Preliminary Ecological Appraisal

Land West of Shoreham Road, Small Dole, West Sussex

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LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living animals and plants are capable of migration/establishing and whilst such species may not have been located during the survey duration, their presence may be found on a site at a later date.

This report provides a snap shot of the species that were present at the time of the survey only and does not consider seasonal variation. Furthermore, where access is limited or the site supports habitats which are densely vegetated only dominant species may be recorded.

The recommendations contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

1.0 Introduction

Background

1.1 The Ecology Partnership was commissioned by Wates to undertake an updated preliminary ecological appraisal (PEA) of l land west of Shoreham Road, Small Dole, West Sussex. This is in support of a planning application for the site.

1.2 The key objectives of a PEA (CIEEM 2017) are to:

- Identify the likely ecological constraints associated with a project;
- Identify any mitigation measures likely to be required, following the 'Mitigation Hierarchy' (CIEEM 2016; BSI 2013, Clause 5.2);
- Identify any additional surveys that may be required to inform an Ecological Impact Assessment (EcIA); and
- Identify the opportunities offered by a project to deliver ecological enhancement.

1.3 This report comprises the:

- Legislative and planning context (Section 1);
- Assessment methodologies (Section 2);
- Results (Section 3);
- Implications for development (Section 4);
- An impact assessment (Section 5); and
- Conclusions (Section 6).

Site Context and Status

1.4 The site lies to the west of the village of Small Dole, West Sussex, BN5 9YH (TQ 21331 13112). The site covers approximately 5.43ha and consists of an agricultural field with scrub and trees on the north, west and east boundaries, and deciduous woodland to the south. The approximate red line boundary of the development site is shown in Figure 1 overleaf.

1.5 The site boundary is shown in Figure 1 below in a wider context and Figure 2, a closer view of the site boundary and survey area.

Figure 1: Approximate location of the red line boundary showing the wider landscape

Figure 2: Approximate location of the red line boundary

Description of the Proposed Development

1.6 The current proposals for the site are for a residential development in the southern section of the site, with landscaping and open space in the northern section of site.

Planning Policies

1.2 The outline application was assessed against policy guidance provided by the National Planning Policy Framework 2024, as well as policies from the Horsham district council draft Local Plan 2019-2036. These policies included the following which are considered relevant to ecology, biodiversity and nature conservation.

- ***Policy 25: Environmental Protection***
- ***Policy 27: The Natural Environment and Landscape Character***
- ***Policy 28: Countryside Protection***
- ***Policy 30: Protected Landscapes***

1.3 The Environment Bill received Royal Assent on 9th November 2021 and is now enacted as the Environment Act 2021. Part 6 (Nature and Biodiversity) and Schedule 14 of the Environment Act 2021 insert a new section 90A and Schedule 7A into the Town and Country Planning Act 1990 (TCPA), which contain the provisions requiring mandatory biodiversity net gain for development granted planning permission pursuant to the TCPA. These provisions require developments to provide a biodiversity value post-development that exceeds the predevelopment biodiversity value of the onsite habitats by at least 10%. This was adopted in February 2024 although there are a number of exemptions which may mean that biodiversity net gain is not required. These are listed under government guidance and are as follows:

- Development below a de minimis threshold;
- Householder applications;
- Small scale self-build and custom housebuilding;
- HS2; and
- Biodiversity net gain sites.

1.4 The site has therefore been surveyed to assess its ecological value and to ensure compliance with national and local plan policies and other relevant nature conservation legislation including the Wildlife and Countryside Act 1981, Natural Environment and Rural Communities Act 2006, and the Conservation of Habitats and Species (EU Exit) Regulations 2019.

1.5 The report has been produced with reference to current guidelines for PEA (CIEEM 2017) and in accordance with BS 42020:2013 Biodiversity – Code of Practice for Planning and Development.

2.0 Methodology

Desktop Study

2.1 A desktop study was completed using an internet-based mapping service (www.magic.gov.uk) for statutory designated sites and an internet-based aerial mapping service (maps.google.co.uk) was used to understand the habitats present in and around the site, including identifying habitat linkages and features (ponds, woodlands etc.) within the wider landscape.

Updated Preliminary Ecological Appraisal

2.2 An extended preliminary ecological appraisal was originally undertaken on 16th February 2022 by ecologists Digby Hayden BSc (Hons) and Chris Jennings BSc (Hons) MSc MCIEEM. (The Ecology Partnership 2022).. The 2025 survey was undertaken on 24th March 2025 by Digby Hayden BSc (Hons).

2.3 The surveyors identified the habitats present following the standard UK Habitat classification system (UKHab). The site was surveyed on foot and the existing habitats and land uses were recorded on an appropriately scaled map (JNCC 2010). In addition, the dominant plant species in each habitat were recorded. The potential of the site to support protected species was also assessed.

Habitat Condition Assessments

2.4 The habitats were each assessed using the 'condition assessments' as provided in the Statutory Biodiversity Metric – Technical Annex 1: Condition Assessment Sheets and Methodology February 2024. For example, all grassland habitats were reviewed in terms of species composition per m^2 and as a whole (across the whole of the field network). Condition assessment sheets can be found in appendix 5.

Protected Species Assessments

2.5 Any evidence of additional protected species was recorded. Standard methods of search and measures of presence, or likely presence based on habitat suitability were used for bats in trees (Collins 2016), breeding birds (BTO 2020), hazel dormice

Muscardinus avellanarius (Bright *et al.* 2006), great crested newts (ARG 2010), reptiles (Froglife 2015), [redacted] (Creswell *et al*. 1990) and water voles *Arvicola amphibius* (Strachan *et al*. 2011).

Limitations

2.6 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no single investigation could ensure the complete characterisation and prediction of the natural environment. The site was visited over the period of one site visit, as such seasonal variations cannot be observed and potentially only a selection of all species that potentially occur within the site have been recorded. Therefore, the survey provides a general assessment of potential nature conservation value of the site and does not include a definitive plant species list.

2.7 The protected species assessment provides a preliminary view of the likelihood of protected species occurring on-site, based on the suitability of the habitat and any direct evidence on site. It should not be taken as providing a full and definitive survey of any protected species group. The assessment is only valid for the time when the survey was carried out. Additional surveys may be recommended if, on the basis of this assessment it is considered reasonably likely that protected species may be present.

3.0 Previous Surveys

2022 Extended Preliminary Ecological Appraisal

3.1 An extended preliminary ecological appraisal was undertaken on 16th February 2022 by ecologists Digby Hayden BSc (Hons) and Chris Jennings BSc (Hons) MSc MCIEEM (The Ecology Partnership 2022).

3.2 The majority of the habitats on site are common and widespread throughout the local area and the UK as a whole. The site was dominated by semi-improved grassland with areas of scrub, hedgerows and woodland along the margins.

3.3 The woodland on site was considered to provide some trees which have potential for roosting bats, due to the size, age and nature of the trees. The linear features on site were considered to provide good foraging and commuting opportunities in the local area.

3.4 The linear scrub and woodland habitats on site were found to support a range of native species and habitat structure considered suitable to support dormice. Furthermore, the site has good linear connectivity to wider suitable dormouse habitats.

