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Ecological Impact Assessment

Client

Hargreaves Land Limited

Project

Lincolnshire Lakes (North),

Scunthorpe.

Date

January 2025

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NON-TECHNICAL SUMMARY

Report Scope and Methodology

An Ecological Impact Assessment (EcIA) was undertaken following published guidelines on the likely effects upon biodiversity as a result of proposals for a hybrid planning application at Lincolnshire Lakes (North), in Scunthorpe. The assessment draws from a desk study, and UKHab survey and preliminary protected species survey of the Site and surrounding area which was carried out over four visits between November 2023 and November 2024. A series of additional detailed surveys were completed in 2022, 2023 and 2024. The surveys comprised detailed botanical surveys of ditches and medium distinctiveness grassland, and species surveys for badger, bats, breeding birds, wintering and passage birds, great crested newts reptiles and water vole .

A Biodiversity Net Gain Strategy (FPCR, 2025) has also been undertaken and should be read in conjunction with this report.

The Site is located within the eastern plot of the wider Lincolnshire Lakes (North) site and extends to approximately 56Ha of mostly arable land, with some smaller grassland parcels, boundaries comprise two hedgerows and a series of ditches. The arable and grassland habitats which form the majority of the Site, were generally considered to be of low nature conservation value.

The hybrid planning application proposals include:

- Full planning application for the construction of a new vehicular access off the M181/A1077(M) roundabout, a pedestrian and cycle link to Scotter Road, a foul pumping station, earthworks and 'off-plot' drainage, ecological and associated landscaping and infrastructure works.
- Outline planning application, with all matters reserved, for the development of up to 550 residential dwellings (Use Class C3), a local centre (Use Class E) and associated 'on-plot' landscaping, drainage and other infrastructure works

Work will be undertaken in phases with the majority of greenspace being completed within the first phase (year 1). Following this, the proposed residential and local centre phases are anticipated to be brought forward over years 1 to 5.

Key Findings

The baseline assessment identified the following Important Ecological Features (IEFs) which could be affected by proposals or warrant consideration due to the legal protection afforded them:

- Humber Estuary SAC / SPA / Ramsar / SSSI
- Brumby Common West (LWS)
- Westcliff Lagoon (LWS)
- Humberhead Levels NIA
- Lowland dry Acid grassland
- Wet Ditches
- Hedgerows
- Common toad
- Breeding Birds
- Wintering and passage Birds
- Bats
- Common lizard
- Reptiles
- Water voles

Integral to the scheme are a number of measures to minimise ecological effects. These include:

- The Design, proposals have sought to retain the Site's most important ecological features and maintain connectivity of both onsite and offsite habitat.
- A large area of high-quality habitat, is proposed, incorporating areas of wetland, species rich grassland and native tree and hedge planting. This will provide habitat enhancement for the species identified on Site and also strengthen local habitat networks and connectivity between areas of habitat value. This will also provide alternative recreational opportunities within the site to minimise the potential for significant adverse effects on designated sites and sensitive local habitats.
- The proposed SuDS network has been designed to provide water treatment and prevent pollution and maintain current discharge rates.
- A lighting strategy for the scheme is being provided, to avoid impacts on sensitive habitats and species.

A Habitats Regulations Assessment will be required to complete an assessment of impacts on the Humber Estuary SAC / SPA / Ramsar / SSSI. A recreational impacts assessment has concluded that no significant recreational impacts are likely to occur as a result of the proposed development. Additionally, given the bird survey results, it is considered unlikely that the Site provides functionally linked land to the SPA. With incorporation of an industry best practice Construction Environmental Management Plan (CEMP) and embedded mitigation as integral to the scheme. It is considered unlikely that significant impacts will occur as a result of the proposed development.

With inclusion of appropriate mitigation, proposals will not result in any residual negative effects on any of the IEFs listed above. Proposed mitigation includes:

- Provision of a detailed CEMP for Ecology, to include
  - Details on protective measures for retained and created habitats within the Site,
  - Precautionary measures and procedures to minimise pollution events;
  - Measures to limit the impact of artificial light on retained and created habitats;
  - Detailed mitigation strategies to minimise impacts to common toad, common lizard, water vole, breeding birds, wintering birds and bats.
  - An Ecological Constraints and Mitigation Plan drawing that clearly shows the location of constraints and details of mitigation required, where necessary.
- Provision of information packs to residents and signage boards and dog waste and litter bins to be placed at the entrances to the Brumby Common West and Westcliff Lagoon LWS, to reduce recreational impacts; and
- Provision of a phased Biodiversity Impact Assessment (BIA) which will provide updated details of the biodiversity offsetting scheme and associated management and monitoring of retained and created habitats for each phase of the development.

Enhancements

Suggested enhancements include:

- Provision of high distinctiveness Lowland dry acid grassland within open BNG/ greenspace areas where soil conditions allow;
- Provision of amphibian/ reptile refugia/hibernacula within suitable locations;
- The provision of integral bird nest sites and bat roost boxes within newly constructed buildings; and
- The provision of external bat and bird boxes in suitable locations.

1.0 INTRODUCTION

1.1 The following Ecological Impact Assessment (EcIA) has been prepared by FPCR Environment and Design Ltd. (FPCR) on behalf of Hargreaves Land Limited, to accompany a hybrid planning application at Lincolnshire Lakes (North), in Scunthorpe. The application site is located within the eastern plot of the wider Lincolnshire Lakes (North) site (central grid reference SE865095). as is shown on Figure 1, and hereafter referred to as the Site.

1.2 This EcIA considers statutory and non-statutory protected sites, habitats -including hedgerows, protected species with focus on water vole, badgers, bats, breeding and wintering birds, great crested newts and reptiles, and further consideration has been given to NERC Section 41 species, any rare or notable species or habitats and any non-native plants listed under WCA Schedule 9.

1.3 To inform this assessment, a suite of ecological surveys have been undertaken on and around the site. The full reports are appended to this report and include:

- Badger Survey Report (FPCR, 2025– Omitted from this Version for Confidentiality);
- Bat Survey Report (FPCR, 2025);
- Breeding Bird Survey Report (FPCR, 2025);
- Great Crested Newt Survey Report (FPCR, 2025);
- Reptile Survey Report (FPCR, 2025);
- Wintering bird Survey Report (FPCR, 2025); and
- Water Vole Survey Report (FPCR, 2025)

1.4 A Biodiversity Net Gain Strategy (FPCR, 2025) has also been undertaken and should be read in conjunction with this report.

1.5 This EcIA has been prepared with reference to the Chartered Institute of Ecology and Environmental Management's (CIEEM) EcIA Guidelines[1]. In line with this guidance, the EcIA:

- provides a summary of the methods and results of all survey work to establish an ecological baseline;
- identifies and describes all potentially significant ecological effects associated with the proposed development on important ecological features;
- sets out the mitigation measures required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects;
- provides an assessment of the significance of residual effects;
- identifies appropriate enhancement measures and considers biodiversity net gain;
- sets out any requirements for post-construction monitoring.

1.6 This assessment has been prepared by an experienced ecologist at FPCR who is an associate member of CIEEM.

[1] CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester.

Site Context and Proposals

1.7 The wider Lincolnshire Lakes (North) site is located to the west of Scunthorpe and extends to 224.41ha, of which 97.49ha is located to the east of M181 and 126.91ha to the west of M181.

1.8 The Planning Application#1 Site is located within the eastern plot of the wider Lincolnshire Lakes (North) site and extends to approximately 56Ha of mostly arable land. The Site is relatively flat and currently divided into separate parcels of land through existing hedgerows and ditches. The boundaries of the site are as follows;

- The western boundary is bounded by the M181 / A1077(M) and a roundabout that has recently been constructed with vehicular access provided into the PA#1 site;
- The southern boundary (with the exception of Plots HA6, HA7, BG4 and AB3) is bounded by the existing Brumby Common Lane which horizontally dissects the Lincolnshire Lakes (North) site from Scotter Road to the east and a bridge over the M181 to the west;
- The eastern boundary is bounded by existing open fields with woodland further east and the town of Scunthorpe; and
- The northern boundary is bounded by existing woodland.

1.9 The hybrid planning application proposals include:

- Full planning application for the construction of a new vehicular access off the M181/A1077(M) roundabout, a pedestrian and cycle link to Scotter Road, a foul pumping station, earthworks and 'off-plot' drainage, ecological and associated landscaping and infrastructure works.
- Outline planning application, with all matters reserved, for the development of up to 550 residential dwellings (Use Class C3), a local centre (Use Class E) and associated 'on-plot' landscaping, drainage and other infrastructure works.

Phasing

1.10 The initial phase of works is intended to follow the following programme: The locations referred below to are shown on the Phasing Plan and Phasing Location Plan as included in Appendix 12 :

Phase 1 (Year 0 to 1)

- Water vole receptor / mitigation creation
- Site strip
- Borrow Pit
- Construction of E/W road from roundabout to beyond the vehicular access to Plot HA1, bridge(s) and a cycle and pedestrian link to Scotter Road
- Foul Pumping Station
- Development of remainder of BG1, BG2 and AB1

Phase 2 (Year 1-2)

- Plot HA1

Phase 3 (Year 3)

- Construction of remainder of E/W road and N/S road

- Plot HA2

Phase 4 (Year 4)

- Plot HA3

Phase 5 (Year 5)

- Plot LC2
- Restoration of borrow pit area

2.0 LEGISLATION AND POLICY

2.1 Detail on the relevant national and local policy and legislation for ecology in relation to development sites are provided in Appendix 8. The national policy and legislation most relevant here are:

- The Environment Act 2021
- Conservation of Habitats and Species Regulations 2017 (as amended) and Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (The Habitat Regulations);
- The Wildlife and Countryside Act 1981 (WCA) (as amended) in relation to all wild birds (including Schedule 1 species), other animals (notably Schedule 5 species), flora (those listed in Schedules 8 and 9) and Sites of Special Scientific Interest (SSSI);
- Protection of Badgers Act 1992;
- Natural Environmental and Rural Communities (NERC) Act 2006 in relation to various priority species and habitats;
- Hedgerow Regulations 1997 made under Section 97 of the Environment Act 1995;
- National Planning Policy Framework (NPPF) (2024);
- Local planning policy as included within the North Lincolnshire Local Development Framework[2];
- Local Nature Reserves (LNR) as designated most recently by the NERC Act 2006;
- Non-statutory protected local sites including County Wildlife Sites (CWS), Sites of Importance for Nature Conservation (SINC), Local Wildlife Sites (LWS) and Ancient Woodland Inventory (AWI) sites;
- Local Biodiversity Action Plans (LBAP); and
- Birds of Conservation Concern (BoCC).

[2] Planning policy - Local Development Framework – Available at : https://www.northlincs.gov.uk/planning-and-environment/planning-policy-local-development-framework/l

3.0 METHODOLGY

Desk Study

3.1 In order to compile existing baseline information, relevant ecological information was requested from both statutory and non-statutory nature conservation organisations including:

- The Lincolnshire Environmental Records Centre (LERC);
- Multi Agency Geographic Information for the Countryside (MAGIC) website (www.magic.defra.gov.uk)[3];
- Colour 1:25,000 OS base maps[4]; and
- Aerial photographs from Google Earth[5] .

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

- a minimum of a 10km radius around the Site was searched for sites with an international statutory designation: Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar sites;
- a minimum of a 2km radius around the Site for sites of national / regional or local importance with a statutory designation: Site of Special Scientific Importance (SSSI) or National Nature Reserve (NNR);
- up to a 2 km search area for records of notable / protected species, including Species of Principal Importance under S41 of the Natural Environment and Rural Communities Act (NERC) 2006 and local biodiversity action plan species.
- up to a 1km radius around the Site for sites of local importance with statutory designation of Local Nature Reserve (LNR), or non-statutory designation of Site of Importance for Nature Conservation (SINC) or the equivalent Local Wildlife Site (LWS); and

3.3 When handling data, species data were filtered to include records from the previous twenty years only to keep the data relevant to the date of this assessment.

