

P29 & 30 Allington Lane - Hogwood – Preliminary Ecological Appraisal

Eastleigh Borough Council

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Ecus Ltd

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Executive Summary

Ecus Limited (Ecus) was commissioned by Eastleigh Borough Council to undertake a Preliminary Ecological Appraisal (PEA) (Chartered Institute of Ecology and Environmental Management (CIEEM), 2017) for land on the north-east side of Hogwood Lane, near Eastleigh, Hampshire, SO30 3HZ.

Eastleigh Borough Council (EBC) has recently acquired 243.23 hectares of agricultural land. Allington Lane - Hogwood is one of the parcels that comprises the overall 243.23 hectares. The land was purchased with the view to generate credits via biodiversity enhancement measures from Ecological Opportunities, that developers could purchase in order to offset their nutrient outputs. It is understood that it is also possible to generate further credits from the land for other mitigation and/or consider the land for additional purposes.

Survey findings would support applications relating to the generation of further mitigation credits and/or inform additional uses of the land. Biodiversity net gain (BNG) baseline assessments are to be undertaken in readiness for mandatory 10% BNG in November 2023 as required by the new Environment Act (2021).

From the habitat survey (UKHabs), the baseline habitats within the survey area comprised:

- g3c - Other neutral grassland
- g3c8 - *Holcus-Juncus* neutral grassland
- w1f - Lowland mixed deciduous woodland
- h3d - Bramble scrub
- f2 - Fen, marsh and swamp
- u1c - Artificial unvegetated unsealed surface
- u1e - Built linear features
- w1g6 - Line of trees

Full botanical species lists are provided in **Appendix 3**.

The calculated BNG baseline for the Site is:

- Total habitat units (HU): 138.61
- Hedgerow units (HeU): 5.18
- River units (RU): 2.80

A map of the baseline habitats is provided in **Figure 2** and the raw BNG baseline data is provided in **Appendix 4**.

See **Section 5.1** for Ecological Constraints and Mitigation Measures and **Section 5.3** for Ecological Opportunities.

1. Introduction

1.1 Scope

- 1.1.1 Ecus Limited (Ecus) was commissioned by Eastleigh Borough Council to deliver a Preliminary Ecological Appraisal (PEA) (Chartered Institute of Ecology and Environmental Management (CIEEM), 2017) on land north-east side of Hogwood Lane, near Eastleigh, Hampshire, SO30 3HZ.
- 1.1.2 This report details the findings of a desk study, habitat survey and protected species assessment carried out on 12th January 2023 by Ecus ecologists. The methodologies employed and all survey findings are described along with an evaluation and assessment of the ecological importance of the Site. Any requirement for further survey work and/or mitigation/enhancement is also detailed as required.
- 1.1.3 The PEA focussed on the Site which is defined by the red line 'Site boundary' on **Figure 1**.

1.2 Site description

- 1.2.1 The Site measures approximately 17.41 ha in area and includes grassland, broadleaved woodland, scattered and lines of trees and minimal hardstanding. The Site is located at National Grid Reference (NGR) SU 47354 16708 and its extent can be viewed on **Figure 1**. The habitat map is illustrated on **Figure 2** and Site habitat photographs can be viewed in **Appendix 1**.
- 1.2.2 The Site lies 1.5 km southeast of Bishopstoke and 1.5 km west of Horton Heath in a widely rural area. Arable and pastoral land, interspersed with blocks of woodland encompasses much of the wider area. A railway line and Allington Lane intersect at the eastern corner of the Site, Willow Farm lies 75 m to the west of the Site and small blocks of industrial buildings lie to the north, south and south-east in between arable land parcels.

1.3 Project scope

- 1.3.1 Eastleigh borough Council (EBC) has recently acquired 243.23 hectares of agricultural land. Allington Lane - Hogwood is one of the parcels that comprises the overall 243.23 hectares. The land was purchased with the insight to generate credits via biodiversity enhancement measures from Ecological Opportunities, that developers could purchase in order to offset their nutrient outputs. It is understood that it is also possible to generate further credits from the land for other mitigation and/or consider the land for additional purposes.
- 1.3.2 Survey findings would support applications relating to the generation of further mitigation credits and/or inform additional uses of the land. Biodiversity net gain (BNG) baseline assessments are to be undertaken in readiness for mandatory 10% BNG in November 2023 as required by the new

Environment Act (2021).

1.4 Quality assurance

- 1.4.1 The habitat survey and protected species assessment was completed by Senior Ecologist Claire Evans MSc BSc (Hons) and Assistant Ecologist Molly-Marie Mills MSc BSc (Hons).
- 1.4.2 The associated PEA report was completed by Assistant Ecologist Molly-Marie Mills MSc BSc (Hons).
- 1.4.3 Senior Ecologist Alex Hellyar has reviewed this report in accordance with Ecus' Quality Assurance policy.
- 1.4.4 The report was approved by Abel Drewett CEnv MIEEM Technical Director for Ecology at Ecus.

2. Legislation

2.1.1 The primary purpose of the PEA was to identify any ecological constraints to the proposed works, including designated sites for nature conservation, habitats and species protected by legislation, namely, but not limited to:

- The Wildlife & Countryside Act 1981 (as amended) ("the WCA 1981");
- The Conservation of Habitats and Species Regulations (EU Exit) 2019 (as amended) ("the Habitats Regulations");
- The Protection of Badgers Act 1992;
- The Natural Environment and Rural Communities Act 2006 ("the NERC Act"); and
- The Environment Act 2021.

2.1.2 Further details for species protected by the above legislation are provided in **Appendix 2**.

3. Methodology

3.1 Data Consultation

- 3.1.1 Obtaining existing biological records is an important part of the PEA process, as it provides additional information that may not be apparent during a Site visit and provides a more in-depth baseline from which to inform recommendations and mitigation.
- 3.1.2 Hampshire Biodiversity Information Centre (HBIC) provided recent (within the past 10 years) biological record data within 2 km of the Site, on behalf of Eastleigh Borough Council to inform the desk study for this project.
- 3.1.3 The data obtained from HBIC includes records of protected and notable species, invasive non-native species (INNS) and non-statutory designated sites for nature conservation.
- 3.1.4 In addition, Ecus used the Government's Multi-Agency Geographical Information for the Countryside (MAGIC) database (MAGIC, 2023) to identify statutory designated sites of international and European nature conservation importance within 10 km of the Site, other statutory designated sites within 2 km of the Site and any records of European Protected Species (EPS) mitigation licences granted within 2 km of the Site.
- 3.1.5 Information obtained from MAGIC and HBIC is included within the report where appropriate.

3.2 Site survey

- 3.2.1 A habitat survey and protected species assessment was completed in accordance with industry guidelines (CIEEM, 2017 & Butcher *et al.*, 2020) on 12th January 2023.
- 3.2.2 Weather conditions and visibility were considered suitable for the purpose of the survey (temperature = 10°C, wind = Beaufort 3, cloud = 100% cover, precipitation = intermittent downpours). However, some areas were widely inundated with surface water from recent prolonged rainfall, which may represent ground conditions and features (such as temporary waterbodies) that may only be present on a rare basis.
- 3.2.3 The Survey Area is shown by the red line boundary in **Figure 1**. Botanical species were recorded and a species list was compiled. Habitat type was categorised using the UKHab methodology.
- 3.2.4 The habitats within the Survey Area were identified to a Level 4 or Level 5 using the UKHab methodology.
- 3.2.5 This survey method aims to characterise broad habitats and communities present and is not intended to provide a complete list of all plants occurring across the Survey Area.

- 3.2.6 Evidence of protected species, species of nature conservation importance and notable, rare, or scarce species was recorded if field signs were present at the time of survey. Photographs were taken of each habitat type and any features with potential to support protected or notable species.
- 3.2.7 Any habitats present which are listed under Section 41 of the NERC Act or the Local Biodiversity Action Plan (LBAP) were noted.
- 3.2.8 The importance of ecological features present within the Survey Area was determined based on the guidance given in CIEEM Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017).
- 3.2.9 Where possible, ecological features (habitats and species that could be affected by the proposed works) were assigned levels of importance for nature conservation. The hierarchy of importance used in this report scales from international, national, regional, county, local and lastly Site level where appropriate (CIEEM, 2017).

3.3 Biodiversity Net Gain Assessment

- 3.3.1 Biodiversity metric calculations provide a numerical score for the current baseline value (Habitat Units, Hedgerow Units and / or River (watercourse) Units) of the habitats on Site in order for the potential impact of any proposed works to be quantitatively assessed.
- 3.3.2 The BNGA used the current biometric tool, the 'Biodiversity Metric 3.1 Auditing and accounting for biodiversity - Calculation Tool' (BM3.1) distributed by Natural England.
- 3.3.3 BM3.1 uses a classification system based mainly on the UK Habitat Classification System (UKHabs). Where applicable, habitats were subject to a condition assessment in accord with the Condition Assessment Sheets included within the 'Biodiversity Metric 3.1: Auditing and accounting for biodiversity – Technical Supplement 1a (2022)' produced by Defra.
- 3.3.4 Using the BM3.1 tool, habitat values are calculated based on whether they occur commonly or whether they are rare, their area (ha) (or length (km) for linear features such as hedgerows), condition and importance within the local area, usually identified from local relevant planning policies or documents. This gives individual pre-development Habitat Units (HU), Hedgerow Units (HeU) and River Units (RU).
- 3.3.5 The Minimum Mappable Unit (MMU) used was 25 m² for areas and 5 m length x 1 m width for linear features. Secondary codes were utilised, focusing on habitat features and land use. Under UKHab guidance, this MMU requires the mapping of linear features as polygons if they are wider than 1m. This does not translate effectively into the Biodiversity Metric, which requires linear features to be inputted as lengths (km). As such, some of the polygon area features have required

manual conversion into lengths for the purposes of the biodiversity baseline.

3.3.6 Habitat type has been digitised using software QGIS version 3.28, 2022, see **Figure 2**.

3.3.7 The results of the BNG assessment will be detailed within **Section 4**.

3.4 Protected Species

3.4.1 Any evidence of, or potential for protected and/or otherwise notable species encountered during the survey was recorded. This included observations of field signs and an assessment of the suitability of the habitats present to support protected species.

Amphibians

3.4.2 A desk-based assessment was undertaken using a 1:25,000 scale OS map to identify all waterbodies within 250 m of the Site that are not separated by a significant barrier to amphibian dispersal (such as a major road or fast flowing watercourse).

3.4.3 As garden ponds within residential properties are often absent from OS map sources, aerial photography was also used to search for additional ponds.

3.4.4 Habitats present within the Site were assessed for their suitability to support amphibians including great crested newt (GCN) *Triturus cristatus*. The connectivity of any suitable habitat within the Site to other habitat within the surrounding area was assessed during the Site visit and through visual analysis of aerial imagery.

3.4.5 Waterbodies within the Survey Area were subject to a Habitat Suitability Index (HSI) assessment following guidance outlined in Amphibian and Reptile Group (ARG) UK Advice Note 5 (ARG, 2010) to assess suitability of waterbodies to support GCN.

Badger

3.4.6 Field signs of badger *Meles meles* within the Survey Area were recorded in accordance with the standard methodology outlined by Harris *et al.* (1989), which includes surveying for setts and for field signs such as latrines, hairs, foraging signs and pathways.

Bats

3.4.7 In accordance with the Bat Conservation Trust's best practice guidelines (Collins, 2016), the suitability of habitat features within the Survey Area to support roosting bats was categorised as negligible, low, moderate or high. This was based on the number and type of roosting features and surrounding landscape character.

3.4.8 Any structures and trees present within the Survey Area were subject to an external visual

assessment, undertaken from ground-level using binoculars. This approach enabled a search for the presence of Potential Roosting Features (PRFs) which could be used by roosting bats.

