

# **A46 Newark Bypass**

**TR010065/APP/6.3**

## **6.3 Environmental Statement**

### **Appendix 8.1 Extended Phase 1 Habitat Technical Report**

#### **Part 1**

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and  
Procedure) Regulations 2009

Volume 6

April 2024

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning  
(Applications: Prescribed Forms  
and Procedure) Regulations 2009**

**A46 Newark Bypass**

Development Consent Order 202[x]

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**ENVIRONMENTAL STATEMENT**

**APPENDIX 8.1 EXTENDED PHASE 1 HABITAT TECHNICAL REPORT**

**PART 1**

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<b>Regulation Number:</b>	Regulation 5(2)(a)
<b>Planning Inspectorate Scheme Reference</b>	TR010065
<b>Application Document Reference</b>	TR010065/APP/6.3
<b>Author:</b>	A46 Newark Bypass Project Team, National Highways

<b>Version</b>	<b>Date</b>	<b>Status of Version</b>
Rev 1	April 2024	DCO Application



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# 1 Introduction

## 1.1 Background and scope of works

- 1.1.1 As part of the A46 Newark Bypass Scheme (the Scheme), extended Phase 1 habitat surveys were undertaken to inform the biodiversity baseline and subsequently the impact assessment reported in Chapter 8 (Biodiversity) of the Environmental Statement (ES) **(TR010065/APP/6.1)**.
- 1.1.2 Chapter 2 (The Scheme) of the ES **(TR010065/APP/6.1)** provides the background and a description of the Scheme. This report encompasses extended Phase 1 habitat surveys undertaken predominantly in 2022 (along with ground truthing surveys conducted for a single land parcel in April 2023) and a desk study, to inform the Environmental Impact Assessment (EIA) for the Scheme.
- 1.1.3 As well as providing a baseline of habitats present, an extended Phase 1 habitat survey identifies the potential for protected and/or notable habitats and species to occur within the survey area. This report has been completed with reference to the 'Guidelines for Preliminary Ecological Appraisal' 2<sup>nd</sup> Edition (Chartered Institute for Ecology and Environmental Management, 2017).<sup>1</sup>
- 1.1.4 The objectives of this report are to:
- Identify and report on any sites designated for nature conservation and notable habitats on, near and adjacent to the survey area.
  - Report on any notable and/or protected plant or animal species, which occur or have the potential to occur on or near the survey area.
  - Report on the presence of any invasive plant species identified on or adjacent to the survey area.
  - Provide a Phase 1 habitat classification map with target notes of identified ecological features.
- 1.1.5 This report outlines:
- A. Relevant legislation.
  - B. Methods used for desk and field-based assessments.
  - C. Competencies of the ecologists involved in undertaking the field-based assessments.
  - D. Deviations from, and limitations to, the surveys undertaken and any assumptions made as a result of incomplete data.
  - E. Survey results.

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<sup>1</sup> Chartered Institute of Ecology and Environmental Management (CIEEM) (2017) Guidelines for Preliminary Ecological Appraisal 2<sup>nd</sup> Edition. CIEEM. Winchester.

F. Summary.

## 2 Legislation, policy and licences

### 2.1 Statutory designated sites

- 2.1.1 The Wildlife and Countryside Act 1981<sup>2</sup> (as amended) gives legal protection to the best sites for wildlife (species and habitats) and geology in England. Under this legislation the country nature conservation bodies (in England this is Natural England) have a duty to notify any area of land which in their opinion is 'of special interest by reason of any of its flora, fauna, or geological or physiographical features'. These areas are designated as Sites of Special Scientific Interest (SSSIs). This legislation also places a general duty onto public bodies when exercising their functions, to maintain and enhance SSSIs.
- 2.1.2 The National Site Network consists of Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), most of which are also SSSIs. These designated sites are protected in the UK by the Conservation of Habitats and Species Regulations 2017 as amended (known as the Habitats Regulations)<sup>3</sup> and are part of a network of internationally important sites across Europe.
- 2.1.3 A SPA is an area of land, water or sea afforded enhanced protection due to being identified as having international importance for the breeding, feeding, wintering or migration of species of birds. A SAC is an area which has been given special protection due to its variety of habitats and species that it supports and is of international importance.
- 2.1.4 Ramsar sites are wetlands of international importance and are designated to implement the UK Government's commitments under the Ramsar Convention, an international treaty for the conservation and sustainable use of wetlands. For the purposes of considering potential impacts and effects on Ramsar sites, due to their international level of importance, they are treated in the same way as SPAs and SACs. Any site works proposed on or in the vicinity of protected sites, which are likely to cause an impact to the site and/or species which form its features of interest are required, by law, to undergo an assessment of likely impacts, and where required, appropriate mitigation must be applied. For SACs, SPAs and Ramsar sites, a Habitat Regulations Assessment (HRA) must be undertaken.

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<sup>2</sup> The Wildlife and Countryside Act 1981 (as amended).

<sup>3</sup> The Conservation of Habitats and Species Regulations 2017.

## 2.2 Non-statutory designated sites

- 2.2.1 Non-statutory designated wildlife sites, referred to as Local Wildlife Sites (LWS) in Nottinghamshire, have no direct legal protection but receive some protection through the planning system.
- 2.2.2 Within the National Planning Policy Framework (NPPF, 2023)<sup>4</sup> section 15 paragraph 185 states that to protect and enhance biodiversity and geodiversity plans should:
- *Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and steppingstones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and*
  - *Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.*

## 2.3 Habitats and species of principal importance

- 2.3.1 Under the Natural Environment and Rural Communities Act 2006<sup>5</sup> (NERC Act), all public bodies are required to have regard to biodiversity conservation when carrying out their function. A list of habitats and species that are of 'principal importance for the conservation of biodiversity in England' are published under Section 41 of the Act. These are referred to in this report as habitats of principal importance (HPIs) and species of principal importance (SPIs). Natural England's Priority Habitat Inventory<sup>6</sup> (PHI) (England) is a dataset of confirmed and potential HPI geographic extents and locations.
- 2.3.2 Section 40 of the NERC Act places a duty to conserve biodiversity on public authorities in England. It requires local authorities and government departments to have regard to the purposes of conserving biodiversity in a manner that is consistent with the exercise of their normal functions such as policy and decision-making. 'Conserving biodiversity' may

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<sup>4</sup> Department for Levelling Up, Housing & Communities (December 2023). National Planning Policy Framework [online] available at: [National Planning Policy Framework \(publishing.service.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/115122/nppf-2023.pdf) (last accessed March 2024).

<sup>5</sup> Natural Environment and Rural Communities (NERC) Act 2006.

<sup>6</sup> Priority Habitat Inventory, Natural England, <https://www.data.gov.uk/dataset/4b6ddab7-6c0f-4407-946e-d6499f19fcde/priority-habitats-inventory-england>.

include enhancing, restoring, or protecting a population or a habitat.

- 2.3.3 Species specific legislation and policy can be found in Appendix A of this report.

## 2.4 Policy framework

- 2.4.1 National policies relevant to biodiversity are not provided here. These are evaluated in Chapter 8 (Biodiversity) of the ES (**TR010065/APP/6.1**).

- 2.4.2 Nottinghamshire has a Local Biodiversity Action Plan<sup>7</sup> (LBAP) based upon the UK Biodiversity Action Plan (UKBAP), though the UKBAP was superseded by the UK Post-2010 Biodiversity Framework, published in July 2012. The LBAP is split into Species Action Plans (SAP) and Habitat Action Plans (HAP).

- 2.4.3 Within Nottinghamshire various habitats have received a HAP. These habitats have been designated due to either featuring within the UKBAP, meaning they are nationally in need of protection, or due to having been identified as locally endangered by county experts. All HAPs follow the same format, which is derived from the UK Biodiversity Steering Group Report and “Biodiversity Challenge” paper published by the Royal Society for the Protection of Birds (RSPB). Habitats that have received a HAP can be found in the lists below:<sup>8</sup>

- Ancient and/or species rich hedgerows
- Arable fields
- Canals
- Cereal field margins
- Ditches
- Eutrophic standing waters
- Fen
- Improved grassland
- Lowland calcareous grassland
- Lowland dry acid grassland
- Lowland heathland
- Lowland wet grassland (included in UK key habitat “coastal and floodplain grazing marsh”)

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<sup>7</sup> Nottinghamshire Local Biodiversity Action plan (LBAP) [REDACTED]

<sup>8</sup> Nottinghamshire Biodiversity Action Group (NBAG) (2020) Appendix B - List of Habitats of Conservation Concern. Available URL for download: Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 - Habitats and Species of Principal Importance in England ([REDACTED]). Last accessed: 26/01/2023.

- Lowland wood pasture and parkland
- Marsh
- Mesotrophic lakes
- Mixed ash dominated woodland
- Oak-birch woodland
- Planted coniferous woodland
- Post-industrial land
- Reedbed
- Rivers and streams
- Saline lagoons
- Unimproved neutral grassland (equivalent to UK key habitat “lowland hay meadow”)
- Urban land
- Wet broadleaved woodland

2.4.4 Within ‘Newark & Sherwood Plan Review – Amended Core Strategy 2019 – 2033’ Core Policy 12 (Biodiversity and Green Infrastructure)<sup>9</sup> contains the following relevant information:

2.4.5 *‘The District Council will seek to conserve and enhance the biodiversity and geodiversity of the District by working with partners to implement the aims and proposals of the Nottinghamshire Local Biodiversity Action Plan... The District Council will therefore:’*

- *Expect proposals to take into account the need for continued protection of the District’s ecological, biological and geological assets. With particular regard to... and species and habitats of principal importance identified in Section 41 of the Natural Environment and Rural Communities Act 2006 and in the Nottinghamshire Local Biodiversity Action Plan*
- *Seek to secure development that maximises the opportunities to conserve, enhance and restore biodiversity...*
- *Promote the appropriate management of features of major importance for wild flora and fauna*
- *Provide for Suitable Alternative Natural Green Space to reduce visitor pressure on the District’s ecological, biological and geological assets, particularly in the Newark area...*

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<sup>9</sup> Newark & Sherwood Plan Review – Amended Core Strategy 2019-2033 <https://www.newark-sherwooddc.gov.uk/media/nsdc-redesign/documents-and-images/your-council/planning-policy/local-development-framework/amended-core-strategy-dpd/amended-core-strategy-DPD.pdf>.

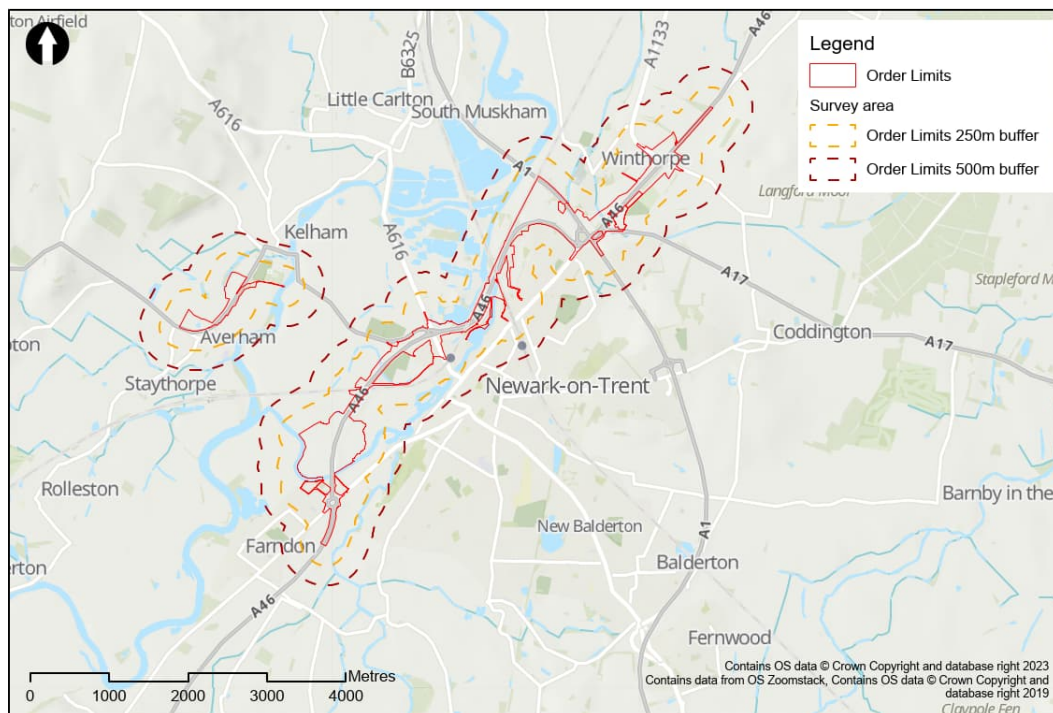


## 3 Methodology

### 3.1 Survey area

- 3.1.1 The extended Phase 1 habitat field survey was conducted within, and up to, 250 metres of the Order Limits, as shown in Figure 3-1 below. The Order Limits are split between the 'main alignment' and 'Kelham and Averham Floodplain Compensation Area (FCA)'. The survey area for ecological receptors considered alongside the extended Phase 1 habitat survey are detailed within Table 3-1, along with the respective study/survey area for each receptor (see Section 3.2 for further details). The 250 metre extended Phase 1 habitat survey area plus the respective study/survey areas detailed in Table 3-1 are hereafter referred to as the 'survey area'.
- 3.1.2 The main alignment refers to the part of the site that follows the current A46 layout which is where the new road layout and dualling of the A46 will occur. The Kelham and Averham FCA is located to the north-west of the main alignment and is where some of the flood compensation works for the Scheme will be located.

**Figure 3-1: Phase 1 habitat survey area**



Source: Mott MacDonald, 2023

## 3.2 Zone of Influence

- 3.2.1 The current guidance on ecological impact assessments (EclA) (Chartered Institute for Ecology and Environmental Management, 2018) recommends that all ecological features that occur within a ‘zone of influence’ (Zol) for a proposed development are investigated. The Zol includes:
- Areas directly within the land take for the proposed development and access
  - Areas which will be temporarily affected during construction
  - Areas likely to be impacted by hydrological disruption
  - Areas where there is a risk of pollution and noise disturbance during construction and/or operation
- 3.2.2 The Zol is variable depending on the ecological receptors affected. The size of the survey area is determined by considering the likely Zol for each receptor. Table 3-1 below summarises the study area used for the desk study and the survey area used for each of the field surveys.

**Table 3-1: Study area used for this assessment**

Ecological receptors	Study / survey area
Sites designated for their international importance	Order Limits, within 10 kilometres of the Order Limits and within 200 metres of the Affected Road Network (ARN).
Sites designated for their international importance with bats as a qualifying feature	Order Limits, within 30 kilometres of the Order Limits and within 200m of the ARN.
Sites designated for their national importance	SSSI Impact Risk Zone (in England), the Order Limits, within 2 kilometres of the Order Limits and within 200 metres of the ARN.
Sites designated for their county or local importance	Order Limits, within 2 kilometres of the Order Limits and within 200 metres of the ARN.
Habitats of principal importance and ancient woodland	Order Limits, within 50 metres of the Order Limits and within 200m of the ARN.
Waterbodies	Order Limits associated with the main alignment and areas within 250 metres. Order Limits associated with the Kelham and Averham FCA and areas within 500 metres.
Protected species evidence	Order Limits and within 250 metres of the Order Limits.
Phase 1 habitat survey	Order Limits and within 250 metres of the Order Limits.
Desk study records (for protected and notable species)	Order Limits and within 2 kilometre buffer of the Order Limits.

## 3.3 Species and habitat assessment criteria

- 3.3.1 Species referenced in this report are included due to being notable for one or more the following reasons:

- Species and habitats protected by legislation
- Habitat of Principal Importance (HPI) and Species of Principal Importance (SPI) (see Appendix A for further details)
- Species and habitats listed as a local priority for conservation (Local Biodiversity Action Plan (LBAP) species)
- International Union for Conservation of Nature (IUCN2) threatened birds in Great Britain (critically endangered, endangered or vulnerable)
- Birds of Conservation Concern red or amber
- Nationally rare, nationally scarce or near threatened species
- Invasive non-native species

3.3.2 Species for which the works may pose a welfare issue are also included for consideration where appropriate.

### 3.4 Desk study

3.4.1 Data was obtained from the Nottinghamshire Biological and Geological Record Centre (NBGRC). The records search aimed to identify Local Wildlife Sites (LWSs) and habitats of conservation importance within 2 kilometres of the Order Limits, should any be present.

3.4.2 Department for Environment Food and Rural Affairs (Defra's) MAGIC (Multi-agency geographic information for the countryside) maps website (MAGIC.gov.uk) was used to identify statutory designated sites within 2, 10 and 30 kilometres of the Order Limits, should any be present.

3.4.3 Further records of fish species within 2 kilometres of the Order Limits were obtained from the Environment Agency (EA) Ecology and Fish Data Explorer<sup>10</sup> and the National Biodiversity Network (NBN) Atlas<sup>11</sup> online records system (where user data permits).

### 3.5 Field survey

3.5.1 Extended phase 1 habitat surveys were conducted between January to February 2022 on the 'main alignment' of the proposed works, between July to August 2022 within the Kelham and Averham FCA along with ground truthing surveys conducted for a single land parcel in April 2023. The surveys were conducted on all land, where access was possible, within a 250 metre buffer of the Order Limits. Some

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<sup>10</sup> Ecology and Fish Data Explorer. Environment Agency. <https://environment.data.gov.uk/ecology/explorer/>

<sup>11</sup> National Biodiversity Network (NBN) Atlas. [REDACTED]

habitats within the Order Limits could not be surveyed due to access constraints.

- 3.5.2 The surveys were undertaken with reference to the extended Phase 1 habitat survey methodology outlined by the Joint Nature Conservation Committee (JNCC), 2010.<sup>12</sup> Dominant plant species were noted, as were any protected, uncommon, invasive species or species indicative of particular habitat types, but there was no attempt to compile exhaustive species lists for this element of the site assessment. Plant species recorded are included in the relevant results sub-sections in Section 4 of this report. Botanical nomenclature in this report follows Stace (2019) for both scientific and English names.
- 3.5.3 HPI were identified and the potential for notable/protected species and SPI was determined. Specific surveys to assess habitat suitability/potential presence for bats, badger and great crested newt were undertaken in conjunction with the extended Phase 1 surveys. The survey methods for these species can be found in Appendix B of this report.
- 3.5.4 Target Notes are included as Appendix D of this report which provide locations, photographs and further details of additional features of ecological interest (e.g. habitat areas too small to map or signs/sightings of notable sensitive species). The locations of these are shown on the extended Phase 1 habitat figure detailed in Appendix E of this report and referred to as TN1, TN2, etc.
- 3.5.5 The DAFOR scale was used as an assessment tool for assigning botanical species abundance during Phase 1 surveys. This scale offers a quick way to indicate the presence of a species within a habitat. Table 3-2 below illustrates how species abundance is taken into account when using this method in the field.

**Table 3-2: Assessment of species abundance using the DAFOR scale**

DAFOR Score	Percentage Cover	Meaning
D	>75%	Dominant
A	51-75%	Abundant
F	26-50%	Frequent
O	11-25	Occasional
R	1-10%	Rare

<sup>12</sup> JNCC, (2010), Handbook for Phase 1 habitat survey – a technique for environmental audit, JNCC, Peterborough, ISBN 0 86139 636 7.

### 3.6 Competence of surveyors

- 3.6.1 All surveys were led by competent and experienced Mott MacDonald ecologists, with reference to the survey guidelines provided by the Chartered Institute of Ecology and Environmental Management (CIEEM).<sup>13</sup>
- 3.6.2 Two of the ecological professionals overseeing the report and undertaking the quality assurance process are Chartered Environmentalists (CEnv) and Full Members of the Chartered Institute of Ecology and Environmental Management (CIEEM), each with c.15 years' experience in the field of commercial ecology.

