

BIODIVERSITY APPRAISAL

EL03 - IVY HOUSE FARM

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A NEW PLAN FOR
THE PLANET

 ENVIRONMENT
BANK

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Table of Contents

Executive Summary	6
1. Overview	8
1.1 Delivering Biodiversity Net Gain	8
1.2 Purpose of the Report	8
1.3 Accompanying Information	8
1.4 Site Description	9
2. Legislative and Policy Context	9
3. Data Collation Methods	9
3.1 Desktop Study	9
3.2 Habitats and Flora	10
3.3 Fauna	11
3.4 Additional Surveys	11
3.5 Strategic Significance	11
3.6 Limitations	12
4. Data Collation Results	12
4.1 Desktop Study	12
4.2 Habitats and Flora	14
4.3 Fauna	16
4.4 Additional Surveys	18
4.5 Strategic Significance	19
5. Evaluation	19
5.1 Designated Sites	19
5.2 Habitats and Flora	20
5.3 Fauna	20
5.4 Strategic Significance	20
6. Habitat Creation and Enhancement Proposals	22
6.1 Design Approach	22
6.2 Retained Habitats	22
6.3 Proposed Habitats	22
6.4 Benefits to Fauna	26

7. Biodiversity Accounting of Proposals	28
7.1 Biodiversity Accounting Assessment.....	28
8. Monitoring Schedule	29
8.1 Monitoring Strategy	29
8.2 Monitoring Methods and Intervals	29
Table 7: Monitoring Methods and Intervals	30
8.3 Reporting.....	30
9. Conclusions	31
References	32

List of Tables

Table 1: Sources of information.....	10
Table 2: Summary of designated sites desk study data.....	12
Table 3: Summary of habitat enhancement opportunities.	14
Table 4: Available biodiversity units for habitats	29
Table 7: Monitoring Methods and Intervals	30

List of Figures

Figure 1: Site Boundary.....	33
Figure 2: Baseline Habitats	34
Figure 3: Baseline Condition Assessment	35
Figure 4: Baseline Strategic Significance.....	36
Figure 5: Proposed Habitats.....	37
Figure 6: Proposed Habitats Target Condition	38
Figure 7: Proposed Habitats Strategic Significance	39
Figure 8: Constraints and Services Plan	40
Figure 9: Hydrology Survey Results	41

List of Appendices

Appendix A: Legislation and Policy	42
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Appendix B: Recent Desktop Study Records.....	45
Appendix C: Baseline Photographs	50
Appendix D: Baseline Habitat Condition Assessment	51
Appendix E: Implications on Designated Sites, Habitats and/or Species	59
Appendix F: Baseline Grassland Species	61
Appendix G: Soil Results	64

Executive Summary

This report outlines the biodiversity appraisal of a proposed Habitat Bank within the Local Planning Authority of East Lindsey District Council.

The Site currently comprises 18.75 ha of predominantly *Miscanthus* grass crops at Ivy House Farm (Environment Bank Ltd Ref: EL03), Minting, Lincolnshire (The Site). The creation of Priority Habitats within a network of supporting semi-natural habitats will provide an off-site solution to Biodiversity Net Gain.

An ecological assessment was undertaken to establish a baseline for the Site, as well as understand the local ecological priorities for biodiversity enhancement design, and to inform the proposed management measures that would need to be actioned for the lifetime of the project. Further surveys, including hydrological assessment, were undertaken to further inform micro-siting of habitats.

The baseline habitats for the Site are:

- Non-Cereal Crops (17.3ha)
- Other Neutral Grassland (0.96ha) in Poor Condition
- Willow Scrub (0.04ha) in Good Condition
- Willow Scrub (0.4ha) in Moderate Condition
- Ponds (non-priority) (0.003ha) in Moderate Condition
- Native Hedgerow (0.77 km) in Good Condition.
- Species-rich Native Hedgerow (0.27km) in Good Condition.

Following the detailed assessment including desk study and field survey, the following habitats are proposed which are considered beneficial for the Site, the area within which it sits, and which contribute to local ecological targets.

The proposed created, enhanced and retained habitats for the Site are:

- Other Neutral Grassland (9.47ha) in Good Condition (creation)
- Other Neutral Grassland (0.96ha) in Good Condition (enhanced)
- Mixed Scrub (7.28ha) in Good Condition (creation)
- Other Woodland; Broadleaved (0.68ha) in Moderate Condition (creation)
- Ponds (priority habitat) (0.32ha) in Good Condition (creation)
- Ponds (priority habitat) (0.003) in Good Condition (enhanced)
- Willow Scrub (0.04ha) in Good Condition (retained)
- Native Hedgerow (0.77 km) in Good Condition (retained)
- Species-rich native hedgerow (0.27km) in Good Condition (retained).

There will be substantial ecological benefits for a range of species through the creation of Mixed scrub, Other neutral grassland and ponds. These created habitats will contribute towards an ecotone of edge habitats between the adjacent ancient woodland and the site.

The vegetative structure created will benefit many species, including an existing population of Nightingale *Luscinia megarhynchos*, Woodcock *Scolopax rusticola* and Snipe *Gallinago gallinago*. Opportunities for local amphibian, reptile and small mammal species will also be created through the creation of mosaic habitats.

Prior to creation works, the baseline habitats equated to 47.25 habitat Biodiversity Units (BU) and 11.86 hedgerow BU.

Following creation works, the Site will provide a total net gain of 173.73 habitat BU, before baseline has been accounted.

The creation of a Habitat Bank at Ivy House Farm will produce an overall **biodiversity net gain of 126.48 habitat BU**.

The site is owned by The Environment Bank and The Habitat Bank has been secured for 33 years by legal agreement to legally ensure the highest quality delivery of the habitats.

Please note, that due to the presence of a badger sett recorded immediately adjacent to the site, this sett location must not be disclosed to the public.

1. Overview

1.1 Delivering Biodiversity Net Gain

- 1.1.1 Environment Bank Ltd (EBL) are establishing a national network of Habitat Banks across England. All developments will need to deliver at least a 10 % increase in biodiversity as a result of their proposals; Biodiversity Net Gain (BNG). This can be delivered on-site or off-site. Habitat Banks are one-off solutions that unlock more sustainable development locally and meet wider nature recovery objectives. They are large-scale habitat creation and enhancement projects that deliver an uplift in biodiversity value and restore nature at scale. The Habitat Bank has been secured by legal agreement with the Land Owner to legally ensure the highest quality delivery of the habitats. The uplift in biodiversity is measured by the current version of The Statutory Biodiversity Metric (Defra, 2024a) (the Metric) and translated into Biodiversity Units (BU) that can then be sold to developers to meet their BNG obligations that became mandatory in February 2024. Habitat enhancement works at the Site will commence in advance of BU sales.

1.2 Purpose of the Report

- 1.2.1 This Biodiversity Appraisal outlines the ecological assessment of a Habitat Bank within the Local Planning Authority of East Lindsey District Council. The Site, Ivy House Farm (EBL Ref: EL03) is located in Minting, Lincolnshire.
- 1.2.2 This report aims to:
- Outline the approach to data collection undertaken for the Site and surrounding landscape;
 - Provide an overview of the ecological baseline and context of the Site;
 - Interpret the baseline and contextual data to inform the design of the Habitat Bank, target habitats and condition;
 - Provide the biodiversity assessment result (using the latest Statutory Biodiversity Metric) of the Site; and
 - Demonstrate how many biodiversity units of each habitat type the site can provide.

1.3 Accompanying Information

- 1.3.1 This Biodiversity Appraisal Report forms part of a suite of documents which together provide a full breakdown of the biodiversity delivery at the Site:
- The Statutory Biodiversity Metric Calculation Tool
 - Habitat Management Plan
 - Legal Framework

1.4 Site Description

- 1.4.1 The Site is located at Ivy House Farm, to the west of Minting, approximately 15 km east of Lincoln and is centred at grid reference TF 16814 73731.
- 1.4.2 Encompassing an area of 18.75 ha, the Site predominantly comprises fields of *Miscanthus* crop. Additional habitats located within the Site are areas of Other neutral grassland field boundaries, a small copse of Willow scrub (supporting a non-priority pond) and native hedgerows bordering the fields. A drain runs north to south through the site, most of which is located under the existing network of hedgerows.
- 1.4.3 Ancient woodland (Chambers Plantation and Minting Wood Local Wildlife Sites (LWS)) is present along the northern and western site boundaries, while arable land stretches to the east and south of the site. The areas of existing ancient woodland have high biodiversity value and are excluded from the Habitat Bank. However, the proposed Habitat Bank aims to enhance habitat connectivity, linking the ancient woodland to surrounding habitats in the wider landscape. Moreover, strategically positioned within Natural England's 'Network Enhancement Zone 2', the Site presents promising prospects for habitat creation. Its placement makes it an ideal site for expanding current habitat networks, thus fostering biodiversity on a broader scale.
- 1.4.4 The Site boundary is presented on Figure 1.

2. Legislative and Policy Context

- 2.1.1 A review of planning guidelines, international commitments, legislation and planning policies relevant to the protection, conservation and enhancement of nature conservation interests was undertaken. Specific legislation and local policy taken into account as part of this appraisal is provided in Appendix A.

3. Data Collation Methods

3.1 Desktop Study

- 3.1.1 Ecological information relating to the Site was collated from the sources listed in Table 1 below. This collated data gives a useful indication of the distribution and abundance of ecological receptors at a given locale. In addition to statutory protected sites and relevant policy, consideration has also been made regarding the presence of protected or otherwise notable species in order to ensure legislative and policy compliance, as well as informing habitat creation prescriptions and management measures.

Table 1: Sources of information

Source of information	Nature of information
Magic Map	Statutory designated wildlife sites (Ramsar and National Site Network sites) within 10 km Other statutory designated wildlife sites of national to regional importance within 5 km Natural England licences within 2 km of the Site Habitats of value to biodiversity on and within 1 km of the Site
Land Manager	Site History information generated from a standard Environment Bank questionnaire issued to the Land Owner at registration and through ongoing discussion
Lincolnshire Environmental Records Centre (LERC)	Non-statutory designated wildlife sites of local importance within 1km Ecological network maps Protected species records within 1 km Species include those listed under the following: European Protected Species (EPS) Schedule 1 of the Wildlife and Countryside Act 1981, as amended (WCA1); Schedule 5 of the Wildlife and Countryside Act 1981, as amended (WCA5); Schedule 8 of the Wildlife and Countryside Act 1981, as amended (WCA8); Schedule 9 of the Wildlife and Countryside Act 1981, as amended (WCA9); Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities Act 2006 (S41); [REDACTED] Local Biodiversity Action Plan (LBAP); and Red and Amber listed Birds of Conservation Concern (BoCC) (BRd [BTO]/ BAm [BTO]).
East Lindsey Local Plan Core Strategies	Land allocations and relevant policies
GIS	Ordnance & aerial survey mapping and satellite photography

3.2 Habitats and Flora

UK Habitat Assessment - Baseline

- 3.2.1 An initial walkover of the Site was undertaken by Environment Bank surveyor Robert Wreglesworth MCIEEM on the 29th March 2023, and the habitats present were assessed using the UK Habitat Classification System (UKHab) (UKHab Ltd, 2023), taking into account the habitat category requirements for the Metric.

