

**LAND TO THE NORTH EAST OF KING GEORGE V PLAYING FIELDS
UPDATED ECOLOGICAL APPRAISAL**

Prepared for Lands Improvement Holdings

by

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EXECUTIVE SUMMARY

This report describes an updated Ecological Appraisal, including an updated Badger survey, of approximately 4.89ha of land at Cuffley, Hertfordshire, hereinafter referred to as 'the Site'. The Site centre is located by National Grid Reference TL 3045 0210. The study was commissioned by Lands Improvement Holdings in May 2020.

The updated Ecological Appraisal confirms the findings of previous studies carried out at the Site. In summary:

- No areas of international, national, regional or district nature conservation importance were identified within or adjacent to the Site during the study and the findings of the field surveys indicate that the majority of the Site, dominated by a single arable field, is of negligible nature conservation importance at a local level in its own right. Where designated sites occur within the wider area these are not expected to be impacted by the proposed development, either alone or in combination with other plans or projects.
- The habitats of highest nature conservation value are located around the Site margins and include the hedgerow on the north western Site boundary, the treeline and hedgerow on the southern Site boundary, the southernmost ditch and the railway embankment to the east. Although these habitats are of limited nature conservation interest in their own right, in combination they form part of a network of semi-natural habitats around the Site and the wider area, and appreciably enrich the habitat resource of the Site. Of particular note is the treeline and hedgerow on the southern Site boundary which has been identified during the bat survey work as being of high local value for commuting bats.
- Development proposals should seek to maintain and, where appropriate, enhance the value of these features for wildlife. Measures by which this can be achieved are provided in *Section 8*.
- Construction works should also be carried out in such a manner as to avoid adverse effects on the Northaw Brook located to the south of the Site, especially in association with any linkage of the surface water drainage scheme to the southernmost ditch. It is therefore recommended that development works are carried out in accordance with current Environment Agency Pollution Prevention Guidance. Precautionary measures with regard to Water Vole should also be implemented.
- The Site is considered unlikely to support an important assemblage of breeding birds and no further survey for this group is recommended. Notwithstanding this, breeding birds are likely to use the Site and therefore the legislation relating to this group will apply. It is recommended that all scrub/ tree clearance and initial ground works on the arable land are carried out outside of the bird breeding season (March to September inclusive), as wild birds, their nests and eggs are protected under the Wildlife and Countryside Act 1981. Where this is not possible it is recommended that an ecologist carries out a check for nesting birds immediately prior to the commencement of these works.
- No active Badger setts were recorded within or adjacent to the Site during the Badger survey. It is recommended however that the Site be re-surveyed prior to commencement of development works to ensure that the status of Badgers has not changed.
- Where appropriate, development proposals should seek to maintain and provide new opportunities for wildlife in accordance with national and local planning policy and guidance (NPPF, 2019; ODPM, 2005) and the 2006 NERC Act. A selection of measures appropriate to the Site is given in *Section 8*. These include habitat creation through the Site's surface water drainage strategy; provision of opportunities for roosting bats and nesting birds; use of native and nut/fruit/pollen and nectar-rich species in planting schemes; and provision of semi-natural habitats such as meadow grasslands, scrub and hedgerows as part of the Site landscape strategy. These measures are in keeping with the emerging landscape scheme and their inclusion could potentially increase the current nature conservation interest of the Site, in addition to enhancing opportunities for locally recorded protected and notable species.

- Subject to the implementation of the recommended measures for habitat retention, creation and enhancement, no reduction in the ecological interest of the Site is likely to arise as a result of the proposed development. It is concluded that, beyond the normal requirements identified above to avoid impacts on protected species, there appear to be no overriding nature conservation constraints that would preclude the proposed development of the Site.

1 INTRODUCTION

- 1.1 This report describes an updated Ecological Appraisal, including a Badger Survey, of approximately 4.89ha of land, located at Cuffley, Hertfordshire, hereinafter referred to as 'the Site'. The Site centre is situated by National Grid Reference TL 3045 0210. The study was commissioned by Lands Improvement Holdings in May 2020.
- 1.2 The Site is located on the southern edge of Cuffley and is currently in agricultural use. It is bound by existing residential development to the north and north-west, and the grounds of Cuffley Primary School also adjoin the Site along its northern boundary. The railway line and Northaw Road East (B156) form strong eastern and western boundaries respectively. The southern boundary is defined by a mature hedgerow and tree belt lining the Hertfordshire Way footpath. Beyond the footpath to the south west of the Site are the King George V Playing Fields, which contain three sports pavilions, a recreation area with hard surfaced Multi Use Games Areas (MUGA), sports pitches and a small area of formal play equipment. The location and boundary of the site are shown in *Appendix B*.
- 1.3 Development proposals for the Site include residential development with associated access and areas of hard and soft landscaping.
- 1.4 The aims of this updated study are:
- i. To confirm the likely nature conservation importance of habitats within the Site;
 - ii. To confirm the likely presence of protected species and Habitats and Species of Principal Importance identified under Section 41 of the 2006 NERC Act;
 - iii. To confirm any potential constraints to development due to the above; and
 - v. To confirm measures to avoid and mitigate the potential effects of development on identified features of ecological interest.

2 METHODOLOGY

2.1 Desk study

- 2.1.1 Existing ecological and nature conservation data relevant to the Site was collated from various sources including the 'Multi-Agency Geographic Information for the Countryside' (MAGIC) online database (<http://magic.defra.gov.uk>) and Hertfordshire Environmental Records Centre (HERC). All relevant protected species records were obtained for an area of approximately 2km around the Site, and a check for statutorily designated areas within up to 10km of the Site was carried out using the MAGIC database. The findings of the desk study are summarised in *Section 3* below, and full results are given in *Appendix A*.

2.2 Field survey

- 2.2.1 The field survey comprised an extended Phase 1 Habitat Survey (JNCC, 2010) and a Phase 1 Badger Survey carried out by Anna Potter of HDA on 1st July 2020. A total of 6

hours were spent carrying out the field survey. Weather conditions were mild with intermittent rainfall.

Extended Phase 1 Habitat Survey

- 2.2.2 The extended Phase 1 habitat survey involved walking over the Site, mapping the main habitat types and compiling detailed 'target notes'. Target notes record habitat features and a list of vascular plant species noted, together with a qualitative assessment of relative abundance, where appropriate. The full results of the Phase 1 Habitat Survey are given in *Appendix B*.

Badger Survey

- 2.2.3 The Badger survey comprised a systematic search of the Site and a 30m buffer around the edge of the Site, where accessible, for Badger setts and evidence of Badger activity. For each confirmed Badger sett a recording card was completed detailing the type of Sett, number of entrances and level of activity (from disused to active).

Other Species

- 2.2.4 Observations on the presence, or potential presence, of other protected species, were recorded as incidental information to the extended Phase 1 habitat survey and this information should not be relied on as a comprehensive assessment of the presence or otherwise of all protected species on the Site. This is because there is a wide range of protected species, many of which can occur on one site and most require specialist expertise to locate them and season-critical survey techniques to confirm their presence, and this is outside the scope of the present report.

2.3 Evaluation Criteria

- 2.3.1 The evaluation of the Site, and the habitats within it, is based on the results of the field surveys described above, any designations pertaining to the Site and existing ecological information collected during the desk study.
- 2.3.2 Each ecological resource (site, habitat, species or feature) was assigned a value at the following geographic scales (CIEEM, 2018):
- International
 - National (England/ Scotland/ Wales/ Northern Ireland)
 - Regional
 - County / Metropolitan
 - District / Borough
 - Local/ Parish
 - within immediate zone of influence only (Site/ Negligible)

2.3.3 Assigning value is relatively straightforward in the case of designated sites, and undesignated sites meeting designation criteria. However, in most cases, evaluation of ecological resources is not straightforward and requires a degree of knowledge, training, experience and professional judgement (Usher, 1986; Spellerberg, 1992). Evaluation of an ecological resource was based on a number of criteria (Ratcliffe, 1977; CIEEM 2018). These are summarised in *Appendix D*.