3.4 Further consideration of potential zones of influence in relation to statutory designated sites of International and National importance was made using Natural England's SSSI Impact Risk Zone Tool[6] which outlines the likely zone of influence from impacts for a range of development types.

Field Survey

3.5 Detailed species survey methodologies are provided within the relevant species appendices (1 to 7).

[3] [Online]. http://magic.defra.gov.uk/
[4] [Online]. www.ordnancesurvey.co.uk
[5] [Online]. www.maps.google.co.uk
6 https://data.gov.uk/dataset/5ae2af0c-1363-4d40-9d1a-e5a1381449f8/sssi-impact-risk-zones

UKHab Survey

3.6 A walkover survey of the site was completed broadly following the UKHab Classification System[7] with minor departures from this methodology to allow for compatibility with the Defra metric where applicable. This involved a systematic walk over of the survey area during which discrete blocks of habitat were identified and mapped. Representative plant species lists were compiled for each habitat mapped along with additional notes regarding the current 'condition' of the habitat, completed in accordance with the Statutory Biodiversity Metric Condition Assessments[8] .

3.7 Vascular plant nomenclature followed Stace (2019)[9] and assessment of abundance for plants was made using the DAFOR scale:

D - Dominant

A - Abundant

F - Frequent

O - Occasional

R - Rare

L - Locally (e.g. LF = Locally Frequent or LA = Locally Abundant)

3.8 The UkHab baseline survey was undertaken over four visits on 20th November 2023, 24th and 25th January 2024 and 26th November 2024. Surveys were undertaken by suitably experienced ecologists from FPCR. Surveys were undertaken by:

- Two Senior Ecologists from FPCR (BSBI Field Identification Skills Certificate Level 4);
- a Principal Ecologist from FPCR (BSBI Field Identification Skills Certificate Level 3); and
- an Assistant Ecologist from FPCR.

<u>Condition Assessments</u>

3.9 The baseline survey was supplemented by a further survey undertaken on 26th and 27th September 2024, to collect detailed botanical information to inform the condition assessments of grassland and ditch habitats. Condition assessments were carried out by a Senior Ecologist from FPCR (BSBI Field Identification Skills Certificate Level 4).

3.10 For the grassland habitats, this involved recording the plant species present within a series of 1m x 1m quadrats, which were used to inform the habitat classification selected and the corresponding condition assessment undertaken. Quadrats were placed within what were visually considered to be stands of homogenous vegetation where the vegetation was considered to potentially be representative of a distinct community type. The number of quadrats collected within each community sampled varied between 1-11 based on the size of the community, perceived species richness, distinctiveness or variability within the sward.

3.11 The location of each quadrat was recorded and a photograph taken of the sampled area. Within each quadrat, all vascular plant species and common bryophytes were recorded and given a percentage cover. This information was then used to construct 'floristic tables' which include

[7] UKHab Ltd (2023). UK Habitat Classification Version 2.0 (at https://ukhab.org)
[8] Condition' is one of the measures of the quality of a habitat used within the DEFRA biodiversity metric. It takes into account key physical characteristics and typical species of a particular habitat type.
[9] Stace, C (2019) New Flora of the British Isles. 4th edn. C&M Floristics

the frequency and abundance range for each species recorded within the sample quadrats. The percentage cover of bare ground and average sward height was also recorded within each quadrat. The floristic tables for the Site can be found in Appendix 11.

Invasive Plants, Notifiable Weed Species and Other Notable Flora

3.12 Consideration has been given as to the presence of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (WCA 1981)[10] and the presence of any notable weeds including those covered under the Weed Act 1959[11] (where population is significant enough to be considered injurious).

Faunal Surveys

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

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

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

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

3.15 The likely presence or absence of protected and notable species has been assessed by a number of factors including the availability or suitable habitat, connectivity, known species distribution, local records and an understanding of the ecology and habitats requirement of the individual species assessed.

3.16 Following the initial assessment of the Site for protected/notable species potential, a series of further surveys were completed in 2023 and 2024. Table 1, provides a summary of the surveys undertaken, with details of each provided in Appendices 1 to 7.

Table 1: Summary of Faunal surveys undertaken

Ecological feature	Surveys Conducted
Badgers	Walkover survey for signs of presence undertaken in November 2023 and January 2024.
Bats	One transect survey per month undertaken between April and October 2023 inclusive
	Deployment of 2x static detectors per month undertaken between April and October 2023 inclusive
	Ground based assessments of trees undertaken in July 2023

10 Act of Parliament, (1981). The Wildlife and Countryside Act 1981 (as amended), London: HMSO.
11 Act of Parliament. (1959). The Weed Act 1959. London: HMSO.

Ecological feature	Surveys Conducted
Birds	Breeding Bird Survey: 6 surveys were undertaken between April and June 2023
	Winter Bird Surveys: two visits per month October – March 2022-2023 and 2023/2024. In total 12 visits per season, 6 of those nocturnal
Great Crested Newts	Great crested newt eDNA surveys undertaken in May 2023
Reptiles	Reptile presence/likely absence surveys undertaken between April and June 2023
Water vole	Water vole surveys undertaken in June 2023 and Sept/Oct 2023

Assessment Approach

3.17 The assessment of significant ecological effects has been undertaken in accordance with CIEEM EcIA guidelines with details included in Appendix 9.

3.18 In line with the current Guidelines for EcIA, baseline information and potential impacts have been quantified as far as practical to inform the assessment, supported by professional judgement and experience as appropriate. Where uncertainties exist, a precautionary approach has been adopted and a 'worse case' scenario approach assumed for the purposes of assessing impacts and recommending mitigation.

3.19 In summary, the process involves:

- Establish Baseline – this is based on desk study and field surveys which describes the existing and potential Important Ecological Features (IEFs) within the zones of influence specified.
- Determine the Scale of Importance of Ecological Features - importance is determined using geographical frames of reference. This assessment is based on a variety of factors, including statutory protection, statutory designation, conservation status, abundance and rarity. Features with a value of Local or above were considered to represent an 'Important Ecological Feature' (IEF). Those features not meeting the criteria for IEF's were classified as having either lower than local level (immediate zone of influence) or negligible ecological importance.
    - International and European;
    - National;
    - County (Lincolnshire);
    - District (North Lincolnshire); and
    - Local.
- Assess Significant Ecological Effects –based on the importance of the ecological feature, magnitude of the effect and sensitivity of the features considered. This is description-based rather than applying a matrix which considers construction and operation effects only where relevant. The assessment assumes the proposed layout, intrinsic mitigation and routine ecological mitigation normally conditioned, and these are outlined clearly.

- Mitigation – This will be based on the mitigation hierarchy – avoidance, mitigation, compensation and enhancement. Any further mitigation measures required will be outlined to ensure residual effects are lowered to a level considered acceptable. Enhancements will seek biodiversity net gain in line with the NPPF and Local Plan Policy - Core Strategy Policy CS17. Monitoring will be considered where applicable.
- Future Baseline and Residual Effects – final conclusionary statements for the short, medium and long term.

Zone of Influence

3.20 The CIEEM guidelines require the identification of a 'zone of influence' (ZoI), within which the ecological features that may be affected by the proposed scheme can be identified. This will identify the potential impact of the development not just to the Site but beyond the boundaries of proposed scheme.

3.21 The ZoI is determined by the source / type of impact, a potential pathway for that impact and the location and sensitivity of the important ecological feature beyond the boundary. For the majority of impacts identified as part of the proposed scheme, the ZoI is generally considered as the application Site and immediately surrounding areas.

3.22 However, the ZoI can also vary considerably depending upon the species potentially affected by the proposed scheme. For example, some species may be confined to a specific location whilst others, such as bats and birds are more mobile and can occupy much larger home ranges. The presence of dispersal barriers can also have an effect on the ZoI such as roads or rivers which may either reduce the potential of animals crossing it or could cause a potential means of killing on injury. As such, this could isolate areas of potentially suitable habitat within the proposed scheme due to fragmentation. In each case this is considered in association with the nature and scale of the proposed scheme and informed by best practice guidance and professional judgement.

3.23 Specific study areas were identified for the desk study and field surveys to inform the valuation of ecological features and the selection of 'key' ecological features material to the assessment.

Limitations (see also individual appendices)

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

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

ecological dataset for any given area. Rather, this data is used as a guide to likely presence of notable ecological features and can never be relied upon for likely absence.

3.26 The UkHab map (Figure 3) has been reproduced from detailed field notes and informed by aerial imagery, OS mapping and Site maps provided by the client. The accuracy of this figure is therefore ultimately guided by the accuracy of these sources and can only be relied upon to a certain degree of resolution.

3.27 The Habitat surveys were undertaken outside of the optimal period for grassland surveys. However, it is considered that due to the species poor nature of the communities surveyed, the survey results are sufficiently robust to inform classification and condition.

3.28 Any limitations to specific species surveys are included within the relevant Appendix.

3.29 No other limitations specific to this assessment.

4.0 ECOLOGICAL BASELINE

Designated Sites

4.1 Figure 1 shows the locations of designated sites in relation to the Site.

Internationally designated sites

The Humber Estuary

4.2 The Humber Estuary (EMS) is composed of the following sites:

- The Humber Estuary SAC;
- The Humber Flats, Marshes and Coasts SPA; and
- The Humber Estuary Ramsar; and
- The Humber Estuary SSSI.

4.3 The southern tip of the Humber Estuary European Marine Site (EMS) extends down the River Trent to within c. 2.1km of the north western extent of the Site. Only the SAC, Ramsar and SSSI designations extend down the River Trent: the closest part of the SPA boundary is c. 10.9 km to the north.

4.4 The Humber Estuary SAC/SPA/Ramsar is considered to be a receptor of International importance and is included within the impact assessment.

Thorne and Hatfield Moors SPA/SAC/SSSI and Humberhead Peatlands

4.5 To the west of the Site are Thorne and Hatfield Moors SPA, designated for its breeding population of nightjar. The SPA is also managed as the Humberhead Peatlands National Nature Reserve.

4.6 Thorne Moor and Hatfield Moor are also designated individually as SAC and SSSI comprising large peatland areas which are of international value for their raised bog habitats.

- Thorne Moor SAC/SSSI is located 11.2 km to the north west.
- The Hatfield Moor SAC/SSSI is located 13 km to the south west.

4.7 A summary of the justification for these designations are provided in Table 2, below.

4.8 No direct impacts are considered likely.

4.9 Within the biodiversity chapter of the ES as submitted with the previous now lapsed outline planning application incorporating the Site (Ref PA/2013/1000 and PA/2013/1001) , Thorne and Hatfield Moors SPA and Thorne Moor SAC, were removed from the assessment following the consultation response from the NLC Environment Team which advised that due to their distance from the Site and current work by Natural England to increase access to these sites, no adverse effects need be considered. Additionally, Hatfield Moor SAC/SSSI, Thorne, Crowle & Goole Moors SSSI, and Humberhead Peatlands NNR were excluded from assessment on the basis of being outside the geographical scope for their level of designation.

4.10 The Thorne and Hatfield Moors SAC/SPA/SSSI and Humberhead Peatlands NNR are therefore not subject to further assessment.

Table 2: Designating Features of Internationally designated sites within 10km.