### 3.7 Limitations

- 3.7.1 Due to the timing of the instruction of the surveys (January 2022) and programming constraints the extended Phase 1 habitat surveys for the main alignment were undertaken in January and February 2022, which is sub-optimal timing for this type of survey. The optimal time for grassland surveys is between May and August when more species are present in different growth stages. Therefore, the habitat surveys undertaken on the main alignment may not have provided a complete list of species present within those areas. However, it can be assumed that the number of botanical species missed is low, due to the high percentage cover of ecologically poor-quality habitats (including but not limited to agricultural land and semi-improved grassland) present within the survey area and that the overall habitat type was positively identified.
- 3.7.2 Some areas of woodland along the main alignment were not surveyed during the Phase 1 survey between January to February 2022, due to ground flora not being present at this time of the year. The optimal time for woodland surveys is between April and June within the UK.
- 3.7.3 Defra's MAGIC maps website (MAGIC.gov.uk) was also used to assist with the identification of habitats (including grassland and woodland habitats) that could potentially meet the Priority Habitat criteria.

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<sup>13</sup> CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester

- 3.7.4 With reference to CIEEM Advice Note (2019) *Lifespan of Ecological Reports and Surveys*<sup>14</sup> the findings presented in this report are valid for a period of 18 months from the point of survey. After this period the report should be reviewed by an experienced ecologist to assess the validity of the data, and update surveys could be recommended following this.

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<sup>14</sup> CIEEM Advice Note (2019) *Lifespan of Ecological Reports and Surveys* [REDACTED]

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## 4 Results

- 4.1.1 The results of the desk study and surveys including Habitat of Principal Importance (HPI), other habitats identified within the survey area, protected species, and invasive non-native species are included in Sections 4.2 to 4.6 respectively. In addition, the Phase 1 habitat types identified within the study area are contained in Appendix A, the Target Note information is contained in Appendix D, and the Extended Phase 1 Habitat Map is contained in Appendix E of this report.

### 4.2 Sites designated for wildlife conservation

#### Statutory designated sites

- 4.2.1 There are no statutory designated sites within the survey area.
- 4.2.2 There are no Special Area of Conservation (SACs), Special Protection Area (SPAs), or Ramsar sites within 10 kilometres of the survey area.
- 4.2.3 Humber Estuary SAC is the nearest National Site Network site. It is located approximately 68 kilometres north-east of the Order Limits and is hydrologically connected to the survey area by the River Trent. The River Trent passes through parts of the survey area. The Annex II<sup>15</sup> species river lamprey *Lampetra fluviatilis* is a qualifying feature of the SAC, but not a primary reason for site selection. River lamprey migrate up the River Trent from the SAC to spawn in freshwater.
- 4.2.4 No Sites of Special Scientific Interest (SSSIs) are located within 2 kilometres of the survey area. However, Besthorpe Meadows SSSI is hydrologically connected to the Scheme, located approximately 6 kilometres downstream via the River Trent. The SSSI comprises two unimproved alluvial grasslands home to a nationally rare plant community, reliant upon seasonal flooding from the River Trent.<sup>16</sup>

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<sup>15</sup> Annex II Habitats and species listed in the Habitats Directive which are protected in various ways.

<sup>16</sup> Natural England (1998), Besthorpe Meadows SSSI Citation. Available at: <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/2000300.pdf>.

## Non-statutory designated sites

4.2.5 Five Local Wildlife Sites (LWSs) are located at least partially within the Scheme footprint. These are summarised in Table 4-1 below.

**Table 4-1: Local wildlife sites within the Scheme footprint**

Name	Site description	Easting (X Co-ordinate)	Northing (Y Co-ordinate)
Great North Road Grasslands	Three pony-grazed fields to the west of Newark-on-Trent. One field contains a permanent pond with a number of aquatic plants, surrounded by unimproved grassland with species including lady's bedstraw <i>Galium verum</i> , cowslip <i>Primula veris</i> and salad burnet <i>Poterium sanguisorba</i> . Two further fields are semi-improved grassland subject to seasonal flooding, supporting amphibious bistort <i>Persicaria amphibia</i> , hairy sedge <i>Carex hirta</i> and marsh foxtail <i>Alopecurus geniculatus</i> .	479232	354633
Newark (Beet Factory) Dismantled Railway	This disused railway line runs partly along an embankment and partly parallel to an active railway line. The sides are dominated by scrub with the old track bed and verges supporting scrubby grassland containing species such as hare's-foot clover <i>Trifolium arvense</i> , common stork's-bill <i>Erodium cicutarium</i> and harebell <i>Campanula rotundifolia</i> .	479890	355007
Dairy Farm Railway Strip, Newark	Located along the northern side of the Nottingham to Newark railway line this strip of willow scrub, open drain and borrow pits constitutes a notable community of damp woodland, scrub and wetland species. The scrub contains hawthorn <i>Crataegus monogyna</i> , grey willow <i>Salix cinerea</i> , crack willow <i>Salix fragilis</i> and common osier <i>Salix viminalis</i> while the wet ditch margins and areas around the borrow pits have dense stands of common nettle <i>Urtica dioica</i> , great willowherb <i>Epilobium hirsutum</i> and greater reedmace <i>Typha latifolia</i> . Lesser pond-sedge <i>Carex acutiformis</i> , celery-leaved buttercup <i>Ranunculus sceleratus</i> and water-pepper <i>Persicaria hydropiper</i> can also be found, while open water supports common water crowfoot <i>Ranunculus aquatilis</i> , water violet <i>Hottonia palustris</i> and broad-leaved pondweed <i>Potamogeton natans</i> .	478766	353983
Newark Grassland	This site situated on river gravels comprises the western half of a larger grassland divided by defunct hedgerows with scattered Hawthorn bushes. The sward is unimproved in places, but rather ruderal in character on uneven ground with dry banks and wet hollows. There are also small ponds and drains increasing the diversity of habitats.	479301	354972



Name	Site description	Easting (X Co-ordinate)	Northing (Y Co-ordinate)
	Species recorded include pignut <i>Conopodium majus</i> , meadow saxifrage <i>Saxifraga granulata</i> and wild onion <i>Allium vineale</i> . The site is grazed by cattle and ponies.		
Old Trent Dyke	The Old Trent Dyke, which meanders through meadows and arable farmland, was once a secondary channel of the River Trent. Reed sweet-grass <i>Glyceria maxima</i> dominates large areas of the channel whilst elsewhere plants such as amphibious bistort <i>Persicaria amphibia</i> , gypsywort <i>Lycopus europaeus</i> , water starwort <i>Callitriche</i> sp. And wild angelica <i>Angelica sylvestris</i> can be found. Willows <i>Salix</i> spp., scattered hawthorn line the banks while the damp edges support meadowsweet <i>Filipendula ulmaria</i> , great willowherb <i>Epilobium hirsutum</i> and marsh woundwort <i>Stachys palustris</i> .	478464	354382

4.2.6 A further 37 LWSs are located within 2 kilometres of the survey area, as shown in Appendix F of this report.

### 4.3 Habitats of principal importance

4.3.1 The location of habitats of principal importance recorded from field surveys, detailed below, are shown within Appendix G of this report. As a precautionary approach, in the absence of field data, Appendix G also shows HPis shown on MAGIC Interactive Map where access was not granted for ground truthing surveys to establish the presence or absence of HPis.

#### Lowland meadows

4.3.2 MAGIC.gov identifies three areas of ‘Priority Habitat Inventory – Good Quality Semi-Improved Grassland (Non-Priority) (England)’ habitat within the Order Limits. These areas of habitat are located immediately adjacent to each other at the roundabout where Kelham Road (A617) meets the A46. A description of these habitats are included in the ‘User guide for Natural England’s Priority Habitat Inventory v3.0<sup>17</sup> (November 2022). This document states that “*The PHI currently maps 25 terrestrial priority habitats across England. It also includes four habitat classes which are not priority*

<sup>17</sup> Natural England. (2022). User Guide for Natural England’s Priority Habitats’ Inventory Version 3.0. Available <https://www.data.gov.uk/dataset/4b6ddab7-6c0f-4407-946e-d6499f19fcde/priority-habitats-inventory-england>

*habitats, but which hold potential importance for conservation of biodiversity in England. These can indicate a mosaic of habitat which may contain priority habitats, have restoration potential and/or contribute to ecological networks. Where evidence indicates the presence of unmapped or fragmented priority habitats within such polygons, these are attributed as additional habitats”*

- 4.3.3 Survey work undertaken at an earlier stage of the Scheme development identified habitat that ‘conforms to lowland meadow’<sup>18</sup> priority habitat’ within their ‘Preliminary Walkover survey’.<sup>19</sup> The location of this habitat, classified as unimproved neutral grassland under Joint Nature Conservation Committee (JNCC) Phase 1 habitat coding, was at the roundabout directly north of the A617 Kelham Road and directly west of the A616 Great North Road (Appendix A, Sheet 6 of 16).
- 4.3.4 The species identified during survey work undertaken at an earlier stage of the Scheme development (2019) included common knapweed *Centaurea nigra*, common bird’s-foot-trefoil *Lotus corniculatus*, meadow vetchling *Lathyrus pratensis*, lady’s bedstraw, rough hawkbit *Leontodon hispidus* and great burnet *Sanguisorba officinalis*. Additional surveys in late-March 2023, confirmed this area is likely to be conform to the description of an area of lowland meadow; species present included common sorrel *Rumex acetosa*, lesser celandine *Ficaria verna*, common mouse-ear *Cerastium fontanum*, meadow buttercup *Ranunculus acris*, selfheal *Prunella vulgaris*, common knapweed, hedge bedstraw *Galium album*, silverweed *Argentina anserina*, creeping cinquefoil *Potentilla repens*, ribwort plantain *Plantago lanceolata*, hairy bitter-cress *Cardamine hirsute*, red fescue *Festuca rubra*, common ragwort *Jacobaea vulgaris*, hawk’s-beard *Crepis sp.*, betony *Betonica officinalis*, perennial rye-grass *Lolium perenne*, lady’s bedstraw, great burnet, common bird’s-foot-trefoil, bent *Agrostis sp.*, pepper saxifrage *Silaum silus*, wood forget-me-not *Myosotis sylvatica*, bristly oxtongue *Helminthotheca echioides*, broadleaved dock *Rumex obtusifolius*, cleavers *Galium aparine*, watercrowfoots *Ranunculus sp. (Batrachium)*, waterstarworts *Callitriche sp.*, teasel *Dipsacus fullonum*, yarrow *Achillea millefolium*, smooth sowthistle *Sonchus oleraceus*, rough hawkbit, annual meadowgrass *Poa annua*, Yorkshire fog *Holcus lanatus*, germander speedwell *Veronica chamaedrys*, red dead-nettle *Lamium purpureum*,

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<sup>18</sup> Joint Nature Conservation Committee (JNCC). (2008). UK Biodiversity Action Plan Priority Habitat Descriptions: Lowland Meadows. Available: Eutrophic standing waters (UK BAP Priority Habitat description) (jncc.gov.uk)

<sup>19</sup> Atkins, Technical Note: A46 Newark Northern Bypass, Preliminary Walkover Survey (2019).

water forget-me-not *Myosotis scorpioides*, and sweet-grass *Glyceria sp.*

- 4.3.5 A more precise indication of the community of vegetation within this area of land has been confirmed by NVC surveys undertaken in May 2023. The results of this survey are detailed within Appendix 8.2 (National Vegetation Classification Technical Report) of the ES Appendices **(TR010065/APP/6.3)**.
- 4.3.6 Another area of lowland meadow was present at Target Note 30; central Ordnance Survey (OS) national grid reference SK 79147 54763. This was identified during walkover surveys in 2022 and was located in an area immediately east of the area of lowland meadow discussed above.

## Coastal and floodplain grazing marsh

- 4.3.7 Coastal and floodplain grazing marsh<sup>20</sup> is defined as periodically inundated pasture, or meadow with ditches which maintain the water levels, containing standing brackish or fresh water.
- 4.3.8 This habitat was identified within the Order Limits located west of the Scheme at a former borrow pit site (Target Note 110; central OS national grid reference SK 78339 53812). Additional surveys conducted in late-March 2023 confirmed that this area of land conformed to the classification of an area of coastal and floodplain grazing marsh, due to it being a grazed pasture that gave evidence for being periodically inundated, and the presence of associated ditches wet ditches, and seasonal water-filled hollows and depressions.
- 4.3.9 Additional areas of coastal and floodplain grazing marsh were identified immediately adjacent to the Order Limits, at British Sugar owned land north of the A46, immediately east of the Cattle Market roundabout (Target Note 36; central OS national grid reference SK 79365 54981). The habitat was a cattle grazed field dominated by perennial rye-grass with few forbs present.
- 4.3.10 This habitat was also identified immediately adjacent to the Order Limits, located south-east of the A46 immediately north of the River Trent (Target note 137, central OS national grid reference SK 78601 53381).

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<sup>20</sup> Joint Nature Conservation Committee (JNCC). (2008). UK Biodiversity Action Plan Priority Habitat Descriptions: Coastal and Floodplain Grazing Marsh. Available: Coastal and floodplain grazing marsh (UK BAP Priority Habitat description) (jncc.gov.uk).

## Wood pasture

- 4.3.11 Wood pasture, a HPI, was identified at two sites within the survey area at Winthorpe House (Target Note 23; central OS national grid reference SK 81595 56469) and Langford Hall (Target Note 103; central OS national grid reference SK 82476 57126). The wood pasture at both Winthorpe House and Langford Hall comprised of scattered mature coniferous pine *Pinus* spp., as well as deciduous ash *Fraxinus excelsior*, oak *Quercus* spp. and beech *Fagus sylvatica*. The trees are currently actively managed as pollards. The pasture comprised of species-poor semi-improved grassland.<sup>21</sup>

## Lowland mixed deciduous woodland

- 4.3.12 MAGIC.gov identifies a number of areas of 'Priority Habitat Inventory – Deciduous Woodland (England)' within, and immediately adjacent to, the Order Limits. The deciduous woodland is detailed within the 'User guide for Natural England's Priority Habitat Inventory v3.0 (November 2022). The document describes the PHI mapping process as it mapping "...most of the terrestrial semi-natural habitat types that were identified as being the most threatened and requiring conservation action under the UK Biodiversity Action Plan (UK BAP)... All BAP Priority Habitats occurring in England are identified as habitats of principal importance for the conservation of biodiversity under section 41 of The Natural Environment and Rural Communities (NERC) Act"
- 4.3.13 The HPI, lowland mixed deciduous woodland, has been identified as being present in two locations within the survey area. The first was located at SK 81477 56012 (near to TN72), this woodland was immediately adjacent to the A46, at the A17-A46 roundabout. The canopy comprised of horse-chestnut *Aesculus hippocastanum*, ash, wild cherry *Prunus avium*, sessile oak *Quercus petraea* and pedunculate oak *Quercus robur*. Ground flora included cleavers *Galium aparine* and common nettle *Urtica dioica*. The second area of lowland mixed deciduous woodland was present at SK 79711 54739 (near to TN32), immediately adjacent to the A46 and a large body of water (on British Sugar owned land). This woodland comprises species including pedunculate oak, dogwood *Cornus sanguinea*, hawthorn *Crataegus monogyna*, hazel *Corylus avellana*, privet

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<sup>21</sup> Joint Nature Conservation Committee (JNCC). (2011). UK Biodiversity Action Plan Priority Habitat Descriptions: Wood-Pasture and Parkland. Available: Wood-pasture and parkland (UK BAP Priority Habitat description) – Revised 2011 (jncc.gov.uk).

*Ligustrum vulgare* and elder *Sambucus nigra*. Ground flora present included wood avens *Geum urbanum* and bramble *Rubus fruticosus* agg.

- 4.3.14 A third location is highlighted within MAGIC.gov located to the east of the A46 north of the Farndon Roundabout within the southern extents of the Scheme at SK 78161 53259. This woodland is comprised entirely of white poplar *Populus alba* of plantation origin and is not indicative of HPI lowland mixed deciduous woodland.
- 4.3.15 Other areas of woodland have also been identified via aerial imagery. These areas include, but are not limited to, both sides of the A46 east of the Great North Road roundabout and surrounding the large waterbody on British Sugar owned land and areas of woodland close to Kelham Hall and Kelham House. Further details are provided within Appendix 8.2 (National Vegetation Classification Technical Report) of the ES appendices **(TR010065/APP/6.3)**.

### Eutrophic standing water

- 4.3.16 A waterbody located within British Sugar owned land was identified as eutrophic standing water priority habitat<sup>22</sup> (Target Note 31; central OS national grid reference SK 79696 54878). The waterbody may have been subjected to nutrient enrichment as a result of nearby industrial processes. At the time of survey grey heron *Ardea cinerea*, little egret *Egretta garzetta*, great crested grebe *Podiceps cristatus*, and tufted duck *Aythya fuligula* were present.

### Traditional orchard

- 4.3.17 There was an area of traditional orchard habitat<sup>23</sup> (Target Note 79; central OS national grid reference SK 78237 52338) typified by the presence of several mature apple *Malus domestica* and pear *Pyrus communis* trees. This was located adjacent to a residential property and the produce is not grown for commercial use.

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<sup>22</sup> Joint Nature Conservation Committee (JNCC). (2008). UK Biodiversity Action Plan Priority Habitat Descriptions: Eutrophic Standing Waters. Available: Eutrophic standing waters (UK BAP Priority Habitat description) (jncc.gov.uk).

<sup>23</sup> Joint Nature Conservation Committee (JNCC). (2008). UK Biodiversity Action Plan Priority Habitat Descriptions: Traditional Orchards. Available: Traditional orchards (UK BAP Priority Habitat description) (jncc.gov.uk).

## Ancient woodland and veteran trees

- 4.3.18 No areas of ancient woodland were identified within the survey area.
- 4.3.19 Eight veteran trees were recorded within the survey area. Full details of these trees can be seen in Table 4-2 below.

**Table 4-2: Veteran trees within the survey area**

Feature Number	Species	Easting (X Co-ordinate)	Northing (Y Co-ordinate)
T038	Common oak <i>Quercus robur</i>	481499	356135
T136	Common ash <i>Fraxinus excelsior</i>	479620	354756
T139	Common oak <i>Quercus robur</i>	479613	354749
T624	Sycamore <i>Acer pseudoplatanus</i>	482258	357273
T651	Sweet chestnut <i>Castanea sativa</i>	482454	357117
T669	Sycamore <i>Acer pseudoplatanus</i>	482481	357311
T840	Crack willow <i>Salix fragilis</i>	477959	353609
T841	Crack willow <i>Salix fragilis</i>	477957	353598

## 4.4 Other habitats

### Arable

- 4.4.1 Arable habitat was common throughout, with concentrations in the west and the north-east regions of the survey area.

### Amenity grassland

- 4.4.2 This regularly managed grassland habitat was located throughout the survey area generally present in small patches, typically located adjacent to commercial, as well as industrial buildings and residential properties. The grassland sward was typically dominated by perennial rye-grass with occasional cock's-foot *Dactylis glomerata*, whilst the forbs were infrequent with occasional common daisy *Bellis perennis* and ribwort plantain.

### Improved grassland

- 4.4.3 Large areas of improved grassland were present in the Kelham area towards the north-west of the survey area, as well as in the north-east, and smaller patches of improved grassland were present throughout the survey area. Dominant species were typically grasses including perennial rye-grass, cock's-foot and Yorkshire fog. In addition,



common nettle, creeping thistle *Cirsium arvense*, broad-leaved dock *Rumex obtusifolius*, ribwort plantain, white clover *Trifolium repens* and common daisy were found less frequently.

## Species-poor semi-improved grassland

- 4.4.4 This habitat was most common in the south and central regions of the survey area however, it was also present close to the A17-A46 roundabout in the north-east of the area. The habitat was characterised by the dominance of grass species including red fescue, Yorkshire fog, common bent *Agrostis capillaris*, and cock's-foot. Other species recorded during surveys included creeping buttercup *Ranunculus repens*, broad-leaved dock, and creeping thistle.