3.4.9 An individual tree or structure may have several PRFs associated with it. It is not always possible to confirm if a feature is used by bats, as bats may not use the feature frequently.

3.4.10 Habitats within the Survey Area were also assessed for their suitability to support foraging and commuting bats.

Birds

3.4.11 Species of birds noted incidentally during the survey were recorded and details of suitable habitats for nesting birds were recorded, including those species with enhanced statutory protection, where possible.

Fish

3.4.12 Any watercourses present within the Survey Area were assessed for their suitability to support protected and notable fish species such as Atlantic salmon *Salmo salar*, brown trout *S. trutta* and European eel *Anguilla anguilla*.

Hazel dormouse

3.4.13 Habitats within the Survey Area were assessed for their potential to support hazel dormouse *Muscardinus avellanarius*, including recording of plant species that could provide foraging and nesting habitat. The connectivity of any suitable habitat within the Survey Area to other habitat within the surrounding area was assessed during the survey and through studying aerial imagery.

Invertebrates including white-clawed crayfish

3.4.14 Habitats were assessed for their potential to support notable or protected terrestrial and aquatic invertebrates.

3.4.15 Any watercourses within the Survey Area were assessed for their suitability to support white-clawed crayfish *Austropotamobius pallipes*.

Otter

3.4.16 Watercourses and waterbodies within the Survey Area were assessed for their suitability to support otter *Lutra lutra*. This involved recording field signs such as: droppings (spraints), footprints, feeding remains, lying-up areas, holts, areas of habitat considered suitable for otters and actual observations (Chanin, 2003).

3.4.17 Terrestrial habitats present within the Survey Area were also assessed for their suitability to support

otter and for their connectivity to watercourses and other suitable habitat within the surrounding area.

Widespread Reptiles

3.4.18 The habitats present within the Survey Area were assessed for their suitability to support basking, foraging and hibernating reptiles. The connectivity of any suitable habitat within the Survey Area to other habitat within the surrounding area was assessed during the survey and through studying aerial imagery. Any incidental reptile encounters made during the survey were recorded.

Water vole

3.4.19 Watercourses and waterbodies within the Survey Area were assessed for their suitability to support water vole *Arvicola amphibius*. Any evidence of water vole was recorded, such as: burrows, latrines, footprints, runs in the vegetation, grazed 'lawns', feeding remains and actual sightings (Dean *et al*, 2016).

3.4.20 Terrestrial habitats present within the Survey Area were also assessed for their suitability to support water voles and for their connectivity to watercourses and other suitable habitat within the surrounding area.

Other protected and notable species

3.4.21 Habitats were additionally assessed for their potential to support other protected species, nationally or locally scarce species, or notable species.

Invasive non-native species (INNS)

3.4.22 Any evidence of invasive non-native plant species listed under Schedule 9 of the WCA 1981 was recorded during the survey including, but not limited to: Japanese knotweed *Reynoutria japonica*, hybrid knotweed *R. x bohemica*, giant hogweed *Heracleum mantegazzianum* and Himalayan balsam *Impatiens glandulifera*.

3.4.23 Evidence of invasive non-native animal species was also noted and any relevant recommendations have been made in Section 5.

3.5 Limitations

3.5.1 Every effort has been made to provide a comprehensive description of the Site and Survey Area, but the following specific limitations apply to this appraisal.

3.5.2 The survey undertaken was intended to provide a rapid assessment of the broad habitats present within the Survey Area and was not intended to replace detailed vegetation or protected species surveys. Where a greater level of information is necessary to inform an assessment,

recommendations have been made to undertake further detailed survey.

3.5.3 Surveys of this type provide a snapshot of the Survey Area at the time of the survey.

3.5.4 The survey was completed in January, which is outside the optimal habitat survey period (May to September inclusive) but considered acceptable for this project due to the limited nature and extent of potential impacts and the common habitat types recorded. Many plant species would not be present at this time of year. However, it is considered that an adequate assessment of the habitats and protected/notable species potential of the Survey Area has been made.

4. Results and Discussion

4.1 Statutory Designated Sites for Nature Conservation

4.1.1 Hampshire Biodiversity Information Centre (HBIC) and MAGIC returned five records of sites designated at the international and/or European level located within 10 km of the Site. These Sites are detailed in **Table 1**.

Table 1: Statutory Sites of International and/or European level within 10 km of the Site.

Name and Designation	Reasoning for Designation	Distance and Direction from Site
River Itchen Special Area of Conservation (SAC)	H3260 Water courses of plain to montane levels with <i>R. fluitantis</i> S1044 Southern damselfly, <i>Coenagrion mercuriale</i> S1092 Freshwater crayfish, <i>Austropotamobius pallipes</i> S1096 Brook lamprey, <i>Lampetra planeri</i> S1106 Atlantic salmon, <i>Salmo salar</i> S1163 Bullhead, <i>Cottus gobio</i> S1355 Otter, <i>Lutra lutra</i>	500 m north-west
Solent & Southampton Water Ramsar site	A complex major estuarine system consisting of coastal plain estuaries. Estuarine sediments within the site support rich populations of invertebrates that provide an important food source for wintering birds. The Solent exceeds 90,000 waders annually and the mudflats, coastal lagoons, shingle and saltmarsh provide vital feeding and roosting grounds for these. The shingle banks also provide important breeding grounds for terns. The Solent also supports 10-13% of world's population of dark-bellied Brent geese, and 30% of the UK population.	4.75 km south-west

Name and Designation	Reasoning for Designation	Distance and Direction from Site
Solent and Southampton Water Special Protection Area (SPA)	A complex major estuarine system consisting of coastal plain estuaries. Estuarine sediments within the site support rich populations of invertebrates that provide an important food source for wintering birds. The Solent as a whole exceeds 90,000 waders annually and the mudflats, coastal lagoons, shingle and saltmarsh provide vital feeding and roosting grounds for these. The shingle banks also provide important breeding grounds for terns. The Solent also supports 10-13% of world's population of dark-bellied Brent geese, and 30% of the UK population.	4.75 km south-west
Solent Maritime SAC	H1110 Sandbanks which are slightly covered by sea water all the time H1130 Estuaries H1140 Mudflats and sandflats not covered by seawater at low tide H1150 Coastal lagoons H1210 Annual vegetation of drift lines H1220 Perennial vegetation of stony banks H1310 Salicornia and other annuals colonising mud and sand H1320 Spartina swards (<i>Spartinion maritimae</i>) H1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) H2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('White dunes') S1016 Desmoulin's whorl snail, <i>Vertigo moulinsiana</i>	5.79 km south-east

Name and Designation	Reasoning for Designation	Distance and Direction from Site
Emer Bog SAC	H7140 Transition mires and quaking bogs	8.50 km north-west

4.1.2 There are no opportunities, specific to this land parcel, for local statutory designated sites to be improved as part of this scheme.

4.1.3 There were two statutory designated sites relating to nature conservation of national or less than national importance located within 2 km of the Site. These Sites are detailed in **Table 2**.

Table 2: Statutory Sites of Nature Conservation of National level within 2 km of the Site.

Name and Designation	Reasoning for Designation	Distance and Direction from Site
River Itchen Site of Special Scientific Interest (SSSI)	Played a significant role in the development of the theory of underfit streams that related change in stream activity to postglacial climatic change and reduced discharges. The characteristic features of underfit valleys are well-developed at the site and include sinuosity on a large scale.	590 m north-west
Moorgreen Meadows SSSI	The meadow is of exceptional scientific importance for its populations of marsh orchids <i>Dactylorhiza</i> , including an isolated population of Northern Marsh Orchid <i>D. purpurella</i> . Site is a good example of micro-evolution through hybridisation of the <i>Dactylorhiza</i> species present.	1.89 km south

4.2 Non-statutory designated sites

4.2.1 There were 35 non-statutory designated sites for nature conservation within 2 km of the Site, all of which are Sites of Importance for Nature Conservation (SINCs). Four SINCs were within or bordered the Site boundary; details are listed in **Table 3** below.

Table 3: Non-Statutory Sites for Nature Conservation within or bordering the Site.

Name and Designation	Reasoning for Designation	Distance and Direction from Site
Hogwood Lane Drove SINC	Criteria 1A: Ancient Semi-natural Woodlands	Immediately adjacent
Hog Wood and Gravel Pits SINC	Criteria 1A: Ancient Semi-natural Woodlands Criteria 1Cii: Wet Woodlands Criteria 5A: Areas of Open Freshwater Criteria 6A: Site which supports one or more Hampshire Notable Species	Immediately adjacent
Hogwood Lane Meadow SINC	Criteria 2B: Semi-improved grasslands which retain a significant element of unimproved grassland Criteria 5B: Fens, flushes, seepages, springs and inundation grasslands of floodplains that support a flora and fauna of less-improved wet conditions	Immediately adjacent
Itchen Valley Country Park SINC	Criteria 2B: Semi-improved grasslands which retain a significant element of unimproved grassland Criteria 5A: Areas of Open Freshwater Criteria 5B: Fens, flushes, seepages, springs and inundation grasslands of floodplains that support a flora and fauna of less-improved wet conditions Criteria 6A: Site which supports one or more Hampshire Notable Species	Immediately adjacent

4.2.2 There are opportunities for Hogwood Lane Drove, Hog Wood and Gravel Pits, Hogwood Lane

Meadow and Itchen Valley Country Park to be improved as part of this scheme.

4.3 Other important habitats

Ancient woodland

- 4.3.1 MAGIC identified nine ancient woodland sites within 2 km of the Site listed within the Ancient Woodland Inventory (AWI).
- 4.3.2 The closest of these records pertained to Willow Farm and Hog Wood which bordered the Site to the north.
- 4.3.3 It is understood that any habitats or impact pathways such as hedgerows or woodland connecting the Site to nearby ancient woodland and woodland within the Site could be improved to generate further credits.

Habitats of Principal Importance

- 4.3.4 Five Habitats of Principal Importance (HPI) were recorded within 2 km of the Site. These were deciduous woodland, traditional orchards, coastal and floodplain grazing marshland, lowland meadows and purple moor grass and rush pasture. The closest habitat was deciduous woodland which was located within and immediately adjacent to the Site.
- 4.3.5 Given the distance from the Site, it is considered that deciduous woodland could be improved to generate further credits.

Aquatic habitats

- 4.3.6 Four suitable waterbodies were identified within 250 m of the Site.
- 4.3.7 Four watercourses were identified within 30 m of the Site, these were all drainage ditches.
- 4.3.8 A single ditch is located within the Site.
- 4.3.9 There is hydrological connectivity to and from the Site, therefore watercourses and waterbodies could be improved to generate further credits.

4.4 Habitat Assessment

- 4.4.1 The habitats within the Survey Area are detailed below in order of size (largest area to smallest area). The descriptions should be read with reference to the habitat map (see **Figure 2**) and the habitat photographs in **Appendix 1**.

g3c - Other neutral grassland - Grassland 1 (Eastern field), Grassland 3 (Central field)

- 4.4.2 The Site was dominated by two large neutral grassland fields, encompassing approximately 10.01

hectares of the Site. Species recorded on Site related to this habitat include, but are not limited to, false oat grass *Arrhenatherum elatius*, buttercup species *Ranunculus sp*, spear thistle *Cirsium vulgare*, teasel *Dipsacus fullonum*, red clover *Trifolium pratense*, broadleaved dock *Rumex obtusifolius*, tufted hair grass *Deschampsia cespitosa* and perennial rye grass *Lolium perenne*.