[redacted]

3.6 The majority of on-site habitats, in particular the long-sward, tussocky grassland edges, were considered suitable for reptiles. Furthermore, records for grass snake, common lizard and slow worm are present the local area.

2022 Species-Specific surveys

[redacted]

3.8 Dusk activity surveys were carried out in May, June, July, September, and October 2022. During the transect surveys a low level of bat activity was recorded. This comprised largely of the common and widespread common pipistrelle and soprano pipistrelle bats commuting and foraging across the site along linear features and site boundaries only. In particular, the southern site boundary was most frequently used by these bats, with periods of continuous foraging during the monitoring surveys. The eastern reaches of the site were deemed to be less frequently used by bats partly due to light pollution from the adjacent town residential dwellings. Despite this, myotis, leisler, noctule, serotine, daubentons and brown long-eared bats were recorded using the site. The full results of the survey efforts can be found within the associated bat activity report (The Ecology Partnership 2023).

3.9 A total of 53 dormouse tubes were established in all suitable habitat on site including the woodland and hedgerows present around the site boundaries on 8th April 2022

which were subsequently checked once a month bewteen may and November 2022. Over the course of the survey effort no evidence of dormouse activity was identified. Further information on the dormouse survey effort can be found in the associated dormouse report (The Ecology Partnership 2022). The results of the survey suggests that dormice are not present within the site boundaries or the woodland edges.

3.10 Artificial refugia was set up on the site on the 8th April 2022, which were then checked over seven survey visits between the 21st April to 9th June 2022 for reptiles. The results of the survey effort revealed that the site supported a 'low' population of grass snakes and slow worms, the full details can be found in the associated reptile report (The Ecology Partnership 2022).

4.0 Results

Desktop Study

4.1 No internationally designated sites lie within 15km of the site boundary. The closest is Arun Valley special protection area (SPA) and special area of conservation (SAC), which lies 15.6km west of the site.

4.2 The site does not lie within or adjacent to any statutory designations, however, there are three within a 2km radius of the site. These are:

- Tottington Wood LNR c. 220m southeast;
- Horton Clay Pit SSSI c.450m south;
- Beeding Hill to Newtimber Hill SSSI c.1.8km southeast.

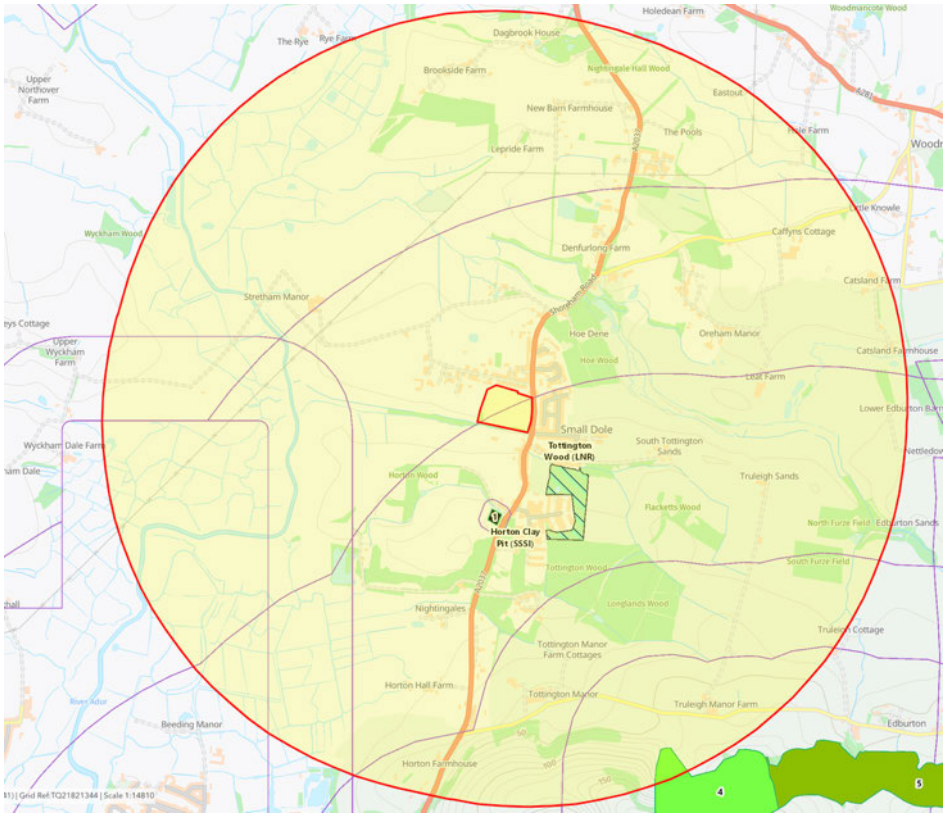

Figure 3: EPS licenses granted within 2km of the site

4.3 The site is surrounded by a number of priority habitats (**Figure 3**), the closest of each type are:

- Coastal and Floodplain Grazing Marsh, the closest being c.400m west;
- Good quality Semi-Improved Grassland, the closest being c.650m south;
- Lowland Meadows, the closest being c.650m northeast;
- Deciduous Woodland, the closest being adjacent to the southwest corner of site;
- Lowland Calcareous Grassland, the closest being c. 1.4km south.

4.4 There are also units of ancient woodland located within 2km of the site. These are:

- Tottington Wood c. 200m southeast;
- Hoe Wood c.230m east;
- Longlands wood, c. 900m southeast;
- Horton wood c. 400m southwest.
- Flackett's wood, c. 800m east
- Paddockwood, c. 1.2km north
- An unnamed unit, c. 1.9km northeast

4.5 In terms of non-statutory designations, there are six within a 2km radius. These are listed in table 2.

Table 2 – Non-statutory designations within 2km of site

Site name	Distance and orientation	Selection criteria
H10 - Tottington Wood Local Wildlife Site (LWS	220m southeast	Semi-natural woodland
H21 – Hoe Wood LWS	220m northeast	Semi-Natural Woodland
Horton Clay Pit Local Geological site (LGS)	1.3km south-east	Palaeontological finds
H42 – River Adur Water Meadows and Wyckham Wood LWS	1km southwest	Semi-Natural woodland on floodplains
H17 Oreham Common LWS	1km northeast	Herb-rich damp grassland
H02 – Broadmere Common LWS	1.8km north	Fen, willow carr and woodland mosaic

4.6 Four European protected species licenses have been granted within 2km of the site, and are shown in **figure 4** below.

- Common Pipistrelle & Soprano Pipistrelle in 2018 – *c.* 125m north of site ;
- Brown Long-Eared bat in 2014 – *c.* 800m northwest;
- Common Pipistrelle & Soprano Pipistrelle in 2019- *c.* 1.4km southwest;
- Great crested newt in 2015 - *c.* 1.8km east;
- Destruction of a resting place of Common Pipistrelle, Soprano Pipistrelle and Whiskered myotis in 2020 – *c.* 600m south of site;
- Destruction of a resting place of Great Crested Newt in 2010 – *c.* 1.1km north.