- 3.2.2 A full UKHab assessment of the Site was subsequently carried out within the recommended field season by Environment Bank surveyor Robert Wreglesworth MCIEEM on the 29th August 2023.
- 3.2.3 During the survey of the grassland, 1 x 1 m quadrats were used to record botanical species lists along with a percentage cover to determine the baseline habitat type.
- 3.2.4 During the initial site walkover and/or UKHab survey, any invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 and protected and/or notable plant species were recorded.

Habitat Condition Assessment - Baseline

- 3.2.5 A condition assessment of the baseline habitats was undertaken alongside the UKHab survey on 29th March 2023 and 29th August 2023. Assessment of the baseline habitats, hedgerows and ditches were completed in accordance with the Metric – Technical Annex 1 (Natural England, 2023).

3.3 Fauna

- 3.3.1 In accordance with best practice (CIEEM, 2021), during the UKHab survey, the Site was also assessed to determine the presence of, and/or the opportunities to support protected and notable species, including statutory protected species, Species of Principal Importance under Section 41 of the Natural Environment and Communities Act 2006 and priority species listed on the Local Biodiversity Action Plan.

3.4 Additional Surveys

Soil Chemistry

- 3.4.1 Soil sampling and analysis was undertaken in June 2024 by Agrovista. The samples were tested for pH, phosphorus, potassium and magnesium levels. Soil samples were taken in 1 km² areas across the Site, with each element being measured in parts per million (ppm).

Hydrology

- 3.4.2 A hydrology assessment was undertaken in May 2023 by Viridian Logic. The outcomes of the assessment were used to identify the depressions in the land, areas of sloping and surface water flows across the Site and to help the micro-siting of new Ponds.

3.5 Strategic Significance

- 3.5.1 Strategic significance is defined as '*the local significance of the habitat based on its location and habitat type*', and is a measurement assessed for each individual

baseline parcel within the Metric calculation tools. This is based on whether the habitat is identified as being ecologically important in a local strategy or if the location is identified within the local strategy, map or plan as being ecologically important (high strategic significance); or where no local strategy exists, if professional judgement can deem it ecologically desirable (Medium strategic significance). When none of the above apply the habitat is assigned low strategic significance. Strategic significance is considered separately for each individual baseline habitat.

3.6 Limitations

- 3.6.1 The main survey was completed within the optimal time of year for the habitats present and therefore there are no constraints related to seasonality for habitat categorisation. Whilst efforts were made to record all species using flowering or vegetative characteristics, some earlier flowering species may have been underestimated during the August visit. Given the selection of habitats recorded within the Site, this is not considered to have constrained the habitat classification or habitat condition assessments.

4. Data Collation Results

4.1 Desktop Study

- 4.1.1 A summary of the desktop results relevant to the Site is set out below. It should be noted that an absence of records does not confirm the absence of protected or notable species from the search area.

Designated Sites

- 4.1.2 Table 2 summarises the results of the desk study for statutory sites (Ramsar and National Site Network sites) within 10 km of the Site, other statutory designated sites of national and regional importance within 5 km, and non-statutory designated sites within 1 km.

Table 2: Summary of designated sites desk study data

Designated sites	
Statutory sites (10km):	
RAMSAR	There are no Ramsar sites within a 10 km radius of the Site.
National Site Network sites	There are no National Site Network sites within a 10 km radius of the Site.

Designated sites	
Statutory sites (5km):	
Sites of Special Scientific Interest (SSSI)	Bardney Limewoods Lincolnshire SSSI (East Midlands) (539.81 ha), located approx. 0.7km north of the site. Designated for important ancient woodland assemblages such as small-leaved lime. Little Scrubbs Meadow SSSI (East Midlands) (1.74 ha), located approx. 1.8km north of the site. Designated for important ancient woodland assemblages such as small-leaved lime.
National Nature Reserves (NNR)	Bardney Limewoods (382.85 ha)
Local Nature Reserves (LNR)	There are no NNRs within a 5 km radius of the Site.
Non-statutory sites (1km):	
Sites of Importance for Nature Conservation	Chambers Plantation and Minting Wood Local Wildlife Sites (LWS) are adjacent to the north and western site boundaries.

Protected and Notable Species Records

- 4.1.3 Greater Lincolnshire Nature Partnership (GLNP) provided recent records (within the last 10 years) of a number of protected and notable species within 1 km of the Site. Those identified on-Site, requiring consideration during works, or that have the potential to benefit from Habitat Bank creation are discussed within Sections 4.2 and 4.3. The full results are provided at Appendix B.

Local Plan and Notable Habitats

4.1.4 Table 3 provides a summary of the Site's nature conservation context.

Table 3: Summary of habitat enhancement opportunities.

Habitat enhancement opportunities	
National nature network	The site borders ancient woodland and restorable habitat from the Habitat Networks (England) map. It is also within 5 km of 3 Network Expansion Zones, one 4.85 km distance (perimeter), one 11 km and one 16.4 km. Habitats proposed on site (i.e. scrub and woodland) will introduce extra protection to the ancient woodland and create eco-toning along the perimeter of these areas.
Local ecological networks	The Council has undertaken a Green Infrastructure Audit, identifying existing networks of habitats across the District. From this work, it is possible to identify how any opportunities for further habitat creation fit into this network. The audit shows how new habitats can link with the existing resource.
Priority habitats	Whilst no priority habitats were identified on the Priority Habitat Inventory within the Site boundary, deciduous woodland is located within 500 m both north and west of the Site.
LBAP habitats	There are 34 listed habitats within the Lincolnshire LBAP. The following habitats listed are most relevant to the Site and the surrounding landscape: • Lowland meadows • Native woodland • Ponds, lake and reservoirs • Trees and hedgerows The Site has native hedgerow and woodland bordering the Site in places, however these habitats are excluded from the Habitat Bank.

4.2 Habitats and Flora

Excluded and Retained Habitats

- 4.2.1 All hedgerows, an area of existing Willow scrub and the drain present have been excluded from the Site. The drain is predominantly under the hedgerows and is heavily shaded and therefore habitat creation on site will not contribute to any negative changes to the drain.
- 4.2.2 The hedgerows and drain have not been included within any metric calculations. No BU uplift will be gained from these areas.

UK Habitat Assessment - Baseline

4.2.3 The results of the survey are presented on Figure 2. The habitats present within the Site are listed below, with subsequent descriptions of each habitat also provided:

- Non-Cereal Crops (17.3ha)
- Other Neutral Grassland (0.96ha) in Poor Condition
- Willow Scrub (0.04ha) in Good Condition
- Willow Scrub (0.4ha) in Moderate Condition
- Ponds (non-priority) (0.003ha) in Moderate Condition
- Native Hedgerow (0.77 km) in Good Condition.
- Species-rich Native Hedgerow (0.27km) in Good Condition.

Non-Cereal Crops

4.2.4 The majority of the Site comprises four arable fields dominated by *Miscanthus* grass.

4.2.5 This habitat type is classified as c1d5 in the UK Habitat Classification definitions and is defined as '*Miscanthus* (Elephant Grass) fields, often grown for biofuel'. In the DEFRA Statutory Metric, this habitat is defined as 'non-cereal crops' and does not need a condition assessment.

Other Neutral Grassland

4.2.6 There are two parcels of Other neutral grassland present on site. These are located in the northeast corner (bONG01) and central south (bONG02) of the site. Both parcels support a similar sward length and composition. The grasslands, left ungrazed and subject only to annual cutting, receive minimal intervention. Due to the proximity of the grassland parcels to existing hedgerows and adjacent woodland, pioneering and suckering scrub species such as Blackthorn *Prunus spinosa* and Willow *Salix* sp. are starting to set root. Grass species present between the scrub support a good tussocky structure and include Yorkshire-fog *Holcus lanatus*, Cock's-foot *Dactylus glomerata* and False Oat-grass *Arrhenatherum elatius*.

Willow Scrub

4.2.7 Two parcels of Willow scrub (bWS01 & bWS02) are located in the south and west of the site. Parcel bWL01 is small and hosts a non-priority pond, whereas bWL02 is a larger area. Both habitat areas support a good vegetation structure with the upper canopy and understorey predominantly comprising *Salix* sp.

Ponds

4.2.8 A single pond is present within the Willow scrub parcel (bWS01). The pond contained water at the time of survey but supported limited aquatic vegetation.

Protected Plant Species

- 4.2.9 No protected native plant species (Schedule 8 of the Wildlife and Countryside Act 1981 (WACA), as amended) were recorded within the Site boundary.

Invasive Plant Species

- 4.2.10 There are no invasive non-native plant species found on site listed on Schedule 9 of the WACA.

Condition Assessment – Baseline Habitats

- 4.2.11 The condition of each parcel within the Site, based on the condition assessment results, is shown in Figure 3 and presented within Appendix D.
- 4.2.12 Willow scrub and hedgerows on site were assessed as Good condition, Ponds (non-priority) are in moderate condition whilst Other neutral grassland has been assessed as having poor condition within the Metric.
- 4.2.13 A condition assessment was not undertaken for non-cereal crops due to the metric automatically assigning non-cereal crop habitat as N/A condition.

4.3 Fauna

Invertebrates

- 4.3.1 There were a range of invertebrate records that were obtained from GLNP within 1 km of the Site. These consisted of species such as Brown Hairstreak *Thecla betulae*, White Admiral *Limenitis camilla*, White-letter Hairstreak *Satyrus w-album*, European Larch *Larix decidua* and Buff Ermine *Spilarctia luteum*, observed in the last 10 years.
- 4.3.2 The Site offers limited opportunities for invertebrates currently, given it is dominated by *Miscanthus* grass, although there are a few microclimates present. Due to the lack of habitat variation, the invertebrates present within the Site would currently be limited to an average assemblage.

Amphibians

- 4.3.3 There were no records of Great Crested Newt (GCN) *Triturus cristatus* or any other newts on the GLNP within 1 km of the site.
- 4.3.4 There is one pond on-Site that is suitable breeding habitat for amphibians. A review of aerial photography and LIDAR identifies a further three waterbodies within 500 m of the Site; one large pond, 20 m north of the Site; and an additional two waterbodies, located adjacent to each other approximately 900 m east of the Site.
- 4.3.5 The Site is dominated by *Miscanthus* grass which offers some potential foraging and sheltering opportunities for amphibians, while the semi-natural broad-leaved

woodland and hedgerows on and bordering the Site provide more suitable opportunities.

- 4.3.6 There was one record of Common Toad *Bufo bufo* within 1 km of the site which is a protected species under UK law. It is listed as a Priority Species under the UK Biodiversity Action Plan (BAP) due to its declining population and conservation status. Common Toad are protected by the Wildlife and Countryside Act 1981 (as amended).

Reptiles

- 4.3.7 There were records of Common Lizard *Zootoca vivipara* and Grass Snake *Natrix natrix* returned by GLNP within 1 km of the Site. The habitats on-Site are sub-optimal for Common Lizard and other reptile species, lacking structural variation and key basking opportunities along with disturbance from grazing activity and farm machinery.

