Hindsland Playing Fields, Eastbourne Road, Willingdon, East Sussex

Preliminary Ecological Appraisal

A Report for Danescroft (FREOF V Willingdon) LLP

May 2022

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01 of 02

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The content of this report is the responsibility of Greenspace Ecological Solutions Ltd.
It should be noted that whilst every effort was made to meet the client's requirements, no Site survey can ensure complete assessment or prediction of the changeable within the Site environment. Furthermore, should more than 12 months elapse between the date of this survey and any subsequent development, it may be necessary to consider the need for an update survey to be undertaken.

Report Number J20961_P9_PEA

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1 PROJECT OVERVIEW

Client:	Danescroft (FREOF V Willingdon) LLP
Site Address:	Former Hindsland Playing Fields, Eastbourne Road, Willingdon, BN20 9NY
Attending Ecologists:	Matthew Rohner Grad CIEEM (NE GCN Class Licence Level 1) Martin Rann ACIEEM (NE GCN Class Licence Level 1; NE barn owl licence) Jacob Tassaker Qualifying CIEEM
Survey Period:	September 2020 – February 2022
Site Proposals:	Outline Application with all matters reserved except for access (excluding internal estate roads beyond the access to serve the medical centre plot) for demolition of existing vacant dwelling and erection of up to 180 no. dwellings and medical centre together with all parking, servicing and on-site open space.
Associated Planning Reference Number:	WD/2021/0594/MEA

Source of Relevant Documents:

Document:	Source:
Site Location Plan:	Google Earth Pro
Desk Study:	Multi-Agency Geographic Information for the Countryside (MAGIC) Sussex Biodiversity Record Centre (SxBRC)
Site Plans:	Indicative Site Layout, drawing no. P101C (OSP Architecture)

2 INTRODUCTION

2.1 Context

2.1.1 Prepared on behalf of Danescroft (FREOF V Willingdon) LLP, the following report sets out the results of the Preliminary Ecological Appraisal conducted of the land proposed for development at Hindsland Playing Fields, Eastbourne Road, Willingdon, East Sussex (hereafter referred to as the 'Site'), as depicted within the redline boundary in Figure 1. Following the initial suite of surveys which were carried out in 2020 and 2021, and update PEA of the Site was carried out on 23rd April 2022. The purpose of this survey was to identify any changes in the baseline which had occurred since the initial PEA was undertaken.

2.1.2 Photographs of features of interest are presented in **Appendix A**. Features of ecological importance were identified and are presented in the **Phase 1 Habitat Map, Figure 1**. The development proposals are presented in the **Illustrative Masterplan in Figure 2**.

2.1.3 The Site's suitability to support species and habitats both legally protected and of conservation concern was assessed. Features of interest have been retained through development design where practical. Potential ecological constraints were assessed, and recommendations regarding mitigation and compensation are provided where potential impacts are unavoidable.

2.2 Site Location

2.2.1 The Site is situated within the village of Willingdon, East Sussex, at National Grid Reference TQ584041. The location of the Site is depicted in **Image 1**.



Image 1. Location of the Site

2.3 Site Description

2.3.1 The Site is bound by residential properties to the north, agricultural land to the east, the A2270 Eastbourne Road to the west and south, with a parcel of open green space to the north-west. The wider landscape comprises the village of Willingdon to the north, south, and west, with agricultural land to the east, consisting primarily of pasture and hedgerows.

2.3.2 The wider landscape is one of urban areas, agricultural land with an interconnecting network of hedgerows, and scattered woodland blocks.

2.4 Legislation and Planning Policies

Legislation

2.4.1 The main legislation that applies to ecological issues within England is:

- The Conservation of Habitat and Species Regulations 2017 (as amended) transposes European Union Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law. These regulations provide for the designation and protection of 'European Sites', the protection of 'European Protected Species' and the adaptation of planning controls for the protection of such sites and species. Under

the regulations, public bodies have a duty in exercising their functions to have regard to the EC Habitats Directive.

- The Wildlife and Countryside Act 1981 (as amended) provides detail on a range of protection and offences relating to wild birds, other animals, and plants. The level of protection depends on which Schedule of the Act the species is listed on. Licences are available for specific purposes to permit actions that would otherwise constitute an offence in relation to species.
- The Natural Environment and Rural Communities (NERC) Act 2006 imposes an obligation on all public bodies, including local authorities, to consider whether their activities can contribute to the protection of wildlife. The duty is created by section 40(1) of the Act, which 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."
- Hedgerows Regulations 1997 serves to; enforce under the Environment Act 1995, restrict the removal of hedgerows, or parts of hedgerows which are over 20m in length. In this case, removal includes digging up and replanting elsewhere, as well as removing from the land completely or destroying in the course of other actions. This includes developments or activities which destroy the roots, causing the vegetation to die.
- The Protection of Badgers Act 1992 exists to protect badgers *Meles meles* from cruelty. Under the act it a criminal offense to wilfully kill, injure, take, possess, or cruelly ill-treat a badger, or to attempt to do so, or to intentionally, or recklessly, interfere with a sett.

2.4.2 The above summary serves as guidance only – the reader is referred to the original legislation for definitive interpretation.

UK Planning Policy

2.4.3 The recommendations of this report are in line with the key principles of the National Planning Policy Framework (NPPF) 2021 and Government Circular 06/05.

2.4.4 Local planning policies relating to ecology are invariably based on the conservation of species protected under the above legislation, including species and habitats of principal importance listed under Section 41 of the NERC Act 2006; and the protection of designated sites. All of these features are considered within the scope of this Ecological Assessment and therefore any recommendations made herein are considered to be in line with this policy.

2.5 Objectives of the Survey

2.5.1 The objectives of the survey were to:

- Identify any potential impacts from developing the Site on protected and designated areas within the wider landscape.
- Classify the main habitats present within the Site.
- Assess buildings and trees for their suitability to support roosting bats.
- Provide recommendations regarding the retention of features of ecological interest.
- Provide recommendations regarding mitigation and compensation where required.

3 SURVEY METHODOLOGY

3.1 Desk Study

3.1.1 A desk study was undertaken as part of the 2020 PEA to determine the presence of sites and habitats of conservation importance, together with historical records of protected and notable species, within a 2km radius of the Site (extended to a radius of 25km for National Site Network sites for the purposes of impact assessment). It was not considered necessary to request additional desk study data for the purposes of the update PEA.

3.1.2 The following bodies and reports were consulted for the desk study:

- Multi-Agency Geographic Information for the Countryside (MAGIC) for records of designated sites.
- Sussex Biodiversity Record Centre (SxBRC) for existing records of protected and notable species.
- Google Earth Pro for pond locations within 250m of the Site.
- The 2021 GES Ecological Assessment Report (GES, 2021), provided in **Appendix D**.

3.2 Phase 1 Habitat Survey

3.2.1 The Site was surveyed using the methodology outlined in 'The Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit' (JNCC, 2010). This involves identifying the main plant communities present on the Site and classifying the habitat types following the JNCC methodology. This technique provides an inventory of the basic habitat types present and enables areas of greater botanical interest which may require further, more detailed, surveys to be identified. Any occurrences of recognised invasive species as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were also noted.

3.2.2 A map of the habitats and areas of interest (using a variation of the JNCC 2010 protocol for Phase 1 Habitat Plans) is provided in the **Phase 1 Habitat Map, in Figure 1**. Photographs of features of interest are presented in **Appendix A**.

3.2.3 The update PEA was undertaken on 23rd April 2022 by Martin Rann ACIEEM.

3.3 Protected and Notable Species

3.3.1 The survey was extended to include an assessment of the Site's suitability to support protected and notable species. This involved assessing the suitability of the habitats present on the Site for these species as well as connectivity to the Site from other areas of potentially suitable habitat nearby.

[redacted]

Bats

3.3.4 Where trees, buildings or other structures are present within the Site, specific survey work was undertaken to assess their suitability to support roosting bats. In this instance, a variety of equipment was used to complete the preliminary bat roost assessment, including high powered torches and a camera.

3.3.5 Trees within the Site potentially affected by the proposed development were surveyed in accordance with current best practice guidance (Collins, 2016). Trees were inspected for features such as splits, fissures, delaminated bark, heavy ivy *Hedera* sp. cover and woodpecker holes. Evidence of roosting bats such as droppings, staining and bats themselves were searched for below and in suitable features.

3.3.6 Specific survey work was undertaken to assess the suitability of within the Site buildings to support roosting bats. To complete the building survey, a full external inspection of buildings to be affected by proposals was conducted. The potential for the building to support roosting bats was assessed, considering potential access points, such as open soffit boxes, raised/slipped roof/hanging tiles, weatherboarding, and access to cavity walls. Evidence of bats was recorded, inclusive of droppings, staining, carcasses and feeding remains, and bats themselves.

3.3.7 The results of a scoping survey enable trees and buildings to be categorised as having 'Confirmed roosts', 'High', 'Moderate', 'Low' or 'Negligible' suitability to support roosting bats.

3.3.8 In accordance with current good practice guidance (Collins, 2016), the level of suitability

determines the need or not for further summer emergence surveys. Although left to the discretion of the appointed ecologist, in most instances Confirmed roosts and High suitability requires three surveys, Moderate suitability requires two surveys and Low suitability requires a requires a single further emergence or pre-dawn re-entry survey (although trees with Low suitability do not require further emergence or pre-dawn re-entry surveys).

Breeding birds

3.3.9 The Site was assessed for its suitability to support nesting birds. Factors considered include suitable cover and feeding habitat, the presence of used and disused nests, and birds displaying nesting characteristics.

Wintering birds

3.3.10 Land within the Site was assessed in terms of its suitability to support notable assemblages of birds during the winter months, including any species that are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and the RSPB Birds of Conservation Concern 4 (BoCC4) Red and Amber Lists.

3.3.11 Given the suitability of the land proposed for development to support wintering bird populations, coupled with the proximity of the Site to the Pevensey Levels Site of Special Scientific Interest (SSSI) and Local Nature Reserve (NNR), wintering bird surveys were carried out within the Site to determine its use by over-wintering and migratory birds (the results of these surveys are presented in the 2021 GES Ecological Assessment Report (Provided in Appendix D).

Hazel dormouse

3.3.12 The Site was assessed for suitable hazel dormouse *Muscardinus avellanarius* habitat, such as the presence of a well-connected understorey broadleaf habitat, hedgerows, and suitable food sources such as oaks *Quercus* spp., hazel *Corylus avellana* and other nut-bearing trees, fruiting trees and shrubs and flowers.

Great crested newt

3.3.13 The Site was assessed for its suitability to support great crested newt (GCN) populations. Suitable terrestrial habitat for GCN includes long grass, tall ruderal vegetation, woodland and hedgerow borders, as well as wood and rubble piles that provide sheltering opportunities.

Reptiles

3.3.14 The Site was assessed for its suitability to support reptiles. Suitable habitat for reptiles includes long grass, scrub, woodland and hedgerow borders, and wood/rubble piles that

provide sheltering opportunities.

Other species

3.3.15 Consideration was given to the Site's suitability to support other protected and notable species such as European hedgehog *Erinaceus europaeus* and common toad *bufo bufo.*

3.4 Survey Constraints

3.4.1 Due to seasonal constraints, further protected species surveys have not been carried out. However, the results of previous surveys conducted of the Site both by GES (see the GES 2021 Ecological Assessment Report in Appendix D and those carried out in relation to the wider Mornings Mills application (Middlemarch, 2017) have been utilised to inform the mitigation strategy set out within this report. Furthermore, the baseline site conditions have remained in line with those recorded during the previous surveys, therefore the above is not considered to present a constraint to the mitigation recommendations within this report.

4 SURVEY RESULTS

4.1 Desk Study

Statutory designated sites

Internationally Designated Sites

4.1.1 One Internationally designated site (the **Pevensey Levels Ramsar**) lies within 25km of the Site (2.8km north-east). The Pevensey Levels Ramsar designation relates to "*an outstanding assemblage of wetland plants and invertebrates including many British Red Data Book species and 68% of vascular plant species in Great Britain that can be described as aquatic. It is probably the best site in Britain for freshwater molluscs, one of the five best sites for aquatic beetles* Coleoptera *and supports an outstanding assemblage of dragonflies* Odonata*.*"

National Site Network Sites

4.1.2 Two National Site Network sites (previously Natura2000 European sites) are present within 25km of the Site, as follows:

- The Pevensey Levels Special Area of Conservation (SAC), Site of Scientific Interest (SSSI) and National Nature Reserve (NNR) lies 2.8km to the north-east.
- The Ashdown Forest Special Protection Area (SPA), SAC, SSSI, and NNR lies 24.5km to the north-west).

4.1.3 The Pevensey Levels SAC is designated for the presence of ramshorn snail *Anisus vorticulus.*

4.1.4 The underpinning SSSI designation for the Pevensey Levels SAC also states: "*Ornithologically, the site is of national importance as the number of wintering lapwings has regularly exceeded 1% of the total British population in recent years."*

4.1.5 The Site lies within the Pevensey Levels SSSI Impact Risk Zone (IRZ).

4.1.6 The Ashdown Forest is one of the largest single continuous blocks of heath, semi-natural woodland and valley bog in south-east England, and it supports several uncommon plants, a rich invertebrate fauna, and important populations of heath and woodland birds.

4.1.7 The Site does not lie within the SSSI IRZ for the underpinning SSSI of the Ashdown Forest SAC/SPA.

Nationally Designated Sites

4.1.8 Two statutory designated sites are present within 2km of the Site, as follows:

- Willingdon Down SSSI lies 1.2km south-west.
- Folkington Reservoir SSSI lies 1.8km west.

4.1.9 Willingdon Down SSSI comprises an area of species-rich chalk grassland.

4.1.10 Folkington Reservoir SSSI comprises rich chalk grassland flora with abundant orchids. It is the only known location in the county for the rare and protected hairy mallow *Althaea hirsuta12*, a species listed on Schedule 8 of the Wildlife & Countryside Act 1981 (as amended).

Non-statutory designated Sites

4.1.11 Non-statutory designated sites that lie partially or wholly within 2km of the Site are as follows:

- Diplocks Woods/Wannock Coppice Local Wildlife Site (LWS) (0.6km away to the west).
- Cranedown and Middle Brow LWS (1.2km away to the south-west).
- Willingdon Roundabout LWS (2.0km away to the south-east).

Ancient woodland

4.1.12 There is no ancient woodland present within the Site.

4.1.13 Eight areas of Ancient Semi-Natural Woodland (ASNW) are present within 2km of the Site. The nearest ancient woodland is located within the Diplocks Woods/Wannock Coppice SNCI, approximately 600m to the west of the Site.

NERC s41 Habitats of Principle Importance (HPI)

4.1.14 HPI within 2km of the Site and the closest of each are presented in **Table 1**.

Table 1 – NERC s41 HPI within 2km of the Site.

HPI	Distance from Site
Deciduous woodland	520m NE
Coastal and floodplain grazing marsh	830m E
Lowland calcareous grassland	1.2km SW
Traditional orchards	1.2km SE

Protected and Notable Species

Flora

4.1.15 114 records of 58 floral species of conservation interest were returned from within 2km of the Site, or from within 1 x 1km squares that wholly or partially fall within 2km of the Site boundary. None of the records are specific to the Site. A selection of floral species records of potential relevance to the Site are presented in **Table 2**.