Site name and distance.	Justification / Interest Feature		
Humber Estuary SAC[12] 2.1 km NW	Primarily designated because of the Annex 1 habitats: *Estuaries (1130)* and *Mudflats/sandflats not covered by seawater at low tide (1140).* The estuary also supports a number of other habitats listed on Annex I of the Habitats Directive which are present as a qualifying feature but not a primary reason for selection of this site: • sandbanks which are slightly covered by sea water all the time (1110) • coastal lagoons (1150) • *Salicornia* and other annuals colonizing mud and sand (1310) • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) (1330) • embryonic shifting dunes "Shifting dunes along the shoreline with *Ammophila arenaria* (""white dunes"")" (2120) • "fixed coastal dunes with herbaceous vegetation (""grey dunes"")" Dunes with *Hippophae rhamnoides (2130)* • dunes with *Hippopha rhamnoides* (2160) <u>Annex II species</u> present as a qualifying feature but not as a primary reason for site selection: • sea lamprey *Petromyzon marinus (1095)* • river lamprey *Lampetra fluviatilis* (1099) • grey seal *Halichoerus grypus (1364)*		
Humber Estuary SPA[13] 10.9km N	The high proportion of the total UK population of wintering and breeding bird species listed on Annex I of the Birds Directive. These are:		
	Avocet	*Recurvirostra avosetta*	B*, W*
	Bar-tailed Godwit	*Limosa lapponica*	W
	Bittern	*Botaurus stellarsi*	B, W
	Golden Plover	*Pluvialis apricaria*	W
	Hen Harrier	*Circus cyaneus*	W

12 https://sac.jncc.gov.uk/site/UK0030170 (accessed on 05/11/2024).
13 https://publications.naturalengland.org.uk/publication/5382184353398784 (accessed on 05/11/2024).

Site name and distance.	Justification / Interest Feature		
	Little Tern	*Stellaris albifrons*	B
	Marsh Harrier	*Circus aeruginosus*	B
	Ruff	*Philomachus pugnax*	P*
	The high proportion of the total European population of Annex II bird species. These are:		
	Black-tailed Godwit	*Limosa limosa islandica*	W, P
	Common redshank	*Tringa totanus*	W, P
	Dunlin	*Calidris alpin alpina*	W, P
	Knot	*Calidris canutus*	W, P
	Shelduck	*Tadorna tadorna*	W
	*B = breeding, W = wintering, P = passage The site qualifies under article 4.2 of the Directive (79/409/EEC) as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season.		
Humber Estuary RAMSAR[14] 2.1 km NW	<u>Criterion 1:</u> The Site represents a near-natural estuary with a complex of notable habitats. <u>Criterion 3:</u> Populations of grey seal and Natterjack toad *Bufo calamita* are supported by the estuary. <u>Criterion 5:</u> The Humber estuary is also designated for the numbers of wintering bird species it supports. <u>Criterion 6:</u> The following species/populations occur at levels of international importance: • Common shelduck • Eurasian golden plover • Red knot • Dunlin • Black-tailed godwit • Bar-tailed godwit • Common redshank <u>Criterion 8:</u> The estuary forms part of the migration route for sea lamprey and river lamprey.		
Thorne & Hatfield Moors SPA[15] 11.2 km NW.	Designated for their breeding populations of the Annex 1 species Nightjar *Caprimulgus europaeus*		
Thorne Moors SAC[16] 11.2 km NW.	Thorne Moor is England's largest area of raised bog. Designated for the presence of Annex 1 habitats of active raised bog and degraded raised bogs still capable of natural regeneration. Species rich including bog-mosses *Sphagnum spp*., cottongrasses *Eriophorum angustifolium* and *E. vaginatum*, heather *Calluna vulgaris*, cross-leaved heath *Erica tetralix*,		

[14] https://rsis.ramsar.org/RISapp/files/RISrep/GB663RIS.pdf (accessed on 05/11/2024)
15 European Site Conservation Objectives for Thorne & Hatfield Moors SPA UK9005171 (accessed on 05/11/2024)
[16] https://sac.jncc.gov.uk/site/UK0012915 (accessed on 05/11/2024).

Site name and distance.	Justification / Interest Feature
	round-leaved sundew *Drosera rotundifolia*, cranberry *Vaccinium oxycoccos* and bog-rosemary *Andromeda polifolia.*
Hatfield Moors SAC[17] 13 km SW.	The second-largest area of extant lowland raised bog peat in England. Designated for the Annex 1 habitat - degraded raised bogs still capable of natural regeneration. Refugia of vegetation have survived as rather dry heathland and as birch Betula woodland. Plants include the dwarf shrubs *Calluna vulgaris*, Erica *tetralix, Eriophorum angustifolium*, *E. vaginatum*, *Vaccinium oxycoccos*, bog-rosemary *Andromeda polifolia*, bog-myrtle *Myrica gale*, and the bog-mosses *Sphagnum cuspidatum, S. recurvum, S. papillosum, S. subnitens* and *S. tenellum*. The bog is also notable for its invertebrate fauna, which includes the mire pill beetle *Curimopsis nigrita.*

Nationally designated sites

4.11 No nationally designated sites are within 2km of the site. The Humber Estuary, 2.1km from the Site, is also nationally designated as a Site of Special Scientific Interest (SSSI). The Impact Risk Zones for Sites of Special Scientific Interest (SSSI IRZs) indicate that there is potential for the proposed development to have a harmful effect on the SSSI. The Humber Estuary SSSI is considered to be a receptor of National importance and is included within the impact assessment as part of the assessment of the SAC/SPA/Ramsar. It is therefore not considered separately.

Local Sites

4.12 Six Local Wildlife Sites (LWS) are present within 1km of the Site as summarised in Table 3, below. None are within the Site boundary. Their Locations are shown on Figure 1. As receptors of District importance, Brumby Common West and Westcliff Lagoon LWS are included within the impact assessment. All other sites have been scoped out of further assessment due to a lack of impact pathways.

Table 3: Locally designated sites within 1km.

Figure 1 Ref.	Site name and distance.	Justification / Interest Feature
1.	Brumby Common West (LWS) Adjacent to the northern Site boundary	Main habitat – non-native plantation, lake Additional habitat – mature semi-natural woodland, unimproved acidic grassland, bracken, scrub, arable, bare ground. Located on the northern bank of the north boundary ditch, however, flow in the ditch is westwards and away from the LWS Northern and south western parts support a botanically rich combination of acidic grassland, sparsely-vegetated sand, open water, deciduous and mixed woodland. Central and south eastern parts are occupied by pine plantation woodland. The clear water of the lake holds no aquatic plants.

[17] https://sac.jncc.gov.uk/site/UK0030166 (accessed on 05/11/2024).

Figure 1 Ref.	Site name and distance.	Justification / Interest Feature
		As a receptor of District importance, Brumby Common West is included within the impact assessment.
2.	Westcliff Lagoon (LWS) 12m S	Main habitat – Semi-natural woodland, wet woodland, lake Additional habitats: Unimproved and semi-improved acid grassland, Bracken, Reedbed Comprises a shallow lake and surrounding wetland; oak-birch woodland; a little acidic grassland; and an access track that connects to Brumby Common Lane further north. Water quality poor due to urban run-off. Inter-connecting paths are maintained by public use and allow circumnavigation of the lake. As a receptor of District importance, Westcliffe Lagoon is included within the impact assessment.
3.	Ashby Decoy Golf Course (LWS) 552m S	Main Habitat - Acid Grassland. Additional habitat - Woodland, scattered scrub, neutral grassland and standing water Area is approx. 64.6 Ha. Remnant heathland and acid grassland are present on sandy soil in a strip running SW to NE across the site. South of the 17th fairway is a woodland, grassland and wetland complex centred around a pond. Due to the distance from the Site, and lack of hydrological connectivity, and as the LWS is a privately owned golf course, with controlled access, significant impacts are considered unlikely. The Ashby Decoy Golf Course (LWS) is scoped out of further assessment.
4.	Ridge Walk (LWS) 682m E	Main habitat - Semi-natural woodland Additional habitat - Semi-improved neutral grassland Very popular walking route connected to Brumby Wood LNR to the north. A surfaced path known as Ridge Walk runs the length of the site, near its eastern edge, but there are numerous other unofficial paths. Due to the urban setting, distance from the Site, and lack of hydrological connectivity, and as the LWS is currently managed for recreational use, impacts are considered unlikely. Ridge Walk LWS is scoped out of further assessment.
5.	Kingsway Golf Course (LWS) 881m NE	Main habitat - Semi-natural woodland, Wet woodland, Acid grassland (semi-improved and unimproved), Improved grassland Additional habitat - Coarse or rank grassland, Neutral grassland (semi-improved) Scrub (scattered and dense), Marsh, Pond, Stream Surrounded by housing to the west and north, the A18 to the east and a railway line on an embankment to the south. Although the grassland areas were previously used as a golf course, the land is now managed for local recreation and nature conservation and includes an extensive network of

Figure 1 Ref.	Site name and distance.	Justification / Interest Feature
		informal pathways. The habitat and structural diversity of the site supports a good fauna. Due to the urban setting, lack of hydrological connectivity and distance from the Site, and as the LWS is a privately owned golf course, with controlled access, significant impacts are considered unlikely. The Kingsway Golf Course (LWS) is scoped out of further assessment.
6.	Brumby Wood (LWS, LNR) 883m NE	Main Habitat – Semi-natural woodland(ancient), neutral grassland. Additional habitat - Plantation Approx. 20.5Ha and divided into three blocks by two roads. It supports a substantial amount of semi-natural woodland, most of which is included in the Ancient Woodland Inventory. A path network is well used by the public; this extends southwards into the mature scrub of a separate site, all of which is known as Ridge Walk. Local residents and schools use the woodlands frequently. Due to the urban setting, lack of hydrological connectivity distance from the Site, and as the LWS is currently managed for recreational use, impacts are considered unlikely. Brumby Wood LWS/LNR/ASNW is scoped out of further assessment.

Nature Improvement Areas

4.13 The Humberhead Levels Nature Improvement Area (NIA) includes the land immediately west of the M181 (see Figure 1). The NIA is a designated region that aims to enhance the natural environment across parts of South Yorkshire, North Lincolnshire, and the East Riding of Yorkshire, particularly around the River Humber. This area features diverse ecosystems, including wetlands, grasslands, and agricultural lands, and is significant for its biodiversity.

4.14 The Government's White Paper "The Natural Choice[18]" introduced NIAs, which were designed to build cohesive and robust ecological networks at the landscape level. By offering a range of ecosystem services like leisure, flood control, water purification, and carbon storage, NIAs are meant to benefit both people and wildlife.

4.15 The NIA's key objectives include:

- Biodiversity Enhancement: Supporting the recovery of ecosystems and local wildlife.
- Habitat Restoration: Implementing projects like wetland restoration to improve ecological connections.
- Community Engagement: Involving local communities in conservation and promoting sustainable practices.
- Research and Monitoring: Conducting studies to assess ecological health and the effectiveness of conservation efforts.

[18] https://assets.publishing.service.gov.uk/media/5a7cb8fce5274a38e57565a4/8082.pdf

4.16 The network of biodiverse habitats formed by the Humberhead Levels Nature Improvement Area is considered to be of importance at a County scale.

District Priority Habitats within the locality.

4.17 The data search did not return any priority habitat within the Site. Lowland mixed deciduous woodland is present at Westcliff Lagoon (LWS), 12m from the site and within the strategic green infrastructure areas as described above. Ancient and semi-natural woodland is present at Brumby Wood (LWS, LNR), located 883m to the north east. Other Priority habitats identified within 1km include lowland dry acid grassland and lowland meadows. These are located within Brumby Common West (LWS) and Ashby Decoy Golf Course (LWS).

4.18 As Priority habitats identified within the data search are all associated with the locally designated sites and strategic green infrastructure described above, they are not included separately within the impact assessment. On Site habitats are dealt with separately in Paragraph 4.19 below.

Baseline Habitats

4.19 Baseline habitats present at the time of the surveys are shown on Figure 1. And described in Table 4 below. Within the text species have been referred to using their common names, with the corresponding scientific names provided within Appendix 11 Detailed condition assessments are provided in the Biodiversity Net Gain Report accompanying the planning application (FPCR 2025).

Table 4: Summary of Baseline Habitats.