4.7 No ponds were identified on site, or within 250m of the site.

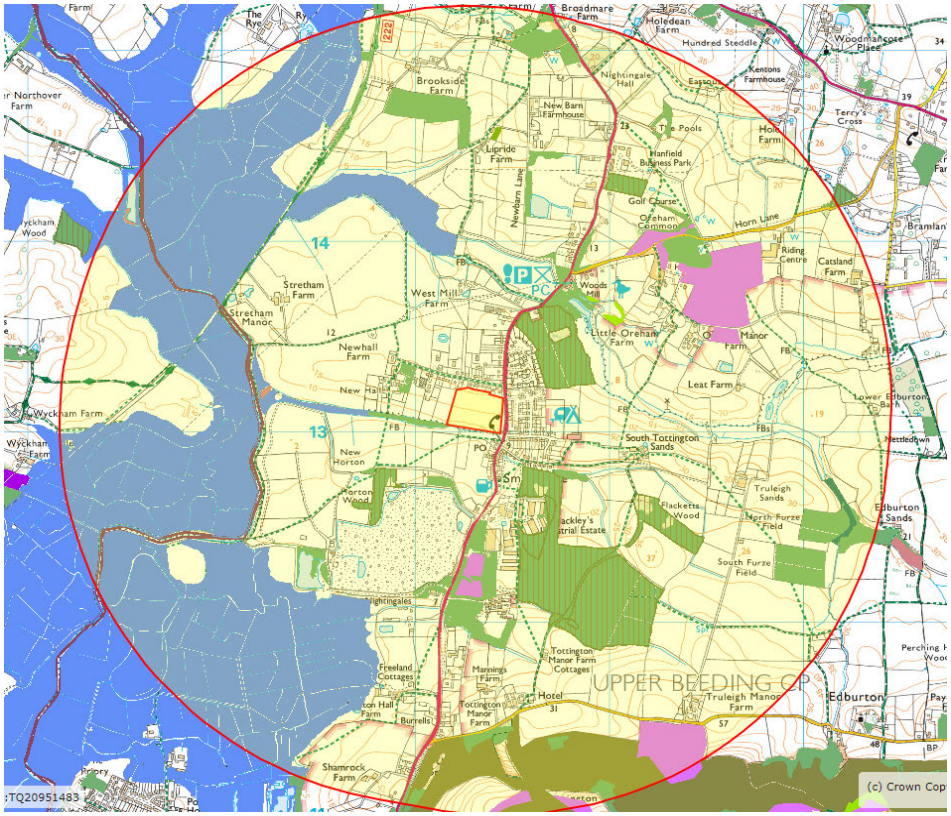

Figure 3: 2km Priority Deciduous Woodland (green), Ancient woodland (brown vertical hatch), Lowland Meadows (light green), Lowland calcareous grassland (Brown), Coastal and Floodplain Grazing Marsh (blue), and Good quality semi-improved Grassland (pink), habitats with 2km of site

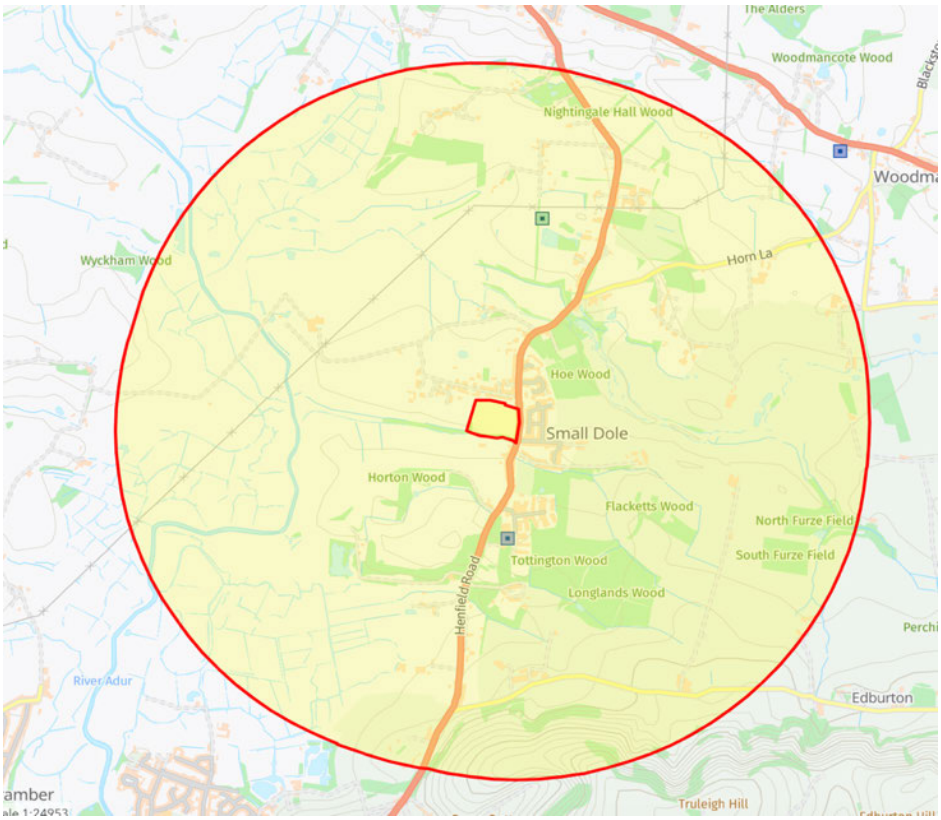

Figure 4: EPS licenses granted within 2km of the site

Phase 1 Habitat Survey

4.8 The site is primarily comprised of medium-sward other neutral grassland. Areas of the western and southern boundary comprised of deciduous woodland, however, the remainder was made up primarily of dense scrub. The northern boundary was shared with the properties to the north, with patchy areas of scrub, and the eastern and western boundaries consisted of linear scrub.

Other Neutral Grassland

4.9 The majority of the site consisted of a large area of semi-improved grassland. At the time of the survey, the grassland was at a medium sward, due to previously being managed. Species present included red fescue, Yorkshire fog, false oat grass and common bent.

Scrub

4.10 The site boundaries consisted of defunct hedgerows with occasional trees, dominated by scrub species. Species included bramble, hawthorn, blackthorn, nettle, oak, hazel, willow and ivy.

Woodland

4.10 The southern and western boundaries both contained areas of deciduous woodland. The western woodland parcel was less varied in species structure, and dominated by willow, whilst the southernmost woodland had more varied species, including hazel, oak, willow and ash.

Protected Species

Bats

4.11 None of the trees within the boundary scrub were considered to be of sufficient age or size to support features typically associated with roosting bats, such as cracks in the bark or broken limbs. The woodland blocks on the southern and western boundary contained multiple trees with minor features considered suitable to support roosting bats. The trees in the woodland were not individually assessed for their suitability to support roosting bats at the time of the survey.

4.12 The habitats on site were considered to offer 'moderate' opportunities for foraging and commuting bats, due to the presence of linear scrub and hedgerows, blocks of

woodland, and the stream running along the southern site boundary. These features provide means for foraging as well as commuting, as well as having good connectivity to suitable habitat parcels in the wider area.