Birds

- 4.3.8 There were many records of birds returned by GLNP within 1 km. Species recorded that are more likely to use the site for breeding include Pheasant *Phasianus colchicus*, Song Thrush *Turdus philomelos*, Bullfinch *Pyrrhula pyrrhula*, Cuckoo *Cuculus canorus*, Red Kite *Milvus milvus*, Spotted Flycatcher *Muscicapa striata* and Collared Dove *Streptopelia decaocto*. Nightingale *Luscinia megarhynchos*, Woodcock *Scolopax rusticola* and Snipe *Gallinago gallinago* were also noted on Site within the Site margins during surveys visits.
- 4.3.9 The proximity of the Site to Bardney Limewoods NNR, coupled with the surrounding ancient woodland, likely plays a significant role in explaining the remarkable diversity of bird species observed. These neighbouring natural habitats offer a mosaic of ecosystems, providing various niches and resources that attract a wide array of avian inhabitants. The NNR, renowned for its conservation efforts and protection of native flora and fauna, may act as a source population that spills over into the adjacent area such as the hedgerows and woodland on Site (which are being retained within the scheme). Due to the density of the crop, there are opportunities for common nesting bird species such as Wren *Troglodytes troglodytes*. However, due to the vertical nature of the crop and the harvesting that is annually undertaken, opportunities for a diverse population of nesting birds is considered limited.

Bats

- 4.3.1 Multiple records of bats were returned by GLNP within 1 km of the Site. The woodland compartments adjacent to Site support a range of semi-mature and ancient and may offer suitable roosting features for bats. The Site offers some foraging potential with commuting opportunities along the hedgerows but lacks roosting opportunities. Species recorded in the local area include Brown long-eared

Bat *Plecotus auritus*, Common Pipistrelle *Pipistrellus pipistrellus*, Western Barbastelle *Barbastella barbastellus*, Noctule *Nyctalus noctula* and Soprano Pipistrelle *Pipistrellus pygmaeus*.

Arable land is generally poor for bats, so removal of the current crop is unlikely to have a detrimental effect. They may use water sources like irrigation ditches, exploit hedgerows and trees for commuting and roosting, and take advantage of edge effects where arable land meets adjacent habitats.

Otter and Water Vole

- 4.3.2 No records of Otter *Lutra lutra* and Water Vole *Arvicola amphibius* were returned by GLNP within 1 km of the Site.
- 4.3.3 There is no suitable aquatic habitat for otter or Water Vole within or adjacent the Site. The existing drainage ditch along the hedge is considered too small to support foraging or breeding opportunities for these riparian mammals.

Dormouse

- 4.3.4 Hedgerows on site in combination with the adjacent ancient woodland provide opportunities for breeding and foraging Dormice *Muscardinus avellanarius*. However, these opportunities are confined to these habitats, as the site comprises predominantly of a *Miscanthus* crop which is of limited value for Dormice.

Badger

- 4.3.5 A Badger *Meles meles* sett was recorded off-site within the adjacent ancient woodland.
- 4.3.6 The Site offers suitable habitats for sett creation in the north, where the site is drier. The Site generally offers suitable commuting and foraging habitats for Badger.

Other Protected and Notable Species

- 4.3.7 Four recent records of Hedgehog were returned by GLNP within 1 km of the Site.
- 4.3.8 The *Miscanthus* crop, in combination with adjacent hedgerows and woodland, does provide suitable foraging and nesting opportunities.

4.4 Additional Surveys

Soil Chemistry

- 4.4.1 Soil sampling and analysis was undertaken in June 2024 by Agrovista. The samples were tested for pH, phosphorus, potassium, and magnesium levels. These results have informed which habitat communities would be appropriate to target on the

Site, and management interventions which might be required to achieve the correct conditions. Results can be found in Appendix G.

Hydrology

- 4.4.2 The results from the hydrology assessment of the Site are illustrated in the Figure 9.
- 4.4.3 The results show that surface water flows into the drainage ditch, which runs through the centre of the Site. With the exception of the field furthest west, where the water is flowing into the adjacent woodland.

4.5 Strategic Significance

- 4.5.1 The strategic significance values attributed to the baseline habitats present at the Site are illustrated in Figure 4.
- 4.5.2 All non-cereal crop was assigned a low strategic significance as the habitat is not contributing towards strategic goals in its current state.
- 4.5.3 All areas of Other neutral grassland were assigned Medium strategic significance as they are they are within the Network Enhancement Zone 2 for the adjacent ancient woodland.

5. Evaluation

- 5.1.1 This section evaluates the data collected to guide the design of the Habitat Bank.
- 5.1.2 Any implications during the creation works phase on designated sites, habitats and/or protected and notable species as well as any additional surveys and/or reports required has be considered in Appendix E.

5.1 Designated Sites

Statutory

- 5.1.1 Bardney Limewoods SSSI and NNR lies 0.7km north of the site and Little Scrubbs Meadow SSSI is also located 1.8km west of the site. However, there are no direct impact pathways to these nationally designated Sites, so any works during the habitat creation phase will not impact upon these.

Non-statutory

- 5.1.2 Two non-statutory sites, Chambers Plantation LWS and Minting Wood LWS, lie directly north and west of the Site boundaries. These LWS consists of ancient and semi-natural woodland, characterised by a diverse ground flora including many ancient woodland indicator species.

- 5.1.3 There is an opportunity to plant buffers of suitable habitat adjacent to the LWS with the aim of complementing and adding resilience to the existing LWS.

5.2 Habitats and Flora

- 5.2.1 The baseline habitats present within the Site provide a good starting point for the creation of a suitable Habitat Bank. Presently, the arable *Miscanthus* crop lacks biodiversity, offering minimal ecological value. However, this can be enhanced by transitioning it into grassland and scrub.
- 5.2.2 The surrounding pockets of woodland offer the opportunity to connect habitats within the Site to those outside the Site boundaries. Planting scrub between and adjacent to these woodland areas would facilitate connectivity, creating an ecotone that bridges the gap between the woodland and grassland.

5.3 Fauna

- 5.3.1 Habitat enhancement works have the potential to benefit priority and/or notable species identified within the record search and field surveys. The Site presents opportunities to improve its overall suitability for a range of species, including invertebrates, small mammals and birds. Notable opportunities include:
- To introduce ponds/ additional aquatic habitat to the Site for amphibian breeding;
 - To enhance the Site's suitability for ground and shrub nesting birds and, specifically, Nightingale and Woodcock which have been recorded within and in fields adjacent the Site but with no confirmed breeding;
 - [REDACTED]
 - To provide bats with continuous linear features for commuting and foraging to increase connectivity across the Site;

5.4 Strategic Significance

- 5.4.1 Strategic significance is a measurement used within the Biodiversity Metric calculators. This is based on whether the habitat is identified as being of value in a local strategy, or if the location is identified within the local strategy, map or plan as being important to nature (high strategic significance), or if professional judgement deems it ecologically desirable (Medium strategic significance). When none of the above apply the habitat is assigned low strategic significance. Strategic significance was considered separately for each individual baseline habitat. Opportunities to improve the strategic significance of the Site through habitat creation and enhancement have also been identified.

Baseline

- 5.4.2 The strategic significance values attributed to the habitats present on site are illustrated in Figure 4. The areas of *Miscanthus* grass currently present on Site have been attributed the lowest level of strategic significance. This habitat is not included within the Lincolnshire LBAP and the Site is not identified within any local strategy documents, plan or policy. The arable crop is very species-poor and offers little ecological value and so is considered to have a low strategic significance.

Opportunities

- 5.4.3 The creation of a Habitat Bank at Ivy House Farm will provide a steppingstone between existing priority habitats and support Lincolnshire's Local Plan and Policies by enhancing features of ecological interest.
- 5.4.4 The fields in the north of the Site are located approximately 20 m from the nearest ancient woodland and are restorable habitat areas. There is an opportunity to connect the high-quality woodlands and LBAP habitat in the form of Other neutral grassland, patches of woodland and scrub mosaics within the Site. By incorporating these habitats within the Site boundaries, it contributes to broader nature restoration goals. Woodland is a designated priority habitat in Lincolnshire's LBAP, and its inclusion within the Habitat Bank design aims to augment the availability of LBAP habitats with the Site and wider landscape.
- 5.4.5 The northern site section is also classified by the Forestry Commission as a high priority area for woodland expansion within the EWCO Biodiversity - Priority Habitat Network. Planting scrub and woodland in this area aligns with this strategy and promotes the establishment of a robust and thriving ecosystem within the northern section of the site.
- 5.4.6 The Site will support six Ponds, a Local BAP habitat in Lincolnshire. Parts of the Site show evidence of some annual inundation with water and there is an opportunity to deliver several ponds on-Site to support the expansion of this priority habitat.
- 5.4.7 The Site's location along B-Lines offers numerous advantages for both biodiversity and ecosystem well-being. B-Lines, acting as pathways enriched with wildflowers, are instrumental in bolstering pollinator populations like bees and butterflies by providing suitable habitats and resources for foraging. This setup not only amplifies pollinator diversity through varied habitats but also fosters an interconnected landscape, aiding wildlife movement between areas. Moreover, the benefits extend to ecosystem services like enhanced soil quality, water filtration, and carbon storage, benefitting wildlife and local communities alike. By aligning restoration efforts with B-Lines, conservation gains are optimized, leading to sustainable, regionally impactful strategies that underscore the significance of habitat restoration for both native species and human interaction.

- 5.4.8 Most of the site is within Network Enhancement Zone 2 of Natural England’s Habitat Networks (England) map. This positioning highlights its significance in enhancing habitat connectivity, allowing species to move freely and thrive. This promotes biodiversity, strengthens ecosystems against challenges like habitat fragmentation and climate change, and attracts attention and resources for coordinated conservation efforts. Overall, it underscores the site’s role in fostering a more resilient and interconnected landscape.

6. Habitat Creation and Enhancement Proposals

6.1 Design Approach

- 6.1.1 The proposed habitats to be created and enhanced on the Site have been identified in collaboration with the landowner, taking into account: the practical challenges of managing the Site over time; the findings of the biodiversity appraisal and soil chemistry surveys; site topography and wider environmental conditions; local biodiversity targets; and the strategic context of the wider natural landscape.

6.2 Retained Habitats

- 6.2.1 Retained habitats include hedgerows, Willow scrub and the existing drain on Site. No BU uplift will be gained from these areas. Hedgerows and Willow scrub within the Site will be complemented through the planting of Mixed scrub habitats. The drain is predominantly under the hedgerows and heavily shaded and therefore habitat creation on site will not contribute to any negative changes to the drain. These retained habitats will be subject to monitoring to check upon any deterioration.

6.3 Proposed Habitats

- 6.3.1 The following paragraphs describe all proposed habitats within the Site as entered into the Metric. The rationale for selecting the specific proposed habitats for the Site is provided, with the detailed methodology for the creation, enhancement and long-term management of these habitats provided within the Habitat Management Plan (HMP) (EL03-EB-HMP-v02.00Environment Bank, 2024). Figure 5 shows the location of each of the proposed habitats within the Site.