Ref	Habitat	Condition / Distinctiveness	Description	Photo
N/A	**Arable crop**	**Low Distinctiveness** **Condition Assessment N/A**	The majority of the Site comprised ploughed arable fields with modified grassland field margins. Margins were very species-poor. The sward was dominated by perennial rye-grass with locally abundant cock's-foot, Yorkshire fog and common nettle and locally frequent bracken. Forbs including common mouse-ear , dandelion, cleavers, broad-leaved dock, common ragwort and spear thistle were noted as rare. The vegetation was generally short throughout and there were less than six species per m^2. Field margins were not representative of local BAP or priority habitat. Therefore, arable fields are not considered to be an important ecological feature and are scoped out of further assessment. Nevertheless, their value has been accounted for within the Biodiversity Net Gain calculations and their loss will be appropriately compensated for within the wider net gain strategy for the Site.	 Photograph 1: Ploughed fields
ONG 1	**Other neutral grassland**	**Medium Distinctiveness** **Poor Condition**	In the south-western corner of the parcel was an area of unmanaged vegetation classified as other neutral grassland. This grassland featured a largely tall and unmanaged sward characterised by a high cover of ruderal species including common ragwort, spear thistle, and creeping thistle. Shorter areas along the track edge had increased herbaceous diversity with a higher cover of neutral grassland associated species including common knapweed and black medick. The grassland does not strictly meet the UKHab other neutral grassland feature passing only two out of the four criteria (abundant cover of 1 or more non-intensive agricultural grass species – false oat grass and <30% cover of rye grass or white clover – 1.6%). Despite not passing the 1st two criteria the grassland most aligns to neutral grassland community g3c5 *Arrhenatherum* which typically features a tall sward structure with a high cover of false oat grass but with low overall diversity. Additionally, while suboptimal species such as thistle were noted at high abundances, creeping thistle is an indicator species for this community. Under medium, high and very high grassland assessment criteria, ONG1 was assessed as being in 'poor' condition, passing only criterion 4 (low cover of bracken/scrub).	 Photograph 2: ONG 1

Ref	Habitat	Condition / Distinctiveness	Description	Photo
			This grassland community is of limited intrinsic biodiversity value and is not considered to be an important ecological feature and are scoped out of further assessment. Nevertheless, their value has been accounted for within the Biodiversity Net Gain calculations and their loss will be appropriately compensated for within the wider net gain strategy for the Site.	 Photograph 3: ONG 1 near track.
ONG 2	**Other neutral grassland**	**Medium Distinctiveness** **Poor Condition**	Grassland ONG2 lay along the western edge of a Scot's pine woodland patch and extending offsite to the east, with sandy soils evident in areas of open ground. The sward was comprised of frequent Yorkshire-fog, frequent to abundant rough meadow-grass and false oat-grass, occasional to frequent cock's foot and occasional creeping bent and common bent. Common reed was noted as a rare occurrence. Several forb species were present, including Locally frequent ground-ivy, occasional cat's ear, and rarely occurring common knapweed, mugwort, selfheal and Canadian fleabane. A number of acid associated species were recorded as present including common heather (just outside the redline closer to the woodland edge), heath woodrush, sheep's sorrel, common stork's-bill and locally abundant lichens. The majority of these species were only recorded or recorded at higher frequencies in a small area while the rest of the grassland in this area more closely aligned with other neutral grassland with a few acid indicators present. The smaller area has been mapped separately as an area of lowland dry acid grassland (see below). Under medium, high and very high grassland assessment criteria, ONG2 was assessed as being in 'poor' condition. passing only criterion 4 and 5 (cover of bare ground and sub-optimal species). This grassland community is of limited intrinsic biodiversity value and is not considered to be an important ecological feature and are scoped out of further assessment. Nevertheless, their value	 Photograph 4: ONG2

Ref	Habitat	Condition / Distinctiveness	Description	Photo
			has been accounted for within the Biodiversity Net Gain calculations and their loss will be appropriately compensated for within the wider net gain strategy for the Site.	
LAG	**Lowland dry acid grassland**	**V high Distinctiveness** **Moderate Condition**	Smaller area within ONG2 (0.036Ha) which had a much lower cover of grassland, instead featuring a blanket of mosses (including a haircap species, likely *Polytrichum formosum*), liverworts and lichens with herbs and fungi growing throughout (including a potential *Hygrophoraceae*). Sand sedge was also noted in this area and throughout the taller grassland. As such this small area of grassland has been mapped separately as acid grassland although it does not strictly meet the UKHab criteria. Lowland dry acid grassland is a priority habitat, however the on Site habitat does not closely match the UKHab description and is limited in size. It is therefore considered to be an IEF at a **local** scale only .	 Photograph 5: Lowland Acid Grassland within ONG2.
MG1	Modified grassland	Low Distinctiveness Poor condition	Linear modified grassland adjacent to ditches . The habitat was very species-poor whilst the sward was dominated by perennial rye-grass with locally abundant cock's-foot, Yorkshire fog and common nettle and locally frequent bracken. Several forbs including common mouse-ear,, dandelion, cleavers broad-leaved dock, common ragwort and spear thistle were noted as rare. The vegetation was short throughout (approximately 2cm) and there were less than six species per m². Under low grassland assessment criteria, the habitat was assessed as being in 'poor' condition failing criteria for vascular plant species count, diversity of sward height, physical damage and cover of bare ground. Modified grassland is not considered to be an important ecological feature and is scoped out of further assessment. Nevertheless, their value has been accounted for within the Biodiversity Net Gain calculations and their loss will be appropriately compensated for within the wider net gain strategy for the Site.	 Photograph 6: Modified Grassland MG1 south of Brumby Common Lane.

Ref	Habitat	Condition / Distinctiveness	Description	Photo
MG2	**Modified grassland**	**Low Distinctiveness** **Poor condition**	Heavily managed grassland areas within the roadside verge along Scotter road. This area was included due to proposed improvements to the Scotter road crossing and has not been subject to a detailed assessment. Due to the habitat type and location, a poor condition has been assumed. Modified grassland is not considered to be an important ecological feature and is scoped out of further assessment. Nevertheless, their value has been accounted for within the Biodiversity Net Gain calculations and their loss will be appropriately compensated for within the wider net gain strategy for the Site.	 Photograph 7: Modified grassland MG2
N/A	**Bramble Scrub**	**Low Distinctiveness** **Condition Automatically poor**	Bramble dominant scrub within the east part of the Site, adjacent to Brumby Common Lane. Occasional goat and grey willow noted plus rarely occurring hawthorn, silver birch, dog rose and wild privet. Bramble scrub is not considered to be an important ecological feature is scoped out of further assessment. Nevertheless, their value has been accounted for within the Biodiversity Net Gain calculations and their loss will be appropriately compensated for within the wider net gain strategy for the Site.	 Photograph 8: Bramble scrub

Ref	Habitat	Condition / Distinctiveness	Description	Photo
N/A	**Developed land; sealed surface**	**V. Low Distinctiveness** **Condition Automatically poor**	A small area of partially fenced off developed land was present within other neutral grassland ONG1 in the south-western corner of the northern parcel of the Site. Tarmac road surface along Brumby Common Lane and Scotter Road and pavements/ paths.	 Photograph 9: Developed, sealed surface.
N/A	**Artificial unvegetated, unsealed surface**	**V. Low Distinctiveness** **Condition Automatically poor**	An access area with associated unadopted path directly westerly adjacent to hedgerow H1.	 Photograph 10: Access track adjacent to H1.

Ref	Habitat	Condition / Distinctiveness	Description	Photo
D3.1 to D4.1	**Ditches**	**Medium Distinctiveness** **Moderate Condition**	A network of ditches was present throughout the survey area. Bankside vegetation comprised mostly modified grassland, with sections of scrub in places. The ditches are all subject to regular management practices by the IDB, including flailing the bankside vegetation and digging out the channel, removing aquatic and marginal vegetation. There was presence of litter/obvious signs of pollution within several ditches Ditch 3.7 was part dry in June 23 and dry in Sep 24, but was holding water during the survey in November 23 . Marginal and aquatic vegetation was noted within a number of ditches, however this was periodically removed via the current management practice of digging out the channel. Species noted include common reed, starwort sp, branched burred watercress, reed sweetgrass, reed canary-grass, Typha latipholia and Yellow flag-iris. No ditches were considered species rich. D3.1a and 3.1b were assessed as Moderate condition, the remainder were assessed as poor condition. Due to the habitat value and connectivity the ditches provide they are considered to be of importance at **a local** scale and will be assessed as a IEF. Protected and notable species within the ditches are considered separately.	 Photograph 11: D3.1a in November 2023  Photograph 12: D3.1a in September 2024

Ref	Habitat	Condition / Distinctiveness	Description	Photo
H1,	**Native Hedgerow associated with a bank or Ditch**	**Medium Distinctiveness** **Good Condition**	The hedgerow H1 was 3.5m in height and 2m in width and was located within the centre of the Site, adjacent to a ditch. The species composition comprised dominant hawthorn with rare elder and domestic apple Malus domestica. A 30m sample was undertaken which consisted of dominant hawthorn. The adjacent ditch was dry during surveys undertaken in June 23 and Sep 24 and was therefore not assessed separately under the watercourse baseline. Assessed as being in 'good' condition failing only two criteria related to canopy continuity and undisturbed ground cover. H1 would not be considered important under the wildlife and landscape criteria of the Hedgerow Regulations 1997. However, H1 comprised native species and as such qualifies as a habitat of Principal Importance under the NERC Act 2006. Additionally, hedges are a LBAP habitat and provide a wildlife corridor. As such H1 would be considered an IEF at a **local** scale.	 Photograph 13: H1
H2	**Native Hedgerow**	**Low Distinctiveness** **Good Condition**	The hedgerow H2 was 2.5m in height and 2m in width and was located easterly to H1 along ditch D3.7. The hedgerow was species poor consisting of dominant hawthorn. There were gaps totalling more than 10% towards the southern extent of the habitat. Assessed as being in 'good' condition failing only two criteria related to canopy continuity and undisturbed ground cover. H2 would not be considered important under the wildlife and landscape criteria of the Hedgerow Regulations 1997. However, H2 comprised native species and as such qualifies as a habitat of Principal Importance under the NERC Act 2006. Additionally, hedges are a LBAP habitat and provide a wildlife corridor. As such H2 would be considered an IEF at a **local** scale.	 Photograph 14: H2

Protected and Notable Species

4.20 Records of notable or protected species returned in the data search are shown in Appendix 10 and mapped in Figure 2. Where relevant, records are discussed in the species sections below.

Amphibians

4.21 Appendix 4 Great Crested Newt Report provides full details of the GCN surveys undertaken. A summary is provided here.

4.22 Desk study consultees returned no records of GCN from within the search area and a search of MAGIC identified no EPS mitigation licences issued for GCNs within 2km of the site. No statutory or non-statutory sites occur within the search area which include GCN populations as part of their designating features.

4.23 Examination of the 1:25000 OS map identified five ponds located within250m (P7, P9, P10. P11 and P13) and two further ponds within 500m (P8, P12) as shown in Figure 4.1. (Appendix 4).

4.24 Suitable terrestrial GCN habitat is present on Site, within areas of grassland, woodland and hedge and tree bases. Areas of hardstanding, arable fields and sparser vegetation offer less suitable habitat for GCN.

4.25 Environmental DNA (eDNA) sampling was undertaken on accessible ponds P7, P8, P11 and P13 to determine the presence/likely absence of GCN in accordance with the protocol recommended by Natural England. Following analysis, results were returned as negative for GCN eDNA within all tested ponds. Therefore, GCN are considered to be likely absent from the Site and are scoped out of further assessment. A copy of the lab report is included at the end of Appendix 4B.

4.26 Incidental to the reptile surveys undertaken at the Site, several common toads, including juvenile and adults, were recorded under the reptile survey mats across the Site; a maximum count of 22 individuals was recorded on the fourth visit. As such it can be assumed that common toad is breeding within or near the Site boundary.

4.27 Common toad are a Species of Principal Importance and a UK and Lincolnshire Bap Species. As such the Site is considered to be of Local Value to toad.

Bats

4.28 Appendix 2: Bat Report provides full details of the Bat surveys undertaken. A summary is provided here.

<u>Roosts</u>

4.29 The ground level assessment identified no trees within the Site which contained potential roosting features (PRF). As such, the proposed scheme is unlikely to result in any impacts to roosting bats.