4.13 There are recent records for multiple bat species are present in the local area , with an EPS licence application being granted for common pipistrelle, soprano pipistrelle and whiskered bats in September of 2020, approximately 600m south of the site. Records also include Bechstein and barbastelle bats. Barbastelles and Bechstein's are Annex II (Habitats Directive) species and are considered to be Near Threatened according to the IUCN Red List. The 2022 surveys did not identify either Barbastelles and Bechstein's, however, the 2022 surevys identified a number of bat species using the site, albeit the domiant specices recorded were common and soprano pipistrelles.

[redacted]

Dormice

4.15 The woodland and scrub habitat on site is of suitable species structure and age for dormice, and linear features on-site and throughout the wider landscape provide a suitable network and good connectivity to additional areas of suitable habitat. Whilst the previous surveys did not identify the presence of dormice, the connectivity of the on site habitats to the wider landscape, as such the presence of dormice can not be ruled out.

Great crested newt

4.16 There were no ponds present within the red line boundary and none within a 250m radius of the site. The closest pond is approximately 260m northwest. The only record within the last ten years is located approximately 1.4km northwest in August of 2021, and only one Natural England class Survey Licence Return within 2km, dated in 2010.

4.17 Due to the distance of the site from any suitable water bodies that could be used as potential breeding ponds, it is considered unlikely that GCN are using the site. The

stream on site contained flowing water and as such does not provide suitable breeding habitat for GCN, who have a preference for still aquatic habitats

Reptiles

4.18 The majority of the site consisted of other neutral grassland, woodland and scrub habitats. It is considered that the scrub and woodland areas were dense enough in parts to provide suitable refuge for reptiles, as well as the woodland and grassland providing good foraging and commuting opportunities. A previous reptile survey found a 'low' population of slow worms and grass snakes on-site, and nearby records for all four common UK reptile species are present. It is considered likely that reptiles are still present on site.

Water Voles

4.19 A stream was present along the southern boundary. The banks of the stream were mainly bare earth and heavily shaded, with only small areas isolated areas of potential marginal vegetation along the stretch adjacent to the site. The banks were inspected for mammal holes, and no evidence was found such as grazing areas. There are no records for water voles on site. Mink are known to be on the River Adur, of which this stream is a tributary. Mink heavily predate water voles, further reducing the likelihood that water voles would be present on site.

Other Species

4.20 The trees, hedgerows and scrub on site have the potential to support nesting birds. Some common species were seen and heard on-site at the time of the survey, including green woodpecker and house sparrow.

4.21 Owing to a lack of suitable habitat, no potential for any other protected species, such as otters, was identified within the site.

5.0 Discussion

5.1 The following paragraphs consider the effects of the development on designated sites, priority habitats and protected and priority species. Where the desk study and Phase 1 survey provide sufficient evidence for an assessment of effects on any of these groups to be taken through planning, these are detailed below, the need for additional surveys and when and how these should be completed are summarised, if required.

Effects on designated sites

5.2 No internationally designated sites are present within 15km of the site boundary. The closest is Arun Valley SPA SAC, that lies 15.6km west of site. Due to the considerable distance from the site, it is considered that impacts to internationally designated areas are considered unlikely.

5.3 There are three statutory designated areas within 2km of the site's red line boundary. The site lies within the 2km Impact Risk Zone (IRZ) for Beeding to Newtimber Hill SSSI. Under the conditions of the IRZs, residential developments are not considered to impact upon the integrity of the SSSI. Horton Clay pit SSSI and Tottington Wood do not impose restrictions upon residential development applications at this distance from the sites.

5.4 There are 6 non-statutory designated sites within 2km of the site, as listed in table 2. Of these, four are designated for containing semi-natural woodland, one is designated for herb-rich damp grassland, and the last is for palaeontological finds.

5.5 The site holds some ecological connectivity to these surrounding sites through the woodland on the site boundaries, which extends to linear features throughout the local landscape. The ecological functionality of this woodland is to be retained through the proposals, and therefore, habitat fragmentation or isolation that may impact non-statutory sites within the local area is considered negligible.

5.6 Indirect impacts such as increased recreational pressure will be mitigated with the provision of open space included within the proposals. Much of the northern and western sections of the site are to be retained as public open space, which will relieve much of the As long as the woodland on site is retained, no habitat with connectivity to surrounding designated sites will be lost, and therefore, it is not considered that the development will have any negative impacts on designated sites.

5.7 The site lies within the Hardham Water extraction Zone (figure 5). This zone *'includes supplies from a groundwater abstraction which cannot, with certainty, concude no adverse effect on the integrerity of; Arun Valley SAC, SPA and Ramsar site'* (Natural England, 2021). Development sites within this extraction area must be able to demonstrate water neutrality as to not further negatively impact the Arun valley site in the wider area.

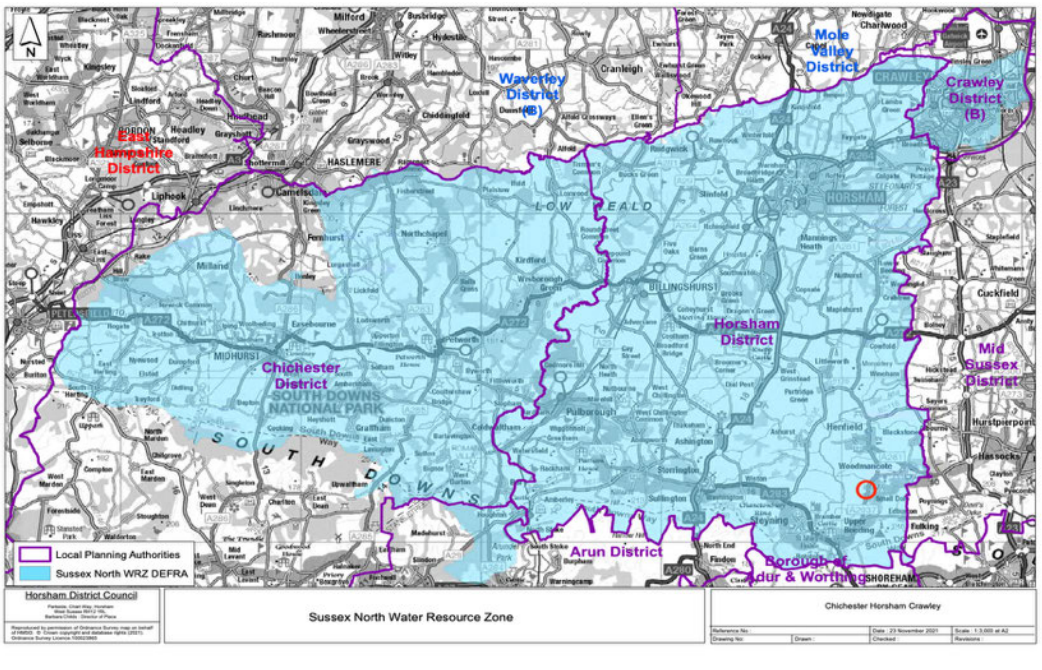

Figure 5: The location of the site in relation to the Hardham Water extraction zone – the site is identified within the red circle

Effects on Habitats

5.8 The habitats on site are common and widespread throughout the local area and the UK as a whole. The site was dominated by semi-improved grassland which has limited ecological value. The woodland areas, scrub and hedgerows were considered to be the most ecologically valuable habitats and should be retained within any development layout.