## Semi-improved neutral grassland

- 4.4.5 Several areas of semi-improved neutral grassland were identified during surveys, with the greatest concentration of this habitat in the central part of the survey area close to the A46 and Great North Road roundabout. Species identified within this habitat included red fescue, common bent *Agrostis stolonifera*, cock's-foot, Yorkshire fog, common sorrel, red clover *Trifolium pratense*, ribwort plantain and creeping thistle.

## Marsh or marshy grassland

- 4.4.6 Marsh or marshy grassland was identified surrounding a small waterbody in the north of the survey area, between the A46 and railway north-east of Crankley Point level crossing. This area was surveyed in summer 2019, with species identified including purple loosestrife *Lythrum salicaria*, yellow loosestrife *Lysimachia vulgaris*, and meadowsweet *Filipendula ulmaria*. More recent surveys during January 2022 also found common reed *Phragmites australis* and common bulrush *Typha latifolia*.

## Unimproved neutral grassland

- 4.4.7 Unimproved neutral grassland was found to be present immediately to the north-west of the A46 Great North Road roundabout. The grassland was livestock grazed, with plant species found to include common bent, sweet vernal-grass *Anthoxanthum odoratum*, smooth meadow-grass *Poa pratensis*, ribwort plantain, common daisy, common sorrel,

lady's bedstraw, salad burnet *Sanguisorba minor*, meadow foxtail *Alopecurus pratensis*, crested dog's-tail *Cynosurus geniculatus*, marsh foxtail *Alopecurus geniculatus*, and yellow rattle *Rhinanthus minor*.

## Semi-natural broad-leaved woodland

- 4.4.8 There are numerous pockets of semi-natural broad-leaved woodland within the survey area. The canopy was generally comprised of semi-mature to mature oak and ash. Sycamore *Acer pseudoplatanus* and beech were also present within the canopy layer in some woodlands. Holly *Ilex aquifolium* and hazel were present within the sub-canopy layers in some parcels, though very local in abundance. Due to the sub-optimal time of the survey, it was not possible to accurately survey the ground flora layer (see Section 3.3 of this report).

## Scattered broad-leaved trees

- 4.4.9 There are numerous scattered broad-leaved trees within the survey area. Species present included ash, oak, sycamore, beech, silver birch *Betula pendula*, horse chestnut, sweet chestnut *Castanea sativa*, willow *Salix* spp. and poplar *Populus* spp. Some of the trees are currently actively managed by pollarding.

## Parkland/scattered coniferous trees

- 4.4.10 Several mature pine trees and Leyland cypress *Cupressocyparis x leylandii* trees were recorded within the survey area, namely at Newark Rugby Club, Newark Cricket Club and within wood pasture at Winthorpe House and Langford Hall.

## Standing water (Ditches/Dykes)

- 4.4.11 There were a number of ditches and dykes within the survey area adjacent to scattered broad-leaved trees, species-poor semi-improved grassland and arable. The Old Trent Dyke (historically a secondary channel of the River Trent but no longer hydrologically connected) is located approximately 600 metres north of the River Trent and passes under the existing A46. Ditch habitats have been identified under Nottinghamshire's Habitat Action Plan.



## Standing water (Ponds)

- 4.4.12 There were 29 ponds identified within the survey area. Common bulrush was often present within pond habitats, with other species including soft rush *Juncus effusus*, meadowsweet and yellow water-lily *Nuphar lutea* locally abundant.

## Running water (Rivers/Streams)

- 4.4.13 Habitats of running water have been identified within the survey area, mainly the River Trent and River Devon. River and stream habitats have been identified under Nottinghamshire's Habitat Action Plan as providing important habitat for species including fish and otter.

## Mixed plantation woodland

- 4.4.14 Four areas of mixed plantation woodland were identified in the north-east of the survey area, south of Winthorpe and within the area north-west of the A46. An area of mixed plantation woodland was recorded directly westerly adjacent to the A46 close to Winthorpe House. The woodland was comprised of pine species *Pinus sp.*, ash, beech and oak species.
- 4.4.15 Two further areas of mixed plantation woodland were identified within the survey area. Firstly, a linear patch of woodland was located between the A617 and Kelham Hall, with sweet chestnut, European larch *Larix decidua*, beech, yew *Taxus baccata*, wild cherry, sessile oak and ash. Ground flora was sparse with wood avens and red campion *Silene dioica* rare. A second area of mixed plantation woodland was located nearby, west of the A617 and south of Broadgate Lane, close to a waterbody.

## Broad-leaved plantation woodland

- 4.4.16 There was ubiquitous broad-leaved plantation woodland mainly located adjacent to the A46. It is likely that this planting has been implemented as screening. The woodland largely comprised native species, including ash, pedunculate oak, and sycamore, with hawthorn and blackthorn present within the sub-canopy layer in some areas. Two small sections of willow *Salix sp.* plantation were also identified within an agricultural field to the west of the A46.

## Coniferous plantation woodland

- 4.4.17 Coniferous plantation woodland was found in the centre of the survey area, on the south of the A46 between the cricket pitch and an area of broadleaved plantation woodland. The habitat was dominated by Leyland cypress.

## Scrub

- 4.4.18 Scrub habitat was present throughout the survey area, both in scattered and dense forms. The dominant species within this habitat was bramble.

## Tall ruderal

- 4.4.19 Tall ruderal habitat existed within several land parcels and along the banks of the River Trent, these habitats were comprised of mainly willowherb species *Epilobium* spp., creeping thistle, common nettle and broad-leaved dock.

## Buildings

- 4.4.20 Numerous buildings were recorded during the survey. The buildings were typically of commercial, administrative, amenity, industrial or residential use.

## Species-poor intact hedgerow

- 4.4.21 Species-poor intact hedgerows were present throughout the survey area. Hedgerows comprised mainly of hawthorn and blackthorn *Prunus spinosa*, with occasional dog-rose *Rosa canina* agg. and elder.

## Species-poor intact hedgerow with trees

- 4.4.22 Several hedgerows had young and semi-mature trees present, including ash and oak.

## Species-poor defunct hedgerow

- 4.4.23 Defunct hedgerows, defined as those hedgerows with gaps and that are no longer stock-proof, were frequently identified on field boundaries throughout the survey area. The dominant species was typically hawthorn.

## Dry ditch

- 4.4.24 This habitat, though uncommon throughout the survey area, was located at central OS national grid references SK 78110 53244 and SK 78218 52530.

## 4.5 Protected and notable species

### Bats

- 4.5.1 A summary of bat data obtained from records and the Phase 1 surveys is detailed below. Full results of the preliminary roost assessment and results of the follow up surveys including bat dusk emergence/re-entry surveys, bat activity (transect) surveys and climbed inspection surveys are detailed in Appendix 8.3 (Bat Technical Report) of the ES Appendices **(TR010065/APP/6.3)**.
- 4.5.2 A total of 413 bat records were provided by the Local Environmental Records Centre (LERC) from at least eleven bat species within 2 kilometres of the Order Limits. There are 296 bat records within the last ten years within 2 kilometres of the Order Limits which include six confirmed roosts from brown long-eared, common pipistrelle and unidentified bat species. These three common pipistrelle roosts were recorded in 2017 and the brown long-eared and two unidentified pipistrelle roosts were recorded 2013. No barbastelle roosts have been noted in the biological records data.
- 4.5.3 Due to the length of the Scheme c.6.6 kilometres there are a number of different habitats located within the Order Limits which have suitability for roosting, hibernating, foraging and commuting bats. Where access has been permitted, buildings and trees with suitability to support roosting and/or hibernating bats have been subject to further aerial inspections (for trees only) or emergence/re-entry surveys in 2022/23. Bat activity transect and remote static surveys have also been undertaken across several transect routes along the main alignment of the Order Limits, where access permitted.
- 4.5.4 Ground level preliminary roost assessments during the Phase 1 surveys identified 206 trees with varying suitability to support roosting bats. Of these 206 trees, 96 of them were identified as needing further surveys via the use of aerial tree climbing inspection surveys, which were carried out by licensed and certified climbers from April 2023, to further

assess suitability and look for evidence of roosting bats. Some of the trees (four) were identified, from ground level, as having suitability to support bats during the hibernation period. Therefore, climbed inspections by bat licensed and certified climbers were completed during January to February 2023. Further details are provided in Appendix 8.3 (Bat Technical Report) of the ES Appendices **(TR010065/APP/6.3)**.

- 4.5.5 Of the 33 buildings within the survey area, 19 were identified as having suitability to support roosting bats.
- 4.5.6 Suitable habitat for foraging and commuting bats has been identified within the Order Limits, including hedgerows, woodland, scrub, and various waterbodies, which were assessed as having Moderate suitability to support commuting and foraging bats. Parts of the main alignment support hardstanding habitat which are considered to have Negligible suitability for commuting and foraging bats.

## Birds

- 4.5.7 A summary of bird data obtained from records and the Phase 1 surveys is detailed below. Full results relating to birds are detailed in:
- Appendix 8.4 (Barn Owl Technical Report) of the ES Appendices **(TR010065/APP/6.3)**.
  - Appendix 8.5 (Breeding Bird Technical Report) of the ES Appendices **(TR010065/APP/6.3)**.
  - Appendix 8.6 (Wintering Bird Technical Report) of the ES Appendices **(TR010065/APP/6.3)**.
- 4.5.8 The Nottinghamshire Biological and Geological Record Centre (NBGRC) dataset covering 2008-19 comprised records for 98 species. The British Trust for Ornithology (BTO) data from within two 10-kilometre squares (SK75 and SK85) which contained the Scheme footprint, held breeding season records for up to 131 species (2018-22).
- 4.5.9 Birds observed during Phase 1 surveys include barn owl *Tyto alba*, common buzzard *Buteo buteo*, grey heron *Ardea cinerea*, kestrel *Falco tinnunculus*, kingfisher *Alcedo atthis*, little egret *Egretta garzetta*, mute swan *Cygnus olor* and tawny owl *Strix aluco*.
- 4.5.10 Habitats including dense and scattered scrub, deciduous woodland, wetland, arable habitat, waterbodies and grassland identified throughout the survey area are suitable for bird species, including breeding birds. Notable species in terms of breeding range included pochard *Aythya ferina*,

ruddy duck *Oxyura jamaicensis*, turtle dove *Streptopelia turtur*, cormorant *Phalacrocorax carbo*, long-eared owl *Asio otus*, Cetti's warbler *Cettia cetti*, and tree sparrow *Passer montanus*.

- 4.5.11 The large waterbody/eutrophic standing water habitat (Target Note 31; central Ordnance Survey (OS) national grid reference SK 79696 54878) located on British Sugar owned land offers suitable habitat for wintering bird species but was not found to be an important ecological feature for wintering birds.
- 4.5.12 Barn owls (a Schedule 1 species) were observed during field surveys on two occasions, in the south and central part of the survey area. They were observed in grassland close to hedgerows or woodland (OS national grid reference SK 79361 54803; OS national grid reference SK 78188 53498).
- 4.5.13 Suitable barn owl habitat for foraging, roosting and nesting was also identified during the extended Phase 1 habitat survey. Habitat included the hollowed-out trunk of a mature ash tree (Target Note 51; OS national grid reference SK 77825 53457), mature oak tree (Target Note 59; OS national grid reference SK 79687 54753) and disused agricultural buildings (Target Note 9; OS national grid reference).

## Reptiles

- 4.5.14 A summary of reptile data, obtained from records and the Phase 1 walkover surveys, is detailed below. Full results from species specific reptile surveys are detailed in Appendix 8.11 (Reptile Technical Report) of the ES Appendices **(TR010065/APP/6.3)**.
- 4.5.15 No statutory or non-statutory sites designated for reptiles were recorded within 2 kilometers of the Order Limits. A total of 70 records of reptiles were returned by Nottinghamshire Biological and Geological Record Centre (NBGRC). These consisted of:
- Sixty-five records of grass snake *Natrix helvetica* (2000-2020)
  - One record of adder *Vipera berus* (2005-2006)
  - Two records of common lizard *Zootoca vivipara* (2004)
  - Two records of slow worm *Anguis fragilis* (1995/1996)
- 4.5.16 Areas of habitat considered suitable for supporting reptiles were identified within the survey area. Ponds and other waterbodies/watercourses were present along with terrestrial habitat supporting structural diversity including scattered and dense scrub, tall vegetation, scattered trees, hedgerows and woodland.

- 4.5.17 These areas were predominantly identified as being located directly to the west of the Order Limits, adjacent to the A46 (Target Note 76; central OS national grid reference SK 80487 56024) and north of Newark Rugby Club (Target note 1; central OS national grid reference SK 79060 54780). Other locations included south-west of the Kelham roundabout (Target note 119; central OS national grid reference SK 79286 54558), north of the railway line (Target Note 40, central OS national grid reference SK 78746 54118) and directly east of the A46 (Target Note 115, central OS national grid reference SK 78129 53042).
- 4.5.18 Ponds and other waterbodies with structural diversity in habitats close by (scrub, tall vegetation, scattered trees, hedgerows and woodland), offer optimal habitat for grass snakes and other reptile species. These areas were identified as directly west adjacent to the A46 (Target Note 76; central OS national grid reference SK 80487 56024), north of Newark Rugby Club (Target note 1; central OS national grid reference SK 79060 54780), Target note 119; central OS national grid reference SK 79286 54558), (Target Note 40, central OS national grid reference SK 78746 54118) and directly east of the A46 (Target Note 115, central OS national grid reference SK 78129 53042).
- 4.5.19 A young grass snake, approximately 30cm in length, was identified during the Phase 1 survey located in the west of the survey area, north of the A46, in an area of improved grassland. The grassland was located between arable fields (central OS national grid reference SK 78317 54230). Grass snakes require some cover and a degree of structural diversity.<sup>24</sup>

## Great crested newt

- 4.5.20 A summary of great crested newt (GCN) data obtained from records and the Phase 1 walkovers is detailed below. Further results of the great crested newt surveys are contained within Appendix 8.7 (Great Crested Newt Technical Report) of the ES Appendices **(TR010065/APP/6.3)**.
- 4.5.21 A total of three GCN records, 19 records of smooth newt *Lissotriton vulgaris* and 35 unidentified newt records were returned by NBGRC. All three GCN records returned were located within proximity to the Kelham and Averham Flood

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<sup>24</sup> Edgar, P., Foster, J. and Baker, J. (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth.



Compensation Area (FCA) (which is separated from the main alignment via the River Trent) and were dated from 2020.

- 4.5.22 A total of 29 waterbodies were identified within the survey area, 25 of which were subject to Habitat Suitability Index (HSI) surveys (see Appendix B for an explanation of and method for this survey type). The remaining four waterbodies were not surveyed due to being dry. A full summary of these 29 waterbodies and their HSI results can be seen in Table 4-3 below.

**Table 4-3: Summary of HSI results**

Pond numbers	Number of ponds	Pond suitability for GCN
F012, F019, F021, F029	4	Unsuitable – Dry
F004, F006, F011,	3	Poor
F007, F013, F023, F024	4	Below average
F002, F010, F014, F016, F018, F020, F022	7	Average
F005, F008, F009, F015, F017, F025, F026, F027, F028, F036	10	Good
F003	1	Excellent

Source: Mott MacDonald

## Badger

- 4.5.23 Due to the ongoing persecution against badgers in some regions, an abridged summary of badger data obtained from records and the Phase 1 surveys is detailed below.
- 4.5.24 A more detailed analysis of the results of the badger walkover survey is detailed within Appendix 8.15 (Confidential Badger Technical Report) of the ES Appendices (**TR010065/APP/6.3**).
- 4.5.25 There are records of badger within 2 kilometres of the site and records of badgers within the Order Limits, which were returned as part of a data search by NBGRC.
- 4.5.26 Suitable habitat which could be used by badger was identified within the Order Limits. Field evidence of badger having used some habitats within the Order Limits was identified within the survey area including snuffle pits, foraging signs and latrines.

## Fish

- 4.5.27 The site is hydrologically connected to the Humber Estuary SAC, by the River Trent and river lamprey are a qualifying feature, but not a primary reason for site selection of the

SAC. River lamprey migrate up the River Trent from the SAC to spawn in freshwater. The SAC is located approximately 68 kilometres from the site.

- 4.5.28 The desk study returned five species of protected fish that were recorded within the last ten years (2012-2022) up to 2 kilometres from the site. No records of river lamprey were returned. Protected species recorded include barbel *Barbus barbus*, brown trout *Salmo trutta*, bullhead *Cottus gobio*, European eel *Anguilla anguilla* and spined loach *Cobitis taenia*.

## Otter

- 4.5.29 A summary of otter data obtained from records and the Phase 1 surveys is detailed below. Full results of the otter surveys undertaken to date are detailed in Appendix 8.10 (Confidential Otter Technical Report) of the ES Appendices **(TR010065/APP/6.3)**.
- 4.5.30 A total of five records of otters were returned from within 2 kilometres of the Scheme. This includes sightings and records of field signs submitted to the NBGRC within the last 10 years. Two records were located immediately adjacent to the Order Limits. These included footprint and feeding remains at Tolney Lane and a spraint near Marsh Lane at Farndon, on the south bank of the River Trent.
- 4.5.31 Suitable habitat for resting places and commuting and foraging otters has been identified within the Order Limits, including where the River Trent meets the A46 and within the habitats immediately adjacent to this (Target Note 45; central OS national grid reference SK 77956 52830). Suitable habitat for otters was also noted within the River Devon riparian corridor (Target Note 78; central OS national grid reference SK 78479 52276).
- 4.5.32 One potential otter footprint was identified in a pebble beach underneath a bridge (central OS national grid reference SK 77073 53869). No further positive field signs for otters were found during the Phase 1 survey.

## Water vole

- 4.5.33 A summary of water vole data obtained from records and the Phase 1 walkovers is detailed below. Results of water vole presence/likely absence surveys are discussed in Appendix 8.12 (Water Vole Technical Report) of the ES Appendices **(TR010065/APP/6.3)**.



- 4.5.34 A total of 18 water vole records within 2 kilometers and within the last 10 years (2012-2022) were returned from NBGRC.
- 4.5.35 Suitable habitat for water vole (in the form of wet ditches, linear watercourse and waterbodies) is considered to be present within some areas of the Order Limits. This is determined by factors including bank profile, channel profile, water levels, availability of food sources, vegetation structure, level of shading, disturbance levels, bordering land use and connectivity to other habitats.
- 4.5.36 Nine waterbodies (comprising sixty-one 100 metre sub-sections) were identified as having suitability to support water vole, with a further 14 identified as either sup-optimal or having low suitability. The majority of suitable waterbodies were located in the central and southern areas of the survey area, such as Old Trent Dyke.
- 4.5.37 A previous survey in 2019 identified suitable habitat for water vole at the River Trent where it crosses underneath the A46 at central OS national grid references SK 80142 55306 and SK 78105 52849. However, more recent surveys identified these locations as too wide (at c.30 metres) and fast flowing and; therefore, these locations have been scoped out of further presence/likely absence surveys.
- 4.5.38 No field signs of water voles were present during the Phase 1 surveys.