- Other Neutral Grassland (9.47ha) in Good Condition (creation)
- Other Neutral Grassland (0.96ha) in Good Condition (enhanced)
- Mixed Scrub (7.28ha) in Good Condition (creation)
- Other Woodland; Broadleaved (0.68ha) in Moderate Condition (creation)
- Ponds (priority habitat) (0.32ha) in Good Condition (creation)
- Ponds (priority habitat) (0.003) in Good Condition (enhanced)

- Willow Scrub (0.4ha) in Good Condition (retained)
 - Native Hedgerow (0.77 km) in Good Condition (retained)
 - Species-rich native hedgerow (0.27km) in Good Condition (retained).
- 6.3.2 The target condition of each proposed habitat was set utilising the Metric and selected to ensure they can realistically be achieved. The condition for each habitat is shown on Figure 6.
- 6.3.3 As with the baseline, strategic significance was measured for each proposed habitat taking into account the local strategy, map or plan and which habitats are ecologically desirable. Strategic significance is considered separately for each individual habitat entry in the Metric. The areas of strategic significance are represented on Figure 7.

Habitat

Other neutral grassland

- 6.3.4 Non-cereal crop fields (bNCC01-4) will be replaced with Other neutral grassland habitat. The *Miscanthus* crop was harvested in May 2024, and this will be followed by tilling and spot treatment to remove the crop from the area. Once removed, soil analysis will be undertaken. Soil conditions at this stage are unknown. Therefore, phosphorus levels may be higher than anticipated and soil type may be within a higher or lower pH scale. However, this will be managed through extra management regimes such as nutrient stripping.
- 6.3.5 To prepare the post-harvested *Miscanthus* fields for seeding, they will be tilled to ensure bare ground and to reduce competition from the invasive nature of the crop and other undesirables. This will allow newly sown seed to germinate and establish. The fields will be sown with a MG5/MG8 NVC community, as the site is subject to periodic inundation. Scrapes will also be created in scattered locations which will be sown with a MG5/MG8 NVC community.
- 6.3.6 Existing Other neutral grassland in the Site (bONG01-2) will be enhanced in condition through over-sowing and changes in long-term management. Up to 40% of the existing Other neutral grassland will be disc harrowed, with lush areas targeted, to help remove thatch, open up the current sward and expose areas of bare ground, allowing newly sown seed to germinate and establish. Enhanced Other neutral grassland will be over-sown with a seed mix consisting primarily of wildflowers and broadleaved herbs.
- 6.3.7 Seed for both created and enhanced grassland will ideally be sourced from a local green hay or brush harvested seed source subject to one being found. If not, then a suitable commercial native grass and wildflower seed mix will be sown.
- 6.3.8 Following establishment, Other neutral grassland areas will be managed under the same regime as Lowland meadow. This is either using low numbers of native

livestock which will graze these fields when required to improve sward diversity and structure, with grazing reduced or cattle removed over the flowering season. However, due to the periodic inundation of the land, grazing may be counter-productive. Therefore, alternative bi-annual cutting and clearing, to simulate traditional hay meadow management (in July and October) will be a suitable alternative. Uncut refuge strips of 5-10% will be left after each cutting episode to provide structural diversity, invertebrate refuges and a seed source for later flowering species. These refuges will be rotated around the field so different areas are left each time.

- 6.3.9 Progress will be monitored closely over time by Environment Bank ecologists and the management plan adjusted if required to establish the most diverse sward possible over the 30-year period. Further over-seeding or plug planting may be necessary to increase species diversity.
- 6.3.10 A series of shallow scrapes will also be included within the grassland. Buffer strips of longer grass will be encouraged along field margins.
- 6.3.11 Other neutral grassland will be targeted in Good ecological condition.
- 6.3.12 Other neutral grassland areas have been assigned Medium strategic significance within the Metric. There will be a significant increase in ecological and botanical diversity from the current non-cereal crop to flower and herb rich Other neutral grassland which will connect the ancient woodland to the north and west of the Site to pasture, hedgerows and Willow scrub pockets to the south and east of the Site.
- 6.3.13 Other neutral grassland will also be positioned over the existing underlying pipeline. Due to the open character of this habitat, the pipeline will be accessible by the authorities and not interrupted by dense vegetation. See Figure 8 for the location of the pipeline.

Mixed scrub

- 6.3.14 Mixed scrub will have a target of Good ecological condition.
- 6.3.15 This habitat type will be managed to incorporate glades and will provide an ecotone from existing ancient woodland and proposed other broadleaved woodland on Site. This area has been assigned Medium strategic significance due to increasing ecological connectivity between the wooded riparian corridor to the north of the Site.
- 6.3.16 Most of the Mixed scrub areas will be allowed to naturally colonise from the adjacent area comprising ancient and priority deciduous woodlands. This natural regeneration will be supported by pockets of whip planting and sowing seeds collected from the adjacent woodland. Within these areas 'terrestrial reefs' can also be created from cuttings resulting from the ongoing management. These areas provide good opportunities for nesting birds.

- 6.3.17 Management of scrub will involve coppicing 25 % on a 10-year rotation. Arisings from coppicing will be used to create wood piles for the benefit of a range of species including invertebrates, amphibians and reptiles.

Other woodland; broadleaved

- 6.3.18 A total of 0.68ha of Other woodland; broadleaved will be created on non-cereal crop, providing further structural and species diversity to the Habitat Bank. These areas of woodland are targeted on existing non-cereal crop which currently lack scrub to instantly form the understorey.
- 6.3.19 Creation methods will include a combination of natural regeneration and planting of native whips, the species mix for which will be chosen to complement the composition of adjacent woodlands. Following establishment, the woodland areas will then be managed for 30 years with occasional thinning works to ensure they maximise their biodiversity potential. Typical management will include encouraging a species-rich canopy, understorey, and ground flora; protection from browsing pressures; monitoring for signs of disease and non-native species; and encouraging natural regeneration and deadwood within the woodland understorey.
- 6.3.20 Other woodland; broadleaved areas in Moderate ecological condition will be targeted. This is due to it being recognised that a number of condition criteria are either unable or unlikely to be met within 30 years, such as presence of veteran trees and levels of dead wood.

Ponds (priority habitat)

- 6.3.21 Six Ponds (priority habitat) (pPND01-06) will be created, totalling an area of 0.32 ha. An existing pond is also present and will be enhanced. The created ponds have been strategically positioned following the results of the hydrological surveys to intercept and collect surface water.
- 6.3.22 All ponds will target Good ecological condition. Submerged and emergent aquatic vegetation will be encouraged within and along the shorelines, providing marginal habitat. Management will include ensuring that they stay free of pollution, encouraging a rough grassy margin, with control of any scrub encroachment as well as non-native plant species. The ponds will be located within the grazed grassland habitats and therefore will have a level of disturbance from livestock. The ponds will be monitored to ensure that less than 10 % are covered with duckweed or filamentous algae. Management will be applied to ensure fish are not present or only present at low densities if native.
- 6.3.23 All ponds have been assigned Medium strategic significance.

Consents

- 6.3.24 Information to support an application for the six ponds is in progress.

- 6.3.25 No woodland afforestation or pond creation works will be undertaken until appropriate permissions are in place.

6.4 Benefits to Fauna

- 6.4.1 The proposed habitats have been designed to offer opportunities for local fauna to forage, breed, and move through the landscape including those of conservation concern identified within the desk study and site surveys as likely to be present within the site and/or the wider landscape including:

Invertebrates

- 6.4.2 The creation works proposed will increase the cover of high-quality habitats and structural mosaics within the Site for invertebrates. The establishment of ponds will introduce essential aquatic habitats, offering suitable breeding habitats for various common aquatic invertebrates. Additionally, the creation of Mixed scrub will add further transitional and edge habitats, known to be of importance to invertebrates. Moreover, there will be an increase in diversity of foodplants and nectar sources for pollinators through the Other neutral grassland. This will enhance the foraging resource for invertebrates within the Site.

Amphibians

- 6.4.3 The creation of a pondscape will introduce suitable aquatic breeding habitats for common amphibians and GCN. Common Toads, Common Frogs and GCN are listed as local priority species in the LBAP. The design will add to the local resource of ponds and improve connectivity between off-Site ponds situated to the east and west of the Site, facilitating the natural expansion of local amphibian populations.
- 6.4.4 In addition to aquatic habitats, terrestrial environments will be optimised to support amphibians, offering increased cover for foraging and dispersal. This will be achieved by allowing the sward height to grow through relaxed grazing or mowing practices. Additional sheltering and hibernation opportunities will be provided through the creation of Mixed scrub.
- 6.4.5 The proposed scrub areas will be subject to regular coppicing (25% of scrub every 10 years) which will allow wood piles suitable for shelter and hibernation to be created around the ponds and within scrub areas to further boost the value of the Site for amphibians.

Reptiles

- 6.4.6 The Site will be enhanced for reptiles, particularly Grass Snake which is listed as a local priority species within the LBAP and recorded within 1km of the Site. Through the grazing/mowing regime, the Other neutral grassland and Mixed scrub habitats will provide greater structural variety for reptiles. Additional edge habitats for

basking will be afforded through the creation of scrub glades, while also serving as shelter and hibernation opportunities. Furthermore, the introduction of ponds will provide foraging opportunities for Grass Snake. Wood piles generated from scrub coppicing will further contribute to shelter and hibernation resources within the Site.

Birds

- 6.4.7 The Site has been designed to create opportunities for ground-nesting birds such as Woodcock, as well as shrub nesting birds, namely Nightingale. With records of both species on-Site, the creation of suitable habitats holds significant potential for stabilising local breeding populations.
- 6.4.8 The retention of existing rural trees, hedgerow and lowland deciduous woodland across the wider Site, and creation of Mixed scrub/grassland will create and enhance nesting opportunities for a variety of birds, including those protected/notable species.
- 6.4.9 A series of scrapes will be incorporated into Other neutral grassland fields to provide foraging habitat for Grey Wagtail. Scrapes along with ponds provide exposed areas of wet soil and aquatic plants which attract invertebrate prey, upon which Grey wagtail forage.

Bats

- 6.4.10 The creation of Mixed scrub within the Site will provide bats with suitable features for commuting and foraging across the Site and into the surrounding landscape.
- 6.4.11 The enhancement of the invertebrate resource within the Site and additional edge habitats will in-turn provide an increased foraging resource for bats.

Dormouse

- 6.4.12 Mixed scrub in combination with existing hedgerows on Site and ancient woodland off-Site will provide enhanced foraging and nesting opportunities for any local Dormouse population.

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Other Protected and Notable Species

- 6.4.14 Mixed scrub and woodland creation will expand the existing foraging, sheltering and hibernation habitats for Hedgehogs, a S41 priority species in national decline.

7. Biodiversity Accounting of Proposals

7.1 Biodiversity Accounting Assessment

- 7.1.1 In line with CIEEM's latest guidelines, the Natural England Statutory Metric Calculation Tool was used to quantify the change in BU from the baseline to the proposed habitats. The Metric considers the below variables pre- and post-intervention of the Habitat Bank to result in an overall BU uplift. The data was collated using the above methods and the following factors are utilised within the calculator to determine biodiversity value in unit:
- Habitats – UKHab Classification (see methods above).
 - Area – Calculated using GIS software.
 - Habitat Distinctiveness – Fixed within the Metric.
 - Habitat Condition – Based on condition assessment (see methods above).
 - Strategic Significance – See above.
 - Temporal and difficulty risk multipliers – Fixed within the Metric based on habitat enhancement or creation scenario.
 - Spatial Risk Multiplier – Determined at the point of BU sale.
- 7.1.2 At this stage, no temporal variation has been applied to the temporal risk multiplier; as it is expected that year 1 of the Habitat Bank will take place concurrently with sales of BU to development, and not in advance.
- 7.1.3 The Spatial Risk Multiplier for the Site is currently assessed as '*The metric is being used by an off-site provider*'. At the point of sale of any BU to a developer, the true Spatial Risk Category, as appropriate for the Habitat Bank location in relation to each development, will be determined and calculated.
- 7.1.4 The full biodiversity calculations for the Habitat Bank are detailed within the Metric calculation tool provided as part of the Strategy Pack (EL03-EB-M40-v02.00 – Statutory Biodiversity Metric).