2.3.4 The potential for protected species and Habitats and Species of Principal Importance identified under Section 41 of the 2006 Natural Environment and Rural Communities (NERC) Act to be present within the Site has been assessed based on the habitats and features present and the results of the desk study.

2.4 Limitations

2.4.1 No limitations were experienced during the survey, and it is considered that the field surveys and desk study were not subject to any significant constraints and the studies conducted are adequate to make a robust assessment of the Site's likely nature conservation significance and to form the basis of the recommendations provided in *Sections 7 and 8* of this report.

3 DESK STUDY

3.1 Introduction

3.1.1 The following section summarises the findings of the desk study. The original data and plans showing the locations of protected species records and designated sites are given in *Appendix A*. The results of the Phase 1 habitat survey and an assessment of the potential for the Site to support protected species and Species and Habitats of Principal Importance are given in *Sections 4 and 5* respectively.

3.2 Designated Sites

Statutorily designated areas

3.2.1 No statutory designated areas pertain to the Site or immediately adjacent land. This is confirmed by information from the MAGIC online database and provided by HERC.

International designated areas

3.2.2 Three Internationally designated areas are located within 10km of the Site. These are:

- Wormley Woods/Hoddesdon Park Special Area of Conservation (SAC) located approximately 2.5km north of the Site. The SAC is designated for its Hornbeam and Sessile Oak woodland, which rarely occurs in lowland Britain. This site also receives additional statutory protection as a Site of Special Scientific Interest (SSSI) and National Nature Reserve (NNR) (see below).

- The Lee Valley Ramsar and Special Protection Area (SPA), the closest area of which is located approximately 6km east of the Site. The Ramsar and SPA comprise a series of water supply reservoirs, sewage treatment lagoons, and former gravel pits extending along the Lee Valley from near Ware in the north to Finsbury Park in the south. These waterbodies support internationally significant numbers of wintering Gadwall and Shoveler and nationally important numbers of several other bird species. The SPA and Ramsar also contains a range of wetland and valley bottom habitats, both manmade and semi-natural, which support a diverse array of wetland fauna and flora.
- Epping Forest SAC, located approximately 9.5km to the south-east of the Site. The SAC is mainly designated for its Atlantic acidophilous Beech forests on predominantly acidic soils, on which a range of rare mosses, lichens and fungi can be found. This SAC is also designated for supporting species listed in Annex II of Directive 92/43/EEC, including Stag Beetle, and supports many Red Data Book and Nationally Scarce invertebrate species

3.2.3 *Nationally designated areas*

One NNR and two SSSIs are located within 5km of the Site:

- Northaw Great Wood SSSI is located approximately 1.9km to the north-west of the Site. This SSSI is designated for being the country's most extensive ancient coppiced Hornbeam woodland. The SSSI contains a range of acidic soil types, from poor to free draining, providing conditions suitable for a wide range of plant species.
- Wormley-Hoddesdonpark Wood South SSSI is located within the SAC 2.5km north of the Site and coincides with the Wormley Woods/Hoddesdon Park SAC. The SSSI is dominated by stands of Oak and has a diverse range of ground flora, much of which resembles an ancient woodland plant assemblage.
- Boxbourne Woods NNR also forms part of the Wormley-Hoddesdonpark Wood South SSSI and Wormley Woods/Hoddesdon Park SAC. The NNR is dominated by conifer plantation and has been designated with a view to restoration to deciduous woodland habitat over time.

3.2.4 The Site falls within the 1-3km Impact Risk Zone (IRZ) for the Wormley- Hoddesdon Park Woods SAC, the Northaw Great Wood SSSI and Wormley-Hoddesdonpark Wood South SSSI as identified from the MAGIC online database. IRZs are used by Natural England to identify development activities in the vicinity of SSSIs, SPAs and SACs which in the absence of avoidance or mitigation measures may adversely affect designated features, thereby requiring planning authorities to consult with Natural England where potentially damaging activities are proposed. The IRZ relevant to the Site does not reference residential development as a type of activity that could have adverse impacts on this or

any other designated site. As such Natural England would not be expected to be consulted by the planning authority on proposals for residential development at the Site in this regard.

- 3.2.5 One Local Nature Reserve (LNR) is located within 2km of the Site, namely Cheshunt Park LNR located situated approximately 4.2km northeast of the Site. The Cheshunt Park LNR is designated for its woodland and grassland habitats.

Non-statutory designated areas

- 3.2.6 There are twelve non-statutory designated sites, known as Wildlife Sites (WSs), located within the desk study area. The closest designated areas to the Site include:
- Cuffley Station Embankment WS: This WS lies 800m north of the Site and is designated for its populations of Common Lizard and Slow-worm.
 - Cattlegate Wood WS: This WS comprises a 12ha area of ancient semi-natural Hornbeam and Oak woodland, which lies 900m south-west of the Site. The woodland is also listed on Natural England's Inventory of Ancient Woodland.
 - The Dell WS: This WS comprises a 14ha area of acid grassland, heathland, mature scrub and woodland habitats, which lies 1km north-west of the Site.

3.3 Biodiversity Action Plan (BAP) and 2006 NERC Act Habitats and Species of Principal Importance

- 3.3.1 The UK Biodiversity Action Plan (BRIG, 2011) lists species and habitats which have undergone significant declines in recent years and for which conservation is a priority to preserve biodiversity in the UK. The BAPs provide a list of actions to be implemented to halt or reverse these declines.
- 3.3.2 These species and habitats are identified as Habitats and Species of Principal Importance for the conservation of biological diversity in England under Section 41 of the 2006 Natural Environment and Rural Communities (NERC) Act. Section 40 of the NERC Act, the National Planning Policy Framework (NPPF, 2019) and underpinning guidance (ODPM, 2005) require that these species are a material consideration in the planning process.
- 3.3.3 The Hertfordshire BAP, published in 1998 and revised in 2006, includes action plans for habitats and species considered to be of county biodiversity importance. Of the habitats included within the BAPs, the Site contains examples of farmland habitats, including arable land and boundary features such as hedgerows and field margins.
- 3.3.4 The Hertfordshire BAP also lists priority species for Hertfordshire including Water Vole, Adder, Barn Owl, Bat, Brown Hare, Brown-banded Carder Bee, Curlew, Hazel Dormouse,

Harvest Mouse, Hedgehog, Medicinal Leech, Grizzled Skipper, White Admiral, Pearl-bordered Fritillary, Wood White, White Clawed Crayfish and native Black Poplar.

- 3.3.5 The BAP contains objectives and targets for each species and habitat identified. These should be considered for any development proposal for the Site, both in terms of impact avoidance and opportunities to enhance the Site and contribute to BAP targets. The objectives potentially most relevant to this Site are:

“Protect and enhance through appropriate management, ancient and species rich hedgerows”

“Increase the total length of hedgerows where appropriate within the farmland environment”

“Enhance arable field habitats to support a greater biodiversity”

“To protect urban habitats and protected species within the urban areas of Hertfordshire”

“To increase the biodiversity of existing urban greenspaces and promote opportunities for biodiversity gain in all appropriate developments”

“Raise awareness of urban biodiversity and promote opportunities for involvement in urban conservation”

- 3.3.6 Further consideration of the presence or potential presence of Biodiversity Action Plan (BAP) and NERC Act Habitats and Species of Principal Importance at the Site is given in Sections 5 to 8 of this report.

3.4 Protected Species

- 3.4.1 The information provided during the desk study indicates that there are currently no records of protected or notable species occurring within the Site (*Appendix A*).

- 3.4.2 Data supplied by Hertfordshire Environmental Records Centre has however shown that there are records of protected and notable species occurring in the vicinity of the Site including bats, Badger, Otter, Water Vole, birds and reptiles, in addition to other notable plant and animal species.

3.4.3 Bats

- 3.4.3.1 HERC provided 410 records of bats for the desk study area including Common Pipistrelle, Soprano Pipistrelle, Nathusius's Pipistrelle, Brown Long-eared bat, Brandt's bat, Whiskered bat, Daubenton's bat, Natterer's bat, Noctule, and 'unidentified' bat species. The closest record to the Site dates from 2014 and relates to 1 count of Common Pipistrelle, for a location approximately 60m to the west of the Site. Further records in the vicinity of the Site also relate to recordings of Common Pipistrelle, the next closest recording relating to a location approximately 90m to the south-west.