5.9 The site is currently considered to support some habitats of ecological value (notably the woodland areas), it is therefore important that considerations are given in the masterplan towards maintaining and enhancing on-site habitat in line with biodiversity net gain principles and connectivity with the wider landscape post-development.

5.10 It is recommended that a detailed mitigation and enhancement strategy is drawn up for the site as part of any future planning application. This will include but not be limited to the following:

- Creation of new high distinctiveness habitats such as traditional orchard, and, ponds, and, meadows, to be managed in the long term for biodiversity;

- Installation of specialist bird and bat boxes on retained mature trees within the site, and,
- Creation of log piles and reptile hibernacula to provide safe refuge and hibernation sites for reptiles, amphibians, and, hedgehog.

5.11 The grassland on site was all considered to be in poor condition, due to a low species diversity throughout. As such, these habitats are considered to be important at a site level only and do not provide any constraints to development. However, the loss of any grassland habitat will have to be compensated in line with biodiversity net gain calculations.

5.12 Other habitats on site are largely species-poor and common and widespread in the surrounding area, and, of value at the site level only.

Protected Species

Bats

5.13 All of the trees within scrub were considered to support 'negligible' roosting bat potential, and as such can be removed without further consideration for this species. However, some of the trees within the woodland area were considered to be of a size, age or contained features that would classify them as supporting 'PRF-I' roosting bat potential. It is further recommended that the woodland is retained, as this will ensure that no potential loss in bat roosting habitat/ features occurs as a result of the development. If any trees within the woodland habitat on site are to be removed they should be inspected by a suitably qualified ecologist and if required, activity surveys undertaken to establish whether they are in use by roosting bats following The Bat Conservation Trust survey guidelines (Collins 2023). These surveys should be undertaken in May – August inclusive when bats area active.

Bat foraging and commuting potential

5.14 Whilst the majority of habitat on-site (semi-improved grassland) is largely of poorer quality for bats, it is considered that the linear features that comprise the site boundaries offer 'moderate' commuting and foraging potential, with bats most likely sticking to the woodland, hedgerows and scrub on-site, plus the stream to the south.

5.15 Previous surveys done by The Ecology Partnership in 2022 found a 'low' level of bat activity across the site, using the site boundaries for foraging and commuting.

5.16 According to Bat Conservation Trust guidelines, it is important that proportionality is employed when recommending further survey work for bat species on a proposed development site. As stated within section 2.2.19 of the latest survey guidelines (2023), the following points need to be taken into account with regard to planning bat surveys:

- Likelihood of bats being present;
- Type of proposed activities;
- Scale of proposed activities;
- Size, nature and complexity of the site;
- Species concerned;
- Number of individuals.

5.17 With the above considered, a total of three night-time bat walkover (NBW) surveys, and monthly automated/static detector surveys, will be required to identify how bats are using the site.

5.18 All bat species are nocturnal, resting in dark conditions in the day and emerging at night to feed. Bats are known to be affected by light levels, which can affect both their roosting and foraging behaviour. This needs to be taken into account with a sympathetic lighting scheme. Recommendations include:

- Installing lighting only if there is a significant need;
- Using Light-emitting diodes instead of mercury or metal halide lamps where glass glazing is preferred due to its UV filtration characteristics;
- Directing light to where it is needed and avoiding light spillage;
- Using baffled lighting where light is directed towards the ground;
- Avoid putting lighting near treelines or hedgerows and angling light away from these linear features which are used by commuting and foraging bats;
- Planting a barrier or using man-made features required within the scheme to form a barrier.

Dormice

5.19 The grassland which dominates the site is not suitable to support dormice due to the lack of vegetation structure and sufficient refuge areas. However, the scrub and

woodland which border the entire site are considered suitable for dormice and are connected to a wider network of woodland and hedgerows in the surrounding area.

5.20 Previous dormouse surveys in 2022 found no evidence of dormice on site. However, given the high suitability of the habitats on site for dormice, it is recommended that updated dormouse surveys are undertaken to confirm the presence or likely absence of dormice on site. This will determine whether the proposals are constrained by this species and inform any further mitigation requirements.

Great crested newts

5.21 Due to the sites proximity from any suitable potential GCN breeding habitat it is not considered that the site is likely to support a GCN population. The closest pond to the site is approximately 260m northwest. A risk assessment provided by natural England was undertaken, in order to assess the likelihood of GCN being harmed or disturbed, shown in figure 6 below. At this distance from the pond, considering the size of the development, it is considered highly unlikely that GCN will be harmed or disturbed if the development were to proceed.

Component	**Likely effect** (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	1 - 5 ha lost or damaged	0.04
Individual great crested newts	No effect	0
	Maximum:	0.04
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

Guidance on risk assessment result categories

"Green: offence highly unlikely" indicates that the development activities are of such a type, scale and location that it is highly unlikely any offence would be committed should the development proceed. Therefore, no licence would be required. However, bearing in mind that this is a generic assessment, you should carefully examine your specific plans to ensure this is a sound conclusion, and take precautions (see **Non-licensed avoidance measures tool**) to avoid offences if appropriate. It is likely that any residual offences would have negligible impact on conservation status, and enforcement of such breaches is unlikely to be in the public interest.

Figure 6: Natural England Risk Assessment – Green

5.22 Where present, GCN tend to remain in close proximity to their breeding pond and whilst a maximum routine migratory range has been estimated as approximately 250m from a breeding pond (Franklin, 1993; Oldham and Nicholson, 1986; Jehle, 2000), one study by Robert Jehle, (2000) demonstrated a 'terrestrial zone' of 63m, within which 95% of summer refuges were located. A further study (Jehle, R & Arntzen, JW. 2000) showed that after the breeding season 64% of newts were recorded within 20m of the pond edge.

Reptiles

5.23 The habitats on site were considered to be of a good structure and species composition to support foraging, commuting and sheltering reptiles. Previous surveys found a 'low' population of slow worms and grass snakes, and records for all four common reptile species are present within the local area. It is recommended that a reptile survey be undertaken prior to any works on site. The optimal period for reptile surveys is April/May or September on suitable dry days with temperatures between 8°C and 18°C. The results of a potential reptile survey should inform what, if any, further mitigation for reptiles is required.

Nesting Birds

5.24 Birds are likely to use the scrub, woodland and hedgerows on-site for foraging and breeding. Any tree or scrub removal should be implemented outside the breeding bird season (March-September inclusive) or immediately after a nesting bird check by a suitably qualified ecologist. If an active nest is identified, works in the vicinity of the nest must cease until the birds have fledged the nest.

5.25 As the majority of the woodland and trees are being retained within the site, the impacts on the nesting habitats of the majority of nesting birds are thought to be minimal. However, it is recommended that the proposals also retain as much of the scrub as possible to avoid impacting the nesting habitats of these birds. If any of these features are to be removed, these should be compensated for within the site to replace any lost habitat.