Biodiversity Net Gain

- 7.1.5 Following satisfaction of trading rules across the habitat bank, the BU generated associated with turning the Site from Non-cereal crop to Mixed scrub, Other neutral grassland and Ponds (priority habitat) has been calculated using the Metric, which provides a full breakdown of the baseline and proposed habitats as well as evidence that trading rules are satisfied.
- 7.1.6 Prior to creation works, the baseline habitats equated to 47.25 habitat BU and 11.86 hedgerow BU.
- 7.1.7 Following creation works, the Site will provide a total net gain in 173.73 habitat BU, before baseline has been accounted.

- 7.1.8 The Site will produce an overall biodiversity increase of **126.48** habitat BU.
- 7.1.9 Table 4 and Table 5 shows the available BU for each high distinctiveness habitat type and medium distinctiveness broad habitat for grassland, scrub, ponds and woodland, respectively. The available BU for each unit type are calculated in year 0 and are subject to change over the lifetime of the Site.

Table 4: Available biodiversity units for habitats

Distinctiveness	Habitat	Available BU
High	Ponds (priority habitat)	3.64
Medium	Mixed Scrub	59.30
Medium	Other Neutral Grassland	59.87
Medium	Other Woodland; Broadleaved	3.66

8. Monitoring Schedule

8.1 Monitoring Strategy

- 8.1.1 Monitoring will follow a dual-purpose approach: first, to enable the swift identification of issues and allow for rapid adaptation of management prescriptions. This will be conducted by regular site visits, thoroughly inspecting the Site to detect any immediate concerns and adjust management strategies as necessary.
- 8.1.2 Secondly, monitoring will ensure that each habitat parcel progresses towards the target habitat type and specified condition. Standard best practice survey methodologies will be employed to assess each habitat type, with data compiled and reviewed to evaluate progress. If at any point, the habitat type or condition criteria are, or perceived to be, failing, the remedial actions outlined in the HMP will be implemented.
- 8.1.3 Additional monitoring surveys for protected and notable species may be conducted beyond the requirements of the Biodiversity Net Gain assessment, either for added interest or as supplementary monitoring. Over the 30-year span of the Habitat Bank, further protected species surveys may be carried out as necessary.

8.2 Monitoring Methods and Intervals

- 8.2.1 Table 5 summaries the monitoring methods to be implemented, along with the corresponding time periods and frequency during which they will be conducted.

Table 5: Monitoring Methods and Intervals

Habitat Type	Monitoring Methods	Monitoring Interval and Timing
Entire site	Report of Actions Taken (RAT) Each year the Land Manager must complete a 'Report of Actions Taken' form. The Land Manager must complete the form to show they have completed all actions required in the management plan for that particular year. The report will be used alongside the habitat review walkover to ascertain any management interventions. Data on stock animals used and stocking density, dates during which stock are on the Site, and shutting-up and cutting dates – where applicable – will be collected.	Annually
Entire Site	Habitat Review Walkover EBL ecologist will regularly visit and walkover the whole site.	Annually
Entire site	Soil sampling To determine soil chemistry, primarily pH and Phosphorous.	At the baseline. Every 5 years
All habitat parcels	Whole feature assessment Each parcel will be assessed annually using one or more of the following survey methodologies as appropriate for the target habitat • UKHab Assessment (UKHab Ltd, 2023) • Metric Condition Assessment (Defra, 2024) • National Vegetation Classification (NVC) (Rodwell, 1991 et seq.) • Comprehensive species list (DAFOR and/or percentage cover)	Annually Surveys will be undertaken during the optimal survey season for the relevant habitat ensuring no limiting factors

8.3 Reporting

- 8.3.1 Data compiled during the monitoring surveys will be summarised within the Habitat Monitoring Report. These reports will be issued every five years for review. EBL will aim to issue the report following the fifth survey season of every five-year block of monitoring.

9. Conclusions

- 9.1.1 The creation of a Habitat bank at EL03 will produce an overall biodiversity increase, which will be used to compensate for unavoidable impacts to development and deliver Biodiversity Net Gain.
- 9.1.2 Habitat Bank creation works will lead to an increase in Other neutral grassland, Mixed scrub, Ponds (priority habitat) and woodland.
- 9.1.3 Overall, there will be an increase of LBAP habitats (Ponds and woodland) as a result of the Habitat Bank creation and enhancement works.
- 9.1.4 Further to the generated biodiversity value, the proposed Habitat Bank will also provide wider benefits to nature and landscape connectivity and improve the resilience of the adjacent ancient woodland.
- 9.1.5 The Habitat Bank has been secured for 33 years by legal agreement with the Land Owner to legally ensure the highest quality delivery of the habitats.

References

- BRIG (2011). UK Biodiversity Action Plan: Priority Habitat Descriptions. JNCC, Peterborough.
- CIEEM (2021). Good Practice Requirements for Delivering Biodiversity Net Gain (On- and Off-Site). Chartered Institute of Ecology and Environmental Managers, Winchester.
- BRIG (2011). UK Biodiversity Action Plan: Priority Habitat Descriptions. JNCC, Peterborough.
- CIEEM (2021). Good Practice Requirements for Delivering Biodiversity Net Gain (On- and Off-Site). Chartered Institute of Ecology and Environmental Managers, Winchester.
- Defra (2024a). The Statutory Biodiversity Metric Calculation Tool – macro-disabled. Available at Statutory biodiversity metric tools and guides - GOV.UK (www.gov.uk)
- Defra (2024b). The Statutory Biodiversity Metric: User Guide. Available at Statutory biodiversity metric tools and guides - GOV.UK (www.gov.uk)
- Defra (2024c). The Statutory Biodiversity Metric Condition Technical Annex 1: Condition Assessment Sheets and Methodology. Available at Statutory biodiversity metric tools and guides - GOV.UK (www.gov.uk)
- Stroh *et al.* (2014). A Vascular Plant Red List for England. Botanical Society of Britain and Ireland, Bristol.
- UKHab Ltd (2023). UK Habitat Classification Version 2.0. Available at <https://www.ukhab.org>