## White-clawed crayfish

- 4.5.39 No habitat was found that was suitable for populations of white-clawed crayfish (WCC) and most streams that were present did not have the gravel substrate required to sustain WCC populations.
- 4.5.40 Thirteen records of the invasive non-native signal crayfish, *Pacifastacus leniusculus*, were returned by the desk study. As the signal crayfish is known to outcompete and spread disease to the native white-clawed crayfish, it is unlikely that white-clawed crayfish are present within the rivers in the survey area. In addition, Nottinghamshire County Council have identified that signal crayfish are present within the River Trent close to the survey area, while native white-clawed crayfish are absent from within the catchment.<sup>25</sup>

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<sup>25</sup> 'Crayfish in Nottinghamshire', Nottinghamshire County Council, accessed 20<sup>th</sup> January 2023. Available at: [\[REDACTED\]](#)

## Terrestrial invertebrates

- 4.5.41 The wetland habitat mosaic directly north of the A46 (Target Note 76; central grid OS national reference SK 80487 56024) offered optimal habitat for notable invertebrate assemblages. In addition, areas of unimproved and semi-improved neutral grassland may support terrestrial invertebrates which are Species of Principal Importance (SPI). Further information on terrestrial invertebrates is contained within Appendix 8.9 (Terrestrial Invertebrate Technical Report) of the ES Appendices **(TR010065/APP/6.3)**.

## Plants

- 4.5.42 Four hundred and forty-four vascular plant records of 116 notable plant species were returned by the desk study. Most of these records are from LWSs south and east of Newark such as Farndon Gravel Pit and Marina, Wyke Lane Grassland and Ponds and Beacon Hill Gypsum Workings.
- 4.5.43 Three England red listed plant species<sup>26</sup> were noted during the National Vegetation Classification (NVC) surveys: Quaking grass *Briza media*, field scabious *Knautia arvensis* and ragged-robin *Silene flos-cuculi*. Results of NVC survey are discussed in Appendix 8.2 (National Vegetation Classification Technical Report) of the ES Appendices **(TR010065/APP/6.3)**.

## Brown hare

- 4.5.44 Optimal brown hare *Lepus europeaus* habitat is a mosaic of arable fields, grassland and hedgerows. These habitats were present throughout the survey area, with concentrations of arable habitat in the west and the north-east regions of the survey area.
- 4.5.45 Two sightings of brown hare, possibly the same individual, were made in an arable field close to the east side of the A46 towards the south of the survey area (central OS national grid reference SK 78066 52037). A further three sightings of brown hare occurred on a separate occasion in close proximity (central OS national grid reference SK 82236 56457; central OS national grid reference SK 81939 56324; 57 central OS national grid reference SK 82148 56057).

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<sup>26</sup> Stroh, P., Leach, S., August, T. and Taylor, I. (2014). A Vascular Plant Red List for England. Botanical Society of Britain and Ireland; Bristol.

- 4.5.46 Two brown hare individuals were sighted together in the north portion of the survey area immediately south of Winthorpe roundabout, in an area of amenity grassland (central OS national grid reference SK 82375 56672).
- 4.5.47 In addition, three sightings of brown hare occurred in arable fields to the east of the same roundabout south of the A46 (central OS national grid reference SK 82841 57214; central OS national grid reference SK 82713 56961; central OS national grid reference SK 82757 56871).

### Harvest mouse

- 4.5.48 The harvest mouse *Micromys minutus* is typically found in habitats including tussocky grasslands, hedgerows, farmland and woodland edges. Such habitats were present throughout the Order Limits, with a concentration of suitable grassland around the A46 Great North Road roundabout.
- 4.5.49 Two harvest mouse nests were found in reed sweet grass (central OS national grid reference SK 78425 54450).

### Hedgehog

- 4.5.50 No sightings of hedgehogs *Erinaceus europaeus* were recorded during the surveys, however, suitable habitat for hedgehogs was identified throughout the survey area. Hedgehogs favour a mosaic of hedges, grassland, and woodland habitat all of which are ubiquitous throughout the survey area. Therefore, there are likely to be breeding populations of hedgehogs across the study area.

### Common toad

- 4.5.51 No sightings of common toad *Bufo bufo* were made during the Phase 1 surveys, however, suitable habitat for common toad was found frequently throughout the survey area. Suitable habitats included woodland, hedgerows and grassland. Thirty-seven ponds and lakes were identified within the study area and therefore there are likely to be breeding populations of toads across the study area.

## 4.6 Invasive non-native species

- 4.6.1 With reference to terrestrial vegetation, Japanese knotweed *Reynoutria japonica*, was found in a total of three locations along the River Trent in the central portion of the survey area, south of the A46 (central OS national grid reference SK

80023 54635; central OS national grid reference SK 79613 54046; central OS national grid reference SK 77256 54593). In addition, a dense patch of Japanese knotweed was found adjacent to a pond within the Kelham area (Target note 151).

- 4.6.2 Indian balsam *Impatiens glandulifera*, was also common within the survey area, recorded a total of 14 times. It was particularly abundant along the bank of the northern branch of the River Trent close to where its crossed by the railway line (central OS national grid reference SK 79755 56314).
- 4.6.3 Five species of aquatic invasive non-native species (INNS) were recorded within the last ten years (2012-2022) up to 2 kilometres from the Order Limits. Species included wels catfish *Silurus glanis*, sturgeon sp. (single record within a 1 kilometre grid around fishing lakes, so assumed to be a non-native species), Zander *Sander lucioperca*, common carp *Cyprinus carpio* and goldfish *Carassius auratus*.
- 4.6.4 Aquatic surveys identified 14 INNS which were recorded in the main channel of the River Trent. This included high impact species Asian clam *Corbicula fluminea*, bloody red mysid *Hemimysis anomala*, demon shrimp *Dikerogammarus haemobaphes*, sweet flag, *Acorus calamus*, zebra mussel *Dreissena polymorpha* and Chinese mitten crab *Eriocheir sinensis*. In addition, six other invasive and non-naive invertebrates were recorded.

## 5 Summary

- 5.1.1 There are no statutory designated sites within the survey area or within 2 kilometers of the survey area. There are five Local Wildlife Sites (LWSs) located at least partially within the Scheme footprint and a further 39 LWSs located within 2 kilometers of the survey area.
- 5.1.2 Six priority habitats were identified within the survey area: lowland mixed deciduous woodland, coastal and floodplain grazing marsh, eutrophic standing water, lowland meadow, traditional orchard and wood pasture.
- 5.1.3 Twenty-three habitats were identified within the survey area, the predominant habitats included amenity, improved, semi-improved and unimproved grasslands, arable, various woodland habitats, scrub and ruderal.
- 5.1.4 Suitable habitat is present for bats, birds, reptiles, great crested newt, badger, otter, water vole, terrestrial and aquatic invertebrate assemblages, brown hare, harvest mice, hedgehog and common toad. However, no suitable habitat was found for white-clawed crayfish.
- 5.1.5 Invasive non-native species identified within the survey area included Indian balsam and Japanese knotweed. These were relatively widely distributed within the survey area, found particularly alongside rivers and ponds.
- 5.1.6 Additional survey effort will be required to further establish the baseline in those areas where access was not possible, or to confirm habitat types where surveys at sub-optimal times of year prevented this.

## 6 References

- <sup>1</sup> Chartered Institute of Ecology and Environmental Management (CIEEM) (2017) Guidelines for Preliminary Ecological Appraisal 2<sup>nd</sup> Edition. CIEEM. Winchester.
- <sup>2</sup> The Wildlife and Countryside Act 1981 (as amended).
- <sup>3</sup> The Conservation of Habitats and Species Regulations 2017.
- <sup>4</sup> Department for Levelling Up, Housing & Communities (December 2023). National Planning Policy Framework [online] available at: [National Planning Policy Framework \(publishing.service.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/121222/nppf-2023.pdf) (last accessed March 2024).
- <sup>5</sup> Natural Environment and Rural Communities (NERC) Act 2006.
- <sup>6</sup> Priority Habitat Inventory, Natural England, <https://www.data.gov.uk/dataset/4b6ddab7-6c0f-4407-946e-d6499f19fcde/priority-habitats-inventory-england>.
- <sup>7</sup> Nottinghamshire Local Biodiversity Action plan (LBAP) <https://nottsbaq.org.uk/lbap/lbap-introduction-and-sections-1-to-6/>.
- <sup>8</sup> Nottinghamshire Biodiversity Action Group (NBAG) (2020) Appendix B - List of Habitats of Conservation Concern. Available URL for download: [Section 41 of the Natural Environment and Rural Communities \(NERC\) Act 2006 - Habitats and Species of Principal Importance in England \(nottsmammals.org.uk\)](https://nottsmammals.org.uk/wp-content/uploads/2020/04/Section-41-of-the-Natural-Environment-and-Rural-Communities-(NERC)-Act-2006-Habitats-and-Species-of-Principal-Importance-in-England.pdf) (nottsmammals.org.uk). Last accessed November 2023.
- <sup>9</sup> Newark & Sherwood Plan Review – Amended Core Strategy 2019-2033 <https://www.newark-sherwooddc.gov.uk/media/nsdc-redesign/documents-and-images/your-council/planning-policy/local-development-framework/amended-core-strategy-dpd/amended-core-strategy-DPD.pdf>. Last accessed November 2023.
- <sup>10</sup> Ecology and Fish Data Explorer. Environment Agency. <https://environment.data.gov.uk/ecology/explorer/>. Last accessed November 2023.
- <sup>11</sup> National Biodiversity Network (NBN) Atlas. [REDACTED] Last accessed November 2023.
- <sup>12</sup> JNCC, (2010), Handbook for Phase 1 habitat survey – a technique for environmental audit, JNCC, Peterborough, ISBN 0 86139 636 7.
- <sup>13</sup> CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester
- <sup>14</sup> CIEEM Advice Note (2019) *Lifespan of Ecological Reports and Survey* [REDACTED] Last accessed November 2023.
- <sup>15</sup> [Clarification note]



<sup>16</sup> Natural England (1998), Besthorpe Meadows SSSI Citation.  
Available at:

<https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/2000300.pdf>. Last accessed November 2023.

<sup>17</sup> Natural England. (2022). User Guide for Natural England's Priority Habitats' Inventory Version 3.0. Available  
<https://www.data.gov.uk/dataset/4b6ddab7-6c0f-4407-946e-d6499f19fcde/priority-habitats-inventory-england>. Last accessed November 2023.

<sup>18</sup> Joint Nature Conservation Committee (JNCC). (2008). UK Biodiversity Action Plan Priority Habitat Descriptions: Lowland Meadows. Available [Lowland meadows \(UK BAP Priority Habitat description\) \(jncc.gov.uk\)](#) (jncc.gov.uk). Last accessed November 2023.

<sup>19</sup> Atkins, Technical Note: A46 Newark Northern Bypass, Preliminary Walkover Survey (2019).

<sup>20</sup> Joint Nature Conservation Committee (JNCC). (2008). UK Biodiversity Action Plan Priority Habitat Descriptions: Coastal and Floodplain Grazing Marsh. Available: [Coastal and floodplain grazing marsh \(UK BAP Priority Habitat description\) \(jncc.gov.uk\)](#) (jncc.gov.uk). Last accessed November 2023.

<sup>21</sup> Joint Nature Conservation Committee (JNCC). (2011). UK Biodiversity Action Plan Priority Habitat Descriptions: Wood-Pasture and Parkland. Available: [Wood-pasture and parkland \(UK BAP Priority Habitat description\) – Revised 2011 \(jncc.gov.uk\)](#) (jncc.gov.uk). Last accessed November 2023.

<sup>22</sup> Joint Nature Conservation Committee (JNCC). (2008). UK Biodiversity Action Plan Priority Habitat Descriptions: Eutrophic Standing Waters. Available: [Eutrophic standing waters \(UK BAP Priority Habitat description\) \(jncc.gov.uk\)](#) (jncc.gov.uk). Last accessed November 2023.

<sup>23</sup> Joint Nature Conservation Committee (JNCC). (2008). UK Biodiversity Action Plan Priority Habitat Descriptions: Traditional Orchards. Available: [Traditional orchards \(UK BAP Priority Habitat description\) \(jncc.gov.uk\)](#) (jncc.gov.uk). Last accessed November 2023.

<sup>24</sup> Edgar, P., Foster, J. and Baker, J. (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth.

<sup>25</sup> 'Crayfish in Nottinghamshire', Nottinghamshire County Council. Available at [REDACTED]

Last accessed November 2023.



<sup>26</sup> Stroh, P., Leach, S., August, T. and Taylor, I. (2014). A Vascular Plant Red List for England. Botanical Society of Britain and Ireland; Bristol.

<sup>27</sup> Surveying Badgers, Harris, Cresswell and Jefferies (1991).

## A. Appendix: Species specific legislation and policy

A.1.0.1 Species legislation and policy of relevance to this Scheme is included below.

**Appendix Table A-1: Species legislation and policy**

Species	Summary of legislation and policy
<p><b>European Protected Species - (EPS) - Animals</b>  Bats (all species)  Great crested newt  Otter</p>	<p><b>Legislation</b></p> <p>These species are listed on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended). In summary it is an offence to:</p> <ul style="list-style-type: none"> <li>• Deliberately capture, injure or kill such a species:</li> <li>• Deliberately disturb such a species by which: <ul style="list-style-type: none"> <li>– It impairs their ability to survive, breed or reproduce, or to rear or nurture their young; or in the case of animals of a hibernating or migratory species, to hibernate or migrate.</li> <li>– It significantly affects the local distribution or abundance of the species to which they belong.</li> </ul> </li> <li>• Deliberately takes or destroys the eggs of such a species; and</li> <li>• Damages or destroys a breeding site or resting place of such a species.</li> </ul> <p>All species as given here are also listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (the 1981 Act) and receive additional, limited, protection. In summary it is an offence to:</p> <ul style="list-style-type: none"> <li>• Intentionally or recklessly damage or destroy a structure or place used for shelter or protection.</li> <li>• Intentionally or recklessly disturb such a species while it is occupying a structure or place used for shelter or protection.</li> <li>• Intentionally or recklessly obstruct access to any structure or place used for shelter or protection.</li> </ul> <p><b>Policy</b></p> <p>Seven species of bats, dormouse, great crested newt and otter are also listed on Section 41 (S41) of the Natural Environment and Rural Communities Act (NERC) (2006) as species of principal importance/priority species.</p>
<p><b>Fish</b>  Barbel   Bullhead  Spined loach   Spined loach</p>	<p><b>Legislation</b></p> <p>This species is listed on Schedule 4 of the Conservation of Habitats and Species Regulations 2017, and Annex 5 of the Habitats and Species Directive. In summary it is an offence to capture or kill in certain ways, and its exploitation may be subject to management measures.</p> <p>These species are listed on Annex 2 of the Habitats and Species Directive. Non-priority species: animal and plant species of European Community interest whose conservation requires the designation of Special Areas of Conservation.</p> <p>This species is listed on Annex 3 of the Bern convention, affording special protection through 'appropriate and necessary legislative and administrative measures' of the listed wild fauna species.</p>

Species	Summary of legislation and policy
<p>Brown trout</p> <p>European eel</p> <p>European eel</p> <p>All freshwater fish species during spawning</p>	<p><b>Policy</b></p> <p>These species are listed on Section 41 (S41) of the Natural Environment and Rural Communities Act (NERC) (2006) as species of principal importance/priority species.</p> <p>European eel is also listed on The International Union for Conservation of Nature's Red List of Threatened Species as Critically Endangered. European eel is additionally listed as a species by the OSPAR commission designed to protect the marine environment of the North-East Atlantic. Under the Eel Regulations 2009, works must not impede the passage of eels.</p> <p>Under Section 2 of the Salmon and Freshwater Fisheries Act 1975 it is an offence to wilfully disturb any spawn or spawning fish, or any bed, bank or shallow on which spawn or spawning fish may be.</p>
<p>Widespread reptiles:  Common/viviparous lizard,  Slow-worm,  Grass snake,  Adder</p>	<p><b>Legislation</b></p> <p>All widespread reptiles are afforded partial protection under Schedule 5 of the 1981 Act. It is an offence to intentionally kill or injure any of these species.</p> <p><b>Policy</b></p> <p>All widespread reptiles are also listed on S41 of the NERC Act.</p>
<p>Water vole</p>	<p><b>Legislation</b></p> <p>Water vole is listed on Schedule 5 of the 1981 Act and receives full protection. In summary it is an offence to:</p> <ul style="list-style-type: none"> <li>• Intentionally kill, injure or capture a water vole.</li> <li>• Intentionally or recklessly obstruct, damage or destroy a structure or place used for shelter or protection.</li> <li>• Intentionally or recklessly disturb such as species while it is occupying a structure or place used for shelter or protection.</li> </ul> <p><b>Policy</b></p> <p>Water vole are also listed on S41 of the NERC Act.</p>
<p>Wild birds, their nests and eggs</p>	<p><b>Legislation</b></p> <p>All wild birds are fully protected at all times under the 1981 Act. In summary it is an offence to intentionally:</p> <ul style="list-style-type: none"> <li>• Kill, injure or take any wild bird.</li> </ul> <p>It is also an offence to:</p> <ul style="list-style-type: none"> <li>– Take, damage or destroy the nest of any wild bird while it is being built or in use.</li> <li>– Take or destroy the eggs of any wild bird.</li> </ul> <p>In addition to the above, it is also an offence for species listed on Schedule 1 of the 1981 Act as amended to:</p> <ul style="list-style-type: none"> <li>• Disturb and wild bird whilst it is building a nest or is in, on or near a nest containing eggs or young.</li> <li>• Disturb dependent young of such a bird.</li> <li>• Nests of certain species (osprey, golden and white tailed eagle) are also protected at all times in England, Wales and Scotland.</li> </ul> <p><b>Policy</b></p> <p>A total of 49 bird species are listed on S41 of the NERC Act.</p>
<p>Badger</p>	<p><b>Legislation</b></p> <p>Badgers and their setts are protected under the Protection of Badgers Act (1992). In summary it is an offence to:</p> <ul style="list-style-type: none"> <li>• Wilfully kill, injure or take a badger.</li> <li>• Interfere with a badger sett in any of the following ways:</li> </ul>

Species	Summary of legislation and policy
	<ul style="list-style-type: none"> <li>– Damage a badger sett or any part of it.</li> <li>– Destroy a badger sett.</li> <li>– Obstruct access to, or any entrance of, a badger sett.</li> <li>– Disturb a badger when it is occupying a badger sett.</li> </ul>
<p><b>Widespread mammals</b> eg.  Hedgehog  Brown hare  Harvest mouse</p>	<p><b>Legislation</b>  All wild mammals are afforded protection from actions which are considered cruel under the Wild Mammals (protection) Act 1996 and others are listed on Schedule 6 of the 1981 Act which prohibits certain methods of taking them eg artificial light for hedgehog and traps for polecat.</p> <p><b>Policy</b>  All species given here are listed on S41 of the NERC Act.</p>
<p><b>Widespread Amphibians</b>  eg Common toad</p>	<p><b>Legislation</b>  Widespread amphibians have no protection under legislation, however common toad is listed as a priority species under S41 of the NERC Act in England</p>
<p>Terrestrial invertebrates</p>	<p><b>Legislation</b>  Some invertebrates are fully protected under Schedule 2 of the 2017 Regulations (eg large blue butterfly) with others receiving varying degrees of protection (from full to that relating to sale only) under the 1981 Act.</p> <p><b>Policy</b>  A total of 398 invertebrate species are listed on S41 of the NERC Act, the majority of which are terrestrial invertebrates.</p>
<p><b>Wild Plants</b></p>	<p>Some species of plant, eg floating water plantain are listed as EPS plants under the 2017 Regulations and are afforded full protection.</p> <p>A large amount of plant species are also listed on Schedule 8 of the 1981 Act and as such also have protection from being taken from the wild. Most plants listed on Schedule 8 have full protection however this does not apply to all species. Notably the native bluebell (<i>H. non scripta</i>) is afforded protection from sale only.</p>
<p>Invasive non-native plant species  Including Japanese knotweed and  Indian balsam</p>	<p><b>Legislation</b>  It is an offence to plant or otherwise cause such a plant to grow in the wild species listed on Schedule 9 of the 1981 Act and Schedule 2 of The Invasive Alien Species (Enforcement and Permitting) Order 2019.</p>

## B. Appendix: Assessment methods

### B.1 Bats

B.1.0.1 All accessible trees and structures within the survey area were assessed for their suitability to support roosting and foraging bats using the 'Bat Surveys for Professional Ecologists, Good Practice Guidelines' (Collins 2016). Trees and other structures were categorised using the criteria outlined in Table B-1.