Table 2 – A selection of relevant floral species recorded within 2km of the Site.

Common Name	Scientific Name	Legal Protection / Conservation Priority Status	Closest Record	Most Recent Record
Burnt orchid	*Neotinea ustulata*	S41, UK BAP Priority, RedList GB post2001 EN, RedList ENG post2001 EN, Nat Scarce, Sussex Rare	1.55km SE	27/06/2004
Eyebright	*Euphrasia nemorosa*	RedList ENG post2001 NT	TQ50R	30/09/2010
Field pepperwort	*Lepidium campestre*	RedList ENG post2001 NT	1.08km E	05/09/2009
Field scabious	*Knautia arvensis*	RedList ENG post2001 NT	TQ60C	01/10/2015
Lizard orchid	*Himantoglossum hircinum*	WCA Sch8	1.72km N	13/06/2018
Purple viper's-bugloss	*Echium plantagineum*	Sussex Rare	1.57km SSE	15/09/2014
Quaking grass	*Briza media*	RedList ENG post2001 NT	TQ50R	14/08/2008
Rye brome	*Bromus secalinus*	RedList GB post2001 NT, RedList ENG post2001 NT, Nat Scarce, Sussex Rare	1.4km NW	18/10/2007
Spiny restharrow	*Ononis spinosa*	RedList ENG post2001 NT	170m SE	18/07/2016

Badger

4.1.16 Badger records in Sussex are confidential and therefore are not included within SxBRC record searches. Records can be obtained directly from the local badger group, although the acquisition of the data was not considered necessary in this instance.

Bats

4.1.17 Bat species recorded within 2km of the Site, or from within 1 x 1km squares that wholly or partially fall within 2km of the Site boundary, are presented in **Table 3**.

Table 3 – Bat species recorded within 2km of the Site.

Common Name	Scientific Name	Legal Protection / Conservation Priority Status
Brown long-eared bat	*Plecotus auritus*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c/s9.5a, NERC S41
Brandt's bat	*Myotis brandtii*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c/s9.5a
Common pipistrelle	*Pipistrellus pipistrellus*	Hab Reg Sch2, NERC S41, WCA Sch5 s9.4b/s9.4c/s9.5a
Natterer's bat	*Myotis nattereri*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c/s9.5a
Noctule bat	*Nyctalus noctula*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c/s9.5a, NERC S41
Serotine bat	*Eptesicus serotinus*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c/s9.5a

Common Name	Scientific Name	Legal Protection / Conservation Priority Status
Soprano pipistrelle	*Pipistrellus pygmaeus*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c/s9.5a, NERC S41
Whiskered bat	*Myotis mystacinus*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c/s9.5a

Other mammals

4.1.18 Records of other mammals of conservation interest of potential relevance to the Site returned from within 2km of the Site, or from within 1 x 1km squares that wholly or partially fall within 2km of the Site boundary are presented in **Table 4**.

Table 4 – Other mammal species of conservation interest recorded within 2km of the Site.

Common Name	Scientific Name	Legal Protection / Conservation Priority Status	Closest Record	Most Recent Record
West European hedgehog	*Erinaceus europaeus*	S41, UK BAP Priority, RedList GB post2001 VU	160m W	18/04/2020

Birds

4.1.19 4994 records of 167 bird species of conservation interest were identified from within 2km of the Site, or from within 1 x 1km squares that wholly or partially fall within 2km of the Site boundary. A selection of records of bird species of potential relevance to the Site are presented in **Table 5**.

Table 5 – Relevant bird species of conservation interest recorded within 2km of the Site.

Common Name	Scientific Name	Legal Protection/Conservation Priority Status
Avocet	*Recurvirostra avosetta*	Birds Dir A1, WCA Sch1 Pt1, Bird Amber, Notable Bird
Dunnock	*Prunella modularis*	S41, UK BAP Priority, Bird Amber, Notable Bird
Eurasian bullfinch	*Pyrrhula pyrrhula*	S41, UK BAP Priority, Bird Amber, Notable Bird
Fieldfare	*Turdus pilaris*	WCA Sch1 Pt1, Bird Red
House sparrow	*Passer domesticus*	S41, UK BAP Priority, Bird Red, Notable Bird
Lapwing	*Vanellus vanellus*	S41, UK BAP Priority, Bird Red, Notable Bird
Redwing	*Turdus iliacus*	WCA Sch1 Pt1, Bird Red
Starling	*Sturnus vulgaris*	S41, UK BAP Priority, Bird Red, Notable Bird
Tree sparrow	*Passer montanus*	S41, UK BAP Priority, Bird Red, Notable Bird
Turtle dove	*Streptopelia turtur*	S41, UK BAP Priority, Bird Red, Notable Bird

Herpetofauna

4.1.20 Records of herpetofauna returned from within 2km of the Site, or from within 1 x 1km squares that wholly or partially fall within 2km of the Site boundary are presented in **Table 6**.

Table 6 – Herpetofauna species recorded within 2km of the Site.

Common Name	Scientific Name	Legal Protection / Conservation Priority Status	Closest Record	Most Recent Record
Common frog	*Rana temporaria*	WCA Sch5 s9.5a	225m W	07/05/2015
Common lizard	*Zootoca vivipara*	WCA Sch5 s9.1/s9.1 kill/s9.5a, NERC S41	560m NE	04/09/2018
Common toad	*Bufo bufo*	WCA Sch5 s9.5a, NERC S41	1.07km SSE	26/10/2013
Grass snake	*Natrix helvetica*	WCA Sch5 s9.1/s9.1 kill/s9.5a, NERC S41	530m NE	19/06/2018
Great crested newt	*Triturus cristatus*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c/s9.5a, NERC S41	1.02km NW	16/05/2015
Palmate newt	*Lissotriton helveticus*	WCA Sch5 s9.5a	705m W	21/05/2002
Slow worm	*Anguis fragilis*	WCA Sch5 s9.1/s9.1 kill/s9.5a, NERC S41	230m W	04/09/2018
Smooth newt	*Lissotriton vulgaris*	WCA Sch5 s9.5a	630m NW	22/10/2016

Invasive, non-native species (INNS)

4.1.21 272 records of 26 INNS were returned from within 2km of the Site, or from within 1 x 1km squares that wholly or partially fall within 2km of the Site boundary. A selection of INNS records of potential relevance to the Site are presented in **Table 7**.

Table 7 – A selection of relevant INNS recorded within 2km of the Site.

Common Name	Scientific Name	Legal/Conservation Status	Closest Record	Most Recent Record
Evergreen oak	*Quercus ilex*	Sussex INNS	TQ50R	15/06/2013
Himalayan balsam	*Impatiens glandulifera*	WCA Sch 9 INNS	TQ60C	22/09/2012
Japanese Knotweed	*Fallopia japonica*	WCA Sch 9 INNS	1.26km NNW	31/12/2009
Montbretia	*Crocosmia pottsii x aurea = C. x crocosmiiflora*	WCA Sch 9 INNS	TQ50T	30/06/2010
Red valerian	*Centranthus ruber*	Sussex INNS	TQ60C	03/06/2010
Rhododendron	*Rhododendron ponticum*	WCA Sch 9 INNS	TQ50S	31/05/2010
Pampas grass	*Cortaderia selloana*	Sussex INNS	880m N	20/09/2012
Three-cornered garlic	*Allium triquetrum*	WCA Sch 9 INNS	1.09km N	16/05/2008
Wall cotoneaster	*Cotoneaster horizontalis*	WCA Sch 9 INNS	TQ50R	30/09/2010
Yellow archangel	*Lamiastrum galeobdolon*	WCA Sch 9 INNS	TQ50R	02/05/2012

	subsp. argentatum			

Invertebrates

4.1.22 417 records of 70 invertebrate species were returned from within 2km of the Site, or from within 1 x 1km squares that wholly or partially fall within 2km of the Site boundary. A selection of invertebrate species records of potential relevance to the Site are presented in **Table 8**.

Table 8 – A selection of relevant invertebrate species recorded within 2km of the Site.

Common Name	Scientific Name	Legal Protection / Conservation Priority Status	Closest Record	Most Recent Record
Buffermine	*Spilosoma lutea*	S41, UK BAP Priority	975m S	02/06/2020
Cinnabar	*Tyria jacobaeae*	S41, UK BAP Priority	675m N	12/08/2014
Dingy skipper	*Erynnis tages*	S41, UK BAP Priority, RedList GB post2001 VU	1.36km SW	10/06/2018
Grizzled skipper	*Pyrgus malvae*	S41, UK BAP Priority, RedList GB post2001 VU	1.80km SSW	23/05/2012
Jersey tiger	*Euplagia quadripunctaria*	Hab Dir A2 NP, Sussex Rare	1.72km SSE	14/07/2018
Long-winged cone-head	*Conocephalus fuscus*	Sussex Rare	1.84km NW	05/08/2017
Mottled rustic	*Caradrina morpheus*	S41, UK BAP Priority	965m S	02/06/2020
Small blue	*Cupido minimus*	WCA Sch5 s9.5a, S41, UK BAP Priority, RedList GB post2001 NT	880m E	18/08/2016
Small heath	*Coenonympha pamphilus*	S41, UK BAP Priority, RedList GB post2001 NT	815m NW	26/08/2016
Wall	*Lasiommata megera*	S41, UK BAP Priority, RedList GB post2001 NT	330m W	05/08/2017

4.2 Phase 1 Habitat Survey

4.2.1 The following habitat types were recorded within the Site:

- Amenity grassland
- Semi-improved grassland
- Dense scrub
- Scattered trees
- Hedgerows
- Wet ditch
- Dry ditches
- Dry pond

- Bare ground
- Buildings
- Hardstanding
- Introduced shrub

4.2.2 The habitats recorded during the survey remained broadly similar to those recorded in the 2020 survey. Further detail of the habitat descriptions (including species compositions) is provided in the GES 2021 Ecological Assessment (Appendix D), with locations of the habitats presented in Figure 1. Site photographs are provided in **Appendix A**.

4.3 Protected and notable species

[redacted]

Bats

Foraging and commuting habitats

4.3.3 The grassland, scrub, and hedgerows all provide suitable habitat for foraging and commuting bats. Previous surveys conducted of the Site in response to the wider Morning Mills application (Middlemarch 2017) recorded low levels of common pipistrelle, soprano pipistrelle and noctule bat activity within the Site. No significant change to the habitat types has occurred, therefore these survey results are considered representative of the sites likely use by bats.

Roosting habitat – Buildings

<u>B1 – House</u>

4.3.4 B1 is a two-storey house of brick construction with a single-pitched roof of interlocking clay tiles. No internal access was available at the time of survey. However, the structure is well-sealed, with no visible external Potential Roost Feature (PRF) or access points.

4.3.5 As a result, B1 has **'Negligible'** suitability to support roosting bats and no further surveys of this building are required.

B2 – Shed 1

4.3.6 B2 is a single-storey, single-skinned shed of timber construction measuring *c*. 6m x 4m. The structure features a single-pitched timber roof with felt covering.

4.3.7 Gaps in the timber facilitate access to the building interior, although no PRFs are present, either externally or internally.

4.3.8 B2 has **'Negligible'** suitability to support roosting bats, and no further surveys of this building are required.

B3 – Shed 2

4.3.9 B3 is a single-storey, single-skinned shed of timber construction measuring *c*. 13m x 4m. The structure features a single-pitched timber roof with felt covering.

4.3.10 Gaps in the timber facilitate access to the building interior, although no PRF are present, either externally or internally.

4.3.11 B3 has **'Negligible'** suitability to support roosting bats, and no further surveys of this building are required.

4.3.12 A summary of the building assessment results is presented in **Table 9**.

Table 9 – Buildings and their level of potential for bats

Building Number	Level of Suitability for Bats	Further Surveys Required?
B1	Negligible	No
B2	Negligible	No
B3	Negligible	No

Roosting habitat – Trees

4.3.13 Assessment of all trees within the Site to be impacted by the development for their suitability to support roosting bats was undertaken. None of the trees to be impacted exhibited PRFs, and no further consideration of roosting bats is required. Should the development plans change to include the loss of additional trees, further surveys may be required.

4.3.14 All trees within the Site to be impacted by the development have '**Negligible**' suitability to support roosting bats.

Breeding birds

4.3.15 Scrub, scattered trees, buildings, and hedgerows within the Site all provide suitable nesting and foraging habitat for range of bird species. Previous surveys conducted of the Site as part of the wider Morning Mills application (Middlemarch 2017) recorded blackbird, dunnock,

wren, song thrush, great tit, wood pigeon, chaffinch, robin, chiffchaff, green woodpecker and black cap activity within the Site. With the exception of green woodpecker, all records were identified within the boundary vegetation. This will be retained as part of the development proposals. Therefore further breeding bird surveys are not considered necessary.

Wintering birds

4.3.16 Scrub, scattered trees, buildings, and hedgerows within the Site all provide suitable winter sheltering and foraging habitat for range of bird species. Wintering bird surveys were conducted between November 2020 and February 2021 as part of the GES 2020 Ecological Appraisal. There has been no change to the habitats since the previous report therefore updated surveys are not considered necessary.

Hazel dormouse

4.3.17 The scrub and hedgerows within the Site provide suitable habitat for dormouse. However, these habitats will be retained as part of the development proposals. Furthermore, surveys conducted by Middlemarch of the immediate and wider Morning Mills site in 2017 did not record dormice. Therefore, dormice are likely absent from the Site. Dormice are not considered further in this report.

Great crested newt

4.3.18 Suitable terrestrial habitat for GCN is present within the Site in the form of grassland, scrub, ornamental planting, damaged hardstanding, ditches, and hedgerow bases.

4.3.19 The only standing waterbody within the Site is located in the southern corner of the Site, denoted TN1 in Figure 1.

4.3.20 The waterbody is a small (<1m^2) ornamental pond in the garden of the house (B1). The waterbody was dry at the time of survey, therefore a full HSI assessment was not carried out. Given the lack of suitable waterbodies within the Site or 250m surrounding the Site boundary, coupled with no historical records of the species within 1km of the Site, GCN are considered likely absent from the Site, and are not considered further in this report.

Reptiles

4.3.21 Grassland, scrub, and hedgerow bases all provide suitable foraging and sheltering habitat for reptiles. Presence/likely absence surveys conducted as part of the 2020 GES Ecological Appraisal identified a low population of slow worm using the Site. No other reptile species were recorded.

Invertebrates

4.3.22 The semi-improved grassland, wet ditch, ornamental planting, and trees within the Site provides suitability for a range of common and widespread invertebrate species. However, the habitat types and floral species present are considered unlikely to support protected and/or rare/notable species. Therefore, invertebrate specific surveys are considered disproportionate in this instance.

Other species

4.3.23 The Site provides suitable habitats for a variety of notable species such as European hedgehog *Erinaceus europaeus* and common toad *Bufo bufo*.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Statutory and non-statutory designated sites

Internationally Designated Sites

5.1.1 Internationally designated sites within the Desk Study area are considered suitably distant (>0.5km) that no direct impacts will occur as a result of the proposed development.