<u>Foraging and Commuting Habitat</u>

4.30 The bat activity surveys found foraging by solitary or low numbers of generally common and widespread species of bats observed in association with linear features and woodland habitat. Activity levels over the different months were fairly constant with slightly higher activity, but not significantly, in August and September.

4.31 No Annex II bat species were registered or observed. The following common species utilise the site: common pipistrelle, soprano pipistrelle, noctule, brown long-eared bat and Myotid species. Nathusius' pipistrelle were also recorded on Site; they are considered a rare species in the UK, but have long been considered under-reported and in the numbers observed over the season are not of particular note.

4.32 General bat activity is not considered to be exceptional and registrations recorded from species (Nathusius' pipistrelle) were low. Therefore, the Site is considered to be of no more than Local value for its bat species and this value is restricted to the structured habitats which typically border the application Site.

Badgers

4.33 The results of the badger survey are provided in a stand-alone confidential Badger appendix (Appendix 5). Badger survey results are confidential and should not be disclosed to the general public or other third parties without prior permission.

Birds

Breeding birds

4.34 The breeding bird appendix (Appendix 6) provides full details of the surveys undertaken on the Site. A summary is provided below.

4.35 Desk study consultees returned records of thirteen notable bird species on site, or at a spatial resolution which could include the Site. These records included Lapwing *Vanellus vVanellus* which is a species associated with the Humber Estuary designated site, albeit not in the breeding season. A further eleven notable species were recorded within 2km. This included eleven notable species, such as corn bunting *Emberiza calandra* and reed bunting *Emberiza schoeniclus.* No qualifying species associated with the Humber Estuary designated site were returned in these records.

4.36 Six breeding bird surveys were undertaken between April and July 2023. A total of 50 bird species were recorded during the 2023 Breeding Bird Surveys, of these, 26 species meet the criteria of at least one of the following pieces of legislation/classifications: Schedule 1 of the WCA; Section 41 of the NERC Act 2006; Lincolnshire Biodiversity Action Plan; and BoCC Red or Amber lists. These species are referred to as 'notable' species. None of these notable species were confirmed as breeding on site, but 12 were considered to be probable breeders whilst the remaining species were considered as possible breeders.

4.37 None of the six breeding bird species listed on the SPA citation were recorded on Site during the breeding bird survey. The Site is not functionally linked to the Humber Estuary SPA.

4.38 Three species potentially associated with the Humber Estuary SSSI were recorded within the survey area: greylag goose, snipe and reed bunting. Of these, only Reed bunting were considered to be probable breeders.

4.39 The internal sections of the arable fields were unsuitable breeding habitat for the majority of the bird species present on Site, with the exception of skylark *Alauda arvensis* and lapwing. Use by other species such as woodpigeon *Columba palumbus*, kestrel *Falco tinnunculus* and corvids was limited to foraging.

4.40 The hedgerows, and woodland around the perimeter of the Site and demarcating the arable field compartments hosted several resident and migratory species. Notable species included wren *Troglodytes troglodytes*, dunnock *Prunella modularis*, yellowhammer *Emberiza citrinella* and greenfinch *Chloris chloris*. In addition, these habitats supported an assemblage common and widespread species comprising common tit, thrush, and finch species alongside low numbers of other species of low conservation concern such as collared dove *Streptopelia decaocto* and carrion crow *Corvus corone.*

4.41 The Site is considered to be of importance at a Local level to birds in the breeding season

4.42 Whilst not considered important and therefore not subject to further assessment in the context of this EcIA, all wild bird species are protected while nesting by the Wildlife and Countryside Act 1981 (as amended). This legislation protects wild birds and their eggs from intentional harm, and makes it illegal to intentionally take, damage, or destroy a wild bird nest while it is in use or being built. As such, to ensure legal compliance during construction, standard avoidance measures or mitigation should be included.

Wintering and passage birds

4.43 The wintering bird appendix (Appendix 7) provides full details of the surveys undertaken on the Site. A summary is provided below.

4.44 A total of 12 surveys were undertaken across two seasons (October-March, inclusive) in 2022-2023 and 2023-2024, to cover the over-wintering and passage period. A total of 64 bird species were recorded across the two survey periods. Of these, 32 species meet the criteria of at least one of the following pieces of legislation/classifications: Schedule 1 of the WCA; Section 41 of the NERC Act 2006; Lincolnshire Biodiversity Action Plan; and BoCC Red or Amber lists. These species are referred to as 'notable' species.

4.45 Four species associated with the Humber Estuary SPA were recorded within the survey area across the two seasons of surveys; mallard *Anas platyrhynchos*, teal *Anas crecca*, lapwing *Vanellus vanellus* and golden plover *Pluvialis apricaria*. Additionally, one species considered a 'non-qualifying' species of interest in regard to the Humber Estuary SPA was recorded on-site; short-eared owl *Asio flammeus.* Due to the distance between the site and SPA designated area and the low numbers of SPA cited birds utilising the site, it is considered that that the site is not functionally linked to the SPA to an extent that would impact the favourable conservation status of the wintering bird assemblage, because it is not essential to their life and reproduction and the impact of the proposals would not result in an adverse effect on the integrity of the SPA.

4.46 Three species associated with the Humber Estuary SSSI were identified on-site and within the wider survey area. This included the following species; lapwing, golden plover and teal. The number of birds recorded using the Site was in non-significant numbers (golden plover - 0.019% of the estuary population, lapwing - 0.13% of estuary population and teal – 1-2 individuals during the 2022/2023 and 2 individuals on 1 occasion in 2023/2024). Arable fields within the wider survey area support lapwing and teal in slightly higher numbers (lapwing 0.3% and 0.5% of the estuary population on 2 occasions and teal with a peak of 0.2% in 2022/2023) . However, it is not considered that the development proposals within the Site will impact the favourable conservation status of the wintering bird assemblage utilising these other fields as use was occasional and infrequent.

4.1 The rest of the assemblage comprises an average farmland bird assemblage. The internal sections of the arable fields were suitable for over-wintering farmland birds namely skylark, linnet, yellowhammer and woodpigeon. The hedgerows, and woodland around the perimeter of the Site and demarcating the arable field compartments hosted several notable species such as tree sparrow and dunnock. In addition, these habitats supported an assemblage of common and widespread species comprising common, tit, thrush, and finch species.

4.2 The Site is considered to be of importance at a Local level in the non-breeding season

Brown hare

4.3 Brown hare are recorded in the locality and were noted within the Site during several of the surveys undertaken. However, the Brown Hare SAP has been removed from the 3rd edition (2011) of the Lincolnshire BAP because of its widespread status in Lincolnshire; and it is not considered a local priority for action. Brown hare are therefore not considered an IEF in the context of this assessment.

Hedgehog

4.4 Twenty one hedgehog records were returned from the data search. Habitats on Site provide suitable habitat for this species, although none were incidentally recorded on Site during any of the protected species' surveys.

4.5 Hedgehogs are a Species of Principal Importance under the NERC act (2006) and receive limited protection under Schedule 6 of the Wildlife and Countryside Act (1981) as amended. Given that hedgehogs are common and widespread on low ground throughout England and given the minimal legal protection afforded to this species hedgehogs are not considered an important ecological feature and are scoped out of further assessment.

Reptiles

4.6 The reptile appendix (Appendix 3) provides full details of the surveys undertaken on the Site. A summary is provided below.

4.7 The desk study returned 1 reptile record within 2km. This is a record for common *Lizard Zootoca vivipara*, located within the 1km grid square which incorporates a small part of the northern part of the Site. The record does not refer directly to the Site.

4.8 Seven reptile presence/absence surveys were undertaken within the site and the wider area between May to June 2023. One common lizard was observed during the fifth survey along the northern site boundary – no other reptile species were found.

4.9 This equates to a "low" population of common lizard within the Site.

4.10 The Key Reptile Site Register was used to undertake an objective evaluation of the importance of the reptile populations on Site. Due to failing all 5 criterion, it is considered that the population of common lizard on Site is of no more than local value

Riparian Mammals

<u>Otter</u>

4.11 The desk study reported otter records within Warping drain, though 1.8km from the Site, this has connectivity to the Site.

4.12 No evidence of otter was found during the surveys. Habitats are considered to be generally sub-optimal due to a lack of suitable places for shelter. Otter are therefore considered to be likely absent from the Site and are not considered an IEF in the context of this assessment.

Water vole

4.13 The water vole report (Appendix 1) provides full details of the surveys undertaken on the Site. A summary is provided below.

4.14 Early and late season presence/absence surveys were conducted in June and September 2023. The water vole surveys onsite display that there is at least a low population of water vole present throughout the network of ditches onsite.

4.15 The presence of low densities of water vole and considering this species protected status, values the water vole population as an important ecological feature at a local level.

Invasive Non-native species

4.16 No INNS were noted during the surveys. As such INNS are scoped out of further assessment.

Likely Future Baseline Conditions

4.17 Where proposals do not proceed, it is considered that habitats on Site would likely remain in the same condition as described. It is reasonable to assume the current agricultural use and management of the Site would continue in the absence of development.

4.18 Without significant changes in habitats, the Site will likely continue to support low numbers of common/widespread bats, common lizard, breeding/wintering birds, water vole and common toad.

Summary of Important Ecological Features

4.19 A summary of the ecological features that have been determined as requiring detailed assessment is provided in Table 5

Table 5: Summary of Important Ecological Features and their Relative Geographical Importance

Ecological Feature	Geographical / Ecological Frame of Reference
The Humber Estuary SAC/SPA/Ramsar/SSSI	International
Locally Designated Sites : • Brumby Common West (LWS) • Westcliff Lagoon (LWS)	District
The Humberhead Levels NIA	County
Lowland dry Acid grassland	Local
Ditches	Local
Hedgerows	Local
Common toad	Local
Breeding Birds	Local
Wintering and passage birds	
Bats	Local
Common lizard	Local
Water vole	Local

5.0 IMPACT ASSESSMENT

Embedded Mitigation - During Construction

5.1 The iterative design process has sought to minimise ecological effects. Use has been made of the Preliminary Ecological Appraisal Process and ecological issues have been taken into account throughout the design process.

5.2 The Design, proposals which are shown in Appendix 11, have sought to retain the Site's most important ecological features and maintain connectivity of both onsite and offsite habitat.

- Existing ditches, and mature trees are retained within the scheme or excluded from the red line, and adequately buffered from proposed development where possible. This maintains existing habitat of value and also habitat connectivity across the Site.
- Wide buffers of greenspace between areas of habitat value and proposed development seek to protect and strengthen adjacent habitats of value to the north and north east.
- AB1, BG1 and BG2 have been designed as large areas of high-quality habitat to strengthen local habitat networks and connectivity between areas of habitat value.

5.3 The proposed SuDS network has been designed to provide water treatment and prevent pollution. The Proposed Development will continue to discharge surface water to the local watercourses at the IDB drainage rate of 1.4l/s/ha.

5.4 The proposed drainage inflow and outfall from Earl Beuchamps Warping Drain into the water vole mitigation area will be micro sited to avoid impacts with water vole burrows (where possible).

5.5 A lighting strategy for the scheme is being provided, to avoid impacts on sensitive habitats and species.

Core Documents

5.6 The following lists the core documents that will secure the mitigation and enhancement measures described in this report. They can be secured through appropriately worded pre-commencement planning conditions attached to the hybrid application, to be submitted and discharged at Reserved Matters for each phase of development.

a) Pre-commencement, a detailed Construction and Environmental Management Plan for Ecology (CEMP: Ecology) will be provided. This document contains the necessary Method Statements to ensure protected species are not unlawfully harmed during ground clearance, earthworks and during construction.

   The Detailed CEMP will include:

   - Details on protective measures for retained and created habitats within the Site, informed by the arboricultural report. Outlining measures to provide protection to the above and below ground elements of retained hedgerows and trees that are present on Site and adjacent. To be based on BS 5837:2012, 'Trees in relation to design, demolition and construction'. Which utilises the use of protective fencing of root protection areas to restrict damage features during construction.