**Appendix Table B-1: Structures and trees criteria for roosting bats**

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	<p>A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (ie unlikely to be suitable for maternity or hibernation).</p> <p>A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential.</p>	<p>Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream but isolated ie not very well connected to the surrounding landscape by other habitat.</p> <p>Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in parkland situation) or a patch of scrub.</p>
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.</p>
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	<p>Continuous, high quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p>High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.</p> <p>Site is close to and connected to known roosts.</p>

## B.2 Badger

B.2.0.1 The survey area was surveyed for badgers following the methodology outlined by Harris, Cresswell and Jefferies (1991).<sup>27</sup> The search covered all accessible land within the survey area, and up to 30 metres potential impact zone beyond the boundaries. Any evidence or suitable habitat was target noted. Evidence of badger presence includes:

- Setts (which were classified as main, annex or outlier)
- Latrines or droppings
- Paths, push-throughs or trackways
- Hairs
- Footprints
- Snuffle pits
- Scratching posts
- Feeding remains

## B.3 Great crested newt

B.3.0.1 All accessible water bodies within the zone of influence were assessed for their suitability to support great crested newt using a Habitat Suitability Index (HSI) based on Oldham *et al*, 2000 'Evaluating the suitability of habitat for the great crested newt *Triturus cristatus*.' The index produces a score of between 0 and 1 with 0 being unsuitable habitat and 1 representing optimal habitat. In general, waterbodies with high HSI scores (>0.6) are more likely to support great crested newt than those with low scores (<0.5) but the method is not sufficiently precise to allow the conclusion that any particular waterbody with a high score will support newts, nor that any waterbody with a low score will not do so. However, the HSI score can aid the decision whether to undertake great crested newt presence/absence surveys on a given waterbody.

**Appendix Table B-2: Habitat Suitability Index categories for the assessment of waterbodies for great crested newts**

HSI score	Pond suitability	Likely occurrence of great crested newts
<0.5	Poor	3%
0.5 – 0.59	Below average	20%
0.6 – 0.69	Average	55%
0.7 – 0.79	Good	79%

<sup>27</sup> Surveying Badgers, Harris, Cresswell and Jefferies (1991).

<b>HSI score</b>	<b>Pond suitability</b>	<b>Likely occurrence of great crested newts</b>
>0.8	Excellent	93%

Source: Oldham *et al.*, 2016



## C. Appendix: Joint Nature Conservation Committee habitat types survey results

<b>Land parcel: NT188848 Date: 27/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
480508	355715	Species-poor semi-improved, horse grazed grassland comprised of cock's-foot (F), false oat-grass (O), Yorkshire fog (O), red fescue (O), common nettle (LF), creeping thistle (O) and broad-leaved dock (O).	Species-poor semi-improved grassland B6
480513	355711	Ditch between improved grassland and species-poor hedge with trees.	Standing water G1
480517	355705	Species-poor hedgerow with trees comprised of hawthorn (F), blackthorn (O), dog-rose (R) and ash (O).	Species-poor hedgerow with trees J2.3.2
<b>Land parcel: NT206380 Date: 25/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
478239	352313	Agricultural building, comprised of brick with loose roof tiles.	Building J3.6
478218	352318	Residential building comprised of brick with pitched, tiled roof. Two storeys.	Building J3.6
478223	352351	Orchard comprised of mature apple (O), pear (O) and lime <i>Tilia</i> sp. (R) trees with various bat roosting features. Conforms to traditional orchard priority habitat.	Scattered broad leaved trees A3.1
478212	352309	Amenity grassland comprised of perennial ryegrass (D), common daisy (O) and ribwort plantain (O).	Amenity grassland J2.1
478211	352245	Species-poor intact hedgerow with mature trees. Comprised of hawthorn (D), blackthorn (O) and willow species (O).	Species-poor intact hedgerow with trees J2.3.2
<b>Land parcel: NT229691 Date: 26/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
481916	356617	Brick residential building with two storeys and pitched, tiled roof. Sealed soffits. Negligible bat roosting potential.	Building J3.6
481933	356606	One storey garage comprised of brick with pitched, tiled roof. Sealed soffits. Negligible bat roosting potential.	Building J3.6
481942	356630	Amenity grassland comprised of perennial ryegrass (D) and common daisy (O).	Amenity grassland J1.2
481924	356611	Hardstanding.	N/A
481940	356637	Line of mature ash trees with callus roll and bat boxes. Low bat roosting potential.	Scattered, broad-leaved trees A3.1

<b>Land parcel: NT240511 Date: 24/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
481558	356105	Abandoned restaurant (amenity building) comprised of brick with pitched tiled roof. One storey with gaps in soffits and lifted lead flashing. Low bat roosting potential.	Building J3.6
481579	356111	Hardstanding car park.	N/A
481572	356104	Amenity grassland comprised of perennial ryegrass (D) and common daisy (O).	Amenity grassland J1.2
481550	356145	Species-poor intact hedgerow with semi-mature trees, comprised of hawthorn (D) and ash (O).	Species-poor intact hedgerow with trees J2.3.2
<b>Land parcel: NT244878 Date: 17/02/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
481611	356161	Petrol station comprised of brick and sealed soffits with pitched, tiled roof and forecourt with pitched, tiled roof. Negligible bat roosting potential.	Building J3.7
481595	356146	Hardstanding.	N/A
481587	356181	Species-poor hedgerow with trees comprised of hawthorn (D) with semi-mature oak (O), sycamore (O) and silver birch (O).	Species-poor hedgerow with trees J2.3.2
481634	356196	Line of young trees with semi-mature oak (O) and field maple <i>Acer campestre</i> (O).	Scattered broad-leaved trees A3.1
481619	356142	Species-poor hedgerow with tree comprised of hawthorn (D) with young ash (R).	Species-poor hedgerow with trees J2.3.2
<b>Land parcel: NT263842 Date: 20/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
478801	354146	Amenity grassland comprised of perennial ryegrass (D), cock's-foot (O-LF), white clover <i>Trifolium repens</i> (O) and ribwort plantain (O).	Amenity grassland J1.2
478829	354066	Scattered trees comprised of mature oak species (O). Potential bat roosting feature present.	Scattered, broad-leaved trees A3.1
478786	354068	Old Trent Dyke located at the southern extent of the land parcel with small, isolated pockets of common bulrush (LF) and common reed <i>Phragmites australis</i> (LF).	Running water G2
<b>Land parcel: NT282847 Date: 24/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
478472	353914	Pond adjacent to A46 and within an intensively managed agricultural area. Marginal vegetation and macrophytes absent.	Standing water G1
478316	353852	Cattle grazed improved grassland comprised of perennial ryegrass (D), broad-leaved dock (R) and white clover (R).	Improved grassland B4
478343	353817	Temporary puddles within improved grassland. Likely to be dry during spring and summer.	Standing water G1
478217	353648	Scattered trees towards the eastern extent of the land parcel. Comprised of ash (O-LF) and willow species. (O-LF).	Scattered broad-leaved trees A3.1

<b>Land parcel: NT289079</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
476571	355910	Arable.	Arable J1.1
476622	355514	Arable.	Arable J1.1
477080	355714	Small area of semi-improved neutral grassland at eastern corner of land parcel. Cock's-foot, false oat grass, common knapweed.	Semi-improved neutral grassland B2.2
476984	355638	Pond without macrophytes. Permanent. Approximately 3,400m <sup>2</sup> . Dense patch of Japanese knotweed southerly adjacent to pond.	Standing water G1
476464	355345	Improved grassland in margins of arable field.	Improved grassland B4
476708	356082	Improved grassland in margins of arable field.	Improved grassland B4
476960	355646	Improved grassland surrounding pond.	Improved grassland B4
476746	355102	Species-poor, intact hedgerow located on the south-eastern extent of the land parcel. Comprised of: blackthorn <i>Prunus spinosa</i> (O), field maple (O), hawthorn (O) and hazel <i>Corylus avellana</i> (R).	Intact hedgerow – species poor J2.1.2
476519	355702	Intact species-poor hedgerow with trees. Comprised of blackthorn <i>Prunus spinosa</i> (A), hawthorn (O) and dog-rose <i>Rosa canina</i> (O) with young wych-elm <i>Ulmus glabra</i> (R), semi-mature and mature pedunculate oak (R) and ash (O).	Hedgerow with trees – species poor J2.3.2
<b>Land parcel: NT289743</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
477215	354389	Arable with scattered trees towards western extent of land parcel bordering river.	Arable J1.1
477552	355254	Improved grassland with scattered coniferous trees to northern end, between arable land and river.	Improved grassland B4
477288	354652	River Trent.	Running water G2
477475	354620	Hedgerow comprised of hawthorn (A), elder (F) and dog-rose (O).	Intact hedgerow – species poor J2.1.2
<b>Land parcel: NT292220 Date: 20/01/2021</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
478916	354335	One-storey, amenity building comprised of brick with a flat metal roof. Gaps with soffit boards. Cricket pavilion.	Building J3.6
478993	354407	Conifer plantation woodland comprised of Leyland cypress (D).	Planted coniferous woodland A1.2.2
478973	354315	Amenity grassland comprised of perennial ryegrass (D), white clover (O) and ribwort plantain (R).	Amenity grassland J1.2
478977	354205	Species-poor intact hedgerow with trees comprised of hawthorn (A), blackthorn (O) with scattered semi-mature ash (R) and sycamore (R).	Species-poor intact hedgerow with trees J2.3.2

<b>Land parcel: NT292973 Date: 26/01/2021</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
480303	355164	Poor semi-improved grassland comprised of false-oat grass (O), common bent <i>Agrostis capillaris</i> (O), red fescue (O), broad-leaved dock (O) and white clover (O).	Species-poor semi-improved grassland B6
480310	355142	Species-poor intact hedge on southern extent of the land parcel. Comprised of hawthorn (F) and blackthorn (F).	Species-poor intact hedge J2.2
<b>Land parcel: NT300844 Date: 27/01/2021</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
480465	355749	Species-poor semi-improved, horse grazed grassland comprised of cock's-foot (F), false oat-grass (O), Yorkshire fog (O), red fescue (O), common nettle (LF), creeping thistle (O) and broad-leaved dock (O).	Species-poor semi-improved grassland B6
480404	355760	Species-poor hedgerow comprised of hawthorn (D), blackthorn (R).	Species-poor hedgerow J2.1.2
<b>Land parcel: NT301667 Date: 25/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
481037	356231	Mature ash tree.	Scattered broad-leaved trees A3.1
481035	356240	Hardstanding.	N/A
<b>Land parcel: NT310896 Date: 26/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
482259	356992	Improved grassland comprised of perennial ryegrass (D), white clover (O), ribwort plantain (O), broad-leaved dock and common daisy (O).	Improved grassland B4
482068	357008	Intact species-poor hedgerow comprised of hawthorn (A), blackthorn (O) and dog-rose (R).	Intact species-poor hedgerow J2.1.2
<b>Land parcel: NT319513 Date: 25/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
480566	356197	Arable.	Arable J1.1
480626	356122	Species-poor defunct hedgerow comprised of hawthorn (O).	Species-poor defunct hedgerow J2.2.2
<b>Land parcel: NT325541 Date: 25/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
480918	356354	Scattered scrub, likely to be currently unmanaged, comprised of bramble (O-LD), broad-leaved dock (R), false-oat grass (R) and willowherb species (R).	Scattered scrub A2.2
480720	356475	Arable.	Arable J1.1
480732	356330	Species-poor defunct hedgerow with hawthorn (O).	Species-poor defunct hedgerow J2.2.2

<b>Land parcel: NT325788</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
478877	354409	Species-poor semi-improved grassland comprised of common bent (O), Yorkshire fog (O), smooth meadow-grass (O), red fescue (R), white clover (R), broad-leaved dock (R) and common nettle (R).	Species-poor semi-improved grassland B6
478830	354336	Scattered broad-leaved woodland comprised of semi-mature and mature ash (O) and oak species (O).	Broad-leaved, semi-natural woodland A1.1.1
478838	354406	Species-poor hedge with trees comprised of hawthorn (F), blackthorn (F) and semi-mature ash (O).	Species-poor intact hedgerow with trees J2.3.2
<b>Land parcel: NT335027 Date: 26/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
481966	356613	Residential property, one storey, comprised with gaps underneath roof (tiled and pitched).	Building J3.6
481960	356594	Semi-mature and mature mixed scattered trees comprised of pear (O), beech (O) and Leyland cypress (O).	Mixed scattered trees A3.3
481966	356604	Hardstanding.	N/A
481947	356604	Amenity grassland comprised of perennial ryegrass (D), white clover (O) and common daisy (O).	Amenity grassland J1.2
<b>Land parcel: NT337109 Date: 26/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
479998	354811	Pond adjacent to River Trent and public footpath, with marginal common bulrush (O-LD). Score: 0.85 (excellent).	Standing water G1
480039	355004	Planted semi-mature broad-leaved woodland, adjacent to A46 on a steep east-facing embankment, comprised of semi-mature ash (O), sycamore (O) and oak species (O).	Broad-leaved plantation woodland A1.1.2
480053	354823	Species-poor semi-improved grassland comprised of: (O-LF), Yorkshire fog (O), common bent (O), cock's-foot (O), ribwort plantain (O), common sorrel (R) and red clover (R).	Species-poor semi-improved grassland B6
480015	354814	Defunct species-poor hedgerow comprised of hawthorn (D) and blackthorn (R).	Defunct species-poor hedgerow J2.2.2
<b>Land parcel: NT337860 Date: 27/01/2021</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
480388	354927	Industrial building comprised of brick with corrugated metal pitched roof. One storey.	Building J3.6
480410	354925	Bare ground.	Bare ground J4
480373	354922	Scattered scrub comprised of bramble (LD), butterfly-bush (O) and common nettle (O).	Scattered scrub A2.2



<b>Land parcel: NT342330 Date: 24/01/2022 and 04/04/2023</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
478110	353244	Dry ditch comprised of common bulrush (LD).	Dry ditch J2.3.6
477825	353447	Scattered mature trees comprised willow species (D) and ash (R).	Scattered broad-leaved trees A3.1
477970	353088	Arable.	Arable J1.1
477975	353233	Ditch within arable.	Standing water G1
477927	353304	Strip of poor semi-improved grassland bordering ditch. Species comprised of cocksfoot (D), bramble (LA), cleavers (LA), garlic mustard (F), nettles (LA), Broadleaved leaved Dock (O), common hogweed (O), red campion (F), willowherb (F)	Poor semi-improved grassland B6
477870	352973	Broadleaved plantation woodland comprised of willow species.	Broadleaved woodland - plantation A1.1.2 -
477755	353422	Tall ruderal habitats heading west from small watercourse, species comprised of dead nettles (F) Yorkshire fog (F), nettles (O), hemlock (O), dandelion (O), germander speedwell (R), yarrow (LF), scentless may weed (R), common chickweed (LF).	Other tall herb and fern – ruderal C3.1
477679	353007	Tall ruderal habitats along the banks of the River Trent. Species comprised of cocks foot (A), deadly hemlock (F), cow parsley (F), white deadnettle (F), red deadnettle (O), and tansy (R).	Other tall herb and fern - ruderal C3.1
476912	354358	Scattered broadleaved trees along the banks of the River Trent	Scattered broad-leaved trees A3.1
477675	352932	Dense scrub along banks of River Trent. Species comprised of bramble (D), hawthorn (O) and elder (R). Cocks foot and false oat abundant at base of scrub with deadly hemlock (F), white deadnettle (O), red deadnettle (R) and tansy (R).	Scrub - dense/continuous A2.1
477182	353764	Section of willow trees along the bank of the River Trent within the north western extents of the land parcel.	Broadleaved woodland - semi-natural A1.1.1
478229	353252	Section of poor semi-improved grassland to the east of the A46. Species comprised of perennial rye (A), Yorkshire fog (F), hard rush (F), soft rush (R), common sedge (O), dandelions (F).	Poor semi-improved grassland B6
478148	352930	Small area of tall ruderal habitat within the south eastern extent of the field to the west of the A46. Species comprised of rosebay willowherb (D), Greater willowherb (A), Indian/Himalayan balsam (A), deadly hemlock (F).	Other tall herb and fern - ruderal C3.1
<b>Land parcel: NT355898 Date: 26/01/2021</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
480311	355314	Amenity grassland comprised of perennial ryegrass (D), common daisy (O) and ribwort plantain (O).	Amenity grassland J1.2

480259	355443	Industrial building comprised of metal with pitched roof. One storey.	Building J3.1
480303	355460	Hardstanding.	N/A
480245	355398	Industrial/administrative building comprised of brick and metal with pitched roof. Two storeys.	Building J3.1
480292	355371	Industrial building comprised of metal with pitched roof. One storey.	Building J3.1
480262	355346	Industrial building comprised of metal with pitched roof. One storey	Building J3.1
480254	355325	Industrial building comprised of metal with flat roof. One storey.	Building J3.1
480286	355331	Amenity building comprised of brick with flat metal roof. One storey.	Building J3.1
480249	355293	Industrial building comprised of metal with pitched roof. One storey.	Building J3.1
480285	355304	Administrative building comprised of brick with tiled, pitched roof. Two storeys.	Building J3.1
480291	355213	Species-poor semi-improved grassland comprised of false-oat grass (O), common bent (O), red fescue (O), broad-leaved dock (O) and white clover (O).	Species-poor semi-improved grassland B6
<b>Land parcel: NT361486 Date: 25/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
480403	355994	Pond surrounded by scrub and tall ruderal habitat.	Standing water G1
480382	355965	Tall ruderal habitat comprised of willowherb species (D).	Tall ruderal C3.1
480472	356043	Semi-natural broad-leaved woodland comprised of young willow species (O), hazel and (O) and ash (O).	Semi-natural broad-leaved woodland A1.1.1
480424	356049	Dense scrub comprised of bramble (D) and common nettle (R).	Dense scrub A2.1
480427	355999	Surveyed by the previous survey in summer 2019 with purple-loosestrife, yellow loosestrife and meadowsweet all present. Common reed (O) and common bulrush (O-LF) present at the time of current survey (25/01/2022).	Acid/neutral flush E2.1
480414	355977	Unimproved grassland identified by the previous survey in summer 2019. The area is comprised of indicator species red fescue (O-LF) and sweet vernal-grass (R).	Unimproved neutral grassland B2.1
480393	355860	Planted broad-leaved woodland adjacent to A46 comprised of young ash (A) and oak spp (O).	Planted broad-leaved woodland A1.1.2
<b>Land parcel: NT367850 Date: 18/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
478667	354670	Clubhouse comprised of bricks with pitched metal roof. Two storeys. Recently built.	Building J3.6
478637	354641	Hardstanding.	N/A
478684	354649	Amenity grassland comprised of; perennial ryegrass (D), ribwort plantain (R), common daisy (R) and white clover (R).	Amenity grassland J1.2