5.1.2 As set out in the EIA screening report (AECOM, 2021) the medium and long-term indirect impacts that could potentially affect designated sites within the wider landscape include:

- Human-induced changes (through alterations to ground drainage) in hydraulic conditions.
- Introduction of invasive/non-native species, such as introduced shrub from ornamental planting in residential gardens.
- Increased outdoor leisure activities, including nitrogen deposition from dogs.
- Increased air pollution, including nitrogen dioxides and dust deposition from increased traffic.
- Increased watercourse pollution from pollutants in surface water run-off from traffic and other human activities (e.g., car washing).
- Increased groundwater pollution caused by increased pollutants from traffic road drainage run-off.

5.1.3 For further details on the above-referenced medium and long-term impacts and mitigating factors to reduce impacts the reader is referred to the Environmental Impact Assessment (EIA) (AECOM, 2021) and Shadow Habitat Regulations Assessment (Middlemarch, 2017) reports.

Nationally Designated Sites

5.1.4 The Site lies within the Pevensey Levels SSSI IRZ. The Site qualifies as a major development, therefore the Local Planning Authority are required to consult with Natural England on the potential impacts of this development.

Non-statutory designated sites

5.1.5 Non-statutory designated sites within the Desk Study area are considered suitably distant (>0.5km) that no direct impacts will occur because of the proposed development.

5.2 Ancient woodland

5.2.1 The nearest ancient woodland is an area of ASNW within the Diplocks Woods/Wannock Coppice SNCI, located approximately 600m to the west of the Site. Separated from the Site by urban areas of Willingdon, and well beyond the recommended 15m buffer enforced by Natural England when working near ancient woodland, no impact to this or any other ancient

woodland sites will result from the proposed development.

5.3 Habitats and botanical species of interest

5.3.1 The 2022 PEA confirmed that the habitats within the Site remain broadly similar to those recorded within the previous PEA conducted in 2020. Therefore, recommendations within the 2020 GES Ecological Appraisal remain valid. However, recommendations regarding habitats are presented for clarity, below:

- The inclusion of swales, grassland, tree and shrub planting within the proposed design will provide a range of opportunities for wildlife.
- All hedgerows will be retained as part of the development. Therefore, no mitigation in respect of hedgerows is required.
- Trees within the Site will be retained as part of the proposed development wherever possible. Retained trees will be protected in accordance with the British Standard '5837:2012 Trees in Relation to Design, Demolition and Construction'. An example of such protection is presented in **Figure 3**.
- Where loss is unavoidable, trees should be replaced on a like-for-like basis. Any tree planting should be undertaken using native species in keeping with residential developments, such as crab apple *Malus sylvestris*, holly *Ilex aquifolium*, rowan *Sorbus aucuparia*, whitebeam *Sorbus aria*, and yew *Taxus baccata*.
- The cotoneaster present within hedgerow H4 may be listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). Therefore, in line with a precautionary approach, this should be carefully removed from the Site to prevent accidental spread during development.

5.4 Protected and notable species

5.4.1 The 2022 PEA confirmed that the habitats within the Site and their suitability to support protected species remain broadly similar to the previous report, therefore the recommendations provided within (and summarised below) remain valid.

[redacted]

Bats

Roosting habitat – buildings

5.4.3 None of the structures within the Site offer suitability to support roosting bats, and no further building surveys are required.

Roosting habitat – trees

5.4.4 None of the trees within the Site offer PRFs for bats, and no further consideration towards tree-roosting bats is required.

Bats - foraging and commuting habitat

5.4.5 The desk study identified historical records of bats and the surveys for within both the Site and the wider landscape, and the grassland, scrub, hedgerows, and scattered trees within the Site provide suitable foraging and commuting habitat for bats. Despite these features being present, the overall quality of the Site in terms of foraging/commuting bats is considered **Low** and this matter was confirmed during previous bat activity surveys conducted of the wider Morning Mills site by Middlemarch.

5.4.6 From reviewing the provided plans is understood that the boundary treelines and the hedgerow H1 are to be retained post-development, thereby maintaining key foraging and commuting routes. Furthermore, extensive tree planting in conjunction with the creation of a waterbody adjacent to H1, will maintain the Site's suitability for use by bats post development, maintaining foraging and commuting opportunities for bats within the proposed plans.

Lighting

5.4.7 To ensure the Site's integrity for bats and other nocturnal fauna is maintained during construction, where practical, works will be limited to standard daytime hours and where works are required outside of this period, suitable screening will be installed to avoid light spill onto the retained boundary habitats. If deemed a requirement, the appropriate screening type will be determined by the ECoW. Installation of the screening will be conducted by the Site contractors and in consultation with the appointed ECoW.

5.4.8 In order to maintain daytime working hours as per the above, the contractor(s) will require a period of 30 minutes before and at the end of the working shift to start up and close down the works activities. During the construction period it may be necessary in exceptional circumstances to work outside the prescribed working hours. Should this occur, the hours and duration of these works will be subject to consultation with the Council.

5.4.9 The ECoW will assess any lighting units required, the positioning of the lighting, and the light spill resulting from the lighting units prior to the commencement of construction works, or at

the time of installation, should works have commenced previously.

5.4.10 The use of lighting will be avoided within the proposed development wherever possible. Where lighting is required for security or other purposes, it will be considerate to the requirements set out by the Bat Conservation Trust in their 2018 document 'Bats and Artificial Lighting in the UK'. In summary the following methods are to be incorporated within the design:

- Dark buffer zones to be used to separate habitats or features from lighting by forming a dark perimeter around them.
- The inclusion of features such as hoods, cowls, louvres, and shields will be installed on lighting columns to direct light to the intended area, whilst avoiding unrequired light spillage.
- Luminaires will not use UV elements when manufactured and metal halide, fluorescent sources will not be used.
- LED luminaires will be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- The use of specialist bollard or low-level downward directional luminaires to retain darkness above will be utilised.
- Column heights will be carefully considered to minimise light spill.
- Only luminaires with an upward light ratio of 0% and with good optical control will be used.
- External security lighting will be set on motion-sensors and short (≤1min) timers.
- Dimming or part-night lighting to reduce light levels when bats are most active. Use of the lowest lux possible.
- Planning conditions/written agreements to ensure that no additional lighting is installed at a later date will further secure the Site's on-going use by bats.

Breeding birds

5.4.11 The habitats within the Site provide suitable nesting and foraging habitat for a range of bird species, and from review of the historic breeding bird surveys conducted of both this and the wider Morning Mills site (Middlemarch, 2015) a number of bird species are known to utilise the vegetated boundaries. However, most of the trees and boundary vegetation within the Site will be retained, and therefore no further surveys are required.

5.4.12 However, all breeding birds are protected under the Wildlife and Countryside Act 1981 (as amended) and, where the removal of small areas of suitable habitats is required (such as widening site entrances), works should be conducted outside the core breeding period for birds of Late February – August (inclusive).

5.4.13 Should this timeframe be unobtainable, a thorough search for the presence of breeding birds should be conducted by a suitably experienced ecologist prior to the start of works. Should evidence of breeding birds be recorded, works within 5m of the nest, or works that have potential to destroy the nest, should stop until the eggs have hatched, and the chicks fledged, or the nest is deemed by a suitably experienced ecologist to be no longer active.

Wintering Birds

5.4.14 The majority of the boundary habitats are to be retained as part of the development proposals. In addition, no significant bird assemblages were identified utilising the main body of the site during the 2020 surveys. Therefore, no further consideration to wintering birds is required.

Invertebrates

5.4.15 Habitats within the Site are common and widespread habitats of low structural and species diversity. Therefore, they are highly unlikely to support protected or notable species of invertebrates. The inclusion of swales, grassland, tree and shrub planting within the proposed design will serve to provide a diverse range of habitat types for a range of invertebrate species.

Reptiles

5.4.16 The results of the 2020 reptile survey identified a '**Low**' population of slow worm within the Site and without mitigation, the removal of habitats suitable to support reptiles (scrub, grassland, ornamental planting) would result in a direct injury and/or mortality event.

5.4.17 Habitat suitability for reptiles remains broadly in line with the previous surveys. Therefore, the proposed development will result in the loss of suitable reptile habitat within the site and without mitigation, these actions could result in the potential killing and / or injury of reptiles.

5.4.18 To ensure the welfare of reptiles is safeguarded throughout the development, measures to trap and translocate the reptiles will be required prior to the start of works.

5.4.19 To ensure the mitigation strategy proposed is proportionate to the species present, the following methods should be implemented in full:

- Prior to the start of the trapping effort, a suitable receptor site should be identified, an appropriate receptor site must be allocated, and any necessary habitat enhancement required to increase the receptors carrying capacity should be implemented in full.
- To stop any animals re-entering the site, reptile exclusion fencing should be installed along the boundaries of the site. This should remain intact throughout the development.

- To ensure reasonable effort to trap reptiles out of the site is applied, artificial refugia should be deployed at a minimum density of 100 per hectare.
- To allow reptiles time to find the mats, a minimum of 10 days will be left between mat deployment and commencement of trapping.
- Given the population sizes recorded to date, the artificial refugia should be checked for reptiles for a minimum of 30 trappings sessions. This number should be reviewed upon completion of the survey effort.
- To ensure the site is sufficiently clear of reptiles prior to the start of works, trapping should continue until the completion of five trapping days in which no reptiles are captured, or the site is deemed by the appointed ecologist to be sufficiently clear to cease the trapping effort.
- All trapping should be conducted by a suitably experienced ecologist, in appropriate weather conditions and at a time of year when reptiles are active. Although somewhat weather dependent, the active period for reptiles is generally considered to be March to September (inclusive). All animals trapped should be taken in a suitable receptacle and placed carefully within the allocated receptor site.
- Upon completion of the trapping effort, the sensitive habitats should be subject to a destructive/fingertip search during supervised vegetation clearance to ensure any animals that have remained 'untrapped' are safely relocated. The destructive search will need to be conducted in accordance with the HGBI advisory notes (1998) guidance and under the supervision of a suitably experienced ecologist.
- Once all the construction works were completed within the Site, the exclusion fencing can be removed under the supervision of a suitably qualified ecologist. Any reptiles found during the removal should be translocated to the allocated receptor site discussed above.

5.4.20 Note: the north-western, northern, and eastern Site boundaries are to be subject to a relaxed management regime to accommodate reptiles. Log piles are to be created at a rate of two per boundary to provide sheltering habitat for herpetofauna.

Other species

5.4.21 Beyond those noted above, no evidence of the Site's use by other protected species was identified. However, application of the recommendations detailed herein will serve to benefit additional numerous species of conservation interest, including common toad and West European hedgehog. In addition to the above, 10 x 10cm gaps at the base of garden fences will allow for movement of West European hedgehog around the Site post-development.

5.4.22 Additional enhancements to benefit West European hedgehog are detailed in Section 6, below.

6 ECOLOGICAL ENHANCEMENTS

6.1 Opportunities to include biodiversity enhancements within the Site exist and in accordance with the requirements of the NPPF 2021, the following recommendations are considered appropriate for the Site:

- A range of bird boxes erected onto the proposed building and trees within the Site would benefit a diversity of bird species. Boxes should be selected from either integrated boxes such as those available from www.habibat.co.uk for inclusion within the proposed structures or open fronted and hole fronted nest boxes for within trees, fencing and planting. To maximise suitability, boxes should be installed on sheltered aspects close to vegetation at a height of 2-3m, preferably on north, north-east or north-west facing elevations.
- The installation of bat boxes installed in suitable locations would increase the Site's potential for roosting bats. These boxes should be installed at a height of 3m or more or at eaves height on sunny, sheltered aspects, away from direct illumination by artificial lighting and in a location, which ensures connectivity to foraging habitats within the wider landscape. In this instance, boxes such as those provided by www.habibat.co.uk are recommended for within built structures. the Kent Bat box or Schwegler 2FN (or similar) are recommended for within mature retained trees.
- The incorporation of a native, wildlife-friendly planting scheme, using native plant species, would be of benefit to invertebrates and subsequently species such as birds and bats.
- The incorporation of hedgehog boxes at suitable locations within vegetated areas of the Site would provide an enhancement for this species.
- Any tree planting should be undertaken using native species in keeping with residential developments, such as crab apple *Malus sylvestris*, holly *Ilex aquifolium*, rowan *Sorbus aucuparia*, whitebeam *Sorbus aria*, and yew *Taxus baccata*.

7 REFERENCES

AECOM (2021). *Ecological Impact Assessment Screening Report*. Unpublished.

Bat Conservation Trust and the Institute of Lighting Professionals (BCT&ILP) 2018. Guidance Note 8; Bat and Artificial Lighting in the UK. https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

Bright, P et al (2006). Dormouse Conservation Handbook. Second Edition

Collins, J. (ed.) 2016. Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). Bat Conservation Trust, London.

Eaton et al (2015). Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. British Birds 108.

Ecology Solutions (2012). Ecological Assessment

Greenspace Ecological Solutions (GES) Ltd. (2021). *Hindsland, Eastbourne Road, Willingdon, East Sussex, Ecological Assessment.* Unpublished

JNCC (2010). Handbook for Phase I Habitat Survey; A Technique for Environmental Audit. Peterborough.

Langton *et al*. (2001). Great Crested Newt Conservation Handbook. Froglife. Suffolk.

Middlemarch (2017). *Breeding Bird Survey*. Unpublished.

Middlemarch (2017). *Shadow Habitat Regulations Assessment*. Unpublished.