- 3.4.3.2 All UK bat species are protected as 'European Protected Species' (EPSs) under the 2019 Conservation of Habitats and Species (Amendment) (EU Exit) Regulations. In relation to EPSs, the 2019 Regulations make it an offence to:
- Deliberately capture, injure or kill any wild animal of an EPS;
 - Deliberately disturb wild animals of any such species, in particular, any disturbance which is likely to: (i) impair their ability to survive, to breed or reproduce, or to rear or nurture their young; or to hibernate or migrate; (ii) affect significantly the local distribution or abundance of the species to which they belong;
 - Damage or destroy a breeding site or resting place of such an animal; and
 - To (a) be in possession of, or to control; (b) to transport any live or dead animal or any part of an animal; (c) to sell or exchange or (d) offer for sale or exchange any live or dead animal or part of an animal of an EPS.
- 3.4.3.3 In addition, all UK bats are protected under the 1981 Wildlife and Countryside Act (as amended). All species are listed on Schedule 5 of the Act and are subject to the provisions of Sections 9.4b and 9.4c, which make it an offence to:
- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection; and
 - Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a bat.
- 3.4.3.4 If works are planned that are likely to constitute an offence under the current legislation, then works should be carried out under an appropriate Natural England licence.
- 3.4.3.5 Seven species of bat (Barbastelle, Bechstein's, Noctule, Soprano Pipistrelle, Brown Long-eared, Greater Horseshoe and Lesser Horseshoe) are also listed as Species of Principal Importance under Section 41 of the 2006 NERC Act. Section 40 of the Act requires planning authorities to regard these species as a material consideration in the planning process.
- 3.4.4 *Dormice*
- 3.4.4.1 HERC provided two low resolution records of Hazel Dormice within 2km of the Site. The closest record pertains to a hibernating individual recorded in 1985 within a 1km grid square approximately 1.9km to the south of the Site.
- 3.4.4.2 The Hazel Dormouse is protected through its inclusion on Schedule 5 of the 1981 Wildlife and Countryside Act (see Section 3.4.3.3) and as a European Protected Species under the 2019 Conservation of Habitats and Species (Amendment) (EU Exit) Regulations (see

Section 3.4.3.2). It is also a Biodiversity Action Plan species for the UK and is listed as a Species of Principal Importance under Section 41 of the 2006 NERC Act.

3.4.5 *Otter*

3.4.5.1 HERC provided no records of Otter for the desk study area. The Otter is protected through its inclusion on Schedule 5 of the 1981 Wildlife and Countryside Act (see *Section 3.4.3.3*) and as a European Protected Species under the 2019 Conservation of Habitats and Species (Amendment) (EU Exit) Regulations (see *Section 3.4.3.2*). It is also a Biodiversity Action Plan species for the UK and is listed as a Species of Principal Importance under Section 41 of the 2006 NERC Act.

3.4.6 *Water Vole*

3.4.6.1 HERC provided seven records of Water Vole for the desk study area. The closest record pertains to a location approximately 1.1km to the south of the Site, dating from 1967.

3.4.6.2 The Water Vole is protected through its inclusion on Schedule 5 of the 1981 Wildlife and Countryside Act (as amended). Unless permitted under a licence issued by Natural England, this makes it an offence to:

- Intentionally or recklessly kill, injure or take Water Voles;
- Possess or control live or dead specimens or anything derived from a Water Vole;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place which Water Voles use for shelter or protection; or
- Intentionally or recklessly disturb Water Voles while they are using such a place.

3.4.6.3 The Water Vole is also a priority species on the UKBAP and listed as a Species of Principal Importance under Section 41 of the 2006 NERC Act.

3.4.7 *Badger*

3.4.7.1 HERC provided 58 records of Badger for the desk study area; the closest record relates to a deceased individual approximately 90m west of the Site on Northaw Rd. A further record relates to a large Badger sett located approximately 300m to the east of the Site.

3.4.7.2 Badgers and their setts are protected under the Protection of Badgers Act 1992. Unless permitted under a licence issued by Natural England, this makes it an offence to:

- Kill, injure or capture a Badger;
- Damage, destroy or obstruct access to a Badger sett; and
- Disturb Badgers while they are occupying a sett.

3.4.8 Birds

3.4.8.1 HERC provided 1669 records of bird species for the desk study area. All nesting birds are afforded a basic level of protection under the 1981 Wildlife and Countryside Act (as amended). Species included on Schedule 1 of the Act are afforded additional protection against disturbance when breeding. *Table 1* below details the notable bird species recorded within 2km of the Site:

Table 1: Specially protected and notable bird species recorded within desk study area.

Common Name	Scientific Name	Annex I ¹	WCA 1 ²	NERC 41 ³	BOCC4 (2015) ⁴
Barn Owl	<i>Tyto alba</i>				Green
Brambling	<i>Fringilla montifringilla</i>				Green
Bullfinch	<i>Pyrrhula pyrrhula</i>				Amber
Crossbill (Common)	<i>Loxia curvirostra</i>				Green
Cuckoo	<i>Cuculus canorus</i>				Red
Dunnock	<i>Prunella modularis</i>				Amber
Fieldfare	<i>Turdus pilaris</i>				Red
Great B.b. Gull	<i>Larus marinus</i>				Amber
Grey Partridge	<i>Perdix perdix</i>				Red
Grey Wagtail	<i>Motacilla cinerea</i>				Red
Greylag Goose	<i>Anser anser</i>				Amber
Hawfinch	<i>Coccothraustes coccothraustes</i>				Red
Herring Gull	<i>Larus argentatus</i>				Red
Hobby	<i>Falco subbuteo</i>				Green
House Martin	<i>Delichon urbicum</i>				Amber
House Sparrow	<i>Passer domesticus</i>				Red
Kestrel	<i>Falco tinnunculus</i>				Amber
Kingfisher	<i>Alcedo atthis</i>				Amber
Lapwing	<i>Vanellus vanellus</i>				Red
Lesser B.b. Gull	<i>Larus fuscus</i>				Amber
Lesser Redpoll	<i>Carduelis cabaret</i>				Red
Lesser Sp. Woodpecker	<i>Dendrocopos minor</i>				Red
Linnet	<i>Carduelis cannabina</i>				Red
Mallard	<i>Anas platyrhynchos</i>				Amber
Marsh Tit	<i>Poecile palustris</i>				Red
Meadow Pipit	<i>Anthus pratensis</i>				Amber
Mistle Thrush	<i>Turdus viscivorus</i>				Red
Mute Swan	<i>Cygnus olor</i>				Amber
Peregrine Falcon	<i>Falco peregrinus</i>				Green
Red Kite	<i>Milvus milvus</i>				Green
Redwing	<i>Turdus iliacus</i>				Red

Reed Bunting	<i>Emberiza schoeniclus</i>				Amber
Skylark	<i>Alauda arvensis</i>				Red
Snipe	<i>Gallinago gallinago</i>				Amber
Song Thrush	<i>Turdus philomelos</i>				Red
Sparrowhawk	<i>Accipiter nisus</i>				Green
Spotted Flycatcher	<i>Muscicapa striata</i>				Red
Starling	<i>Sturnus vulgaris</i>				Red
Stock Dove	<i>Columba oenas</i>				Amber
Swift	<i>Apus apus</i>				Amber
Tawny Owl	<i>Strix aluco</i>				Amber
Teal	<i>Anas crecca</i>				Amber
Tree Sparrow	<i>Passer montanus</i>				Red
Willow Warbler	<i>Phylloscopus trochilus</i>				Amber
Woodcock	<i>Scolopax rusticola</i>				Red
Yellowhammer	<i>Emberiza citrinella</i>				Red

Notes:

1 Species listed in Annex I of Council Directive 79/409/EEC on the conservation of wild birds.

2 Species specially protected under Schedule 1 of the 1981 Wildlife and Countryside Act (as amended).

3 Species included in the UK Biodiversity Action Plan and of Principal Importance under the 2006 NERC Act.

4 Species included in the Birds of Conservation Concern Red and Amber lists (RSPB, 2015).

3.4.8.2 A full list of the bird records received for the search area is provided in *Appendix A*.

3.4.9 *Great Crested Newts*

3.4.9.1 HERC provided eight records of Great Crested Newt for the desk study area. The closest record pertains to several adult newts located within a pond approximately 2.3km to the north-west of the Site.