478733	354592	Species-poor intact hedgerow with trees comprised of hawthorn (A), blackthorn (O) with mature hybrid black poplar species <i>Populus canadensis</i> (O-LF) and Leyland cypress (O-LF).	Species-poor intact hedgerow with trees J.2.3.2
<b>Land parcel: NT373118 Date: 26/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
481438	355891	Semi-natural broad-leaved woodland comprised of semi-mature and mature ash (F) and oak species (F).	Semi-natural broad-leaved woodland A1.1.1
481462	355901	Hardstanding.	N/A
481473	355905	Amenity grassland comprised of perennial ryegrass (D) and common daisy (O).	Amenity grassland J1.2
<b>Land parcel: NT386728</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
481023	356224	Main building (residential). Two storey comprised of brick with pitched, tiled roof. Decay and gap within top of eaves.	Building J3.6
481029	356250	Kennel. Prefabricated building with sealed flat roof.	Building J3.6
481007	356232	Kennel. Prefabricated building with sealed flat roof.	Building J3.6
481016	356233	Hardstanding.	N/A
481016	356243	Amenity grassland comprised of perennial ryegrass (D), common daisy (O) and white clover (O).	Amenity grassland J1.2
481031	356266	Scattered broad-leaved semi-mature and mature trees comprised of silver birch (O) and ash (O).	Scattered broad-leaved trees A3.1
<b>Land parcel: NT388091 Date: 01/02/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
478218	352530	Dry ditch.	Dry ditch J2.3.6
478206	352532	Species-poor semi-improved grassland comprised of; red fescue (O-LF), cock's-foot (O), ribwort plantain (O), dandelion. (R), curled dock (R) and common daisy (R).	Species-poor semi-improved grassland B6
<b>Land parcel: NT402387 Date: 24/01/2021</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
481503	356018	Semi-natural, broad-leaved woodland comprised of semi-mature and mature oak species (O) and ash (O) within the canopy with holly (R) within the sub-canopy layer.	Semi natural, broad-leaved woodland A1.1.1
481292	356185	Scattered semi-mature and mature broad-leaved trees comprised of oak species (O), ash (O) and beech (R).	Scattered broad-leaved trees A3.1
481436	356118	Improved grassland comprised of perennial ryegrass (D), Yorkshire fog (O), common nettle (R) and broad-leaved dock (R).	Improved grassland B4
481502	356145	Unnamed watercourse with earth banks comprised of medium flow stream from south to north. Earth/sand substrate.	Running water G2

<b>Land parcel: NT407721</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
477414	355572	Building.	Building J3.6
477362	355571	Hardstanding surrounding buildings, paths across area of amenity grassland.	Hardstanding J5
477220	355479	Amenity grassland.	Amenity grassland J1.2
477162	355525	Oak species (A), yew (A).	Semi-natural mixed woodland A1.3.1
477510	355644	Indian balsam present at northern extent.	Ruderal C3.1
477589	355466	Line of trees comprised of mature beech (O) and silver birch (O).	Scattered broad-leaved trees A3.1
477622	355465	Line of trees comprised of mature hybrid black-poplar <i>Populus x canadensis</i> (O) and white willow <i>Salix alba</i> (O).	Scattered broad-leaved trees A3.1
<b>Land parcel: Date:</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
479258	355141	Hardstanding.	N/A
479188	355153	Scattered broad-leaved trees comprised of mature ash (O), sycamore (O) and oak species (O).	Scattered broad-leaved trees A3.1
479272	355222	Administrative building comprised of a portacabin with an adjoining brick storage building with a pitched tiled roof. Negligible bat roosting potential.	Building J3.6
479339	355173	Industrial building comprised of brick with pitched and flat metal roof. Negligible bat roosting potential.	Building J3.6
479285	355021	Improved grassland fringed with steep earth banks. Waterlogged at the time of survey. Comprised of false-oat grass (O-LF), common bent (O-LF), Yorkshire fog (O-LF) and cock's-foot (O) with common nettle (R) and broad-leaved dock (R).	Improved grassland B4
479350	354985	Species-poor intact hedgerow with trees comprised of hawthorn (A), blackthorn (R) and semi-mature ash (O) and sycamore (R).	Species-poor intact hedgerow with trees J2.3.2
479703	354907	Large water body with macrophytes absent. Can be classified as eutrophic standing water priority habitat.	Standing water (eutrophic) G1.1
479631	355009	Small linear pond at northern extent of large water body.	Standing water G1
479472	354947	Pond with extensive shade by scattered trees with macrophytes absent.	Standing water G1
479807	355041	Scattered trees comprised of semi-mature willow species (O), oak species (O), sycamore (O) and ash (O).	Scattered, broad-leaved trees A3.1
479885	355229	Tall ruderal habitat comprised of willowherb species (O-LA), common nettle (O), creeping thistle (O) and broad-leaved dock (O).	Tall ruderal C3.1
479637	354785	Linear broad-leaved woodland south of the large water body. Comprised of semi-mature and	Semi-natural broad-leaved

		mature ash (O-LF), oak species (O-LF), willow species (O) and sycamore (O).	woodland A1.1.1
479610	354941	Bare ground.	Bare ground J4
479551	354965	Dense scrub comprised of bramble.	Dense scrub A2.1
479353	355248	Industrial building comprised of brick with flat metal roof.	Building J3.6
479262	355287	Administrative brick building with flat and pitched metal roof.	Building J3.6
479357	355371	Industrial building comprised of brick with pitched metal roof.	Building J3.6
479617	355243	A network of drains towards the eastern extent of the land parcel with steep earth banks. No suitable vegetation for water voles.	Standing water G1
479971	355282	Improved grassland towards the north-eastern extent of the land parcel. Comprised of; perennial rye-grass (D), creeping (O) and common nettle (O).	Improved grassland B4
479308	354823	Brick arches underneath A616 Great North Road. Minor decay of brickwork and small gaps though superficial. Low bat roosting potential.	Building J3.6
<b>Land parcel: NT412329 Date: 28/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
478564	353882	Improved grassland, comprised of perennial rye-grass (D), Yorkshire fog (R), cock's-foot (R), common nettle (R) and broad-leaved dock (R).	Improved grassland B4
478541	353836	Intact species-poor hedgerow with trees comprised of hawthorn (A), blackthorn (O) with ash (O).	Intact species-poor hedgerow with trees J2.3.2
<b>Land parcel: NT412329 Date: 28/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
478564	353882	Improved grassland, comprised of perennial rye-grass (D), Yorkshire fog (R), cock's-foot (R), common nettle (R) and broad-leaved dock (R).	Improved grassland B4
478541	353836	Intact species-poor hedgerow with trees comprised of hawthorn (A), blackthorn (O) with ash (O).	Intact species-poor hedgerow with trees J2.3.2
<b>Land parcel: NT414035 Date: 19/01/2021</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
479290	354758	Livestock grazed grassland (surveyed as unimproved by the previous survey in 2019) comprised of common bent (O), sweet vernal-grass (O), smooth meadow-grass (O), ribwort plantain (R), common daisy (O), common sorrel (R). <b>Note: surveyed at sub-optimal time of year.</b>	Unimproved grassland B2.1
479310	354799	Mature ash.	Scattered, broad-leaved trees A3.1
479289	354796	Pond at the northern extent of ditch.	Standing water G1
479321	354741	Wet ditch within grassland leading to pond.	Standing water G1

<b>Land parcel: NT424059 Date: 18/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
479060	354780	Pond within semi-improved grassland. Westerly adjacent to hedgerow. Common bulrush present on margins O-LF).	Standing water G1
479012	354779	Semi-improved grassland comprised of red fescue (O-LF), common bent (O), cock's-foot (O), Yorkshire fog (O-LA), common sorrel (O), red clover (O), ribwort plantain (R) and creeping thistle (R).	Semi-improved grassland B2.2
479048	354734	Species-poor intact hedgerow comprised of hawthorn (A), elder (R) and blackthorn (R) with scattered mature trees comprised of ash (A) and sessile oak (R). Trees with potential bat roosting features.	Species-poor intact hedgerow with trees J2.3.2
590169	358804	Arable.	Arable J1.1
590139	358485	Arable.	Arable J1.1
590270	358435	Improved grassland with line of trees to west.	Improved grassland B4
<b>Land parcel: NT425291 Date: 25/01/2021</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
482445	356372	Amenity grassland comprised of perennial ryegrass (D), common daisy (O) and ribwort plantain (R).	Amenity grassland J1.2
482414	356584	Broad-leaved plantation woodland comprised of semi-mature ash (F) and oak (F).	Broadleaved plantation woodland A1.2
481999	356209	Scattered broad-leaved trees comprised of semi-mature ash (O) and oak (O) and beech (O).	Scattered broad-leaved trees A3.1
482309	356470	Hardstanding.	N/A
482131	356490	Species-poor hedgerow with trees comprised of hawthorn (A), blackthorn (F) and ash (R).	Species-poor hedgerow with trees J2.3.2
482671	356577	One-storey storage building comprised of metal with metal pitched roof. Sealed soffits. No bat roosting features. Negligible bat roosting potential.	Building J3.6
482770	356489	One-storey storage building comprised of metal with metal pitched roof. Sealed soffits. No bat roosting features. Negligible bat roosting potential.	Building J3.6
482710	356519	One-storey storage building comprised of metal with metal pitched roof. Sealed soffits. No bat roosting features. Negligible bat roosting potential.	Building J3.6
482566	356647	Administrative one-storey building comprised of brick with metal flat roof. Sealed soffits. No bat roosting features. Negligible bat roosting potential.	Building J3.6
482648	356351	Administrative two-storey building comprised of brick with tiled pitched roof. Sealed soffits. No bat roosting features. Negligible bat roosting potential.	Building J3.6
482505	356323	Amenity two-storey building comprised of brick with tiled pitched roof. Sealed soffits. No bat	Building J3.6

		roosting features. Negligible bat roosting potential.	
482596	356290	Administrative one-storey building comprised of metal with metal pitched roof. Sealed soffits. No bat roosting features. Negligible bat roosting potential.	Building J3.6
482009	356291	Amenity one-storey building (golf driving range facility) comprised of brick with tiled pitched roof. Sealed soffits. No bat roosting features. Negligible bat roosting potential.	Building J3.6
482734	356373	Amenity one-storey building comprised of brick with metal flat roof (toilet block). Sealed soffits. No bat roosting features. Negligible bat roosting potential.	Building J3.6
<b>Land parcel: NT425645 Date: 26/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
479441	354735	Assessed as semi-improved grassland by the previous survey in summer 2019. Grazed pasture comprised of; red fescue (O-LF), false-oat grass (O), Yorkshire fog (O-LF), common bent (O), red clover (O-LF), meadow buttercup <i>Ranunculus acris</i> (O) and common sorrel (R).	Semi-improved grassland B2.2
<b>Land parcel: NT426148 Date: 25/01/2021</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
478200	352193	Arable.	Arable J1.1
478176	352121	Standing water (drain).	Standing water G1
<b>Land parcel: NT427938</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
475998	355168	Improved grassland; perennial rye grass (D).	Improved grassland B4
475855	355225	Pond fringed and shaded with semi-mature trees. Permanent. Approximately 6,470m <sup>2</sup> .	Standing water G1
475403	355567	Species-poor intact hedgerows comprised hawthorn (D) and elder (R).	Species-poor intact hedgerow J2.1.2
475928	355263	Various hedgerows with trees. Mostly located on the boundaries of the land parcel. Comprised of blackthorn (A) and hawthorn (A), with dog-rose (O). Several mature trees within the habitat comprised of crack willow (O), common lime (O), hybrid black-poplar (O), Scot's pine (O) and pedunculate oak (O).	Species-poor hedgerow with trees J2.3.2
<b>Land parcel: NT428449</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
476298	354833	Improved grassland; perennial rye grass, creeping thistle, common nettle, cow parsley.	Improved grassland B4
476409	354750	Pond without macrophytes. Permanent. Approximately 1,190m <sup>2</sup> .	Standing water G1
476436	354809	Immediately north of pond.	Ephemeral/short perennial J1.3



476121	354752	Species-poor intact hedgerow comprised of dominant hawthorn. Unmanaged. Located on the southern extent of the land parcel.	Species-poor intact hedgerow J2.1.2
476579	354736	Hedgerow with trees located on the southern extent of the land parcel. Hawthorn dominant with young ash (O).	Species-poor hedgerow with trees J2.3.2
476524	354811	Species-poor intact hedgerow. Unmanaged. Comprised of blackthorn (D) and field maple (R).	Species-poor intact hedgerow J2.1.2
<b>Land parcel: NT446834 Date: 27/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
480231	355105	Dilapidated building comprised of brick. In very bad condition with roof missing. Gaps missing in brickwork.	Building J3.6
480217	355133	Bare ground.	Bare ground J4
480222	355196	Scattered scrub comprised of bramble (O-LA), willowherb species (O-LF), creeping thistle (O) and common nettle (O).	Scattered scrub A2.2
480204	355114	Small, prefabricated workshop. Gaps within soffits.	Building J3.6
480197	355116	Small, prefabricated workshop. Sealed throughout.	Building J3.6
<b>Land parcel: NT448560 Date: 18/01/2021</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
481918	356521	Arable.	Arable J1.1
481967	356615	Brick residential building with pitched tiled roof. Gaps within soffits.	Building J3.1
481946	356606	Amenity grassland comprised of perennial ryegrass (D) and common daisy (O).	Amenity grassland J1.2
481959	356594	Scattered mature trees comprised of beech (O) and apple (O).	Scattered, broad-leaved trees A3.1
481866	356884	Improved grassland comprised of perennial ryegrass (D), white clover (O), ribwort plantain (O), small-flowered crane's-bill <i>Geranium pusillum</i> (O) and common daisy (O).	Improved grassland B4
481969	356684	Species-poor hedge with mature trees comprised of hawthorn (F), blackthorn (F), ash (R) and oak species (R).	Species-poor intact hedge with trees J2.3.2
481853	356645	Species-poor hedge comprised of hawthorn (D).	Species-poor intact hedge J2.1.2
481881	356609	A line of planted mixed scattered trees comprised of pine species (O) ash (R), beech (R) and oak species (R).	Mixed, scattered trees A3.3
481825	356370	An area of planted mixed young and semi-mature scattered trees, westerly adjacent to A46 comprised of pine species (O), ash (O), beech (O) and oak species (O).	Mixed Plantation Woodland A1.3.2
481553	356346	Scattered mature pine trees (D).	Coniferous scattered trees A3.2
481654	356382	Scattered broad-leaved trees comprised of oak species (O) and ash (O).	Broad-leaved, scattered trees A3.1

481583	356436	Species-poor semi-improved grassland comprised of false oat-grass (O), common bent (O), Yorkshire fog (O), common nettle (O), common daisy (O) and white dead-nettle (O).	Species-poor semi-improved grassland B6
481159	356235	Agricultural outbuildings adjacent to each other. Wood panelled with corrugated metal pitched roof. Windows boarded up. Likely to be unused at present.	Building J3.1
481232	356134	Arable.	Arable J1.1
481249	356118	Scattered broad-leaved mature oak trees (F) and ash (F) within arable.	Broad-leaved, scattered trees A3.1
481114	356055	Arable.	Arable J1.1
481041	356004	Scattered broad-leaved mature oak trees (F) and ash (F) within arable.	Broad-leaved, scattered trees A3.1
481124	356150	Species-poor hedge with young to semi-mature trees comprised of hawthorn (F), blackthorn (F), ash (R) beech (R) and oak species (R).	Species-poor intact hedge with trees J2.3.2
481037	356140	Line of semi-mature trees with extensive ivy cover.	Broad-leaved, scattered trees A3.1
481918	356521	Arable.	Arable J1.1
481967	356615	Brick residential building with pitched tiled roof. Gaps within soffits.	Building J3.1
<b>Land parcel: NT449539 Date: 01/02/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
478256	352364	Species-poor semi-improved grassland, currently unmanaged. Comprised of: red fescue (O-LF), cock's-foot (O-LF), Yorkshire fog (O), common bent (O), creeping buttercup (O), creeping thistle (O) and broad-leaved dock (O).	Species-poor semi-improved grassland B6
478262	352340	Species-poor intact hedgerow with young trees comprised of hawthorn (O), blackthorn (A) with willow species (O) and hazel (O).	Species-poor intact hedgerow with trees J2.3.2
478171	352398	Species-poor hedgerow comprised of hawthorn (A) and blackthorn (O).	Species-poor intact hedgerow J2.1.2
<b>Land parcel: NT454001 Date: 27/01/2021</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
480399	355315	Species-poor semi-improved, horse grazed grassland comprised of cock's-foot (F), false oat-grass (O), Yorkshire fog (O), red fescue (O), common nettle (LF), creeping thistle (O) and broad-leaved dock (O).	Species-poor semi-improved grassland B6
480415	355407	Species-poor hedgerow comprised of hawthorn (D) and blackthorn (R).	Species-poor hedgerow J2.1.2
480434	355301	Species-poor hedgerow with trees comprised of hawthorn (F), blackthorn (O), dog-rose (R) and ash (O).	Species-poor hedgerow with trees J2.3.2
<b>Land parcel: NT457764 Date: 26/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>



482493	357235	Species-poor semi-improved grassland comprised of perennial rye-grass (D), red fescue (O), white clover (O), ribwort plantain (O), broad-leaved dock and common daisy (O).	Species-poor semi-improved grassland B6
482445	357100	Scattered mature broad-leaved trees comprised of; horse chestnut (O), sycamore (O), ash (O), sweet chestnut (O) and beech (O).	Scattered broad-leaved trees A3.1
482476	357079	Lodge building (residential). Two storey brick building with pitched tiled roof. Gaps in roof tiles and barge boards.	Building J3.6
<b>Land parcel: NT469103 Date: 27/01/2021</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
480437	355462	Species-poor semi-improved, horse grazed grassland comprised of cock's-foot (F), false oat-grass (O), Yorkshire fog (O), red fescue (O), common nettle (LF), creeping thistle (O) and broad-leaved dock (O).	Species-poor semi-improved grassland B6
480415	355407	Species-poor hedgerow comprised of hawthorn (D), blackthorn (R).	Species-poor hedgerow J2.1.2
480508	355449	Ditch between improved grassland and species-poor hedge with trees.	Standing water G1
480508	355449	Species-poor hedgerow with trees comprised of hawthorn (F), blackthorn (O), dog-rose (R) and ash (O).	Species-poor hedgerow with trees J2.3.2
480415	355407	Species-poor hedgerow comprised of hawthorn (D) and blackthorn (R).	Species-poor hedgerow J2.1.2
<b>Land parcel: NT526230 Date: 19/01/2021</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
479079	354582	Species-poor hedgerow with trees comprised of hawthorn (A), blackthorn (O) and semi-mature ash (O).	Species-poor intact hedgerow with trees J2.3.2
479003	354520	Species-poor semi-improved grassland comprised of common bent (O), Yorkshire fog (O), smooth meadow-grass (O), red fescue (R), white clover (R), broad-leaved dock (R) and common nettle (R).	Species-poor semi-improved grassland B6
478933	354503	Species-poor defunct hedgerow comprised of hawthorn (D).	Species-poor defunct hedge J2.2.2
<b>Land parcel: NT454379 Date: 20/01/2022</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
477970	352762	Abandoned windmill with gaps within brickwork.	Building J3.6
478744	354118	Unused residential building adjacent to windmill. Loose brickwork and loose tiles on roof.	Building J3.6
477991	352737	Tall ruderal habitat comprised of willowherb species (O-LF), common nettle (O) and creeping thistle (O).	Tall ruderal C3.1
478005	352734	Scattered broad-leaved trees comprised of hawthorn (O), willow species (O) and pear (R).	Scattered broad-leaved trees A3.1
<b>Land parcel: NT297670 Date: 27/01/2022</b>			

<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
480123	355391	Bare ground.	Bare ground J4
480148	355382	Storage building comprised of metal with pitched roof. Sealed throughout.	Building J3.6
480173	355330	Derelict industrial building comprised of brick with pitched, slate roof. Two storeys.	Building J3.6
480138	355410	Scattered scrub comprised of bramble (O-LF), false-oat grass (O), creeping thistle (O) and common nettle (O).	Scattered scrub A2.2
<b>Land parcel: TN543122</b>			
<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Habitat description</b>	<b>JNCC Habitat code (Phase 1)</b>
479058	354265	Line of mature trees comprised of ash (O) and sycamore (O).	Scattered broad-leaved trees A3.1


## D. Appendix: Target notes


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
1	479060	354780		<p>Pond within semi-improved grassland. Westerly adjacent to hedgerow. Habitat Suitability Index (HSI) score: 0.77 (good).</p>

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
2	479083	354694		Mature ash with decaying branches.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
3	479069	354789		Mature ash located on land parcel boundary. Easterly facing scar in trunk.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
4	481094	355981		Mature horse-chestnut tree with several bat roosting features, knot holes and lifting bark.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
5	481042	356006		Mature ash with several bat roosting features, rot sites and knot holes.
6	481175	355834	No photo available	Slough Dyke (The Fleet). Storm drain that was dry at the time of survey. Negligible potential. Within National Highways Estate.