4.4.3 A full species list is detailed in **Appendix 3**.

4.4.4 A condition assessment was completed on these grassland habitats, although the timing of the survey was completed outside the recommended time frame May - September inclusive and may need to be revisited. Grassland 1 was assessed as having **Moderate** condition according to the criteria within the Biodiversity Metric 3.1 (Natural England, 2022a). This habitat was unable to achieve 'Good' condition as it was found to lack the composition of nine priority species grassland habitat.

4.4.5 Grassland 3 was assessed as having **Moderate** condition.

4.4.6 Other neutral grassland is not listed as a habitat under Section 41 of the NERC Act, or within the south Hampshire LBAP. Furthermore, given the habitat is not located within or in close proximity to a designated biodiversity opportunity area (BOA) this habitat is considered to have low strategic significance in relation to BNG.

g3c - Other neutral grassland, Coastal and floodplain grazing marsh - Grassland 4 (Western field)

4.4.7 The survey area comprised one small parcel (approximately 2.91 ha) of coastal and floodplain grazing marsh, located towards the western side of the Site. Grazing marsh is defined as periodically inundated pasture, or meadow with ditches which maintain the water levels, containing standing brackish or fresh water.

4.4.8 Species in this habitat were consistent with habitats present within the Other neutral grassland Grasslands 1 and 3. This habitat was in addition, heavily inundated with water.

4.4.9 Areas of cleared scrub were present throughout this habitat.

4.4.10 A full species list is provided in **Appendix 3**.

4.4.11 The condition score for this parcel was **Poor**.

4.4.12 Floodplain grazing marsh is defined as periodically inundated pasture, or meadow with ditches which maintain the water levels, containing standing brackish or fresh water. This habitat is identified as being the most threatened and requiring conservation action under the UK Biodiversity

Action Plan (UK BAP).

4.4.13 Furthermore, this habitat is recorded under the Hampshire Biodiversity Partnership's (HBP) Biodiversity Action Plan Habitat list. The importance of this habitat is primarily associated with the valuable resources provided for rare invertebrates, wintering and breeding birds. Therefore, this habitat is considered to have high strategic significance within BNG.

w1f - Lowland mixed deciduous woodland

4.4.14 A moderately sized lowland mixed deciduous woodland encompassed approximately 2.18 hectares of the Site running north/south through the centre. Canopy species within the woodland included oak *Quercus robur*, goat willow *Salix caprea*, grey willow *Salix cinerea*, hawthorn *Crataegus monogyna* and hazel *Corylus avellana*.

4.4.15 A full species list is provided in **Appendix 3**.

4.4.16 The woodland was assessed as having **Moderate** condition according to the criteria within the Biodiversity Metric 3.1 (Natural England, 2022), achieving a score of 30. A higher score was not awarded primarily due to the lack of veteran trees and ground flora present.

4.4.17 Lowland mixed deciduous woodland is listed as a UK BAP Priority Habitat, therefore, this habitat is considered to have high strategic significance within BNG.

h3h - Mixed scrub

4.4.18 An understorey of mixed scrub was present within the lines of trees present running through the centre of the Site (approximately 1.23 ha). Species within this habitat included blackthorn *Prunus spinosa*, bramble *Rubus fruticosus* and hawthorn *Crataegus monogyna*.

4.4.19 A full species list is provided in **Appendix 3**.

4.4.20 This habitat was assessed as having **Moderate** condition.

4.4.21 This habitat is not listed as a habitat under Section 41 of the NERC Act, or within the south Hampshire LBAP.

u1e - Built linear features

4.4.22 A large track was located along the southwestern boundary of the Site (approximately 0.43 hectares).

4.4.23 Built linear features are not listed as a habitat under Section 41 of the NERC Act, or within the south Hampshire LBAP.

g3c8 - Holcus-Juncus neutral grassland - Grassland 2 (North field)

- 4.4.24 The survey area comprised one small parcel (approximately 0.33 ha) of Holcus-Juncus neutral grassland located at the northern boundary of the Site.
- 4.4.25 This habitat was dominated by soft rush *Juncus effusus*. Grey willow *Salix cinerea* and alder *Alnus glutinosa* were also present in the line of trees located along the northeastern boundary of this habitat.
- 4.4.26 A full species list is provided in **Appendix 3**.
- 4.4.27 The condition score for this parcel was **Moderate**, due to failing several of the grassland condition criteria. The habitat was found to lack the composition of nine priority grassland habitat which is essential for achieving a 'Good' condition score.
- 4.4.28 Holcus-Juncus neutral grassland is one of the neutral grassland types typical of poorly-drained permanent pastures in lowland areas. This habitat is not listed under the UKBAP or HBP's Biodiversity Strategy.

u1c - Artificial unvegetated unsealed surface

- 4.4.29 A small patch of unvegetated land (approximately 0.15 ha) was located towards the southern boundary of the Site, off the access track.
- 4.4.30 This habitat is not listed as a habitat under Section 41 of the NERC Act, or within the south Hampshire LBAP.
- 4.4.31 Furthermore, given the habitat is not located within or in close proximity to a designated biodiversity opportunity area (BOA) this habitat is considered to have low strategic significance in relation to BNG.

h3d - Bramble scrub

- 4.4.32 A small patch of bramble scrub was located along the southern boundary of the Site (approximately 0.11 ha).
- 4.4.33 Whilst bramble dominated this habitat, other species were also present including bracken *Pteridium aquilinum*, gorse *Ulex europaeus* and dog rose *Rosa canina*.
- 4.4.34 A full species list is provided in **Appendix 3**.
- 4.4.35 No condition assessment was required for this habitat as the condition for bramble scrub is fixed within the DEFRA metric.

4.4.36 This habitat is not listed as a habitat under Section 41 of the NERC Act, or within the south Hampshire LBAP.

f2 Fen, Marsh, and Swamp

4.4.37 Located within the Site were small areas of fen, marsh and swamp (approximately 0.06 ha). These areas were characterised by being heavily inundated with water that had burst over the banks of the surrounding rivers bordering the Site.

4.4.38 The condition score for this habitat was **Poor**.

4.4.39 Fen, carr, marsh and swamp is listed as a UK BAP Priority Habitat and is listed within the south Hampshire LBAP.

4.4.40 Currently this habitat is not included within the BNG metric, however it can count towards the total baseline habitat units for the Site as the baseline habitat g3c - Other neutral grassland with the secondary code 173 for swamp.

w1g6 - line of trees

4.4.41 Numerous lines of trees with mixed scrub understory were located along the boundary of the Site. The trees were primarily deciduous broadleaved with the exception of the line of trees situated on the southeastern section of the Site which contained *leylandii* species. Sections of the northern boundary tree line appeared to be an outgrown hedgerow with occasional mature specimens.

4.4.42 Tree species included alder *Alnus glutinosa*, ash *Fraxinus excelsior*, goat willow, hazel, hawthorn, blackthorn and oak. A full species list is provided in **Appendix 3**.

4.4.43 A condition assessment was completed on all of the line of trees present on the Site.

4.4.44 All lines of trees were assessed as having **moderate** condition with the exception being the western boundary which was **poor**.

4.4.45 Lines of trees is not listed as a habitat under Section 41 of the NERC Act, or within the South Hampshire LBAP.

4.4.46 Furthermore, given the habitat is not located within or in close proximity to a designated biodiversity opportunity area (BOA) this habitat is considered to have low strategic significance in relation to BNG.

4.4.47 If vegetation management is required up to the boundary line of the Site or the removal or the habitat is required, lines of trees will be a constraint to the proposed works.

r1e - canal or ditch

4.4.48 One large ditch was located within the Site. This ditch ran through the centre of the Site and had an approximate length of 0.35 km. The ditch contained good quality water with no apparent signs of pollution. A good fringe of marginal vegetation was present along the length of the ditch, however more than 10% of the ditch was found to be heavily shaded. Overall, the condition score for this ditch was **Moderate**.

4.4.49 Ditches are currently not listed under the UKBAP or HBP's Biodiversity Strategy.

4.5 Baseline Biodiversity Value

4.5.1 Baseline habitats within the Survey Area comprised g3c - Other neutral grassland, g3c8 - *Holcus-Juncus* neutral grassland, w1f - Lowland mixed deciduous woodland, h3d - Bramble scrub, h3h - Mixed scrub, f2 - Fen, marsh and swamp, u1c - Artificial unvegetated unsealed surface, u1e - Built linear features, w1g6 - line of trees and r1e - canal or ditch.

4.5.2 For this assessment the baseline habitat types, and areas have been taken from the UKHabs survey carried out as part of the PEA for the Site (see **Figure 2**).

The area of the Survey Area has been calculated at 17.41 ha. The habitat type, condition, areas, and Habitat Units (HU), Hedgerow Units (HrU) and River Units (RU) are provided within **Tables 4, 5 & 6** below. Baseline habitats have produced an overall biodiversity value of 138.61 HU, 5.18 HrU and 2.80 RU for the Site.

The raw BNG data is provided in **Appendix 4**.

Table 4. Baseline area-based Habitats, Condition and Habitat Units

Habitat Type	Condition	Area (ha)	Habitat Units (HU)
Grassland 1 (Eastern field) g3c - Other neutral grassland	Moderate	4.17	33.36
Grassland 2 (North field) g3c8 - <i>Holcus-Juncus</i> neutral grassland	Moderate	0.33	2.64
Grassland 3 (Central field) g3c - Other neutral grassland	Moderate	5.84	46.72

Habitat Type	Condition	Area (ha)	Habitat Units (HU)
Grassland 4 (Western field) g3c - Other neutral grassland Floodplain Wetland Mosaic Coastal and floodplain grazing marsh (CFGM)	Poor	2.91	19.21
f2 Fen, Marsh, and Swamp (Not currently in BNG metric – inputted as g3c - Other neutral grassland secondary code 173 Swamp)	Poor	0.06	0.24
h3d - Bramble scrub	Condition Assessment N/A	0.11	0.44
h3h - Mixed scrub	Moderate	1.23	9.84
u1c - Artificial unvegetated unsealed surface	N/A - Other	0.15	0.00
u1e - Built linear features	N/A - Other	0.43	0.00
w1f - Lowland mixed deciduous woodland	Moderate	2.18	26.16
Total Habitat Units (HU)			138.61

Table 5. Baseline Hedgerow Habitats, Condition and Hedgerow Units (HrU)

Habitat Type		Condition	Length (km)	Hedgerow Units (HrU)
w1g6 - line of trees	Group 1	Moderate	0.10	0.40
	Group 2	Poor	0.05	0.10
	Group 3	Moderate	0.21	0.84
	Group 4	Moderate	0.33	1.32
	Group 5	Moderate	0.30	1.20

Habitat Type		Condition	Length (km)	Hedgerow Units (HrU)
	Group 6	Moderate	0.33	1.32
Total Hedgerow Units (HrU)				5.18

Table 6. Baseline River Habitats, Condition and River Units (RU)

Habitat Type		Condition	Length (km)	River Units (RU)
riple - canal or ditch	Ditch 1	Moderate	0.35	2.80
Total River Units (RU)				2.80

4.6 Protected Species

Amphibians, including Great Crested Newt (GCN)

- 4.6.1 HBIC returned 54 recent records (within the last ten years) of amphibians from within 2 km of the Site. These pertained to GCN *Triturus cristatus*, and the common toad *Bufo bufo*.
- 4.6.2 Thirty-three records of great crested newt were returned by HBIC. The closest record was located 60 m north-east of the Site within Hog Wood, dated 2015.
- 4.6.3 MAGIC returned two granted European Protected Species (EPS) mitigation licences for GCN, these are detailed in **Table 7**.

Table 7: EPSM Licences relating to GCN within 2 km of the Site.