Figure 1: Site Boundary



Figure 2: Baseline Habitats

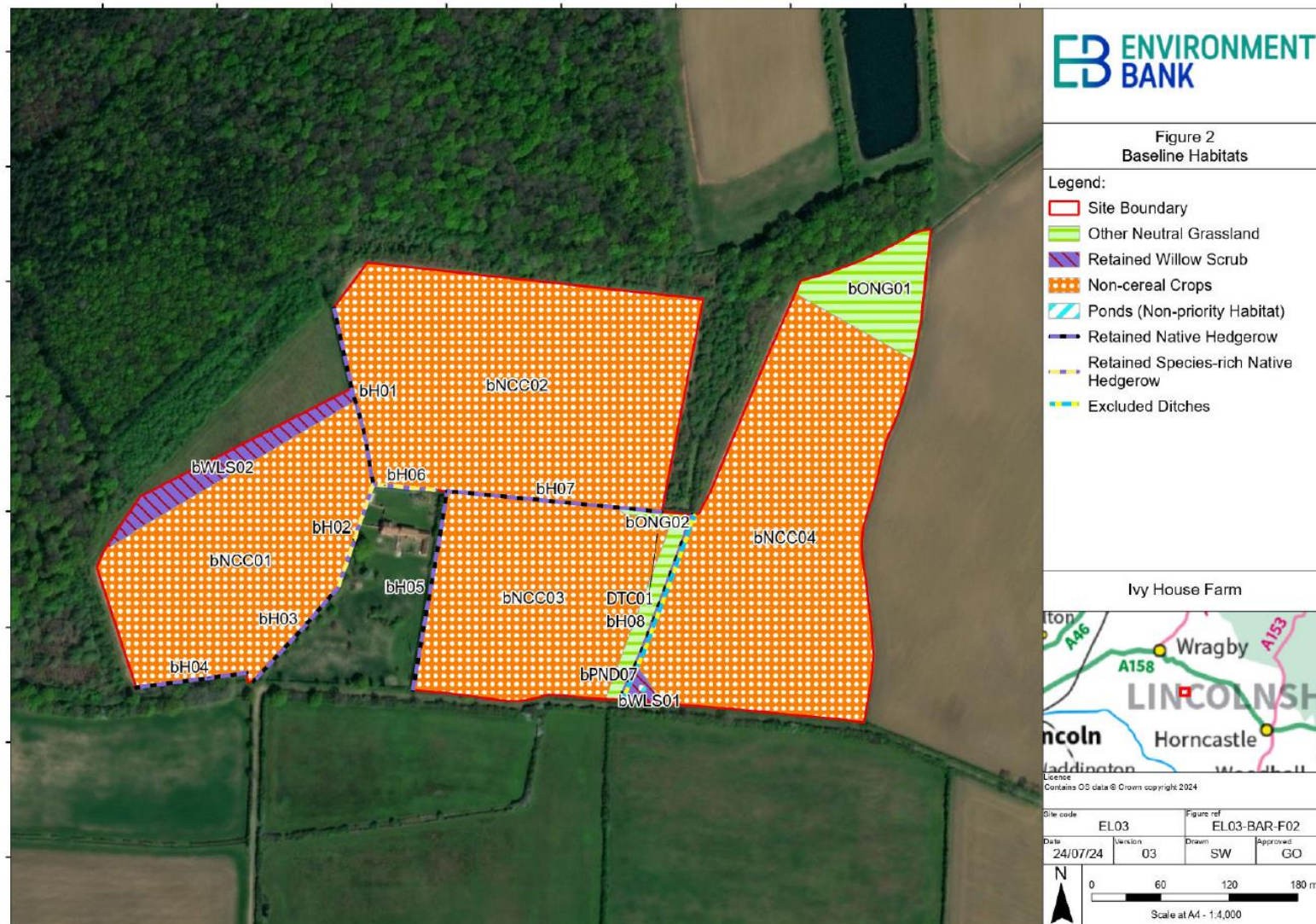


Figure 3: Baseline Condition Assessment



Figure 4: Baseline Strategic Significance

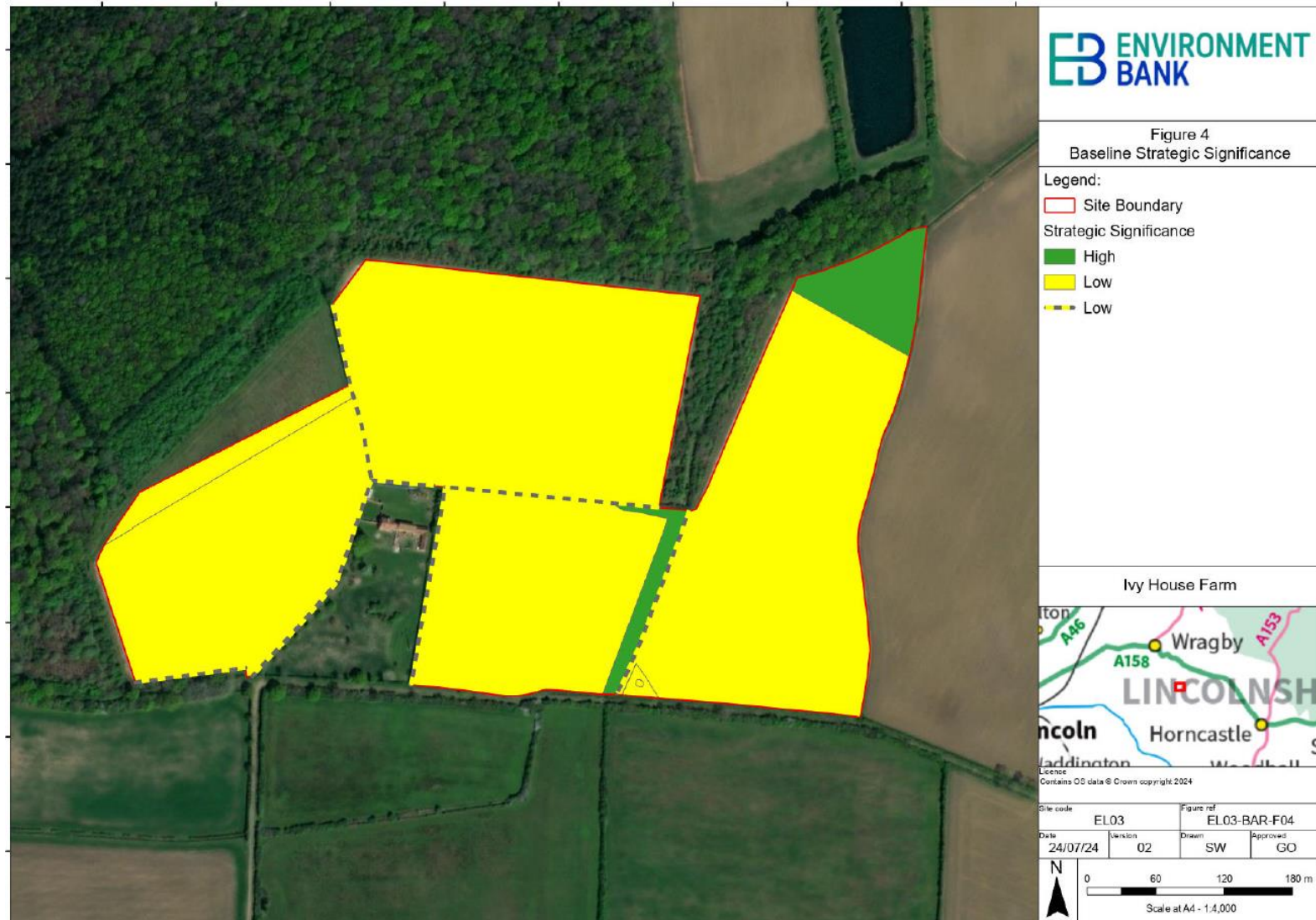


Figure 5: Proposed Habitats

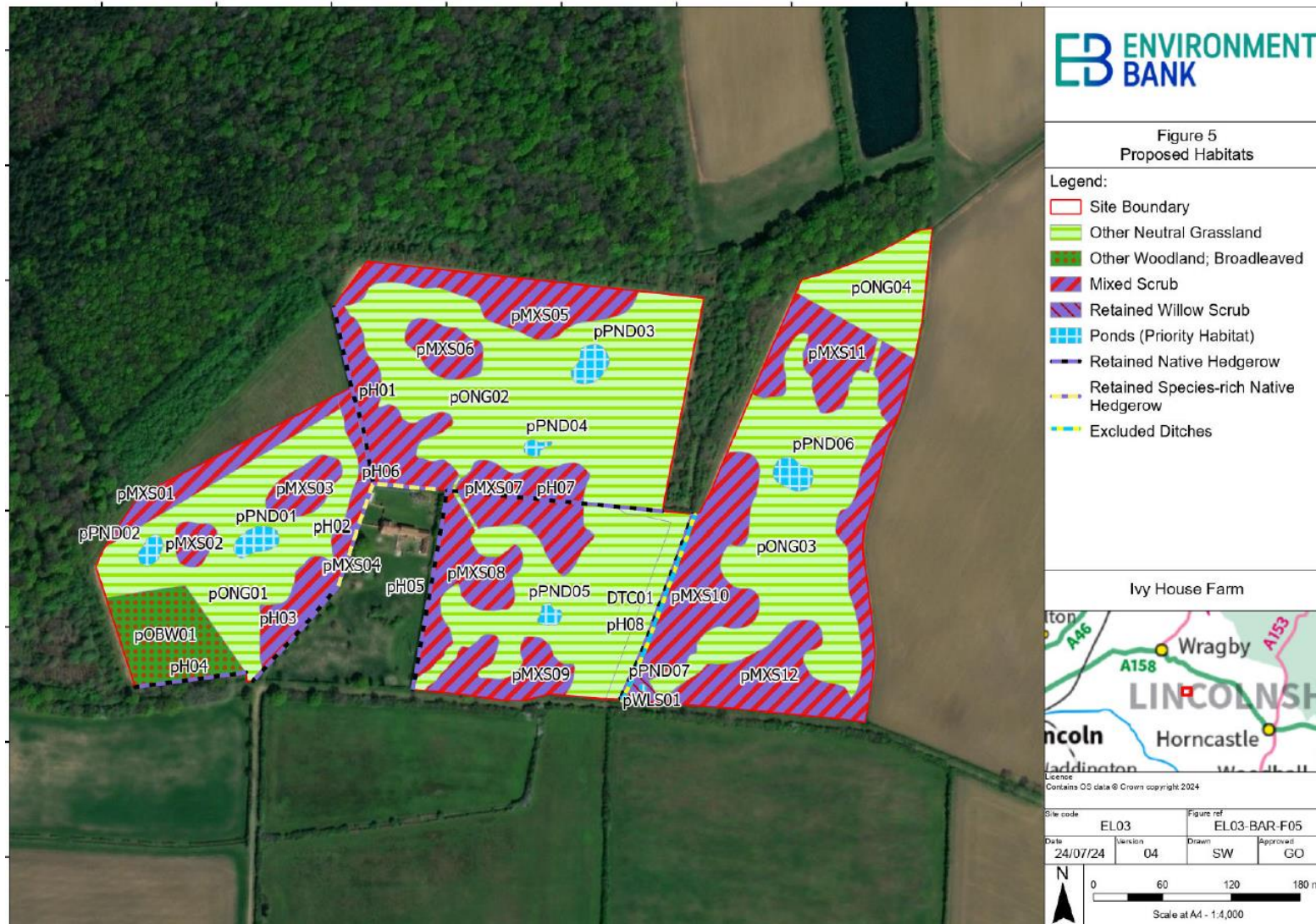


Figure 6: Proposed Habitats Target Condition



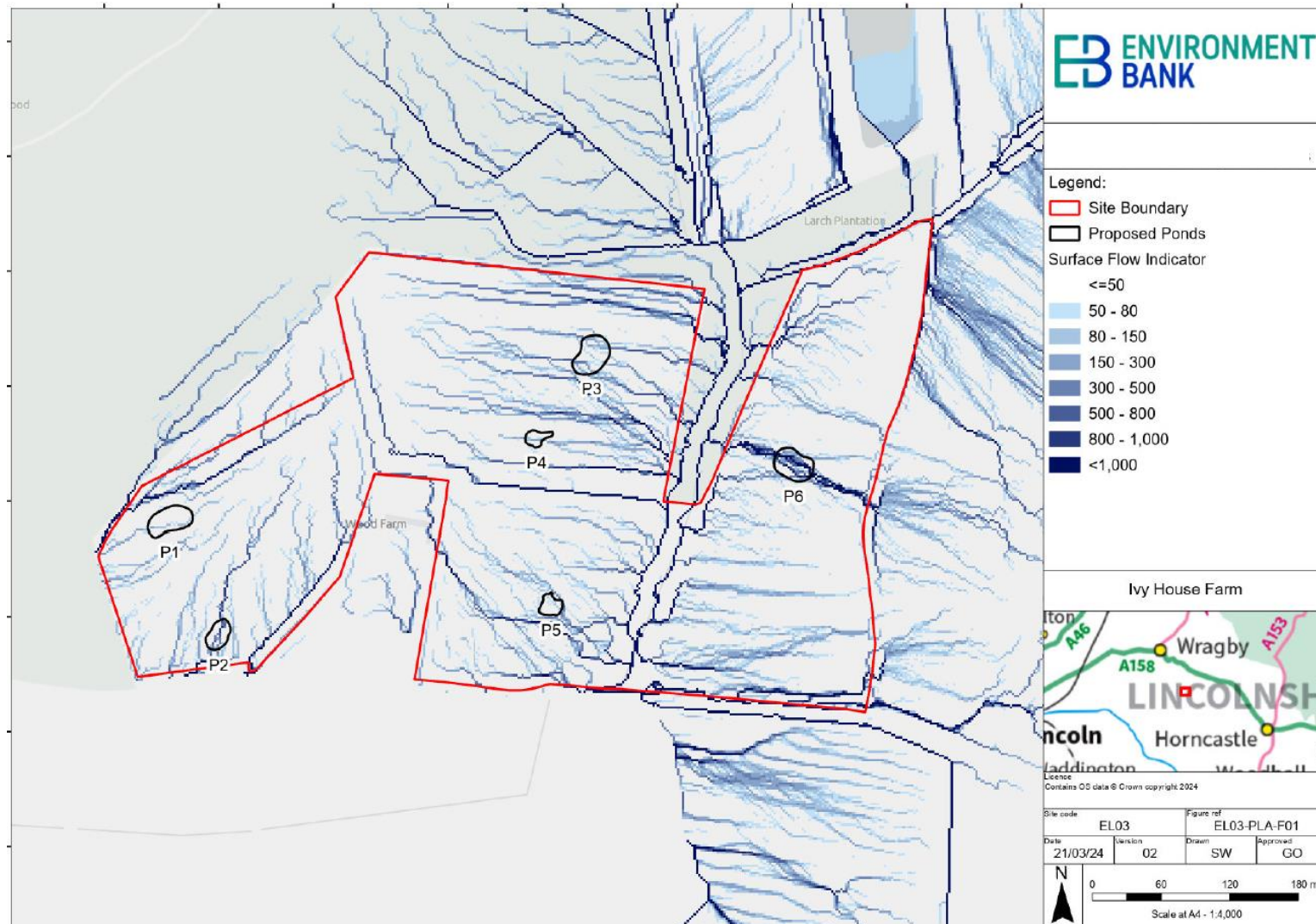
Figure 7: Proposed Habitats Strategic Significance