3.4.9.2 The Great Crested Newt is protected through its inclusion on Schedule 5 of the 1981 Wildlife and Countryside Act and as a European Protected Species (EPS) through the 2019 Conservation of Habitats and Species (Amendment) (EU Exit) Regulations (see *Section 3.4.3.2* and *Section 3.4.3.3*). It is also identified as a Species of Principal Importance under Section 41 of the 2006 NERC Act.

3.4.10 *Reptiles*

3.4.10.1 HERC provided 21 records of reptiles for the desk study area including Slow-worm, Common Lizard and Grass Snake. The closest record pertains to a Common Lizard approximately 200m from the Site, dating from 1987.

3.4.10.2 All native reptiles are protected against killing and injuring under the 1981 Wildlife and Countryside Act (as amended) and are listed as Species of Principal Importance under

Section 41 of the 2006 NERC Act. Due to their rarity, Sand Lizards and Smooth Snakes have additional protection.

3.4.11 *Invertebrates*

3.4.11.1 HERC provided 821 records of protected and notable invertebrate species for the desk study area. These include nine records of Stag Beetle, which in addition to being a Species of Principal Importance, is protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) against commercial exploitation only and under the 2019 Conservation of Habitats and Species (Amendment) (EU Exit) Regulations which allows for the setting up of SACs where internationally significant populations are present. The closest record of Stag Beetle provided pertains to a location approximately 1.2km to the north-west of the Site.

3.4.11.2 Further notable invertebrate species provided for the desk study area include:

- Two records of High Brown Fritillary which is listed as a Species of Principal Importance under Section 41 of the 2006 NERC Act and is listed as 'Critically Endangered'¹ on the IUCN Red List;
- Several records for White-letter Hairstreak and one of Pearl-bordered Fritillary and Wood White, which are listed as Species of Principal Importance under Section 41 of the 2006 NERC Act and listed as 'Endangered'² on the IUCN Red List;
- One record of White Admiral, Dingy Skipper and Grizzled Skipper, which are listed as Species of Principal Importance under Section 41 of the 2006 NERC Act and listed as 'Vulnerable'⁴ on the IUCN Red List;
- One record of a Shrill Carder Bee, which is listed as a Species of Principal Importance under Section 41 of the 2006 NERC Act and is 'Nationally Scarce'⁵;
- Several records for Wall and Small Heath which are listed as Species of Principal Importance under Section 41 of the 2006 NERC Act and are listed as 'Near Threatened'⁶ on the IUCN Red List; and
- Records for several moth species including Jersey Tiger, Double Dart, Lunar Yellow Underwing, Small Square-spot, Garden Dart, Dusky Dart, Shoulder-striped Wainscot, Broom Moth, Dot Moth, Hedge Rustic, Powdered Quaker and Deep-brown Dart which are listed as Species of Principal Importance under Section 41 of the 2006 NERC Act.

¹ **Critically Endangered** (IUCN Red List, 2012): A taxon is Critically Endangered when it is considered to be facing an extremely high risk of extinction in the wild in Great Britain.

² **Endangered** (IUCN Red List, 2012): A taxon is Endangered when it is considered to be facing a very high risk of extinction in the wild in Great Britain.

⁴ **Vulnerable** (IUCN Red List, 2012): A taxon is Vulnerable when it is considered to be facing a high risk of extinction in the wild in Great Britain.

⁵ **Nationally Scarce**: Occurring in 16-100 10x10km hectads in Great Britain.

⁶ **Near Threatened** (IUCN Red List, 2012): A taxon is Near Threatened when it does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future in Great Britain.

3.4.11.3 A full list of the invertebrate records received for the search area is provided in *Appendix A*.

3.4.12 *Plants*

3.4.12.1 HERC provided 61 records of protected and notable plant species, including:

- Tower Mustard which is listed as a Species of Principal Importance under Section 41 of the 2006 NERC Act and is listed as 'Endangered' on the IUCN Red List;
- Dyer's Greenweed, Lesser Spearwort, Green-winged Orchid which are listed as 'Vulnerable' on the IUCN Red List;
- Several plants including Heather, Sanicle, Marsh Valerian, Harebell, Treacle-mustard, Wood-sorrel, Ragged-Robin, Corn Mint, Heath Speedwell, Wild Strawberry and Tormentil which are all listed as 'Near Threatened' on the IUCN Red List; and
- Several records of English Bluebell, which is protected under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) from commercial exploitation only.

3.4.13 *Other notable species*

3.4.13.1 Other records of notable species provided by HERC for the desk study area include records of Brown Hare, Harvest Mouse, Polecat, Hedgehog and Common Toad, all of which are listed as Species of Principal Importance under Section 41 of the 2006 NERC Act.

3.5 **Planning Policies**

3.5.1 The Welwyn Hatfield District Plan 2005 includes a number of saved policies to be adopted into the 2013-2031 Welwyn Hatfield District Development Plan. The following policies relate to development, nature conservation and the environment:

R11 - Biodiversity and Development

"All new development will be required to demonstrate how it would contribute positively to the biodiversity of the Site by;

(i) The retention and enhancement of the natural features of the Site;

(ii) The promotion of natural areas and wildlife corridors where appropriate as part of the design;

(iii) The translocation of habitats where necessary, where it can be demonstrated that the habitat or species concerned cannot be successfully accommodated within the development;

(iv) The use of locally native species in planting in accordance with Policy D8 Landscaping;

(v) Helping meet priorities/targets set out in the Local Biodiversity Action Plan."

R13 - Site of Special Scientific Interest

“Proposals for development in or likely to affect Sites of Special Scientific Interest will be subject to special scrutiny. Where such development including that on land adjoining or adjacent to the sites may have an adverse effect, directly or indirectly, on the SSSI it will not be permitted unless the reasons for the development clearly outweigh the nature conservation value of the Site itself and the national policy to safeguard the national network of such sites.

Where development is permitted the Council will consider the use of conditions and/or planning obligations to ensure the protection and enhancement of the Site’s nature conservation interest.”

R14 - Local Nature Reserves

“Planning permission will not be granted for any development likely to have an adverse effect on local nature reserves unless it can be clearly demonstrated that there are reasons for the proposal which outweigh the need to safeguard the substantive nature conservation value of the Site.

Where development is permitted which would damage the nature conservation value of the Site such damage should be kept to a minimum. Where appropriate the Council will consider the use of conditions and/or planning obligations to provide appropriate compensatory measures.”

R15 - Wildlife Sites

“Planning permission will not be granted for any development which would have an adverse effect on Wildlife Sites or Regionally Important Geological/Geomorphological Sites unless:

- (i) It can be demonstrated that the reasons for development outweigh the need to safeguard the biodiversity of the Site; and*
- (ii) Measures are taken to mitigate the effect of the development, to compensate for any residual adverse effects and to reinstate the nature conservation value of the Site.”*

R17 - Trees, Woodland and Hedgerows

“The Council will seek the protection and retention of existing trees, hedgerows and woodland by the use of planning conditions, section 106 agreements, hedgerow retention notices and tree preservation orders where applicable. New development will be required to incorporate wherever appropriate new planting with locally native species and should be in accordance with Policy D8 Landscaping.”

4 EXTENDED PHASE 1 HABITAT SURVEY

4.1 General description

4.1.1 The results of the Phase 1 habitat survey are presented in map form with target notes (represented by numbered dots) in *Appendix B*. A brief non-technical description of the habitats and features of the Site is given below. Numbers in brackets refer to target notes.

4.1.2 In general terms, the Site is dominated by one large arable field with hedgerows, fences and scattered mature trees forming the boundaries.

4.2 Arable Land

4.2.1 The Site is dominated by one large arable field sown with Barley at the time of the survey (1). An uncultivated field margin, up to 1m in width, was present around the field edge.