[redacted]

[redacted]

[redacted]

[redacted]

Other Species

5.30 No potential for any other protected species, such as otters was identified within the site.

5.31 The site has potential to support hedgehog. Whilst receiving no specific legal protection, they are protected from certain forms of harm under the wild mammals (Protection) Act 1996. There is a risk that without mitigation, vegetation clearance on site may result in mutilation or crushing of hedgehog nesting in brash piles. As such, it is recommended that areas of dense vegetation needing clearance are cut in two stages, the first to 300mm, then then the second to ground level after the area has been searched for hedgehog. If any are found, they will be safely move to a suitable brash pile outside the clearance area.

Ecological Enhancements

5.32 Several enhancements can be made to the final development to help reduce potential ecological impacts, as well as to try and achieve 10% biological net gain.

5.33 In order to achieve a 10% net-gain in biodiversity on site, without the need for external off-setting, retention of woodlands and hedgerows and the enhancement of grassland should occur within the redline boundary, with areas proposed for biodiversity only, and areas of open space, provided for recreation, created with wildlife in mind.

5.34 It should be noted that new roads, buildings and pathways have no ecological value within the metric, and gardens are also of low value. As such, the development will require areas of open green space of moderate or high value to wildlife, such as wildflower grasslands, ponds, and native trees and shrubs to counterbalance any developed areas. The field, which is an area of grassland, is considered to be of moderate BNG value, with scope to provide higher value habitats to compensate for this loss.

5.35 It is recommended that a detailed mitigation and enhancement strategy is drawn up for the site based on the current baseline and through the review of the proposals. This will include but not be limited to the following:

- Creation of new high distinctiveness habitats such as hedgerows, ponds, and, meadows, to be managed in the long term for biodiversity;
- Installation of specialist bird and bat boxes on retained mature trees within the site, and,
- Creation of log piles and reptile hibernacula to provide safe refuge and hibernation sites for reptiles, amphibians, and, hedgehog.

5.36 Further species-specific ecological enhancements have been detailed within phase two survey reports.

6.0 Impact Assessment

6.1 This section of the report forms an EcIA (Ecological Impact Assessment) and is designed to quantify and evaluate the potential impacts of the development on habitats and species present on site or within the local area.

6.2 A detailed impact assessment is not possible at this stage owing to a deficiency in data. It is considered that a full Ecological Impact Assessment (EcIA) report will be required at a later date in support of a planning application. However, some broad conclusions can be made from the preliminary ecological appraisal.

6.3 Table 3 below summarises the impacts and required mitigation for each receptor as previously detailed in the discussion.

Table 3: Assessment of effects from the proposal after mitigation and compensation

Feature	Scale of Importance	Mitigation/Compensation Required	Residual Effect
Tottington Wood LNR	Local	None required – no related habitats will be lost through this scheme, and compensatory recreational space included within the scheme.	Not significant
Horton Clay Pit SSSI	National	None required – no related habitats will be lost through this scheme, and compensatory recreational space included within the scheme	Not significant
Beeding Hill to Newtimber Hill SSSI	National	None required – considerable distance from the site, no related habitats will be lost through this scheme.	Not significant
SINCs	National	None required - no related habitats will be lost through this scheme, and compensatory recreational space is included within the scheme	Not significant
Bats (roosting)	National	Likely to use woodland, which is being retained. If this changes, an update walkover will be necessary	Not significant
Bats (Foraging & Commuting)	National	Likely to use linear site features and boundaries. Updated monthly activity surveys & static monitoring recommended April-October to determine site activity.	Undetermined
Nesting Birds	Site	Three transect surveys to be undertaken over the site to identify the current use of bats over the site. The results of which would inform the need for further mitigation. Sensitive lighting scheme and the retention, where possible, of most of the boundary hedge, hedgerow and woodland habitat that act as potential foraging and commuting routes.	Undetermined
[redacted]	[redacted]	[redacted]	[redacted]
Reptiles	Site	Updated reptile presence/ absence survey to identify the current use of the site by reptiles.	Undetermined
Dormice	Local	Any mitigation to be subject to findings from updated survey work Provision of any replacement habitat should be made within the masterplan in case dormice are identified on site.	Undetermined

GCN	N/A	Considered unlikely to be present on site. No further survey recommended	Not significant
Water voles. / otters	N/A	Considered unlikely to be present on site. No further survey recommended	Not significant

7.0 Conclusions

7.1 The site does not lie within or adjacent to any statutory or non-statutory designations. It is considered highly unlikely that the development will cause adverse effects to these areas or the surrounding landscape due to the habitats being lost on site and the distance between the sites and these designations.

7.2 There were a range of priority habitats within 2km of the site but given the nature of the proposals, it was considered that there would be no adverse effects on any nearby protected habitats.

7.3 The majority of the habitats on site are common and widespread throughout the local area and the UK as a whole. The site was dominated by semi-improved grassland with areas of scrub, hedgerows and woodland along the margins. All trees sand woodland and on site should be retained where possible.

7.4 The woodland on site was considered to provide some trees which have potential for roosting bats, due to the size, age and nature of the trees. The linear features on site were considered to provide good foraging and commuting opportunities in the local area. It is therefore recommended that activity transect surveys are undertaken between May and September.

7.5 It is considered that the hedgerows, woodland and scrub on site all have a suitable species structure to support dormice, with good linear connectivity to wider habitats. Although previous survey effort in 2022 found a likely absence of dormice, It is recommended that an update survey is undertaken to establish whether the species are present on site, and to inform mitigation and a Natural England licence if required.

[redacted]

[redacted]

7.7 The majority of on-site habitats were considered suitable for reptiles, as well as records for grass snake, common lizard and slow worm in the local area. A low population of grass snake and slow worm were found in the 2022 survey effort. Consequently, updated reptile surveys should be undertaken, between late March – early October to identify the presence/absence of reptile species. Artificial refugia (roof felt mats) should be placed on field margins and other suitable habitats.

7.8 Nesting birds may use the trees, scrub and hedgerows on-site. All of these habitats should be retained within the scheme. Any works to these habitats should be undertaken outside of the breeding bird season (March-September inclusive) or immediately after a nesting bird check by a suitably qualified ecologist.

7.9 Hedgehogs may be present on and around site and they should be considered within the design of the scheme by providing gaps in fences to allow continued movement through the site post-development.

7.10 Owing to a lack of suitable habitat and/or connectivity, the site is not considered to be constrained by other protected species, including GCN or otters.

7.11 Recommendations for enhancements have been made within this report, aimed at improving the ecological value of the site post-development.