Figure 8: Constraints and Services Plan



Figure 9: Hydrology Survey Results



Appendix A: Legislation and Policy

Legislation

- The Environment Act 2021 mandates that all planning applications will be required to demonstrate how a development will enhance biodiversity and protect habitats from November 2023. This is to be achieved through a measurable 10 % BNG for at least 30 years, in association with development through the use of the most up to date Biodiversity Metric;
- National Planning Policy Framework ('NPPF', as revised 2021) sets out how planning policies and decisions should contribute to and enhance the natural and local environment through amongst other things, ensuring BNG through development and protect ecological important sites and networks;
- The Conservation of Habitats and Species Regulations 2017 (as amended) details the regulations for the protection of European Protected Habitat and Species. Such European Protected Species (EPS) include all species of bats, great crested newt *Triturus cristatus*, dormouse *Muscardinus avellanarius*, and European otter *Lutra lutra*, amongst others;
- The Wildlife and Countryside Act ('WCA') 1981 (as amended) covers the legislation for endangered species in England and the framework for the designation of Sites of Special Scientific Interest (SSSIs);
- The Countryside and Rights of Way ('CRoW') Act 2000 reinforces the wildlife legislation listed in the WCA and places a duty of government departments to consider biodiversity, and provides governmental department powers for the protection and maintenance of SSSIs;
- The Natural Environment and Rural Communities Act ('NERC') 2006 places a duty upon local authorities to promote and enhance biodiversity in all their functions. Specifically, habitats and species of principal importance to the conservation of biodiversity in regards to the planning process;
- The Hedgerow Regulations 1997 provides protection by prohibiting the destruction or damage to important countryside hedges; and

• [REDACTED]

Local Policy

- **Local plan: East Lindsey Local Plan – Core Strategy (adopted July 2018)** (Council, 2018). **The following text is taken from sections of this strategy that are relevant to this site.**
- **Chapter 12 – Protecting and enhancing our natural environment. Biodiversity is thriving and new areas have been created and maintained while existing areas are maintained and enhanced.**
- **Strategic Policy 23 (SP23) – Landscape**

1. The District's landscapes will be protected, enhanced, used and managed to provide an attractive and healthy working and living environment. Development will be guided by the District's Landscape Character Assessment and landscapes defined as highly sensitive will be afforded the greatest protection.
 2. Development will be supported where it allows for greater public access to the countryside and naturalistic coast, supports visitors to the District and helps provide additional employment opportunities, provided this does not compromise landscape quality or the biodiversity objectives of the plan.
 3. The Council will ensure that the distinctive character of the District's landscapes whether they are of cultural, natural or historic significance, will not be compromised. In particular, the highest level of protection will be given to the Lincolnshire Wolds Area of Outstanding Natural Beauty, which is designated at a national level because of its landscape quality.
 4. The Council will support development that conserves and enhances designated and historic landscapes (Winceby Battlefield, Lincolnshire Wolds, Coastal Country Park, Conservation Areas, Historic Parks and Gardens, setting of listed buildings within the landscape) as focal points for widening and improving the visitor experience.
- 12.7 - The Council will welcome development that adds to the distinctive character of the landscape and will encourage development that uses its landscape setting to grow the local economy for the benefit of local communities, provided it does not harm the landscape's character in the process.
 - 12.10 - Biodiversity is a term commonly used to describe the variety of life on Earth. This encompasses the whole of the natural world and all living things with which we share the planet. It includes plants, animals, and even invisible microorganisms and bacteria that, together, interact in complex ways with the inanimate environment to create living ecosystems.
 - 12.16 - When assessing any proposal for development which may impact on a protected habitat or species, or priority habitats and species identified in the Lincolnshire Biodiversity Action Plan or Natural Environment and Rural Communities (NERC) Act 2006, the Council will require the developer to provide up to date information to enable a proper assessment of the site to be made.
 - 12.17 - Sites protected for their biodiversity importance may be highly susceptible to changes in water levels and pollution of water courses and ground water from nearby development and from air pollution caused by increased traffic movements and operational needs of development. Soil is a finite resource and fulfils many roles that are beneficial to society. As a component of the natural environment, it is important that soils are protected and used sustainably. Soils of high environmental value (e.g. wetland and carbon stores such as peatland) should also be considered as part of ecological connectivity.

- 12.19 - Sites identified for their biodiversity interest, at whatever level, do not exist in isolation and the linking of a network of sites increases their range and extent, this also makes a valuable contribution to the integrity of both individual sites and overall levels of biodiversity across the district. This connectivity should not stop at a site boundary or even District boundaries and opportunities may exist to create or strengthen links that support biodiversity on a landscape-scale.
- **Strategic Policy 24 (SP24) - Biodiversity and Geodiversity**
 1. Development proposals should seek to protect and enhance the biodiversity and geodiversity value of land and buildings, and minimise fragmentation and maximise opportunities for connection between natural habitats.
 2. The Council will protect sites designated internationally, nationally or locally for their biodiversity and geodiversity importance, species populations and habitats identified in the Lincolnshire Biodiversity Action Plan and the Natural Environment and Rural Communities (NERC) Act 2006. Development, which could adversely affect such a site, will only be permitted in exceptional circumstances:
 - a. In the case of internationally designated sites, where there is no alternative solution and there are overriding reasons of public interest for the development;
 - b. In the case of nationally designated sites, there is no alternative solution and the reasons for the development clearly outweigh the biodiversity value of the site; or
 - c. In the case of locally designated sites, and sites that meet the criteria for selection as a Local Site, the reasons for the development clearly outweigh the need to protect the site in the long term. 109 Adopted July 2018
 3. In exceptional circumstances, where adverse impacts are demonstrated to be unavoidable and development is permitted which would damage the nature conservation or geological value of a site, the Council will ensure that such damage is kept to a minimum and will ensure appropriate mitigation, compensation, or enhancement of the site through the use of planning conditions or planning obligations. Compensation measures towards loss of habitat will be used only as a last resort where there is no alternative. Where any mitigation and compensation measures are required, they should be in place before development activities start that may disturb protected or important habitats and species. Proposals to provide or enhance a site will be supported.
 4. Where new habitat is created it should, where possible, be linked to other similar habitats to provide a network of such sites for wildlife.
 5. Planning permission will only be granted for development which directly or indirectly leads to loss or harm to ancient woodland or aged or veteran trees, in exceptional circumstances, where the developer can demonstrate that the wider benefits of that loss clearly outweigh the protection of the trees.
- **Lincolnshire Biodiversity Action Plan (2011-2020, 3rd Edition)**
- **Vision for Lincolnshire's trees and woodland**

1. Healthy woodlands are normal in Lincolnshire with a diverse range of species and age classes, glades, deadwood, and other biodiversity-rich features.
 2. New native woodland is created using trees of local provenance with appropriate species for the relevant area of the county where possible.
 3. Relict/unmanaged traditional orchards, wood-pasture and parkland are protected, restored, and managed for their biodiversity, historic and cultural value.
 4. Woodland management is productive and sustainable through support from Government grants and other funding and meeting increased demand for local woodland products.
 5. The value of field-side and roadside groups of trees, and ancient and veteran trees is recognised, and they are retained in the landscape.
 6. Core areas such as ancient woodlands have been buffered and linked with habitat corridors and steppingstones.
- **Pond Objectives**
1. To improve the condition in terms of flora, fauna, and water quality of Lincolnshire's Ponds, lakes and reservoirs.
 2. To create new wildlife Ponds.
 3. To reduce the levels of pollution entering Lincolnshire's waterbodies.

Appendix B: Recent Desktop Study Records

Desktop study records within 1 km of the Site and within the last 10 years

Name of species	Grid reference	Year of record(s)	Number of records (if recorded)
Flowering Plants			
Apple	TF17M	2013, 2016	2
Barren Brome	TF17M	2013	1
Beaked Hawk's-beard	TF1672, TF1574	2016, 2018	2
Black-grass	TF1772	2016	1
Bluebell	TF174724, TF1473, TF1474, TF17L, TF17M, TF17S	2016, 2018	6
Bristly Oxtongue	TF17M	2013	1
Charlock	TF17M, TF1672	2013, 2016	2
Common Vetch	TF1474, TF1573, TF1574, TF17L, TF17M	2017, 2018	2
Cut-leaved Crane's-bill	TF17M, TF1672, TF1473, TF1574	2013, 2016, 2018	3

Name of species	Grid reference	Year of record(s)	Number of records (if recorded)
False-acacia	TF174724	2016	1
Field Forget-me-not	TF1673, TF1772	2016	1
Giant Hogweed	TF1772	2016	1
Green Alkanet	TF174724	2016	1
Ground-elder	TF174724	2016	1
Hedge Mustard	TF1772	2016	1
Highclere Holly	TF1474	2019	1
Horse-chestnut	TF1772	2016	1
Hybrid Black-poplar	TF1672	2016	1
Least Duckweed	TF1473	2018	1
Least Yellow-sorrel	TF174724	2016	1
Lilac	TF174724	2016	1
Oil-seed Rape	TF1772	2016	1
Pineappleweed	TF1772	2016	1
Purple Toadflax	TF1772	2016	1
Red Dead-nettle	TF1772	2016	1
Rye Brome	TF1872	2019	1
Sharp-leaved Fluellen	TF1474	2016	1
Shepherd's-purse	TF1772, TF1774	2016, 2020	2
Six-rowed Barley	TF1772	2016	1
Snowdrop	TF1474, TF1572	2019	1
Sycamore	TF1772	2016	1
Veronica hederifolia subsp. lucorum	TF174724	2016	1
White Dead-nettle	TF1772	2016	1
White Willow	TF1672	2016	1
Conifer			
Austrian Pine	n/a	2016	1
Amphibian			
Common Toad	n/a	2020	1
Insects			
Brown Hairstreak	n/a	2015, 2017, 2013, 2016, 2018, 2019, 2020, 2021	15

Name of species	Grid reference	Year of record(s)	Number of records (if recorded)
White Admiral	n/a	2014, 2015, 2013, 2016, 2017, 2019, 2020, 2021, 2021, 2021, 2021	11
White-letter Hairstreak	n/a	2016, 2013, 2015, 2016, 2013, 2018, 2019, 2020, 2021, 2021	10
Buff Ermine	n/a	2016	1
Small Square-spot	n/a	2016	1
Latticed Heath	n/a	2015, 2016, 2018	3
Blood-vein	n/a	2016, 2015	2
Black Hairstreak	n/a	2019, 2021	2
Purple Emperor	n/a	2016, 2017, 2018, 2015, 2019, 2020, 2021, 2021, 2021, 2021, 2021	11
Small Heath	n/a	2020	1
Spotted-winged Drosophila	n/a	2017	1
Marsh Fritillary	n/a	2014, 2019, 2020, 2020, 2021, 2021, 2021, 2021, 2021, 2021	10
Purple Emperor	n/a	2020, 2016, 2017, 2018, 2015, 2019, 2021, 2021, 2021, 2021	10
Reptiles			
Common Lizard	n/a	2015, 2015, 2013, 2015, 2016, 2016, 2016	7
Grass Snake	n/a	2015	1
Terrestrial mammals			
Brown Long-eared Bat	n/a	2014-2015	123
Common Pipistrelle	n/a	2015-2017	68
Western Barbastelle	n/a	2014-2019	111
Pipistrelle Bat species	n/a	2014-2017	95
Noctule Bat	n/a	2014-2017	69