- Precautionary measures and procedures in order to minimise the risk of any increase in contaminated surface water run-off and pollution events entering watercourses during construction;
- Detailed information on dust control measures which will be implemented during construction.
- Measures to limit the impact of artificial light on retained and created habitats during the construction phase.
- Detailed mitigation strategies to minimise impacts to common toad, common lizard, water vole, breeding birds, wintering birds and bats.
- An Ecological Constraints and Mitigation Plan drawing that clearly shows the location of constraints and details of mitigation required, where necessary.

b) A detailed lighting design strategy should be provided within each phase, to ensure there are no negative impacts to wildlife from lighting. In order to minimise any negative effects of changes to night time lighting on bats.

c) All lighting would be designed to accord with current best practice both for public amenity and safety and in relation to reduction of potential effects on wildlife to direct light onto the road corridors and minimise lateral and vertical light spill[19].

d) A Landscape and Ecological Management Plan (LEMP): this provides planting/landscape information that includes both the landscape and ecology features and their management for a minimum of five years. The document will include ecological enhancement information as appropriate and can also include the final Ecological Mitigation and Enhancement Plan that shows location of wildlife boxes and other proposed features.

e) A phased Biodiversity Impact Assessment (BIA) which will provide updated details of the biodiversity offsetting scheme and associated management and monitoring of retained and created habitats for each phase of the development.

Embedded Mitigation - During Operation

5.7 Within AB1, BG1 and BG2, a large area of greenspace, equivalent to approximately one third of the proposed residential development area will provide alternative recreational opportunities within the site to minimise the potential for significant adverse effects on designated sites and sensitive habitats.

5.8 Within the northern part of AB1 and BG1, proposed creation of wetland and species rich grassland habitat has been specifically designed to provide habitat areas buffered from disturbance impacts.

Major Hazards and Accidents

5.9 The potential for major hazards and accidents have been considered within this assessment and control measures will be included within an industry best practice CEMP.

[19] https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/

Phasing

5.10 This assessment has been informed by the Sites Phasing Plan (included at Appendix 12), which outlines the proposed phases as follows:

Phase 1 (Year 0 to 1)

- Water vole receptor / mitigation creation
- Site strip
- Borrow Pit
- Construction of E/W road from roundabout to beyond the vehicular access to Plot HA1, bridge(s) and a cycle and pedestrian link to Scotter Road
- Foul Pumping Station
- Development of remainder of BG1, BG2 and AB1

- Phase 2 (Year 1-2)
  - Plot HA1
- Phase 3 (Year 3)
  - Construction of remainder of E/W road and N/S road
  - Plot HA2
- Phase 4 (Year 4)
  - Plot HA3
- Phase 5 (Year 5)
  - Plot LC2
  - Restoration of borrow pit area

5.11 For the purpose of this assessment, to ensure a worst case is assessed, it has been assumed that all habitats which are proposed to be lost, will be cleared during phase 1. The Biodiversity Net Gain calculations have accounted for the delay in creation within each respective phase. However, the habitat enhancements associated with the core area of the Biodiversity Net Gain delivery, namely AB1, BG1 and BG2 will commence within the first phase 1.

Assessment of Likely Significant Effects on Important Ecological Features

5.12 The status of the important ecological features (IEFs) identified on site have been reviewed against the proposals and embedded mitigation to determine whether there are any impact pathways to IEFs and whether any of these will lead to a likely significant effect in Table 6. The requirement for additional mitigation measures above the intrinsic mitigation has been considered for each of the IEFs where they can reduce the scale of negative effects or encourage a positive effect.

Table 6: Assessment of Effects on Important Ecological Features

IEF: The Humber Estuary SAC	
Assessment of Impacts	Whilst a Habitats Regulations Assessment will be conducted by the local authority, an assessment of effects on the National Site Network (former Natura 2000 sites)

IEF: The Humber Estuary SAC	
	has also been included within this document as the two assessments are subtly different in their scope, particularly in respect of the assessment process. The SAC lies c. 2.1km of the north western extent of the Site, therefore no direct impacts are considered likely. <u>Construction phase impacts</u> Disturbance impacts during construction are considered unlikely due to the distance from the Site. There are direct hydrological links between the Site and the SAC via the network of ditches and drains that are present within and around the Site. The scheme has been designed to avoid impact to these ditches where possible. However, there remains a potential risk for indirect effects upon the interest features of the SAC via changes to surface water run-off quality and accidental pollution of the watercourse. Given the distance from the Site, air quality impacts during construction are considered unlikely. <u>Operation phase impacts</u> The three species listed as qualifying interests (although not primary reasons for designation) within the SAC are grey seal, river Lamprey and sea Lamprey. There are no footpaths or bridleways on either bank of the River Trent, for more than 10km in either direction. All public roads are located behind flood defence banks. The steep sides of the river banks also add to the inaccessibility of the designated site, therefore recreational impacts via public walkers are considered unlikely. A recreational impacts assessment was undertaken in order to assess the potential for impacts upon the Humber Estuary SAC/SPA. Results are included in Appendix 13. The assessment has concluded that no significant recreational impacts are likely to occur as a result of the proposed development. Within NE's advice on conservation objectives for the Humber Estuary SAC, river- and sea lamprey are not considered to be moderately or highly sensitive to non-physical disturbance, which includes 'noise, e.g. land/water-based recreation and marine traffic'. The development will offer no direct access to the SAC / Ramsar site by foot, cycle or vehicles. Additionally, there will be no facilities adjacent to the SAC/Ramsar site. Light spill and glare impacts are considered unlikely due to the presence of flood defence banks along the River Trent and scrub planting along the M181. The closest transport links from the site and towards the SAC are the M181, approximately 2km east at its' closest point, and the M180, approximately 3km to the south at it's closest. No direct route passes within 200m of the SAC . Air pollution impacts from increased transport are therefore considered unlikely.

IEF: The Humber Estuary SAC	
	The cessation of intensive agriculture will result in a lower pesticide, herbicide, sediment and nutrient loading of run-off, but in the absence of mitigation there is potential for sedimentation and pollution impacts via surface water drainage during the operational phase.
Mitigation	A Habitats Regulations Assessment will be required to complete an assessment of impacts. <u>Construction phase</u> An industry best practice Construction Environmental Management Plan (CEMP) as outlined in para 5.6, above, would be produced and implemented to mitigate potential negative construction effects prior to the commencement of any construction activity. <u>Operational phase</u> Surface water quality issues during the operational stage would be addressed through a SuDS drainage strategy/maintenance and management plan as outlined in the Sustainable Drainage Statement as submitted with the application (LLP1-BWB-ZZ-XX-PR-YE-0003_SDS_S2). The detailed surface water drainage strategy for each phase of the development of the Site, will include mitigation measures to be adopted in relation to water quality during the operational phase. This will ensure that the surface water run-off will be restricted to existing rates, foul water will be treated off-site and the operational maintenance to ensure that the contaminant control measures remain effective can be secured. Information packs should be distributed to residents informing them of the ecological value of nearby sites on the National Network. The packs would include measures the residents should take to minimise or prevent impacts to the designated sites, primarily through the use of the alternative recreational opportunities provided on Site, and responsible use of the designated sites. The packs would include information on preventing disturbance to SPA / Ramsar qualifying species – through e.g. responsible dog ownership, keeping to paths, and noting particularly sensitive times of year – as well as highlighting alternative recreational opportunities or when in the SPA / Ramsar, adhering to existing codes of conduct and focusing activities (walking, dog walking etc) within managed areas of the SPA / Ramsar. The Humber Estuary European Marine Site Codes of Conduct[20] includes useful contacts as well as codes of conduct relating to: water & airborne recreation, walking, dog walking and horse riding, bird watching, angling, bait digging, wildfowling, motorised access and field trips.
Residual Effect	Neutral
Compensation	Not applicable

[20] https://humbernature.co.uk/assets/codes-of-conduct-pdf.pdf

IEF: The Humber Estuary SPA	
Assessment of Impacts	The closest part of the SPA boundary is c. 10.9 km to the north, therefore no direct impacts are considered likely. <u>Construction phase impacts</u> Given the results of the bird surveys undertaken, it is considered unlikely that the Site provides functionally linked land to the SPA. No SPA species were observed in significant numbers and therefore, no significant construction phase impacts on SPA birds are predicted. <u>Operational phase impacts</u> A recreational impacts assessment was undertaken in order to assess the potential for impacts upon the Humber Estuary SAC/ SPA. Results are included in Appendix 13. The assessment has concluded that no significant recreational impacts are likely to occur as a result of the proposed development. Due to the distance of over 10km to the Site, no other impacts are considered likely.
Effect	Neutral
Compensation	Not applicable

IEF: The Humber Estuary Ramsar	
Assessment of Impacts	As the interest features for this designation mirror those of the Humber Estuary SAC and SPA, no separate individual assessment has been made in relation to the Ramsar.

IEF: Brumby Common West (LWS)	
Assessment of Impacts	Although adjacent to a section of the northern boundary, the LWS is located on the northern side of a boundary ditch, therefore direct impacts are unlikely. <u>Construction phase impacts</u> There is hydrological connectivity as the Site shares a boundary ditch. However, flow in the ditch is westwards and away from the LWS. Integral to the design is a c26m wide buffer of natural habitat in order to minimise potential impacts . However, there remains a potential risk for indirect effects during construction via changes to surface water run-off quality and accidental pollution of the watercourse. Habitats present could be potentially affected by deposition of dust, resulting in changes to the vegetation composition over time. The Institute of Air Quality Management Guidance on the Assessment of Dust from Demolition and Construction , suggests that effects to potential ecological receptors are unlikely

IEF: Brumby Common West (LWS)	
	at distances over 50m from the source[21]. The majority of the LWS is outside this distance but an area approximately 1646m^2 within the southwest of the Site falls within this distance. This area is shown on OS maps and described within the citation as a pine plantation of limited botanical interest. <u>Operational phase impacts</u> The cessation of intensive agriculture will result in a lower pesticide, herbicide, sediment and nutrient loading of run-off, but in the absence of mitigation there is potential for sedimentation and pollution impacts via surface water drainage during the operational phase. There is potential for recreational impacts during operation. However, integral to the design are significant areas of recreational greenspace which will provide alternative recreational opportunities within the site to minimise the potential for significant adverse effects. In the absence of mitigation, impacts on the IEF are considered to be Negative not significant at a District Scale.
Mitigation	<u>Construction phase</u> An industry best practice Construction Environmental Management Plan (CEMP) as outlined in para 5.6, above, would be produced and implemented to mitigate potential negative construction effects prior to the commencement of any construction activity. <u>Operational phase</u> As outlined previously, surface water quality issues during the operational stage would be addressed through a SuDS drainage strategy/maintenance and management plan as integral to the scheme. Information packs should be distributed to residents and signage boards should be erected at the entrances to the LWS, informing the public of the ecological value and the need to manage them appropriately. Dog waste and litter bins shall also be placed at the entrances to the LWS, to reduce the impact of dog fouling and littering within.
Residual Effect	Neutral.
Compensation	None required.

