worm records were returned in the desk study and common lizard have been recorded on site. Further details on the surveys and proposed mitigation and enhancements have been provided in the Reptile Survey Report (FPCR, 2021). Mitigation measures include the passive displacement of reptiles into the retained habitats.

Dormice

6.28 The short section of hedgerow at the north of the site was isolated and the mature treelines of Lombardy-poplar at the site boundaries did not provide habitat conducive for dormice given the lack of structure providing cover and foraging resource. No records for dormice have been returned from the desk study and dormice presence/absence surveys undertaken at the site by FPCR in 2014 did not find any evidence of dormice presence. Therefore, the lack of extensive habitats on site, poor linkages and no known records means that dormice are not considered a constraint to the proposals. The treelines will be retained and enhanced within the GI, which would help to provide foraging and hibernation sites for a range of small mammals, birds and invertebrates.

General Enhancement Opportunities

6.29 The GI will provide a range of opportunities for additional habitat creation and faunal species measures that will provide ecological benefits to the site.

Habitats

6.30 The incorporation of the additional measures should be considered within the proposals to aim for further improvements:

- The proposed pond should be specifically designed for wildlife by incorporating shallow edges and native marginal and aquatic planting;
- Incorporating rain gardens within/around the development area;
- Incorporating green roofs on garages where possible;
- Replacing amenity grassland with species-rich grassland in areas of open space and managing them for their biodiversity value;
- Using a flowering lawn mix including native species of local provenance to enhance the overall floristic diversity of the scheme site wide;
- Planting native bulbs within areas of amenity planting to further add to floristic diversity; and
- Ensure all tree planting within residential environs include native tree species.

Faunal Enhancements

6.31 *Table 3* below offers a number of recommendations that can be easily incorporated into the scheme to provide enhancement features for a variety of faunal species.

Table 3: Recommended Faunal Enhancements

Target Species/ Groups	Enhancement Opportunities	Recommended Specifications
Bats	Proposals offer opportunities for the incorporation of roosting features within built development and retained trees.	A range of bat boxes should be installed across the site. These should include features such as bat bricks that can be installed into buildings as well as those can be affixed to the retained mature trees.
Birds	A range of nest boxes suitable for generalist species should be affixed to retained mature trees around the site peripheries, while nest boxes suitable for urban species should be affixed to dwellings around the development periphery. Other nesting opportunities should be incorporated into the planting regime with a specific focus on farmland birds.	A mixture of small hole (26mm and 32mm) nest boxes such as the 1B Schwegler nest box House sparrow terraces and house marten nest boxes affixed under the eaves of a number of dwellings Gorse *Ulex europaeus* should be included within scrub planting on the southern boundary of the site to provide optimal nesting habitat for linnet adjacent to offsite farmland.
Reptiles	Artificial hibernacula and log piles will be provided. Attenuation features should be designed to hold some degree of water throughout the year where feasible and should be planted with a diverse range of native species.	An artificial hibernaculum and two log piles should be constructed, ideally within the retained boundary habitats; treelines, hedgerows, native planting near the proposed attenuation pond. The proposed pond in the NE corner will be permanently wet.
Invertebrates	Invertebrates would also benefit from the inclusion of log piles and hibernacula designed for reptiles but would also benefit from specific features such as insect houses.	Insect houses are readily available from online retailers, but larger features that are designed for a range of species should be used where possible, such as the 'Minibeast HQ.' Features for invertebrates should also be included within the design of dwellings where possible to provide long-term features.
Hedgehogs	While this species has not been observed on site, it is widespread and typical in rural environs. Measures should be included to ensure this species is able to make use of garden and GI habitats.	A 'hedgehog highway' should be incorporated within the design of landscaping which will include gaps under fences across the site to allow this species free movement across the whole of the site. Consideration should also be given to providing hedgehog houses within areas of scrub planting.

APPENDIX A: RELEVANT LEGISLATION, POLICY AND GUIDANCE

Legislative Framework

The applicable legislative framework is summarised as follows:

- Natural Environment and Rural Communities Act 2006 (NERC);
- Wildlife and Countryside Act (1981) (as amended) (WCA);
- The EC Birds Directive (Directive 79/409/EEC) as translated into UK law by The Conservation of Habitats and Species Regulations 2017 (as amended);
- The EC Habitats Directive (Directive 92/43/EEC) as translated into UK law by The Conservation of Habitats and Species Regulations 2017 (as amended); and
- The Protection of Badgers Act (1992).

Section 41 (S41) of the Natural Environment and Rural Communities Act (2006) places a duty on the Secretary of State to publish, review and revise lists of living organisms and types of habitat in England that are of principal importance for the purpose of conserving English biodiversity, and to consult Natural England before doing so.