The field margin and adjacent hedgerow ground flora are dominated by species characteristic of fertile improved soil including Common Nettle, Cleavers, Wood Dock and Creeping Thistle. Other frequently occurring species within the field margin included Bramble, Cow Parsley, Tufted Vetch, Redshank, Wood Avens, Great Willowherb, Scarlet Pimpernel, Dog's Mercury, Germander Speedwell, Meadow Buttercup, Early Forget-me-not, Charlock, Garlic Mustard, Wall Speedwell, Creeping Cinquefoil, Bristly Ox-tongue and Common Hogweed.

- 4.2.2 A spur from the southern Site boundary extends southwards to where it meets a ditch (14). This ditch connects with the Northaw Brook further to the south. The field is used for growing cereal crops.

4.3 Hedgerows and Treelines

- 4.3.1 Hedgerows and treelines are located on the northern, north-western and southern Site boundaries (2,3,4,5,10,11).
- 4.3.2 Hawthorn and Blackthorn dominate the intact hedgerow on the north-western boundary along Northaw Road (2), together with occasional Hazel, Ash and Dog Rose. Standard trees are present within the hedgerow including a mature Common Lime and a Horse Chestnut (3).
- 4.3.3 A defunct outgrown species-rich hedgerow with trees is located on the western section of the northern Site boundary. Standard trees along the hedgerow include early mature Pedunculate Oak, Hazel, Ash, Field Maple, Silver Birch, Turkey Oak and Norway Maple (4). Hedging species include Crab Apple, Elder, Dog Rose and *Cotoneaster* spp. At its base species such as Bramble, Common Ivy, Cleavers, Wild Onion, Everlasting Pea, Soft Brome, Hogweed, Wood Avens, Autumn Hawkbit and Ribwort Plantain are present. At the eastern end of the hedgerow it connects with an off-site row of hybrid Black Poplars running to the north of the fence line (5).
- 4.3.4 Two species-rich hedgerows dominated by Blackthorn and occasional Hawthorn, Hazel and Dog Rose line the eastern section of the Hertfordshire Way on the southern Site boundary (10).
- 4.3.5 At the western end of the Hertfordshire Way (11), two outgrown intact species-rich hedgerows with abundant mature trees border the footpath. The hedgerow comprises Hawthorn, Blackthorn, Elder, Elm and Dog Rose with the occasional Hazel. Mature trees within the hedgerow include Ash, Pedunculate Oak, White Poplar, Lime, Horse Chestnut and Silver Birch. Many of the trees appear to be suffering from Ash dieback and other fungal infections.

4.4 Broadleaved woodland and scrub

4.4.1 Small patches of scrub are present along the northern, eastern and southern Site boundaries. Species include Bramble, Hawthorn, Blackthorn, Holly and Dog Rose.

4.4.2 Larger areas of scrub and early mature broadleaved woodland habitat are located outside of the Site in association with the railway embankment to the east (7) and the King George V Playing Fields to the south (13) beyond the central section of the hedgerow and treeline forming the southern site boundary.

4.5 Ditches

4.5.1 A ditch (14), with a channel approximately 50cm wide and 30cm deep, runs parallel to the southern boundary within the mature treeline along the Hertfordshire Way. The ditch held approximately 5cm of slow-flowing water at the time of the survey but is known to dry out. The ditch base comprised a layer of dead leaves, silt and sand. A culvert passes under the path beyond which the ditch flows southwards into the area of off-site scrubby woodland beyond the southern boundary. Beyond this it flows through the arable field to the south where here the banks comprise rough grassland and tall ruderal vegetation before leading into the Northaw Brook.

5 PROTECTED AND NOTABLE SPECIES

5.1 Bats

5.1.1 The Phase 1 bat scoping survey and Bat Activity Survey have been updated in 2020 and are subject of a separate report (HDA, 2021). The findings of this work are similar to those made during previous bat survey work undertaken at the Site.

5.2 Dormouse

5.2.1 Although the hedgerows and treelines on Site are considered to provide some suitable Dormouse habitat, these are generally suboptimal due to low diversity or maturity, and subject to high anthropogenic disturbance. In addition, the Site is relatively geographically isolated from other areas of potentially suitable habitat by roads, railways and poor quality linear habitat and there are no recent records of Dormice occurring within the surrounding area. It is therefore considered highly unlikely that Dormice are present at the Site.

5.3 Otter and Water Vole

5.3.1 There is no suitable habitat for Otter on or adjacent to the Site. The ditch associated with the treeline along the southern Site margin is considered unsuitable for Water Voles.

5.3.2 Although the section of ditch adjoining the southern Site boundary is deemed to provide suboptimal habitat for Water Voles (see Target Note 14 in *Appendix B*), precautionary

measures regarding any works to this ditch are given in *Section 8* below due to its connectivity with the Northaw Brook further to the south and potential (albeit unlikely) to be used by this species on a seasonal basis.

5.4 Badger

5.4.1 No Badger setts were recorded within 30m of the Site boundary during the Badger survey. No latrines or other field signs such as hairs or prints were found within the Site or within 30m of the Site boundary. However, forging signs were recorded in the area of off-site broadleaved woodland on the southern boundary.

5.4.2 Several mammal paths were recorded around the boundaries of the Site, particularly along the eastern boundary, however no evidence of use by Badgers was recorded and a number featured Rabbit droppings. Much of the Site comprises an arable field used for cereal crop cultivation and provides poor quality foraging habitat for Badger. The field margins provide moderate-quality foraging habitat, and the mature tree line, woodland edge and hedgerow habitats on the Site margins provide good quality foraging habitat for Badger, albeit these habitats are limited in extent. Given the low level of Badger activity within or adjacent to the Site during the 2020 Badger survey, the dominance of low value habitat and the abundance of similar and higher quality habitat in the surrounding area, the Site is considered to be of no more than low value for the local Badger population.

5.5 Brown Hare

5.5.1 The arable land at the Site offers some potential habitat for Brown Hares. No Brown Hares were recorded during the survey however and, given the size of the site and abundance of similar suitable habitat within the area, it is unlikely that the Site itself supports locally significant numbers of this UK BAP priority species.

5.6 Birds

5.6.1 The broadleaved woodland, scrub and hedgerow habitats surrounding the Site offer nesting and foraging opportunities for several bird species and it is likely that the Site supports a number of breeding and wintering birds typical of woodland edge and scrub habitats. It is, however, unlikely to support locally significant populations of these species due to the relatively limited extent of habitat within the Site and the abundance of similar opportunities in the surrounding area.

5.7 Reptiles

5.7.1 The Site is dominated by an arable field, which offers minimal opportunities for reptiles. However, the broadleaved woodland, ditch and scrub habitats around the site margins provide suitable habitat for common, widespread reptiles albeit these are of limited extent.

The Site has been subject to an updated reptile survey in 2020 during which no reptiles were recorded (HDA, 2021a).

5.8 Great Crested Newts

- 5.8.1 There are no suitable water bodies for breeding Great Crested Newts within the Site. The ditches associated with the southern margins of the Site are considered to be unsuitable for Great Crested Newts with both being shallow and only seasonally wet. The arable field that dominates the Site provides unsuitable terrestrial habitat for Great Crested Newts although limited areas of higher quality habitat occur at hedgerow bases, field margins and the southern treeline. A review of aerial photographs and OS mapping data suggests that the closest pond to the Site is located over 300m from the Site boundary which is well beyond the typical maximum migratory distance of Great Crested Newt from their breeding ponds (Cresswell and Whitworth, 2004) and it is therefore considered extremely unlikely that Great Crested Newts are present on Site.

5.9 Invertebrates

- 5.9.1 The majority of the Site is dominated by arable crops which generally provides habitat of limited interest for invertebrates. Although, trees, woodland edge, hedgerow, scrub and arable field margin habitats around the Site boundaries are of higher interest for invertebrates such features are common and widespread in the surrounding area. It is therefore considered unlikely that the Site is of importance for invertebrates in a local context.

5.10 Arable Plants

- 5.10.1 No protected or notable species of plant were recorded within the Site during the Phase 1 Habitat survey or during other survey work carried out at the site. Although the Site lies inside an extensive national important arable plant area identified by Plantlife International (2005), due to the limited extent of the Site and the intensively farmed nature of the land, it is considered unlikely that the Site supports an important assemblage of arable plants.