National Planning Policy Framework (NPPF) 2019. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/740441/National_Planning_Policy_Framework_web_accessible_version.pdf

Natural Environment and Rural Communities (NERC) Act 2006. http://www.legislation.gov.uk/ukpga/2006/16/contents

Protection of Badgers Act (1992). http://www.legislation.gov.uk/ukpga/1992/51

The Conservation of Habitats and Species Regulations (Habitats Regulations) 2017. http://www.legislation.gov.uk/uksi/2017/1012/made

Wildlife and Countryside Act (as amended) 1981. http://jncc.defra.gov.uk/page-1377

Figures


Legend
Site Boundary
Dense Scrub
Scattered Trees
SI Semi-improved Grassland
Amenity Grassland
Introduced Shrub
Hedgerows
Hardstanding
Bare Ground
Dry Ditch
TN1 Target Note
SI
TN2
TN3
H1
H2
H3
H4
B1
B2
B3
Job Reference : J20961_P9
Project Title: Hindsland Playing Field
Drawing Title
Figure 1: Phase One Habitat Survey map
Date : 18-03-22
Checked : DL
Drawn : MTR
Approved : N/A
Status : Final
Scale : NTS
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Project Title : Hindsland

Job Reference : J20961

Figure 2 : Landscape Masterplan

Date : 31-05-22

Status : Final

Scale : NTS

Drawn : MTR

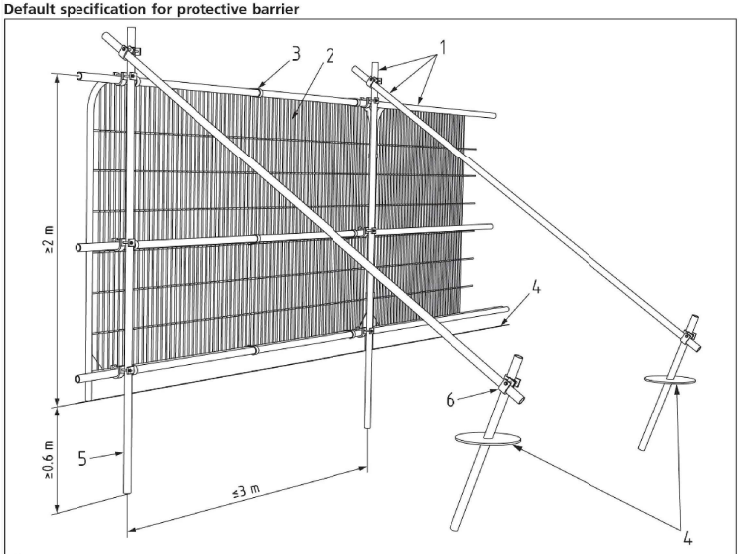
Checked : PW

Approved : N/A

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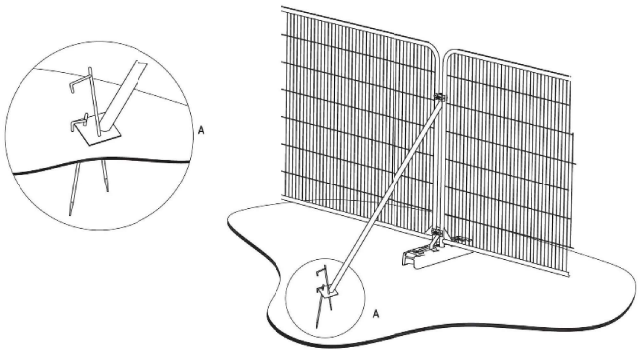
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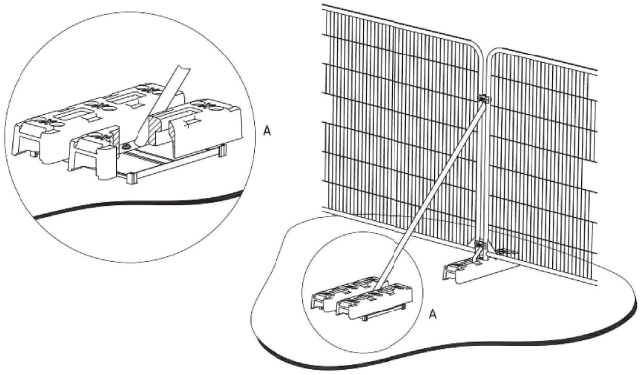
Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Examples of above-ground stabilizing systems



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Job Reference : J20961

Project Title
Hindsland, Eastbourne Road

Drawing Title
Figure 3: Tree Protection Measures

Date : 24-02-21 Checked : MR

Drawn : JT Approved : N/A

Status : Final Scale : NTS

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Legend

- Site Boundary
- Transect 1
- Transect 2
- Transect 3
- Transect 4
- Transect 5
- D. Dunnock
- HS House sparrow
- ST Song thrush
- SG Starling

Job Reference : J20961

Project Title
Hindsland, Eastbourne Road

Drawing Title: Figure 4 - Wintering Bird Transect Route and Notable Results

Date : 24-02-21 Checked : DL

Drawn : MR Approved : N/A

Status : Final Scale : NTS

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Legend

- Reptile Mat
- Slow Worm

Job Reference : J20961_P2

Project Title: Hindsland Playing Field

Drawing Title: Figure 5 - Reptile Survey Results

Date : 04-11-20 Checked : GN

Drawn : MR Approved : N/A

Status : Final Scale : NTS

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Appendices

APPENDIX A – PHOTOGRAPHS



Plate 1. Site entrance.



Plate 2. Scrub and semi-improved grassland.



Plate 3. Semi-improved grassland.



Plate 4. Scattered trees with edge of disused playground TN2.



Plate 5. Northern Site boundary with semi-improved grassland and dry ditch.



Plate 6. Semi-improved grassland with scattered trees.



Plate 7. Dense scrub and semi-improved grassland.



Plate 8. Building B1.



Plate 9. Building B2.



Plate 10. Building B3.



Plate 11. Ornamental planting and dry pond TN1.

APPENDIX B

Categories of Bat Roost Potential

Roost type / Level of potential	Summer Roost used by Non- Breeding Bats	Maternity Roost	Hibernation Roost
Confirmed roost	Presence of bats or evidence of bats identified. Confirmation of a roost will likely require further surveys.		
High	Building/Structure or tree with multiple opportunities for one or more species of roosting bat. Optimal orientation. Good connectivity to optimal foraging habitats.	Building/Structure or tree with multiple roosting opportunities for pregnant female bats and young pups. Optimal orientation. Good connectivity to optimal foraging habitats.	Building/Structure or tree that has suitable thermal stability and levels of humidity to support torpid bats throughout the winter months.
Moderate	Building/Structure for tree with some opportunities for roosting bats. Preferable orientation. Connectivity to moderate to high quality foraging habitat available.	Building/Structure or tree with some roosting opportunities for pregnant female bats and young pups. Good orientation. Good connectivity to moderate to high quality foraging habitats.	Building/Structure or tree that has suitable thermal stability and levels of humidity to support torpid bats for some of the winter months. Moderate connectivity to suitable foraging areas.
Low	Building/Structure or tree with limited opportunities for roosting bats. Poor connectivity to foraging habitat.	Building/Structure or tree with limited opportunities for breeding bats. Poor connectivity to foraging habitat.	Building/Structure or tree with limited suitability to support hibernating bats due to instable environmental conditions.
Negligible	Building/Structure or tree with no or very limited opportunities for roosting bats. Little to no connectivity to foraging habitat	Building/Structure or tree with no or very limited opportunities for breeding bats. Little to no connectivity to foraging habitat.	No suitable roosting opportunities for hibernating bats.

APPENDIX C

Minimum Number of Bat Surveys Required in Most Instances

Negligible	Low roost potential	Moderate roost potential	High roost potential*
Dusk emergence and/or pre-dawn re-entry surveys unlikely to be required.	Structures: 1 survey visit. 1 dusk emergence or pre-dawn re-entry survey[a]. To be conducted during May – August. Trees: Dusk emergence and/or pre-dawn re-entry surveys unlikely to be required.	2 separate survey visits. 1 dusk emergence survey and 1 pre-dawn re-entry survey[b]. To be conducted during May-September with at least one of the surveys May – August.	3 separate survey visits. At least 1 dusk emergence survey and a separate pre-dawn re-entry survey. The third visit could be either a dusk or dawn survey[b]. To be undertaken during May-September with at least two of the surveys between May and August.

[a] Structures that were categorised as low potential can be problematic and the number of surveys required should be judged on a case by case basis. If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

[b] Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; It is recommended that surveys are spaced out at least two weeks apart, preferably more. A dawn survey immediately after a dusk survey is considered one visit. If there is potential for a maternity colony, then consideration should be given to seasonal detectability and the ecologist should use their professional judgement to design the most appropriate survey regime.

*For the purpose of this exercise a confirmed roost is considered under the criteria of 'High roost potential'

APPENDIX D – ECOLOGICAL ASSESSMENT GES 2021

Greenspace Ecological Solutions

Hindsland, Eastbourne Road Willingdon, East Sussex

Ecological Assessment



March 2021

Danescroft (FREOF V Willingdon) LLP

Hindsland, Eastbourne Road, Willingdon, East Sussex

Ecological Assessment

A Report for Danescroft (FREOF V Willingdon) LLP

March 2021

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Hindsland, Eastbourne Road, Willingdon, East Sussex

Ecological Appraisal

March 2021

Controlled Copy

01 of 02

01 Danescroft (FREOF V Willingdon) LLP

02 Greenspace Ecological Solutions Ltd

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Proof-read by: Demian Lyle MCIEEM

The content of this report is the responsibility of Greenspace Ecological Solutions Ltd.
It should be noted that whilst every effort has been made to meet the client's requirements, no Site survey can ensure complete assessment or prediction of the changeable on-site environment. Furthermore, should more than 12 months elapse between the date of this survey and any subsequent development, it may be necessary to consider the need for an update survey to be undertaken.

Report Number J20961_EA

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APPENDICES

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1 PROJECT OVERVIEW

Client: Danescroft (FREOF V Willingdon) LLP

Site Address: Former Hindsland Playing Fields, Eastbourne Road, Willingdon, BN20 9NY

Attending Ecologists: Matthew Rohner Grad CIEEM (NE GCN Class Licence Level 1)
Martin Rann ACIEEM (NE GCN Class Licence Level 1; NE barn owl licence)
Jacob Tassaker Qualifying CIEEM

Survey Period: September 2020 – February 2021

Site Proposals: Residential housing development.

Associated Planning Reference Number: Not yet allocated

Source of Relevant Documents:

Document:	Source:
Site Location Plan:	Google Earth Pro
Desk Study:	Multi-Agency Geographic Information for the Countryside (MAGIC) Sussex Biodiversity Record Centre (SxBRC)
Site Plans:	Google Earth Pro

2 NON-TECHNICAL SUMMARY

2.1 In response to proposed residential housing development at Hindsland, Eastbourne Road, Willingdon, the Site has been subject to an Ecological Appraisal. The Site's potential to support protected species and habitats has been assessed and, where required, Phase 2 species-specific surveys have been undertaken. Appropriate recommendations and mitigation strategies have been provided.

2.2 Given the proximity of the Site to the Pevensey Levels (*c.* 2.8km distant), designated for bird species under SSSI and NNR, wintering bird surveys have been undertaken. Limited numbers of NERC s41 and BoCC4 Amber/Red species were recorded using boundary features. The habitats utilised by these 'Notable' species are common and widespread, and their removal will not impact local wintering bird populations. None of the qualifying species that the site is designated for were recorded with the proposed development Site during the surveys.

2.3 The proposed development will not affect any areas of ancient woodland.

2.4 On-Site habitats are common, widespread, and of low botanical interest. No further botanical surveys are required. Retained trees and vegetation should be protected in accordance with British Standard 5837:2012 Trees in relation to design, demolition and construction.

2.5 Recommendations regarding sensitive lighting have been provided to account for potential low levels of foraging and commuting bat activity.

[redacted]

2.7 Suitable nesting habitat for birds exists is to be retained where possible. Where suitable nesting habitat be affected, timings and methods of best practice are to be adhered to.

2.8 Limited suitable hazel dormouse habitat is present within the application boundary, and historic surveys have concluded the species to be likely absent.

2.9 Suitable hedgehog habitat is to be affected, and enhancement measures to offset loss have been recommended.

2.10 Reptile surveys have been undertaken and a Low population of slow worm has been recorded using the Site boundaries and to safeguard the welfare of reptiles within the Site a relocation exercise has been reccomended.

2.11 The likelihood of other protected and otherwise notable species to occur within the Site is considered negligible and no further surveys for other protected species are required. Should at any point during the development a protected or notable species be identified within the Site then all works should stop, and the appointed ecologist consulted on the appropriate manner in which to proceed.

2.12 In accordance with the requirements of the NPPF, recommendations to enhance the Site's suitability for wildlife have been provided.

3 INTRODUCTION

3.1 Context

3.1.1 Prepared on behalf of Danescroft (FREOF V Willingdon) LLP, the following sets out the results of the Phase 1 and 2 ecology surveys conducted of the land proposed for development at Hindsland, Eastbourne Road, Willingdon, East Sussex (hereafter referred to as the 'Site'), as depicted within the redline boundary in Figure 1.

3.1.2 Features of ecological importance have been identified and mapped in Figure 1. The Outline Development Plan is presented in Figure 2.

3.1.3 The Site's potential to support species and habitats both legally protected and of conservation concern has been assessed and, where required, species-specific Phase 2 surveys have been implemented. Retention of features of interest has been implemented where practical. Potential impacts and constraints have been assessed, and recommendations regarding mitigation and compensation are provided where potential impacts are unavoidable.

3.2 Site Location

3.2.1 The Site is situated within the village of Willingdon, East Sussex, at National Grid Reference TQ584041. The location of the Site is depicted in Image 1.



Image 1. Location of the Site

3.3 Site Description

3.3.1 The Site is bound by residential properties to the north, agricultural land to the east, the A2270 Eastbourne Road to the west and south, with a parcel of open green space to the north-west. The wider landscape comprises the village of Willingdon to the north, south, and west, with agricultural land to the east, consisting primarily of pasture and hedgerows.

3.3.2 The wider landscape is one of urban areas, agricultural land with an interconnecting network of hedgerows, and scattered woodland blocks.

3.4 Legislation and Policies

Legislation

3.4.1 The main legislation that applies to ecological issues within England is:

- The Conservation of Habitat and Species Regulations 2017 (as amended) transposes European Union Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law. These regulations provide for the designation and protection of 'European Sites', the protection of 'European Protected Species' and the adaptation of planning controls for the protection of such sites and species. Under the regulations, public bodies have a duty in exercising their functions to have regard to the EC Habitats Directive.
- The Wildlife and Countryside Act 1981 (as amended) provides detail on a range of protection and offences relating to wild birds, other animals, and plants. The level of protection depends on which Schedule of the Act the species is listed on. Licences are available for specific purposes to permit actions that would otherwise constitute an offence in relation to species.
- The Natural Environment and Rural Communities (NERC) Act 2006 imposes an obligation on all public bodies, including local authorities, to consider whether their activities can contribute to the protection of wildlife. The duty is created by section 40(1) of the Act, which 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."
- Hedgerows Regulations Act 1997 serves to; enforce under the Environment Act 1995, restrict the removal of hedgerows, or parts of hedgerows which are over 20m in length. In this case, removal includes digging up and replanting elsewhere, as well as removing from the land completely or destroying in the course of other actions. This includes developments or activities which destroy the roots, causing the vegetation to die.

- The Protection of Badgers Act 1992 exists to protect badgers *Meles meles* from cruelty. Under the act it a criminal offense to wilfully kill, injure, take, possess, or cruelly ill-treat a badger, or to attempt to do so, or to intentionally, or recklessly, interfere with a sett.

3.4.2 The above summary serves as guidance only – the reader is referred to the original legislation for definitive interpretation.

UK Planning Policy

3.4.3 The recommendations of this report are in line with the key principles of the National Planning Policy Framework (2019) and Government Circular 06/05.

3.4.4 Local planning policies relating to ecology are invariably based on the conservation of species protected under the above legislation, including species and habitats of principal importance listed under Section 41 of the NERC Act 2006; and the protection of designated sites. All of these features are considered within the scope of this preliminary ecological appraisal and therefore any recommendations made herein are likely to be in line with this policy.

3.5 Objectives of the Surveys

3.5.1 The objectives of the surveys were to:

- Identify any potential impacts from developing the Site on protected and designated areas within the wider landscape;
- Classify the main habitats present within the Site;
- Assess buildings and trees for their potential to support roosting bats;
- Complete Phase 2 species specific surveys where protected species may be impacted by the proposed;
- Provide recommendations regarding the retention of features of ecological interest;
- Provide recommendations regarding mitigation and compensation where required.