The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 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.

Habitats

The degree to which habitats and species receive consideration within the planning system relies on many mechanisms, including:

- Inclusion within a specific policy, for example veteran trees, ancient woodland and linear habitats within the National Planning Policy Framework (NPPF), or local planning policies;
- A non-statutory site designation (e.g. Local Wildlife Site);
- Habitats considered as Habitats of Principal Importance for the conservation of biodiversity and species considered as Species of Principal Importance for the conservation of biodiversity as listed within Section 41 of the NERC Act (2006); and
- Habitats identified as being a Priority Habitat and species identified as being a Priority Species within the local Biodiversity Action Plan.

Protected/Notable Species

Principal pieces of legislation protecting wild species are Part 1 of the Wildlife and Countryside Act 1981 (as amended) (WCA) and the Conservation of Habitats and Species Regulations 2017 (as amended). Some species, for example badgers, also have their own protective legislation (Protection of Badger Act 1992). The impact that this legislation has on the Planning system is outlined in ODPM 06/2005 Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.

This guidance states that as the presence of protected species is a material consideration in any planning decision and it is therefore essential that the presence or otherwise of protected species, and the extent to which they are affected by proposals, is established prior to planning permission being granted. Furthermore, where protected species are present and proposals may result in harm to the species or its habitat, steps should be taken to ensure the long-term protection of the species, such as through attaching appropriate planning conditions for example.

In addition to protected species, there are those that are otherwise of conservation merit, such as those listed as species of principal importance for the purpose of conserving biodiversity under the Natural Environment and Rural Communities (NERC) Act 2006. These are recognised in the NPPF which advises that when determining planning applications, LPA's should aim to conserve and enhance biodiversity by applying a set of principles including:

- If significant harm resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- Development proposals where the primary objective is to conserve or enhance biodiversity should be encouraged.

Bats

Bats and their habitats are protected under the Wildlife and Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2018 (as amended). In summary this makes it an offence to damage destroy or obstruct any place used by bats for breeding and shelter, disturb a bat, or kill, injure or take a bat. Seven bat species are listed as Species of Principal Importance under the provisions of the NERC Act 2006 of which three were recorded on site; soprano pipistrelle, noctule and brown long-eared.

Birds

The Wildlife and Countryside Act 1981 (as amended) is the principal legislation affording protection to UK wild birds. Under this legislation all birds, their nests and eggs are protected bylaw and it is an offence, with certain exceptions to recklessly or intentionally:

- Kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird while in use or being built;
- Take or destroy the egg of any wild bird.
- Species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are specially protected at all times.

Reptiles

All common reptile species, including grass snake, slow worm, common lizard and adder are partially protected under the Wildlife and Countryside Act 1981. In summary this legislation protects the species from intentional killing, injury or sale, offering for sale, or possessing, transporting or publishing advertisements for the purposes of sale.

Relevant Planning Policy

National Planning Policy Framework (NPPF)

The latest version of the NPPF was published in February 2021 and replaces the first NPPF published in March 2012 and minor clarifications to the revised version published in July 2019.

The premise of '*presumption in favour of sustainable development*' embedded within the previous versions of the NPPF has been carried forward to the current version. The NPPF considers that to achieve this, the planning system has three overarching objectives: economic, social and environmental. It considers these to be inter-dependent with a need for them to be mutually supportive of one another. For specific development proposals the NPPF considers applying a presumption in favour of sustainable development means:

"…c) approving development proposals that accord with an up-to-date development plan without delay…" [para.11].

"They [decision makers] *should use the full range of planning tools available, including brownfield registers and permission in principle, and work proactively with applicants to secure developments that will improve the economic, social and environmental conditions of the area".* [para. 38.].

"When determining planning applications, local planning authorities should apply the following principles:

…d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate biodiversity." [para. 180].

In terms of 'environmental objects' (one of the three core planning objectives), the NPPF states that:

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

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

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

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

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

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental

conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate". [para 174].