Licence Number	Date	Details	Distance and Direction from Site
2015-14283-EPS-MIT-1	22/04/2016 - 31/07/2019	Licence to allow damage and destruction of a resting place.	150 m north
2020-44604-EPS-MIT-1	01/05/2020 - 31/07/2028	Licence to allow damage and destruction of a resting place.	1.45 km north-east

4.6.4 MAGIC returned 34 GCN class licence survey returns within 2 km of the Site. These dated between 19/04/2014 and 10/06/2016. The nearest was 110 m north of the Site in Hog Wood.

4.6.5 Four potentially suitable waterbodies were identified within 250 m of the Site using MAGIC and aerial imagery. No ponds were present within the site boundary. Waterbodies outside of the Site boundary were not visited during the survey. Locations of these waterbodies are provided in **Table 8 below**.

Table 8. Waterbodies within 250 m

Waterbody No.	Location	Description
1	SU 47243 16997, closest of which was located 100 m north west	A large complex of connected waterbodies and wetland habitat within Hogwood
2	SU 47730 16989, 160 m north east	A medium sized pond within P21 & P22 Allington Lane North
3	SU 47021 16534, 165 m south east	A medium sized pond within Hogwood
4	SU 47064 16611, 80 m west at its closest point	A drainage ditch running adjacent to Hogwood

4.6.1 Hampshire does not currently lie within the District Level Licencing Zone for GCN.

4.6.2 The Site provides suitable terrestrial habitat for GCN and other common amphibians sheltering (including hibernation) within the lowland woodland and treeline bases as well as within the neutral grassland (within tall grassland and tussocks).

4.6.3 Hibernation potential exists within the rubble and log piles located at NGR SU 47676 16680.

4.6.4 Due to the abundance of nearby records, suitable terrestrial habitat on Site and multiple ponds within close proximity to each other, it is considered GCN have the potential to be found on the Site.

Badger

4.6.5 HBIC returned 24 recent records of badger *Meles meles* from within 2 km of the Site. The closest record is located 1.33 km south-west from the Site, dated 2019.

4.6.6 The grassland and scrub habitats provided good foraging habitat for badger and it is possible that

badger may use the boundary features for commuting across the wider landscape.

- 4.6.7 No evidence of badger, including setts or fields signs such as snuffle holes, latrines or hairs, were recorded during the survey. However, due to the transient nature of the species it is possible for a new sett to become established within suitable habitats (such as the woodland, scrub and boundary features) at any given time.

Bats

- 4.6.8 HBIC returned 1249 records of 11 bat species present within 2 km of the Site.
- 4.6.9 These include serotine *Eptesicus serotinus*, Myotis bat species *Myotis spp.*, Natterer's bat *Myotis nattereri*, Whiskered bat *Myotis mystacinus*, Daubenton's bat *Myotis daubentonii*, noctule *Nyctalus noctula*, lesser noctule *Nyctalus leisleri*, unidentified pipistrelle bat species *Pipistrellus spp.*, common pipistrelle *Pipistrellus pipistellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Nathusius' pipistrelle *Pipistrellus nathusii*, unidentified long-eared bat species *Plecotus spp.* and brown long-eared bat *Plecotus auritus*.
- 4.6.10 The closest bat roost records pertained to common pipistrelle recorded 85 m west of the Site, dated 2019.
- 4.6.11 A search on MAGIC returned five records of granted EPS mitigation licences relating to bats within 2 km of the Site, the details of which are provided in **Table 9**.

Table 9: Granted EPSM licences for bats within 2 km of the Site.

Licence number	Species	Approximate distance and direction from the Site	Licence impacts	Dates
2015-16719-EPS-MIT	Common Pipistrelle.	150 m north	Licence to allow destruction of a resting place.	02/11/2015 - 31/10/2020
2016-22386-EPS-MIT	Common pipistrelle, soprano pipistrelle, brown long-eared.	1.06 km south-east	Licence to allow destruction of a resting place.	11/04/2016 - 30/04/2020
2019-42509-EPS-MIT	Common pipistrelle, serotine.	1.59 km south	Licence to allow destruction of a resting place.	05/09/2019 - 04/09/2029
2019-39527-EPS-MIT	Common pipistrelle, brown long-eared bat, natterer's bat.	1.75 km east	Licence to allow destruction of resting and breeding place.	27/02/2019 - 22/02/2024
2019-39954-EPS-MIT	Common pipistrelle, soprano pipistrelle.	1.75 km north-east	Licence to allow destruction of a resting place.	20/03/2019 - 31/12/2024

4.6.12 It is possible that multiple bat species may use grassland, hedgerows, line of trees and woodland edge habitat on-Site for commuting, foraging, and roosting.

4.6.1 During the survey all trees were assessed for their potential to support roosting bats. Four groups of trees were identified, containing a number of potential roost features (PRFs). The details of these PRFs are detailed within **Table 10**.

Table 10: Potential Roost Features Present in Trees on Site.

Tree/Group ID	Tree Species	NGR	PRFs	Suitability	Overall Tree Suitability
G1	Ash, sycamore, hazel, poplar species, goat willow	SU 47532 16582	Ref 1: Knotholes Ref 2: Woodpecker hole Ref 3: Thick ivy covering	Low Low Low	Low
G3	Blackthorn, hazel, hawthorn, willow species, bramble, ash.	SU 47716 16704	Ref 1: Woodpecker hole Ref 2: Thick ivy covering	Low Low	Low
G5	Hazel, ash, hawthorn, poplar species, willow species	SU 47412 16546	Ref 1: Woodpecker hole Ref 2: Thick ivy covering	Low Low	Low
W1	English oak, goat willow, grey willow, hawthorn, hazel	SU 47442 16704	Ref 1: Deadwood Ref 2: Knotholes	Moderate Low	Moderate

4.6.2 Due to the abundance of nearby records and suitable habitat on-Site, it is considered that a good population of bats will likely use the site for commuting, foraging and roosting purposes.

Birds

4.6.3 In 2021, a re-assessment of Birds of Conservation Concern (BoCC) was published by Stanbury *et al.* which defined rare and threatened bird species on two lists (Red and Amber) describing the level of threat to each species of concern.

4.6.4 “Red” is the highest conservation priority, with species needing urgent action due to either a historical decline in breeding population, severe (>50%) decline in breeding or non-breeding population, or severe decline in breeding range over 50 years or more. “Amber” is the next most critical group, with species qualifying for this status as a result of either recovery from red list criterion, being classed as rare breeders in the UK, moderate (>25%) decline in breeding or

nonbreeding population or moderate decline in breeding range over 25 years or more. These categories are followed by “Green”, indicating that the species are relatively unthreatened.

- 4.6.5 HBIC returned 3947 records of 79 bird species from within 2 km of the Site. These included 30 species that are protected under Schedule 1 of the WCA 1981, 24 species listed as Species of Principal Importance (SPI) under Section 41 of the NERC Act, 61 species listed as Red or Amber in the Birds of Conservation Concern (BoCC) as detailed in **Appendix 5**.
- 4.6.6 No incidental sightings of birds were identified on Site. However, a number of good quality bird nests were found present within the woodland block.
- 4.6.7 The woodland, understorey scrub and line of tree habitats on Site are likely to provide suitable foraging and nesting habitat for a common assemblage of birds.
- 4.6.8 Due to the abundance of nearby records, presence of existing nests and suitable habitats on-Site and in the surrounding area, it is deemed likely that birds will be present on the Site.

Fish

- 4.6.9 HBIC returned no records of fish species from within 2 km of the Site.
- 4.6.10 No fish were identified within the ditch present on the Site. There is some suitable hydrological connection between the ditch on Site and waterbodies/watercourses located beyond the northwestern boundary of the Site.
- 4.6.11 There were relatively low levels of water in the ditch at the time of the survey, with the ditch believed to seasonally flood. Therefore, it is considered unlikely for fish to be present on the Site.
- 4.6.12 Due to the lack of nearby records and suitable habitat on-Site, it is considered fish are unlikely to be found on the Site.

Hazel dormouse

- 4.6.13 HBIC returned no recent records of hazel dormouse *Muscardinus avellanarius* from within 2 km of the Site.
- 4.6.14 A search on MAGIC returned no records of granted EPS mitigation licences relating to hazel dormice from within 2 km of the Site.
- 4.6.15 Dormice prefer dense hedgerows or woodland understorey with a broad range of associated native flowering and fruiting species to provide sufficient foraging opportunities throughout the dormouse active season.
- 4.6.1 The lowland mixed deciduous woodland within the Survey Area offers multiple sources of food for hazel dormouse (i.e. hawthorn flowers/berries and hazelnuts) and provides sufficient, albeit not optimal, structure for nest creation. There is good connectivity from the woodland on Site to the

nearby Hog wood and Itchen country park, which provides optimal habitat for hazel dormice.

- 4.6.2 A review of the distribution of hazel dormouse in the United Kingdom by the People's Trust for Endangered Species (2022) highlighted that the hazel dormouse is frequently abundant in Hampshire. Furthermore, Hampshire is considered a stronghold for hazel dormouse populations (PTES, 2022).
- 4.6.3 Although there is a lack of nearby records, the presence of hazel dormice cannot be ruled out due to suitable habitat being present both on Site and immediately adjacent, with good connectivity between habitats.

Reptiles

- 4.6.4 HBIC returned 24 recent records of widespread reptiles from within 2 km of the Site. No rare reptiles (smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis*) have been recorded. These pertained to grass snake *Natrix Helvetica* and slow worm *Anguis fragilis*. The closest record pertained to slow worm, located 1.02 km south-west from the Site, dated 2014.
- 4.6.5 There were no reptile sightings recorded during the survey visit.
- 4.6.6 There is suitable foraging habitat for reptiles within the grassland, woodland and scrub habitats on Site. The Site also contains multiple areas for potential basking such as along the edges of grassland habitats and within the patch of bare ground located at the southeastern side of the Site.
- 4.6.7 Hibernation potential exists within the rubble and log piles scattered around the site.
- 4.6.8 The Site is situated within a widely rural area, with few dispersal barriers present. Suitable habitat exists both immediately adjacent to the Site as well as within the wider area, with the Site being in close proximity to Itchen Country Park, Hogwood Lane Meadows and a number of ancient woodland sites.
- 4.6.9 Due to the abundance of nearby records and suitable habitat on-Site, it is considered widespread reptiles have the potential to be found on the Site. The suitability of the Site habitats for the rare reptile species was negligible. Additionally, population distributions of such species are not known in the local area.

Riparian Species

- 4.6.10 HBIC returned 29 recent records of European otter *Lutra lutra* and 15 recent records of water vole *Arvicola amphibius* within 2 km of the Site. The closest record pertained to an otter located 930 m west of the Site, dated 2013.
- 4.6.11 A search on MAGIC returned no granted EPS mitigation licences relating to otter from within 2 km of the Site.

- 4.6.1 The closest substantial running watercourse recorded is the River Itchen located at 1.07 km to the west of the Site which has suitability to support riparian species.
- 4.6.2 No suitable habitats for otter, water vole or white-clawed crayfish were recorded within the Site.
- 4.6.3 Due to the lack of nearby records and suitable habitat on-Site, it is considered riparian mammals lack the potential to be found on the Site.
- 4.6.1 Although otter have a large home range of up to 20- 40 km (depending if female or male), based on the lack of aquatic habitat on Site or in close proximity to the Site and the limited value of terrestrial habitats on Site together with the availability of more suitable habitat associated with the River Itchen in the wider area; otter are considered unlikely to be encountered on Site.
- 4.6.2 General safeguards with regards to any future potential works on Site outlined for other species such as badger will safeguard otter in the unlikely event that they are found on Site at the time of the works.