3.6 Survey Constraints

3.6.1 Extended Phase 1 habitat surveys can be undertaken at any time of the year; however, to enable the majority of botanical species to be detected, the optimum time of year for these surveys to be undertaken is between April and mid-July (inclusive). Therefore, it is likely that some botanical species would not have been recorded. However, mapping and descriptions of broad habitat types has still been possible.

3.6.2 Due to the current COVID19 social distancing requirements, internal access to building B1 was not available at the time of survey. Due to the lack of external Potential Roosting Features/Access Points recorded, the external assessment was considered adequate. The lack of internal access is not considered to be a significant limitation to the effectiveness of the external evaluation in this instance.

3.6.3 Due to seasonal constraints, surveys for breeding birds and activity surveys for bats have not been conducted. The result of previous surveys conducted of the Site in relation to the wider Mornings Mills application (Middlemarch, 2017) and the results of those surveys utilised to inform the mitigation strategy set out within this report.

4 SURVEY METHODOLOGY

4.1 Desk Study

4.1.1 A desk study was undertaken to determine the presence of sites and habitats of conservation importance, together with historical records of protected and notable species, within a 2km radius of the Site (extended to a radius of 25km for National Site Network sites for the purposes of impact assessment).

4.1.2 The following bodies and reports were consulted for the desk study:

- Multi-Agency Geographic Information for the Countryside (MAGIC);
- Sussex Biodiversity Record Centre (SxBRC); and
- Google Earth Pro.

4.2 Extended Phase I Habitat Survey

Habitats

4.2.1 The Site was surveyed using the methodology outlined in 'The Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit' (JNCC, 2010). This involves identifying the main plant communities present on the Site and classifying the habitat types following the JNCC methodology. This technique provides an inventory of the basic habitat types present and enables areas of greater botanical interest which may require further, more detailed, surveys to be identified. Any occurrences of recognised invasive species as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were also noted.

4.2.2 A map of the habitats and areas of interest (using a variation of the JNCC 2010 protocol for Phase 1 Habitat Plans) is provided in Figure 1. Photographs of features of interest are presented in Appendix A.

Protected Species

4.2.3 The survey was extended to include an assessment of the Site's potential to support protected and notable species. This involved assessing the suitability of the habitats present on the Site for these species as well as connectivity to the Site from other areas of potentially suitable habitat nearby.

- [redacted]

[redacted]

Bats

4.2.6 Where trees, buildings or other structures are present within the Site, specific survey work was undertaken to assess their suitability to support roosting bats. In this instance, a variety of equipment was used to complete the bat scoping survey, including high powered torches and a camera.

4.2.7 Trees within the Site which were deemed likely to be affected by the proposed development were surveyed in accordance with current best practice guidance (Collins, 2016). Trees were inspected for features such as splits, fissures, delaminated bark, heavy ivy *Hedera* sp. cover and woodpecker holes. Evidence of roosting bats such as droppings, staining and bats themselves were searched for below and in suitable features.

4.2.8 Specific survey work was undertaken to assess the suitability of on-Site buildings to support roosting bats. To complete the building survey, a full external inspection of the building was conducted looking for evidence of bats inclusive of droppings, staining, carcasses and feeding remains, and evidence of the bats themselves. The potential for the building to support roosting bats was assessed, considering potential access points, such as open soffit boxes, raised/slipped roof/hanging tiles, weatherboarding, and access to cavity walls.

4.2.9 The results of a scoping survey enable trees and buildings to be categorised as having 'Confirmed roosts', 'High', 'Moderate', 'Low' or 'Negligible' suitability to support roosting bats. An outline of categorisation procedure for classifying bat suitability is presented in Appendix B.

4.2.10 In accordance with current best practice guidance (Collins, 2016), the level of suitability determines the need or not for further summer emergence surveys. Although left to the discretion of the appointed ecologist, in most instances Confirmed roosts and High suitability requires three surveys, Moderate suitability requires two surveys and Low suitability requires

a requires a single further emergence or pre-dawn re-entry survey (although trees with Low suitability do not require further emergence or pre-dawn re-entry surveys). Greater detail on the minimum number of surveys recommended in most instances is presented in Appendix C.

Breeding birds

4.2.11 The Site was assessed for its potential to support nesting birds. Factors considered include suitable cover and feeding habitat, the presence of used and disused nests, and birds displaying nesting characteristics.

Wintering birds

4.2.12 Land within the application boundary has been assessed in terms of its suitability to support notable assemblages of birds during the winter months, including any species that are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and the RSPB Birds of Conservation Concern 4 (BoCC4) Red and Amber Lists.

4.2.13 Given the suitability of the land proposed for development to support wintering bird populations, coupled with the proximity of the Site to the Pevensey Levels Site of Special Scientific Interest (SSSI) and Local Nature Reserve (NNR), on-Site habitats have been subject to a series of wintering bird surveys to determine its use by over-wintering and migratory birds.

4.2.14 Serving to provide up-to-date information on the assemblages of birds using the Site, the information gained serves to inform (if any) the ecological impacts of the proposals as well as the design of any mitigation measures (if required).

4.2.15 Conducted in accordance with the British Trust for Ornithology (BTO) 'Bird Monitoring Methods' (Gilbert *et al*., 1998), to ensure reasonable effort is applied, monthly surveys have been undertaken throughout the period of November 2020 to February 2021. To maximise efficiency and account for the Site's potential use as a night roost, the surveys commenced at dawn and involve the recording of bird species identified from both a pre-determined transect route. Windy or wet days have been avoided as the ability to make accurate counts of birds present on-Site is reduced in these conditions. Species recorded will be mapped and population densities and distributions determined.

Hazel dormouse

4.2.16 The Site was surveyed for suitable hazel dormouse *Muscardinus avellanarius* habitat, such as the presence of a well-connected understorey broadleaf habitat, hedgerows, and suitable food sources such as oaks *Quercus* spp., hazel *Corylus avellana* and other nut-bearing trees,

fruiting trees and shrubs, flowers, and invertebrates.

Great crested newt

4.2.17 The Site was assessed for its potential to support great crested newt (GCN) populations. Suitable terrestrial habitat for GCN includes long grass, tall ruderal vegetation, woodland and hedgerow borders, as well as wood and rubble piles that act as hibernacula.

Habitat Suitability Index (HSI)

4.2.18 An assessment of the suitability of waterbodies within the Site and 250m surrounding the application boundary to support GCN was undertaken using a simplified version of the HSI methodology, developed by Oldham *et al.* (2000) (ARG, 2010). The HSI incorporates ten suitability indices, all of which are factors considered to affect GCN. The ten indices assessed are:

- Location (in Britain);
- Pond area;
- Desiccation rate (years out of ten that pond dries);
- Water quality (subjective assessment);
- Percentage of pond shaded;
- Presence of waterfowl;
- Fish population (subjective assessment);
- Number of ponds within 1km;
- Terrestrial habitat quality; and
- Percentage macrophyte cover.

4.2.19 The results of the HSI provide a numerical index of between 0 and 1, whereby 0 indicates unsuitable habitat and 1 represents optimal habitat. A score of ≥0.6 is considered indicative of a pond that may support a population of GCN.

4.2.20 The details of the HSI scoring criteria are provided in Table 1. The only waterbody within the survey area is located in the southern corner of the Site, presented in Figure 1 as Target Note (TN) 1.

Table 1 – GCN HSI scoring criteria.

HSI Score	Pond Suitability for GCN
< 0.5	Poor
0.5 – 0.59	Below Average
0.6 – 0.69	Average

0.7 – 0.79	Good
> 0.8	Excellent

Reptiles

4.2.21 The Site was assessed for its potential to support reptiles. Suitable habitat for reptiles includes long grass, scrub, woodland and hedgerow borders, and wood/rubble piles that act as hibernacula.

4.2.22 Where suitable habitat was identified the Site was subject to reptile presence/likely absence surveys. The methodology employed for these surveys follows that of the current industry standard which is an adaptation of the Froglife (1999) and Herpetofauna Groups of Britain and Ireland (HGBI 1998) guidance documents. Artificial refuges consisting of green mineral felt measuring approximately 0.7m x 1m were placed in suitable locations (earth banks, boundary features and exposed rough vegetative areas) within the Site. In accordance with guidance provided by Froglife (1999) traps were set at a minimum density of 10 traps per hectare.

4.2.23 There is some discrepancy regarding the number of surveys required to establish a population size class estimate for reptiles. Seven surveys were undertaken, in-line with currently accepted good practice guidance.

4.2.24 Population Size Class Assessment: The evaluation method applied to the surveys is adapted from the guidelines established by Froglife. The scoring system is based upon the maximum number of adult and sub-adult animals, which is all animals recorded excluding hatchlings/juveniles, seen under artificial refugia or by general observation by one person, in one day. Populations are classed as 'Low', Good', or 'Exceptional'.

4.2.25 The Froglife (1999) guidance suggests that optimum conditions are temperatures between 9°C and 18°C, in absence of wind and rain, and depending on conditions, between the hours of 08:30 and 11:00 hours or 16:00 and 18:30. The optimal survey period for reptiles is considered to be April – June and September – October. Reptiles can, however, be recorded outside these survey periods if conditions remain favourable.

Other species

4.2.26 Consideration was given to the Site's suitability to support other protected and notable species.

5 SURVEY RESULTS

5.1 Desk Study

Statutory designated sites

5.1.1 No part of the Site or its immediate surrounding land lies within any statutory ecological designations.

5.1.2 Two statutory designated sites are present within 2km of the application boundary, as follows:

- Willingdon Down Site of Special Scientific Interest (SSSI) (1.2km away to the SSW); and
- Folkington Reservoir SSSI (1.8km away to the W).

5.1.3 Willingdon Down SSSI comprises an area of nationally uncommon species-rich chalk grassland.

5.1.4 Folkington Reservoir SSSI comprises rich chalk grassland flora with abundant orchids. The top is the only known locality in the county for the rare and protected hairy mallow *Althaea hirsuta*, a species listed on Schedule 8 of the Wildlife& Countryside Act 1981 (as amended).

National Site Network

5.1.5 Two National Site Network sites (previously Natura2000 European sites) are present within 25km of the application boundary, as follows:

- The Pevensey Levels SAC, SSSI, Ramsar site, and NNR (2.8km away to the NE); and
- The Ashdown Forest Special Protection Area (SPA), SAC, SSSI, and NNR (24.5km away to the NW).

5.1.6 The Pevensey Levels SAC is designated for the presence of ramshorn snail *Anisus vorticulus.*

5.1.7 The Pevensey Levels Ramsar designation relates to "*an outstanding assemblage of wetland plants and invertebrates including many British Red Data Book species and 68% of vascular plant species in Great Britain that can be described as aquatic. It is probably the best site in Britain for freshwater molluscs, one of the five best sites for aquatic beetles* Coleoptera *and supports an outstanding assemblage of dragonflies* Odonata*.*"

5.1.8 The SSSI designation states: "*Ornithologically, the site is of national importance as the number of wintering lapwings has regularly exceeded 1% of the total British population in recent years."*

5.1.9 Note that the Site lies within the Pevensey Levels SSSI Impact Risk Zone (IRZ).

5.1.10 The Ashdown Forest is one of the largest single continuous blocks of heath, semi-natural woodland and valley bog in south-east England, and it supports several uncommon plants, a

rich invertebrate fauna, and important populations of heath and woodland birds.

Non-statutory designated sites

5.1.11 Non-statutory designated sites that lie partially or wholly within 2km of the application boundary are as follows:

- Diplocks Woods/Wannock Coppice Local Wildlife Site (LWS) (0.6km away to the W);
- Cranedown and Middle Brow LWS (1.2km away to the SW); and
- Willingdon Roundabout LWS (2.0km away to the SSE).

Ancient woodland

5.1.12 There is no ancient woodland present within the Site.

5.1.13 Eight areas of Ancient Semi-Natural Woodland (ASNW) are present within 2km of the Site.

5.1.14 The nearest ancient woodland is located within the Diplocks Woods/Wannock Coppice SNCI, approximately 600m to the west of the application boundary.

NERC s41 Habitats of Principle Importance (HPI)

5.1.15 HPI within 2km of the Site and the closest iteration of each are presented in Table 2.

Table 2 – NERC s41 HPI within 2km of the Site.

HPI	Distance from Site
Deciduous woodland	520m NE
Coastal and floodplain grazing marsh	830m E
Lowland calcareous grassland	1.2km SW
Traditional orchards	1.2km SE

Protected or Notable Species

Badger

5.1.16 Badger records in Sussex are confidential and therefore are not included within SxBRC record searches. Records can be obtained directly from the local badger group, although the acquisition of the data was not considered necessary in this instance.

Bats

5.1.17 Bat species recorded within 2km of the Site, or from within 1 x 1km squares that wholly or partially fall within 2km of the Site boundary, are presented in Table 3.

Table 3 – Bat species recorded within 2km of the Site.

Common Name	Scientific Name	Legal Protection / Conservation Priority Status
Brown long-eared bat	*Plecotus auritus*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c/s9.5a, NERC S41
Brandt's bat	*Myotis brandtii*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c/s9.5a
Common pipistrelle	*Pipistrellus pipistrellus*	Hab Reg Sch2, NERC S41, WCA Sch5 s9.4b/s9.4c/s9.5a
Natterer's bat	*Myotis nattereri*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c/s9.5a
Noctule bat	*Nyctalus noctula*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c/s9.5a, NERC S41
Serotine bat	*Eptesicus serotinus*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c/s9.5a
Soprano pipistrelle	*Pipistrellus pygmaeus*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c/s9.5a, NERC S41
Whiskered bat	*Myotis mystacinus*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c/s9.5a

Other mammals

5.1.18 Records of other mammals of conservation interest of potential relevance to the Site returned from within 2km of the Site, or from within 1 x 1km squares that wholly or partially fall within 2km of the Site boundary are presented in Table 4.

Table 4 – Other mammal species of conservation interest recorded within 2km of the Site.

Common Name	Scientific Name	Legal Protection / Conservation Priority Status	Closest Record	Most Recent Record
West European hedgehog	*Erinaceus europaeus*	S41, UK BAP Priority, RedList GB post2001 VU	160m W	18/04/2020

Birds

5.1.19 4994 records of 167 bird species of conservation interest were identified from within 2km of the Site, or from within 1 x 1km squares that wholly or partially fall within 2km of the Site boundary. A selection of records of bird species of potential relevance to the Site are presented in Table 5.

Table 5 – Relevant bird species of conservation interest recorded within 2km of the Site.