IEF: Westcliff Lagoon (LWS)	
Assessment of Impacts	There is limited hydrological connectivity. Ditches south of Brumby common lane flow westward, away from the LWS and drains bounding the LWS were found to be dry during the water vole surveys. Additionally, the citation for the LWS states that inflow to the LWS is via the east, with outflow westwards and water quality is

[21] Holman, C. et al. (2014). IAQM Guidance on the assessment of dust from demolition and construction. Institute of Air Quality Management, London. http://www.iaqm.co.uk/text/guidance/construction-dust-2014.pdf

IEF: Westcliff Lagoon (LWS)	
	considered low due to the urban catchment. Hydrological impacts are therefore considered unlikely. Construction phase impacts Habitats present could be potentially affected by deposition of dust, however, construction in the vicinity of the LWS is limited to creation of a cycle track, Operational phase impacts There is potential for recreational impacts during operation. The LWS citation mentions some current public use of the LWS, with interconnecting paths maintained by public use. However, integral to the design are significant areas of recreational greenspace which will provide alternative recreational opportunities within the site to minimise the potential for significant adverse effects. In the absence of mitigation, impacts on the IEF are considered to be Negative, not significant at a District scale.
Mitigation	Construction phase An industry best practice Construction Environmental Management Plan (CEMP) as outlined in para 5.6, above, would be produced and implemented to mitigate potential negative construction effects prior to the commencement of any construction activity. Operational phase Information packs should be distributed to residents and signage boards should be erected at the entrances to the LWS, informing the public of the ecological value and the need to manage them appropriately. Dog waste and litter bins shall also be placed at the entrances to the LWS, to reduce the impact of dog fouling and littering within. These measures could be secured through the detailed landscape design / BNG condition.
Residual Effect	Neutral
Compensation	None required

IEF: The Humberhead Levels NIA	
Assessment of Impacts	Construction phase impacts There is hydrological connectivity and therefore potential for impacts via accidental pollution to the watercourse., Due to the distance and intervening habitat, disturbance/ accidental damage impacts are considered unlikely. Operational phase impacts The design, which is shown on the Landscape Site Plan in Appendix 12 of this EcIA has sought to strengthen the functionality of the NIA by establishing significant areas of green infrastructure in areas mapped within or located immediately

IEF: The Humberhead Levels NIA	
	adjacent to the network. The detailed design of the Sites green infrastructure, secured and delivered by the Biodiversity Net Gain Condition attached to any planning permission will focus on creating strong ecological corridors on north-South and east-west axes, through the planting of medium distinctiveness habitats, and by appropriate buffering and enhancement of existing connecting ditches, to connect the NIA to existing offsite habitats to the north, south and east. The core Biodiversity Net Gain delivery area, located to the west of the Site will deliver a significant increase in biodiversity value in an area immediately adjacent to the NIA. The cessation of intensive agriculture will result in a lower pesticide, herbicide, sediment and nutrient loading of run-off, but in the absence of mitigation there is potential for sedimentation and pollution impacts via surface water drainage during the operational phase.
Mitigation	<u>Construction phase</u> An industry best practice Construction Environmental Management Plan (CEMP) as outlined in para 5.6, above, would be produced and implemented to mitigate potential negative construction effects prior to the commencement of any construction activity. <u>Operational phase</u> Surface water quality issues during the operational stage would be addressed through a SuDS drainage strategy/maintenance and management plan as integral to the scheme. As outlined previously.
Residual Effect	Neutral
Compensation	None required

IEF: Lowland dry Acid grassland	
Assessment of Impacts	No detailed design for this parcel currently exists, it has therefore been assumed that this habitat will be lost. However, due to its location at the boundary, there is potential to retain and enhance this habitat within proposals.
Mitigation	Any habitat losses will be accounted for within the BNG strategy for the Site.
Residual Effect	Neutral
Enhancement	Where new grasslands are being created within the BNG/Mitigation greenspace areas, soil testing will be undertaken. Should suitable conditions be identified, there is opportunity to create this habitat and to maintain the grassland in a better condition than the baseline.

IEF: Ditches	
Assessment of Impacts	<u>Construction phase impacts</u> Most ditches will be retained within proposals. A minimum 5m buffer will be incorporated along the banks of retained ditches. Construction of a vehicle access road will require culverting a section of ditch D3.1b (Earl Beauchamp's Warping Drain). It is also proposed to construct a pedestrian footbridge across D3.1. this has been set back from the banks by an appropriate distance to avoid impacts. The water vole receptor will require a new headwall constructing in the western bank of D3.1b . Ditch 3.7 and Sections of D3.6 and D3.8 will be lost due to the proposed residential development . There is a risk of accidental pollution to the watercourse during construction. <u>Operational phase impacts</u> The Proposed Development includes extensive creation of new wet ditches, resulting in a net increase in length of this habitat. Additionally, cessation of ploughing within the riparian zone will result in enhancements to Ditches D3.1a D3.1b and D3.2. Accordingly, no significant operational phase effects are anticipated.
Mitigation	Precautionary measures and procedures will be outlined within a Construction Environmental Management Plan (CEMP) in order to minimise impacts to ditches for the duration of the construction phase. As part of the BNG strategy (FPCR 2023) monitoring will be undertaken to ensure that the proposed ditch habitat condition is maintained for a period of not less than 30 years
Residual Effect	Neutral
Compensation	Not applicable

IEF: Hedgerows	
Assessment of Impacts	<u>Construction phase impacts</u> Proposals will result in the permanent loss of H1 and H2, native hedgerows. <u>Operational phase impacts</u> It is anticipated that at new species rich native hedgerows will be planted within greenspace (which are better quality than those lost). The BNG strategy for the site has demonstrated over 10% net gain in linear biodiversity units (see Biodiversity Net Gain Strategy). Additional hedge planting is also expected to be incorporated within detailed reserved matters for the outline phases of development. This will result in a Positive impact at a local level.

IEF: Hedgerows	
Mitigation	Not applicable

IEF: Common toad	
Assessment of Impacts	<u>Construction phase impacts</u> Ditches and marginal/terrestrial habitats suitable for use by Common Toad would be lost as a result of the Proposed Development, and individuals would be at risk of killing/injury through ditch re-profiling and earthworks associated with the construction. <u>Operational phase impacts</u> The introduction of people and their pets to the Site will result in an increase in predation from domestic cats. However, the Proposed Development includes for the creation of significant areas of new green infrastructure, including substantial new areas of habitat suitable for amphibians. The increased population sizes of amphibians that are predicted to result from an increase in habitat availability and quality will have a greater capacity to withstand predation pressures, and it is considered that the beneficial effects are likely to outweigh the negative effects of cat predation. Effects are therefore considered to apply during construction only.
Mitigation	<u>Construction phase impacts</u> In order to minimise risk of killing or injury to Common Toad during construction, a method statement for clearance works in suitable habitat would be developed at the detailed design stage. The method statement would set out appropriate measures which could include: • Timing – works to be undertaken during the active season for Common Toad (March to September); • Hand searching for refuge features; • Vegetation management; • Destructive search; and • Relocation of any individuals found to suitable (new or existing) habitats outside the active construction site.
Residual Effect	Neutral
Compensation	Not applicable
Enhancements	Provision of amphibian refugia/hibernacula within suitable locations would provide an enhancement for this species.

IEF: Breeding birds	
Assessment of Impacts	<u>Construction phase impacts</u>

IEF: Breeding birds	
	There is a risk of disturbance to nesting birds if clearance works are undertaken during the active bird nesting season. <u>Operational phase impacts</u> The creation of extensive wetland habitat and new tree planting and hedgerow provision as part of the greenspace and water vole receptor will provide significant areas of alternative habitat for the species assessed as likely to utilise the Site for breeding. There is likely to be an increase in cat predation as a result of changes to residential use of the land. However, the creation of the water vole habitat receptor has designed safe refuge areas for nesting birds within the proposed gravelled islands. Additionally, provision of extensive new habitat will result in increased population sizes which will have a greater capacity to withstand predation pressures.
Mitigation	<u>Construction phase</u> • Clearance of trees/shrubs (and ideally buildings) would be undertaken outside of the main bird breeding season which is typically defined as March to August inclusive (although breeding can occur outside of this window); and • Where unavoidable, any vegetation clearance during nesting bird season would be hand/visually searched for bird nests prior to removal. Any nest found in use or under construction would be left undamaged until all chicks had fledged and alternative approaches to the works proposed. • Disturbance to breeding birds would be minimised through: o Where appropriate use of sound and vibration dampening techniques during construction; and o Establishing works exclusion zones where any active nests discovered close to construction activity. <u>Operational phase</u> To deter encroachment of domestic cats into sensitive areas and also to provide refuges for birds, it is recommended that the boundaries around the development are strengthened through the planting of native thorny plant species (e.g. blackthorn Prunus spinosa, hawthorn Crataegus monogyna).
Residual Effect	Neutral
Compensation	Not applicable
Enhancement	The provision of integral nest sites fitted into the fabric of a building will also be used by house sparrows, tits and starlings so are considered a 'universal brick'. • External nest boxes are additional enhancements to the BS42021:2021 guidance and do not contribute towards the one-nest-box-per-dwelling requirement. Such enhancements that could be integrated with the on-going management of the Site include the erection of a mixture of nest box types where possible. The following provides details of suggested suitable nest box types: • a mixture of small hole (26mm and 32mm) boxes placed along the retained woodlands to the south of the site will provide nesting opportunities for a range of tit species. These boxes generally have a high uptake rate;

IEF: Breeding birds	
	• small open fronted nest boxes again should be placed throughout the site especially on trees which support a climber such as ivy which provides a degree of concealment. These boxes typically attract robin and blackbird; • consideration should also be given to stock dove nest boxes within the more established boundary habitats including mature tree standards. • Consideration should subsequently be given to the provision of nest boxes for birds found in built environments, including house sparrow *Passer domesticus*, and house martin *Delichon urbicum.*

IEF: Wintering and passage birds	
Assessment of Impacts	<u>Construction phase impacts</u> Operations likely to disturb wintering birds include noise from vegetation clearance, initial ground works and some construction activities, such as piling, which are of low frequency but high amplitude. Active, high level, infrequent disturbance causes most birds to be displaced for short periods. During the wintering season disturbance may lead to the avoidance of important foraging habitats. Whilst there is some potential for foraging success to be reduced, this is not expected to affect the local conservation status of the majority of the wintering bird species. All arable habitat on site will be lost, alongside partial loss of hedgerows and wet ditches. The loss of wintering habitat will largely be compensated for in connection with the water vole habitat receptor, this will include open habitat to provide foraging and roosting space for species associated with the Humber Estuary Ramsar / SSSI. Additionally, significant tree and hedgerow planting as well as the creation of large areas of meadow grassland and wet grassland will provide suitable foraging and roosting space for wintering birds. <u>Operational phase impacts</u> There is likely to be an increase in cat predation as a result of changes to residential use of the land. However, the creation of the water vole habitat receptor has designed safe refuge areas for birds within the proposed gravelled islands. Additionally, provision of extensive new habitat will result in increased population sizes which will have a greater capacity to withstand predation pressures.
Mitigation	<u>Construction phase</u> Disturbance to wintering birds would be minimised through: o Where appropriate use of sound and vibration dampening techniques during construction; and o A Construction Environmental Management Plan (CEMP) is produced to prevent impacts to the SSSI through hydrology. <u>Operational phase</u> To deter encroachment of domestic cats into sensitive areas and also to provide refuges for birds, it is recommended that the boundaries around the development are strengthened through the planting of native thorny plant species (e.g. blackthorn Prunus spinosa, hawthorn Crataegus monogyna).

IEF: Wintering and passage birds	
Residual Effect	Neutral

IEF: Bats	
Assessment of Impacts	It is unlikely that the proposals will result in any impacts to roosting bats, either directly or by impacting commuting routes of significant roosts (maternity). <u>Construction phase impacts</u> There will be a direct loss of Hedges H1 and H2. There is also the potential for disturbance from any night-time lighting, which could result in the temporary disruption of flight routes and displacement away from foraging areas. <u>Operational phase impacts</u> Proposals will increase light levels on Site which would reduce the suitability of retained and created habitats. However, these features are typically buffered. The reduction in suitability of the on-Site habitats due to lighting is not considered likely to cause a significant effect given the number of bats recorded on Site and the fact that pipistrelles, which dominated activity on Site, are not as light-adverse as other species. The proposed Site layout includes enhancements which will mitigate the minor losses through increasing the abundance of prey species and providing further linear features for commuting. These enhancements would therefore likely increase the value of on-Site foraging and commuting habitat for bat species. These include planting of native trees, enhancement of waterbodies as well as provision of species rich meadow grassland areas
Mitigation	<u>Construction phase impacts</u> A CEMP would be implemented and include measures to minimise the potential for, and scale of, negative effects on commuting and foraging bats. <u>Operational phase impacts</u> The lighting scheme for the Site will be designed to minimise light-spill onto habitats both within and adjacent to it that are suitable for bat foraging and/or commuting. It is recommended that the lighting design strategy is reviewed (and if necessary updated) for any new development proposals as part of future Reserved Matters applications, to ensure there are no negative impacts to wildlife from lighting.
Residual Effect	Neutral
Compensation	Not applicable
Enhancements	New bat boxes across the site are recommended these should be integrated into buildings that are close to greenspace and suitable foraging habitat. Additionally, external bat boxes should be mounted in suitable locations.