Other protected and/or otherwise notable species

- 4.6.3 HBIC returned 17 recent records of Water Shrew *Neomys foedians* from within 2 km of the Site.
- 4.6.4 HBIC returned 16 recent records of Harvest Mouse *Micromys minutus* from within 2 km of the Site.
- 4.6.5 HBIC returned seven recent records of Yellow-necked Mouse *Apodemus flavicollis* from within 2 km of the Site.
- 4.6.6 HBIC returned 54 recent records of West European Hedgehog *Erinaceus europaeus* from within 2 km of the Site.
- 4.6.7 The closest record pertained to water shrew, located 1.1 km west from the Site, dated 2013.
- 4.6.8 The habitats on Site provide potential foraging and sheltering (including hibernation potential) habitat for notable species within the grassland, woodland and scrub habitats.
- 4.6.9 Water shrew may use the ditch running through the Site for foraging and shelter.
- 4.6.10 The large log pile present on Site may provide suitable refugia for hedgehog.
- 4.6.11 Due to the abundance of nearby records and suitable habitat on-Site, it is considered the notable species listed above have the potential to be found on the Site.

Invasive non-native species (INNS)

- 4.6.12 HBIC returned no recent records of schedule 9 invasive non-native species (INNS) from within 2 km of the Site.
- 4.6.13 No invasive non-native species were identified on the Site.

5. Ecological Constraints, Opportunities and Recommendations

5.1 Constraints and Mitigation Measures

- 5.1.1 The ecological constraints identified in this report and recommended mitigation required to address them are detailed in **Table 11** on the following pages. **This table should be read in conjunction with *Ecological Best Practice Measures & Methods of Working* (Ecus, 2023).**
- 5.1.2 Further surveys and actions have been recommended for land parcels P29 & P30 where disturbance (i.e. construction/destructive works) is due to occur.
- 5.1.3 At land parcels where only habitat enhancements are planned, it is unlikely for further surveys to be required as impacts are considered unlikely to cause disturbance and/or harm to protected or notable species.
- 5.1.4 The information contained within this report is valid for a period of 18 months from the date of the survey visit (CIEEM, 2019).
- 5.1.5 If the works have not been completed by July 2024, the Site should be re-surveyed and re-assessed to determine if there have been any significant changes.

Table 11: Ecological Constraints and Mitigation Measures

Feature/Constraint	Potential Impact and Effect	Action Required	Deliverable	Timing
Protected and notable species				
Amphibians	Disturbance of habitats on site that could injure or kill amphibians if present.	eDNA tests carried out on all suitable waterbodies within 250m of the Site (see Table 7). If results of the eDNA tests are positive for the presence of GCN, a European Protected Species (EPS) mitigation licence would be required (depending on the proposed works). Further population surveys of the identified ponds would likely be necessary to inform the application following best practice guidance (Langton <i>et al</i>, 2001), to assess the status of the GCN populations. If an EPS mitigation licence is required, the presence of GCN licensed Ecological Clerk of Works (ECoW) will likely be necessary during the vegetation removal, together with a mitigation and compensation strategy. Should a great crested newt be discovered on Site at any time, works must cease immediately and further ecological advice be sought. Best Practice Measures (BPMs) should be followed, as detailed within the Ecological Best Practice Measures & Methods of Working (Ecus, 2023) document.	Further Surveys (eDNA survey). BPM is regards to common amphibians	Between mid-April and the end of June During works.
Badger	Potential disturbance to an active badger sett (if present) & foraging badger	Best Practice Measures (BPMs) should be followed, as detailed within the Ecological Best Practice Measures & Methods of Working (Ecus 2023) document.	BPM in regard to badger	During works.

Feature/Constraint	Potential Impact and Effect	Action Required	Deliverable	Timing
		If an active badger sett is discovered within close proximity of a work area, it is recommended that the area is cordoned off (at least a 30m buffer) and an ecologist contacted for advice. If impacts cannot be mitigated it may be necessary to apply for a license to disturb / destroy a badger sett from Natural England, with a further potential requirement to close the sett if directly within / near the footprint of the works.		
Commuting and foraging bats	Bats may be impacted by any artificial lighting during the works and any long-term/operational lighting additions.	Works should be carried out during daylight hours only, where possible. If not, a Sensitive Lighting Plan (Bat Conservation Trust, 2018) should be implemented for works carried out at night. • If required, additional artificial lighting must be minimised and directed away from dark / semi dark areas. • Tower lighting is not recommended. • Hoods must be fitted to all lights to prevent light spill behind or above the light. • Lights must be turned off when not in use. Best Practice Measures (BPMs) should be followed, as detailed within the Ecological Best Practice Measures & Methods of Working (Ecus 2023) document.	Sensitive Lighting Plan	Prior to works.
Roosting bats	Disturbance or destruction of a bat roost	If works are required on or near any trees identified with moderate or high bat roost potential (see Table	Bat surveys.	Between May and August.

Feature/Constraint	Potential Impact and Effect	Action Required	Deliverable	Timing
		10 and Figure 3), then a suite of nocturnal bat surveys / climbed tree inspections will be required following best practice guidance (Collins, 2016). If a bat roost is confirmed, then an EPS mitigation license from Natural England will be required before works may commence. Any trees identified with low suitability will not require further survey but should be “soft felled” which involves cutting limbs and the trunk in section and carefully lowered to the ground using ropes and/or piles of brash to soften the impact. Any cavities or gaps should be left facing upwards for no less than 24 hours to allow bats the chance to escape.		
Birds (nesting)	Scrub and trees provide suitable habitat for nesting birds. De-vegetation or removal of these could damage nests and /or cause injury to birds. Noise from works may disturb nesting birds and fledglings.	The main nesting season for birds is generally taken as being between March to August inclusive (weather dependent), however active nests have been recorded during all months of the year. Any works should be planned between September and January to reduce the likelihood of encountering nesting birds. Nesting bird checks should also be completed within 48 hours prior to works commencing. If an active nest is identified within the structure, the works must cease until the nest is no longer active or an exclusion zone established, which should be confirmed by an ecologist.	Avoidance of nesting bird season. Nesting bird check.	Completion of works during winter months, if possible. March to August & prior to works commencing, within 48 hours.

Feature/Constraint	Potential Impact and Effect	Action Required	Deliverable	Timing
Fish (if present) and aquatic life	The watercourses within/adjacent to Site have the potential to be affected by the works.	Pollution Prevention Measures to be implemented to maintain the integrity of the watercourse/s.	Pollution Prevention Measures	During works.
Hazel dormouse	If major vegetation clearance works are proposed within woodland (both along the Site boundary and Hearts Copse) or lines of trees (with scrub understory) require severing to facilitate the proposed works, this may result in injury, killing or disturbance to hazel dormouse.	Hazel dormouse surveys undertaken in line with best practice guidance (Bright, P. <i>et al</i>, 2006). This will involve nest tubes being installed in suitable habitat such as woodland, lines of trees (with scrub understory) and hedgerows to be checked for dormouse presence (such as evidence of nest building) during appropriate months of the year. If evidence of hazel dormouse is identified an EPS mitigation licence may be required prior to works commencing, unless impacts on dormice can be avoided during the design phase.	Hazel Dormouse surveys	Between April and November.
Reptiles	Disturbance of habitats on site could injure or kill reptiles if present.	Presence/likely absence surveys should be conducted in areas likely to be impacted by any destructive works. These surveys should be undertaken in accordance with current best practice guidance for reptiles (Froglife, 2015). Best Practice Measures (BPMs) should be followed throughout all works, as detailed within the Ecological Best Practice Measures & Methods of Working (Ecus 2023) document. Due to the type and scale of the proposals, a reptile translocation will not likely be required.	Reptile presence/likely absence surveys. BPMs regarding reptiles	Seven survey visits between March and October inclusive. During works.

Feature/Constraint	Potential Impact and Effect	Action Required	Deliverable	Timing
Other Protected and Notable Species - Hedgehog Harvest mouse Water shrew Yellow necked mouse	Vegetation clearance works on Site have the potential to injure or kill notable species, if present.	'Ecological Best Practice Construction Guidance' should be implemented during construction and vegetation clearance to avoid harm to notable species. As a precautionary measure, it is recommended that any excavations left overnight should be covered or have a suitable escape ramp, e.g. a long scaffold board, inserted to allow escape should a notable species fall in. If hibernating hedgehog are found they should be left in place and an ecologist should be contacted for advice.	Ecological Best Practice Construction Guidance to be implemented during the works.	During works.
INNS				
All species	Spread of INNS across Site and/or wider area	Biosecurity measures, such as an onsite boot and tyre wash station, must be in place to ensure footwear and machinery does not spread seeds/plant material between land parcels within this scheme.	Best Practice Measures in relation to INNS	During works

5.2 Conclusions

- 5.2.1 The Site is dominated by grassland, interspersed with lowland mixed deciduous woodland and scrub habitats. A ditch runs through the centre of the Site.
- 5.2.2 The Site provides a good opportunity for biodiversity enhancement via Ecological Opportunities. The proposed works will need to balance the requirements for quantitative biodiversity net gain against the needs of the current assemblage of species potentially present, in particular amphibians, badger, reptiles, hedgehog (and other small mammals), hazel dormice, bats and nesting birds.
- 5.2.3 Ecological Opportunities for the Site have been identified as part of the PEA process and are discussed below.

5.3 Ecological Opportunities

- 5.3.1 Site specific ecological opportunities to generate further credits are detailed in **Table 12** on the following pages.

Table 12: Ecological Opportunities

Site Features	Ecological Opportunity
Lowland deciduous woodland	• Retain existing woodland. • Selectively thin low quality trees to improve the vitality of higher value trees and improve light permeability for ground flora. • Remove bramble scrub and holly within the woodland. • Enhance existing open glades (i.e. remove thin scrub in open glades) and establish new ones in targeted areas. • Clear out some rotting wood from around the woodland boundary. However, allow some deadwood to remain as this provides key habitats for saproxylic invertebrates. • Create a buffer to the woodland via new tree planting around the perimeter. • Control deer population to allow the ground flora, shrub layer and new tree growth to establish.
Other neutral Grassland	• Improve the grassland to a 'good' condition. • Introduce new species to incorporate target species for the specific grassland habitat type (e.g., crested dog's-tail <i>Cynosurus cristatus</i>). • Minimise nutrient input by avoiding the use of fertilisers. • Reduce any damaging activities (i.e., excessive poaching or damaging levels of access/footfall). • Control the level of undesirable or invasive species (e.g., creeping buttercup, nettles and creeping thistle). • Any areas of scattered scrub within the neutral grassland should be replaced with larger areas of mixed scrub or a higher distinctiveness habitat. • Inclusion of small log piles within the grassland areas (although out of the way of any management activities such as cutting/grazing) will provide shelter and foraging opportunities for invertebrates and small mammals.
Bramble scrub	• Control growth to prevent encroachment onto grassland. • Gap up mixed scrub with fruit bearing native species. • Replace scrub with new planting using more desirable species; such as hawthorn <i>Crataegus monogyna</i>, hazel <i>Corylus avellana</i>

Site Features	Ecological Opportunity
	and blackthorn <i>Prunus spinosa</i>, with a range of heights and ages. Tall grasses and wild flowers could also be sown to add diversity in and around the scrub, if feasible.
Ditch	- Dig out and grade ditch and make more permanent. - Where there is none, strips of vegetation should be planted either side of the ditch to slow surface run off and trap pollutants from entering the water network. - Ensure wildlife friendly bank management by providing structurally diverse and undisturbed vegetation next to the watercourse. - Maintain a variety of ditch habitats by controlling scrub and ruderal vegetation only. - Any cut vegetation should be left to create 'wildlife piles' for protected species e.g. grass snake.
Grassland (including other neutral grassland and <i>Holcus juncus</i> neutral grassland).	- Improve the grassland to a good condition. - Introduce new species to incorporate target species for the specific grassland habitat type (e.g., crested dog's-tail <i>Cynosurus cristatus</i>). - Minimise nutrient input by avoiding the use of fertilisers - Reduce any damaging activities (i.e., excessive poaching or damaging levels of access) - Control the level of undesirable or invasive species (e.g., creeping buttercup, nettles and creeping thistle). - Any areas of scattered scrub within the neutral grassland should be replaced with larger areas of mixed scrub or a higher distinctiveness habitat. - Inclusion of small log piles within the grassland areas at the Site will provide shelter and foraging opportunities for invertebrates and small mammals.
Amphibians	- Any felled materials should be retained and used on Site to create new log piles and hibernacula away from any footpaths. - Ensure connectivity between grassland habitats on Site (good cover such as long grass, rushes, hedgerows, treelines and scrub