Common Name	Scientific Name	Legal Protection/Conservation Priority Status
Avocet	*Recurvirostra avosetta*	Birds Dir A1, WCA Sch1 Pt1, Bird Amber, Notable Bird
Dunnock	*Prunella modularis*	S41, UK BAP Priority, Bird Amber, Notable Bird
Eurasian bullfinch	*Pyrrhula pyrrhula*	S41, UK BAP Priority, Bird Amber, Notable Bird
Fieldfare	*Turdus pilaris*	WCA Sch1 Pt1, Bird Red
House sparrow	*Passer domesticus*	S41, UK BAP Priority, Bird Red, Notable Bird
Lapwing	*Vanellus vanellus*	S41, UK BAP Priority, Bird Red, Notable Bird
Redwing	*Turdus iliacus*	WCA Sch1 Pt1, Bird Red

Common Name	Scientific Name	Legal Protection/Conservation Priority Status
Starling	*Sturnus vulgaris*	S41, UK BAP Priority, Bird Red, Notable Bird
Tree sparrow	*Passer montanus*	S41, UK BAP Priority, Bird Red, Notable Bird
Turtle dove	*Streptopelia turtur*	S41, UK BAP Priority, Bird Red, Notable Bird

Flora

5.1.20 114 records of 58 floral species of conservation interest have been returned from within 2km of the Site, or from within 1 x 1km squares that wholly or partially fall within 2km of the Site boundary. None of the records are specific to the Site. A selection of floral species records of potential relevance to the Site are presented in Table 6.

Table 6 – A selection of relevant floral species recorded within 2km of the Site.

Common Name	Scientific Name	Legal Protection / Conservation Priority Status	Closest Record	Most Recent Record
Burnt orchid	*Neotinea ustulata*	S41, UK BAP Priority, RedList GB post2001 EN, RedList ENG post2001 EN, Nat Scarce, Sussex Rare	1.55km SE	27/06/2004
Eyebright	*Euphrasia nemorosa*	RedList ENG post2001 NT	TQ50R	30/09/2010
Field pepperwort	*Lepidium campestre*	RedList ENG post2001 NT	1.08km E	05/09/2009
Field scabious	*Knautia arvensis*	RedList ENG post2001 NT	TQ60C	01/10/2015
Lizard orchid	*Himantoglossum hircinum*	WCA Sch8	1.72km N	13/06/2018
Purple viper's-bugloss	*Echium plantagineum*	Sussex Rare	1.57km SSE	15/09/2014
Quaking grass	*Briza media*	RedList ENG post2001 NT	TQ50R	14/08/2008
Rye brome	*Bromus secalinus*	RedList GB post2001 NT, RedList ENG post2001 NT, Nat Scarce, Sussex Rare	1.4km NW	18/10/2007
Spiny restharrow	*Ononis spinosa*	RedList ENG post2001 NT	170m SE	18/07/2016

Herpetofauna

5.1.21 Records of herpetofauna returned from within 2km of the Site, or from within 1 x 1km squares that wholly or partially fall within 2km of the Site boundary are presented in Table 7.

Table 7 – Herpetofauna species recorded within 2km of the Site.

Common Name	Scientific Name	Legal Protection / Conservation Priority Status	Closest Record	Most Recent Record
Common frog	*Rana temporaria*	WCA Sch5 s9.5a	225m W	07/05/2015

Common lizard	*Zootoca vivipara*	WCA Sch5 s9.1/s9.1 kill/s9.5a, NERC S41	560m NE	04/09/2018
Common toad	*Bufo bufo*	WCA Sch5 s9.5a, NERC S41	1.07km SSE	26/10/2013
Grass snake	*Natrix helvetica*	WCA Sch5 s9.1/s9.1 kill/s9.5a, NERC S41	530m NE	19/06/2018
Great crested newt	*Triturus cristatus*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c/s9.5a, NERC S41	1.02km NW	16/05/2015
Palmate newt	*Lissotriton helveticus*	WCA Sch5 s9.5a	705m W	21/05/2002
Slow worm	*Anguis fragilis*	WCA Sch5 s9.1/s9.1 kill/s9.5a, NERC S41	230m W	04/09/2018
Smooth newt	*Lissotriton vulgaris*	WCA Sch5 s9.5a	630m NW	22/10/2016

Invasive and non-native species (INNS)

5.1.22 272 records of 26 INNS species have been returned from within 2km of the Site, or from within 1 x 1km squares that wholly or partially fall within 2km of the Site boundary. A selection of INNS species records of potential relevance to the Site are presented in Table 8.

Table 8 – A selection of relevant INNS recorded within 2km of the Site.

Common Name	**Scientific Name**	**Legal Status**	**Closest Record**	**Most Recent Record**
Evergreen oak	*Quercus ilex*	Sussex INNS	TQ50R	15/06/2013
Himalayan balsam	*Impatiens glandulifera*	WCA Sch 9 INNS	TQ60C	22/09/2012
Japanese Knotweed	*Fallopia japonica*	WCA Sch 9 INNS	1.26km NNW	31/12/2009
Montbretia	*Crocosmia pottsii x aurea = C. x crocosmiiflora*	WCA Sch 9 INNS	TQ50T	30/06/2010
Red valerian	*Centranthus ruber*	Sussex INNS	TQ60C	03/06/2010
Rhododendron	*Rhododendron ponticum*	WCA Sch 9 INNS	TQ50S	31/05/2010
Pampas grass	*Cortaderia selloana*	Sussex INNS	880m N	20/09/2012
Three-cornered garlic	*Allium triquetrum*	WCA Sch 9 INNS	1.09km N	16/05/2008
Wall cotoneaster	*Cotoneaster horizontalis*	WCA Sch 9 INNS	TQ50R	30/09/2010
Yellow archangel	*Lamiastrum galeobdolon subsp. argentatum*	WCA Sch 9 INNS	TQ50R	02/05/2012

Invertebrates

5.1.23 417 records of 70 invertebrate species have been returned from within 2km of the Site, or from within 1 x 1km squares that wholly or partially fall within 2km of the Site boundary. A

selection of invertebrate species records of potential relevance to the Site are presented in Table 9.

Table 9 – A selection of relevant invertebrate species recorded within 2km of the Site.

Common Name	Scientific Name	Legal Protection / Conservation Priority Status	Closest Record	Most Recent Record
Buff ermine	*Spilosoma lutea*	S41, UK BAP Priority	975m S	02/06/2020
Cinnabar	*Tyria jacobaeae*	S41, UK BAP Priority	675m N	12/08/2014
Dingy skipper	*Erynnis tages*	S41, UK BAP Priority, RedList GB post2001 VU	1.36km SW	10/06/2018
Grizzled skipper	*Pyrgus malvae*	S41, UK BAP Priority, RedList GB post2001 VU	1.80km SSW	23/05/2012
Jersey tiger	*Euplagia quadripunctaria*	Hab Dir A2 NP, Sussex Rare	1.72km SSE	14/07/2018
Long-winged cone-head	*Conocephalus fuscus*	Sussex Rare	1.84km NW	05/08/2017
Mottled rustic	*Caradrina morpheus*	S41, UK BAP Priority	965m S	02/06/2020
Small blue	*Cupido minimus*	WCA Sch5 s9.5a, S41, UK BAP Priority, RedList GB post2001 NT	880m E	18/08/2016
Small heath	*Coenonympha pamphilus*	S41, UK BAP Priority, RedList GB post2001 NT	815m NW	26/08/2016
Wall	*Lasiommata megera*	S41, UK BAP Priority, RedList GB post2001 NT	330m W	05/08/2017

5.2 Phase I Habitat Survey

5.2.1 The following habitat types were recorded within the Site:

- Amenity grassland
- Semi-improved grassland
- Dense scrub
- Scattered trees
- Hedgerows
- Wet ditch
- Dry ditches
- Dry pond
- Bare ground
- Buildings
- Hardstanding
- Introduced shrub

Amenity grassland

5.2.2 Amenity grassland is present adjacent to the south-western Site boundary, with a total area of approximately 200m^2. At the time of survey this habitat had a sward heigh of <10cm. Grass species present include abundant red fescue *Festuca rubra*, frequent perennial ryegrass *Lolium perenne*, with occasional cock's-foot *Dactylis glomerata*. Additional species present include occasional bristly oxtongue *Helminthotheca echioides*, common daisy *Bellis perennis*, common ivy *Hedera helix*, geraniums *Geranium* spp., ground ivy *Glechoma hederacea*, ribwort plantain *Plantago lanceolata*, and rarely occurring herb Robert *Geranium robertianum*.

Semi-improved grassland

5.2.3 Semi-improved grassland is the dominant habitat within the Site, spanning approximately 6.2ha. At the time of survey, the sward height varied between *c.* 5cm and 40cm. Grass species present include abundant Yorkshire fog *Holcus lanatus*, frequent cock's foot, occasional common bent *Agrostis stolonifera*, false oat-grass *Arrhenatherum elatius*, fescue *Festuca* sp., and tufted hair grass *Deschampsia cespitosa*, with locally abundant sweet vernal grass *Anthoxanthum odoratum* and timothy *Phleum pratense*. Additional species present include frequent common ragwort *Jacobaea vulgaris*, with occasional bramble *Rubus fruticosus* agg., bristly oxtongue, broadleaved dock *Rumex obtusifolius*, common daisy *Bellis perennis*, common hogweed *Heracleum sphondylium*, cow parsley *Anthriscus sylvestris*, curly dock *Rumex crispus*, cut-leaved crane's-bill *Geranium dissectum*, and rosebay willowherb *Chamaenerion angustifolium*. Also recorded were patches of locally dominant thistles *Cirsium* spp. and yarrow *Achillea millefolium*, locally abundant bird's-foot trefoil *Lotus corniculatus* and common nettle *Urtica dioica*, with locally frequent black cumin *Nigella sativa*, ground ivy, meadow buttercup *Ranunculus acris*, and silverweed *Argentina anserina*.

Dense scrub

5.2.4 Parcels of dense scrub are present on the south-western Site boundaries, as presented in Figure 1. Species composition is broadly uniform between parcels, comprising dominant bramble with occasional blackthorn *Prunus spinosa* and locally frequent honeysuckle *Lonicera periclymenum*. Understorey species include frequent bristly oxtongue, cock's-foot, common bent, common ivy, common ragwort, and thistles, with occasional cleavers *Galium aparine*, hawkbit *Asteraceae* sp., and willowherbs *Epilobium* sp. Rarely occurring cut-leaf crane's-bill and pedunculate oak *Quercus robur* saplings are also present.

Scattered trees

5.2.5 Scattered trees are present throughout the Site, as depicted in Figure 1. Species present include ash *Fraxinus excelsior*, blackthorn *Prunus spinosa*, cherry plum *P. cerasifera*, field

maple *Acer campestre*, goat willow *Salix caprea*, Leyland cypress *Cupressus × leylandii*, Lombardy poplar *Populus nigra* 'Italica', pedunculate oak, and silver birch *Betula pendula*.

Hedgerows

5.2.6 Four hedgerows are present on-Site, denoted H1-4 in Figure 1.

5.2.7 H1 is a native, species-poor, defunct hedgerow with trees, measuring approximately 305m long x 1m wide x 1.5m high. Woody species present include hawthorn *Crataegus monogyna*, hazel *Corylus avellana*, goat willow, and gorse *Ulex europaeus*. Understorey species include frequent bristly oxtongue, cock's-foot, common bent, common ivy, common ragwort, and thistles, with occasional cleavers, hawkbit, hedge bindweed *Calystegia sepium*, and willowherbs. Locally frequent ash and pedunculate oak saplings are also present.

5.2.8 H2 is a non-native, species-poor, intact hedgerow comprising box honeysuckle *Lonicera pileata*, measuring approximately 10m long x 2m wide x 1m high. Understorey species are as described for the adjacent amenity grassland.

5.2.9 H3 is a non-native, species-poor, intact hedgerow comprising laurel *Lauraceae* sp., measuring approximately 16m long x 1.5m wide x 1.5m high. Understorey species are as described for the adjacent semi-improved grassland.

5.2.10 H4 is a species-poor, defunct hedgerow measuring approximately 20m long x 1.5m wide x 1.5m high. Woody species present comprise cotoneaster *Cotoneaster* sp., elder *Sambucus nigra*, hawthorn, and hazel. Understorey species are as described for the adjacent semi-improved grassland.

5.2.11 The cotoneaster present within this hedgerow may be listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), and caution should be exercised to ensure it is not spread off-Site during development.

Wet ditch

5.2.12 A shallow wet ditch is present along the extent of the south-eastern Site boundary. The ditch was partially dry at the time of survey, and no floral species were recorded within this habitat.

Dry ditches

5.2.13 Two dry ditches are present within the Site, denoted D1/2 in Figure 1.

5.2.14 D1 is set within amenity grassland, associated with H2, measuring approximately 10m long x 0.5m wide. No floral species were recorded in this ditch.

5.2.15 D2 is set within semi-improved grassland, measuring approximately 95m long x 1m wide.

5.2.16 The species composition for D2 is the same as the semi-improved grassland habitat in which it is located.

Dry pond

5.2.17 A small (<1m^2) ornamental pond is present within the garden area of the House (B1), denoted TN1 in Figure 1. The pond was dry at the time of survey, and no botanical species were recorded in this habitat.

Bare ground

5.2.18 Bare ground is present in the south-east of the Site following the removal of the former pavilion building. No floral species were recorded in this habitat.

Buildings

5.2.19 Three buildings are present within the Site, denoted B1-3 in Figure 1. Buildings are discussed in terms of their suitability to support roosting bats in section 5.3, below.

Hardstanding

5.2.20 Hardstanding is present at the Site entrance, comprising the roadway, and surrounding the house (B1) in the form of paving slabs.

5.2.21 The Site entrance hardstanding is in good condition, with minimal floral species beginning to colonise on the peripheries. Species present include occasional bristly oxtongue, common bent, common ivy, and Yorkshire fog.

5.2.22 The paving slabs forming a pathway around part of B1 are in moderate condition, with some lifted/cracked. Floral species are beginning to colonise in gaps between slabs, as described above for the entrance track.

5.2.23 A small ex-playground area is present adjacent to the north-western Site boundary, denoted TN2 in Figure 1. Sporadic species are starting to grow through breaks in the surface, comprising frequent Yorkshire fog, with occasional bramble, bristly oxtongue, common ragwort, Lombardy poplar root suckers, and thistles.

Introduced shrub

5.2.24 Non-native species are present in the form of ornamental planting adjacent to B1, as well as on the north-western Site boundary, as depicted in Figure 1. Species present include bamboo *Bambusoideae* spp. and laurels *Lauraceae* spp.

5.2.25 None of the species present are listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

5.3 Protected/notable species

Badger

5.3.1 [redacted]

[redacted]

Bats

Roosting habitat – Buildings

B1 – House

5.3.3 B1 is a two-storey house of brick construction with a single-pitched roof of interlocking clay tiles. No internal access was available at the time of survey. However, the structure is well-sealed, with no visible external Potential Roost Feature (PRF) or access points.

5.3.4 As a result, B1 has **'Negligible'** suitability to support roosting bats and no further surveys of this building are required.

B2 – Shed 1

5.3.5 B2 is a single-storey, single-skinned shed of timber construction measuring *c.* 6m x 4m. The structure features a single-pitched timber roof with felt covering.

5.3.6 Gaps in the timber facilitate access to the building interior, although no PRF are present, either externally or internally.

5.3.7 B2 has **'Negligible'** suitability to support roosting bats, and no further surveys of this building are required.

B3 – Shed 2

5.3.8 B3 is a single-storey, single-skinned shed of timber construction measuring *c.* 13m x 4m. The structure features a single-pitched timber roof with felt covering.

5.3.9 Gaps in the timber facilitate access to the building interior, although no PRF are present, either externally or internally.