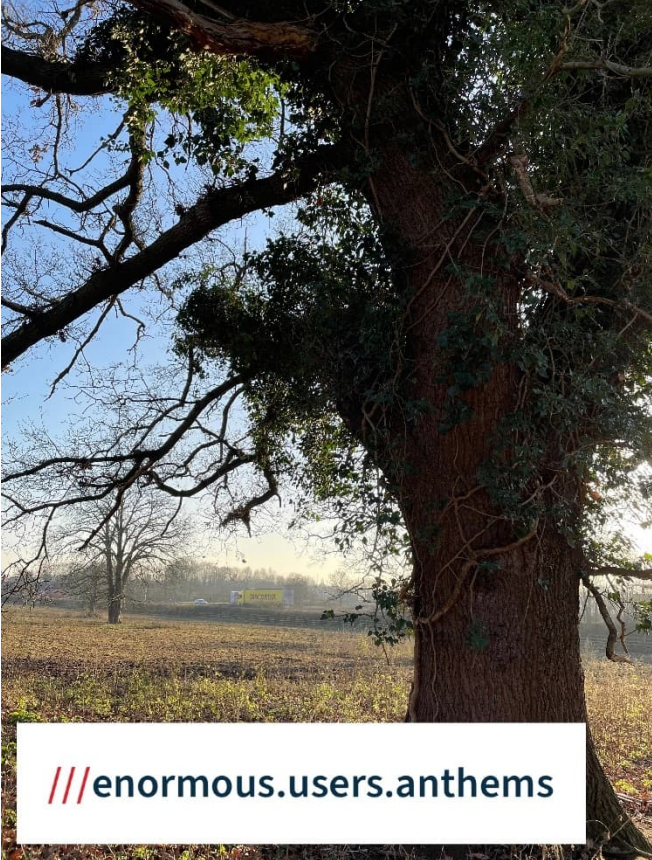
Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
7	481049	356172		Line of semi-mature trees, westerly adjacent to NT448560 and on public footpath. With extensive ivy cover.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
8	481039	356118		Mature ash with bat roosting features. Rot sites and decaying limbs.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
9	481157	356236		<p>Agricultural outbuildings. Wood panelled with corrugated metal pitched roof. Windows boarded up. Likely to be unused at present. Potential suitability as barn owl habitat.</p>

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
10	481200	356214		Mature sycamore with several bat roosting features, rot sites and knot holes.



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
11	481229	356190		Mature oak with several bat roosting features, rot sites and decaying limbs.

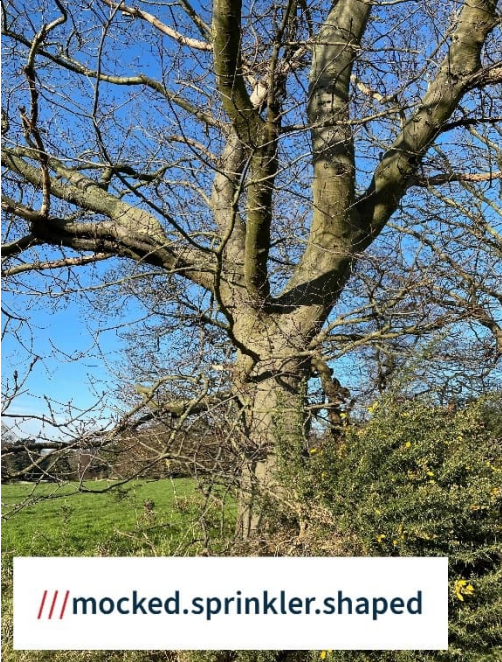
Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
12	481256	356177		Semi-mature sycamore with several bat roosting features, rot sites and knot holes.
13	481224	356159	See photo for Target Note 18	Mature tree located in arable field with several bat roosting features, rot sites and knot holes.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
14	481247	356117		Mature tree located in arable field with several bat roosting features, rot sites and knot holes.
15	481262	356084	See photo for Target Note 20	Mature tree located in arable field with several bat roosting features, rot sites and knot holes.



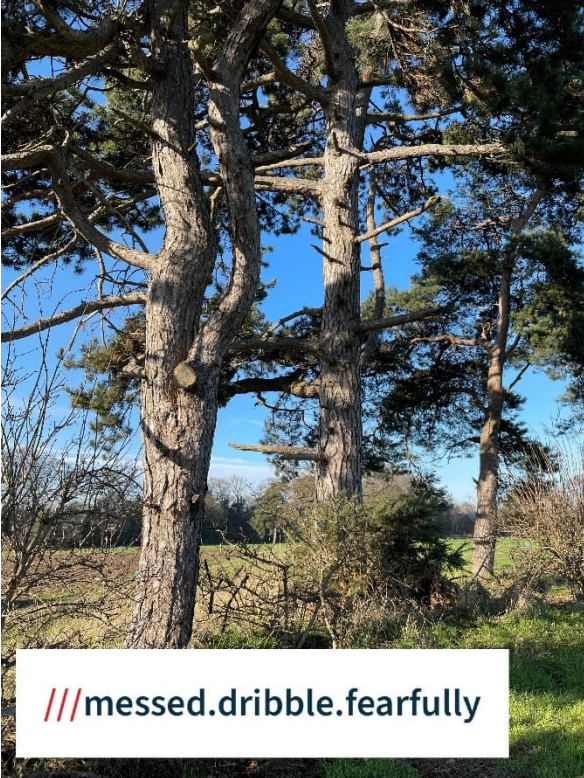
Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
16	481241	356214		A line of mature beech trees with extensive ivy cover.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
17	481656	356386		Semi-mature sycamore with callus roll.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
18	481650	356377		Red oak ( <i>Quercus rubra</i> ) with bat roosting features. Rots sites and decaying limbs.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
19	481875	356405		Several trees within mixed plantation, adjacent to A46, with extensive ivy cover.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
20	481613	356264		Group of semi-mature pine trees with bat roosting features.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
21	481633	356314		Semi-mature tree with callus roll.





Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
22	481550	356350		Mature oak with several bat roosting features (decaying limbs and rot sites).


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
23	481563	356483		Wood pasture Priority Habitat at Langford Hall.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
24	481796	356637		Mature trees with extensive ivy cover.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
25	481736	357005		Semi-mature tree with extensive ivy cover.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
26	481999	356722		Mature oak with bat roosting features.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
27	481956	356793		Mature oak. Decaying crevice within limb. North-east facing.



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
28	479289	354796		<p>Pond at the northern extent of drain within grassland field. HSI score: 0.54 (below average).</p>

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
29	479310	354799		Mature ash with extensive ivy cover.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
30	479288	354757		<p>Unimproved meadow stated as the previous survey in 2019 supplier TN69. Impossible to determine/confirm in January.</p>

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
31	479697	354877		<p>Large water body with macrophytes absent. Suitable for wintering bird populations. Can be classified as eutrophic standing water priority habitat. HSI score 0.42 (poor).</p>



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
32	479682	354727		Mature oak with hollowed trunk and decaying limbs. Potentially suitable for roosting bats and barn owls.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
33	479472	354940		Pond with extensive shade with macrophytes absent. HSI score: 0.71 (good).




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
34	479499	354793		Mature ashes with bat roosting features (knot holes).


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
35	479631	355009		<p>Small linear pond at northern extent of large water body (TN 55). Likely to dry out in spring and summer. HSI score is poor.</p>

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
36	479502	355070	 <div data-bbox="1435 336 1518 904" style="writing-mode: vertical-rl; transform: rotate(180deg);"> <p>///miracles.minority.bleaching</p> </div>	<p>Floodplain meadow south of buildings, fringed by steep earth banks. Waterlogged at the time of survey. Classified as Coastal and Floodplain Grazing Marsh.</p>


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
37	479063	354588		Semi-mature ash with callus roll.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
38	478821	354364		Semi-mature ash with callus roll.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
39	478916	354338		Small gap between roof and soffit of cricket pavilion building.



40	478744	354118		<p>Old Trent Dyke watercourse with scattered scrub. Suitable channel structure, habitat structure, vegetation and bank profile for water voles and grass snakes.</p> <p>Note: Feature is in background.</p>
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Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
41	478819	354060		Mature oak with multiple bat roosting features. Callus rolls.



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
42	477972	352762		Abandoned windmill with gaps in brickwork.

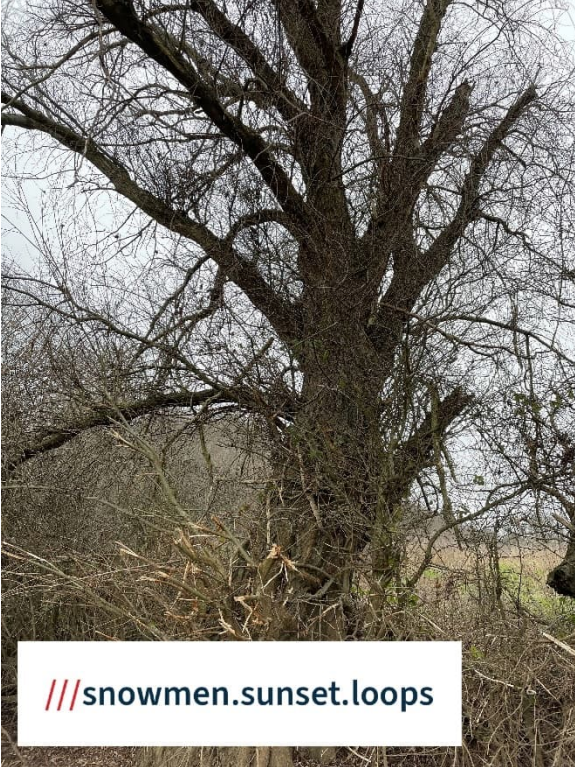
Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
43	477996	352730		Fruit tree (Pyrus spp.) with callus roll.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
44	477952	352762		Unused residential building adjacent to windmill. Loose brickwork and loose tiles on roof.



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
45	477994	352838		River Trent with young riparian trees. Potential otter holt habitat.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
46	478319	353587		Mature ash tree with callus roll.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
47	478313	353589		Mature willow with woodpecker hole and decaying limb.




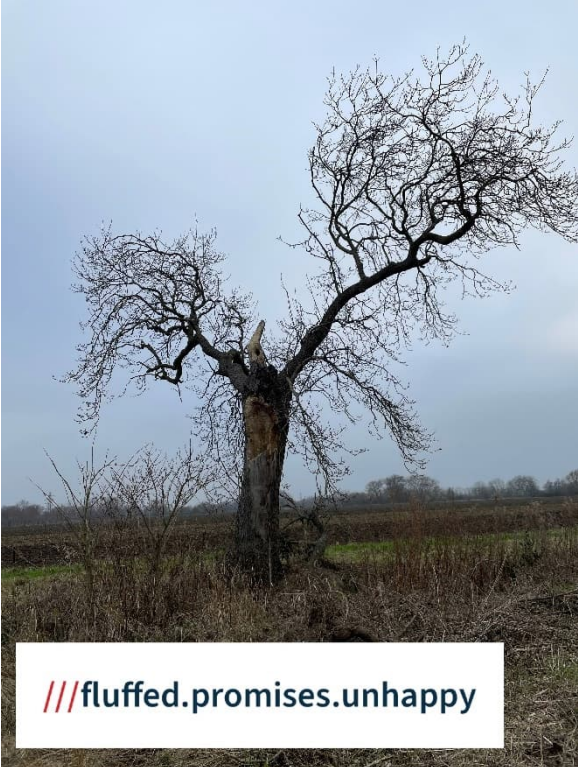
Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
48	478206	353377		Ditch completely overgrown with bramble scrub. Suitable habitat for reptile populations, though not suitable for water voles or amphibians.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
49	478349	353568		Mature willow with decaying limb.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
50	477957	353589		Old Trent Dyke with evidence of pollution, possibly from agricultural run-off.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
51	477825	353457		Mature ash with hollowed out trunk, suitable for barn owls.

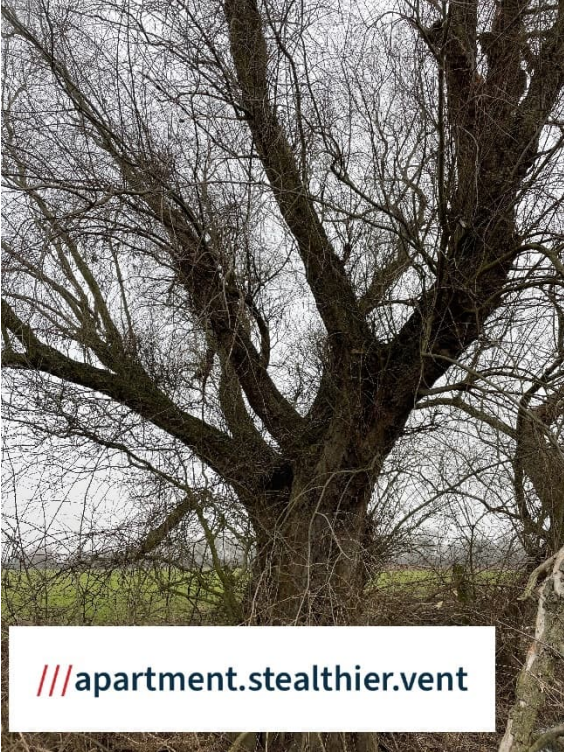
Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
52	478058	353116		Mature ash with decaying crown and crevice.



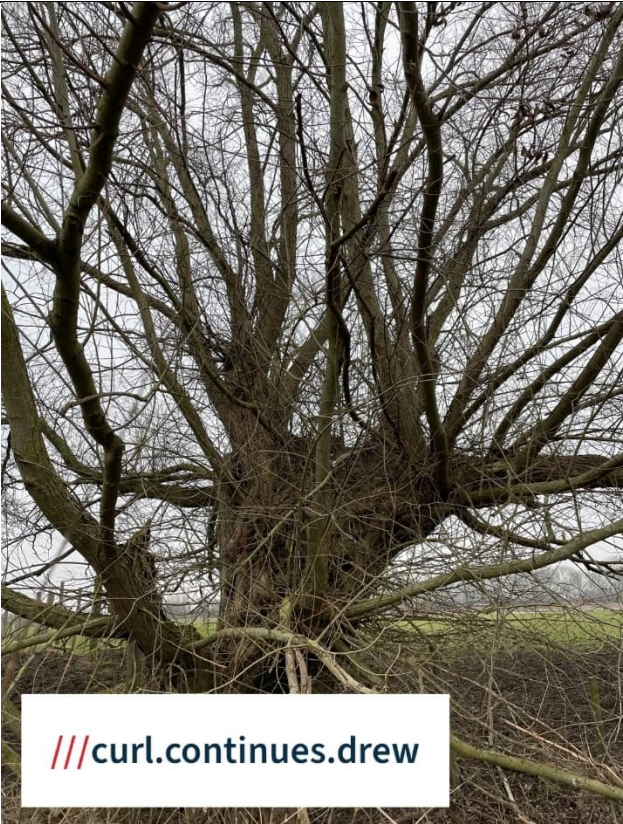
Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
53	NT282847	477949		Mature willow with decaying limb. Adjacent to Old Trent Dyke.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
54	NT342330	477825		Mature willow with hollowed out trunk and barn owl potential. Adjacent to Old Trent Dyke.

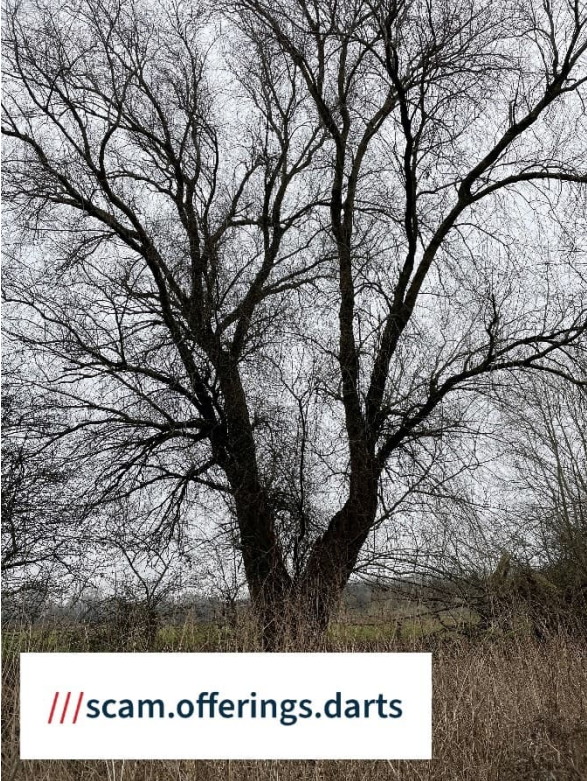



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
55	NT342330	478146		Willow with callus roll. Adjacent to Old Trent Dyke.
56	478110	353244	No photo available	Ditch, dry at time of survey. With Typha present.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
57	478155	353644		Mature willow with decaying limbs. Adjacent to Old Trent Dyke.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
58	478173	353653		Mature willow with decaying limbs. Adjacent to Old Trent Dyke.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
59	478182	353662		Mature willow with decaying limbs. Adjacent to Old Trent Dyke.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
60	478210	353636		Mature willow with decaying limbs. Adjacent to Old Trent Dyke.



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
61	481515	356121		Unnamed watercourse with earth banks comprised of very sparse vegetation. Poor suitability for water voles. Channel substrate with minimal gravel and therefore also poor suitability for white-clawed crayfish.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
62	481503	356018		Semi-mature ash with decaying on stem.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
63	481564	356108		Abandoned commercial building (Mint Leaf) with loose tiles, gap adjacent to soffits and lifted flashing.



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
64	481451	356221	 <p data-bbox="797 917 1178 1018">///thumb.pillows.softly</p>	Group of three semi-mature/mature oak trees with decayed limbs and extensive ivy cover.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
65	481507	356151		Mature oak with extensive ivy cover and vertical scarring on trunk.



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
66	481495	356134		Mature tree with extensive ivy cover.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
67	481424	356208		Mature sweet chestnut tree with tree guard and callus roll.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
68	481504	356117		Mature oak with callus roll and extensive ivy cover.

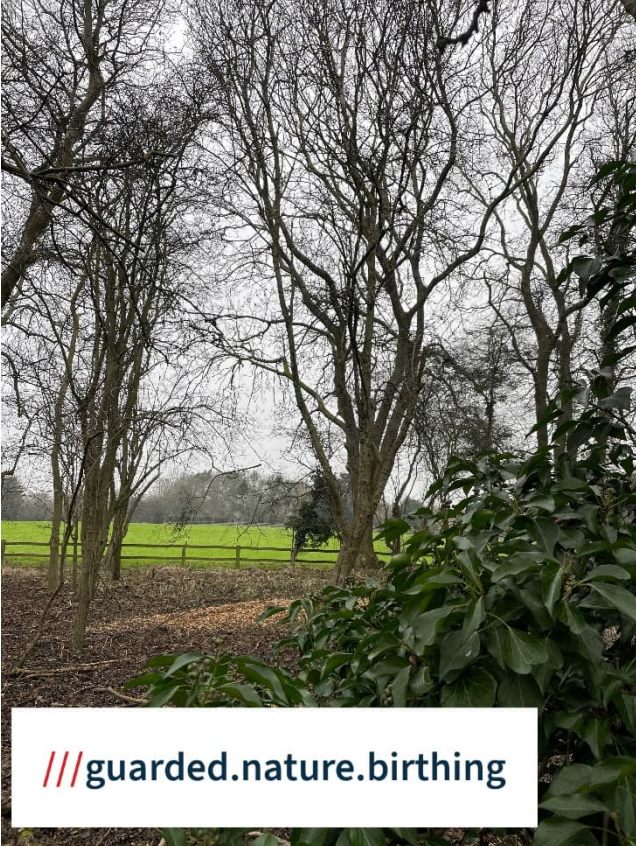


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
69	481517	356084		Semi-mature ash with extensive ivy cover.