APPENDIX B: SITE PHOTOGRAPHS

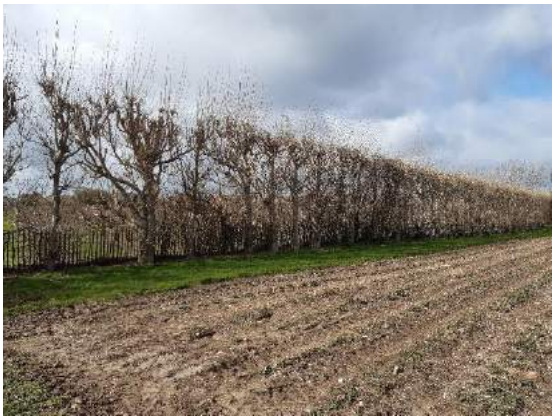

Photo 1: Treeline TL3

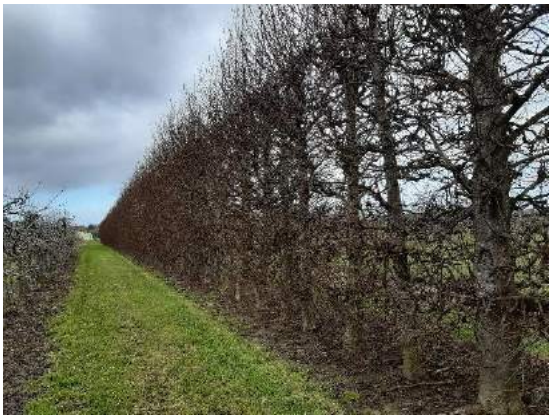

Photo 2: Treeline TL1

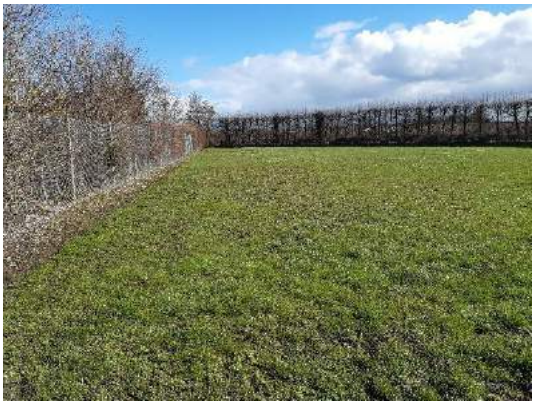

Photo 3: Modified grassland compartment

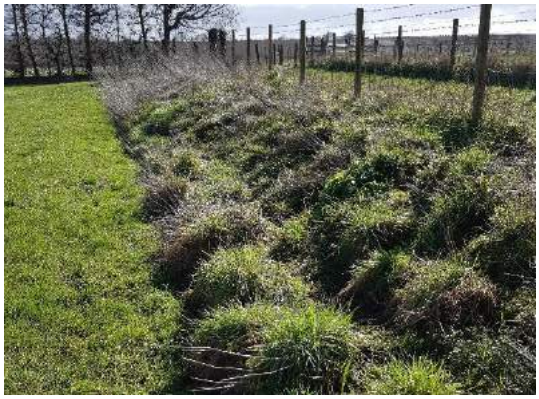

Photo 4: Tall ruderal

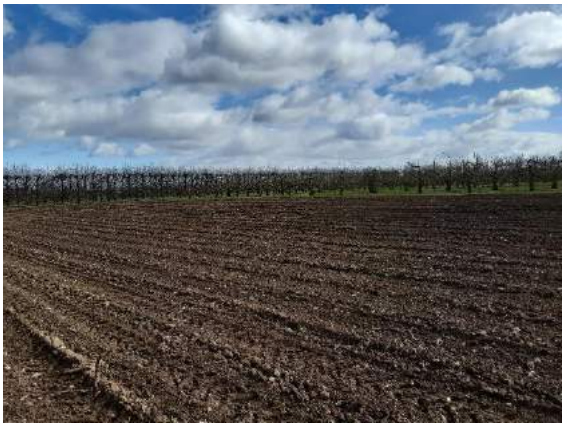

Photo 5: View northeast across arable area towards orchard

Photo 6: View from northern boundary looking east

Key

- Site Boundary
- 1km buffer

Designated sites

- Local Wildlife Site (LWS)
- Ancient Woodland Inventory Sites

Protected/Notable Species Records

- Common Pipistrelle
- Noctule Bat
- Pipistrellus species
- Soprano Pipistrelle
- Unidentified Bat Species
- Brown Hare
- West European Hedgehog
- Common Frog
- Common Lizard
- Slow-worm
- Smooth Newt
- Stag Beetle
- Western Conifer Seed Bug

Gladman

Land off Swantree Avenue, Sittingbourne

PROTECTED SPECIES PLAN

scale 1:10000 | drawn HG | issue 21/6/2021

drawing / figure number **Figure 1** | rev **6302-E-01**

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Key

- Site Boundary

Phase 1 Points

- Tree with bat potential

Phase 1 Lines

- Fence
- Path
- Hedgerow
- Line of trees

Phase 1 Habitats

- Intensive Orchard
- Ruderal
- Modified grassland
- Arable - Horticulture
- Ephemeral

Gladman

Land off Swanstree Avenue, Sittingbourne

UKHAB PLAN

scale 1:1500 | drawn HG | issue 19/8/2021

drawing / figure number **Figure 2** | rev **6302-E-01**

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