Site Features	Ecological Opportunity
	provide suitable dispersal habitats for GCN moving across terrestrial habitat).
Badger	Plant fruit bearing trees within line of trees and scrub.
Bats	- Retain line of trees and woodland edge habitat. - Bat boxes to be installed on retained trees or any new buildings to be placed on the Site.
Birds	- Retain mature trees, scrub, hedgerows and a good mix of habitats across the Site. - Plant fruit bearing trees within line of trees and mixed scrub. - Increase the diversity of seed providing plants across the Site in suitable habitats, such as plants from the thistle families. - Bird boxes to be installed on retained trees or any new buildings to be placed on the Site.
Widpread Reptiles	Any felled materials should be retained and used on Site to create new log piles and hibernacula away from any footpaths and any other disturbing activities.
Other protected and/or otherwise notable species .e.g. Hedgehog, Water shrew, Harvest Mouse, Yellow necked mouse.	- Retain existing line of trees around the perimeter of the Site. - Gap up the defunct hedgerow/fencing on Site (i.e., establish hedgerows by planting a mixture of native species) to promote connectivity and provide a diverse food source for a range of fauna. - Any felled materials should be retained and used on Site to create new log piles and hibernacula away from any footpaths. - Maintain waterlogged grassland around the perimeter of woodland.

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Figure 1: Site Location Map

Legend

 Site Boundary

Eastleigh Borough Council Parcel 6 - The Manor Preliminary Ecological Appraisal

Figure 1
Site Location Plan

• Unit 1 Woodlands Business Village • Coronation Road •
Basingstoke • RG21 4JX •
• tel: 01256 224 588 • www.ecusltd.co.uk •

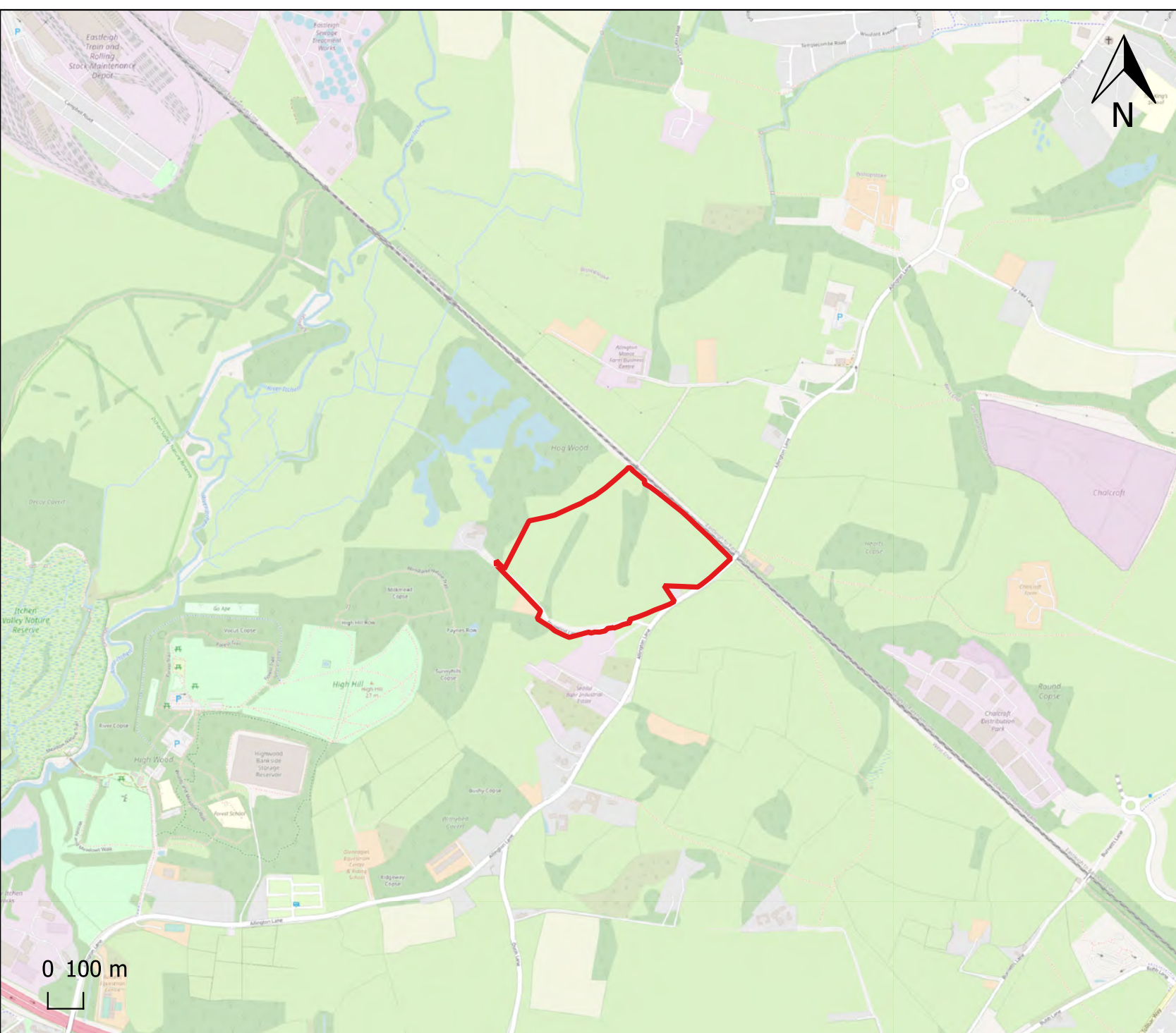


Figure 2: Habitat Map

Legend

- P29 P30 Allington Lane
- w1g6 - line of trees
- u1e - built linear feature
- r1e - canal or ditch
- u1e 69 - built linear feature: Fence
- g3c - Other neutral grassland
- g3c8 - Holcus-Juncus neutral grassland
- w1f - Lowland mixed deciduous woodland
- h3d - Bramble scrub
- h3h - Mixed scrub
- f2 - Fen, marsh and swamp
- u1c - Artificial unvegetated unsealed surface
- u1e - Built linear features

Secondary codes:

- 10: Scattered Scrub
- 11: Scattered Trees
- 14: Scattered Rushes
- 15: Rushes Dominant
- 16: Tall Herb
- 25: Coastal and Floodplain Grazing Marsh
- 76: Recent Management
- 115: Track
- 161: Tall or Tussocky Sward
- 173: Swamp
- 191: Ditch

Eastleigh Borough Council

P29 & P30 Allington Lane - Hogwood Preliminary Ecological Appraisal

Figure 2 Habitat Map

• Unit 1 Woodlands Business Village • Coronation Road
• Basingstoke • RG21 4JX •
• tel: 01256 224 588 • www.ecusltd.co.uk •