Name of species	Grid reference	Year of record(s)	Number of records (if recorded)
Soprano Pipistrelle	n/a	2016-2017	60
European Rabbit	n/a	2016	1
Chinese Muntjac	n/a	2015-2016	4
Hazel Dormouse	n/a	2014-2019	37
Brown Hare	n/a	2019	1
West European Hedgehog	n/a	2015	1
Eastern Grey Squirrel	n/a	2015	2
Eurasian Badger	n/a	2015-2017	4
Birds			
Pheasant	N/A	2013-2020	56
Song Thrush	N/A	2013-2020	50
Bullfinch	N/A	2013-2020	37
Cuckoo	N/A	2013-2020	20
Swift	N/A	2015-2019	8
Canada Goose	N/A	2019	2
Mute Swan	N/A	2019	1
Fieldfare	N/A	2019	1
Skylark	N/A	2013-2019	13
Red Kite	N/A	2017	1
Crossbill	N/A	2013	1
Parrot Crossbill	N/A	2013	1
Bee-eater	N/A	2015	1
Honey-buzzard	N/A	2016, 2019	2
Little Owl	N/A	2017	2
Lesser Redpoll	N/A	2013	2
Merlin	N/A	2013	1
Hobby	N/A	2019	1
Linnet	N/A	2013, 2017, 2018	3
Yellow Wagtail	N/A	2020	1
Spotted Flycatcher	N/A	2015-2019	5
Curlew	N/A	2017	1
House Sparrow	N/A	2013-2017	9
Turtle Dove	N/A	2013	3
Starling	N/A	2013-2019	13

Name of species	Grid reference	Year of record(s)	Number of records (if recorded)
Redwing	N/A	2013-2015	6
Little Egret	N/A	2017	1
Corn Bunting	N/A	2013	1
Greylag Goose	N/A	2015, 2017	4
Pink-footed Goose	N/A	2016	1
Whooper Swan	N/A	2016	1
Collared Dove	N/A	2013-2017	16
Columba livia 'feral'	N/A	2017	4

Appendix C: Baseline Photographs

Photograph 1: Drone Image of southern fields



Photograph 2: Drone Image of western fields



Photograph 3: Image of pond and associated hedgerow



Photograph 4: Grass margins and hedgerows between crop fields



Appendix D: Baseline Habitat Condition Assessment

Condition assessment for Other Neutral Grassland

Condition Assessment Criteria		Condition Criteria Achieved by Parcel (Pass/Fail)		
		bONG01	bONG02	bONG03
A	The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Fail	Fail	Fail
B	Sward height is varied (at least 20 % of the sward is less than 7 cm and at least 20 % is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	Fail	Fail	Fail
C	Cover of bare ground is between 1 % and 5 %, including localised areas (for example, a concentration of rabbit warrens).	Fail	Fail	Fail

Condition Assessment Criteria		Condition Criteria Achieved by Parcel (Pass/Fail)		
		bONG01	bONG02	bONG03
D	Cover of bracken <i>Pteridium aquilinum</i> is less than 20 % and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5 %.	Pass	Pass	Pass
E	Combined cover of species indicative of sub-optimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5 % of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA, 1981) are present, this criterion is automatically failed.	Pass	Pass	Pass
F	There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type (species referenced in Footnote 2 and 4 cannot contribute towards this count). Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	Fail	Fail	Fail
Condition		Poor	Poor	Poor

Willow Scrub

Condition assessment for Willow Scrub

Condition Assessment Criteria		Condition Criteria Achieved by Parcel (Pass/Fail)
A	The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description (where in its natural range). The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type. At least 80 % of scrub is native, and there are at least three native woody species, with no single species comprising more than 75 % of the cover (except hazel <i>Corylus avellana</i>, common juniper <i>Juniperus communis</i>, sea buckthorn <i>Hippophae rhamnoides</i> or box <i>Buxus sempervirens</i>, which can be up to 100 % cover).	Pass
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	Pass
C	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5 % of ground cover.	Pass
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	Pass
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Pass
Condition		Good

Ponds

Condition assessment for Ponds (non-priority)

Condition Assessment Criteria		Condition Criteria Achieved by pond (Pass/Fail)
		bPND01
A	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Fail
B	There is semi-natural habitat (i.e. moderate distinctiveness or above) for at least 10 m from the pond edge.	Pass
C	Less than 10 % of the pond is covered with duckweed or filamentous algae.	Pass
D	The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework.	Pass
E	Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework.	Pass
F	There is an absence of non-native plant and animal species.	Pass
G	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Pass
Condition:		Moderate

Hedgerow

Condition assessment for hedgerow

Date of survey: 29/08/2023

Condition Assessment Criteria						
			Criteria Passed (Yes or No)			
			Hedge 1 (Native hedgerows with trees)	Hedge 2 (Species rich native hedgerow)	Hedge 3 (Hedge native)	Hedge 4 (Hedge native)
A1	Height	>1.5 m average along length	Pass	Pass	Pass	Pass
A2	Width	>1.5 m average along length	Pass	Fail	Pass	Pass
B1	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	Pass	Pass	Pass	Pass
B2	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	Pass	Pass	Pass	Pass
C1	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	Pass	Pass	Pass	Pass
C2	Nutrient-enriched	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	Pass	Pass	Pass	Pass

Condition Assessment Criteria						
	perennial vegetation					
D1	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA3) and recently introduced species.	Pass	Pass	Pass	Pass
D2	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Pass	Pass	Pass	Pass
Additional group - applicable to hedgerows with trees only						
E1	Tree class	here is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient8), and there is on average at least one mature, ancient, or veteran tree present per 20 - 50m of hedgerow.	Pass	n/a	n/a	n/a
E2	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Fail	n/a	n/a	n/a
Total Score			9	7	8	8
Condition			Good	Good	Good	Good

Native hedgerow associated with bank or ditch

Condition assessment for hedgerow.

Date of survey: 29/08/2023

Condition Assessment Criteria						
			Criteria Passed (Yes or No)			
			Hedge 1 (Native hedge with ditch)	Hedge 2 (Species rich hedge with ditch)	Hedge 3 (Native hedge with ditch)	Hedge 4 (Native hedge with ditch)
A1	Height	>1.5 m average along length	Pass	Pass	Pass	Pass
A2	Width	>1.5 m average along length	Pass	Pass	Pass	Pass
B1	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	Pass	Pass	Pass	Pass
B2	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	Pass	Pass	Pass	Pass
C1	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	Pass	Pass	Pass	Pass
C2	Nutrient-enriched	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	Pass	Pass	Pass	Pass

Condition Assessment Criteria						
	perennial vegetation					
D1	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA3) and recently introduced species.	Pass	Pass	Pass	Pass
D2	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Pass	Pass	Pass	Pass
Additional group - applicable to hedgerows with trees only						
E1	Tree class	here is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient8), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	n/a	n/a	n/a	n/a
E2	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	n/a	n/a	n/a	n/a
Total Score			8	8	8	8
Condition			Good	Good	Good	Good

Appendix E: Implications on Designated Sites, Habitats and/or Species

Fauna group / species	Implications during Habitat Bank creation works	Further survey or reports required
Designated sites/Priority Habitats	Chambers Plantation and Minting LWS are non-statutory designated Sites located adjacent to the northern and western boundary of the Site. The LWSs comprise ancient woodland. The proposed Habitat Bank has been designed to provide additional vegetation buffers to the ancient woodland habitats along the LWS which will increase the resilience of this irreplaceable habitat. Where scrub is proposed adjacent the LWSs, the creation method used will be predominantly natural regeneration from the LWSs. Best practice pollution prevention principles will be followed during the creation works to safeguard the habitats and species within the LWSs. Given, these creation methods and best practice measures are followed, there should be no detrimental impacts to the LWSs and their priority habitats during creation works.	No
Invertebrates	There will be temporary disturbance of the non-cereal crop and of Other neutral grassland during seeding preparation and creation works, during pond creation and during scrub planting. There will be an overall increase in suitable habitats for a wide range of invertebrates.	No
Amphibians and Reptiles	The Site is dominated by <i>Miscanthus</i> grass which offers some potential foraging and sheltering opportunities for amphibians, although the semi-natural broad-leaved woodland and hedgerows on and bordering the Site provide more suitable opportunities. It is therefore possible for amphibians and reptiles to be utilising the terrestrial habitats within the Site.	Yes: A GCN eDNA survey of the on site Pond will be undertaken in Spring 2024. If GCN are found to be present, Reasonable Avoidance Measures

Fauna group / species	Implications during Habitat Bank creation works	Further survey or reports required
	While there will be no overall loss of breeding or terrestrial habitat for amphibians, there is the risk of disturbance, injury or killing of these species during the <i>Miscanthus</i> removal, grassland creation, scrub planting and pond creation works. A precautionary approach is therefore required during works and ECoW supervision during the removal of <i>Miscanthus</i> is recommended.	(RAM's) will be required to allow habitat creation works.
Birds	There are nesting opportunities within existing <i>Miscanthus</i> and surrounding hedgerows and woodland. Nesting bird checks will be conducted by an EB ecologist prior to any works undertaken within the breeding bird season (1 st March to 31 st August inclusive).	Yes: Nesting bird checks, where required
Bats	Existing rural trees with potential roosting features will be retained within the Habitat Bank and no trees or structures with potential roosting features will be directly impacted during the creation works. Overall, the Site will see a long-term increase in suitability for bats.	No
Dormouse	Optimal opportunities for Dormice are confined to existing hedgerows and adjacent woodland, which will be retained within the scheme. Therefore, a limited impact on the local Dormouse population can be expected.	No
	[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED]

Fauna group / species	Implications during Habitat Bank creation works	Further survey or reports required
	fragmentation of Badger habitat through installation of new fencing, badger gates will be installed to maintain existing commuting routes.	
Other protected and notable species	The <i>Miscanthus</i> crop provides refuge for small mammal species. The crop will be walked over by an ecologist immediately prior to commencement of harvest and crop removal. Any small mammals found will be moved to suitable habitat within the property boundary, away from the area of works.	Yes: Walkover Survey

Appendix F: Baseline Grassland Species

Overall Species List for Grassland

Species	DAFOR
<i>Arrhenatherum elatius</i>	D
<i>Centaurea nigra</i>	F
<i>Cirsium arvense</i>	O
<i>Cirsium palustre</i>	R
<i>Cynosurus cristatus</i>	O

Species	DAFOR
<i>Dactylus glomerata</i>	O
<i>Deschampsia cespitosa</i>	R
<i>Filipendula ulmaria</i>	O
<i>Fraxinus excelsior</i>	O
<i>Geranium robertianum</i>	R
<i>Heracleum sphondylium</i>	R
<i>Holcus lanatus</i>	A
<i>Jacobaea vulgaris</i>	F
<i>Odontites vernus</i>	F
<i>Phleum pratense</i>	O
<i>Plantago lanceolata</i>	F
<i>Prunella vulgaris</i>	R
<i>Prunus spinosa</i>	O
<i>Pulicaria dysenterica</i>	F

Species		DAFOR	
<i>Ranunculus repens</i>	F		
<i>Rubus fruticosus agg.</i>	O		
<i>Stellaria media</i>	R		
<i>Taraxacum agg.</i>	R		
<i>Trifolium pratense</i>	A		
<i>Urtica dioica</i>	F		

Appendix G: Soil Results