5.11 Hedgerows

- 5.11.1 The 2008 Hedgerow Survey assessed the hedgerows within the Site against the 'landscape and wildlife' and 'historical' criteria for the identification of 'important' hedgerows under the 1997 Hedgerow Regulations. This identified the following:
- The hedgerow/treeline along the southern Site boundary qualifies as 'important' under both the 'landscape and wildlife' and 'historic' criteria of the 1997 Hedgerow Regulations.
 - The hedgerow forming the northwest Site boundary, adjacent to Northaw Road, qualifies as important under the 'historical' criteria only.

- 5.11.2 With regard to the findings of the updated Phase 1 Habitat Survey it is extremely unlikely that the status of hedgerows at the site has changed since the 2008 Hedgerow Survey was undertaken. The full report of the survey is provided in Appendix D of the 2015 Ecological Appraisal (HDA, 2014).

6 NATURE CONSERVATION EVALUATION

- 6.1 The habitats within the Site have been assessed with consideration given to the criteria summarised in *Appendix D* of this report (Ratcliffe 1977; CIEEM 2018). A summary of the site habitat evaluation is given in *Table 3*. Numbers in brackets refer to target notes.

Table 3: Site Habitat Evaluation

Value	Habitats Present
International	None
National	None
Regional	None
County	None
District	None
Local	<p>High:</p> <ul style="list-style-type: none"> None <p>Moderate:</p> <ul style="list-style-type: none"> Network of hedgerows, treelines (2,4,5), ditches (14), broadleaved woodland edges (7) and associated scrub (6,8) [in combination] Broadleaved woodland (13) [off-site] <p>Low:</p> <ul style="list-style-type: none"> Arable field and margins, scattered trees (1,5)
Site/ Negligible	All other habitats recorded

- 6.2 The character and extent of habitats at the site largely remains unchanged since the previous survey and assessment was undertaken (HDA, 2014).

- 6.3 The updated assessment confirms that:
- Current knowledge suggests that there are no habitats of International, National, Regional, County or District conservation importance within the Site.
 - The habitat of highest nature conservation associated with the Site is the area of off-site woodland located to the south of the central section of the Hertfordshire Way on the southern Site boundary. This is considered to be of **moderate local value** in its own right.
 - The habitats of highest nature conservation interest within the Site are the treeline/ hedgerow along the southern boundary, the off-site railway embankment

abutting the eastern Site boundary, the southernmost ditch and the north western boundary hedgerow. Each of these features is considered to be of only limited interest in their own right as they are not particularly diverse and similar features are likely to be widespread in the surrounding area. These areas of semi-natural habitat do however provide opportunities for a range of species and, in combination, appreciably enhance the nature conservation interest of the Site. In addition, these habitats also form part of a network of semi-natural habitats, enabling the movement of wildlife across the Site and the wider area. In combination these habitats are therefore considered to be of **moderate local value**.

- The remaining habitats recorded within and bordering the Site, including the arable land, narrow field margins, small patches of scattered scrub and young trees have been assessed as being of only site/ negligible nature conservation importance.

6.4 Where appropriate, consideration of the potential presence of protected or notable species is given below.

7 **ADDITIONAL DATA REQUIREMENTS**

7.1 Updated surveys for bats and reptiles have been undertaken and are subject of separate reports (HDA, 2021; HDA, 2021a).

7.2 Consideration of other surveys not recommended in support of the application is given below:

Dormice: Although some suitable habitat for Dormouse occurs around the Site margins, it is limited in extent and poorly connected to suitable habitat in the wider area. Furthermore there are no recent records of Dormice occurring in the vicinity of the Site. It is therefore considered unlikely that the site supports Dormice and therefore a survey for this species is not required.

Water Voles: The ditch associated with the treeline along the southern Site margin is considered unsuitable for Water Voles. Although the ditch adjoining the spur from the southern Site boundary is considered to provide suboptimal habitat for Water Voles (*Appendix B*: Target Note 10) and no further survey is recommended at this time, due to its connectivity with the Northaw Brook to the south precautionary measures regarding any works to this ditch are given in *Section 8*.

Great Crested Newts: It is unlikely that Great Crested Newts are present at the Site due to a lack of suitable breeding habitat, limited suitability and extent of terrestrial habitat, and

distance and isolation from potential breeding habitat in the wider area. No further surveys are therefore recommended for this species.

Birds: Although breeding birds are likely to occur at the Site it is unlikely that locally significant populations are present and therefore further survey for this group is not recommended. Nature conservation legislation relating to birds would however still apply, and measures to ensure compliance are set out in *Section 8* below.

Hedgerows: The findings of the 2012 Phase 1 Habitat Survey suggest that the character of the hedgerows within the Site is highly unlikely to have significantly changed, either historically or ecologically, since the 2008 Hedgerow Regulations Assessment. A repeat of this work is therefore not recommended.

- 7.3 Measures to ensure compliance with nature conservation legislation concerning common and widespread protected species, and to maintain the ecological interest of the Site during the construction and operational phases of the proposed development, are given in *Section 8* below.

8 RECOMMENDATIONS

- 8.1 This section provides a review of the possible implications of development proposals on features of ecological interest at the Site and the surrounding area, and outlines recommended measures for the avoidance and mitigation of potential effects. In addition, opportunities are identified by which development of the Site could enhance its current value for species of conservation concern in accordance with planning policy and the 2006 NERC Act. The recommendations are in keeping with those provided in the previous Ecological Appraisal (HDA, 2014).

8.2 Designated sites

- 8.2.1 No statutory or non-statutory designated areas pertain to the Site or its immediate surrounds.

Wormley Woods/Hoddesdon Park Woods Special Area of Conservation (SAC)

- 8.2.2 The Site is located approximately 2.5km from the internationally designated Wormley Woods/Hoddesdon Park Woods SAC. The SAC is designated under the 2019 Conservation of Habitats and Species (Amendment) (EU Exit) Regulations which require decision-making authorities to consider the potential effects of the proposed development in the vicinity of SPAs and SACs both alone and in combination with other plans or projects.

- 8.2.3 Any development proposals for the Site will, therefore, need to consider whether there is a risk of any likely significant effect on the integrity of the features for which the SAC is designated and, where the potential for a possible significant effect is identified, ensure that

adequate avoidance and mitigation measures are incorporated into the scheme to ensure that no adverse effect on the integrity of the designated features will arise.

- 8.2.4 Adverse effects of development on the integrity of the SAC are not expected to occur during the construction or operational phases of the proposed development, either alone or in combination with other plans or projects. This is due to the relatively small scale of the proposed development; the availability of alternatives to the SAC for informal recreation; the distance of the proposed development to the SAC; the size and distribution of the SAC and the relatively robust nature of the habitats for which the SAC is designated. An Appropriate Assessment is therefore not considered necessary in support of the proposed scheme. This is supported by the absence of residential development being listed as a potentially damaging activity for the Impact Risk Zone (IRZ) in which the Site is located and by the conclusions of the 'Habitats Regulations Assessment of the Broxbourne Emerging Local Plan: Appropriate Assessment' (Lepus Consulting, 2018).

Other sites

- 8.2.5 No other statutory or non-statutory sites would be expected to be adversely affected by the proposed development in the absence of mitigation or avoidance measures, either alone or in combination with other plans or projects. This is due to a combination of the nature and scale of the proposed development, the distance between the Site and the designated areas, the limited ecological connectivity with the Site and/or the character of habitats and features for which the areas are designated.