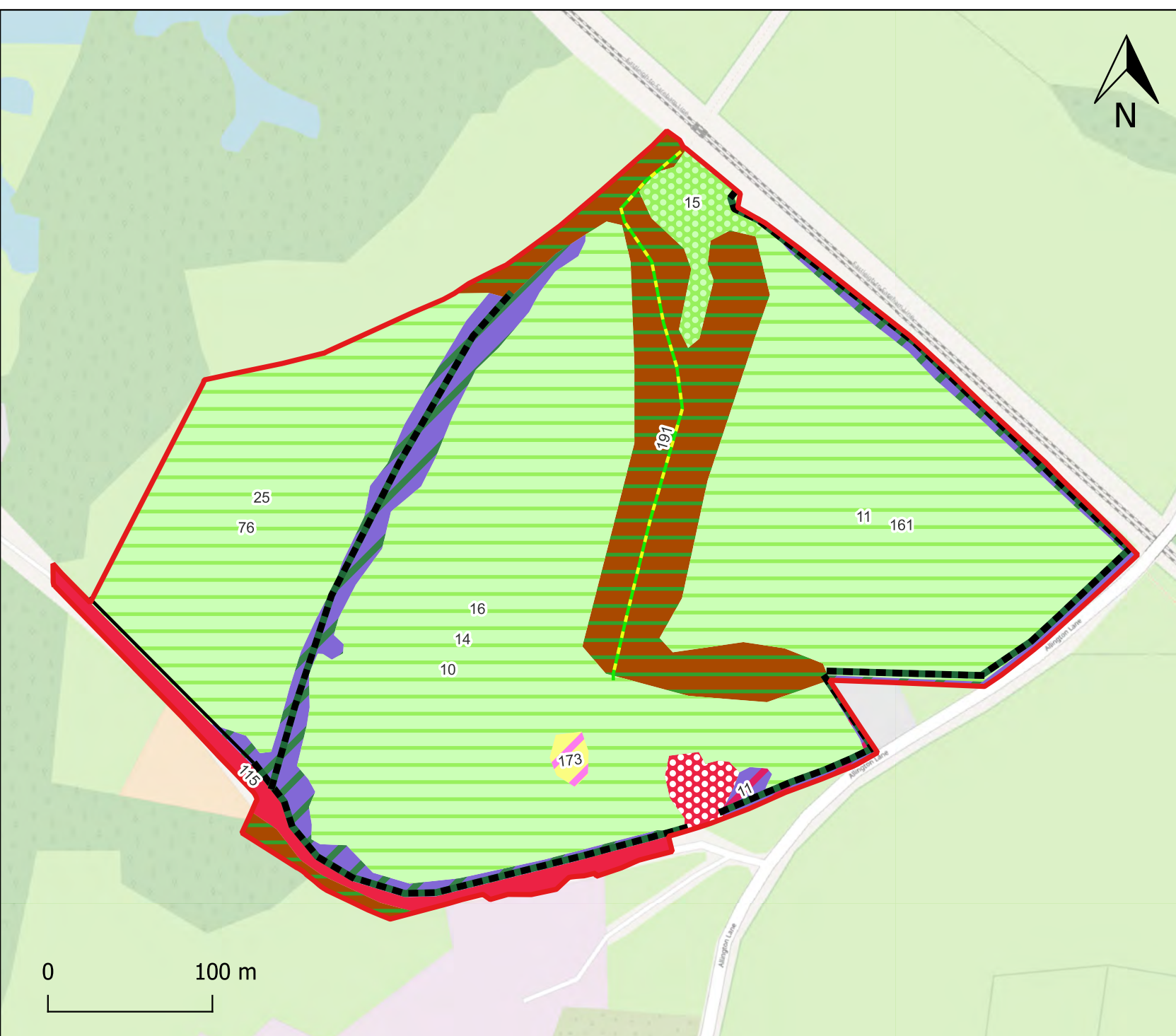


Figure 3: Trees with Bat Roost Potential

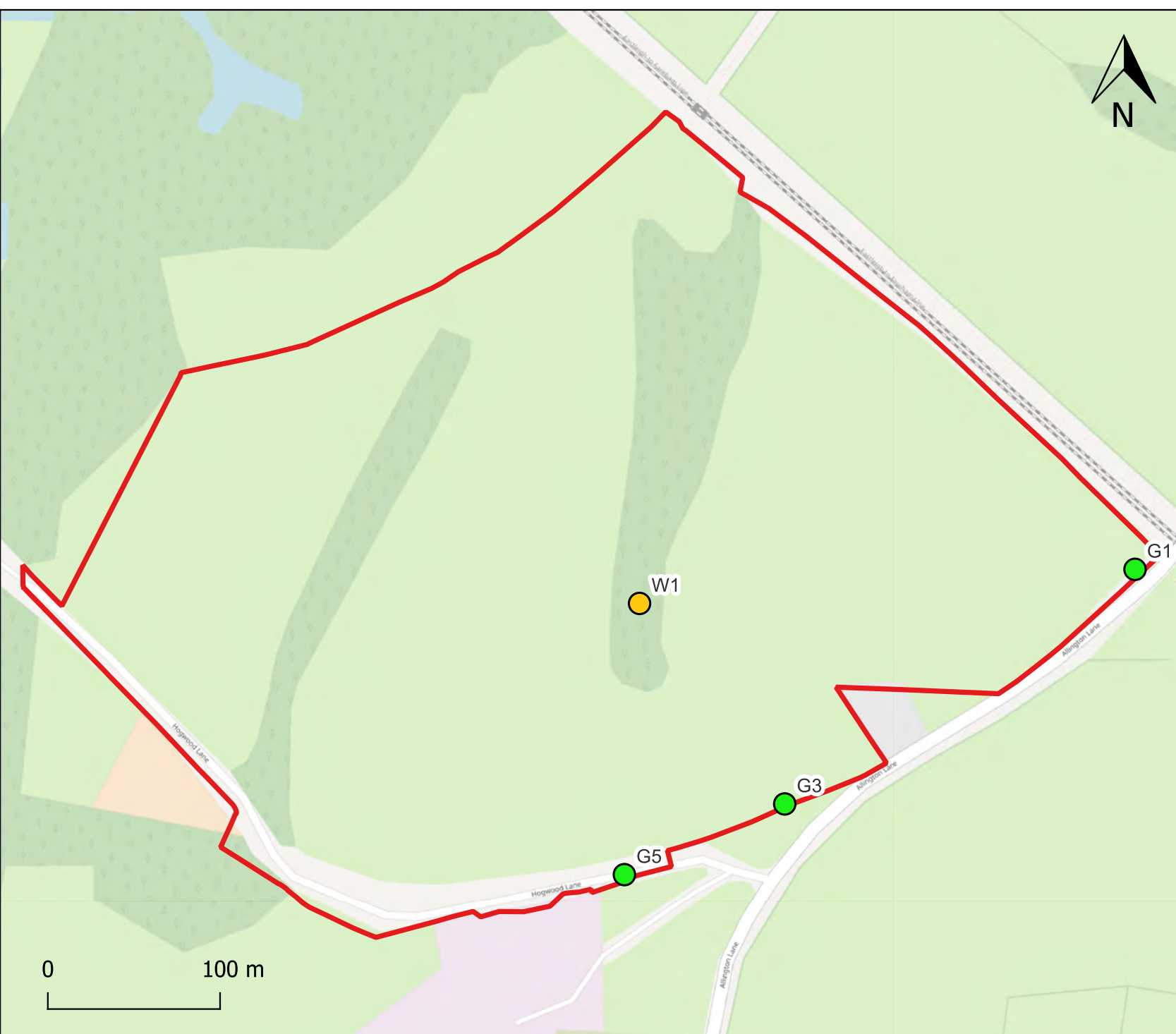
Legend

 Site Boundary

Bat Roost Suitability

 Low

 Moderate



Eastleigh Borough Council

P29 & P30 Allington Lane - Hogwood Preliminary Ecological Appraisal

Figure 3 Trees with Bat Roost Potential

• Unit 1 Woodlands Business Village • Coronation Road
• Basingstoke • RG21 4JX •
• tel: 01256 224 588 • www.ecusltd.co.uk •

Appendix 1: Site Habitat Photographs



Plate 1. Line of trees

Plate 2. Other neutral grassland

Plate 3. Trees covered with thick Ivy

Plate 4. Mixed and bramble scrub

Eastleigh Borough Council
20094
Parcel 29/30 – Allington Lane Hogwood

Appendix 1: Site Habitat
Photographs



Plate 5. Holcus juncus grassland



Plate 6. Lowland mixed deciduous woodland



Plate 7. Brash and log pile hibernacula



Plate 8. Swamp within the grassland

Eastleigh Borough Council
20094
Parcel 29/30 – Allington Lane Hogwood

Appendix 1: Site Habitat
Photographs

Appendix 2: Wildlife Legislation

This Appendix is intended as a brief guide to some of the relevant offences associated with protected species which are common constraints associated with development projects.

For full details of legislation relating to all habitats and species discussed within this report visit <http://www.legislation.gov.uk>.

Amphibians including great crested newt

Great crested newt *Triturus cristatus* (GCN) is protected under the Wildlife & Countryside Act 1981 (as amended) ("the WCA 1981") and the Conservation of Habitats and Species Regulations 2017 (as amended) ("the Habitats Regulations") and is therefore a European Protected Species (EPS).

It is illegal to kill, injure, capture, handle or disturb GCN, and the places they use for breeding, resting, shelter and protection are protected from being damaged or destroyed.

Natterjack toad *Epidalea calamita* is also an EPS and is afforded the same protection.

GCN, natterjack toad and common toad *Bufo bufo* are Priority Species under the Natural Environment and Rural Communities Act 2006 ("the NERC Act").

The four widespread species of amphibian: the smooth and palmate newts, the common frog and common toad, are protected by Section 9 (5) of the WCA 1981 which prohibits sale, barter, exchange, transporting for sale and advertising to sell or to buy.

Badger

Badgers *Meles meles* and their setts are protected under the Protection of Badgers Act 1992 ("the PBA 1992"). It is an offence to kill, injure or take a badger from the wild. It is also an offence to destroy, damage or obstruct an active badger sett, or to disturb badgers within the sett.

Bats

All species of bat occurring within the UK are included in Schedule 2 of the Habitats Regulations. Under Regulation 43, bats are protected from deliberate capture, injury or killing, from deliberate disturbance and from damage or destruction of a breeding site or resting place (roost).

All UK bats are also included on Schedule 5 of the WCA 1981. It is an offence to intentionally or recklessly disturb bats while they are occupying a structure or place used for shelter or protection, or to obstruct access to any such place.

Bats are also listed as Priority Species under Section 41 of the NERC Act and certain species are Priority Species under the NERC Act.

Birds

All wild birds are protected under the WCA 1981 against destruction of the active nest.

It is illegal to kill, injure or 'take' any wild bird, take or damage the nest of any wild bird whilst in use or being built. The eggs of all wild birds are also protected.

The birds listed in Schedule 1 of the WCA 1981 are protected against disturbance whilst actively nesting.

Competent authorities must have regard for all bird species listed under Section 41 of the NERC Act which have potential to be impacted by proposed works.

In 2021, a re-assessment of Birds of Conservation Concern (BoCC) was published by Stanbury *et al.* (2021), which defined rare and threatened bird species on two lists (Red and Amber) describing the level of threat to each species of concern.

'Red' is the highest conservation priority, with species needing urgent action due to either a historical decline in breeding population, severe (>50%) decline in breeding or non-breeding population, or severe decline in breeding range over 50 years or more.

'Amber' is the next most critical group, with species qualifying for this status as a result of either recovery from red list criterion, being classed as rare breeders in the UK, moderate (>25%) decline in breeding or non-breeding population or moderate decline in breeding range over 25 years or more.

These categories are followed by 'Green', indicating that the species is not experiencing population declines. A species can be green-listed but can also be listed under Schedule 1 of the WCA 1981 due to risk of persecution.

Freshwater and migratory fish

Various freshwater and migratory fish species and their habitats are afforded legal protection under the WCA 1981, Salmon and Freshwater Fisheries Act 1975 and Eels (England and Wales) Regulations 2009.

The following fish receive various levels of protection under the WCA 1981: allis shad *Alosa alosa*, twaite shad *Alosa fallax*, vendace *Coregonus albula*, whitefish *Coregonus lavaretus* and Atlantic sturgeon *Acipenser sturio*. Atlantic sturgeon are also EPS.

Special areas of conservation (SACs), sites of special scientific interest (SSSIs) or Ramsar sites have features of special interest for freshwater or migratory fish, such as: Atlantic salmon *Salmo salar*, bullhead *Cottus gobio*, lamprey (brook, river and sea) (*Petromyzontiformes*), spined loach *Cobitis taenia*, European eel *Anguilla anguilla*.

Atlantic salmon, brown/sea trout *Salmo trutta*, river lamprey and European eel are listed as priority species

under Section 41 of the NERC Act.

Eels are also protected by the Eels (England and Wales) Regulations 2009.

Hazel dormouse

Hazel dormouse *Muscardinus avellanarius* is protected under Schedule 5 of the WCA 1981, and under Schedule 2 of the Habitats Regulations, giving this species the same protection as GCN and bats.

Hazel dormouse is also listed as a Priority Species under the Section 41 of the NERC Act / Section 7 of the EWA.

Otter

Otter *Lutra lutra* is protected under Schedule 5 of the WCA 1981, and under Schedule 2 of the Habitats Regulations, giving this species the same protection as GCN and bats.

Otter are listed as Priority Species under the Section 41 of the NERC Act.

Reptiles

All UK reptile species are protected under Schedule 5 of the WCA 1981 against intentional killing or injuring.

Sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca* are further protected under Schedule 2 of the Habitats Regulations.

Slow worm *Anguis fragilis*, sand lizard, common lizard *Zootoca vivipara*, grass snake *Natrix helvetica* and adder *Vipera berus* are also listed as Priority Species under the Section 41 of the NERC Act.

Water vole

Water vole *Arvicola amphibius* is fully protected under Schedule 5 of the WCA 1981 making it an offence to intentionally kill, injure or take a water vole, intentionally or recklessly damage or destroy a place of shelter or protection, intentionally or recklessly disturb a water vole when it is occupying such a place, or intentionally or recklessly obstruct such a place.

Water vole are listed as Priority Species under the Section 41 of the NERC Act.

White-clawed crayfish

White-clawed crayfish *Austropotamobius pallipes* are partially protected under Schedule 5 of the WCA 1981, which makes it illegal to intentionally take them.

White-clawed crayfish are listed as Priority Species under the Section 41 of the NERC Act.

Invasive non-native species

Certain species of plants and animals that do not naturally occur in the UK have become established in the wild and represent a threat to the natural fauna and flora.

The WCA 1981 is the principal piece of legislation in the UK regarding invasive non-native species. It is an offence under Section 14 (2) to plant or otherwise cause to grow in the wild any species listed on Schedule 9, Part II of the Act. Schedule 9, Part II includes knotweed species *Fallopia* spp., Himalayan balsam *Impatiens glandulifera*, giant hogweed *Heracleum mantegazzianum*, cotoneaster species *Cotoneaster* spp., montbretia *Crocasmia* × *crocosmiiflora* and Rhododendron species *Rhododendron* spp. Section 14 also controls the spread of various animal species.

In accordance with Section 33 and 34 of the Environmental Protection Act 1990, if taken from their place of origin, any plant listed on Schedule 9, Part II of the WCA 1981 and their associated material (e.g. soil and ash) are classed as controlled waste.