IEF: Common lizard	
Assessment of Impacts	<u>Construction phase impacts</u> Albeit in low numbers, common lizards are known to be present on the Site and individuals would be at risk of accidental killing/injury through earthworks associated with the construction in habitats suitable for common lizards. <u>Operational phase impacts</u> As the Proposed Development includes the creation of significant areas of new green infrastructure, including new habitats suitable for common lizards, effects are considered to apply during construction only.
Mitigation	The clearance of habitat suitable for hibernation (fallen logs/ tree roots/ rocks / etc) should be avoided during March to November, to avoid potential harm to reptiles. In accordance with the legal protection that common lizard is afforded, a detailed reptile mitigation strategy is included in the Reptile Survey Report (Appendix 3) which provides details of best practice to ensure that reptiles are not harmed during works.
Residual Effect	Neutral
Compensation	Not applicable
Enhancements	Provision of refugia/hibernacula within suitable locations would provide an enhancement for this species.

IEF: Water vole	
Assessment of Impacts	<u>Construction phase impacts</u> Construction of a vehicle access road will require culverting a section of ditch D3.1b (Earl Beauchamp's Warping Drain). This will impact approximately 48m of Ditch 3.1b (including a 10m buffer each side of the culvert). It is also proposed to construct a pedestrian footbridge across D3.1. this has been set back from the banks to avoid impacts to water vole. The water vole receptor will require a new headwall constructing in the western bank of D3.1b . Ditch 3.7 and Sections of D3.6 and D3.8 will be lost due to the proposed residential development . The remaining sections of D3.6 and D3.8 as well as the connecting ditch, D3.9, will be isolated and therefore also considered to be lost. As such, this will result in the. the permanent loss of 518m and temporary loss of 40m of water vole habitat as well as 611m of isolated habitat. As such the resulting habitat loss has potential to impact up to 14 water vole breeding territories.

IEF: Water vole	
	Proposals also have the potential to negatively impact upon the identified water vole population during the construction phase via: • accidental pollution or damage to the watercourse during construction. • risk of accidental damage or destruction of a place of rest or shelter. • disturbance and incidental mortality. and • loss of foraging habitat. <u>Operational phase impacts</u> Following the construction phase, the Site will change use from agricultural to residential. This operational phase of the proposed development has the potential to negatively impact upon the water vole population in the following ways: • increased pollution such as litter. • increased risk of predation and disturbance by domestic animals and disturbance from people. The proposals include for the creation of significant areas of new green infrastructure, including habitats specifically designed to be of value to water vole
Mitigation	A detailed mitigation strategy is included in the water vole appendix (Appendix 1) . The measures outlined will compensate and provide a degree of enhancement for the permanent loss and isolation of water vole habitat, this will not be realised until the habitat within the newly created receptor is established. Any works to Water Vole habitat would need to be undertaken under a NE licence, which would require that the conservation status of Water Vole populations be maintained. Additional field surveys would be required to confirm the extent of Water Vole populations (and keep baseline information up to date) and inform the development of the detailed designs of later phases of development. <u>Construction phase</u> Passive water vole displacement will be undertaken under mitigation licence to facilitate the culverting of D3.1 and creation of a headwall. This can be undertaken between 15th February and 15th April or 15th September and 31st October and should only be used in linear habitats less than or equal to 50m in length. It should be noted that if works need to occur outside of the period stated above then displacement would need to be undertaken in the proceeding periods and maintained in an unsuitable condition. A custom built receptor providing 1154m of new optimal water vole habitat will be constructed during late 2025/ early 2026 and vegetation will be allowed to mature whilst water vole will be excluded from the area with the use of fencing. Once the receptor is mature, a trapping and translocation exercise whereby water voles will be relocated from ditches 3.6, 3.7, 3.8 and 3.9, these areas to the established receptor site will be undertaken in Autumn or spring. Standard good working practices to avoid damage to the banks of the watercourse habitat during construction, or pollution events, should always be employed with

IEF: Water vole	
	full consideration of the requirements of water voles which may be present. Appropriate precautions will be incorporated into a Construction Environmental Management Plan (CEMP) which will be implemented to control the works. To avoid disturbance impacts during consruction, all ditches on Site will have buffer zones of at least 5m clearly demarcated and fenced. This will help protect the burrows and therefore any water voles that might be present. As such, disturbance from construction activities is considered unlikely to result in any adverse impacts to water voles at a local population level. <u>Operational phase</u> Enhancement and ongoing management of the existing and newly created ditches will be undertaken to ensure continuity of habitat provision for water vole. The resulting vegetation will provide increased cover for water voles from predation. The new creation of the new water vole mitigation area will be designed to be of greater habitat quality than the ditches on Site that are to be lost. This will increase the carrying capacity of the Site for water vole, which is likely to result in an increase to the population size. This would in turn increase the tolerance of the population to a marginal increase in predation from domestic cats. All new households within the development would be provided with information outlining advice on measures that can be taken to reduce the effect that cats have on local wildlife, such as keeping them in overnight (at least an hour before sunset and an hour after sunset), collars with bells or other devices, keeping cats well-fed and cared-for, taking unwanted cats to a shelter and having cats neutered.
Residual Effect	Neutral
Compensation	Not applicable

N

0 0.5 1 km

- Site boundary
- 1km buffer
- 2km buffer
- 10km buffer

Designated sites

- Special Area of Conservation (SAC)
- RAMSAR Sites
- Special Protection Area (SPA)
- Sites of Special Scientific Interest (SSSI)
- Local Wildlife Sites (LWS)
- Local Nature Reserves (LNR)
- Ancient & Semi-Natural Woodland (ASNW)
- Nature Improvement Areas (NIA)

1. Brumby Common West (LWS)
2. Westcliff Lagoon (LWS)
3. Ashby Decoy Golf Course (LWS)
4. Ridge Walk (LWS)
5. Kingsway Golf Course (LWS)
6. Brumby Wood (LWS, LNR, ASNW)
7. Humber Estuary (SSSI, SAC, RAMSAR)
8. Thorne Moor (SAC, SPA)
9. Hatfield Moor (SAC, SPA)
10. Humberhead Levels (NIA)

0 2.5 5 km

date: 15/11/24

drwn/chkd: CAG / ET

client: Hargreaves Land

project: Lincolnshire Lakes Scunthorpe

title: CONSULTATION PLAN - DESIGNATED SITES

scale: 1:22,857@ A3

number: **FIGURE 1**

rev: -

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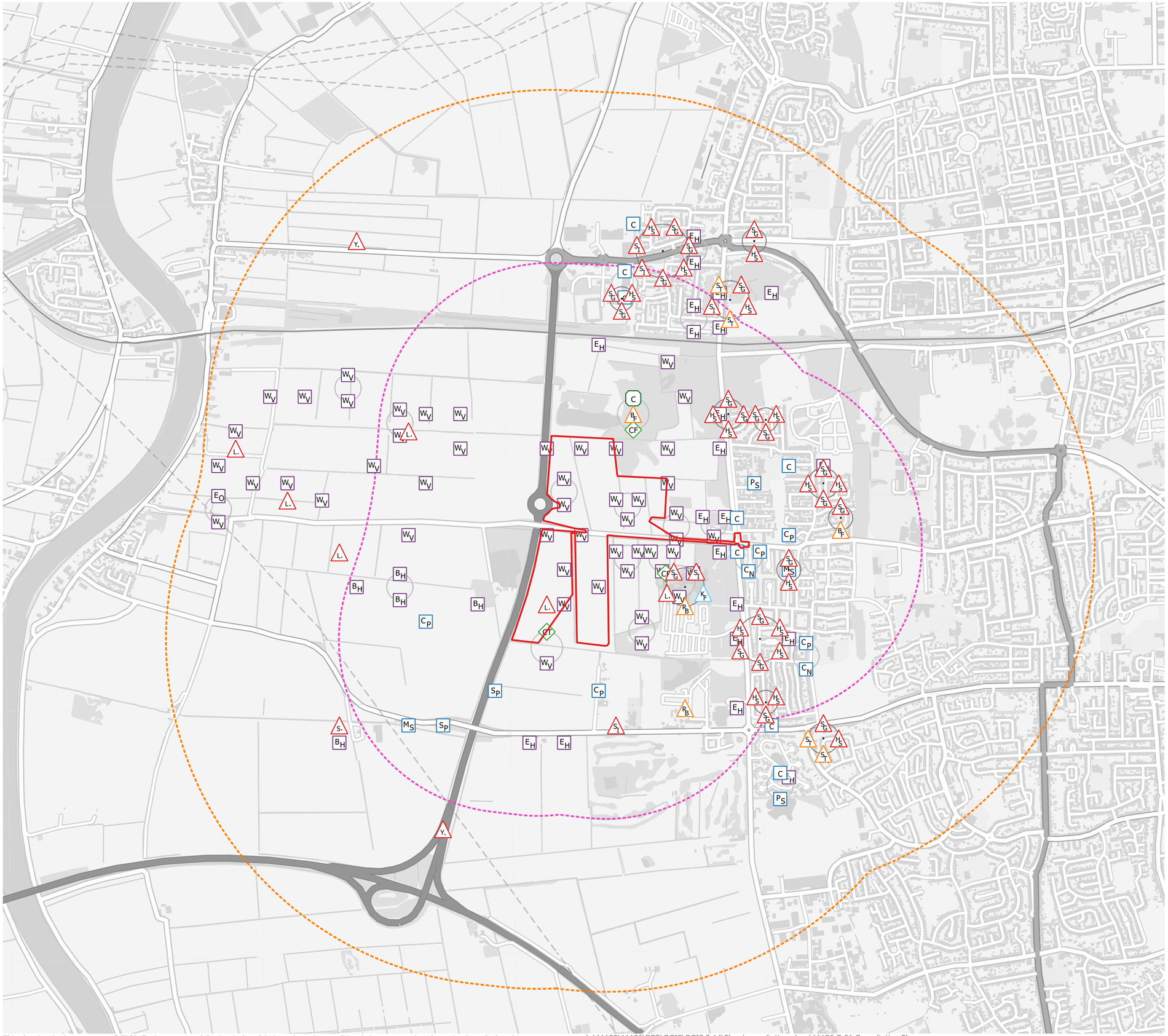

Key:

- Site boundary
- 1km buffer
- 2km buffer

Species

- Bullfinch
- House sparrow
- Kingfisher
- Lapwing
- Reed bunting
- Skylark
- Song thrush
- Starling
- Swift
- Yellowhammer
- Brown hare
- Cinnabar
- Common frog
- Common toad
- European otter
- Water vole
- European hedgehog
- Bat
- Common noctule
- Common pipistrelle
- Myotis species
- Pipstrelle species
- Soprano pipistrelle

date: 17/01/25

drwn/chkd: BC / ET

client: Hargreaves Land

project: Lincolnshrie Lakes Scunthorpe

title: CONSULTATION PLAN PROTECTED/NOTABLE SPECIES

scale: 1:21,803 @ A3

number: **FIGURE 2**

rev: -

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N

0 100 200 m

Red Line Boundary

Habitats Baseline

- Artificial unvegetated, unsealed surface
- Bramble scrub
- Cereal crops
- Developed land; sealed surface
- Lowland dry acid grassland
- Modified grassland
- Other neutral grassland

Baseline Hedgerow

- Native hedgerow
- Native hedgerow - associated with bank or ditch

Baseline Watercourse

- Culvert
- Ditches

date 08/01/25

drwn/chkd ET

client
Hargreaves Land

project
Lincolnshire Lakes,
Scunthorpe

title
BASELINE HABITAT PLAN

scale
1:5,000 @ A3

number
FIGURE 3

rev
-

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