8.3 Habitats

- 8.3.1 Current knowledge suggests that there are no habitats of international, national, regional or district nature conservation importance located within or adjacent to the Site.
- 8.3.2 The arable field that dominates the Site provides limited opportunities for wildlife being intensively farmed with only limited marginal habitats. Although the arable field is considered to be of no more than Site value, where the possible loss of opportunities for wildlife should be compensated through the provision of higher value habitats within the Site landscape scheme, such as native scrub, rough and meadow grassland and wetland habitats, such as those reflected in the emerging landscape scheme.
- 8.3.3 The habitats of highest nature conservation value are located around the Site margins and include the woodland edge, hedgerow, treeline, scrub and ditch habitats. Although these habitats are of limited nature conservation interest in their own right, in combination they form part of a network of semi-natural habitats around the Site and the wider area, and appreciably enrich the habitat resource of the Site. Of particular note are the treelines and hedgerows on the southern Site boundary, which were identified during the bat survey to be

used by commuting and roosting bats. The southern boundary hedgerows were also indicated to be classed as 'important' within the Hedgerow Regulations Assessment (HDA, 2014). The emerging development proposals include the retention of these habitats.

- 8.3.4 Retained vegetation should be protected during construction works, with works in the vicinity of retained trees, hedgerows and scrub carried out in accordance with '*BS5837 Trees in relation to construction*' unless otherwise agreed with a suitably qualified arboriculturalist.
- 8.3.5 The ditch on the southernmost boundary of the Site, flows into the Northaw Brook beyond the site boundary. Construction works should therefore be carried out in such a manner as to avoid adverse effects on the Northaw Brook located to the south of the Site, especially in association with any linkage of the surface water drainage scheme to the southernmost ditch. It is subsequently recommended that development works are carried out in accordance with current Environment Agency Pollution Prevention Guidance⁷.
- 8.3.6 Opportunities for nocturnal wildlife within areas of retained and newly created habitat within and adjacent to the Site should be maintained through sensitive lighting design. Where lighting is proposed in the vicinity of these areas, this should use the minimum lighting levels required for public safety and be designed to avoid light spill through use of measures such as low level, hooded and directional lighting as appropriate. It is recommended that all detailed external lighting proposals are reviewed at appropriate design stages by a suitably qualified ecologist.
- 8.3.7 Subject to appropriate implementation of the above measures, it is considered that opportunities for wildlife can be maintained at the Site following development together with maintenance of corridors for the movement of wildlife across the Site and the wider area. A review of the emerging development proposals indicates that this is achievable.
- 8.3.8 Development proposals should also seek to enhance the habitat resource of the Site to provide new opportunities for wildlife in accordance with national and local planning policy and guidance (NPPF, 2019; ODPM, 2005) and the 2006 NERC Act. Opportunities arising from the development of the Site for the enhancement of retained habitats and the creation of new habitats are identified in *Section 8.5* below.

8.4 Protected Species

- 8.4.1 Updated surveys for bats and reptiles have been undertaken in 2020 and are subject of separate reports (HDA, 2021; HDA, 2021a) which include recommendations to maintain

⁷ <https://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/>

and enhance the current value of the Site for these groups. Recommendations relating to other protected species identified as potentially occurring at the Site are provided below.

- Limiting the times that lights are on to provide some dark periods for wildlife through use of timers and/or use automatic dimmers to reduce lighting outside times of peak use.

Badgers

8.4.2 No active Badger setts were recorded within or adjacent to the Site during the survey and current knowledge suggests that no licensing or measures to avoid impacts on Badger setts would be required to facilitate the development of the Site. Badgers are however highly mobile animals, and old setts can be occupied, and new setts created over relatively short periods of time. It is therefore recommended that the Site be re-surveyed before the commencement of development works to ensure that the status of Badgers has not changed.

8.4.3 Although the site is unlikely to be of local importance for foraging Badgers due to the limited extent of suitable foraging habitat and the availability of other suitable habitat in the wider area, it is recommended that construction activities take into account the possible use of the site by Badgers for occasional foraging. To prevent entrapment of Badgers and other mammals foraging and moving around the site during the construction phase, any steep sided holes left open overnight during site preparation, earthworks and construction should be equipped with a mammal ladder (a reinforced plywood board >60cm wide set at an angle of no greater than 30° to the base of the pit) and temporarily open pipes with a diameter of >150mm plugged to avoid entrapment.

8.4.4 In addition, the landscape planting scheme should seek to maintain opportunities at the site for foraging Badgers through the inclusion of high-quality Badger foraging habitats such as woodland and shrub planting, the establishment of rough and meadow grasslands and use of fruit and nut producing species.

Otter and Water vole

8.4.5 Although only a very small section of the southernmost ditch would be affected by the construction of any outfall and it is considered unlikely that Water Vole are present, it is recommended that as a precautionary measure the area affected is subject to a localised survey immediately before works commence to confirm the absence of any Water Vole activity.

Birds

8.4.6 The Site is considered unlikely to support an important assemblage of breeding birds, and no further survey for this group is recommended. Notwithstanding this, where possible

initial ground clearance works and the removal of trees, scrub and other vegetation should avoid the bird breeding season (generally taken as March to September inclusive), as wild birds, their nests and eggs are protected under the 1981 Wildlife and Countryside Act (as amended). In the event that clearance during this period is required, then a search for nesting birds should be undertaken by a suitably qualified ecologist immediately before the clearance. If breeding birds are discovered, sufficient habitat will need to be retained to ensure birds are not disturbed until nesting activity has been completed and the nest vacated.

8.5 Opportunities for Enhancement

8.5.1 Notwithstanding the limited nature conservation value of the Site, development proposals should seek to enhance the Site to provide new opportunities for wildlife in accordance with national and local planning policy and guidance (NPPF, 2019; ODPM, 2005) and the 2006 NERC Act. A selection of measures is given below, which could potentially increase the long-term nature conservation interest of the Site and provide enhanced habitat for protected and notable species:

- Provision of bat and bird boxes on trees and buildings;
- Tree/scrub enhancements, including:
 - Provision of new opportunities for movement of wildlife within and around the Site through strengthening of existing treelines and/ or provision of new linear habitats including hedgerow, tree and scrub planting. Where possible these should complement off-site areas of connective habitat; and
 - Maintenance and enhancement of standing and fallen deadwood habitats where safe to do so.
- Inclusion of other habitats of high nature conservation interest within areas of open space including rough and meadow grassland, wetland habitats, flowering lawn and native species-rich scrub habitats, ideally in locations where they complement existing habitats and/ or improve connectivity around the Site and the wider area;
- Prioritising the use of native species typical of the local area in landscape planting where appropriate to do so and avoiding invasive species and cultivars. Where possible these should be sourced from a stock of local provenance;
- Use of nectar and pollen-rich and fruit and nut-producing species within formal landscaping schemes to benefit species including birds, invertebrates, bats and foraging Badgers;
- Ensure the presence of gaps in boundary fencing to allow movement of wildlife such as Hedgehogs around the Site; and
- Provision of log and brash habitat piles in association with new or retained areas of semi-natural habitat.

- 8.5.2 Where appropriate, the above enhancement opportunities are in keeping with the emerging landscape scheme for the proposed development.

9 CONCLUSION

- 9.1 Subject to the implementation of the recommended measures for habitat retention, creation and enhancement, no significant reduction in the ecological interest of the Site or its surrounds is likely to arise as a result of the proposed development.
- 9.2 It is therefore concluded that beyond the normal requirements to avoid impacts on common and widespread protected species and maintain key elements of the habitat resource of the Site, there appear to be no overriding nature conservation constraints that would preclude the development of the Site. Development at the Site could in fact provide an opportunity to enhance its nature conservation interest for several species through the incorporation of the measures outlined in *Section 8.5* above.