5.3.10 B3 has **'Negligible'** suitability to support roosting bats, and no further surveys of this building are required.

5.3.11 A summary of the building assessment results is presented in Table 10.

Table 10 – Buildings and their level of potential for bats

Building Number	Level of Suitability for Bats	Further Surveys Required?
B1	Negligible	No
B2	Negligible	No
B3	Negligible	No

Roosting habitat – Trees

5.3.12 Assessment of all on-Site trees to be impacted by the development with regard to their suitability to support roosting bats was undertaken. None of the trees to be impacted exhibited PRF, and no further consideration to roosting bats is required. Should the development plans change to include the loss of additional trees, further consideration toward roosting bats may be required.

5.3.13 All on-Site trees to be impacted by the development have '**Negligible**' suitability to support roosting bats.

Foraging and commuting habitats

5.3.14 The grassland, scrub, and hedgerows all provide suitable habitat for foraging and commuting bats. Previous surveys conducted of the Site in response to the wider Morning Mills application (Middlemarch 2017) recorded low levels of common pipistrelle, soprano pipistrelle and noctule bat activity within the Site. As no significant change to the habitat types has occurred, these survey results are considered representative of the sites likely use by bats, and the application of further surveys have not been implemented.

Breeding birds

5.3.15 Scrub, scattered trees, buildings, and hedgerows within the Site all provide suitable nesting and foraging habitat for range of bird species. Previous surveys conducted of the Site in response to the wider Morning Mills application (Middlemarch 2017) recorded blackbird,, dunnock, wren, song thrush, great tit, wood pigeon, chaffinch, robin, chiffchaff, green woodpecker and black cap activity within the Site. With the exception of green woodpecker, all records were identified within the boundary vegetation to be retained and as no significant change to the habitat types has occurred, these survey results are considered representative of the sites likely use by birds, and the application of further surveys have not been implemented.

Wintering birds

5.3.16 Wintering bird surveys were conducted at a rate of one per month, from November 2020 until

February 2021. Survey conditions are presented in Table 11.

Table 11 – Wintering bird survey conditions.

Date	27/11/20	18/12/20	06/01/21	19/02/21
Start time	07:30	07:15	08:00	06:30
Air temp. (°C)	6	10	1	6
Cloud cover (%)	100	100	100	10
Wind (BF)	2	2	2	2
Visibility	M	M	M	M
Rain	0	0	0	0

5.3.17 The surveys recorded blackbird *Turdus merula*, black headed gull *Chroicocephalus ridibundus*, blue tit *Cyanistes caeruleus*, carrion crow *Corvus corone*, coal tit *Periparus ater*, common gull *Larus canus*, dunnock *Prunella modularis*, herring gull *Larus argentatus*, house sparrow *Passer domesticus*, great tit *Parus major*, goldfinch *Carduelis carduelis*, jackdaw *Corvus monedula*, magpie *Pica pica*, robin *Erithacus rubecula*, song thrush *Turdus philomelos*, starling *Sturnus vulgaris*, wood pigeon *Columba palumbus*, and wren *Troglodytes troglodytes* within the Site.

5.3.18 Of the species noted above, blackbird, black headed gull, blue tit, carrion crow, common gull, herring gull, house sparrow, goldfinch, jackdaw, magpie, song thrush, starling, and wood pigeon were also recorded using habitats adjacent to the application boundary.

5.3.19 The bird species recorded within and adjacent to the Site are typical of grassland and hedgerow habitats in southern England, with the most frequently encountered species being blue tit, blackbird, carrion crow, and wren. The vast majority of records were of birds using boundary features, such as scrub, trees, and hedgerow H1, with corvids the only species noted foraging within the on-Site grassland habitat. Starling was recorded foraging in grassland adjacent to the Site to the south-east.

5.3.20 Of the species recorded, six are '**Notable**', either appearing on the Birds of Conservation Concern 4 (BoCC 4) Red or Amber Lists, NERC s41, or the Sussex Local BAP (LBAP). No species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) were noted during the survey visits.

5.3.21 The largest flock recorded was that of *c*. 20 starling, seen foraging in agricultural grassland adjacent to the south-eastern Site boundary before sheltering within on-Site trees lining said boundary.

5.3.22 '**Notable**' species recorded on-Site are presented in Table 12. '**Notable**' species survey results

are presented in Figure 4. Note that seabird species were recorded flying over the Site, and therefore, have not been included in Figure 4 as they were not utilising on-Site habitats at the time of survey. Their presence, however, has still been noted.

Table 12 – Notable wintering bird survey results

Species	Sch1	S41 (NERC)	Red	Amber	LBAP
Black-headed gull				√	
Common gull				√	
Dunnock		√		√	
Herring gull		√	√		
House sparrow		√	√		
Song thrush		√	√		
Starling		√	√		

Hazel dormouse

5.3.23 The scrub and hedgerows within the Site provide suitable habitat for dormouse, yet these habitats are to be retained and surveys conducted by Middlemarch of the immediate and wider Morning Mills site in 2017, concluded that dormice are likely absent.

Great crested newt

5.3.24 Suitable terrestrial habitat for GCN is present within the Site in the form of grassland, scrub, ornamental planting, damaged hardstanding, ditches, and hedgerow bases.

5.3.25 The only standing waterbody within the Site is located in the southern corner of the Site, denoted TN1 in Figure 1.

5.3.26 The waterbody is a small (<1m^2) ornamental pond in the garden of the house (B1). The waterbody was dry at the time of survey, so was unable to be subject to a full HSI assessment. Given the lack of suitable waterbodies within the Site or 250m surrounding the Site boundary, coupled with no historical records of the species within 1km of the Site, GCN are considered likely absent.

Reptiles

5.3.27 Grassland, scrub, and hedgerow bases all provide suitable foraging and sheltering habitat for reptiles. Presence/likely absence surveys identified a low population of slow worm using the Site. No other reptile species were recorded.

5.3.28 The slow worms were recorded within grassland habitats on the north-western, northern, and eastern Site boundaries. Mat locations and survey results are depicted in Figure 5. The results

of the reptile surveys are summarised in Table 13.

Table 13 – Reptile survey results

Date and time of survey	18/09/20 09:30	23/09/20 10:00	28/09/20 17:30	05/10/20 13:30	08/10/20 15:15	12/10/20 13:50	15/10/20 10:15
Air temp. (°C)	17.7	17.9	17.0	17.0	17.0	13.0	10.1
Cloud cover (%)	0	80	60	70	100	100	30
Wind (BF)	2	1	1	1	1	1	3
Rain	0	0	0	0	1	1	0
Slow worm	M 0 F 0 Sub **1** Juv 0 Un 0	M **1** F **1** Sub 0 Juv 0 Un 0	M **1** F 0 Sub 0 Juv 0 Un 0	M 0 F 0 Sub 0 Juv 0 Un 0	M 0 F 0 Sub 0 Juv 0 Un 0	M 0 F **1** Sub 0 Juv 0 Un 0	M 0 F **3** Sub **1** Juv 0 Un 0

Rain: 0=Dry; 1=Light; 2=Heavy

Invertebrates

5.3.29 The semi-improved grassland, wet ditch, ornamental planting, and trees within the Site provides suitability for a range of invertebrate species. However, the habitats types present are typical of those present within the sider landscape and the application of invertebrate specific surveys is considered disproportionate in this instance.

Other species

5.3.30 The Site provides suitable habitats for a variety of notable species such as European hedgehog *Erinaceus europaeus* and common toad *Bufo bufo*.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 Statutory/non-statutory designated and National Site Network sites

6.1.1 Statutory/non-statutory designated (including National Site Network) sites within the Desk Study area are considered suitably distant (>0.5km) that no direct impacts will occur as a result of the proposed development.

6.1.2 As set out in the EIA screening report (AECOM, 2021) the medium and long-term indirect

impacts that could potentially affect designated and National Site Network sites within the wider landscape include:

- Human-induced changes (through alterations to ground drainage) in hydraulic conditions;
- Introduction of invasive/non-native species, such as introduced shrub from ornamental planting in residential gardens;
- Increased outdoor leisure activities, including nitrogen deposition from dogs;
- Increased air pollution, including nitrogen dioxides and dust deposition from increased traffic;
- Increased watercourse pollution from pollutants in surface water run-off from traffic and other human activities (e.g., car washing); and
- Increased groundwater pollution caused by increased pollutants from traffic road drainage run-off.

6.1.3 For further details on the above-referenced medium and long-term impacts and mitigating factors to reduce impacts the reader is referred to the associated Environmental Impact Assessment (EIA) (Aecom, 2021) and Shadow Habitat Regulations Assessment (Middlemarch, 2021) reports that support the application.

6.1.4 The Site lies within the Pevensey Levels SSSI IRZ, and qualifying as a major developments, there is a requirement of the LPA to consult with Natural England on the likely impcts of this development. .

6.2 Ancient woodland

6.2.1 The nearest ancient woodland is an area of ASNW within the Diplocks Woods/Wannock Coppice SNCI, located approximately 600m to the west of the Site. Separated from the Site by urban areas of Willingdon, and well beyond the recommended 15m buffer enforced by Natural England when working in close proximity to ancient woodland, no impact to this or any other ancient woodland sites will result from the proposed.

6.3 Habitats and botanical species of interest

6.3.1 On-Site habitats are common and widespread, and no further botanical surveys are required.

6.3.2 The nearest NERC s41 HPI is that of deciduous woodland, located approximately 520m north-east of the Site boundary and no detrimental impacts to this or any other HPI will result from the proposed.

6.3.3 It is recommended that the trees within the Site are to be retained as part of the proposed development. Retained trees should be protected in accordance with the British Standard

'5837:2012 Trees in Relation to Design, Demolition and Construction'. An example of such protection is presented in Figure 3.

6.3.4 Where loss is unavoidable, trees should be replaced on a like-for-like basis. Any tree planting should be undertaken using native species in keeping with residential developments, such as crab apple *Malus sylvestris*, holly *Ilex aquifolium*, rowan *Sorbus aucuparia*, whitebeam *Sorbus aria*, and yew *Taxus baccata*.

6.4 Protected species

[redacted]

[redacted]

Bats

Roosting habitat – buildings

6.4.3 None of the structures within the Site offer suitability to support roosting bats, and no further building surveys are required.

Roosting habitat – trees

6.4.4 None of the trees within the Site offer PRF for bats, and no further consideration towards tree-roosting bats is required.

Bats - foraging and commuting habitat

6.4.5 The desk study identified historical records of bats and the surveys for within both the SIte and the wider landscape, and the grassland, scrub, hedgerows, and scattered trees on-Site provide suitable foraging and commuting habitat for bats. Despite these features being present, the overall quality of the Site in terms of foraging/commuting bats is considered **Low** and this matter was confirmed during bat activity surveys conducted of the wider Morning Mills site by Middlemarch in 2017.

6.4.6 From reviewing the provided plans is understood that the boundary treelines and the hedgerow H1, are to be retained post-development, thereby maintaining key foraging and commuting routes. Furthermore, extensive tree planting in conjunction with the creation of a waterbody adjacent to H1, will serve to increase the Sites suitability for use by bats post

development.

6.4.7 To ensure the Site's integrity for bats and other nocturnal fauna is maintained during construction, where practical, works will be limited to standard daytime hours and where works are required outside of this period, suitable screening will be installed to avoid light spill onto the retained boundary habitats. If deemed a requirement, the appropriate screening type will be determined by the appointed ecologist. Installation of the screening will be conducted by the on-Site contractors and in consultation with the appointed ECoW.

6.4.8 In order to maintain these working hours, the contractor(s) will require a period of 30 minutes before and at the end of the working shift to start up and close down the works activities. During the construction period it may be necessary in exceptional circumstances to work outside the prescribed working hours. Should this occur, the hours and duration of these works will be subject to consultation with the Council.

6.4.9 The ECoW will assess the lighting units, the positioning of the lighting, and the light spill resulting from the lighting units prior to the commencement of construction works, or at the time of installation should works have commenced previously.

6.4.10 To ensure the Site's integrity for bats and other nocturnal fauna is maintained post-development, the proposed lighting scheme is to avoid the use of lighting wherever possible and is to be considerate to the requirements set out by the Bat Conservation Trust in their 2018 document 'Bats and Artificial Lighting in the UK' where required.

6.4.11 Where external lighting is a requirement, the following methods are to be incorporated within the design:

- Dark buffer zones are to be used as a way to separate habitats or features from lighting by forming a dark perimeter around them.
- The inclusion of features such as hoods, cowls, louvres, and shields will be installed on lighting columns to direct light to the intended area, whilst avoiding unrequired light spillage.
- Luminaires are to lack UV elements when manufactured and metal halide, fluorescent sources will not be used.
- LED luminaires will be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- The use of specialist bollard or low-level downward directional luminaires to retain darkness above will be utilised.
- Column heights will be carefully considered to minimise light spill.

- Only luminaires with an upward light ratio of 0% and with good optical control will be used.
- External security lighting will be set on motion-sensors and short (≤1min) timers.
- Restricted timings (curfews) for the use the site as a whole, and of lights will ensure that even at reduced levels any detrimental effects of the required lighting is restricted to shortened periods during the active season for bats of April – November.
- Part night-lighting of the Site will be considered.
- The application of planning conditions/written agreements to ensure that no additional lighting is installed at a later date will further secure the Site's on-going use by bats.

6.4.12 Through retention of the majority of hedgerow H1, coupled with extensive tree planting post-development, foraging and commuting opportunities for bats are to be included within the proposed plans.

Breeding birds

6.4.13 The habitats within the Site provide suitable nesting and foraging habitat for a range of bird species, and from review of the historic breeding bird surveys conducted of both this and the wider Morning Mills site (Middlemarch, 2017) a number of bird species are known to utilise the vegetated boundaries. However, as most of the on-Site trees and boundary vegetation is to be retained, when considering the time constraints imposed on this application, the completion of further surveys to determine the current status of breeding birds within the site is considered disproportionate and none have been conducted in this instance.

6.4.14 However, all breeding birds are protected under the Wildlife and Countryside Act 1981 (as amended) and, where the removal of suitable habitats is required, works should be conducted outside the core breeding period for birds of Late February – August (inclusive).

6.4.15 Should this timeframe be unobtainable, a thorough search for the presence of breeding birds should be conducted by a suitably experienced ecologist prior to the start of works. Should evidence of breeding birds be recorded, works within 5m of the nest, or works that have potential to destroy the nest, should stop until the eggs have hatched, and the chicks fledged, or the nest is deemed by a suitably experienced ecologist to be no longer active.

Wintering Birds

6.4.16 Of the species recorded during the wintering bird surveys, six are '**Notable**', either appearing on the Birds of Conservation Concern 4 (BoCC 4) Red or Amber Lists, NERC s41, or the Sussex Local BAP (LBAP). All notable bird species recorded within the Site boundaries were utilising boundary features such as scrub, trees, and hedgerow H1. With the largest flock recorded being that of *c*. 20 starling foraging on agricultural land adjacent to the south-east Site

boundary no large assemblages were recorded.

6.4.17 As the majority of the boundary habitats are to be retained and no significant bird assemblages have been identified utilising the main body of the site, no further consideration to the impact of the development on over wintering birds is required.