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
70	481476	356032		Semi-mature ash with extensive ivy cover.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
71	481497	356017		Semi-mature ash with multiple south facing callus rolls.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
72	481500	356033		Semi-mature ash with south facing callus roll.



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
73	480430	355999		Pond surrounded by scrub and tall ruderal habitat. Pond score 0.69 (average).




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
74	480451	356074		Scrub and tall ruderal habitat surrounding pond.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
75	481026	356227		Kennels. Main building (residential). Decay and gap within top of eaves.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
76	480396	355960		<p>Riparian linear habitat with good structural diversity (scrub, tall vegetation) adjacent to pond. Suitable for reptiles and water voles. Surveyed partially as unimproved grassland by the previous survey in 2019.</p>

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
77	478239	352313		Agricultural building, comprised of brick with loose roof tiles.

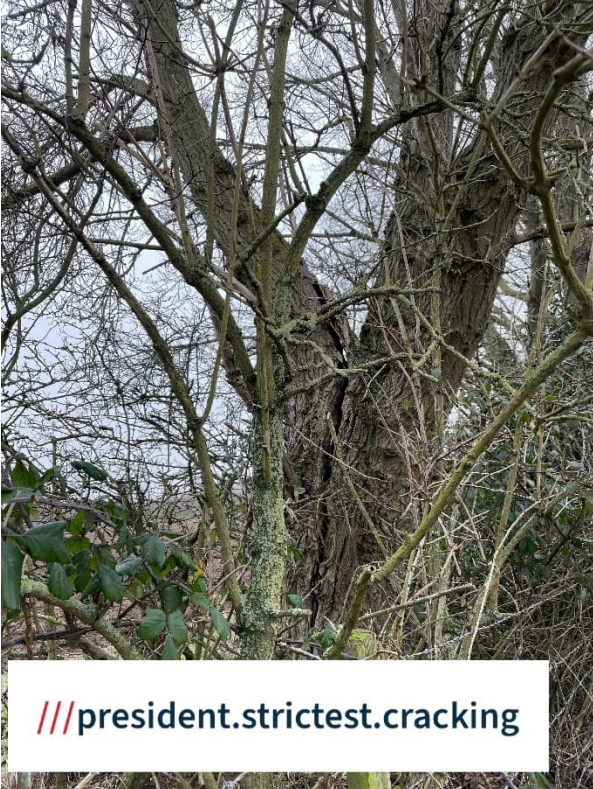


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
78	478474	352255		River Devon. Suitable habitat for otters and water voles. Earth banks with vegetation and structure required for holts.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
79	478237	352338		Orchard comprised of mature apple and pear trees with various bat roosting features (callus rolls). Conforms to traditional orchard priority habitat.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
80	478267	352329		Mature lime tree with woodpecker hole and callus roll.



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
81	478199	352253		Mature willow. Split within main stem.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
82	478155	352135		<p>Wet ditch present with suitable channel profile, earth banks and vegetation for water voles. No water vole field signs present.</p>

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
83	481914	356390		Semi-mature sycamore. East facing callus roll on tree adjacent to A46 and indoor bowling centre.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
84	481945	356420		Semi-mature sycamore with extensive ivy cover.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
85	481965	356442		Semi-mature sycamore with callus roll.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
86	479061	354287		Mature ash with west facing callus roll.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
87	479998	354811		Pond adjacent to River Trent and public footpath. Score: 0.85 (excellent).

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
88	481959	356595		Fruit tree with callus roll.



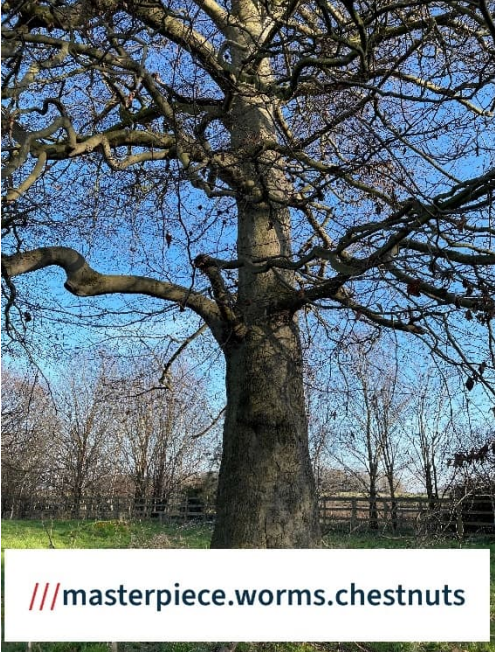
Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
89	481966	356612		Residential property with gaps underneath roof tiles.



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
90	481940	356637		Mature ashes with south facing callus rolls and bat boxes.

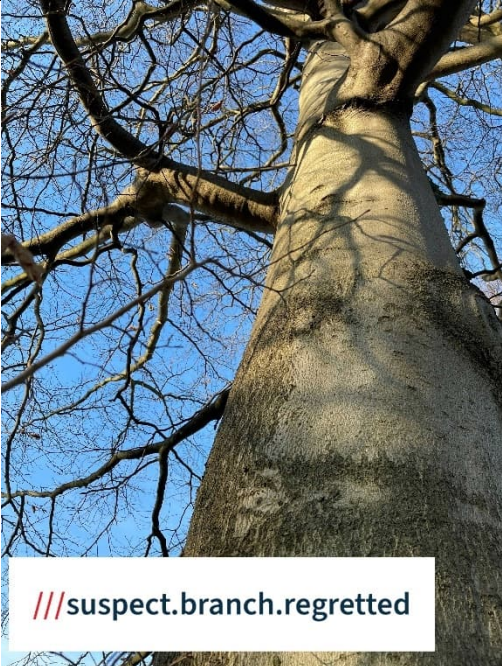
Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
				

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
91	482476	357078		Lodge building (residential). Gaps in roof tiles and barge boards. No bat dropping found during survey.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
92	482509	357129		Mature beech tree with callus roll.



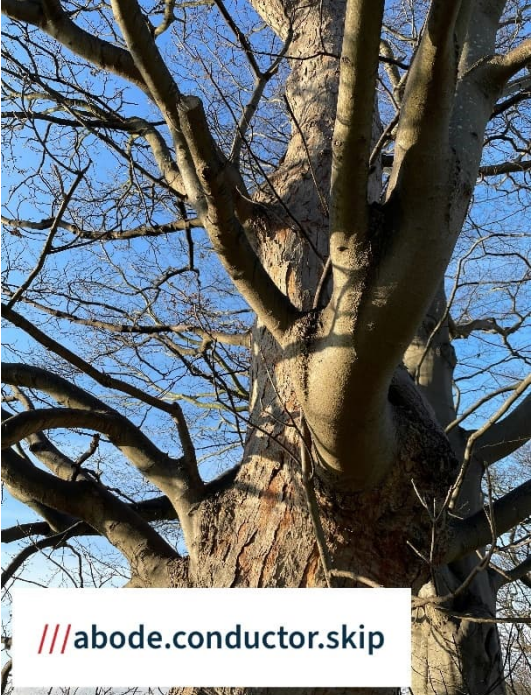
Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
93	482504	357108		Mature sycamore tree with callus roll.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
94	482450	357065		Mature beech tree with callus roll and decaying limb.

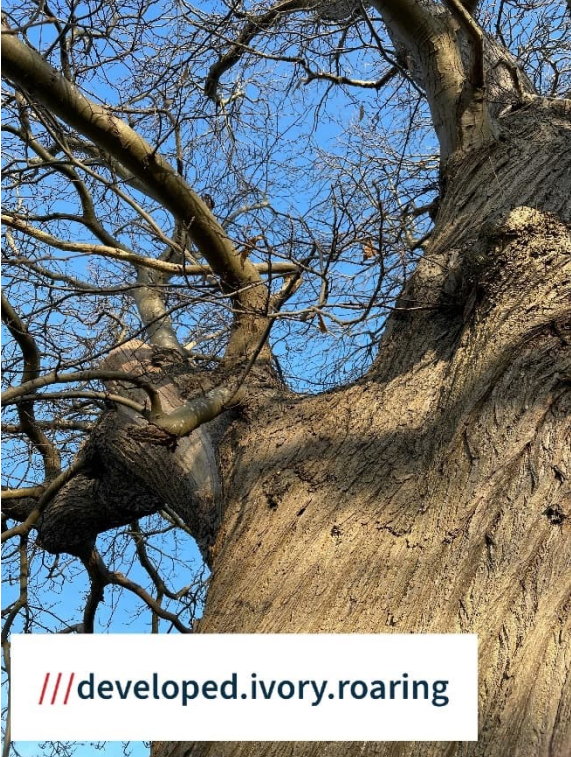
Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
95	482458	357083		Mature beech tree with callus roll.

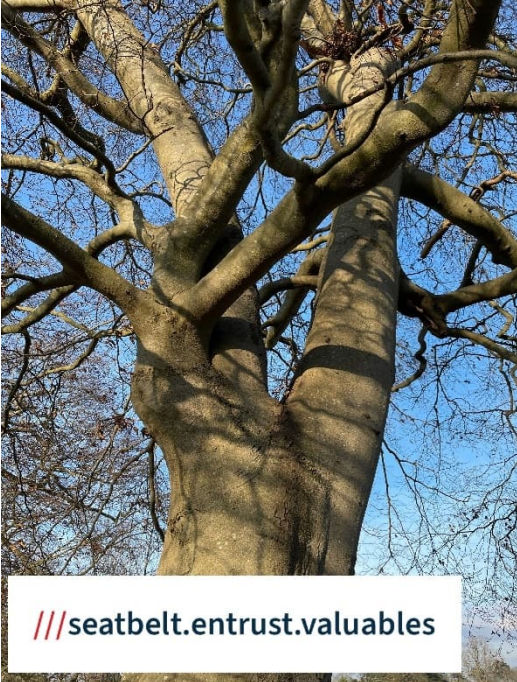
Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
96	482447	357083		Mature horse chestnut tree with callus rolls.



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
97	482447	357104		Mature sycamore tree with callus roll.

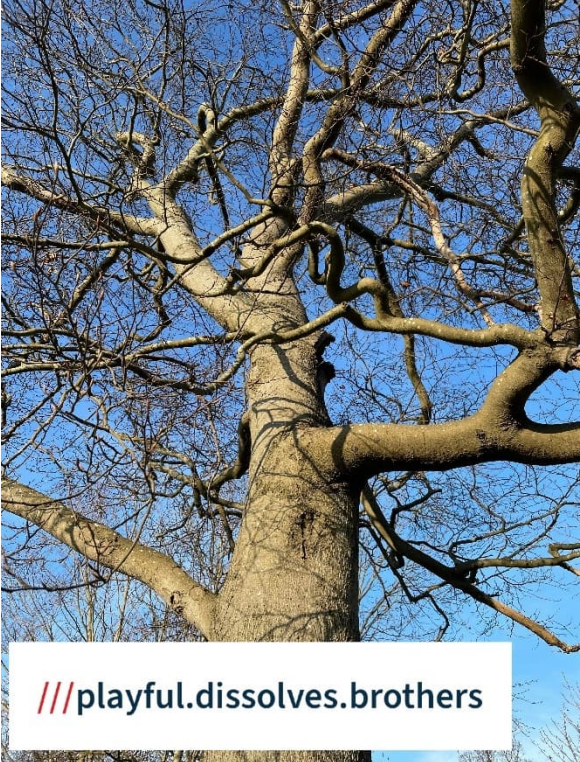
Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
98	482443	357107		Mature beech tree with callus roll.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
99	482446	357128		Mature sweet chestnut tree with callus roll.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
100	482428	357140		Mature beech tree with callus roll.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
101	482422	357155		Mature beech tree with callus roll and decaying limb.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
102	482419	357158		Mature beech tree with callus roll.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
103	48277	357126		Wood pasture priority habitat at Winthorpe House.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
104	480268	355052		Gaps in brickwork of dilapidated building.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
105	480226	355066	 A photograph showing the exterior of a workshop building. The focus is on the roofline and the soffits. There are visible gaps underneath the soffits, and a piece of blue plastic is attached to the roof edge. A green door and a window are visible below the roofline. The sky is blue with some clouds.	Gaps underneath soffits of workshop building.

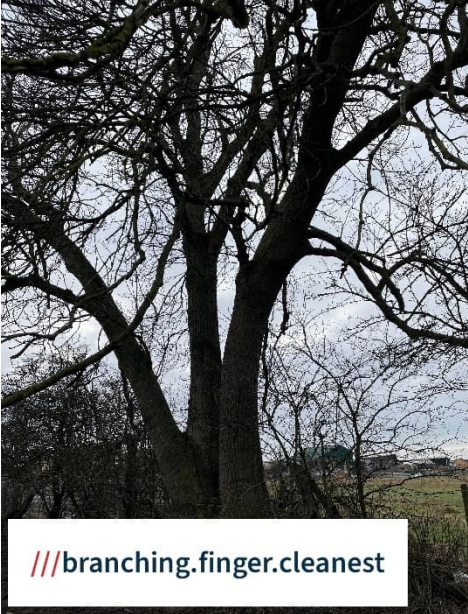
Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
106	480188	355308		Derelict industrial building with gaps within brickwork


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
107	480402	354898		Gap underneath drain and hole in corrugated metal wall of industrial building.
108	480154	355304	No photo available	River Trent with fast flowing water with some marginal vegetation. Potential water vole habitat.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
109	478472	353925		Pond adjacent to A46 and within an intensively managed agricultural area.



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
110	478338	353812		<p>Several puddles within improved cattle-grazed field. Likely to be dry in spring/summer. Classified as Coastal and Floodplain Grazing Marsh.</p>

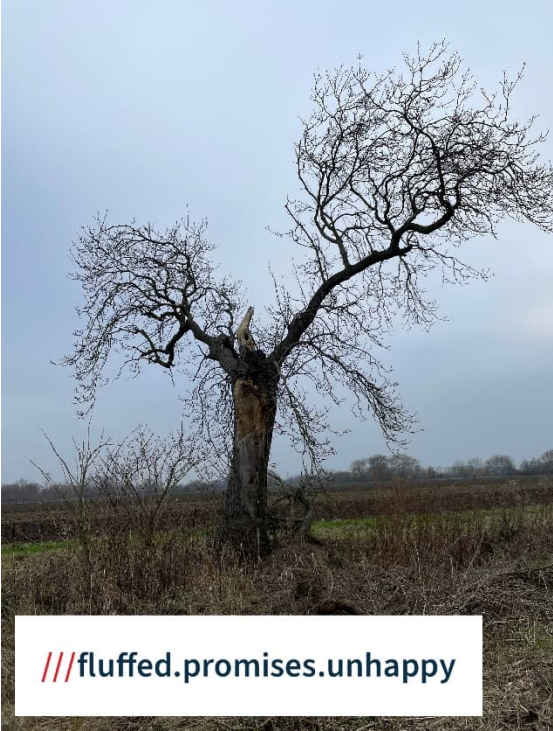
Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
111	478515	353860		Multi-stemmed mature ash with callus roll.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
112	479334	354763		Arches within brick viaduct. Some decaying brickwork though superficial overall.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
113	479205	354602		Mature oak with callus roll.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
114	478632	354467		<p>Drain within suitable channel structure, vegetation and connectivity for water voles. Note: Ditch is within foreground of photo.</p>


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
115	478482	352414		Disused badger sett entrance. Outlier sett. No signs of recent use.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
116	478515	352454		<p>Drainage pond in National Highways estate directly north of A46. Score good (0.72).</p>

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
118	479039	354195		Ash tree with possible bat roosting features. Requires further survey to determine bat roost potential.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
119	479292	354559		Pond in field south of A46 A617 Great North Road roundabout.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
120	479033	354204		<p>Tree with possible bat roosting features. Requires further survey to determine bat roosting potential.</p>


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
121	478570	353239		Waterbody located with area of coastal and floodplain grazing marsh.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
122	478619	353131		Tree with possible bat roosting features. Requires further survey to determine bat roosting potential.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
123	478636	353117		Tree with possible bat roosting features. Requires further survey to determine bat roosting potential.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
124	481614	356568		Tree with possible bat roosting features. Requires further survey to determine bat roosting potential.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
125	481006	355564		Derelict house. Requires further survey to determine bat roosting potential.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
126	480949	355980		<p>Tree with possible bat roosting features. Requires further survey to determine bat roosting potential.</p>




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
127	481106	356344		Tree with possible bat roosting features. Requires further survey to determine bat roosting potential.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
128	481008	356352		Tree and building with possible bat roosting features. Requires further survey to determine bat roosting potential.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
129	481130	356359		<p>Tree with possible bat roosting features. Requires further survey to determine bat roosting potential.</p>




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
130	481082	356376		Tree with possible bat roosting features. Requires further survey to determine bat roosting potential.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
131	480494	356447		<p>Tree with possible bat roosting features. Requires further survey to determine bat roosting potential.</p>


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
132	478632	354467		Tree with possible bat roosting features. Requires further survey to determine bat roosting potential.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
133	478482	352414		Weeping willow tree with possible bat roosting features. Requires further survey to determine bat roosting potential.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
134	478515	352454		Weeping willow tree with possible bat roosting features. Requires further survey to determine bat roosting potential.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
135	478394	352466		Mature weeping willow with callus rolls.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
136	481672	355893		Mature willow with crevices in trunk.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
137	478601	353381		Habitat conforms to coastal and floodplain grazing marsh.



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
138	478618	354439		Mature oak with multiple callus rolls.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
139	480186	356130		River Trent with potential otter habitat.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
140	481059	356399		Pond northerly adjacent to Pond. Recently lined and managed.


141	479456	354423		Gaps underneath metal roofing.
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Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
142	479445	354393		Gaps underneath gable at western extent.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
143	479421	354412	 A photograph showing a close-up of a brick wall and a roof structure. The brick wall is made of reddish-brown bricks with a central concrete pillar. The roof is made of corrugated metal. There is a visible gap between the brick wall and the roof structure.	Gaps between brick wall and roof.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
145	477110	355662		Semi-natural broad leaved woodland.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
146	477085	355642		Decaying beech tree with north facing callus roll, 5m tall.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
147	477112	355651		Mature sessile oak with east facing callus roll, 8 metres tall.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
148	477142	355682		Mature sycamore tree with south facing callus roll, 6m tall.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
149	477136	355634		Main building. Hole in brickwork underneath soffit within the southern extension.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
150	477084	355707		Species-rich semi-improved grassland.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
151	476920	355593		Dense patch of Japanese knotweed southerly adjacent to pond.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
152	476986	355633		Pond without macrophytes. Permanent. Approximately 3,400 m <sup>2</sup> .


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
153	476533	355162		Mature ash, Vertical scar and decay on main stem. North-east facing, 4.5m tall.


Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
154	477085	355273		Indian balsam present. Approximately 20m <sup>2</sup> patch.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
155	477552	355647		Indian balsam present at northern extent.




Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
156	477483	355274		Indian balsam present westerly adjacent to River Trent.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
157	477455	354892		Indian balsam present easterly adjacent to River Trent.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
158	476958	355488		Missing tiles in roof. Bat roosting potential.

Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
159	476406	354753		Pond without macrophytes. Permanent. Approximately 1,190m <sup>2</sup> .



Target Note	Eastings (X co-ordinate)	Northings (Y co-ordinate)	Photograph	Description
160	475825	355173		Pond fringed and shaded with semi-mature trees. Permanent. Approximately 6,470m <sup>2</sup> .