8.0 References

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The Ecology Partnership, 2022a *Small Dole Bat Report*

The Ecology Partnership, 2022b *Small Dole Dormouse Survey*

The Ecology Partnership, 2022c *Small Dole Reptile Survey*

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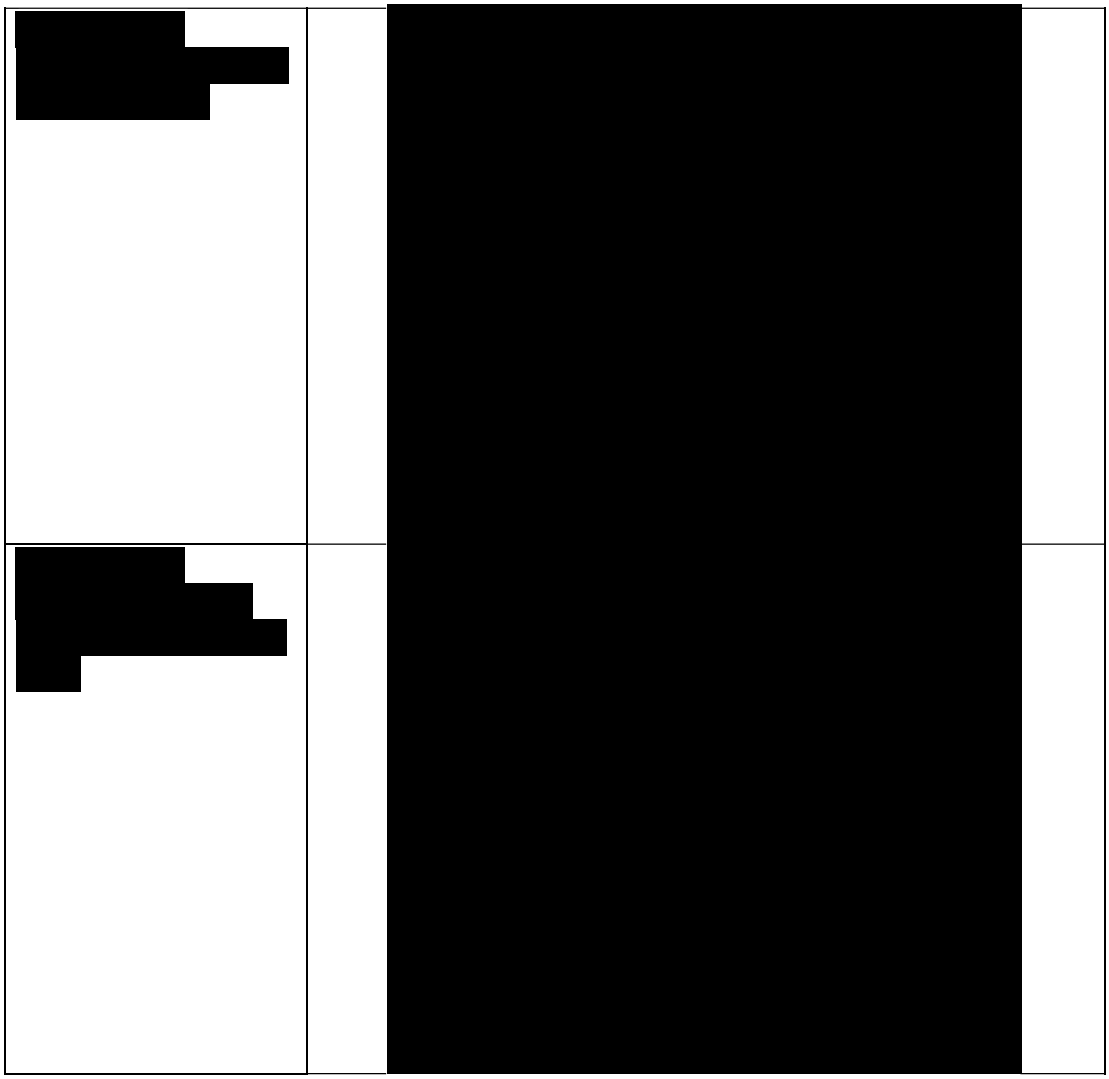
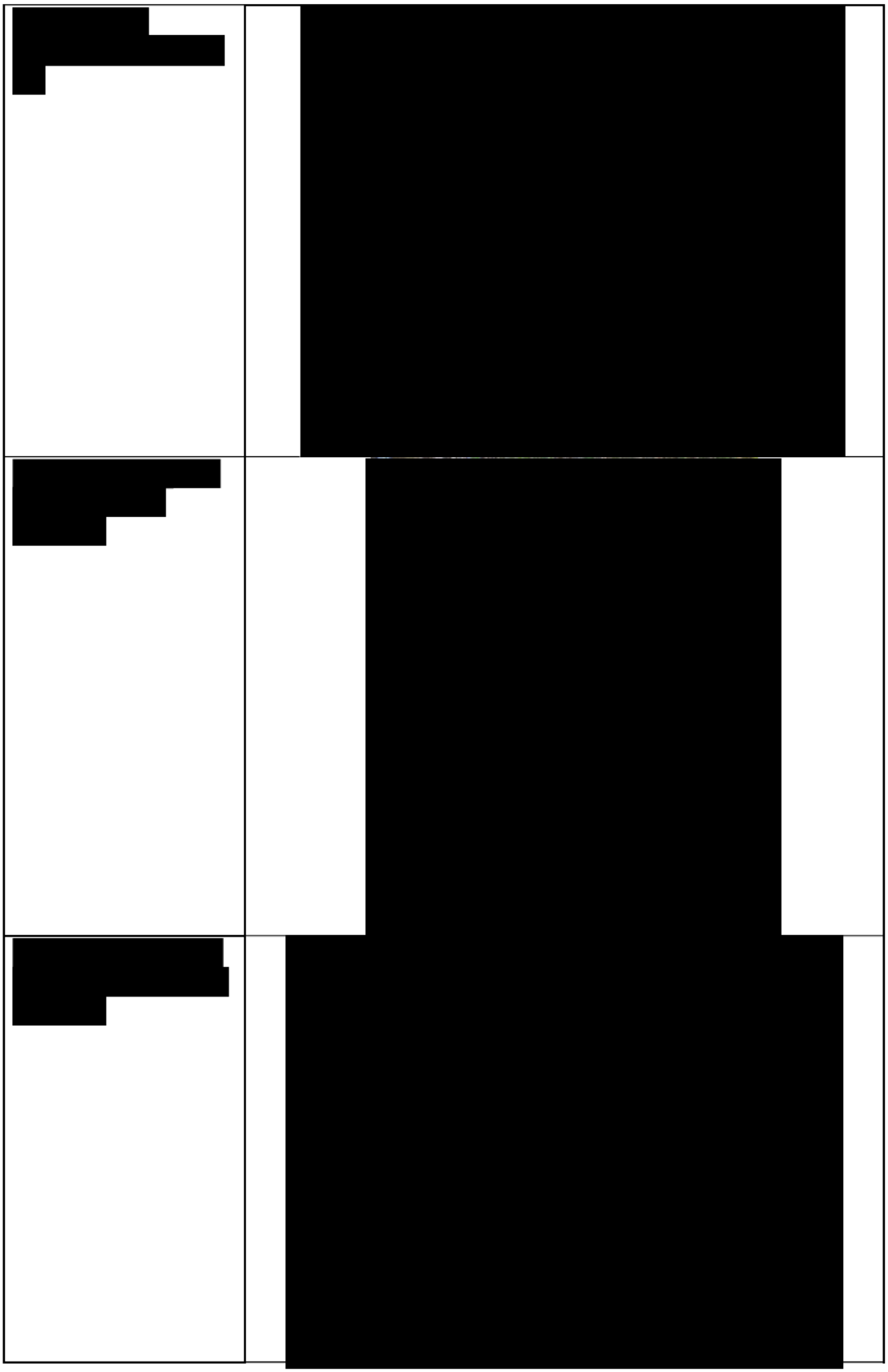
Internet resources:

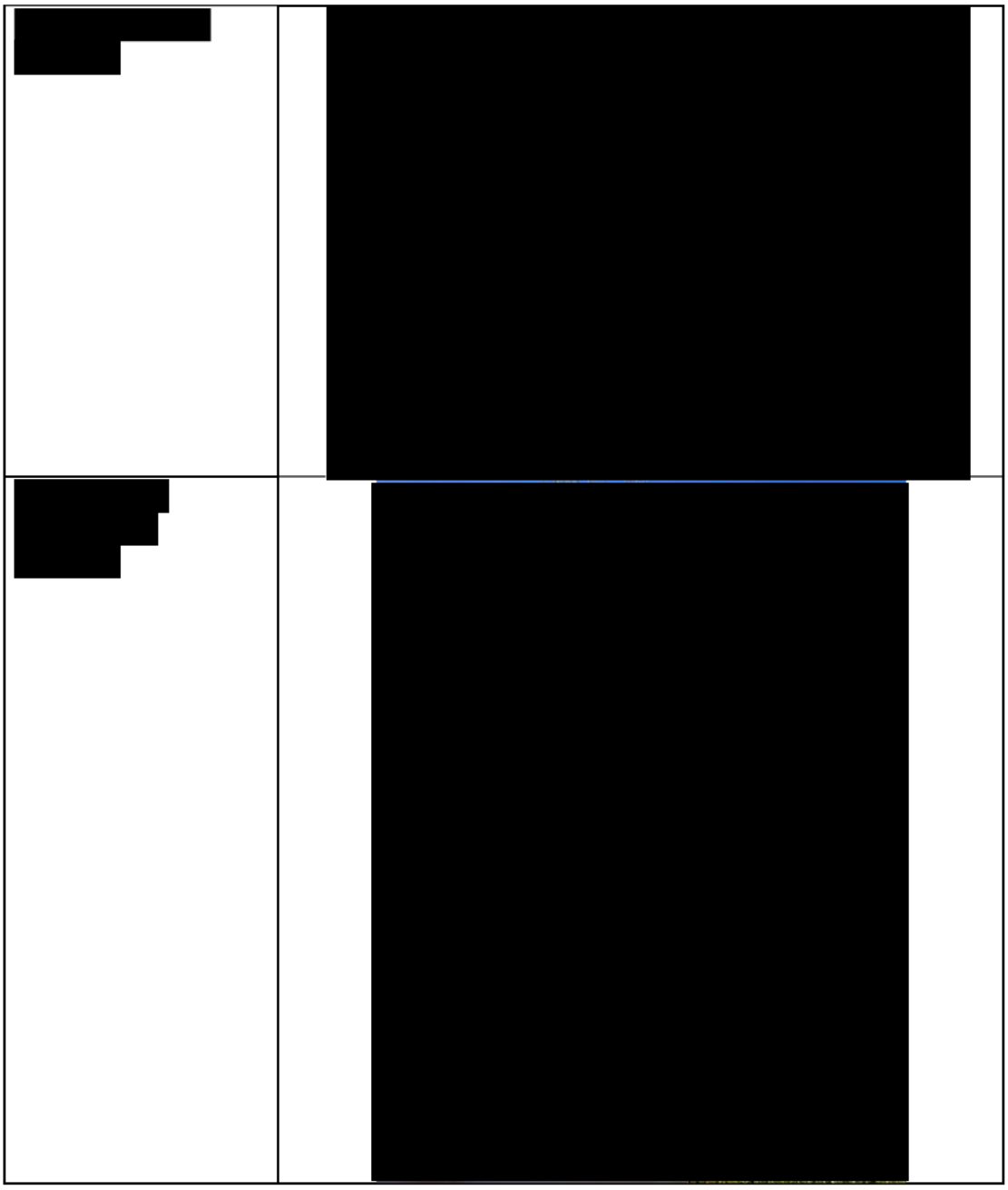
Google Maps: www.google.co.uk/maps

Magic Interactive Map: www.magic.gov.uk

Appendix 1: Photos







Appendix 2: Habitat Map

Appendix 3: Species List

Common name	Latin name	DAFOR score
Grassland		
Agrimony	*Agrimonia eupatoria*	R
Bird's-foot-trefoil	*Lotus corniculatus*	F
Blackthorn	*Prunus spinosa*	O
Bramble	*Rubus sp.*	LA
Bristly Oxtongue	*Picris echioides*	R
Broad-leaved Dock	*Rumex obtusifolius*	O
Carrot	*Daucus carota*	R
Cock's-foot	*Dactylis glomerata*	A
Common Bent	*Agrostis capillaris*	A
Common Fleabane	*Pulicaria dysenterica*	O
Common Mouse-ear	*Cerastium fontanum*	O
Common Ragwort	*Senecio jacobaea*	R
Common Sorrel	*Rumex acetosa subsp. acetosa*	O
Common Vetch	*Vicia sativa subsp. segetalis*	O
Cow Parsley	*Anthriscus sylvestris*	O
Cowslip	*Primula veris*	R
Creeping Bent	*Agrostis stolonifera*	F
Cut-leaved Crane's-bill	*Geranium dissectum*	O
Dog-rose	*Rosa canina*	R
Dove's-foot Crane's-bill	*Geranium molle*	O
False-brome	*Brachypodium sylvaticum*	O
Field Bindweed	*Convolvulus arvensis*	O
Field Madder	*Sherardia arvensis*	R
Grass Vetchling	*Lathyrus nissolia*	R
Greater Bird's-foot-trefoil	*Lotus pedunculatus*	O
Herb-Robert	*Geranium robertianum*	O
Italian Mouse-ear	*Cerastium scaranii*	R
Meadow Vetchling	*Lathyrus pratensis*	R
Pineappleweed	*Matricaria discoidea*	R
Red Clover	*Trifolium pratense*	O
Red Fescue	*Festuca rubra*	A
Scarlet Pimpernel	*Anagallis arvensis subsp. arvensis*	R
Sweet Vernal-grass	*Anthoxanthum odoratum*	LA
Thistle sp.	*Cirsium sp.*	R

Tufted Hair-grass	*Deschampsia cespitosa subsp. cespitosa*	A
White Clover	*Trifolium repens*	F
Willowherb Sp.	*Epilobium sp.*	O
Wood Avens	*Geum urbanum*	R
Yorkshire-fog	*Holcus lanatus*	D
Woodland		
Ash	*Fraxinus excelsior*	O
Common Reed	*Phragmites australis*	O
Mint	*Mentha spp*	R
Fern		O
Goat Willow	*Salix caprea*	O
Hazel	*Corylus avellana*	A
Pedunculate Oak	*Quercus robur*	F
Sycamore	*Acer pseudoplatanus*	A
Boundary Scrub		
Ash	*Fraxinus excelsior*	A
Blackthorn	*Prunus spinosa*	F
Bramble	*Rubus sp.*	D
Dog-rose	*Rosa canina*	O
Hawthorn	*Crataegus monogyna*	O
Horse-chestnut	*Aesculus hippocastanum*	O
Pedunculate Oak	*Quercus robur*	D

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