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APPENDIX A

Desk Study Results

APPENDIX B

Phase 1 Habitat Survey Plan and Target Notes



KEY

- Site boundary
- Scattered trees
- Scattered scrub
- Dense scrub
- Intact species-poor hedgerow
- Intact species-rich hedgerow
- Tall ruderals
- Wet ditch
- Arable land
- Target Note

CLIENT:
Lands Improvement Holdings
PROJECT:
Northaw Road Ecology
TITLE:
Phase 1 Habitat Survey Plan
SCALE AT A3:
1:1250
DATE:
January 2021

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Target Notes

- 1) Arable field cropped with Barley at time of the survey. An approximately 0.5m unsown field margin runs around its boundary, supporting species such as Hairy Brome *Bromus ramosus*, Soft Brome *Bromus hordeaceus*, False Oat-grass *Arrhenatherum elatius*, Common Nettle *Urtica dioica*, Great Willowherb *Epilobium hirsutum*, Cow Parsley *Anthriscus sylvestris*, Bristly Ox-tongue *Picris echinoides*, Creeping Thistle *Cirsium arvense*, Wood Dock *Rumex sanguineus*, Wood Avens *Geum urbanum*, Tufted Vetch *Vicia cracca*, Redshank *Persicaria maculosa*, Scarlet Pimpernel *Anagallis arvensis*, Dog's Mercury *Mercurialis perennis*, Germander Speedwell *Veronica chamaedrys*, Meadow Buttercup *Ranunculus acris*, Early Forget-me-not *Myosotis ramosissima*, Charlock *Sinapis arvensis*, Garlic Mustard *Alliaria petiolata*, Wall Speedwell *Veronica arvensis* and Creeping Cinquefoil *Potentilla reptans*.
- 2) An outgrown, intact species-poor hedgerow approximately 4m in width and 4m in height. Dominated by Blackthorn *Prunus spinosa* with the occasional Hazel *Corylus avellana*, Ash *Fraxinus excelsior* and Dog Rose *Rosa canina*. At its base, Common Nettle, Bramble *Rubus fruticosus*, Cleavers *Gallium aparine*, Wood Avens, Ribwort Plantain *Plantago lanceolata* and Cow Parsley are present.
- 3) Mature Common Lime *Tilia x europaea* and Horse Chestnut *Aesculus hippocastanum* trees are present in the north-west hedgerow.
- 4) Defunct, outgrown species-rich hedgerow with mature trees throughout on the northern boundary. Species include Hawthorn *Crataegus monogyna*, Pedunculate Oak *Quercus robur*, Hazel, Ash, Field Maple *Acer campestre*, Silver Birch *Betula pendula*, Turkey Oak *Quercus cerris*, Norway Maple *Acer platanoides*, Crab Apple *Malus sylvestris*, Elder *Sambucus nigra*, Dog Rose and *Cotoneaster* spp. The ground layer includes Bramble, Common Ivy *Hedera helix*, Cleavers, Wild Onion *Allium* sp, Everlasting Pea *Lathyrus latifolius*, Wood Avens, Common Ivy, Autumn Hawkbit *Scorzoneroides autumnalis*, Ribwort Plantain and Soft Brome.
- 5) An off-site line of mature hybrid Black Poplar trees *Populus nigra* is present within the school grounds adjacent to the boundary fence line. Other species present include Bramble, Hawthorn, Blackthorn, Oak, Holly *Ilex aquifolium* and Dog Rose.
- 6) An off-site Hawthorn thicket adjacent to the north-eastern site boundary. The occasional Sweet Chestnut *Castanea sativa* is present with Bramble, Garlic Mustard and Common Nettle beneath.
- 7) Off-site early mature woodland along the eastern boundary, comprising Goat Willow *Salix caprea*, Sweet Chestnut, Field Maple, Pedunculate Oak, Wild Cherry *Prunus avium*, Blackthorn, Elm, Elder, Hawthorn and Bramble. Cleavers and Common Nettle are also present.
- 8) A large patch of dense scrub comprising Bramble and Dog Rose with Common Nettle, Creeping Thistle, Marsh Thistle *Cirsium palustre*, Common Vetch and Field Bindweed *Convolvulus arvensis* beneath.
- 9) The Hertfordshire Way runs along the southern site boundary. This comprises an earth track, lined with mature hedgerows and treelines as described in target notes 10 & 11
- 10) Two intact species-rich native hedgerows lining the Hertfordshire Way, approximately 4m wide and 5m high, dominated by Blackthorn with the occasional Hawthorn, Hazel, Elm, Elder and Dog Rose.
- 11) The western end of the Hertfordshire Way is lined with two outgrown intact species-rich hedgerows with mature trees throughout. The outgrown hedge is up to 3m in width, with mature trees throughout including Ash, Pedunculate Oak, White Poplar *Populus alba*, Small-leaved Lime *Tilia cordata*, Horse Chestnut and Silver Birch. The Ash trees appear to be suffering from Ash dieback and other fungal infections. Hedging species present include Hawthorn, Blackthorn, Elder, Elm and Dog Rose with occasional Hazel. The ground flora includes Common Ivy, Cleavers, Garlic Mustard, Common Nettle, White Dead Nettle, Ribwort Plantain, Common Daisy *Bellis perennis* and Dandelion *Taraxacum officinale*.

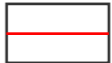
- 12) Grass track, approximately 5m wide, providing access to arable fields, comprising Perennial Rye-grass *Lolium perenne*, False Oat-grass *Arrhenatherum elatius*, Red Fescue *Festuca rubra*, Cut-leaved Cranesbill *Geranium dissectum*, White clover *Trifolium repens*, Scentless Mayweed *Tripleurospermum inodorum*, Creeping Cinquefoil, Ribwort Plantain and Blackthorn suckers.
- 13) An off-site area of broadleaved woodland adjacent to the southern site boundary, comprising Oak, Ash, Elm and occasional Hazel with a dense understory of Blackthorn, Hawthorn, Elder and Bramble. Common Nettle, Garlic Mustard, Soft Rush *Juncus effusus* and Wood Sedge *Carex sylvatica* are present in the ground flora.
- 14) A ditch, approximately 50cm wide and 30cm in depth, runs parallel to the mature hedgerow on the northern side of the Hertfordshire Way. The ditch held approximately 5cm of water at the time of survey but the ditch is known to dry out. A culvert passes under the Hertfordshire Way and the ditch runs into the dense patch of woodland on the southern boundary, described in target note 13, from where it flows into the adjacent arable field where it increases in depth. Here species such as Rosebay Willowherb *Chamaenerion angustifolium*, Cow Parsley, Wood Dock, Field Bindweed, Creeping Buttercup *Ranunculus repens*, Cut-leaved Cranesbill, Early Forget-me-not, False Oat-grass, Meadow Foxtail *Alopecurus pratensis* and Marsh Thistle are present. The ditch eventually flows into the Northaw Brook to the south.

APPENDIX C

Badger Survey Summary Plan

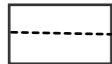


KEY



Site boundary

Field signs recorded



Mammal path



Badger foraging signs

CLIENT:
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APPENDIX D
Evaluation Criteria

Criteria used for the evaluation of ecological receptors (based on Ratcliffe, 1977; CIEEM 2018)

Assigning value is relatively straightforward in the case of designated sites, and undesignated sites meeting designation criteria. However, in most cases evaluation of ecological resources is not straightforward and requires a degree of knowledge, experience and professional judgement (Usher, 1986; Spellerberg, 1992). Evaluation of an ecological receptor was based on a number of criteria (Ratcliffe, 1977; CIEEM 2018) summarised below:

- Site designations; SPA, SAC, Ramsar, SSSI, NNR, LNR, SINC or equivalent.
- Site designation criteria; e.g. Guidelines for the Selection of Biological SSSIs, JNCC, 1989.
- Conservation status; whether a habitat or species is rare, declining or threatened at a given geographic scale.
- Geographic location; the value of a habitat or species may change depending on whether it is being assessed in the south of England or the north of Scotland.
- Distribution; habitats or species on the edge of their distribution, particularly where that distribution is changing as a result of global trends and climate change and endemic species or locally distinct sub-populations of a species are more valuable;
- Rarity; the presence of habitats, species, subspecies or varieties that are rare or uncommon at a given geographic scale.
- Diversity; of habitats, or species, particularly of vascular plants. Species-rich assemblages of plants or animals are likely to be important in terms of biodiversity;
- Naturalness; habitats least affected by human disturbance are normally of relatively higher importance.
- Size; larger areas are generally more valuable than lots of small ones. Notably large populations of animals or concentrations of animals considered uncommon or threatened in a wider context may be important.
- Fragility; sensitivity to, and probability of, human impact.
- Typicalness; a good example of the type, particularly plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities.
- Potential value (if restored to favourable conservation status).
- Secondary or supporting value; value of a receptor in supporting the integrity or conservation status of another valued receptor.
- Ability to be recreated; the more difficult a habitat is to re-create, were it to be destroyed, the greater the importance usually attached to it.