Great crested newt

6.4.18 Terrestrial habitat with the potential to support GCN is present within the Site. However, the waterbody denoted TN1 in Figure 1 was dry at the time of survey.

6.4.19 With no other suitable waterbodies within 250m, coupled with the closest historical record of the species being >1km distant, the species is considered likely absent and no further survey nor consideration toward GCN is required.

Hazel dormouse

6.4.20 The scrub and hedgerows on-Site provide suitable habitat for dormice. However, no evidence of dormouse was recorded during the PEA survey, and an extensive survey of the site and wider Morning Mils application conducted by Middlemarch in 2017, confirmed the species to be absent. no records of the species were returned from within 2km of the application boundary. Although outside the optimal survey longevity period, the additional effort applied within the landscape previously is considered sufficiently robust to demonstrate absence and no further mitigation or time constrains in regard to dormice are required in this instance.

Invertebrates

6.4.21 Although no specific invertebrate surveys have been conducted, habitats within the Site are common and widespread, and the impacts of the development are considered unlikely to be significant in regard to notable populations of invertebrate species of conservation interest. The inclusion of swales, grassland, tree and shrub planting within the proposed design will serve to provide a diver range of habitat types suitable for use by a range of invertebrate species and no invertebrate specific survey effort is required.

Reptiles

6.4.22 The results of the reptile survey identified a '**Low**' populations of slow worm within the ISte and without mitigation, the removal of habitats suitable to support reptiles (scrub, grassland, ornamental planting) would result in a direct injury and/or mortality event.

6.4.23 The proposed development will result in the loss of suitable reptile habitat within the site and without mitigation, these actions could result in the potential killing and / or injuring of reptiles.

6.4.24 To ensure the welfare of reptiles is safeguarded throughout the development, measures to trap and translocate the reptiles will be required prior to the start of works.

6.4.25 To ensure the mitigation strategy proposed is proportionate to the species present, the following methods should be implemented in full:

- Prior to the start of the trapping effort, a suitable receptor site should be identified, an appropriate receptor site must be allocated, and any necessary habitat enhancement required to increase the receptors carrying capacity should be implemented in full.
- To stop any animals re-entering the site, reptile exclusion fencing should be installed along the boundaries of the site. This should remain intact throughout the development.
- To ensure reasonable effort to trap reptiles out of the site is applied, artificial refugia should be deployed at a minimum density of 100 per hectare.
- To allow reptiles time to find the mats, a minimum of 10 days will be left between mat deployment and commencement of trapping.
- Given the population sizes recorded to date, the artificial refugia should be checked for reptiles for a minimum of 30 trappings sessions. This number should be reviewed upon completion of the survey effort.
- To ensure the site is sufficiently clear of reptiles prior to the start of works, trapping should continue until the completion of five trapping days in which no reptiles are captured, or the site is deemed by the appointed ecologist to be sufficiently clear to cease the trapping effort.
- All trapping should be conducted by a suitably experienced ecologist, in appropriate weather conditions and at a time of year when reptiles are active. Although somewhat weather dependent, the active period for reptiles is generally considered to be March to September (inclusive). All animals trapped should be taken in a suitable receptacle and placed carefully within the allocated receptor site.
- Upon completion of the trapping effort, the sensitive habitats should be subject to a destructive/fingertip search during supervised vegetation clearance to ensure any animals that have remained ‘untrapped’ are safely relocated. The destructive search will need to be conducted in accordance with the HGBI advisory notes (1998) guidance and under the supervision of a suitably experienced ecologist.
- Once all the construction works have been completed on-site, the exclusion fencing can be removed under the supervision of a suitably qualified ecologist. Any reptiles found during the removal should be translocated to the allocated receptor site discussed above.

6.4.26 Note: the north-western, northern, and eastern Site boundaries are to be subject to a relaxed management regime to accommodate reptiles. Log piles are to be created at a rate of two per boundary to provide sheltering habitat for herpetofauna.

Other species

6.4.27 Beyond those noted above, no evidence of the Site's use by other protected species was identified. However, application of the recommendations detailed herein will serve to benefit additional numerous species of conservation interest, including common toad and West European hedgehog. In addition to the above, 10 x 10cm gaps at the base of garden fences will allow for movement of West European hedgehog around the Site post-development.

6.4.28 Additional enhancements to benefit West European hedgehog are detailed in Section 7, below.

7 ECOLOGICAL ENHANCEMENTS

7.1 Opportunities to include biodiversity enhancements within the Site exist and in accordance with the requirements of the NPPF 2019, the following recommendations are considered appropriate for the Site:

- A range of bird boxes erected onto the proposed building and trees within the Site would benefit a diversity of bird species. Boxes should be selected from either integrated boxes such as those available from www.habibat.co.uk for inclusion within the proposed structures or open fronted and hole fronted nest boxes for within trees, fencing and planting. To maximise suitability, boxes should be installed on sheltered aspects close to vegetation at a height of 2-3m, preferably on north, north-east or north-west facing elevations.
- The installation of bat boxes installed in suitable locations would increase the Site's potential for roosting bats. These boxes should be installed at a height of 3m or more or at eaves height on sunny, sheltered aspects, away from direct illumination by artificial lighting and in a location, which ensures connectivity to foraging habitats within the wider landscape. In this instance, boxes such as those provided by www.habibat.co.uk are recommended for within built structures. the Kent Bat box or Schwegler 2FN (or similar) are recommended for within mature retained trees.
- The incorporation of a native, wildlife-friendly planting scheme, using native plant species, would be of benefit to invertebrates and subsequently species such as birds and bats.
- The incorporation of hedgehog boxes at suitable locations within vegetated areas of the Site would provide an enhancement for this species.
- Any tree planting should be undertaken using native species in keeping with residential developments, such as crab apple *Malus sylvestris*, holly *Ilex aquifolium*, rowan *Sorbus aucuparia*, whitebeam *Sorbus aria*, and yew *Taxus baccata*.

8 REFERENCES

Bat Conservation Trust and the Institute of Lighting Professionals (BCT&ILP) 2018. Guidance Note 8; Bat and Artificial Lighting in the UK. https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

Bright, P et al (2006). Dormouse Conservation Handbook. Second Edition

Collins, J. (ed.) 2016. Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). Bat Conservation Trust, London.

Eaton et al (2015). Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. British Birds 108.

Ecology Solutions (2012). Ecological Assessment

JNCC (2010). Handbook for Phase I Habitat Survey; A Technique for Environmental Audit. Peterborough.

Langton *et al*. (2001). Great Crested Newt Conservation Handbook. Froglife. Suffolk.

National Planning Policy Framework (NPPF) 2019. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/740441/National_Planning_Policy_Framework_web_accessible_version.pdf

Natural Environment and Rural Communities (NERC) Act 2006. http://www.legislation.gov.uk/ukpga/2006/16/contents

Protection of Badgers Act (1992). http://www.legislation.gov.uk/ukpga/1992/51

The Conservation of Habitats and Species Regulations (Habitats Regulations) 2017. http://www.legislation.gov.uk/uksi/2017/1012/made

Wildlife and Countryside Act (as amended) 1981. http://jncc.defra.gov.uk/page-1377

Figures



Legend

- Site Boundary
- Dense Scrub
- Scattered Trees
- SI — Semi-improved Grassland
- Amenity Grassland
- Introduced Shrub
- Hedgerows
- Hardstanding
- Bare Ground
- Dry Ditch
- Wet Ditch
- TN — Target Note

Job Reference : J20961

Project Title
Hindsland, Eastbourne Road

Drawing Title
Figure 1: Phase I Habitat Map

Date : 04-03-21 Checked : MR

Drawn : JT Approved : N/A

Status : Final Scale : NTS

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Job Reference : J20961

Project Title
Hindsland, Eastbourne Road

Drawing Title
Figure 2: Illustrative Masterplan

Date : 04-03-21 Checked : GN

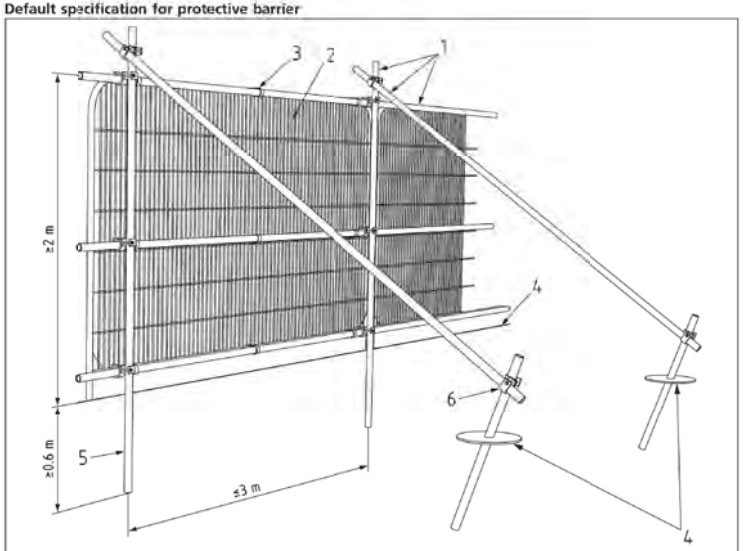
Drawn : MR Approved : N/A

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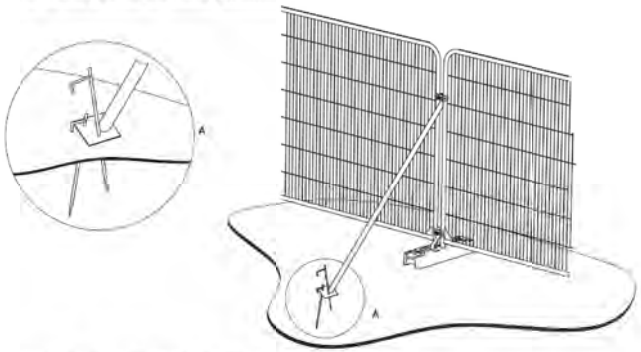
Default specification for protective barrier



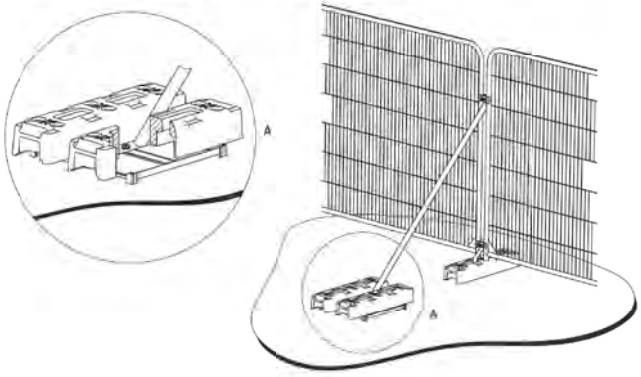
Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Examples of above-ground stabilizing systems



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Job Reference : J20961

Project Title
Hindsland, Eastbourne Road

Drawing Title
Figure 3: Tree Protection Measures

Date : 24-02-21 Checked : MR

Drawn : JT Approved : N/A

Status : Final Scale : NTS

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Job Reference : J20961_P2

Project Title: Hindsland Playing Field

Drawing Title: Figure 4 - Reptile Survey Results

Date : 04-11-20 Checked : GN

Drawn : MR Approved : N/A

Status : Final Scale : NTS

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Legend

- Site Boundary
- Transect 1
- Transect 2
- Transect 3
- Transect 4
- Transect 5
- D. Dunnock
- HS House sparrow
- ST Song thrush
- SG Starling

Job Reference : J20961

Project Title
Hindsland, Eastbourne Road

Drawing Title: Figure 5 - Wintering Bird Transect Route and Notable Results

Date : 24-02-21 Checked : DL

Drawn : MR Approved : N/A

Status : Final Scale : NTS

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Appendices

APPENDIX A – PHOTOGRAPHS



Plate 1. Site entrance.



Plate 2. Scrub and semi-improved grassland.



Plate 3. Semi-improved grassland.



Plate 4. Scattered trees with edge of disused playground TN2.



Plate 5. Northern Site boundary with semi-improved grassland and dry ditch.



Plate 6. Semi-improved grassland with scattered trees.



Plate 7. Dense scrub and semi-improved grassland.



Plate 8. Building B1.



Plate 9. Building B2.



Plate 10. Building B3.



Plate 11. Ornamental planting and dry pond TN1.

APPENDIX B

Categories of Bat Roost Potential

Roost type / Level of potential	Summer Roost used by Non- Breeding Bats	Maternity Roost	Hibernation Roost
Confirmed roost	Presence of bats or evidence of bats identified. Confirmation of a roost will likely require further surveys.		
High	Building/Structure or tree with multiple opportunities for one or more species of roosting bat. Optimal orientation. Good connectivity to optimal foraging habitats.	Building/Structure or tree with multiple roosting opportunities for pregnant female bats and young pups. Optimal orientation. Good connectivity to optimal foraging habitats.	Building/Structure or tree that has suitable thermal stability and levels of humidity to support torpid bats throughout the winter months.
Moderate	Building/Structure for tree with some opportunities for roosting bats. Preferable orientation. Connectivity to moderate to high quality foraging habitat available.	Building/Structure or tree with some roosting opportunities for pregnant female bats and young pups. Good orientation. Good connectivity to moderate to high quality foraging habitats.	Building/Structure or tree that has suitable thermal stability and levels of humidity to support torpid bats for some of the winter months. Moderate connectivity to suitable foraging areas.
Low	Building/Structure or tree with limited opportunities for roosting bats. Poor connectivity to foraging habitat.	Building/Structure or tree with limited opportunities for breeding bats. Poor connectivity to foraging habitat.	Building/Structure or tree with limited potential to support hibernating bats due to instable environmental conditions.
Negligible	Building/Structure or tree with no or very limited opportunities for roosting bats. Little to no connectivity to foraging habitat	Building/Structure or tree with no or very limited opportunities for breeding bats. Little to no connectivity to foraging habitat.	No suitable roosting opportunities for hibernating bats.

APPENDIX C

Minimum Number of Bat Surveys Required in Most Instances

Negligible	Low roost potential	Moderate roost potential	High roost potential*
Dusk emergence and/or pre-dawn re-entry surveys unlikely to be required.	Structures: 1 survey visit. 1 dusk emergence or pre-dawn re-entry survey[a]. To be conducted during May – August. Trees: Dusk emergence and/or pre-dawn re-entry surveys unlikely to be required.	2 separate survey visits. 1 dusk emergence survey and 1 pre-dawn re-entry survey[b]. To be conducted during May-September with at least one of the surveys May – August.	3 separate survey visits. At least 1 dusk emergence survey and a separate pre-dawn re-entry survey. The third visit could be either a dusk or dawn survey[b]. To be undertaken during May-September with at least two of the surveys between May and August.

[a] Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case by case basis. If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

[b] Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; It is recommended that surveys are spaced out at least two weeks apart, preferably more. A dawn survey immediately after a dusk survey is considered one visit. If there is potential for a maternity colony, then consideration should be given to seasonal detectability and the ecologist should use their professional judgement to design the most appropriate survey regime.

*For the purpose of this exercise a confirmed roost is considered under the criteria of 'High roost potential'