Appendix 3: Botanical Species List

Other neutral grassland (including *Holcus juncus* grassland)

Common Name	Scientific Name	DAFOR Scale
Bristly oxtongue	<i>Helminthotheca echioides</i>	O
Broadleaved dock	<i>Rumex obtusifolius</i>	O
Buttercup sp.	<i>Ranunculus</i> sp.	F
Common mouse ear	<i>Cerastium fontanum</i>	O
Common nettle	<i>Urtica dioica</i>	O
Common vetch	<i>Vicia sativa</i>	O
Creeping bent	<i>Agrostis stolonifera</i>	D
Creeping thistle	<i>Cirsium arvense</i>	O
Crested dogstail	<i>Cynosurus cristatus</i>	F
Dovesfoot cranesbill	<i>Geranium molle</i>	A
Dwarf thistle	<i>Cirsium acaule</i>	R
False oat grass	<i>Arrhenatherum elatius</i>	F
Perennial rye grass	<i>Lolium perenne</i>	A
Red clover	<i>Trifolium pratense</i>	O
Soft rush	<i>Juncus effusus</i>	LF
Spear thistle	<i>Cirsium vulgare</i>	O
Teasel	<i>Dipsacus fullonum</i>	O
Timothy	<i>Phleum pratense</i>	O
Tufted hair grass	<i>Deschampsia cespitosa</i>	O
Wood dock	<i>Rumex sanguineus</i>	O

Lowland mixed deciduous woodland

Common Name	Scientific Name	DAFOR Scale
English oak	<i>Quercus robur</i>	D
Goat willow	<i>Salix caprea</i>	F
Grey willow	<i>Salix cinerea</i>	F
Hawthorn	<i>Crataegus monogyna</i>	F
Hazel	<i>Corylus avellana</i>	A

Mixed scrub

Common Name	Scientific Name	DAFOR Scale
Blackthorn	<i>Prunus spinosa</i>	A
Bramble	<i>Rubus fruticosus</i>	A
Hawthorn	<i>Crataegus monogyna</i>	A

Bramble scrub

Common Name	Scientific Name	DAFOR Scale
Bracken	<i>Pteridium</i>	O
Bramble	<i>Rubus fruticosus</i>	D
Dog rose	<i>Rosa canina</i>	R
Gorse	<i>Ulex europaeus</i>	O

Line of trees

Common Name	Scientific Name	DAFOR Scale
Alder	<i>Alnus glutinosa</i>	O
Ash	<i>Fraxinus excelsior</i>	A
Blackthorn	<i>Prunus spinosa</i>	A
Field Maple	<i>Acer campestre</i>	F
Goat willow	<i>Salix caprea</i>	O
Hawthorn	<i>Crataegus monogyna</i>	A
Hazel	<i>Corylus avellana</i>	F
Laylandii sp.	<i>Laylandii sp.</i>	R
Oak	<i>Quercus robur</i>	A
Poplar sp.	<i>Populus sp.</i>	A
Sycamore	<i>Acer pseudoplatanus</i>	F

Appendix 4: BNG Baseline Raw Data

A-1 Site Habitat Baseline

Ref	Habitats and areas			Distinctiveness		Condition		Strategic significance			Suggested action to address habitat losses	Ecological baseline Total habitat units
	Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic Significance multiplier		
1	Grassland	Other neutral grassland	4.17	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required [2]	33.36
2	Grassland	Other neutral grassland	0.33	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required [2]	2.64
3	Grassland	Other neutral grassland	5.84	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required [2]	46.72
4	Grassland	Floodplain Wetland Mosaic (CFGM)	2.91	High	6	Poor	1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same habitat required =	19.21
5	Grassland	Other neutral grassland	0.06	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required [2]	0.24
6	Heathland and shrub	Bramble scrub	0.11	Medium	4	Condition Assessment N/A	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required [2]	0.44
7	Heathland and shrub	Mixed scrub	1.23	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required [2]	9.84
8	Urban	Artificial unvegetated, unsealed surface	0.15	V.Low	0	N/A - Other	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Compensation Not Required	0.00
9	Urban	Built linear features	0.43	V.Low	0	N/A - Other	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Compensation Not Required	0.00
10	Woodland and forest	Lowland mixed deciduous woodland	2.18	High	6	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same habitat required =	26.16
11												
12												
13												
14												
15												
Total habitat area			17.41									138.61

B-1 Site Hedgerow Baseline

	UK Habitats - existing habitats			Habitat distinctiveness		Habitat condition		Strategic significance			Suggested action to address habitat losses	Ecological baseline
Baseline ref	Hedge number	Hedgerow type	Length (km)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier		Total hedgerow units
1	G1	Line of Trees	0.1	Low	2	Moderate	2	Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness	0.40
2	G2	Line of Trees	0.05	Low	2	Poor	1	Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness	0.10
3	G3	Line of Trees	0.21	Low	2	Moderate	2	Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness	0.84
4	G4	Line of Trees	0.33	Low	2	Moderate	2	Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness	1.32
5	G5	Line of Trees	0.3	Low	2	Moderate	2	Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness	1.20
6	G6	Line of Trees	0.33	Low	2	Moderate	2	Area of compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness	1.32
7												
8												
9												
10												
11												
			1.32									5.18

C-1 Site River Baseline

Baseline ref	Existing river type		Habitat distinctiveness		Habitat condition		Strategic significance			Watercourse encroachment		Riparian encroachment		Suggested action	Ecological baseline Total river units
	River type	Length (km)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic significance multiplier	Extent of encroachment	Multiplier	Extent of encroachment	Multiplier		
1	Ditches	0.35	Medium	4	Moderate	2	Low potential/action not identified in any plan	Low Strategic Significance	1	No Encroachment	1	No Encroachment	1	Restore	2.80
2															
3															
4															
5															
6															
		0.35													2.80

Headline Results

On-site baseline	Habitat units	138.61
	Hedgerow units	5.18
	River units	2.80

Appendix 5: Notable Bird Species Records within 2 km of the Site

Common Name	Scientific Name	Legal Protection and/or Conservation Status
Barn Owl	<i>Tyto alba</i>	Schedule 1 Part 1
Black Redstart	<i>Phoenicurus ochruros</i>	Amber, Schedule 1 Part 1
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	Amber
Brambling	<i>Fringilla montifringilla</i>	Schedule 1 Part 1
Cetti's Warbler	<i>Cettia cetti</i>	Schedule 1 Part 1
Common Tern	<i>Sterna hirundo</i>	Amber
Corncake	<i>Crex crex</i>	Red, Schedule 1 Part 1
Crane	<i>Grus grus</i>	Amber, Schedule 9
Crossbill	<i>Loxia curvirostra</i>	Schedule 1 Part 1
Cuckoo	<i>Cuculus canorus</i>	Red, S41 NERC
Curlew	<i>Numenius arquata</i>	Red, S41 NERC
Dark-bellied Brent Goose	<i>Branta bernicla bernicla</i>	Amber, S41 NERC
Dartford Warbler	<i>Sylvia undata</i>	Amber, Schedule 1 Part 1
Fieldfare	<i>Turdus pilaris</i>	Red, Schedule 1 Part 1
Firecrest	<i>Regulus ignicapillus</i>	Schedule 1 Part 1
Golden Plover	<i>Pluvialis apricaria</i>	-
Goosander	<i>Mergus merganser</i>	-
Goshawk	<i>Accipiter gentilis</i>	Schedule 1 Part 1
Grasshopper Warbler	<i>Locustella naevia</i>	Red, S41 NERC
Great Black-backed Gull	<i>Larus marinus</i>	Amber
Great Crested Grebe	<i>Podiceps cristatus</i>	-
Green Sandpiper	<i>Tringa ochropus</i>	Amber, Schedule 1 Part 1
Greenshank	<i>Tringa nebularia</i>	Amber, Schedule 1 Part 1
Grey Heron	<i>Ardea cinerea</i>	-
Grey Partridge	<i>Perdix perdix</i>	Red, S41 NERC
Grey Wagtail	<i>Motacilla cinerea</i>	Amber

Hawfinch	<i>Coccothraustes coccothraustes</i>	Red, S41 NERC
Herring Gull	<i>Larus argentatus</i>	Red, S41 NERC
Hobby	<i>Falco subbuteo</i>	Schedule 1 Part 1
Hoopoe	<i>Upupa epops</i>	Schedule 1 Part 1
House Sparrow	<i>Passer domesticus</i>	Red, S41 NERC
Kingfisher	<i>Alcedo atthis</i>	Schedule 1 Part 1
Lapwing	<i>Vanellus vanellus</i>	Red, S41 NERC
Lesser Black-backed Gull	<i>Larus fuscus</i>	Amber
Lesser Redpoll	<i>Carduelis cabaret</i>	Red, S41 NERC
Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>	Red, S41 NERC
Linnet	<i>Linaria cannabina</i>	Red, S41 NERC
Little Egret	<i>Egretta garzetta</i>	-
Little Gull	<i>Larus minutus</i>	Schedule 1 Part 1
Little Ringed Plover	<i>Charadrius dubius</i>	Schedule 1 Part 1
Marsh Harrier	<i>Circus aeruginosus</i>	Amber, Schedule 1 Part 1
Marsh Tit	<i>Poecile palustris</i>	Red, S41 NERC
Mediterranean Gull	<i>Larus melanocephalus</i>	Schedule 1 Part 1
Merlin	<i>Falco columbarius</i>	Red, Schedule 1 Part 1
Mistle Thrush	<i>Turdus viscivorus</i>	Red
Montagu's Harrier	<i>Circus pygargus</i>	Red, Schedule 1 Part 1
Nightingale	<i>Luscinia megarhynchos</i>	Red
Osprey	<i>Pandion haliaetus</i>	Amber, Schedule 1 Part 1
Oystercatcher	<i>Haematopus ostralegus</i>	Amber
Peregrine	<i>Falco peregrinus</i>	Schedule 1 Part 1
Pied Flycatcher	<i>Ficedula hypoleuca</i>	Amber
Pochard	<i>Aythya ferina</i>	Red
Red Kite	<i>Milvus milvus</i>	Schedule 1 Part 1
Redstart	<i>Phoenicurus ochruros</i>	Amber, Schedule 1 Part 1
Redwing	<i>Turdus iliacus</i>	Amber, Schedule 1 Part 1
Reed Bunting	<i>Emberiza schoeniclus</i>	Amber, S41 NERC

Ring Ouzel	<i>Turdus torquatus</i>	Red, S41 NERC
Sand Martin	<i>Riparia riparia</i>	-
Shelduck	<i>Tadorna tadorna</i>	Amber
Short-eared Owl	<i>Asio flammeus</i>	Amber
Shoveler	<i>Anas clypeata</i>	Amber
Siskin	<i>Carduelis spinus</i>	-
Skylark	<i>Alauda arvensis</i>	Red, S41 NERC
Snipe	<i>Gallinago gallinago</i>	Amber
Song Thrush	<i>Turdus philomelos</i>	Red, S41 NERC
Spotted Flycatcher	<i>Muscicapa striata</i>	Red, S41 NERC
Starling	<i>Sturnus vulgaris</i>	Red, S41 NERC
Tree Pipit	<i>Anthus trivialis</i>	Red, S41 NERC
Water Pipit	<i>Anthus spinoletta</i>	Amber
Water Rail	<i>Rallus aquaticus</i>	-
Wheatear	<i>Oenanthe oenanthe</i>	Amber
Whimbrel	<i>Numenius phaeopus</i>	Red, Schedule 1 Part 1
Whinchat	<i>Saxicola rubetra</i>	Red
Wood Sandpiper	<i>Tringa glareola</i>	Amber, Schedule 1 Part 1
Wood Warbler	<i>Phylloscopus sibilatrix</i>	Red, S41 NERC
Woodcock	<i>Scolopax rusticola</i>	Red
Woodlark	<i>Lullula arborea</i>	Schedule 1 Part 1, S41 NERC
Wryneck	<i>Jynx torquilla</i>	Schedule 1 Part 1, S41 NERC
Yellow Wagtail	<i>Motacilla flava</i>	Red, S41 NERC

